



GEOLOGICAL SURVEY OF CANADA

OPEN FILE 2149

OVERBURDEN DRILLING PROGRAM IN THE SAINT JOHN VALLEY AND THE BAIE DES CHALEURS COASTAL AREA OF NORTHERN NEW BRUNSWICK: TILL GEOCHEMISTRY AND BOREHOLE LOGS

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1990

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INTRODUCTION

As part of the Canada-New Brunswick Mineral Development Agreement 1984-89 (objectives described in Lamothe, 1988), a deep overburden drilling project was conducted in the winter of 1986-87, in the St.John Valley , between Edmunston and Fredericton, and in the vicinity of Bathurst (Figures 1, 2, 3, and 4). The objectives of this study were to document the buried lithostratigraphic and chemostratigraphic successions over two major areas of western New Brunswick (see Rampton et al., 1984, for details about the current Pleistocene stratigraphy). This report presents the detailed log description of those boreholes where significant thicknesses of drift were encountered and a series of geochemical results obtained from two granulometric fractions of the till samples.

A) THE DRILLING PROGRAM

Borehole sites were selected after a survey of the waterwell catalog of the New Brunswick Department of Environment, followed by a program of seismic refraction, conducted in the fall of 1986, by R. Gagné of the Terrain Sciences Division. Rotasonic drilling was contracted to Midwest Ltd (Winnipeg). A full description of the drilling equipment and operations can be found in Averill et al. (1986). Recovery of the core was on the order of 95 to 100 %. Coreshack log descriptions (Figures 6 to 44) as well as core sampling were accomplished upon arrival by S.J. Courtney, consulting geologist.

B) TILL GEOCHEMISTRY

Two grain-size fractions have been analyzed for each till sample.

- (1) The clay-sized fraction (< 2 μ m) was analyzed for As, Co, Cr, Cu, F, Fe, Hg, Mn, Mo, Ni, Pb, Sn, U, W, and Zn.
- (2) The silt plus clay fraction (< 63 μ m) fraction was analyzed by neutron activation by two different companies. The reasons for this are explained in Lamothe (1988) . Samples with observation code #1, 2 were analyzed by Bondar Clegg and Co. Ltd (Ottawa). Samples with

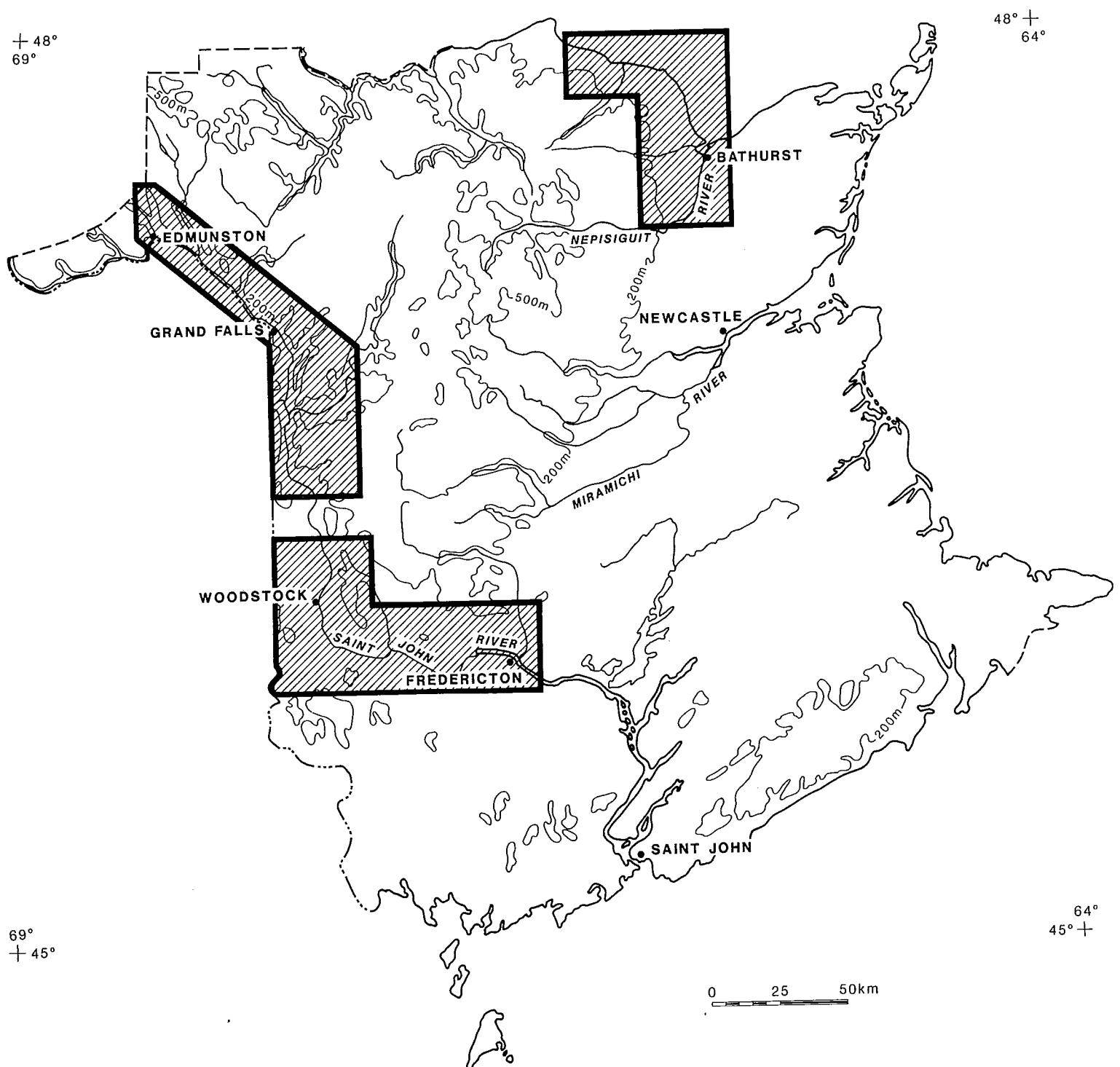


Figure 1: Location of the Grand Falls-Edmunston, Woodstock-Fredericton and Bathurst zones where overburden drilling was conducted (shaded areas)

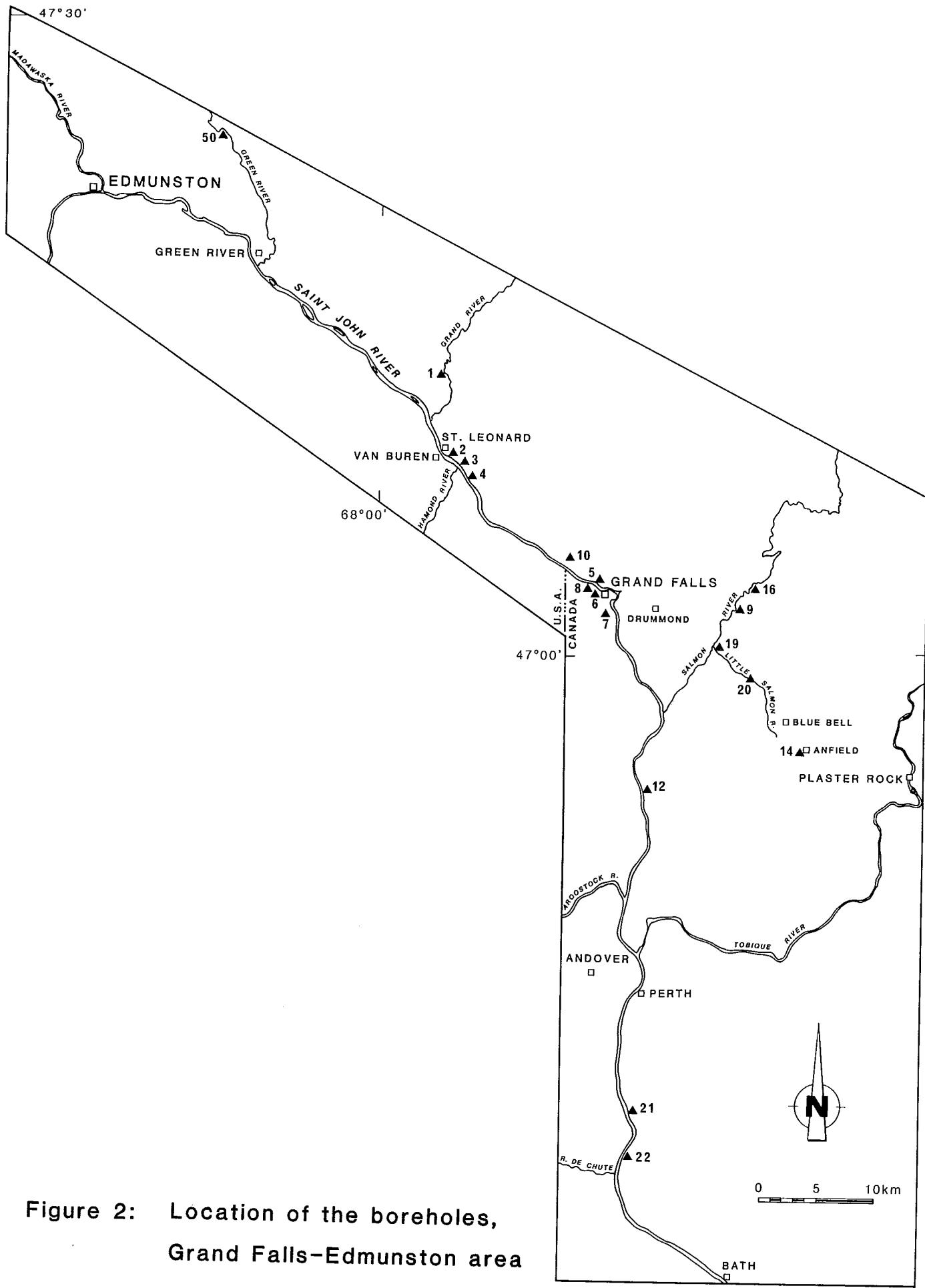
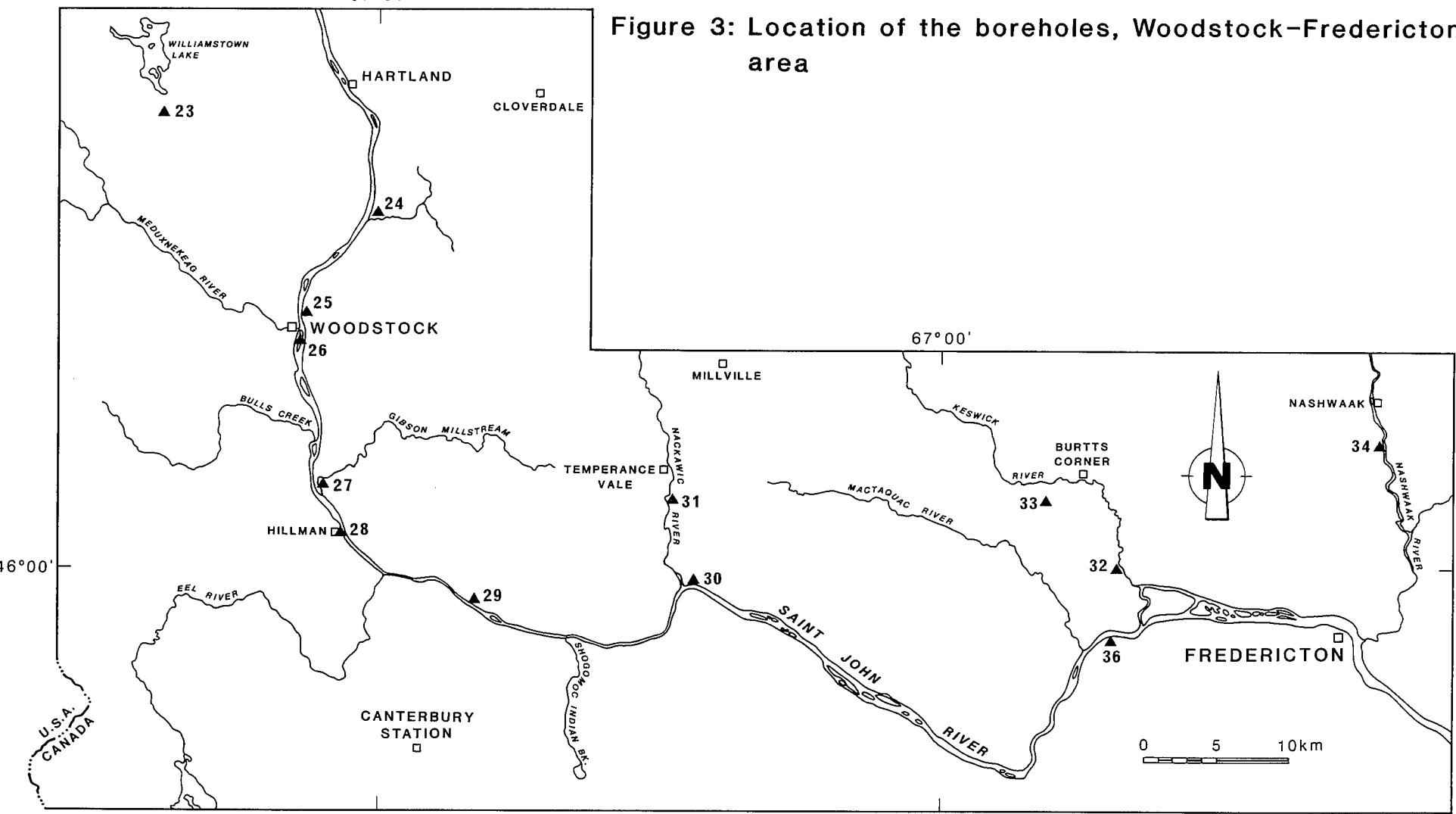


Figure 2: Location of the boreholes,
Grand Falls-Edmunston area

Figure 3: Location of the boreholes, Woodstock-Fredericton area



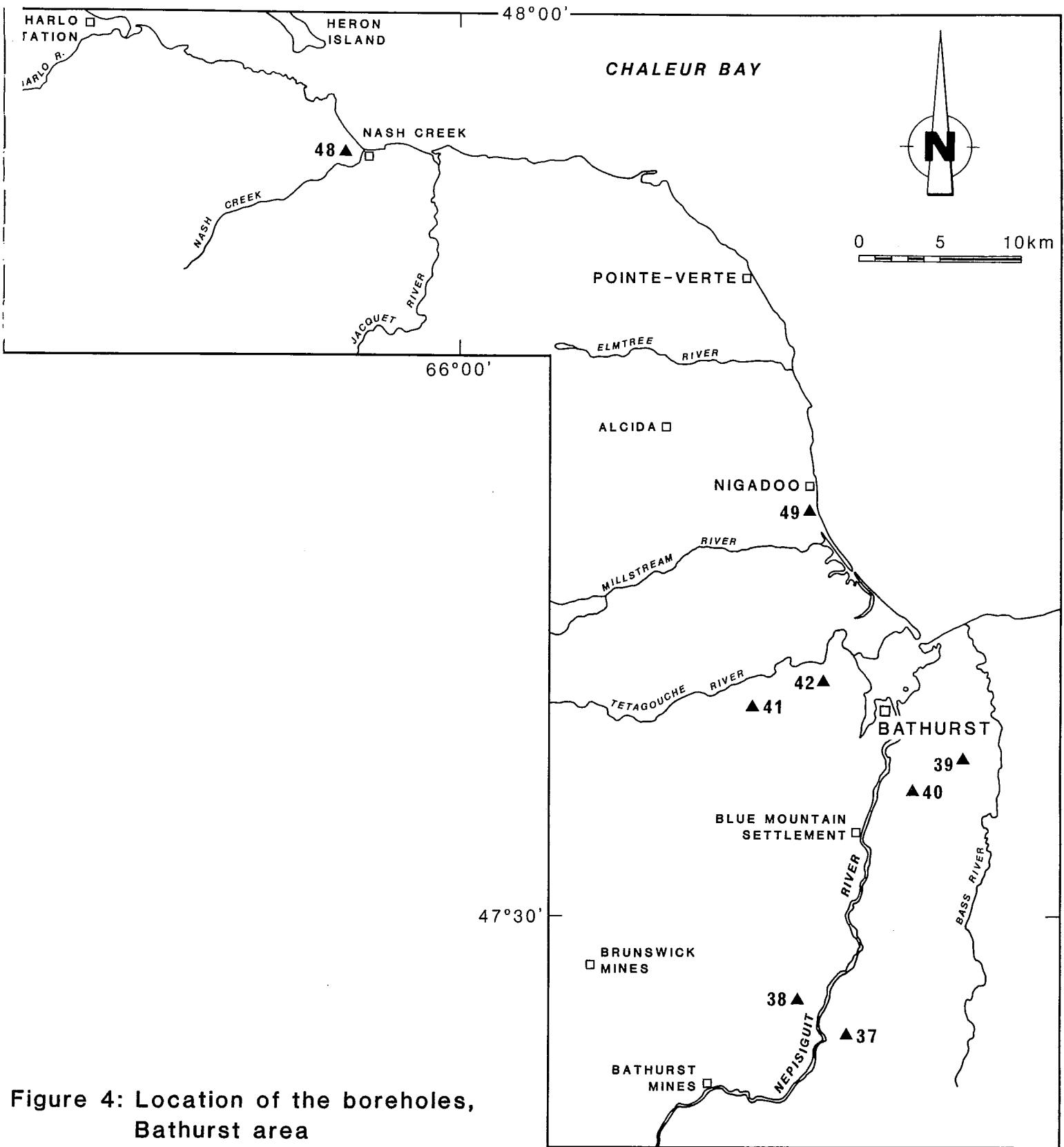


Figure 4: Location of the boreholes,
Bathurst area

observation code numbers 10, and 11 were analyzed by Chemex Labs Ltd. (Vancouver).

The detection limits , methods, and notes to geochemical tables are listed in Table I. Geochemical analyses of samples which were lower than the detection limit are given at half this value. The geochemistry of the clay fraction of the till samples is presented on Table II, whereas the geochemistry of the silt plus clay fraction is presented on Table III. Table IV shows the geochemical results obtained on the bedrock sampled at the bottom of the boreholes. A list of the duplicate analyses for selected elements for the clay and the clay plus silt fraction of the till samples can be found on Tables V and VI. Reproducibility for antimony (Sb), arsenic (As), copper (Cu), uranium (U), zinc (Zn), mercury (Hg), and tin (Sn) are presented graphically on Figures 52 to 58.

ACKNOWLEDGEMENTS

Assistance during field work was provided by several students and colleagues of the Geological Survey. Special thanks are given to A. Plouffe, N. Brunet, M. Lockhart, and E. Boisvert.

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- Lamothe, M., 1988 Till geochemistry over the northern part of the Miramichi Zone and its vicinity, New Brunswick, Geological Survey of Canada Open File 1909.
- Rampton, V.N., Gauthier, R.C., Thibault, J. and Seaman, A.A., 1984: Quaternary geology of New Brunswick, Geological Survey of Canada Memoir 416, 77p.

G.S.C New Brunswick Drilling Program
Guide To Borehole Log Interpretation

Legend

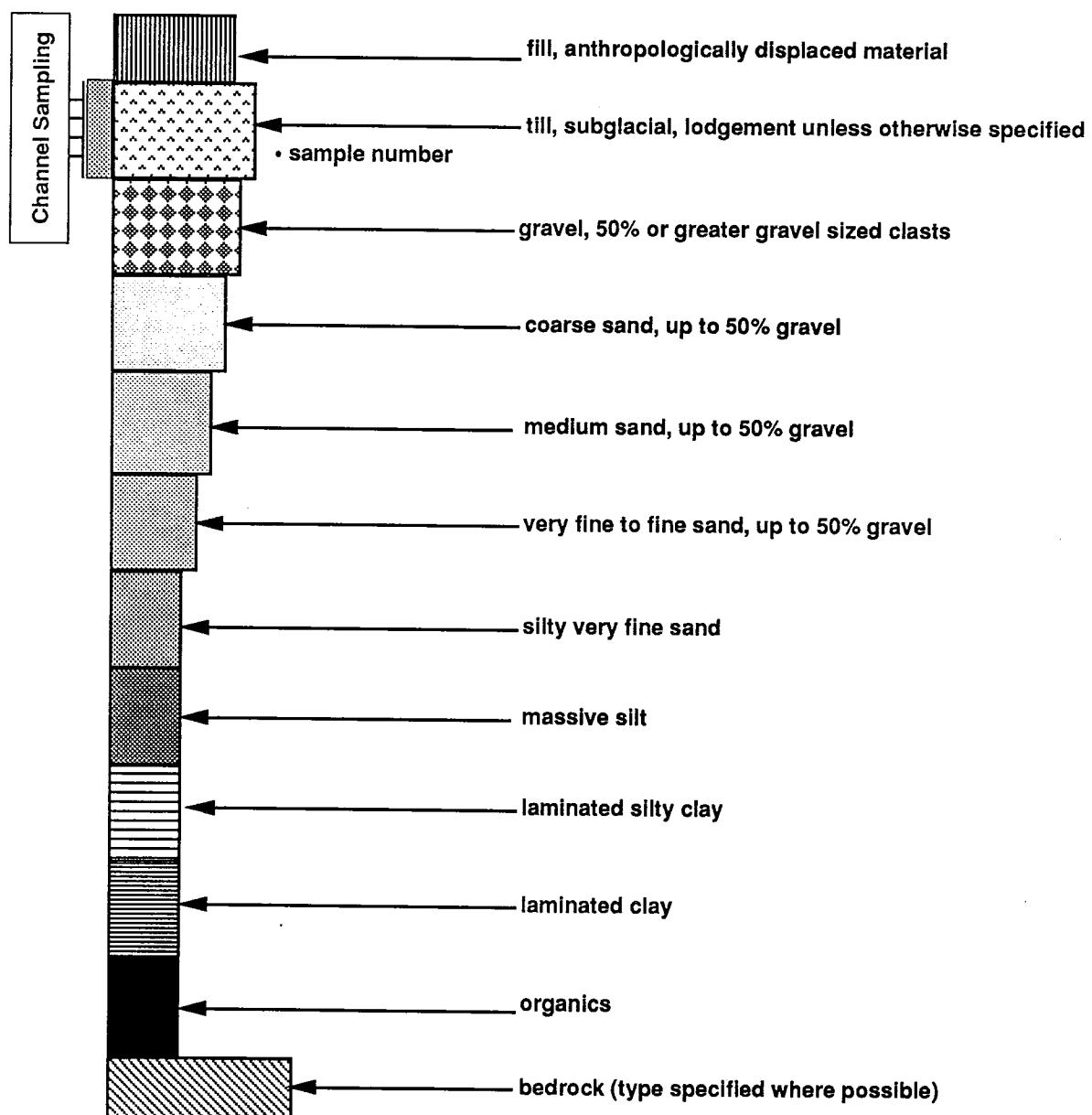


Figure 5: Guide to borehole log interpretation

3001	
Location	NTS Map Sheet
easting : 581200	St.Andre
northing : 5230250	21O/4
Depth Drilled 78 ft	Elevation : 500 ft

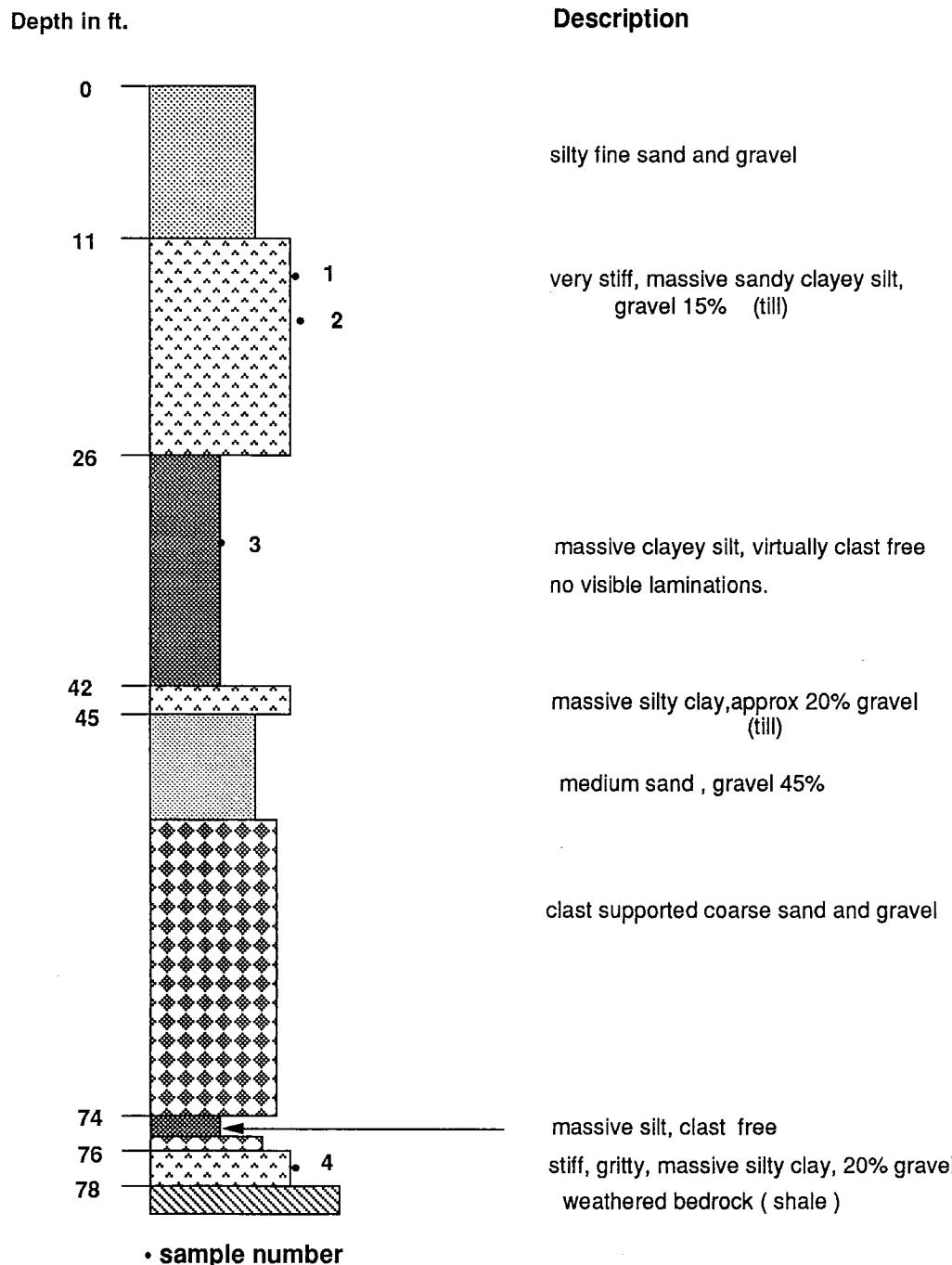


Figure 6: Borehole No. 1

3002	
Location	NTS Map sheet
easting 582100	St.Andre
northing 5223350	21N/1
Depth Drilled : 68 ft.	Elevation : 525 ft

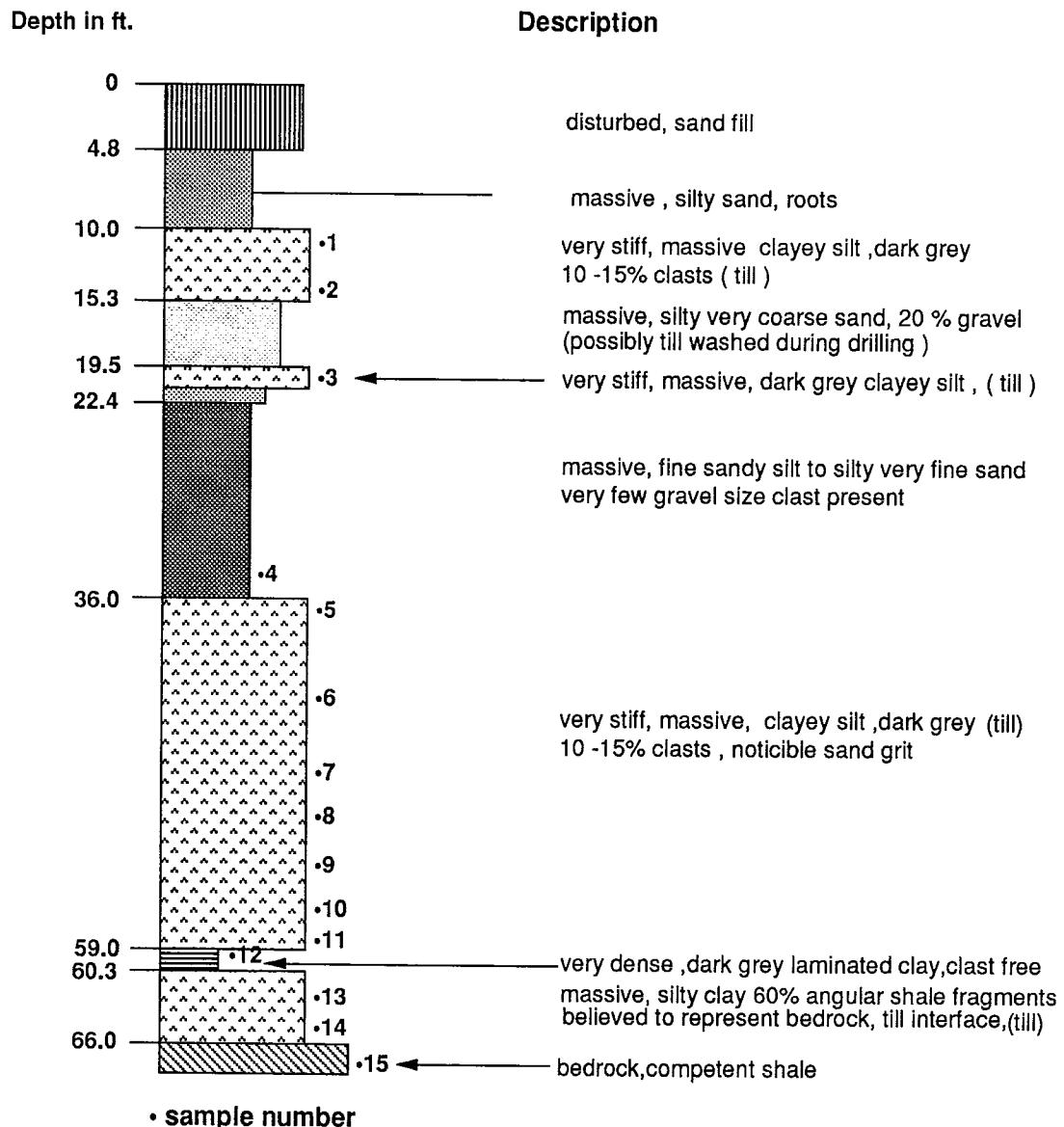


Figure 7: Borehole No. 2

3003	
Location	NTS Map Sheet
easting 583150	St. Andre
northing 5222050	21N/1
Depth Drilled : 72 ft.	Elevation : 500 ft

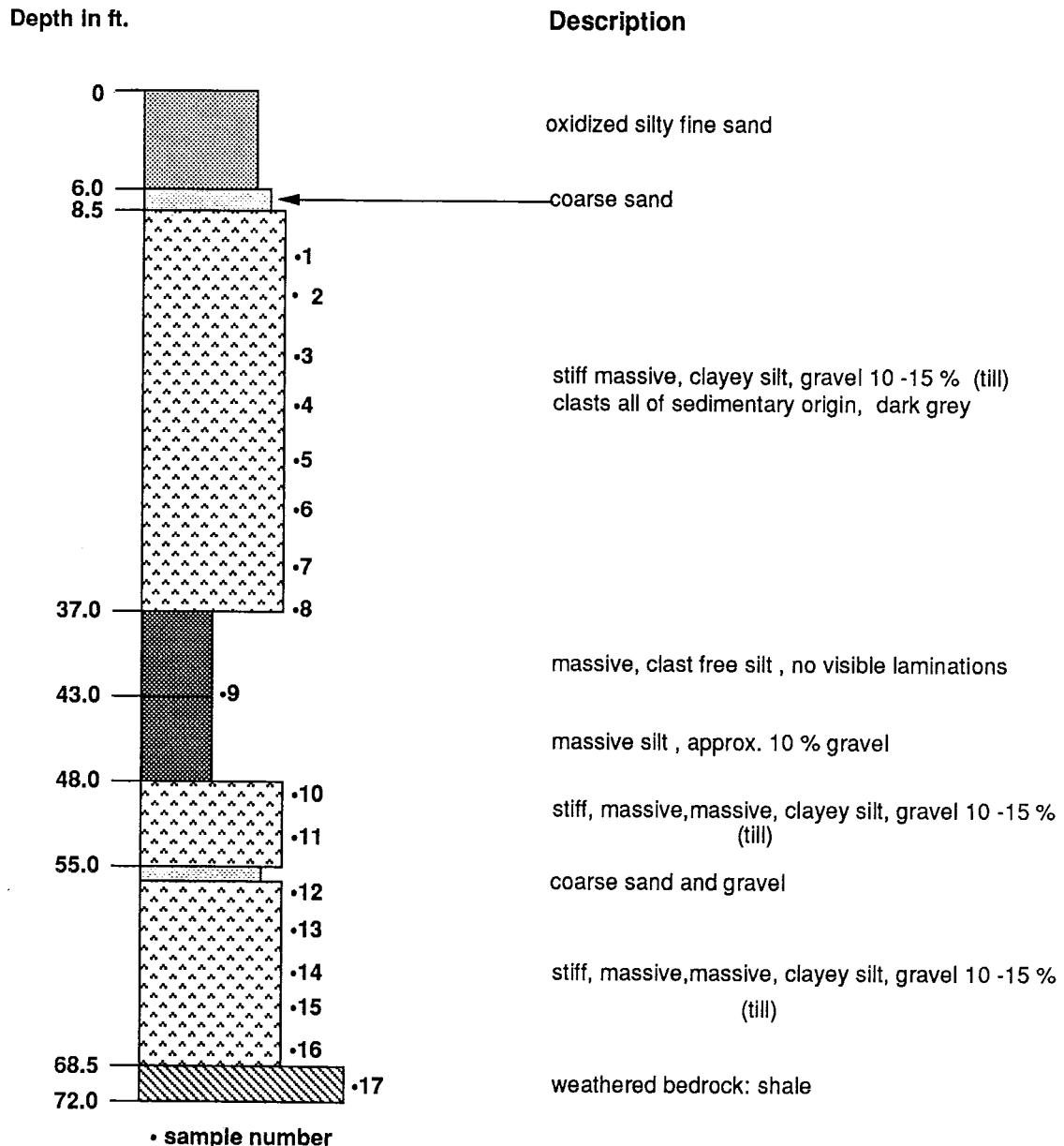


Figure 8: Borehole No. 3

3004

Location	NTS Map Sheet
easting 583250	St. Andre
northing 5221150	21N/1
Depth Drilled : 132 ft.	Elevation : 475 ft

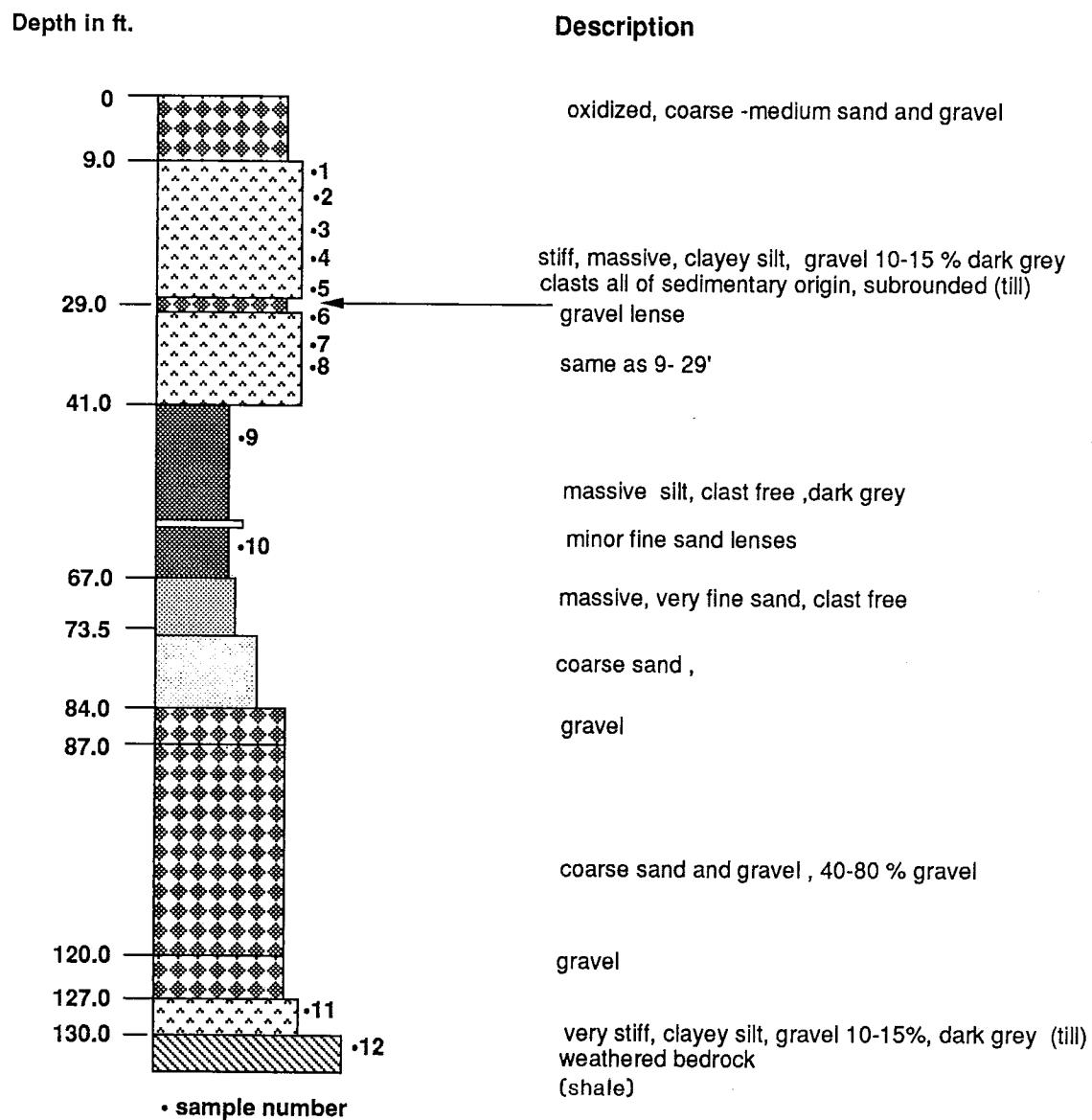


Figure 9: Borehole No. 4

3005	
Location	NTS Map Sheet
easting 595100	St. Andre
northing 5211400	21N/1
Depth Drilled : 118 ft.	Elevation : 500 ft

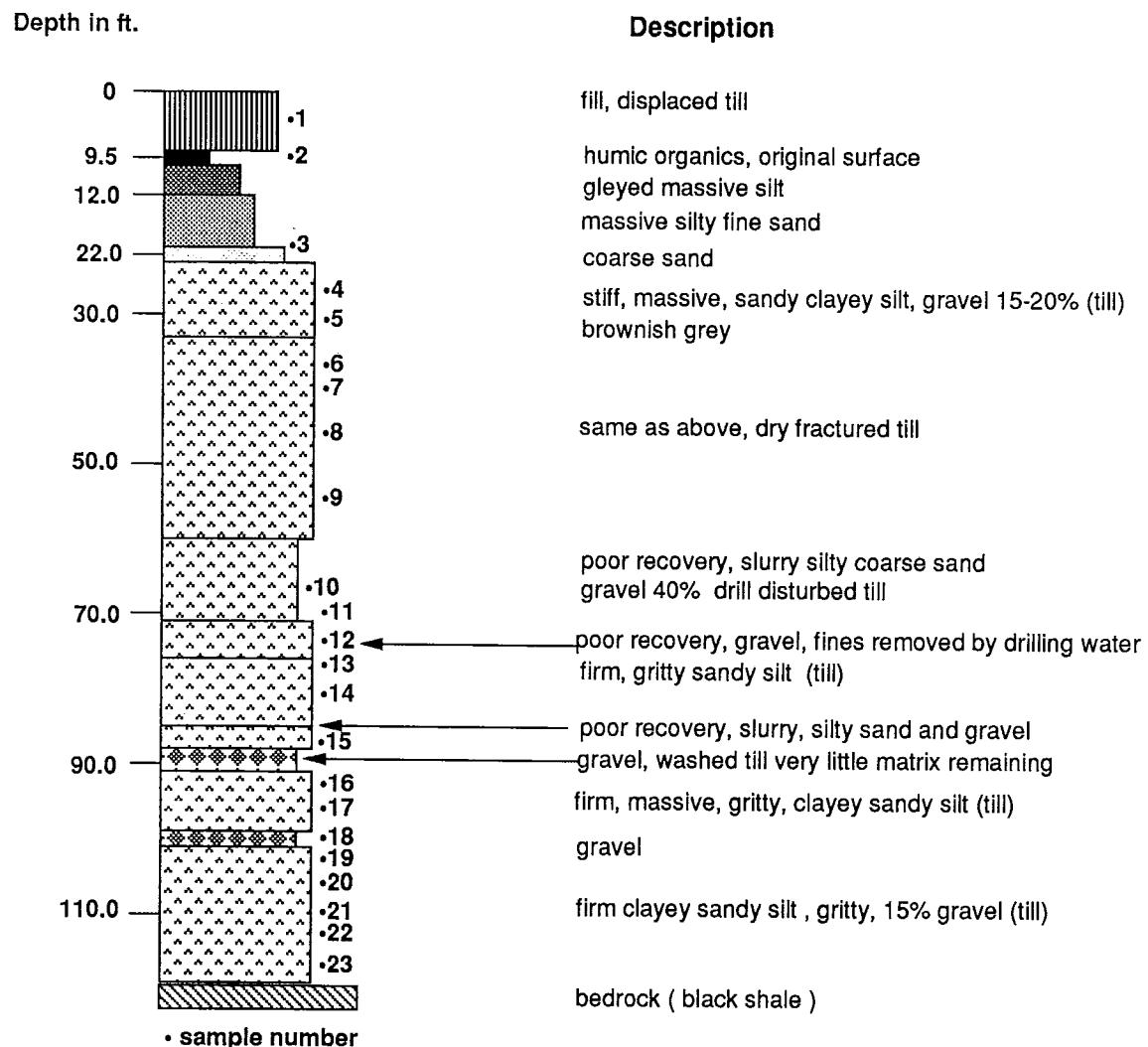


Figure 10: Borehole No. 5

3006	
Location	NTS Map Sheet
easting 594950	St. Andre
northing 5210950	21N/1
Depth Drilled : 197 ft	Elevation : 475 ft

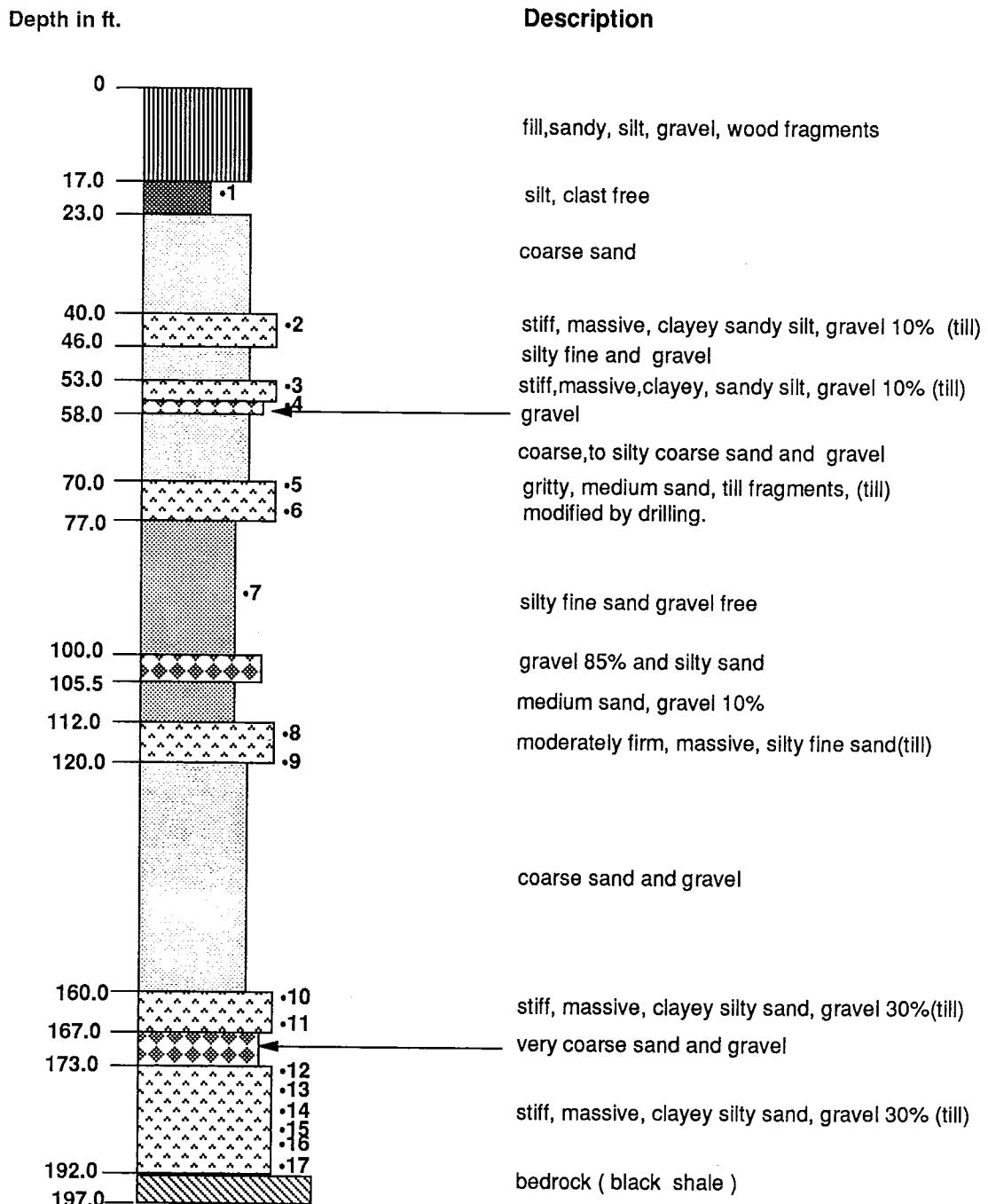


Figure 11: Borehole No. 6

3007

Location
easting 595750
northing 5209300
Depth Drilled : 68 ft

NTS Map Sheet
St. Andre
21N/1
Elevation : 475 ft

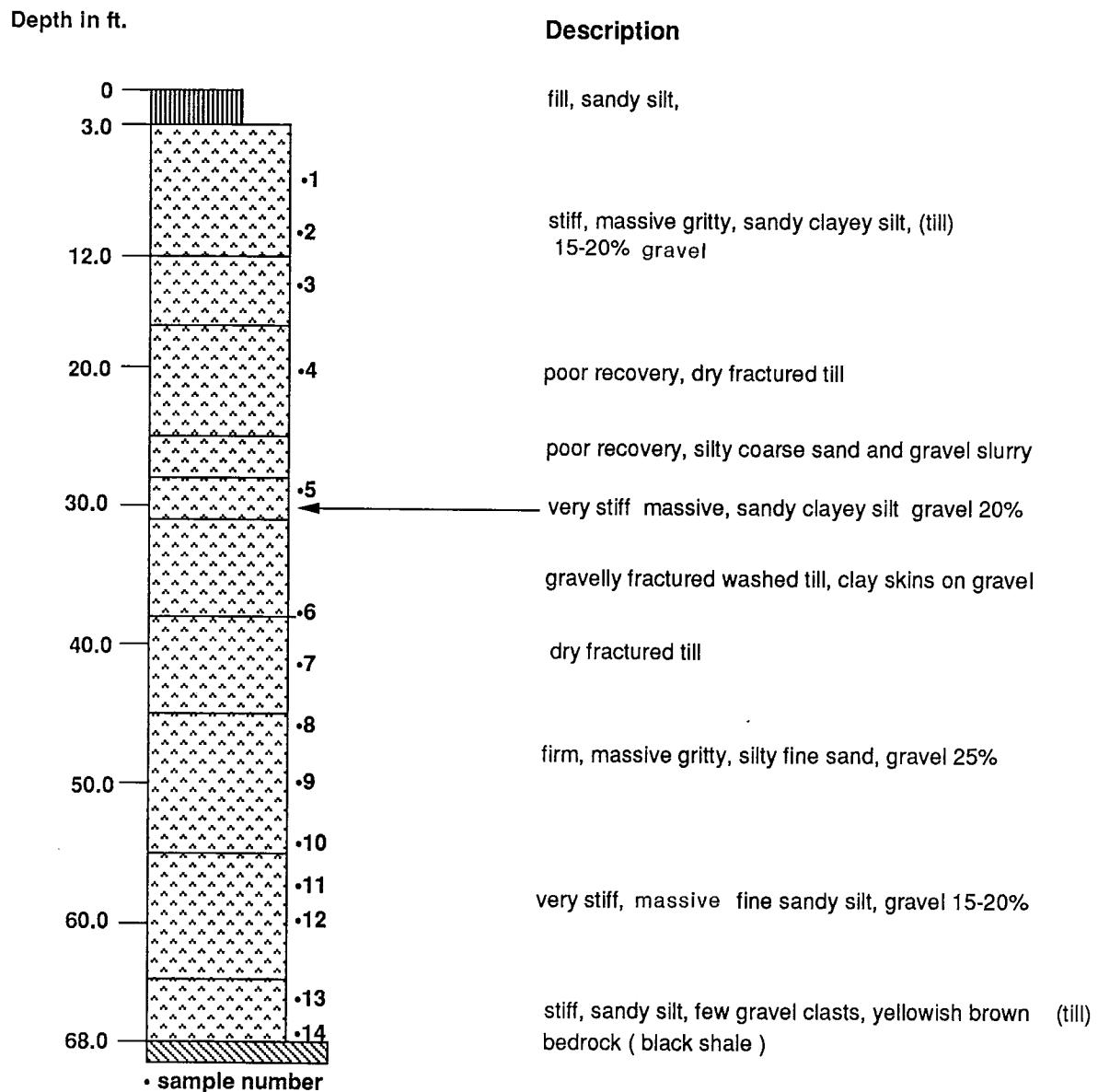


Figure 12: Borehole No. 7

3008	
Location	NTS Map Sheet
easting 594500	St. Andre
northing 5211400	21N/1
Depth Drilled : 203 ft.	Elevation : 475 ft

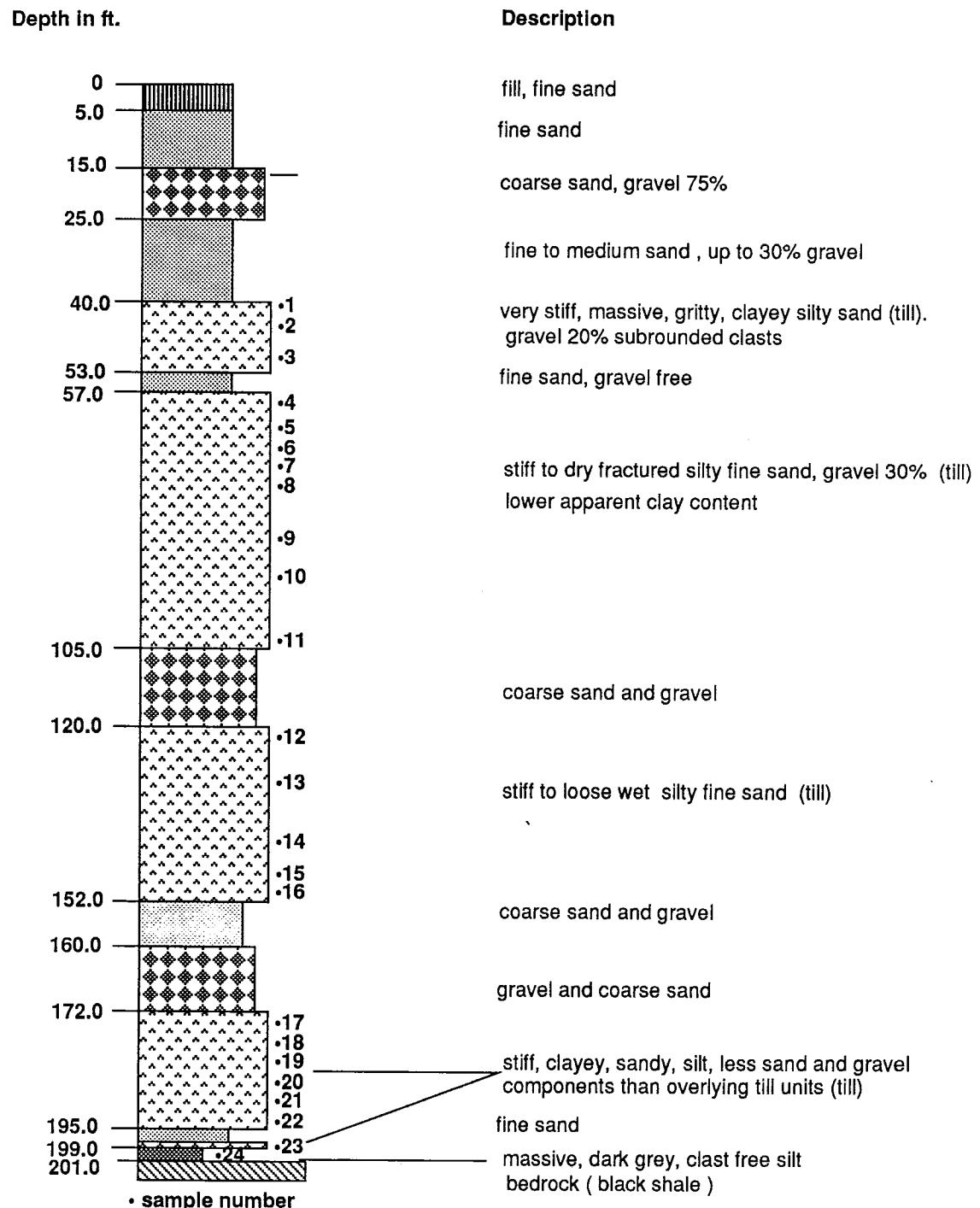


Figure 13: Borehole No. 8

3009	
Location	NTS Map Sheet
easting 607300	St. Andre
northing 5209900	21O/4 and 21N/1
Depth Drilled :63 ft	Elevation : 475 ft

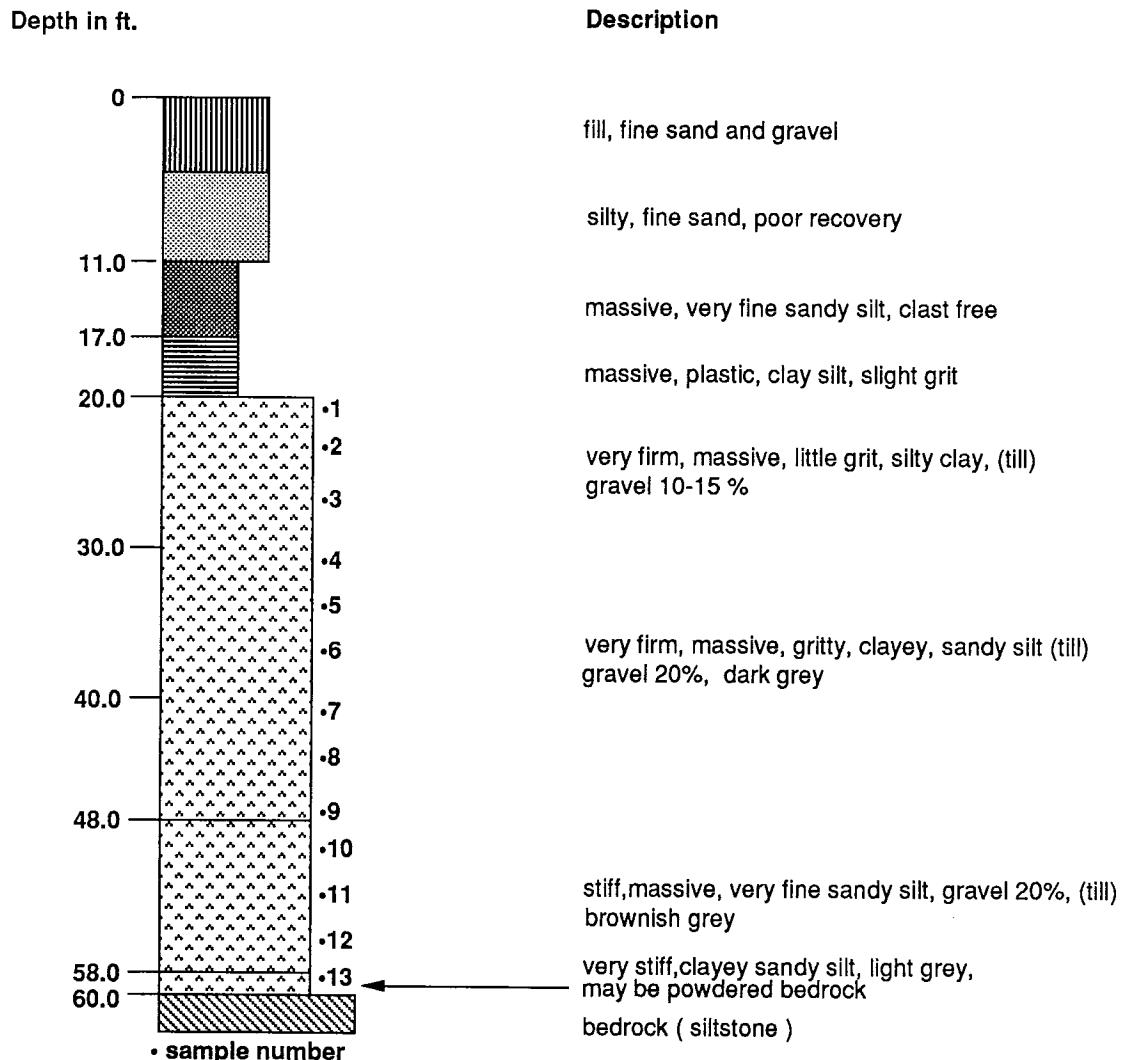


Figure 14: Borehole No. 9

3010

Location

easting 592000
northing 5214100

NTS Map Sheet

St. Andre
21N/1

Depth Drilled : 92 ft.

Elevation : 550 ft ?

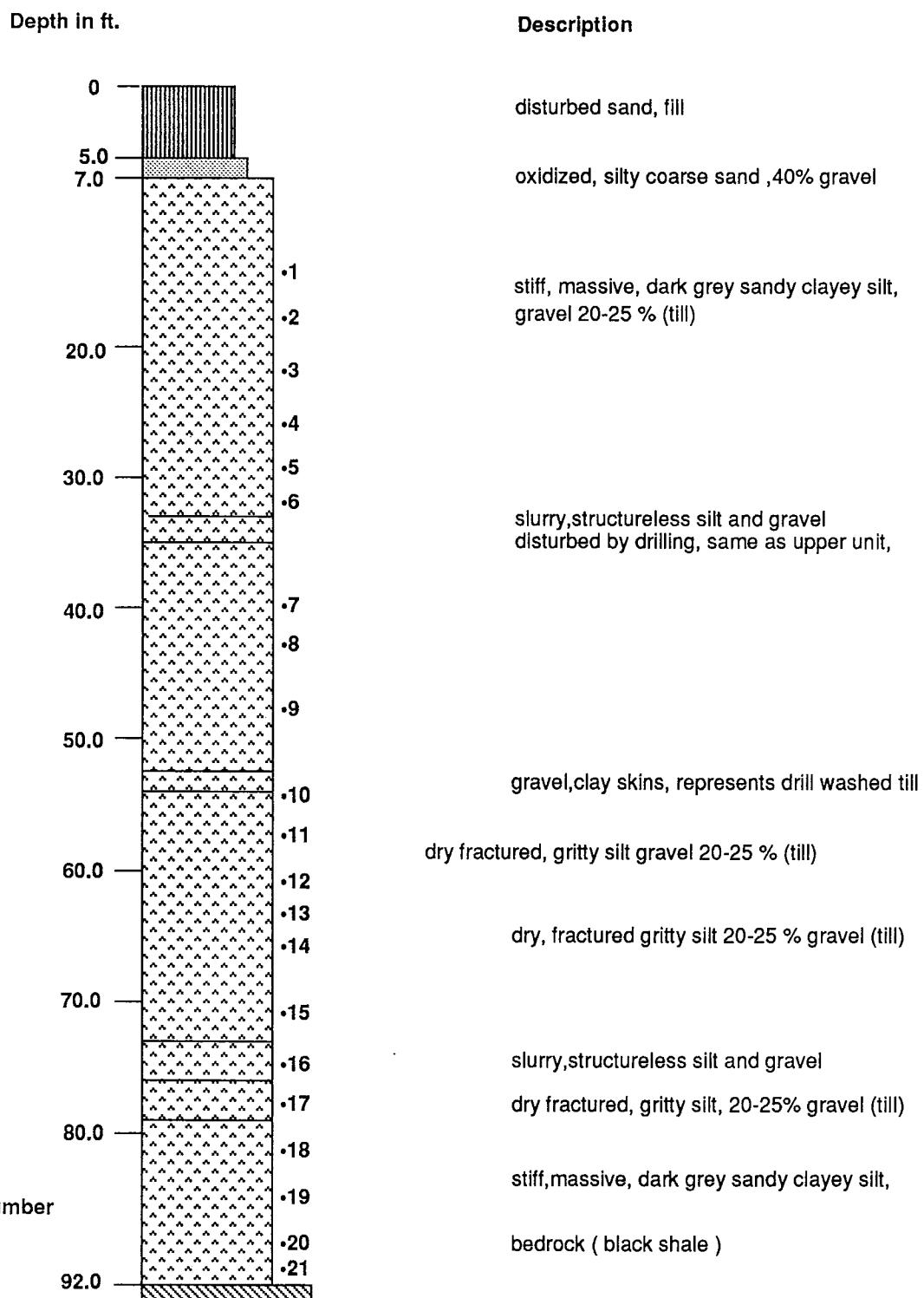


Figure 15: Borehole No. 10

3012	
Location	NTS Map Sheet
easting 599800	Aroostook
northing 5191200	21J/13
Depth Drilled : 120 ft.	Elevation : 311 ft

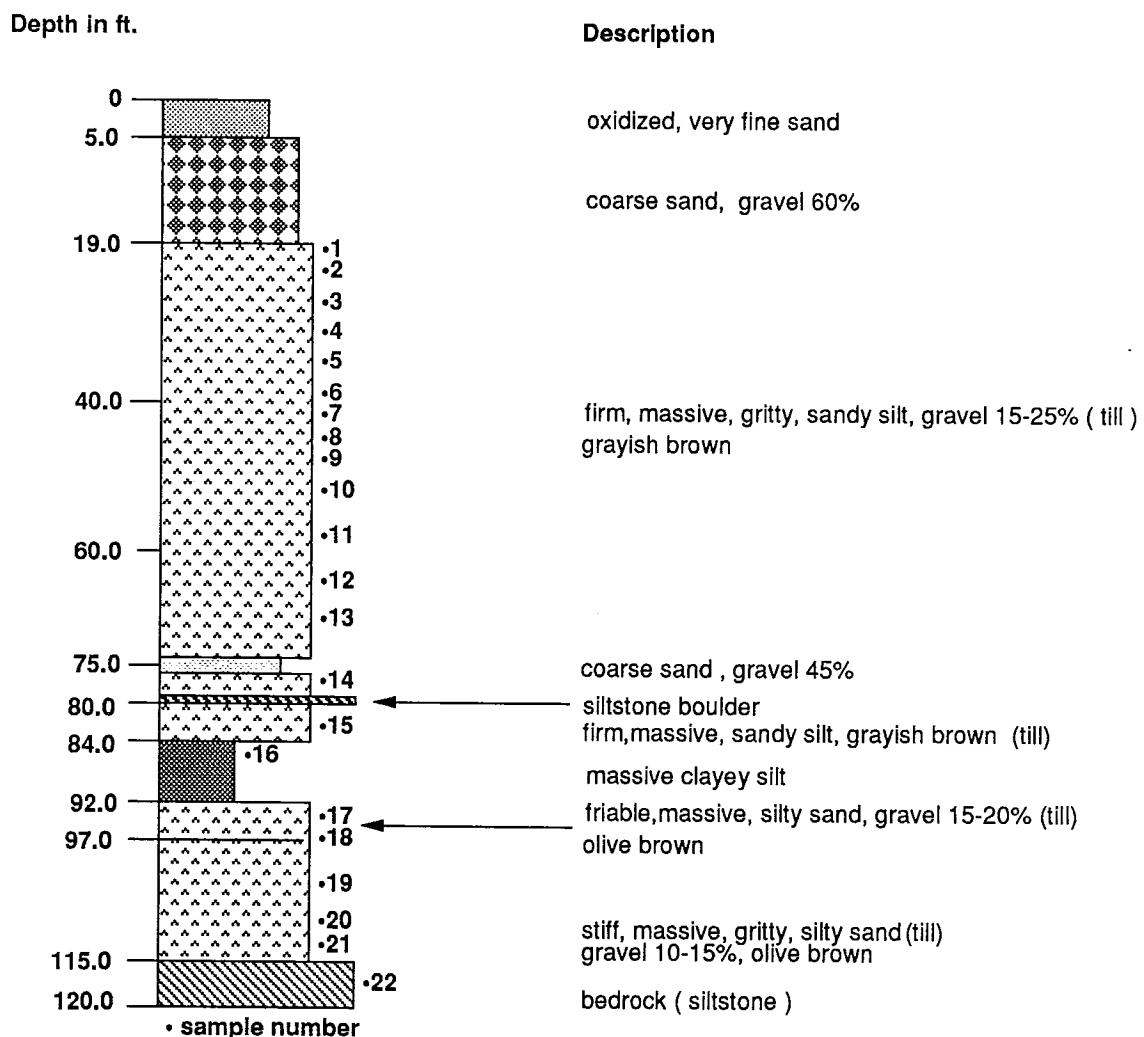


Figure 16: Borehole No. 12

3014	
Location	NTS Map Sheet
easting 612700	Aroostook
northing 5198200	21J/13
Depth Drilled : 210 ft.	Elevation : 235 m

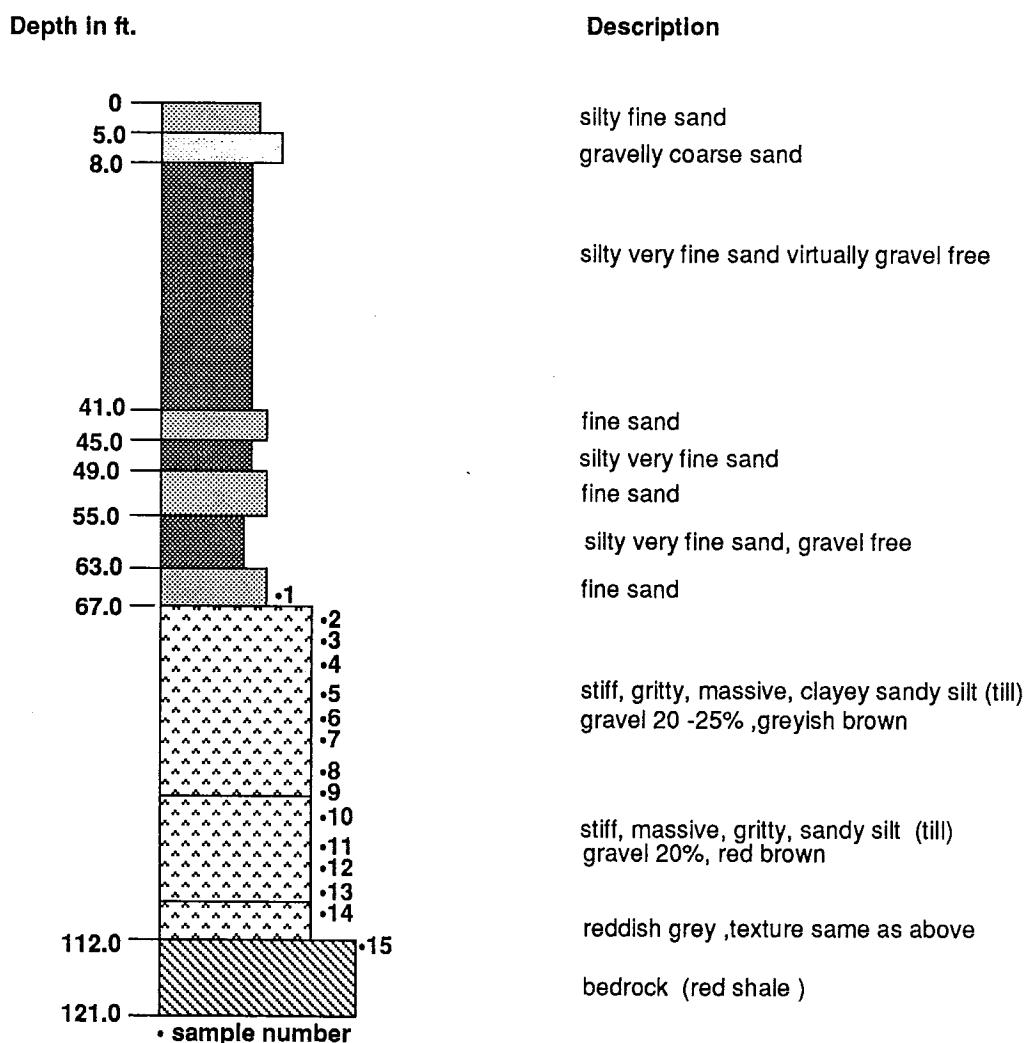


Figure 17: Borehole No. 14

3016	
Location	NTS Map Sheet
easting 608300	St. Andre
northing 5211550	21-O/4 21-N/1
Depth Drilled :118 ft	Elevation : 475 ft.

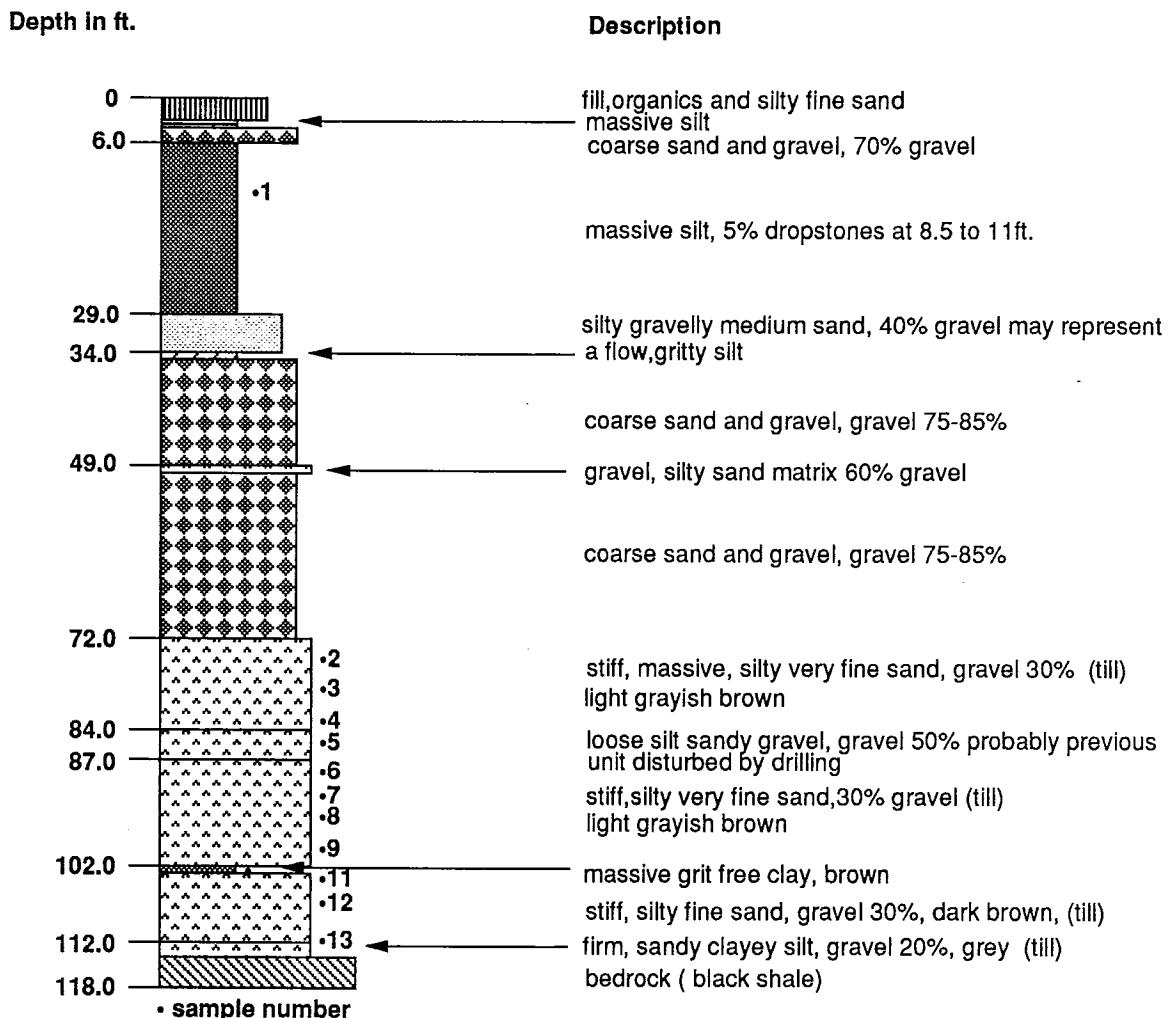


Figure 18: Borehole No. 16

3019	
Location	NTS Map Sheet
easting 605650	St. Andre
northing 5207350	21O/4 21N/1
Depth Drilled : 55 ft	Elevation : 400 ft.

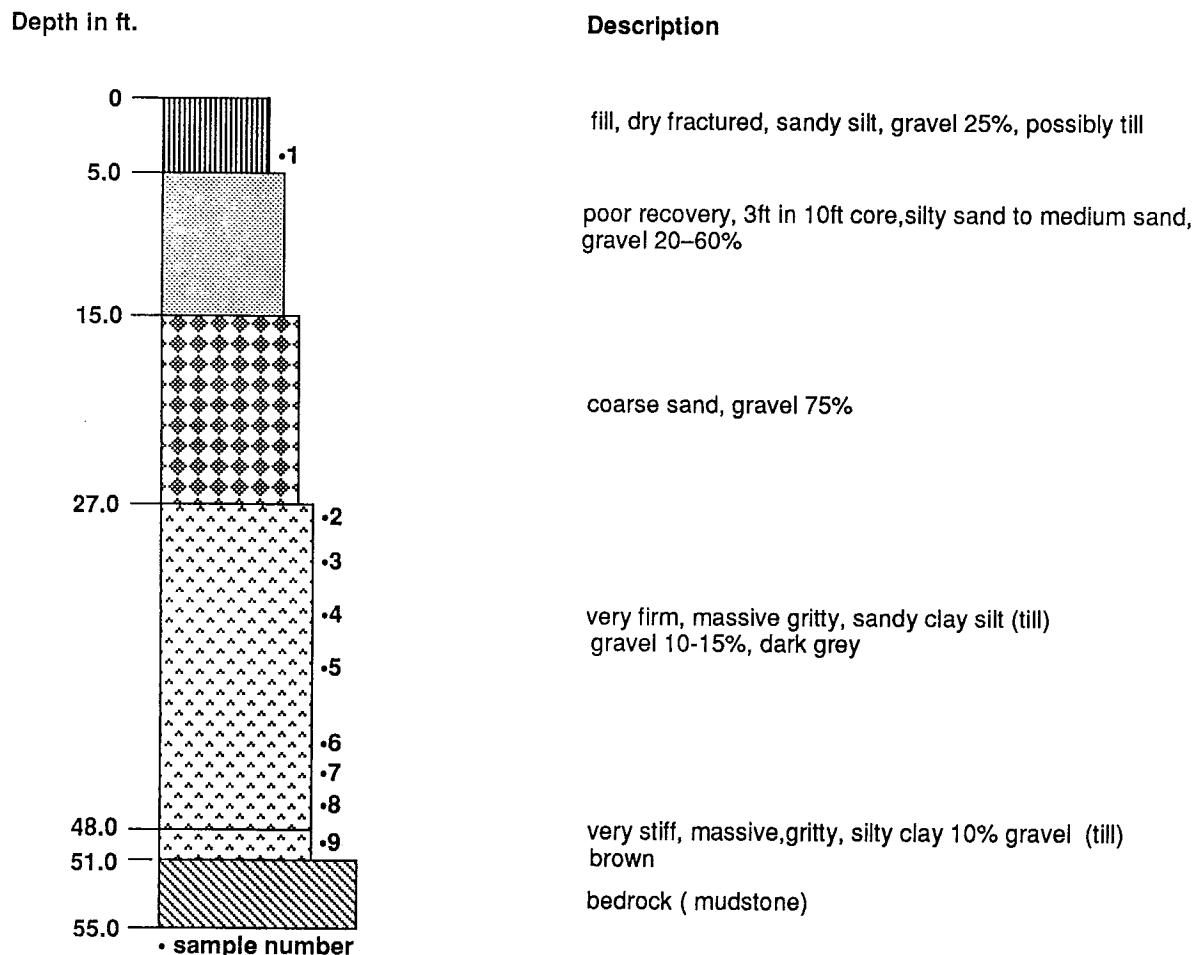


Figure 19: Borehole No. 19

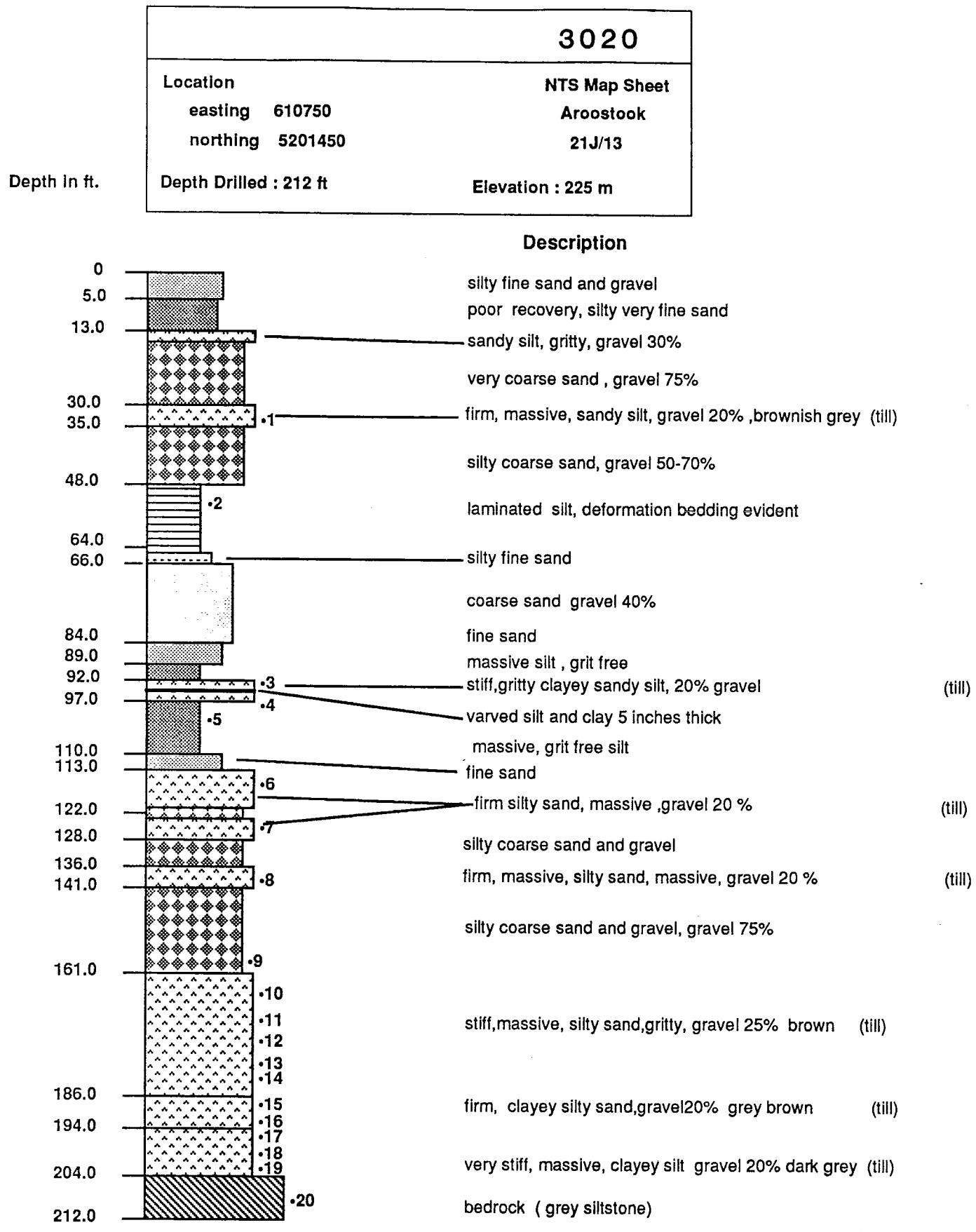


Figure 20: Borehole No. 20

3021	
Location	NTS Map Sheet
easting 598750	Perth Andover
northing 5166000	21J/12
Depth Drilled : 95 ft	Elevation : 312 ft

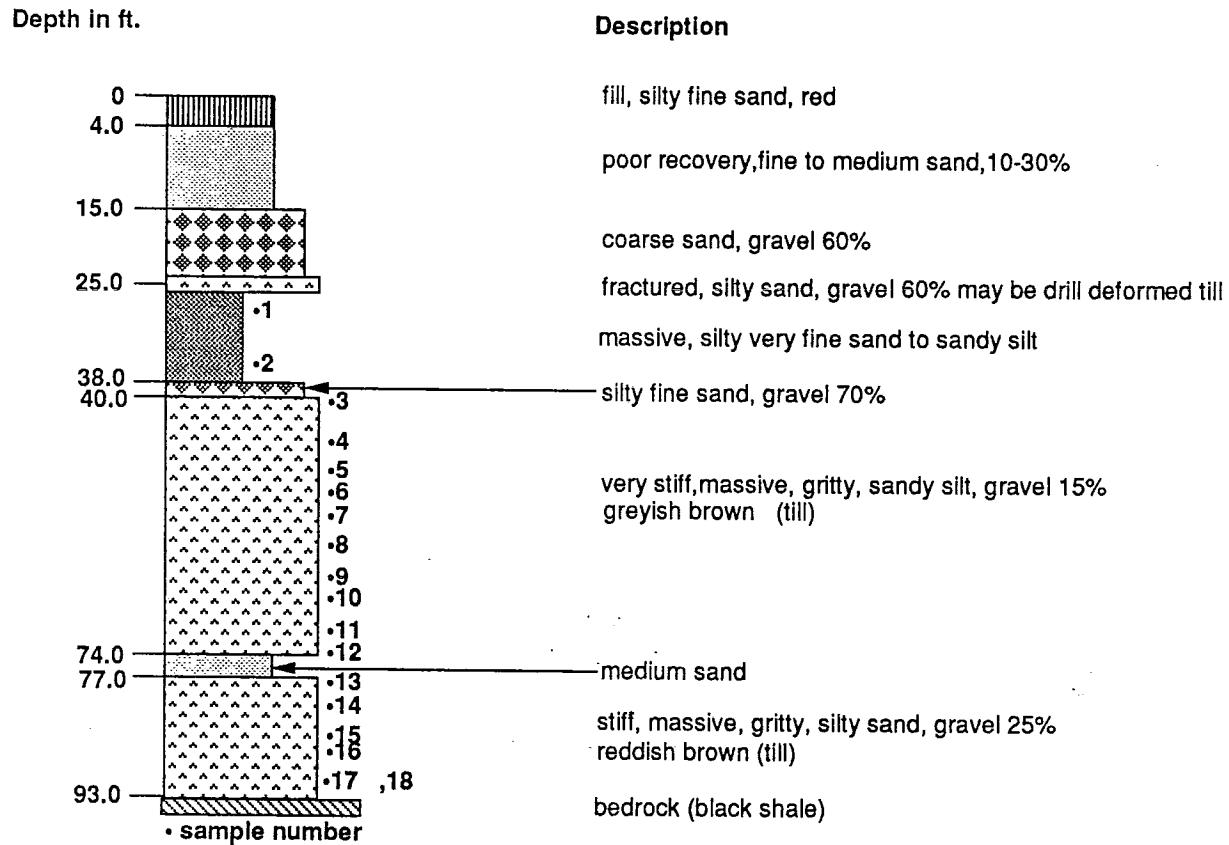


Figure 21: Borehole No. 21

3022	
Location	NTS Map Sheet
easting 598500	Perth Andover
northing 5162200	21J/12
Depth Drilled : 104 ft	Elevation : 295 ft

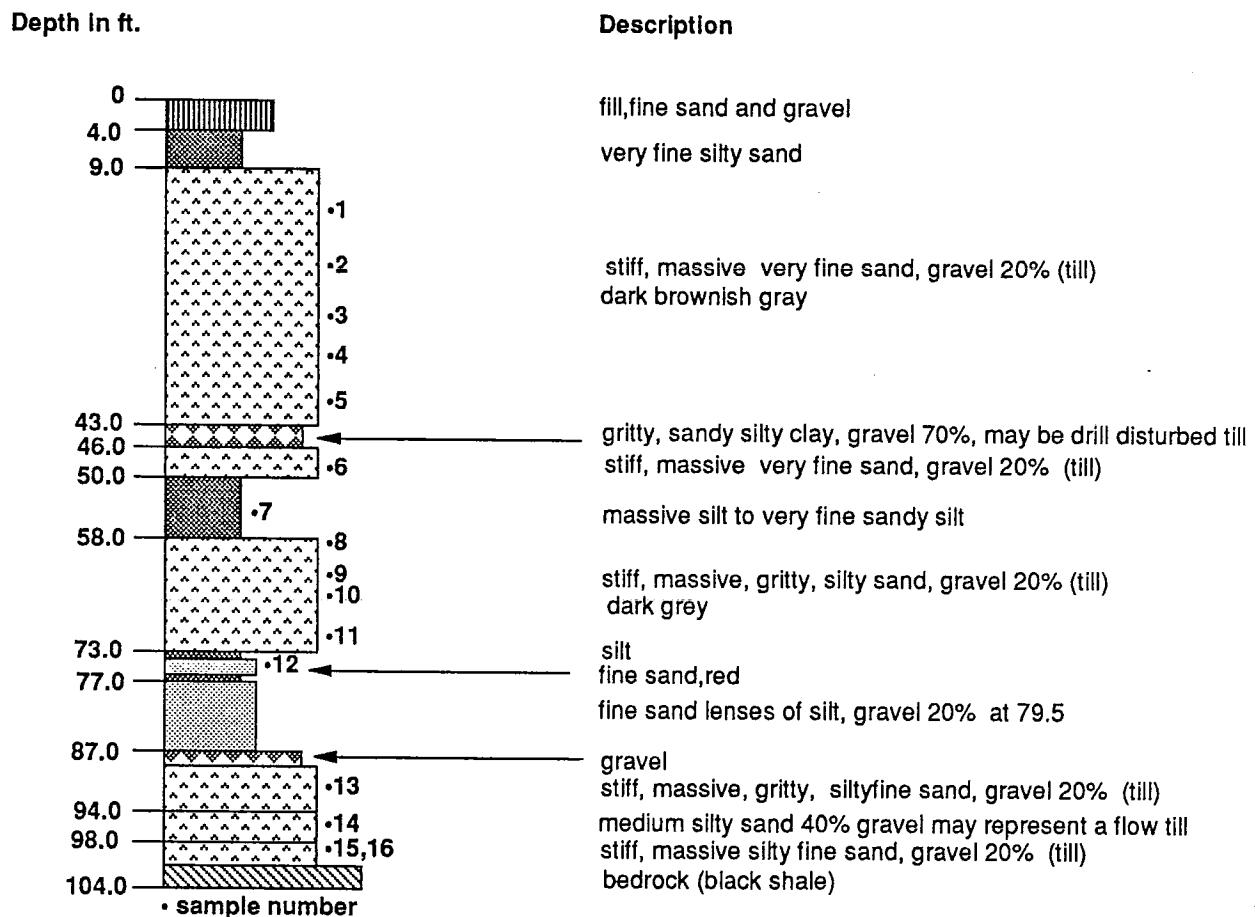


Figure 22: Borehole No. 22

3023	
Location	NTS Map Sheet
easting 600300	Florenceville
northing 5125950	21J/5
Depth Drilled :22 ft	Elevation :130 ft

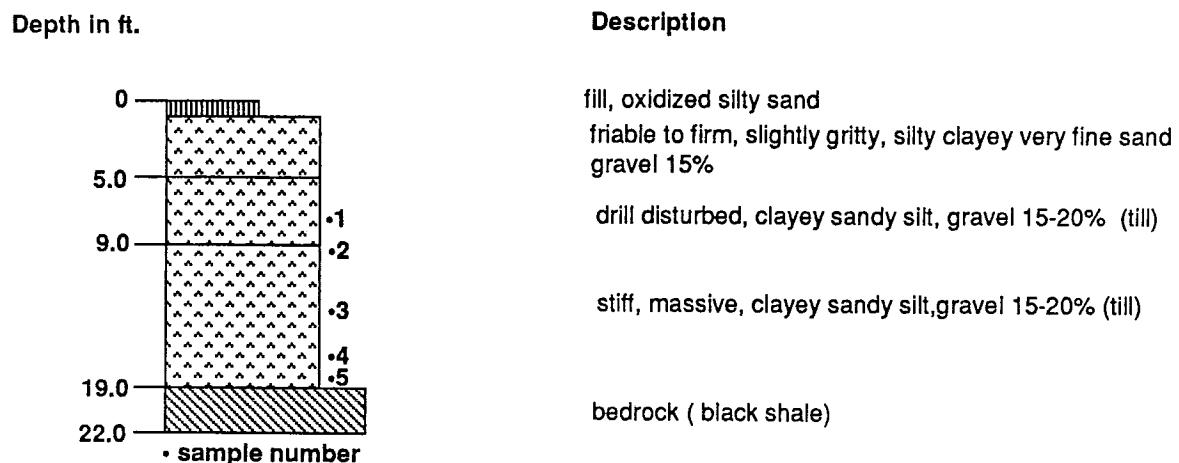


Figure 23: Borehole No. 23

3024	
Location	NTS Map Sheet
easting 615250	Woodstock
northing 51119250	21J/4
Depth Drilled :24.5 ft	Elevation : 80 m

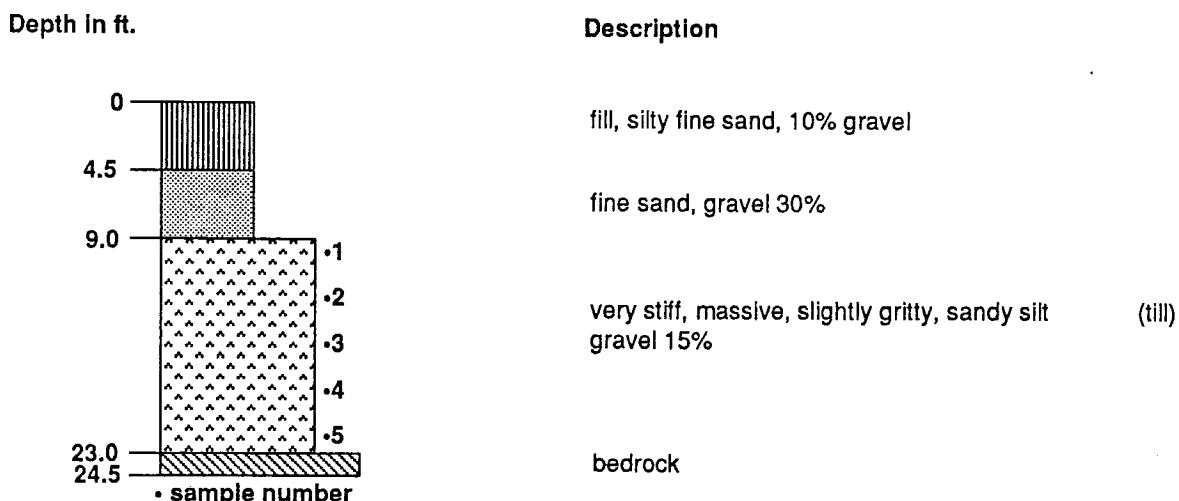


Figure 24: Borehole No. 24

3025

Location

easting 610750

NTS Map Sheet

Woodstock

northing 5111900

21J/4

Depth Drilled :125 ft

Elevation : 50 m

Depth in ft.

Description

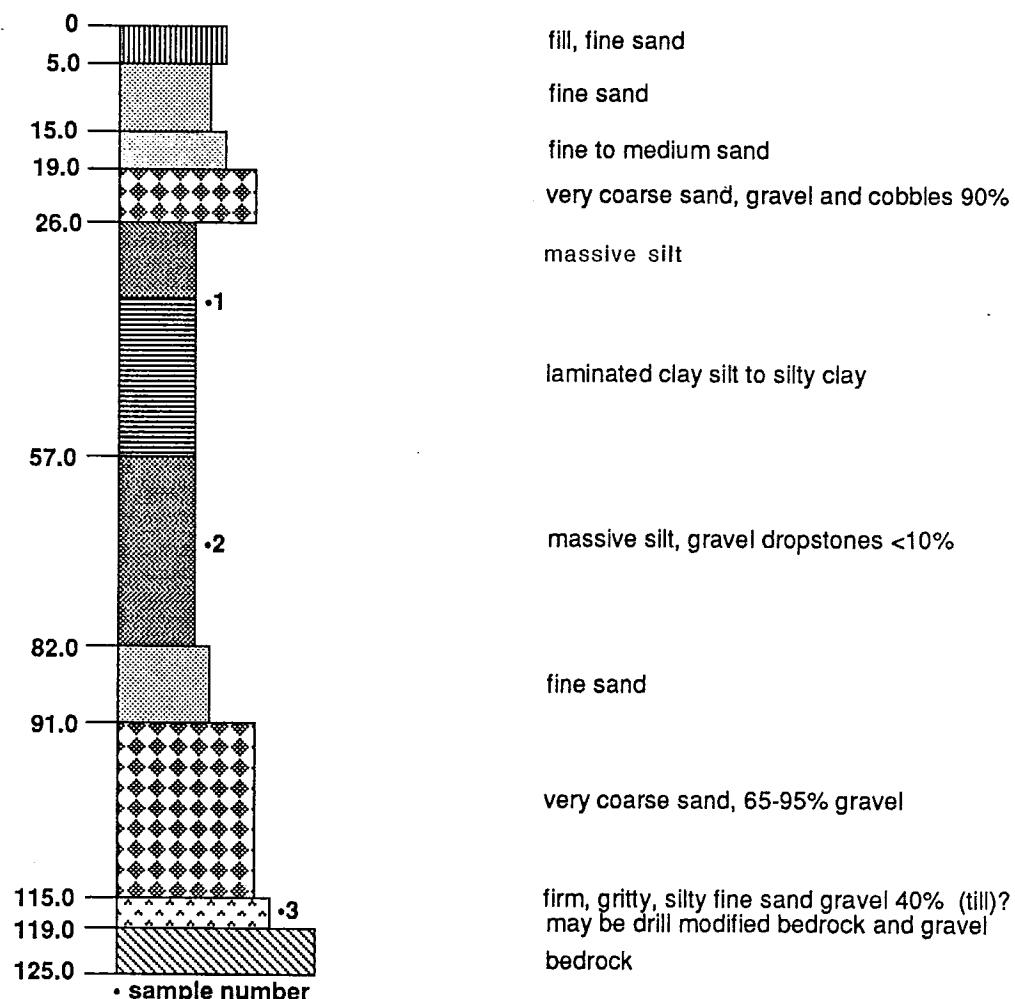


Figure 25: Borehole No. 25

3026	
Location	NTS Map Sheet
easting 610100	Woodstock
northing 5110200	21J/4
Depth Drilled :160 ft	Elevation : 147 ft.

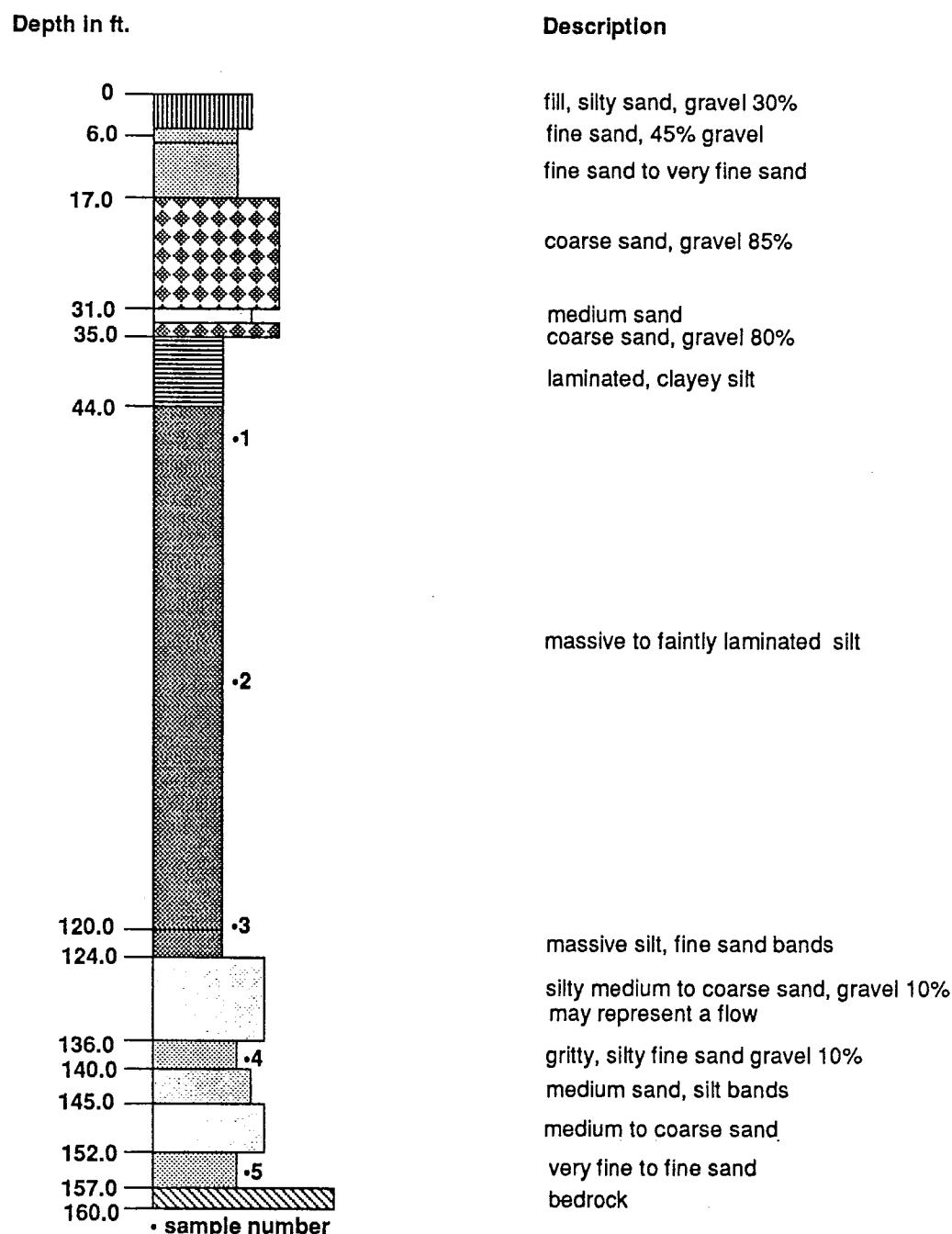


Figure 26: Borehole No. 26

3027	
Location	NTS Map Sheet
easting 611500	Woodstock
northing 5101050	21J/4
Depth Drilled :128 ft	Elevation :50 m

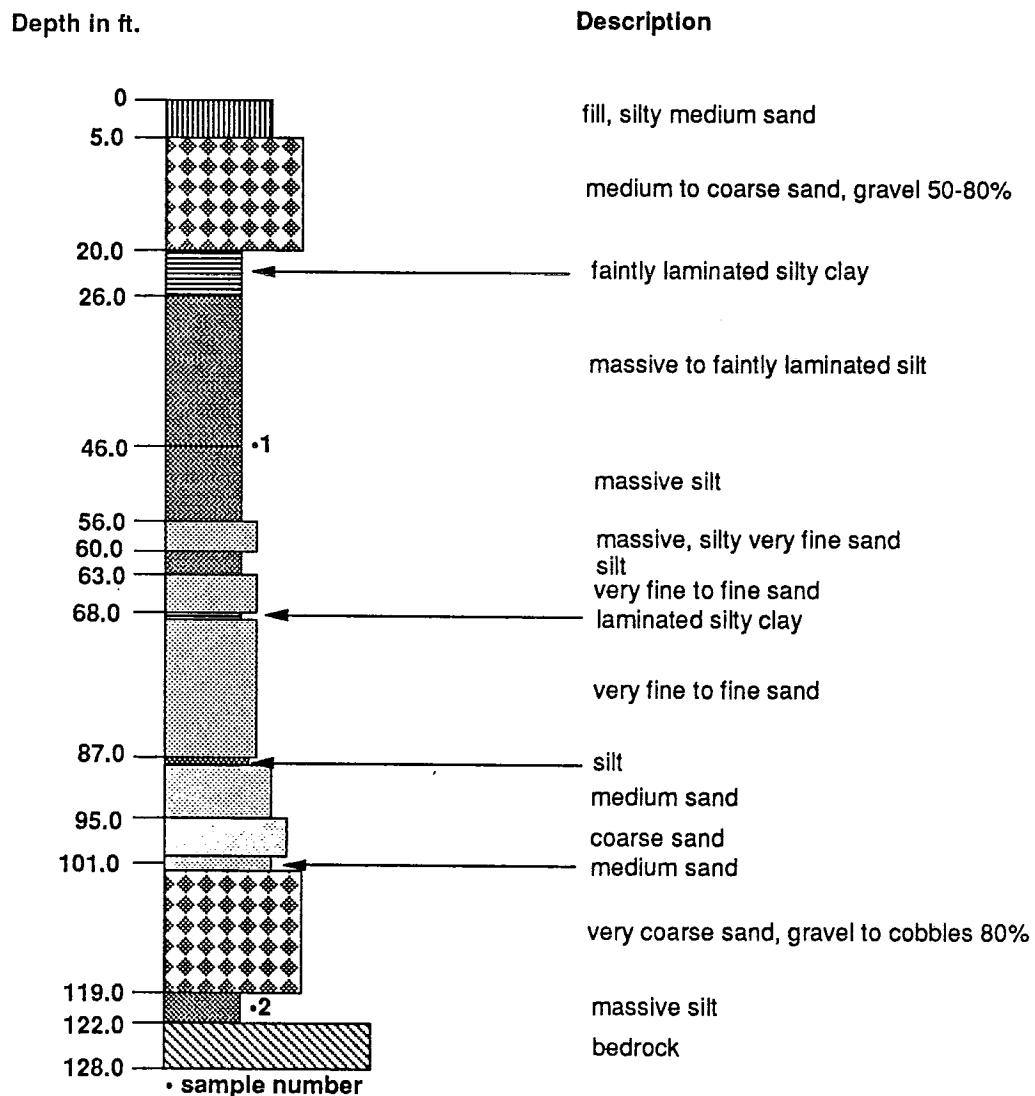


Figure 27: Borehole No. 27

3028	
Location	NTS Map Sheet
easting 613700	Woodstock
northing 5096800	21J/4
Depth Drilled : 124 ft	Elevation : 164 ft

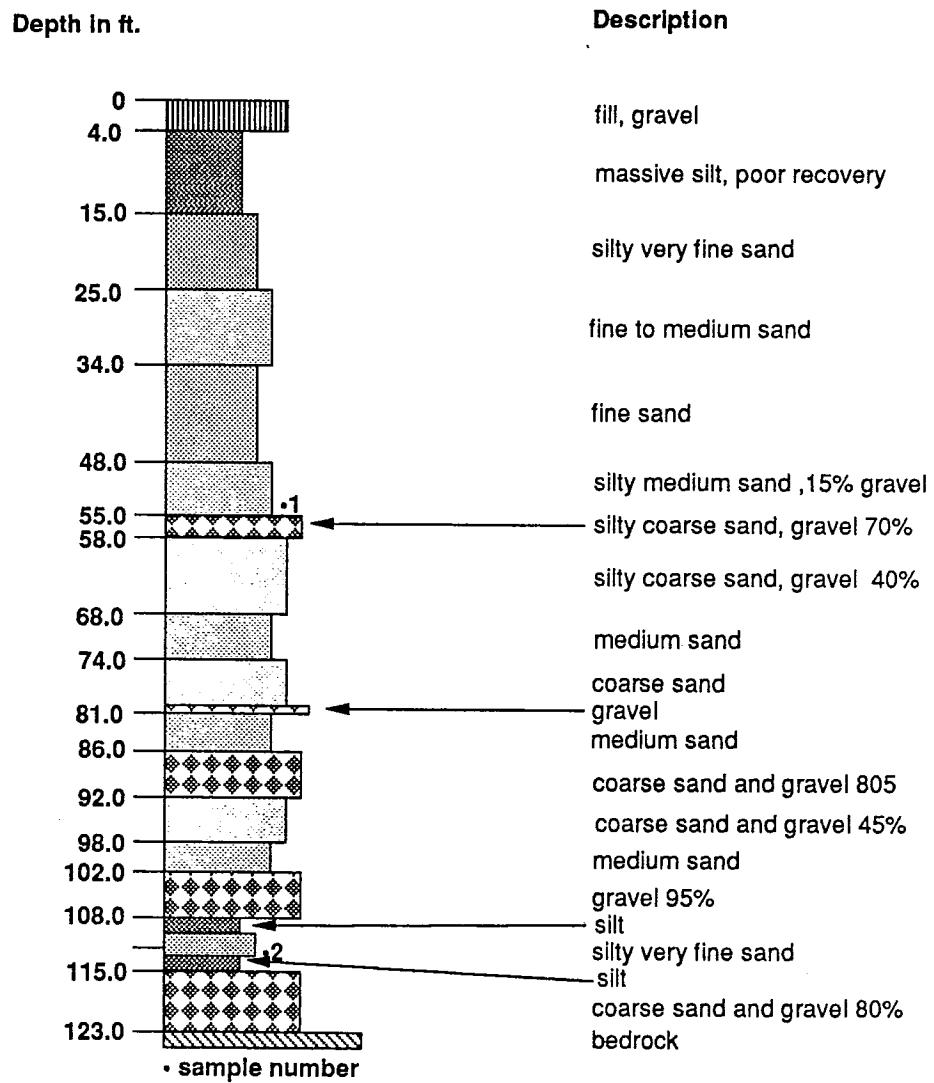


Figure 28: Borehole No. 28

3029

Location	NTS Map Sheet
easting 621900	Canterbury
northing 5093600	21G/14
Depth Drilled :163 ft	Elevation : 50 m

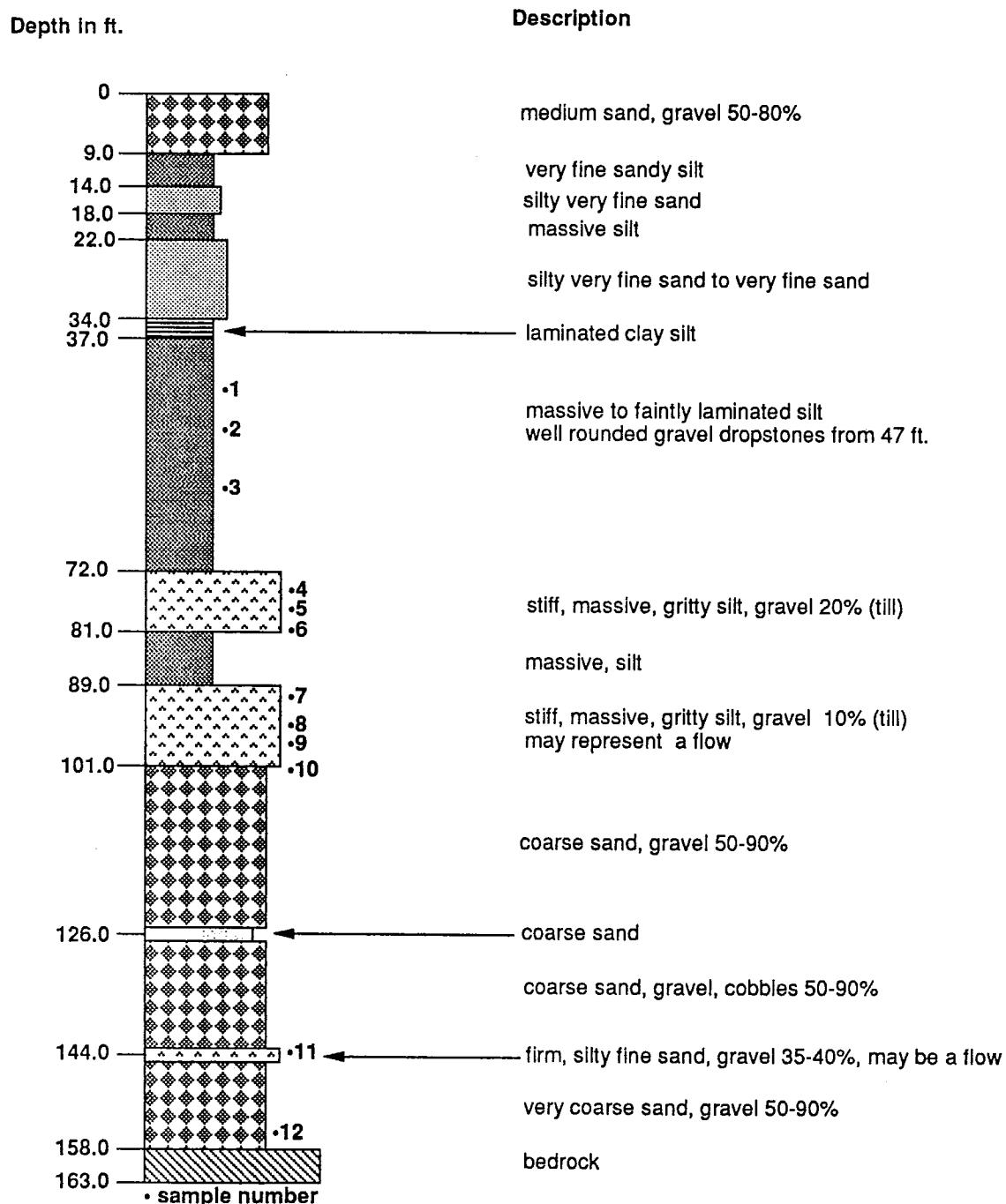


Figure 29: Borehole No. 29

3030	
Location	NTS Map Sheet
easting 636400	Millville
northing 5095900	21J/3
Depth Drilled : 25 ft	Elevation : 197 ft

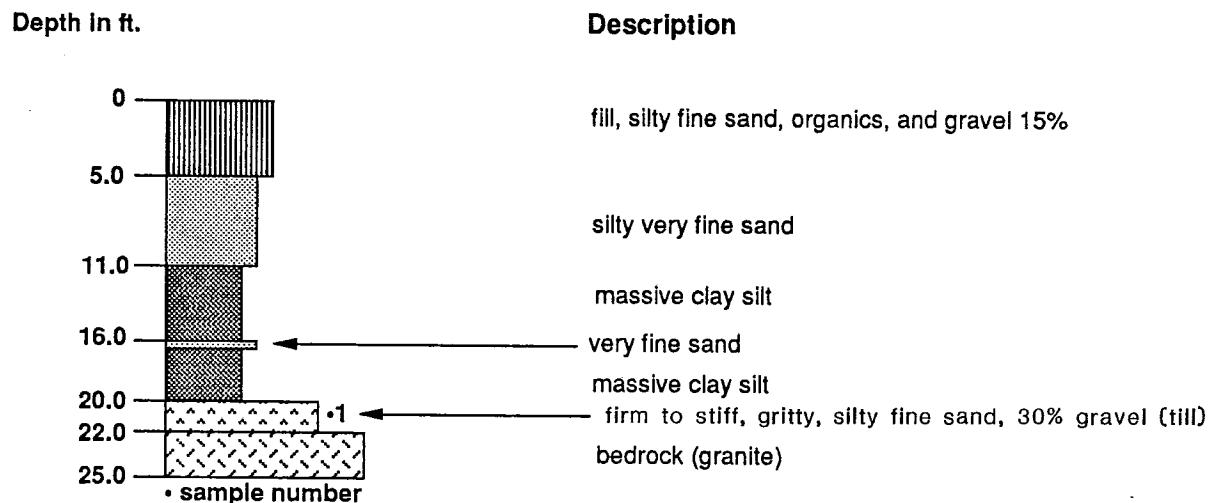


Figure 30: Borehole No. 30

3031	
Location	NTS Map Sheet
easting 636200	Millville
northing 5100400	21J/3
Depth Drilled : 25 ft	Elevation : 230 ft

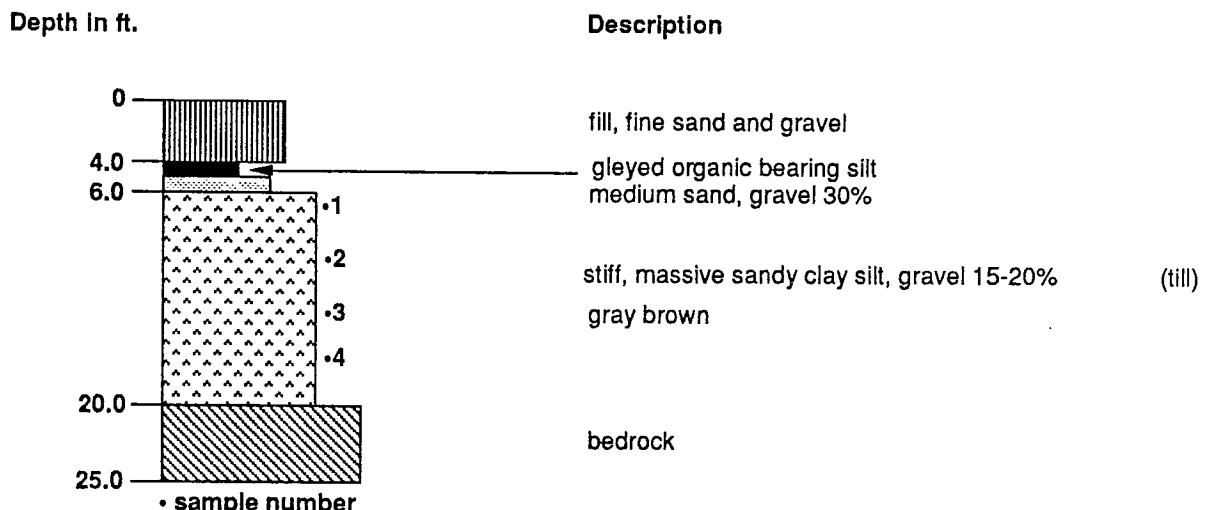


Figure 31: Borehole No. 31

3032

Location	NTS Map Sheet
easting 667300	Fredericton
northing 5095800	21G/15
Depth Drilled :212 ft	Elevation : 10 m

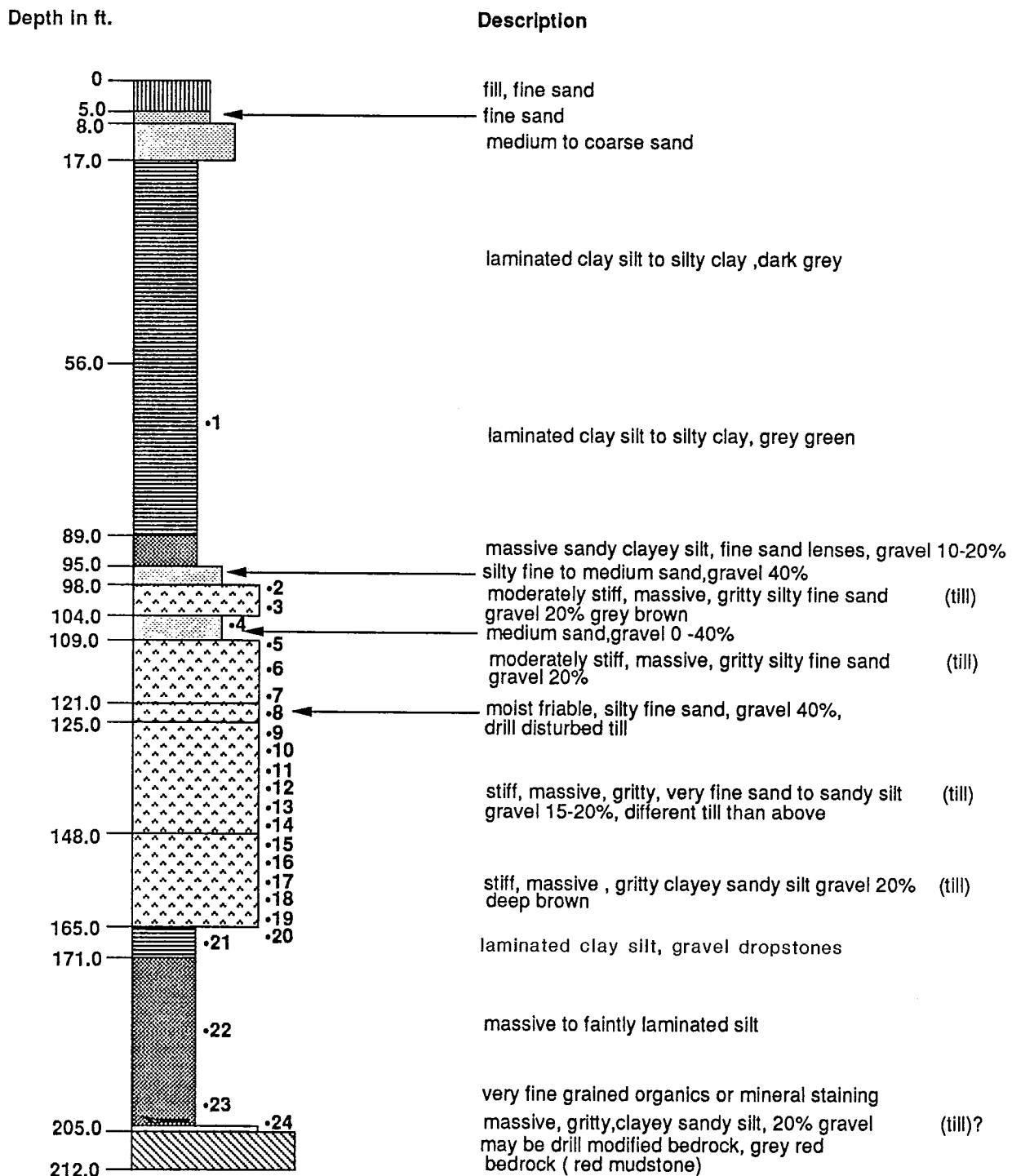
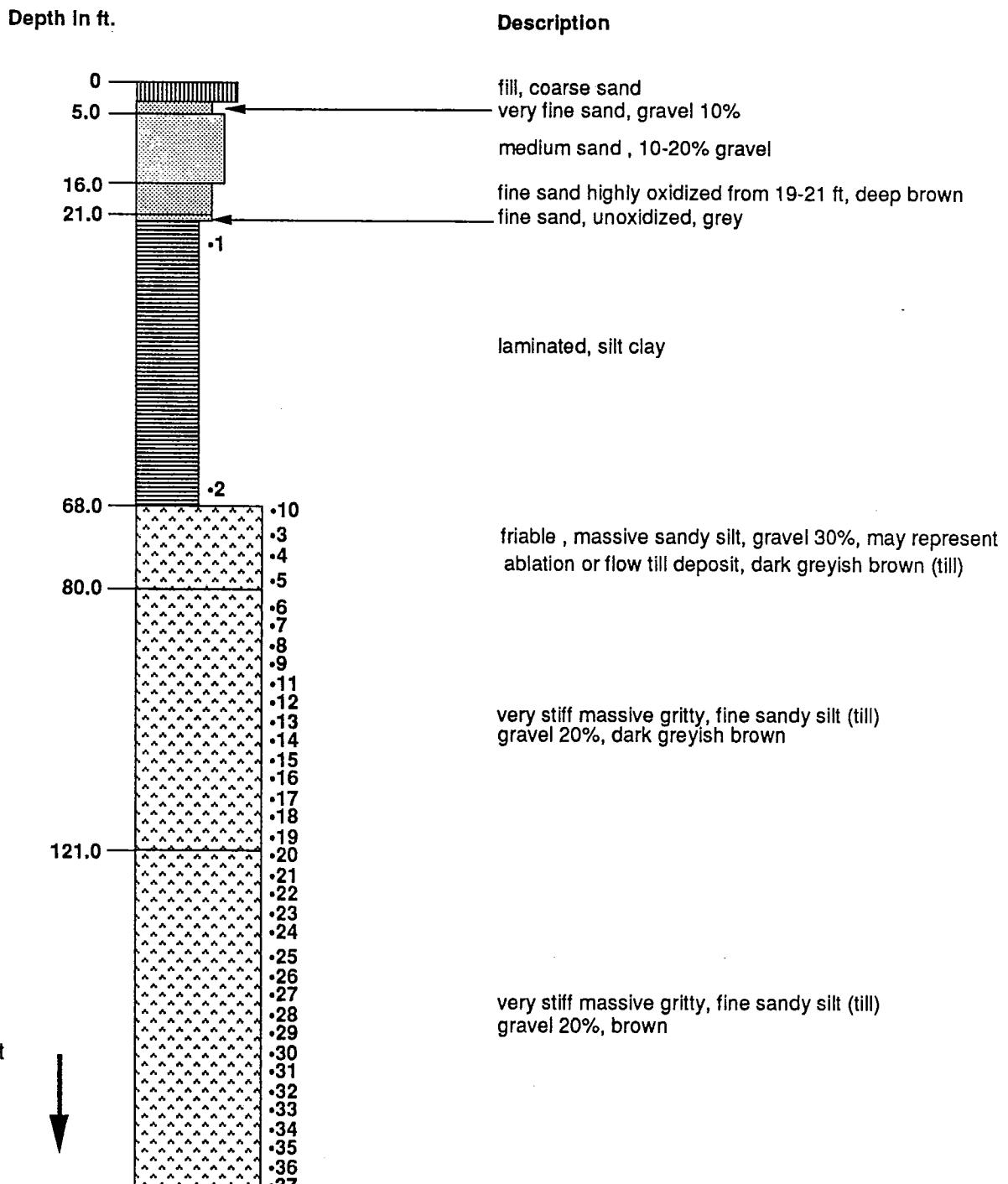


Figure 32: Borehole No. 32

3033	
Location	NTS Map Sheet
easting 660300	Burts Corner
northing 5100700	21J/2
Depth Drilled : 268 ft	Elevation : 180 ft



Continue next
page



Figure 33: Borehole No. 33

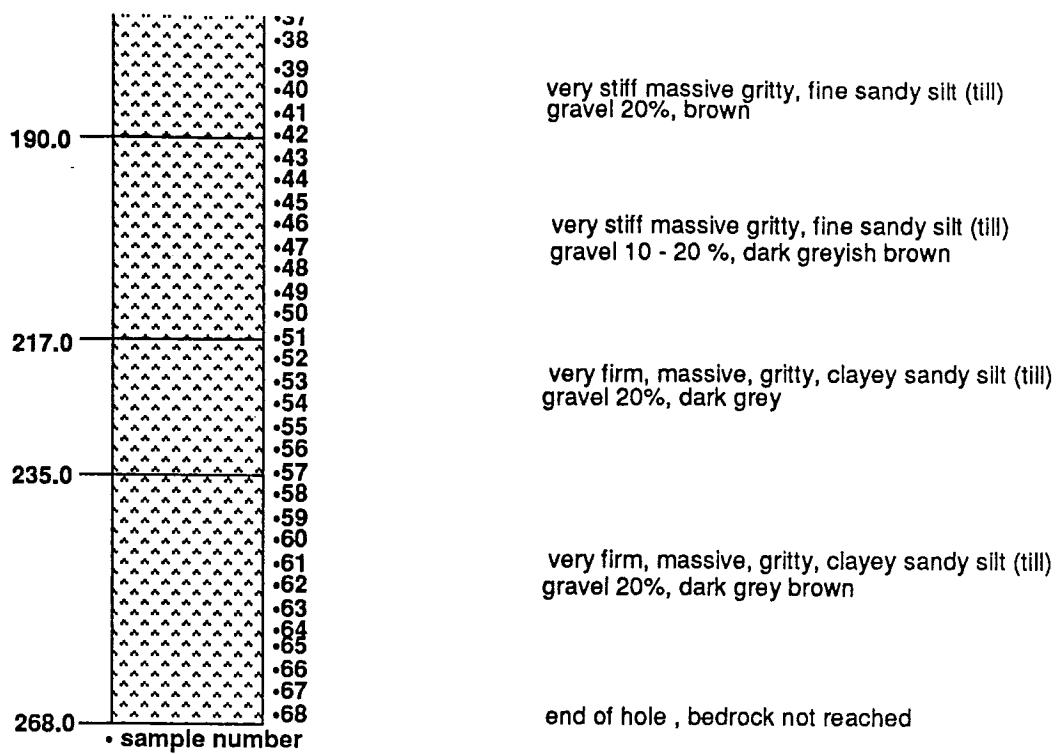


Figure 33: Borehole No. 33 (continued)

3034

Location

easting 685250

NTS Map Sheet

Burts Corner

northing 5105850

21J/2

Depth Drilled :135 ft

Elevation : 63 ft

Depth In ft.

Description

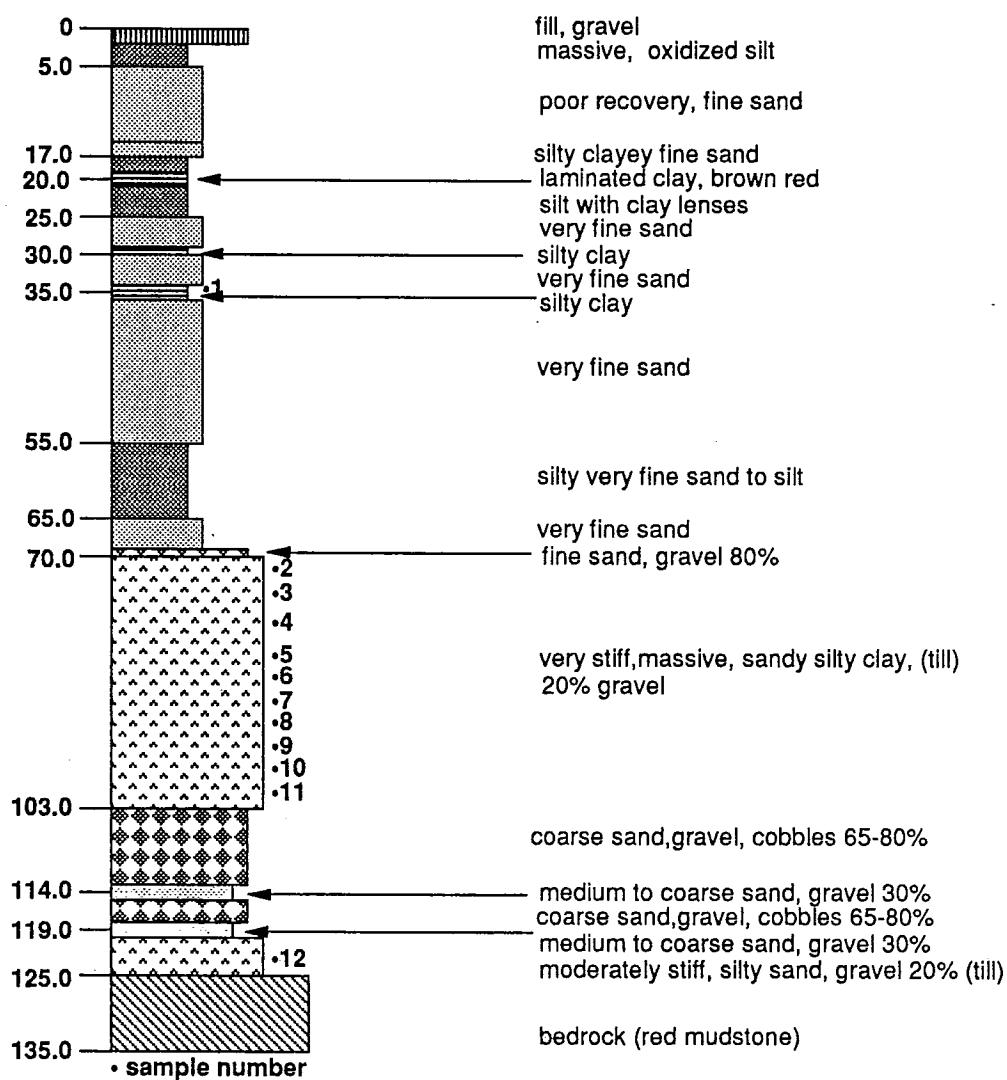


Figure 34: Borehole No. 34

3036	
Location	NTS Map Sheet
easting 666900	Fredericton
northing 5091500	21G/15
Depth Drilled :169 ft	Elevation :10 m

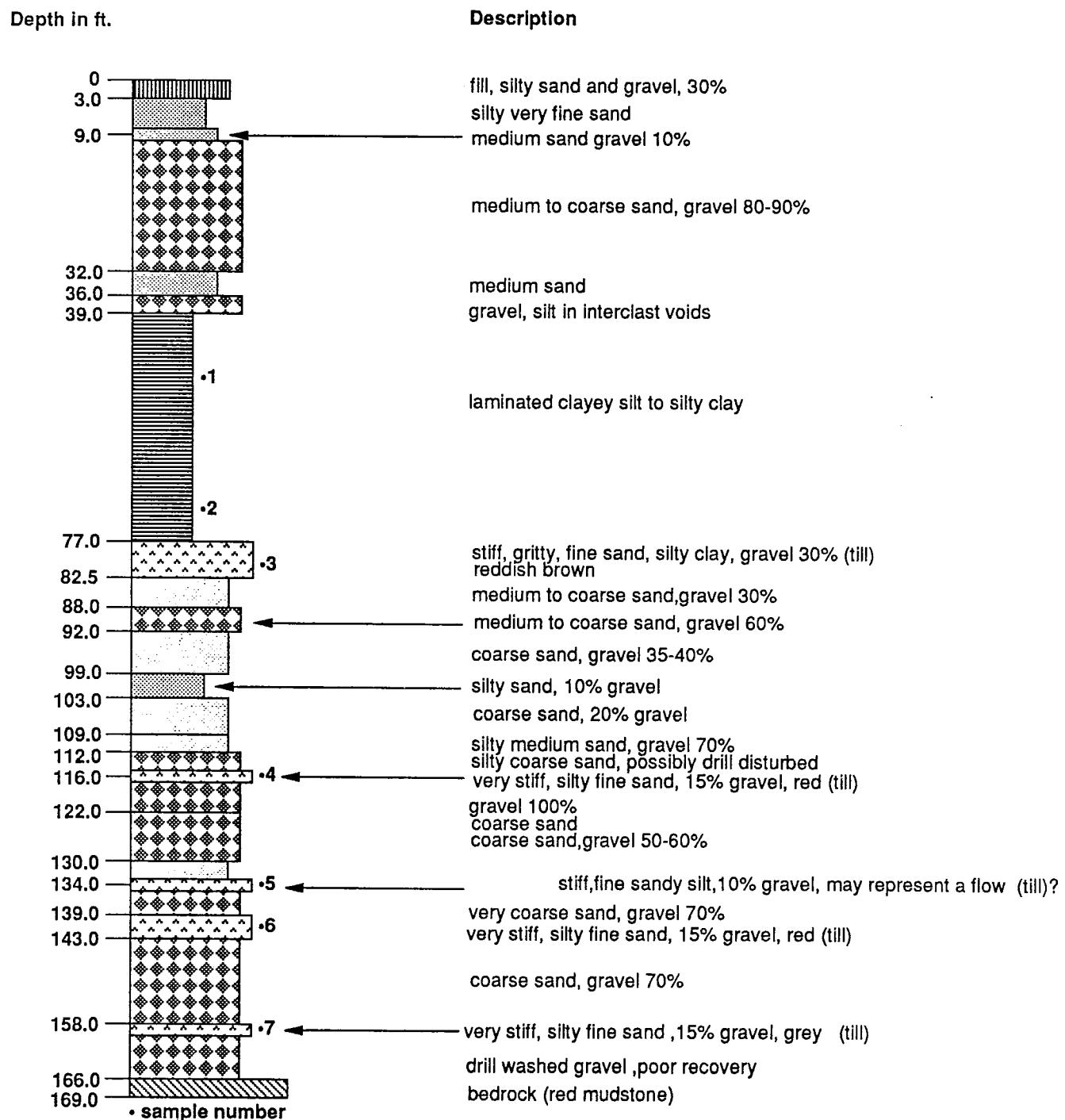


Figure 35: Borehole No. 36

3037

Location

easting 297900

NTS Map Sheet

Nipisiquit Falls

northing 5257100

21P/5

Depth Drilled : 45 ft

Elevation : 200 ft

Depth in ft.

Description

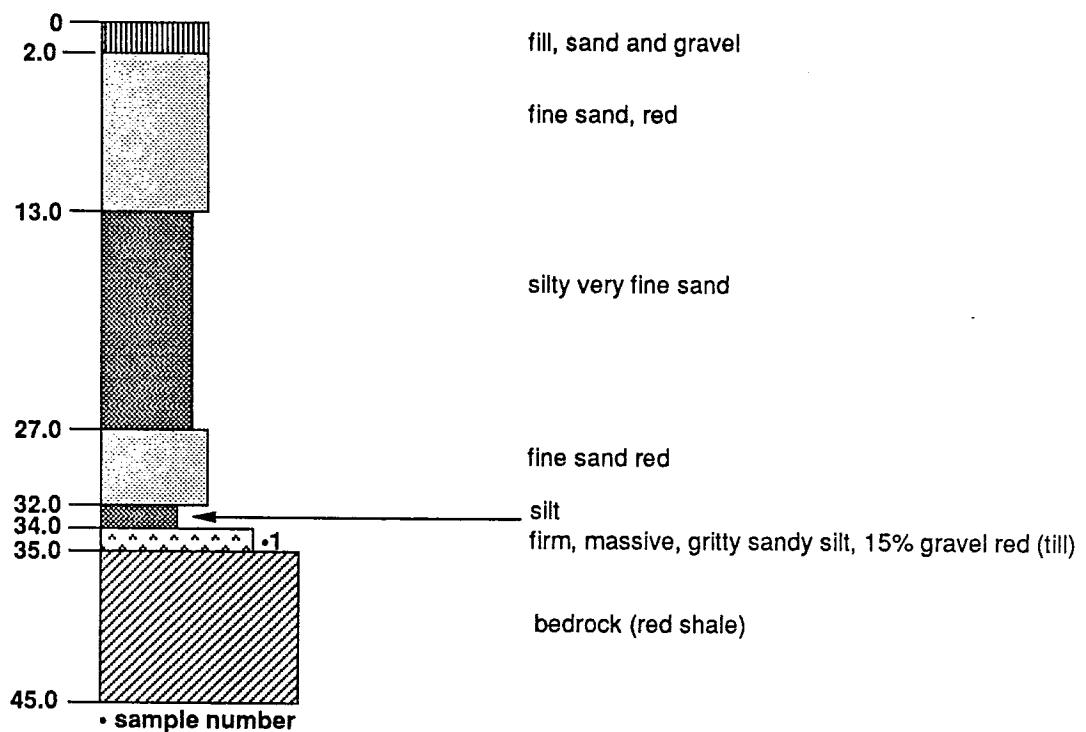


Figure 36: Borehole No. 37

3038	
Location	NTS Map Sheet
easting 294800	Nipisiguit Falls
northing 5259200	21P/5
Depth Drilled : 35 ft	Elevation : 225 ft

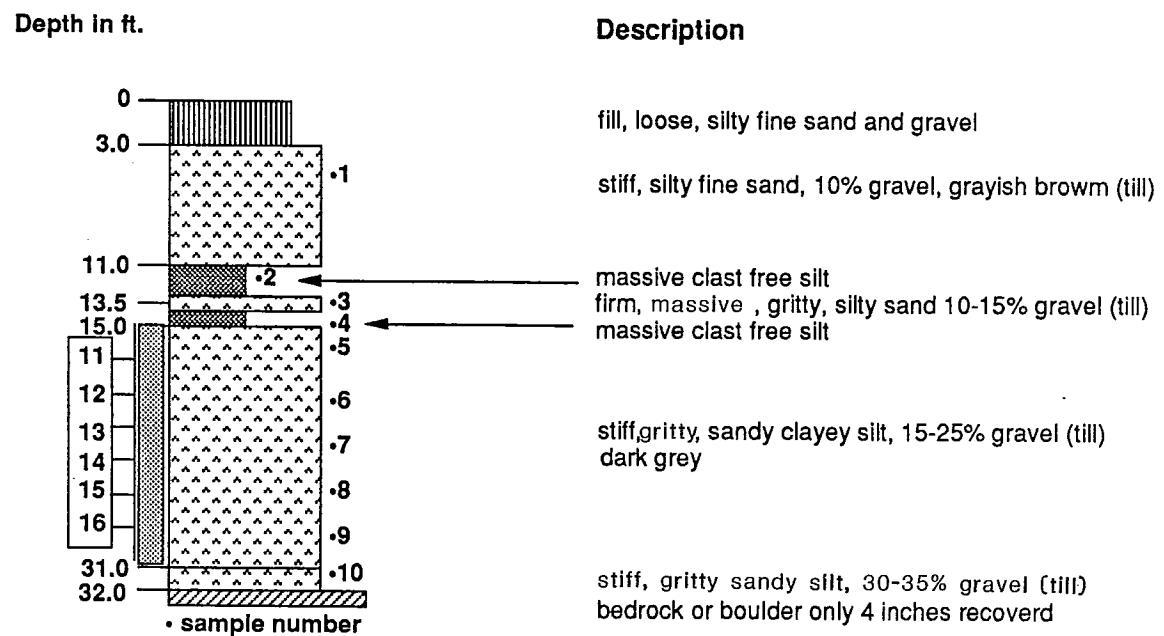


Figure 37: Borehole No. 38

3039	
Location	NTS Map Sheet
easting 304800	Bathurst
northing 5274500	21P/12
Depth Drilled : 92 ft	Elevation : 140 ft

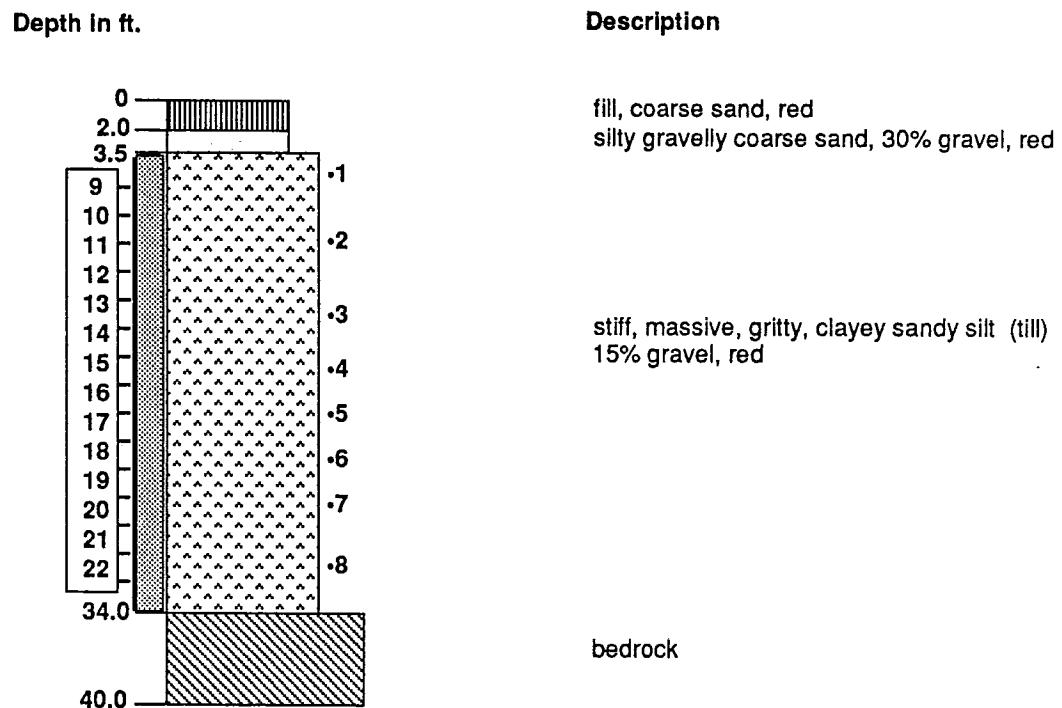


Figure 38: Borehole No. 39

3040

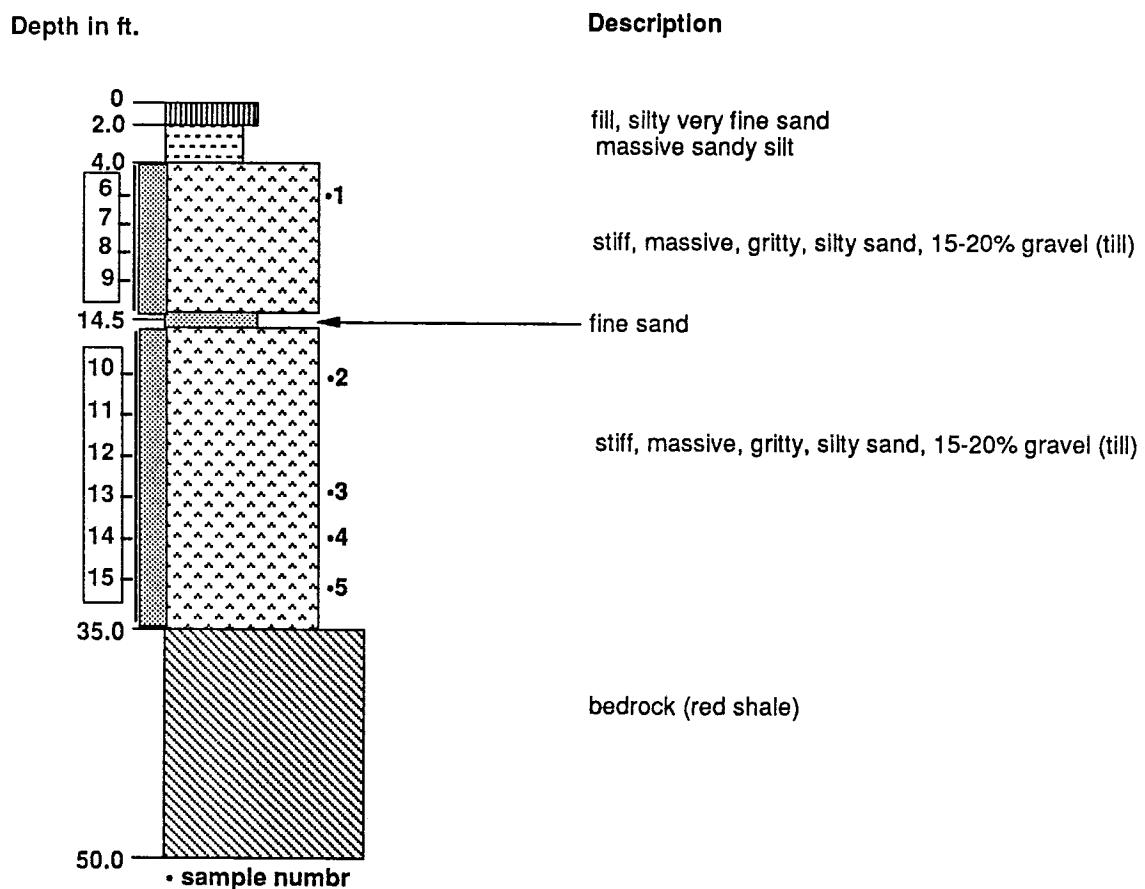


Figure 39: Borehole No. 40

3041	
Location	NTS Map Sheet
easting 293200	Bathurst
northing 5277000	21P/12
Depth Drilled : 72.5 ft	Elevation : 175 ft

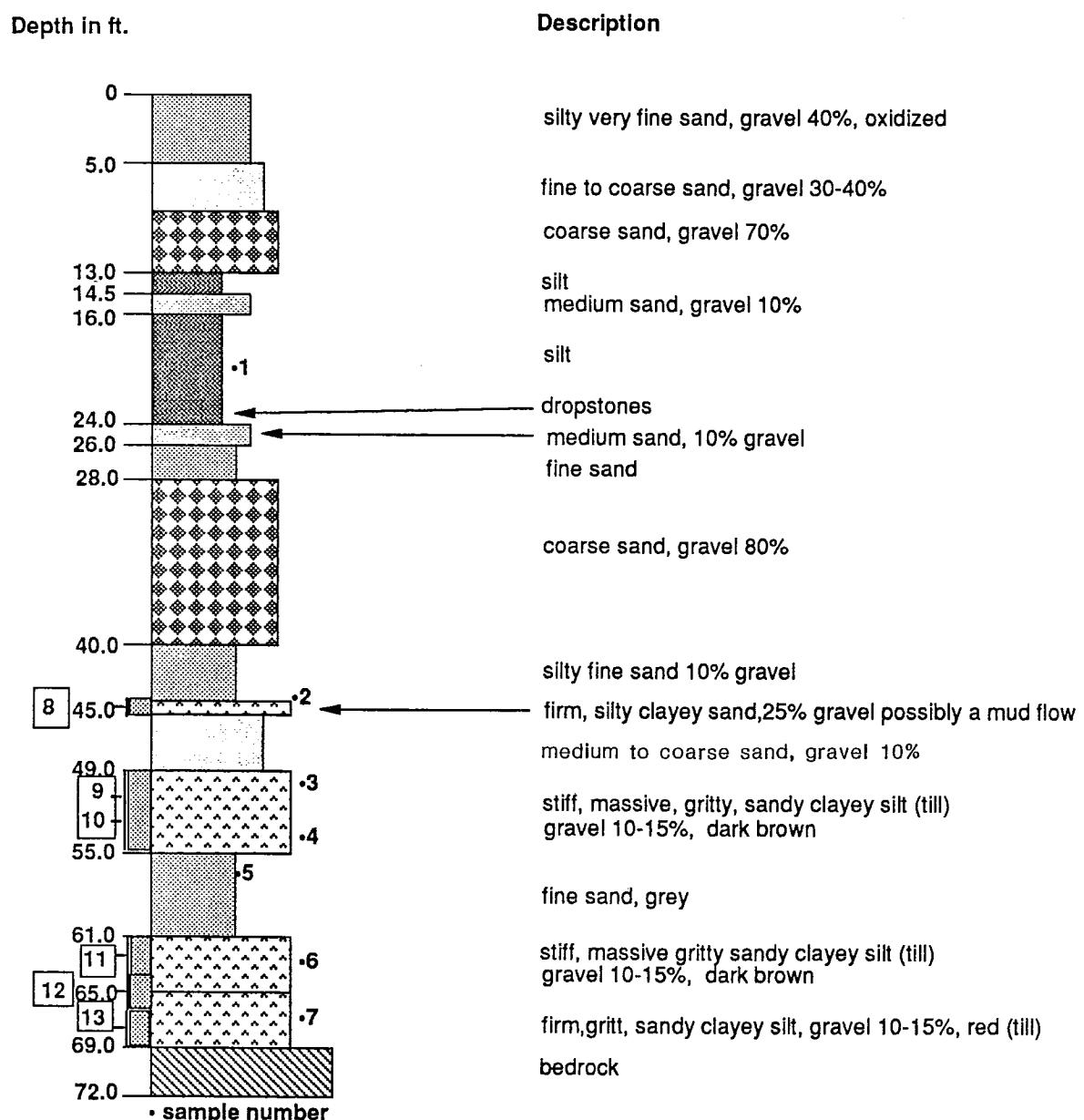
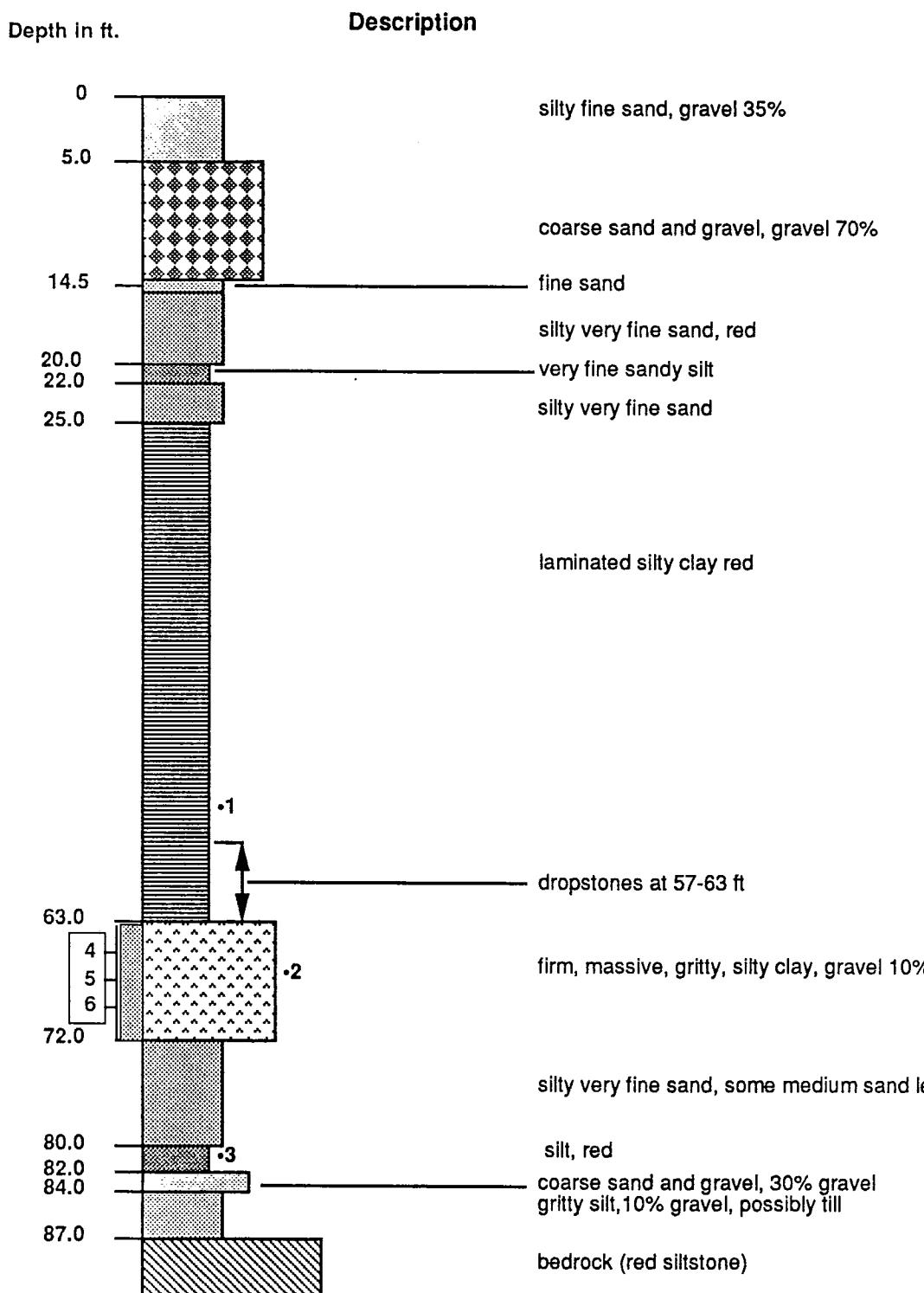


Figure 40: Borehole No. 41

3042

Location	NTS Map Sheet
easting 297000	Bathurst
north 5278600	21P/12
Depth Drilled : 92 ft	Elevation : 100 ft



• sample number

Figure 41: Borehole No. 42

3048

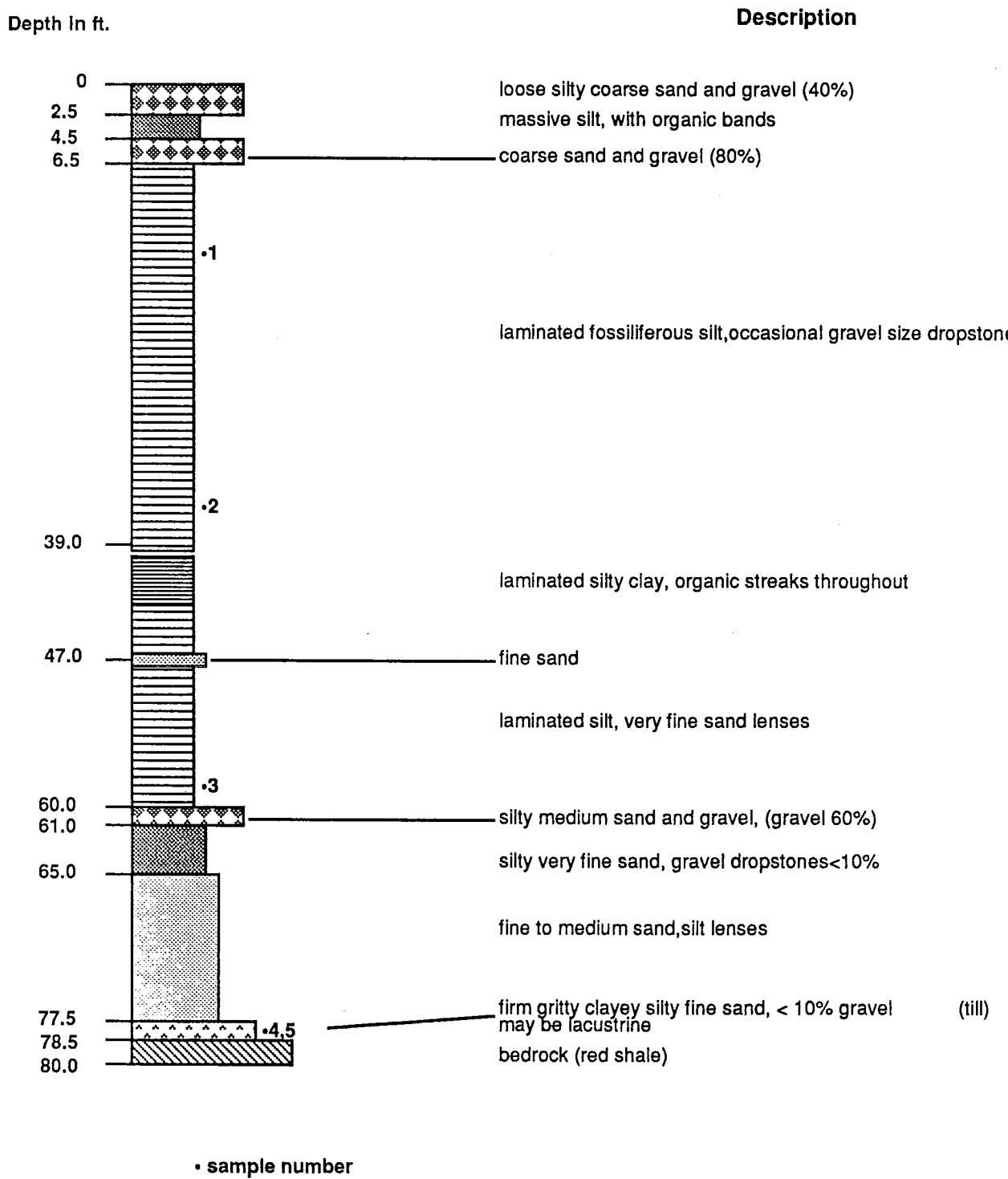


Figure 42: Borehole No. 48

3049	
Location	NTS Map Sheet
easting 296600	Bathurst
northing 5289200	21P/12
Depth Drilled : 25 ft	Elevation : 20 ft

Depth in ft.

Description

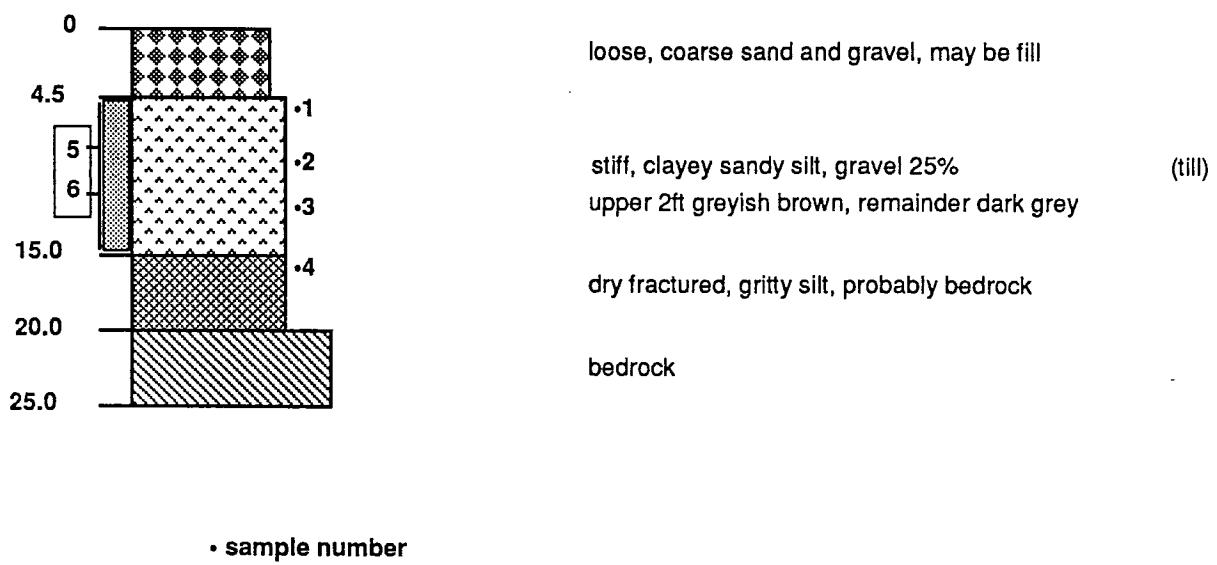


Figure 43: Borehole No. 49

3050

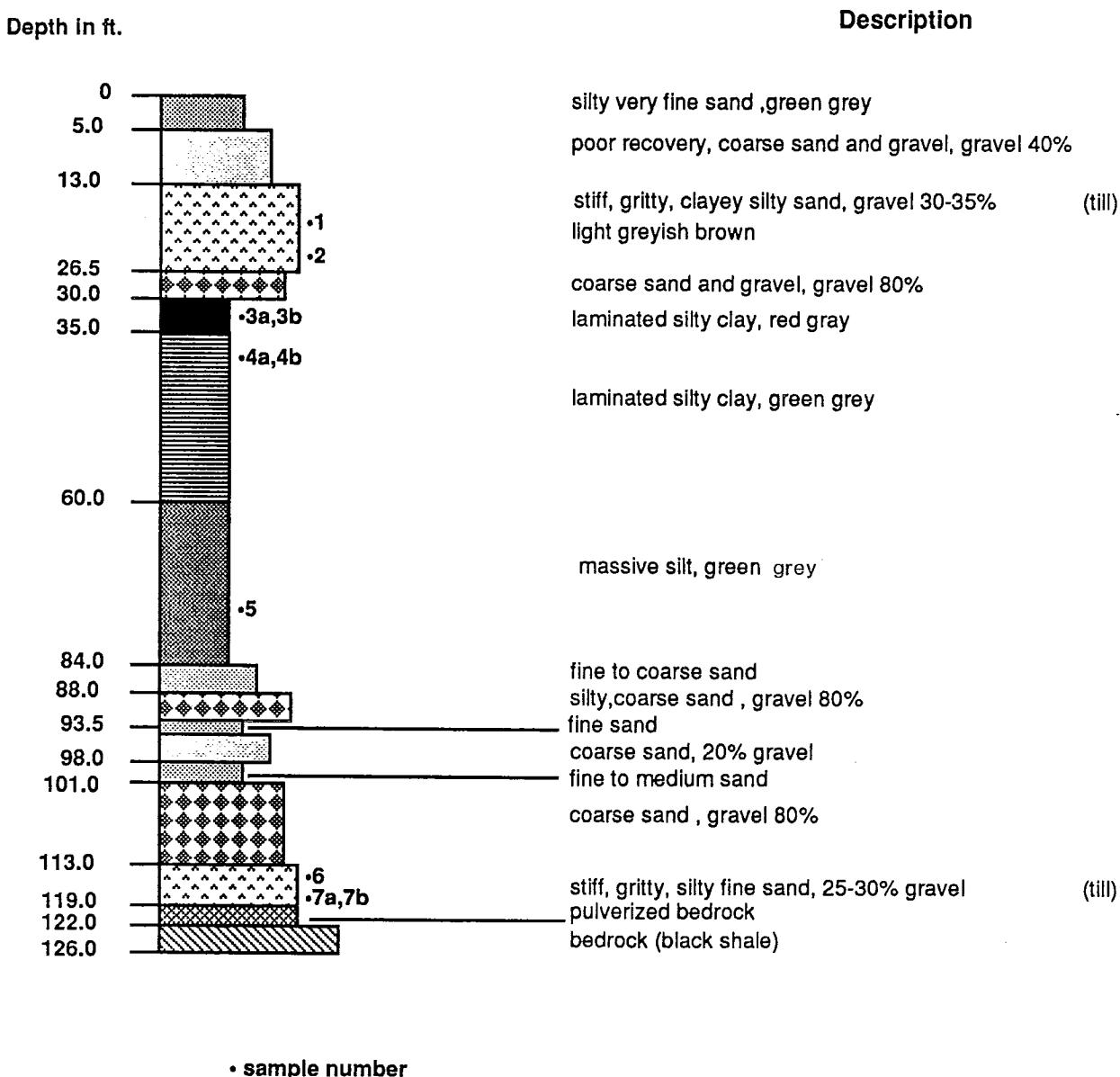


Figure 44: Borehole No. 50

TABLE I

GEOCHEMICAL METHODS, DETECTION LIMITS, AND NOTES TO GEOCHEMICAL TABLES

<2 µm Fraction

As Arsenic	Colourimetric	2.0 ppm
Co Cobalt	Atomic Absorption	1.0 ppm
Cr Chromium	Atomic Absorption	2.0 ppm
Cu Copper	Atomic Absorption	1.0 ppm
F Fluorine	Specific Ion	20.0 ppm
Fe Iron	Atomic Absorption	0.1 ppm
Hg Mercury	Atomic Absorption	5.0 ppb
Mn Manganese	Atomic Absorption	1.0 ppm
Mo Molybdenum	Atomic Absorption	1.0 ppm
Ni Nickel	Atomic Absorption	2.0 ppm
Pb Lead	Atomic Absorption	2.0 ppm
Sn Tin	X-Ray Fluorescence	1.0 ppm
U Uranium	Fluorometric	0.1 ppm
W Tungsten	Colourimetric	2.0 ppm
Zn Zinc	Atomic Absorption	1.0 ppm

<63 µm Fraction

Element	Method	Detection Limit
As Arsenic	Neutron Activation	0.5 ppm
Au Gold	Neutron Activation	2.0 ppb
Ba Barium	Neutron Activation	50.0 ppm
Co Cobalt	Neutron Activation	5.0 ppm
Cr Chromium	Neutron Activation	20.0 ppm
Fe Iron	Neutron Activation	0.2 pct
Hg Mercury	Cold Vapor AA	5.0 ppb
Mo Molybdenum	Neutron Activation	1.0 ppm
Ni Nickel	Neutron Activation	20.0 ppm
Rb Rubidium	Neutron Activation	5.0 ppm
Sb Antimonium	Neutron Activation	0.1 ppm
Th Thorium	Neutron Activation	0.2 ppm
U Uranium	Neutron Activation	0.2 ppm
W Tungsten	Neutron Activation	0.1 ppm
Zn Zinc	Neutron Activation	100.0 ppm

NOTES TABLES II TO VI

- 1) "blank" - not analysed
- 2) obs - laboratory; 1,2,3 ... Bondar Clegg and co. Ltd
10,11,12... Chemex Labs Ltd
- 3) values lower than detection limit indicated as half the detection limit
e.g. Au - 1.0 ppb means Au <2.0 ppb
- 4) Sample numbering YYLFA XXXX NN
YY=Year of sampling , LFA=Project leader's code
XXXX=Code number of sample site , NN = Sample number

TABLE II GEOCHEMISTRY OF THE CLAY FRACTION OF TILL OVERBURDEN DRILLING PROGRAM

* waterlaid unit

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300101	1	10	22	67	40	960	5.1	55	830		82	27	2	0.6	2	131
86LFA300101	10		25	82	35		5.3		740	1	72	18				117
86LFA300102	1	12	26	56	41	990	4.9	60	960		85	30	6	0.7	2	139
86LFA300102	10		25	90	35		5.5		840	1	76	19				121
86LFA300103	* 10	7	22	92	18		4.6		720	1	62	21	1	0.1	1	77
86LFA300104	1	3	16	48	21	975	4.4	40	1200		58	23	2	0.9	8	72
86LFA300104	2	2	19	50	21	905	3.6	40	1400	0.5	57	22	4	0.5	4	71
86LFA300104	10		20	64	18		3.7		880	1	51	14				
86LFA300201	1	8	24	65	40	970	5.9	35	730		88	37	3	0.8	2	137
86LFA300202	1	16	24	67	36	925	5.7	45	820		87	29	3	0.5	2	147
86LFA300202	10		27	86	34		5.8		700	1	78	20				
86LFA300203	1	17	22	76	46	1040	6	65	1600	1	88	36	1	0.3	2	128
86LFA300203	10		26	106	45		6.2		1320	1	86	26				156
86LFA300205	1	11	24	78	47	970	5.5	70	880		90			0.9	2	147
86LFA300205	10		25	104	40		5.6		820	2	82	17				139
86LFA300206	1	11	22	94	50	950	6.2	80	980	2	94	26		0.7	2	125
86LFA300207	1	13	24	88	42	930	6.1	60	900	1	95	25		0.7	2	141
86LFA300208	1	12	24	80	42	995	5.5	65	940		91	26		1	2	142
86LFA300208	10	9	27	98	42		5.7		980	1	87	19	1	0.7	2	125
86LFA300209	1	10	24	70	41	895	5.6	60	940	3	89	27	1	0.7	2	133
86LFA300209	10		25	98	35		5.6		900	1	82	17				121
86LFA300210	1	13	22	72	44	1040	5.4	70	920		89	27	1	0.9	2	130
86LFA300210	2	7	25	80	45	950	5.4	65	1000	1	93	25	0.5	0.05	2	133
86LFA300210	10		25	92	35		5.2		840	1	79	16				110
86LFA300211	1	14	21	66	40	1140	5.1	60	830		93	26		0.9	2	116
86LFA300211	10	12	26	82	37		5.6		840	1	86	18	1	0.8	1	114
86LFA300212	* 1	13	22	68	39	1325	5	95	700		72	24		0.5	2	129
86LFA300212	* 10		26	90	34		4.8		660	1	66	14				108
86LFA300213	1	9	20	82	22	1130	4.9	40	800		68	29		0.7	2	78
86LFA300214	1	12	30	64	32	1155	5.6	115	4300		68	31				109
86LFA300214	2	8	32	68	32	1180	5	100	100	0.5	67	27	8	0.05	2	101
86LFA300301	1	13	22	66	41	960	5.4	55	1000		85	33				136
86LFA300301	10		27	90	35		5.6		880	1	78	21				110
86LFA300302	1	10	24	72	40	910	5.5	55	1000		83	27		0.6	2	143
86LFA300302	10		26	92	35		5.4		1000	2	77	19				122
86LFA300303	1	12	24	68	44	840	5.6	65	860		89	27	3	0.7	2	149
86LFA300303	10		25	86	38		5.4		820	1	76	17				131
86LFA300304	1	12	24	72	44	1005	5.5	70	880		90	28	5	0.7	2	145
86LFA300304	10		27	92	41		5.5		820	1	83	16				132
86LFA300305	1	9	22	70	46	970	5.4	65	800		90	27	1	0.5	2	141
86LFA300306	1	12	24	70	42	935	5.4	80	740		90	26		0.6	2	137
86LFA300307	1	12	22	62	44	955	5.6	85	740		83	26		0.3	2	139
86LFA300308	1	14	24	72	47	830	5.5	90	760		90	30	3	0.6	2	141
86LFA300308	10		26	90	41		5.4		680	1	80	16				121

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300310	1	14	24	72	47	1045	5.7	80	780	0.5	86	27	7	0.5	2	141
86LFA300310	2	7	24	80	53	1000	4.8	70	750	0.5	88	26	3	0.05	2	137
86LFA300311	1	11	22	70	43	940	5.3	60	760	88	26	3	0.9	2	150	
86LFA300311	10	27	98	37			5.5		680	1	82	16				133
86LFA300312	1	7	22	70	37	1055	5.2	50	820	82	26	2	0.3	2	137	
86LFA300312	2	5	23	80	41	905	4.2	40	880	0.5	87	26	4	0.3	2	148
86LFA300313	1	12	18	60	36	1150	5	85	2000	73	21	0.4	2	120		
86LFA300314	1	10	16	70	31	945	5.1	70	3800	65	23	2	0.9	2	103	
86LFA300314	10	10	21	80	31		5.2		2700	2	65	15	1	0.4	1	95
86LFA300315	1	14	20	68	41	1005	5.8	90	1600	86	24	0.5	2	135		
86LFA300315	10	9	23	84	40		5.3		1420	1	77	16	1	0.4	1	120
86LFA300316	1	9	18	72	31	1390	5	35	980	1	89	20	0.5	2	108	
86LFA300401	1	13	24	70	43	880	5.4	50	800	89	29	0.5	2	155		
86LFA300401	10	16	124	22			5.6		800	2	48	8				77
86LFA300402	1	8	18	56	35	700	4.6	65	660	73	23	4	0.7	2	110	
86LFA300402	10	22	92	33			4.7		680	1	73	13				103
86LFA300403	1	13	24	76	51	945	5.6	80	800	91	31	3	0.7	2	157	
86LFA300404	1	13	24	76	47	895	5.4	90	720	92	23	2	0.5	2	151	
86LFA300404	10	27	108	43			5.7		720	1	85	16				138
86LFA300405	1	20	22	72	49	895	5.8	100	1100	90	26	0.5	2	157		
86LFA300406	1	13	24	80	52	980	5.7	85	730	94	27	2	0.3	2	159	
86LFA300407	1	13	20	84	50	895	5.3	70	720	1	96	22	0.5	2	189	
86LFA300408	1	14	26	80	48	855	5.6	85	700	95	25	2	0.3	2	164	
86LFA300409	10	28	112	45			5.8		700	2	90	18				177
86LFA300411	1	7	20	68	42	1085	4.8	85	880	75	21	2	0.5	2	116	
86LFA300501	1	11	26	68	54	1070	5.5	90	1600	85	35	3	0.7	2	139	
86LFA300501	2	11	25	66	52	980	5.4	100	1300	0.5	92	32	1	0.05	2	136
86LFA300501	10	28	98	53			5.8		1420	1	83	27				131
86LFA300504	1	15	26	69	54	965	5.7	90	1400	89	27	3	0.7	2	148	
86LFA300505	1	14	26	71	50	1095	5.8	75	1200	87	24	0.2	2	161		
86LFA300506	1	11	22	120	58	960	5.7	75	1600	1	122	28	0.4	2	158	
86LFA300506	10	7	27	124	55		6.2		1520	1	113	24	1	0.5	1	131
86LFA300507	1	12	20	96	44	840	5.6	60	1200	1	99	26	0.5	2	135	
86LFA300508	1	13	20	112	48	990	5.8	635	2500	2	107	28	2	2	146	
86LFA300509	1	13	18	82	44	880	5.4	105	2400	1	89	29	4	0.5	2	120
86LFA300510	1	12	18	66	41	850	5.2	90	2300	2	70	23	0.4	2	106	
86LFA300510	10	10	19	72	37		4.5		1720	2	67	15	1	0.1	1	95
86LFA300511	1	16	20	82	48	1025	4.8	100	1000	2	88	24	0.3	2	130	
86LFA300512	1	10	16	96	41	780	5.2	85	1200	5	95	20	0.4	2	109	
86LFA300513	1	9	18	102	41	900	5	55	900	2	107	20	0.5	2	119	
86LFA300514	1	7	20	100	39	865	4.8	60	810	1	101	20	2	0.3	2	93
86LFA300514	10	24	110	35			4.4		680	2	98	13				92
86LFA300515	1	10	14	70	34	860	4.3	90	2000	3	63	21	2	0.3	2	97
86LFA300515	10	7	18	80	32		4.3		1740	2	64	15	1	0.4	1	89
86LFA300516	1	8	16	74	42	1115	5	80	1400	2	67	24				112
86LFA300516	10	21	96	39			4.9		1260	2	69	20				107
86LFA300517	1	11	20	80	41	910	5.1	75	1900	3	73	24	0.3	2	107	
86LFA300517	10	23	98	36			4.9		1320	1	73	17				104
86LFA300518	1	13	18	72	44	880	5.4	90	1600	2	71	26	0.3	2	118	
86LFA300518	10	23	94	40			5.1		1300	1	75	19				112
86LFA300519	1	9	18	112	39	1000	5.2	65	1000	2	107	21	0.7	2	116	

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300519	2	6	19	104	43	905	3.7	65	920	2	116	18	0.5	0.05	2	126
86LFA300520	1	12	22	122	49	975	6.4	90	1200	2	113	25	0.3	0.3	2	132
86LFA300521	1	12	24	104	52	1135	5.9	80	1600	1	123	24			2	135
86LFA300521	10	9	25	108	45		5.5		1200	2	110	15	1	0.2	1	108
86LFA300522	1	9	20	142	42	975	6	55	1100	2	124	23	1	0.3	2	123
86LFA300523	1	5	12	60	19	1130	2.8	15	450	3	61	13	3	0.3	2	72
86LFA300523	10	3	13	92	18		2.8		420	1	66	8	1	0.2	1	74
86LFA300602	1	13	24	72	48	1070	5.2	65	820		81	26		0.3	2	138
86LFA300603	1	10	22	70	43	855	5.1	65	700		80	25		0.2	2	136
86LFA300604	1	12	24	72	43	895	5.4	65	840		81	25	2	0.3	2	140
86LFA300605	1	15	18	82	46	765	5.5	80	1900	1	82	28	5	0.5	2	123
86LFA300606	1	13	16	78	41	910	4.9	70	2200	2	73	26	3	4	4	112
86LFA300608	1	13	18	72	45	875	4.8	80	860		75	22		0.5	2	117
86LFA300609	1	14	20	74	48	1030	5	90	920	1	78	22	1	0.3	2	126
86LFA300610	1	12	30	136	68	1030	6.5	65	850	1	169	27		0.6	2	151
86LFA300611	1	9	20	125	53	1026	6	65	1000	1	150	27	3	0.5	2	143
86LFA300612	1	12	32	154	68	1220	7.6	55	800	1	196	33		0.7	2	181
86LFA300612	10	10	41	184	67		8.2		860	2	178	24	1	0.4	1	141
86LFA300613	1	11	26	150	56	1080	6.8	55	880	1	168	30		0.5	2	161
86LFA300614	1	9	24	146	52	1050	6.4	50	840	1	160	29	1	0.8	2	155
86LFA300615	1	7	22	126	44	1065	5.6	40	870	2	142	23		0.6	2	125
86LFA300616	1	10	32	96	43	1171	5.4	45	480	1	107	25		0.5	2	148
86LFA300617	1	14	28	114	48	885	5.8	75	800	1	132	26	2	0.5	2	136
86LFA300701	1	11	20	68	46	875	5.2	95	1200		118	29		0.3	2	151
86LFA300702	1	11	20	62	38	745	4.6	75	980		69	24			2	116
86LFA300703	1	11	20	108	47	755	5.1	90	1200	1	99	29		0.5	4	122
86LFA300705	1	12	20	144	52	775	5.5	65	1400	5	81	26	2	0.5	2	116
86LFA300706	1	11	16	74	32	655	4.9	45	1500	2	56	23		0.5	2	96
86LFA300707	1	10	16	60	31	790	4.1	85	1400	2	53	23			2	93
86LFA300707	2	9	17	56	34	815	2.8	75	1000	3	69	19	6	0.5	2	92
86LFA300708	1	12	22	86	44	1185	5.2	140	1600	1	74	27	4	0.3	2	140
86LFA300709	1	17	24	86	56	1120	5.4	110	1600	3	79	30	2		2	150
86LFA300710	1	18	26	70	53	1150	5.7	140	1700		74	32			2	158
86LFA300711	1	12	20	80	46	965	5.2	75	1600	2	89	26	1	0.4	2	129
86LFA300712	1	12	20	74	41	950	5.1	90	2000	2	87	24		0.3	2	125
86LFA300713	1	7	26	88	54	1735	6.6	70	790		156	30	2	0.3	2	170
86LFA300714	1	5	32	84	47	1750	7	70	860		143	29	3	0.3	2	143
86LFA300801	1	19	20	116	66	1075	5.8	120	1900	4	87	35	5	0.3	2	162
86LFA300802	1	18	21	62	67	1205	5.6	135	2600	2	91	40	5	0.5	2	173
86LFA300802	10	28	84	65			6.1		2000	1	83	30			116	
86LFA300803	1	12	18	60	47	1095	5.4	70	1400	1	81	32	1	0.7	2	136
86LFA300803	2	14	21	64	54	870	4	75	1200	1	82	23	2	0.5	2	151
86LFA300804	1	18	22	68	47	1030	5.4	90	1500	2	85	35	5	0.3	4	149
86LFA300804	10	16	56	24			6		1320	2	46	14			78	
86LFA300805	1	14	24	68	49	1030	5.3	85	1400	1	85	32	3	0.7	4	150
86LFA300805	10	27	80	45			5.4		1100	1	77	23			133	
86LFA300806	1	13	18	67	46	1030	5.2	60	990	1	79	29	6	0.9	4	133
86LFA300807	1	14	18	60	49	960	4.8	90	1400	1	79	33	0.9	2	142	
86LFA300807	10	24	74	46			5.2		1140	2	71	25			134	
86LFA300808	1	15	16	66	40	870	4.7	85	2000	1	78	33	4	0.5	2	119
86LFA300809	1	10	20	64	42	800	5.4	90	1700	1	76	29	0.7	2	135	

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300809	10		25	76	39		5.1		1240	2	68	20				129
86LFA300810	1	15	20	66	50	1030	5.1	95	1200		87	28		0.7	2	129
86LFA300810	10		25	78	45		5.2		960	1	75	21				129
86LFA300811	1	8	20	64	34	890	5.2	90	8500	1	76	24	8	0.7	2	105
86LFA300811	10	7	21	70	35		4.8		4900	2	69	15	1	0.2	1	97
86LFA300812	1	14	22	66	48	1030	5.2	110	1800		91	30	3	0.7	2	129
86LFA300812	10		25	76	43		5.2		1400	1	76	22				121
86LFA300813	1	14	18	60	49	1015	5	150	1150	1	83	30	6	0.5	2	125
86LFA300814	1	17	21	68	63	1130	4.5	185	770		81	26	3	0.5	2	135
86LFA300815	1	16	21	64	67	1200	4.4	200	810		72	26	4	0.5	2	140
86LFA300816	1	13	20	70	41	870	3.6	130	1000	1	70	23	4	0.9	2	120
86LFA300817	1	15	21	74	58	1105	4.8	110	1200		67	29	6	0.5	2	372
86LFA300818	1	15	25	78	61	1135	5	95	1500		77	27	4	0.7	2	136
86LFA300819	1	13	24	78	50	1080	4.6	65	1500		71	23	6	0.6	2	147
86LFA300820	1	15	29	100	70	1310	5.3	65	1400		98	31	1	0.5	2	188
86LFA300820	10		31	120	57		6.8		1140	1	118	24				142
86LFA300821	1	12	29	92	63	1060	4.9	65	1200		89	28	3	0.9	2	156
86LFA300821	10		31	118	54		6.6		1000	1	113	23				129
86LFA300822	1	15	28	78	76	1125	4.6	90	1200		76	30	3	0.9	2	180
86LFA300822	10		30	102	62		6.2		1000	1	100	23				144
86LFA300823	1	17	27	76	66	1080	5.5	105	1100		104	22	5	0.7	8	146
86LFA300901	1	12	25	62	45	950	4.8	90	850		89	23	5	0.2	2	132
86LFA300901	10		26	86	43		5.4		860	1	83	18				119
86LFA300902	1	11	24	63	44	955	5	65	860		84	26	4	0.5	2	126
86LFA300902	10	6	26	90	42		5.4		880	1	80	17	1	0.5	1	111
86LFA300903	1	8	26	64	43	1060	4.8	55	820		89	23	2	0.5	2	123
86LFA300903	10	5	24	80	36		5.1		760	1	79	14	1	0.2	1	103
86LFA300904	1	11	26	66	41	1055	5	55	800		83	21	3	0.5	2	118
86LFA300904	2	6	26	64	41	1075	4.4	40	800	0.5	92	18	4	0.3	2	114
86LFA300904	10		28	100	34		5.6		820	1	86	16				120
86LFA300905	1	10	27	62	41	1115	5.4	60	840		60	21	3	0.9	2	126
86LFA300906	1	11	26	62	42	1090	5.1	65	820		59	22	6	0.5	2	142
86LFA300907	1	11	26	64	47	1005	4.2	50	960		95	25	6	0.5	2	148
86LFA300908	1	11	26	64	43	940	4.6	60	860		94	22	4	0.7	2	130
86LFA300909	1	10	25	72	46	975	5.1	70	870		110	22	5	0.4	2	143
86LFA300910	1	5	26	52	43	1160	4.8	65	410		145	20	2	0.3	2	132
86LFA300910	2	4	27	50	48	1150	4.2	40	420	0.5	138	19	5	0.9	2	122
86LFA300910	10		32	88	38		6		400	1	121	18				124
86LFA300911	1	4	27	48	44	1070	4.2	50	330		142	23	3	0.3	2	112
86LFA300911	10	4	31	62	41		5.8		320	1	131	17	1			121
86LFA300912	1	4	23	44	36	930	3.8	45	440		116	19	2	0.5	2	99
86LFA300913	1	2	13	50	18	715	2		390	3	86	16				55
86LFA300913	10	2	16	60	12		3		380	1	83	12	1	0.4	2	61
86LFA301001	1	12	24	62	51	1130	4.4	80	1200		86	24	5	0.7	2	127
86LFA301001	2	8	23	62	51	1185	4.2	75	960	0.5	83	20	8	0.3	2	126
86LFA301002	1	13	23	60	47	1150	3.8	90	1000		84	23	2	0.5	2	129
86LFA301002	10	11	25	86	43		5.4		1040	1	81	17	1	0.2	1	110
86LFA301003	1	13	25	62	44	1220	5	85	1200		86	22	4	0.5	2	135
86LFA301003	10	10	27	86	43		5.6		1140	1	82	18	1	0.4	1	124
86LFA301004	1	14	24	62	42	1205	5	80	1100	1	85	21	0.3	2	118	
86LFA301004	10	14	25	82	43		5.6		1060	1	79	18	1	0.3	1	109

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA301005	1	14	24	74	44	680	4.4	80	1400	1	84	21	2	0.3	2	119
86LFA301006	1	12	26	64	46	935	4.4	100	3200		89	24	9	0.3	2	119
86LFA301006	10		27	86	40		5.6		2900	1	78	20				114
86LFA301007	1	11	22	84	53	880	4	65	1600	4	82	22	1	0.5	2	123
86LFA301007	10	10	23	94	45		5.3		1540	1	73	15	1	0.2	1	100
86LFA301008	1	10	21	68	40	800	3	80	1500	4	80	20	2	0.5	2	103
86LFA301008	2	11	22	76	33	800	3	65	1200	3	81	17	5	0.7	4	97
86LFA301009	1	18	17	68	41	810	2.6	80	2500	5	72	20	6	0.5	2	96
86LFA301009	10		21	84	32		4.3		1800	2	67	16				93
86LFA301010	1	10	15	60	31	830	2.5	60	1300	4	60	18		0.5	2	90
86LFA301011	1	20	17	68	37	735	2.8	80	1200	3	65	20	5	1.4	2	100
86LFA301012	1	14	13	44	29	650	1.9	80	1500	5	48	18		0.4	2	82
86LFA301012	2	7	13	52	30	760	1.8	65	1200	4	47	15	4	0.5	2	75
86LFA301013	1	11	20	72	41	890	3.7	95	1200	3	74	22	3	0.7	2	153
86LFA301013	10		22	86	38		5		960	1	72	18				117
86LFA301014	1	10	18	72	48	905	3.8	95	1200	4	83	22	5	0.7	2	113
86LFA301015	1	6	16	58	32	775	2.8	85	1400	4	64	19	1	1.4	2	103
86LFA301016	1	7	18	80	46	770	2.8	90	1200	6	73	19	3	0.9	2	137
86LFA301017	1	9	18	66	41	785	2.9	80	950	4	72	20	1	0.7	2	131
86LFA301018	1	5	22	82	47	950	4	80	1200	3	87	23		0.3	2	141
86LFA301018	10		44	96	42		5.5		1000	1	83	18				120
86LFA301019	1	11	23	76	43	885	4	100	1400	3	84	23	6	0.5	2	131
86LFA301019	10	11	25	94	42		5.5		1220	2	83	18	1	0.2	2	109
86LFA301020	1	14	26	80	49	755	3.4	100	1400	3	95	24		0.3	2	147
86LFA301021	1	6	28	118	23	1230	3	35	1900	3	134	25		0.7	2	117
86LFA301201	1	14	23	76	50	1050	5	55	1200		85	23	6	0.5	2	156
86LFA301202	1	10	27	92	50	855	5.4	85	1800	1	106	23	2	0.5	2	158
86LFA301203	1	5	26	80	45	870	5.2	85	1400		92	22		0.5	2	127
86LFA301203	2	9	25	72	45	915	4.8	65	1200	0.5	96	22	9	0.3	2	129
86LFA301204	1	9	19	94	37	790	4	145	1600	3	84	22		0.9	2	151
86LFA301205	1	8	23	108	42	855	4.8	110	1400	2	98	24		0.9	2	139
86LFA301205	10	10	25	102	43		5.4		1660	1	96	18	1	0.3	1	122
86LFA301206	1	7	21	108	39	810	4.8	70	1400	2	90	21	4	0.5	4	115
86LFA301206	10		22	106	35		5.5		1120	2	90	16				112
86LFA301207	1	5	19	96	34	720	4.1	80	1500	1	86	21	4	0.5	2	126
86LFA301207	10		21	100	32		5.1		1160	1	88	17				107
86LFA301208	1	8	21	84	38	775	4.4	85	1500	2	93	24		0.3	2	121
86LFA301208	10	10	23	90	38		5.3		1320	1	95	17	1	0.3	2	108
86LFA301209	1	14	25	88	51	1085	5	90	1600		116	29	5			146
86LFA301209	10		29	112	50		6.7		1540	2	108	21				134
86LFA301210	1	13	24	94	51	1045	4.6	65	1600		113	27				179
86LFA301210	10	10	26	100	46		6.5		1280	1	110	17	1	0.4	3	126
86LFA301211	1	10	25	104	55	950	5.4	70	1100	1	105	29	3	1.4	2	146
86LFA301212	1	8	24	104	53	865	5	80	1300	2	105	30	0.3		2	143
86LFA301212	10		27	116	47		6.7		1060	3	98	20				130
86LFA301213	1	8	22	90	53	935	4.9	65	1200	1	106	29	3			157
86LFA301213	2	10	25	92	46	845	6.2	60	1000	0.5	110	24	5	0.4	4	145
86LFA301214	1	9	23	90	53	950	5.2	80	1200		109	31	2	0.5	2	152
86LFA301214	10	10	29	102	49	1100	5.2	55	1600	1	110	22	1	0.4	2	130
86LFA301215	1	8	27	84	49				1300	1	109	28	8	0.3	2	148
86LFA301215	10		28	98	41		6		1300	1	100	20				125

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA301217	1	5	15	64	31	940	2.6	40	780	2	86	22	4	0.9	2	101
86LFA301217	10	4	18	80	28		4		680	2	80	13	1	0.2	1	85
86LFA301218	1	15	23	68	42	1045	3.1	70	1700	1	103	23	3	0.5	2	137
86LFA301218	10		26	84	32		5.3		1480	1	100	20				112
86LFA301219	1	11	21	62	36	975	2.6	80	1000	1	93	44		0.3	2	171
86LFA301219	10	10	23	88	31		4.4		1020	1	91	33	1	1	1	128
86LFA301220	1	18	19	68	39	1000	2.7	65	860	2	89	43		0.5	2	132
86LFA301221	1	12	24	60	45	885	4.1	65	940	1	80	19		0.5	2	141
86LFA301222	* 1	9	14	58	30	845	2	70	1000	3	65	141		0.5	2	218
86LFA301222	* 10	14	18	72	28		3.6		1100	1	73	113	1	0.2	1	179
86LFA301402	1	9	26	68	51	905	4.6	70	1100		84	27	1	0.3	2	152
86LFA301402	10		29	86	42		6.1		1000	1	88	20				134
86LFA301403	1	12	27	66	47	945	5.9	70	1000		95	26	1	0.4	2	147
86LFA301404	1	14	25	72	56	900	5	65	1200		98	26	2	0.5	2	151
86LFA301404	10	11	29	84	47		6.2		1080	1	89	19	1	0.5	1	119
86LFA301405	1	14	27	70	45	930	4.4	60	1000		96	26	3	0.7	2	152
86LFA301405	10	9	29	86	46		6.2		1040	1	89	20	1	0.4	1	119
86LFA301406	1	12	27	70	55	970	4.5	70	1200		94	23	9	0.5	2	142
86LFA301406	10		29	92	42		6.2		1020	1	83	20				122
86LFA301407	1	7	24	64	50	750	4.6	70	1300	1	80	22	3		2	129
86LFA301407	10		26	78	37		5.5		1080	1	70	17				115
86LFA301408	1	14	25	68	54	930	4.6	75	1200		94	29	5	0.3	2	151
86LFA301408	10	9	27	82	47		6.2		1040	1	85	19	1	0.2	1	121
86LFA301409	1	11	25	72	58	1020	4.4	80	1200		100	24			2	158
86LFA301410	1	10	22	62	34	955	4	50	980		88	24	3	0.5	2	123
86LFA301410	10		27	86	28		5.6		940	1	79	20				110
86LFA301411	1	9	23	66	39	1100	4	50	980		90	29	5	0.5	2	151
86LFA301412	1	15	21	64	24	905	4.6	40	850		76	23	6	0.3	2	97
86LFA301412	2	6	20	60	25	915	4.3	40	850	0.5	74	20	5	0.7	2	99
86LFA301412	10		22	84	25		5.1		800	1	74	19				103
86LFA301413	1	12	19	62	20	895	4.3	30	830		71	20		0.3	2	87
86LFA301413	10	21	86	20			4.7		800	1	70	18				91
86LFA301414	1	13	18	62	29	870	4.4	35	760		71	21	5	0.3	2	92
86LFA301414	10	10	21	148	27		4.6		790	2	67	15	1	0.4	1	88
86LFA301415	* 1	13	23	70	40	915	4.2	50	1100		84	28	7	0.5	2	118
86LFA301602	1	14	21	118	58	870	5.6	90	1200	2	136	14	6	0.8	2	128
86LFA301602	2	15	19	114	41	1055	6.1	100	940	0.5	129	21	1	1	2	128
86LFA301603	1	14	22	116	68	730	6	105	1200	1	145	13	3	1	8	140
86LFA301604	1	15	22	104	60	820	5.6	85	1200	1	133	15	3	0.8	2	131
86LFA301605	1	12	20	102	59	850	5.7	85	1300	1	133	11	8	1	2	137
86LFA301606	1	14	23	104	63	810	5.8	105	1100		135	18	1	0.8	2	143
86LFA301607	1	13	18	100	56	875	5.8	90	1300		136	14	2	0.8	2	148
86LFA301608	1	12	18	104	55	780	5.3	95	1400		120	14	4	0.7	2	129
86LFA301609	1	13	19	102	39	780	4.8	75	1200	2	121	22	1	0.9	2	131
86LFA301611	1	8	13	68	36	850	3.3	115	940	2	103	11	1	0.8	2	116
86LFA301612	1	5	10	36	35	730	2	130	.780		91	9	2	0.8	2	91
86LFA301613	1	4	8	20	21	850	1	95	440	3	50	6	1	0.7	2	50
86LFA301901	* 1	12	13	76	58	930	5.1	90	1600		108	23	4	0.7	2	154
86LFA301902	1	12	20	58	48	1010	4.8	55	1000		86	11	3	1.2	2	144
86LFA301903	1	11	20	60	38	1030	4.6	55	800		87	21	8	0.9	2	130
86LFA301904	1	10	20	58	41	980	4.6	55	800		84	15	6	1	2	139

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA301905	1	11	22	56	42	1040	4.6	50	800		82	19	4	0.7	2	147
86LFA301906	1	8	19	64	45	1110	4.8	55	900		86	16	2	1.2	2	154
86LFA301907	1	9	22	64	39	1170	4.7	55	780		88	12	2	0.5	2	143
86LFA301908	1	15	25	62	46	1050	5	95	800		96	19	3	1	2	137
86LFA301908	2	16	17	60	45	1340	5.3	100	670	0.5	92	22	4	1	2	138
86LFA301909	1	38	28	70	66	1240	7.6	140	3200		124	16	1	0.6	2	188
86LFA302001	1	11	24	82	56	900	5.2	85	1400		100	34	5	0.3	2	163
86LFA302004	1	8	24	72	53	1120	4.3	70	1200		94	27	2	0.5	2	177
86LFA302004	10		29	92	44		5.8		1080	1	88	17				147
86LFA302006	1	11	25	78	49	735	6	120	1400		100	30	5	0.5	2	126
86LFA302006	10	12	26	84	44		6		1360	1	86	19	1	0.2	1	108
86LFA302007	1	12	30	92	49	785	5.5	265	2200		106	38	7	0.3	2	135
86LFA302008	1	13	28	84	49	800	5.4	120	1700	1	108	29	3	0.3	2	129
86LFA302009	* 1	14	26	84	55	745	4.8	120	2100	2	101	29		0.3	2	129
86LFA302010	1	14	24	100	46	720	4.4	75	1900	2	111	25		0.3	2	131
86LFA302011	1	11	33	88	52	915	5.6	45	2600		115	28	6	0.3	2	149
86LFA302011	10		36	110	46		6.2		1960	1	105	23				135
86LFA302012	1	8	31	94	49	1000	5.4	30	2000	2	121	30	2	0.3	2	159
86LFA302013	1	9	32	104	47	1015	5.2	40	2200		131	27	5		2	153
86LFA302014	1	7	27	102	38	980	5.2	70	1600		114	25	3	0.3	2	143
86LFA302014	2	5	28	100	43	995	5	65	1300	0.5	113	24	3	0.6	2	133
86LFA302014	10	6	26	106	36		5.3		1140	1	94	19	1	0.8	1	112
86LFA302015	1	4	30	104	47	1030	5	50	1400		135	22	2	0.3	2	142
86LFA302016	1	8	30	104	53	1150	5.7	40	1300		130	27	8		2	168
86LFA302017	1	9	27	86	48	970	4.6	30	1100		104	24	1		2	133
86LFA302018	1	15	32	104	53	845	5	75	1100		122	24	2	0.3	2	143
86LFA302019	1	11	34	116	58	715	5.6	40	1000		125	28	3	0.3	8	155
86LFA302101	* 1	16	22	76	42	950	4.4	85	5000	2	104	12	4	0.1	2	131
86LFA302103	1	24	23	64	56	9360	5.3	60	1300		90	13	5	1.1	2	151
86LFA302104	1	15	24	70	56	9750	5.4	75	1300	1	102	13	1	1.2	2	148
86LFA302105	1	17	17	72	47	1120	5.3	60	1300	1	104	11	1	0.8	2	140
86LFA302106	1	20	20	98	59	1200	5.2	55	1400	4	104	11	8	1	2	134
86LFA302107	1	17	20	68	50	1250	5.3	60	1900		108	13	6	0.8	2	147
86LFA302108	1	23	20	62	50	1390	5.2	70	1200		99	11	7	1.1	2	135
86LFA302109	1	20	16	96	59	990	5.1	50	1500	4	93	16	1	1	8	171
86LFA302110	1	19	19	76	60	1015	4.9	60	1300	2	92	19	4	1.2	2	142
86LFA302111	1	23	18	88	59	1100	5.4	55	1200	2	98	13	5	1	4	145
86LFA302112	1	18	26	88	51	940	5.5	75	1600		109	26	7	0.3	2	152
86LFA302113	1	14	15	82	41	920	4.6	55	1200		91	20	1	0.4	2	115
86LFA302114	1	15	18	100	46	915	4.9	55	1500	1	95	21	7	0.6	4	124
86LFA302115	1	14	21	84	52	850	5.3	110	1600	2	88	28	2	0.5	2	173
86LFA302116	1	15	17	84	54	830	5.3	75	1500	1	93	25	3	1	4	137
86LFA302117	1	14	17	84	46	775	5	75	1300	2	90	23	4	1	2	125
86LFA302117	2	14	19	86	40	665	5.4	85	1300	1	88	18	7	0.8	2	126
86LFA302118	1	15	18	66	51	990	5.1	90	2000		94	28	1	0.3	2	137
86LFA302201	1	26	24	72	59	1270	5.4	195	1400		134	30	1	0.8	2	170
86LFA302202	1	17	23	84	55	1000	5.7	65	2000	2	107	27	1	1.2	2	143
86LFA302203	1	13	18	76	39	865	4.5	80	1500	2	91	26	1	1.1	2	130
86LFA302204	1	12	11	100	51	885	4.7	60	1200	3	91	21	1	0.8	2	128
86LFA302205	1	10	12	66	43	780	3.4	55	1100	2	77	20	1	1	2	105
86LFA302206	1	10	17	86	67	995	5.8	90	1600	1	98	26	5	0.5	2	151

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA302208	1	30	20	58	40	850	4.6	55	1400	1	80	20	1	1	2	100
86LFA302209	1	17	26	74	49	1125	5.6	60	1800		101	28	7	1	2	139
86LFA302210	1	16	25	70	55	1120	5.8	70	1200	1	105	26	3	0.7	2	152
86LFA302213	1	12	19	82	47	885	5.1	85	1400		90	27	2	0.6	2	149
86LFA302214	1	22	20	80	50	960	5.2	70	1000	2	97	26	2	0.8	4	133
86LFA302216	1	8	20	80	35	1015	3.2	30	1100	2	95	19	2	0.8	2	91
86LFA302216	2	9	14	74	30	1025	3.5	20	930	2	92	15	4	0.3	2	86
86LFA302301	1	16	24	82	56	1235	5.9	85	1400		116	20	2	0.3	2	60
86LFA302302	1	15	24	86	52	1265	6	60	1500		111	19	1	0.6	2	144
86LFA302303	1	15	23	84	45	1235	5.3	55	1400		104	18	7	0.3	2	130
86LFA302304	1	13	23	80	50	1200	5.5	60	1600	1	105	19	6	0.7	2	125
86LFA302305	1	31	30	80	53	1370	5.7	55	1800		122	25	4	0.6	2	155
86LFA302401	1	14	18	76	46	1130	5.3	45	1400		100	20	1	0.3	2	125
86LFA302402	1	15	18	76	47	1100	5.2	45	1800	1	102	19	1	0.6	2	124
86LFA302403	1	14	23	76	44	1045	5	40	1700	1	99	19	4	0.6	2	116
86LFA302404	1	12	21	82	44	1080	5.4	40	1600		101	20	3	0.8	2	132
86LFA302405	1	12	23	76	46	1115	5.2	40	2000	1	100	22	3	0.7	2	124
86LFA302503	1	31	27	52	48	895	4.4	35	1500	1	72	29	1	0.7	2	126
86LFA302604	* 1	32	25	66	57	970	5.3	70	2100		90	30	2	0.6	2	127
86LFA302801	* 1	42	34	48	128	1040	5.4	45	1900	1	76	49	2	0.6	2	204
86LFA302902	* 1	15	24	66	73	1200	5.5	50	1800		97	34	1	0.8	2	155
86LFA302903	* 1	17	23	62	62	1040	4.9	50	1900	1	91	36	6	0.3	2	130
86LFA302904	1	13	25	60	60	1220	5	50	1800		88	26	1	0.5	2	125
86LFA302904	2	14	18	58	50	1130	5.5	40	1600	0.5	86	24	7	1	2	129
86LFA302905	1	17	21	62	67	1115	5	55	2200	1	89	27	5	0.6	2	134
86LFA302906	1	21	19	64	65	1090	5	35	1900		91	29	4	0.6	2	137
86LFA302907	1	16	25	62	71	1150	5.2	35	1800		91	33	1	0.6	2	148
86LFA302908	1	17	21	62	69	1120	5.2	35	1800	1	89	34	1	1	2	145
86LFA302909	1	19	22	60	64	1045	5.3	35	1700		86	36	3	0.6	2	144
86LFA302910	1	23	24	64	89	890	5.4	40	1900	2	87	40	1	0.6	2	169
86LFA302911	1	7	18	52	60	980	4.8	35	1400		63	29	4	0.8	2	137
86LFA302912	* 1	12	13	52	74	980	5.1	30	1800	1	66	37	2	1	2	135
86LFA303001	1	24	25	68	69	1100	6.1	40	3000	1	82	23	8	1.2	2	200
86LFA303101	1	21	14	66	77	915	5.7	60	1600		92	18	4	1	2	163
86LFA303102	1	20	25	78	65	915	5.4	40	1400		93	15	3	0.6	2	231
86LFA303103	1	24	24	62	52	785	4.6	40	1800	2	83	19	8	2.9	2	146
86LFA303104	1	14	26	66	60	945	5.1	40	1600		86	15	5	2.1	2	139
86LFA303202	1	19	20	76	62	885	4.9	30	1400	2	75	18	3	2.1	16	125
86LFA303203	1	19	20	88	47	845	4.7	20	1400	2	74	13	5	1.6	2	114
86LFA303204	* 1	33	23	90	61	855	5.7	20	1900	2	88	15	6	1.2	8	139
86LFA303205	1	31	26	80	67	875	5.9	20	1600		88	17	6	1.1	8	144
86LFA303206	1	24	24	104	58	910	6	25	1900	1	87	20	3	1.2	8	134
86LFA303207	1	24	24	100	46	900	5.6	20	1500	2	85	16	3	1.2	8	131
86LFA303207	2	26	17	98	45	805	6.1	20	1600	2	81	23	8	1.6	12	126
86LFA303208	1	46	22	108	49	945	5.4	30	1400	1	85	13	9	1.1	8	116
86LFA303209	1	17	22	68	39	925	4.9	20	1600	2	79	20	7	2.2	2	118
86LFA303210	1	26	23	74	43	965	5.2	30	1600		81	16	6	2.3	2	133
86LFA303211	1	24	24	72	41	995	5.3	25	1600		82	12	7	2	2	139
86LFA303212	1	22	19	74	42	1015	5.2	20	1400	2	81	13	7	2.7	2	143
86LFA303213	1	28	18	92	45	920	5.5	30	1800	2	83	14	8	2	4	138
86LFA303213	2	24	24	90	39	1100	5.9	40	1500	2	81	21	7	2	8	143

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA303214	1	24	21	70	39	985	5	20	1600	1	79	13	13	1.2	2	123
86LFA303215	1	24	14	72	37	985	5.1	25	1400	1	79	13	5	1.1	2	140
86LFA303216	1	23	14	72	43	1040	5	30	1500		79	12	11	2.5	2	140
86LFA303217	1	24	17	76	44	935	5	30	1200		81	15	7	2.3	2	138
86LFA303218	1	28	18	80	48	1035	5	30	1400	2	83	15	2	1.6	8	132
86LFA303219	1	32	21	82	53	850	5.5	40	1700	2	91	17	5	2.3	2	147
86LFA303220	1	30	22	76	54	1030	5.5	30	1900	2	93	28	7	2	2	161
86LFA303224	1	12	14	84	45	835	4.5	20	960		70	28	8	1.2	2	102
86LFA303303	1	21	23	76	60	1115	5.4	30	1500	2	86	37	8	2.6	2	146
86LFA303304	1	23	19	80	66	1010	5.2	25	1400	2	78	28	9	2.2	2	133
86LFA303305	1	11	15	67	60	1145	4.9	35	1800	1	78	20	10	1.4	2	111
86LFA303305	2	11	17	68	48	1235	5.5	35	1700	0.5	75	17	6	1.7	2	119
86LFA303306	1	11	16	68	53	970	5	30	1400		77	21	2	0.9	2	127
86LFA303307	1	12	11	66	48	795	4.2	40	1200	2	71	19	3	1	2	100
86LFA303308	1	10	13	64	47	960	4.6	40	1500		75	18	7	1.3	2	118
86LFA303308	2	10	15	62	41	1025	5	35	1200	0.5	73	17	5	1.2	2	109
86LFA303309	1	9	17	68	47	900	4.2	30	1200		72	21	4	1	2	98
86LFA303310	1	22	20	66	59	960	5.2	20	1300		77	39	11	6.4	2	145
86LFA303311	1	10	15	62	50	1065	5	20	1800	1	80	21	4	1	2	119
86LFA303312	1	12	16	66	51	1025	5	30	1500	1	79	25	5	1	2	116
86LFA303313	1	12	15	68	55	930	5	25	1800	1	80	24	7	1.8	2	120
86LFA303314	1	12	15	72	53	955	5.1	30	1900		79	23	5	1.5	2	122
86LFA303314	2	12	18	70	42	1095	5.5	40	1800	0.5	79	20	9	0.8	2	118
86LFA303315	1	11	13	72	50	995	5	25	1800	2	79	22	4	1.6	2	118
86LFA303316	1	11	14	68	52	915	5	30	1800	2	79	25	7	1.3	2	124
86LFA303317	1	13	13	66	54	915	5	25	1900	1	79	24	5	1.7	2	124
86LFA303318	1	13	18	68	51	1120	5.2	30	2300		81	25	10	1.4	2	128
86LFA303319	1	17	18	72	43	1180	5.2	25	2000	2	75	27	8	1.7	2	138
86LFA303320	1	18	17	70	44	1040	5	25	2000		77	27	8	1.8	2	135
86LFA303320	2	19	13	64	30	1280	5.5	35	1800	0.5	74	27	6	1.8	2	132
86LFA303321	1	14	15	70	49	1135	5.2	25	2100	1	80	27	7	2.2	2	138
86LFA303322	1	22	19	69	46	1150	5.1	20	1800		81	28	8	2.3	2	144
86LFA303323	1	18	18	68	47	1170	5.1	35	2000		79	28	4	2	2	130
86LFA303324	1	16	16	68	41	1155	4.8	40	1900		76	28	6	1.6	2	135
86LFA303325	1	17	14	64	43	1035	4.9	40	1700		76	30	7	1.4	2	134
86LFA303326	1	14	16	70	43	1170	5.2	35	1800		86	27	11	1.7	2	139
86LFA303327	1	15	19	66	43	1120	5.1	40	2000		83	26	9	1.2	2	134
86LFA303328	1	14	14	68	42	1195	5	25	1700	1	74	27	7	2	2	128
86LFA303329	1	13	19	64	40	1238	4.8	30	1600	1	71	28	6	2.5	2	134
86LFA303330	1	14	19	78	43	1280	5.2	30	1800	2	73	26	14	2.7	2	156
86LFA303331	1	16	18	70	41	1360	5.1	30	1900	2	72	30	10	3	2	147
86LFA303332	1	14	21	65	42	1355	5.3	30	1850	2	73	26	8	2.5	2	133
86LFA303333	1	13	12	84	47	1280	4.7	30	2000		66	22	6	2.5	2	141
86LFA303334	1	14	19	68	46	1390	5.2	25	1700	2	79	30	9	2.7	2	141
86LFA303334	2	14	17	68	35	1360	5.6	40	1800	0.5	75	24	12	2.3	2	127
86LFA303335	1	16	19	62	33	1270	5.6	35	1500	2	75	28	7	1.3	2	134
86LFA303336	1	14	17	60	25	1230	5.6	30	1600	2	76	23	10	2.3	2	144
86LFA303337	1	16	17	60	27	1240	5.5	30	1600	2	76	22	9	1.8	2	127
86LFA303338	1	17	15	68	35	1170	5.7	35	1600	1	82	24	8	1.7	2	132
86LFA303339	1	17	16	68	30	920	5.6	30	1700	1	80	24	1	1.8	2	134
86LFA303340	1	14	17	64	33	875	5.3	35	1400	1	72	27	7	2.1	2	125

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA303341	1	15	14	60	31	935	5.1	25	1400	1	72	22	6	2.5	2	120
86LFA303342	1	14	11	50	26	1020	4.8	30	1100		59	21	6	2.2	2	110
86LFA303343	1	19	19	62	27	825	5.6	30	1400		70	22	12	1.7	2	130
86LFA303344	1	22	21	66	31	920	6.1	30	1400		75	26	7	2.2	2	144
86LFA303344	2	24	18	72	41	960	5.9	40	1200	0.5	75	24	5	2.3	2	147
86LFA303345	1	21	20	64	23	860	6	30	1200		77	24	11	2.5	2	152
86LFA303346	1	21	18	60	19	835	5.8	30	1200	1	74	26	8	2.7	2	143
86LFA303347	1	15	19	58	26	800	5.9	30	1200		75	27	7	3.7	2	143
86LFA303348	1	19	22	64	31	895	6.1	40	1400		76	27	13	3.6	2	161
86LFA303349	1	18	21	68	31	860	6.1	35	1500		82	26	8	4.1	2	145
86LFA303350	1	26	19	70	30	905	6	35	1300		83	25	9	2.7	2	145
86LFA303351	1	24	18	68	29	935	6	30	1600		82	22	12	2.1	2	144
86LFA303352	1	26	23	74	40	1090	6	45	1400	1	83	29	7	2.2	2	152
86LFA303353	1	28	26	76	35	980	5.9	35	1300	1	86	20	10	1.5	2	149
86LFA303354	1	26	25	72	37	935	5.9	25	1600	1	82	27	12	2.5	2	145
86LFA303355	1	27	22	86	32	985	6.4	30	1200	2	85	25	6	3.4	4	154
86LFA303356	1	29	23	80	34	1020	6.2	30	1600	2	90	24	6	2.5	2	142
86LFA303357	1	28	28	86	40	1070	6.2	30	1400	2	85	22	6	2.6	4	210
86LFA303357	2	33	21	83	46	1135	5.7	35	1600	1	81	20	12	2.6	4	206
86LFA303358	1	53	21	108	44	1105	6.3	20	1300	3	92	27	3	2.5	4	154
86LFA303359	1	42	25	76	30	1100	6.3	25	1400	2	91	24	11	2.7	2	148
86LFA303360	1	38	29	86	41	1170	6.3	30	1400	2	90	23	4	2.5	2	143
86LFA303361	1	43	20	74	43	1100	6.2	25	1800	2	91	20	4	3.7	2	144
86LFA303362	1	37	20	74	29	1140	5.8	40	1800	2	87	21	4	1.1	2	142
86LFA303363	1	35	28	76	31	1140	6	40	1900	2	90	22	7	1.5	2	149
86LFA303364	1	28	17	80	34	1085	6.1	35	2400	2	86	18	7	3	2	150
86LFA303365	1	26	23	88	30	1035	6.2	35	2000	2	87	21	5	2.3	4	141
86LFA303366	1	41	26	106	47	1045	6.3	25	1700	4	95	24	6	3.3	4	166
86LFA303367	1	44	23	86	39	1195	6.6	35	1600	2	91	27	8	3	2	178
86LFA303368	1	66	25	106	39	1230	6.7	35	1400	2	92	22	4	3	2	166
86LFA303402	1	10	22	40	29	640	5	20	840		56	22	3	0.7	2	125
86LFA303403	1	12	17	47	17	550	5.1	20	700		53	18	3	0.6	4	109
86LFA303404	1	12	19	36	24	655	4.3	15	540		45	18	7	0.6	2	122
86LFA303404	2	13	12	35	23	710	3.8	20	760	0.5	44	15	8	0.9	2	117
86LFA303405	1	9	14	36	26	645	4.6	20	490		46	17	7	0.8	2	99
86LFA303406	1	12	14	38	25	630	4.7	20	700		54	18	6	1.3	2	110
86LFA303407	1	9	17	44	26	585	4.7	15	700		51	17	1	1	2	112
86LFA303408	1	8	14	36	23	565	4.6	20	480		48	17	5	1	2	98
86LFA303409	1	12	18	40	25	615	5	20	440		55	19	7	1	2	125
86LFA303410	1	12	18	42	24	576	4.8	20	420		53	19	1	1	2	104
86LFA303411	1	10	19	46	23	610	5	35	520		53	18	4	0.8	2	112
86LFA303412	1	9	15	48	33	430	4.9	30	560		67	24	4	1.1	8	95
86LFA303603	1	19	19	64	35	655	5.7	30	700		75	23	8	1.5	2	115
86LFA303604	1	28	15	80	32	560	5.6	35	700		85	29	7	1.3	8	121
86LFA303605	1	31	6	74	14	640	4	20	380		38	27	1	1	8	52
86LFA303606	1	33	11	64	20	650	4.8	20	.540		58	26	1	1	8	76
86LFA303607	1	19	16	76	45	650	5.4	55	740		75	23	9	1.4	8	131
86LFA303701	1	110	20	88	26	755	4.8	20	400		59	24	1	1.7	8	65
86LFA303801	1	53	21	52	81	1070	6.6	25	1100	2	65	51	10	3.4	8	178
86LFA303803	1	50	16	48	46	945	6	20	840		59	45	12	3.1	8	166
86LFA303805	1	62	17	52	67	1040	5.8	30	680	2	60	52	11	1.4	4	179

sample	obs	As	Co	Cr	Cu	F	Fe	Hg	Mn	Mo	Ni	Pb	Sn	U	W	Zn
		ppm	ppm	ppm	ppm	pct	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA303806	1	50	19	52	65	1130	6.4	20	960	2	66	54	7	2.2	4	165
86LFA303807	1	36	20	56	48	1160	6.3	20	1200	2	61	50	11	2.7	4	172
86LFA303808	1	33	22	58	56	1110	6.5	20	1000	2	64	51	11	2	2	184
86LFA303809	1	28	22	56	58	965	6.4	20	800	2	62	48	8	2.3	2	174
86LFA303810	1	99	19	52	91	1100	7.2	20	1000	2	67	36	14	2.2	8	238
86LFA303901	1	19	20	74	28	945	5.1	20	800		80	28	11	1.2	2	93
86LFA303901	2	23	11	60	27	975	3.9	25	770	0.5	67	26	8	0.7	2	81
86LFA303902	1	21	21	68	27	845	5.2	20	640		79	30	8	0.9	2	82
86LFA303903	1	12	16	69	19	875	4.2	20	420		77	25	11	0.7	2	67
86LFA303904	1	16	22	70	36	1000	5.2	30	1400		75	26	10	0.5	2	101
86LFA303905	1	19	18	74	41	665	5.4	25	1500		79	29	6	1.6	4	125
86LFA303906	1	13	19	74	34	730	5.3	25	940		74	27	10	1.1	4	102
86LFA303907	1	18	18	74	36	805	5.9	25	1000		79	28	2	1.7	4	114
86LFA303907	2	22	18	72	34	965	5.3	30	1000	0.5	79	28	11	1.1	2	116
86LFA304001	1	31	16	80	39	975	5.7	60	1400		68	29	6	0.9	2	125
86LFA304002	1	9	35	132	22	825	6.7	40	560		76	22	1	0.7	8	76
86LFA304003	1	8	22	112	17	870	5.6	30	580		89	19	5	0.4	2	77
86LFA304004	1	7	17	106	16	890	5.1	25	570		88	18	3	0.7	2	75
86LFA304005	1	13	25	106	15	945	5.4	30	590		91	16	5	1	2	75
86LFA304102	1	23	20	64	42	1050	6.1	40	2500	2	67	32	5	1.8	4	153
86LFA304103	1	15	20	60	54	1000	4.9	60	800	2	59	35	8	0.9	4	120
86LFA304104	1	24	25	68	48	915	6.2	55	2200	2	79	29	3	1.1	2	137
86LFA304106	1	19	18	58	49	1010	5.9	40	2000	2	61	33	10	1.1	2	146
86LFA304107	1	15	16	56	50	870	6.4	40	1700		68	33	5	3.3	2	137
86LFA304108	1	17	20	58	51	1015	6	40	2300	1	69	39	10	1.6	4	154
86LFA304202	1	28	22	66	39	1075	5.3	40	1300		74	31	8	1	2	177
86LFA304804	1	13	21	76	28	940	5.2	40	830		101	21	7	0.5	2	130
86LFA304901	1	34	28	64	60	1170	5.7	50	1200	2	84	32	5	0.7	2	166
86LFA304902	1	26	26	84	60	1190	6.2	125	1400	2	80	30	8	0.9	2	162
86LFA304903	1	34	24	72	71	1390	6	155	1700	2	81	32	4	1.1	2	167
86LFA304903	2	27	15	70	72	1280	5.5	160	1500	0.5	80	26	8	0.9	2	156
86LFA304904	1	7	24	76	29	760	5.6	20	1700		73	15	1	0.9	2	119
86LFA305001	1	11	17	86	43	840	5.5	100	830		93	23	4	0.8	4	138
86LFA305002	1	10	20	120	43	905	5.9	60	960	1	101	25	12	0.6	2	136
86LFA305006	1	6	17	86	36	1020	5.2	40	520		90	29	7	0.9	2	125
86LFA30503A	* 1	6	16	36	36	1275	4.7	40	700		47	20	5	0.8	2	162
86LFA30504A	* 1	12	17	56	38	1265	4.9	60	700		83	25	4	1	2	135
86LFA30504A	* 2	10	14	52	35	1085	4.9	60	760	0.5	82	23	4	0.7	2	125
86LFA30507A	1	3	17	84	44	990	5.4	40	500		93	34	8	0.3	2	139

TABLE III GEOCHEMISTRY OF THE CLAY PLUS SILT FRACTION OF TILL OVERBURDEN DRILLING PROGRAM

* Waterlaid sediment

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	pct	ppb	ppm	pm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300101	1	11	1	460	15	88	3.5	45		45	95	0.6	11	2.3		50
86LFA300102	1	10	3	530	18	110	4.3	15		46	120	0.7	11	2.5		140
86LFA300104	1	7	1	420	14	120	3.5	20	1	44	130	0.5	9.3	2.5	7	190
86LFA300201	1	5.9	1	520	16	100	4.2	35	1	46	110	0.6	11	2.1	2	50
86LFA300202	1	12	1	410	13	110	3.9	30	2	47	94	0.6	11	2.1	2	50
86LFA300203	1	16	3	510	15	130	4.6	55	5	45	100	0.7	12	2.4	2	140
86LFA300205	1	11	1	450	15	100	4	50	3	53	97	0.8	11	2.8		130
86LFA300206	1	9.4	1	370	12	110	3.7	453	5	38	87	0.7	10	2.5	2	170
86LFA300207	1	11	1	440	17	110	3.9	65	2	36	130	0.6	11	1.8	2	50
86LFA300208	1	11	1	450	15	120	4.1	50	2	47	110	0.7	11	2.6	2	50
86LFA300209	1	10	1	520	15	110	4.3	50	3	59	120	0.8	12	2.8	2	140
86LFA300210	1	11	1	530	18	120	4.6	60	2	63	120	0.8	12	2.8	2	50
86LFA300211	1	13	1	460	17	110	4.6	85	1	56	130	1	11	2.8		50
86LFA300212	* 1	8.4	1	410	15	100	3.8	50	1	39	120	0.5	11	2	1	50
86LFA300213	1	11	1	400	16	120	3.4	35	2	36	120	0.6	11	2.2	2	200
86LFA300214	1	10	1	340	16	110	3.6	50		38	100	0.8	10	2.4	2	50
86LFA300301	1	9.4	1	450	15	120	4.3	35	2	43	99	0.6	11	2.1	2	150
86LFA300302	1	8.8	1	480	11	100	3.9	40	3	40	99	0.6	11	2	2	130
86LFA300303	1	8.6	1	410	16	110	3.9	40	2	52	89	0.6	10	2.2		150
86LFA300304	1	9.1	2	420	11	97	4	40	2	43	94	0.6	11	2.2	1	50
86LFA300305	1	7.8	1	370	13	93	3.6	45	2	37	83	0.6	10	2.1		180
86LFA300306	1	8.5	1	380	12	100	3.9	35	2	36	86	0.6	11	2.3	1	110
86LFA300307	1	9.1	1	400	15	110	3.8	40	2	28	88	0.6	11	2.3	2	110
86LFA300308	1	7.8	2	320	13	83	3.4	30	2	42	80	0.5	10	2.2	2	50
86LFA300308	2	7.3	1	330	12	86	3.3		1	110	70	0.5	10	2.1	0.5	110
86LFA300310	1	8.9	1	410	12	88	3.6	40	2	30	88	0.6	11	2.4	1	55
86LFA300311	1	10	2	420	13	95	3.9	35	2	44	89	0.6	11	2.3	1	150
86LFA300312	1	9.5	1	460	13	89	3.8	40	3	46	97	0.6	11	2.4	1	140
86LFA300313	1	9.3	4	350	13	93	3.6	50	2	31	94	0.6	9.2	2.2	2	50
86LFA300314	1	11	3	380	12	84	3.6	40	4	44	79	0.7	7.7	2		140
86LFA300315	1	11	1	380	16	100	3.8	50	2	56	100	0.7	11	2.3	1	50
86LFA300316	1	8.8	1	300	14	100	3.4	25	4	27	100	0.4	8.7	1.8	1	210
86LFA300401	1	8.9	1	380	15	110	3.8	25	2	52	100	0.6	11	2.3	2	160
86LFA300402	1	6.4	3	380	15	100	3.6	45	1	43	89	0.6	12	2.4	2	50
86LFA300403	1	7.5	1	380	14	77	3.7	40	2	35	79	0.6	12	2.4	2	50
86LFA300404	1	8.4	1	390	14	92	3.6	45		41	74	0.6	11	2.4		50
86LFA300405	1	12	1	400	13	100	3.9	55	1	50	100	0.7	12	2.5	2	110
86LFA300406	1	9	1	390	13	88	3.6	40	2	40	90	0.6	11	2.3	1	150
86LFA300407	1	8.9	3	350	15	100	3.9	45	1	57	87	0.6	11	2.3	1	160
86LFA300408	1	7.7	1	370	13	110	3.5	45	3	28	82	0.5	10	2.2	1	130
86LFA300408	2	8.5	1	350	15	99	3.9		3	51	86	0.6	11	2.3	2	140
86LFA300411	1	8	1	410	14	100	4	50	3	51	100	0.6	10	2.3	1	150
86LFA300501	1	8.1	1	420	14	94	4	45		49	88	0.6	11	2.3	2	110
86LFA300504	1	9	1	400	13	100	3.9	40	1	52	91	0.6	11	2.1	2	180
86LFA300505	1	8.9	1	440	12	95	3.9	50	2	41	97	0.6	10	2.2	2	130

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	pct	ppb	ppm	pm	ppm						
86LFA300506	1	8	1	350	13	140	4.2	30	3	64	89	0.5	8.9	2	2	100
86LFA300507	1	7.8	1	380	13	130	4	30	1	49	87	0.5	10	2.3	1	140
86LFA300508	1	8	1	370	13	140	3.8	35	5	51	80	0.6	9.3	2.1	3	50
86LFA300508	2	8.6	1	330	17	140	4		2	68	83	0.6	10	2.1	0.5	220
86LFA300509	1	7.5	1	350	10	93	3.4	40	2	34	80	0.5	8.4	1.9	3	130
86LFA300510	1	8.3	1	320	14	93	3.4	50	2	35	86	0.6	8.5	1.9	2	140
86LFA300511	1	7.4	1	230	12	81	2.9		3	31	57	0.7	6.8	1.8	2	110
86LFA300512	1	8.2	1	290	10	97	3.3	40	2	29	83	0.6	8.1	2	3	200
86LFA300513	1	7.5	1	250	13	100	3	50	5	30	67	0.6	6.9	1.7	2	50
86LFA300514	1	10	1	350	14	97	3.8	50	2	42	83	0.6	8.7	2.1	2	170
86LFA300515	1	11	1	290	11	92	3.3	50	3	39	74	0.6	7.9	1.9	2	50
86LFA300516	1	7.9	3	350	13	120	3.3	50	2	50	87	0.5	7.8	1.7	2	190
86LFA300517	1	7.8	1	320	14	150	3.6	40	3	74	87	0.5	8.5	1.9	1	50
86LFA300518	1	7.4	3	320	15	120	3.6	55	2	64	81	0.6	9.2	2	2	130
86LFA300519	1	6.4	1	320	13	130	3.4	40	1	59	77	0.4	7.6	1.7		150
86LFA300520	1	7.7	1	370	15	150	4	55	4	62	92	0.6	8.4	2	2	150
86LFA300521	1	8	1	340	14	130	4	70	2	52	96	0.6	8.8	1.8		150
86LFA300522	1	7	1	310	16	170	3.8	35	2	67	80	0.5	8	1.8	2	140
86LFA300523	1	3.5	1	180	9	83	2.1	20	1	24	53	0.2	4.5	1		130
86LFA300602	1	7.8	4	390	13	79	3.5	45	2	41	86	0.5	11	2.3	2	160
86LFA300603	1	8.4	1	440	16	97	4	40	2	52	96	0.5	11	2.1		110
86LFA300604	* 1	8.7	4	420	13	100	3.9	45	2	45	96	0.6	11	2.1		150
86LFA300605	1	8.9	1	360	14	96	3.8	45	2	46	87	0.5	10	2	3	130
86LFA300606	1	8.1	1	290	11	88	3.2	35	2	41	69	0.4	7.6	1.8	3	140
86LFA300608	1	7.7	1	350	11	84	3.2	50	1	46	68	0.5	9	2.1	1	100
86LFA300609	1	8.2	1	370	13	98	3.7	50	2	38	78	0.5	10	2.1		160
86LFA300610	1	7.6	1	380	19	190	4.8	35	3	85	110	0.6	11	2		220
86LFA300611	1	6.8	1	350	18	180	4.5	30	2	81	110	0.5	9.3	1.9		130
86LFA300612	1	6.3	1	400	21	210	5.5	25	1	110	120	0.5	11	1.8	1	230
86LFA300613	1	5.7	1	370	17	170	4.4	25	2	84	100	0.5	8.6	1.7		160
86LFA300614	1	5.7	1	310	18	170	4.2	25	2	87	95	0.4	8.3	1.6		200
86LFA300615	1	6.1	1	340	17	180	4.4	20	1	89	98	0.5	8.9	1.8		130
86LFA300616	1	6.4	1	420	18	160	4.3	40	2	70	110	0.4	10	2.4	1	220
86LFA300617	1	8.5	3	370	19	170	4.4	30	2	82	110	0.6	8.9	1.7	1	50
86LFA300701	1	9.1	1	420	13	90	3.9	50	2	59	92	0.6	10	1.9		110
86LFA300701	2	10	1	460	14	110	4.4		1	46	100	0.7	11	2.1	0.5	120
86LFA300702	1	8.6	1	370	15	97	3.7	50	2	42	89	0.6	10	2		200
86LFA300703	1	7.4	2	330	16	150	3.9	40	1	66	85	0.5	9.4	2		100
86LFA300705	1	7.1	1	270	14	160	3.7	35	13	62	76	0.5	7.1	1.5	3	110
86LFA300706	1	8	1	320	11	96	3.5	35	3	34	76	0.4	8.7	2.2	5	150
86LFA300707	1	6.8	1	250	10	87	2.9	45	2	33	57	0.5	6.5	1.7	3	120
86LFA300708	1	7.1	1	260	13	81	2.9	55	2	44	72	0.5	8.1	1.9	1	160
86LFA300709	1	8	1	310	11	87	2.8	45	2	46	68	0.6	8.6	2	3	190
86LFA300710	1	9.1	1	340	12	87	3.4	55	1	45	75	0.5	8.8	2.1	1	150
86LFA300711	1	8.6	1	300	14	76	3.3	50	5	46	67	0.5	8	1.8	2	130
86LFA300712	1	9.3	4	290	13	99	3.4	50	3	39	72	0.5	7.4	1.9	2	180
86LFA300712	2	8.5	1	270	12	92	3.2	4	42	65	0.5	7.2	1.7	2		110
86LFA300713	1	6.9	4	410	19	150	4.6	35	2	92	100	0.4	10	1.9		150
86LFA300714	1	4.9	1	390	23	180	4.6	40	1	84	110	0.3	11	1.9		110
86LFA300801	1	12	1	360	15	120	4.1	70	10	35	100	0.7	8.6	1.9	2	300
86LFA300802	1	11	1	320	15	100	3.8	80	3	41	91	0.6	8.5	2		210

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	pct	ppb	ppm	pm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300803	1	7.8	1	290	11	73	3.2	55	2	39	79	0.5	8	1.9	2	50
86LFA300804	1	12	1	320	12	82	3.5	60	2	23	88	0.6	8.5	2.2	3	130
86LFA300805	1	12	1	290	14	92	3.7	65	2	48	87	0.7	8.2	2	2	280
86LFA300806	1	9	1	300	11	79	3.4	45	4	47	74	0.6	7.4	1.7	5	170
86LFA300806	2	10	1	320	13	95	3.4		5	40	78	0.6	7.7	1.9	6	150
86LFA300807	1	8.9	1	280	13	77	3.2	50	2	39	70	0.6	7.6	1.9	3	170
86LFA300808	1	13	1	300	14	110	3.4	60	1	52	73	0.6	7.6	2	2	210
86LFA300809	1	7.9	1	350	11	93	3.3	60	3	36	72	0.5	8.4	1.9	2	220
86LFA300810	1	8.7	1	310	13	94	3.4	60	2	39	79	0.6	8	1.9		100
86LFA300811	1	7.6	1	270	9	76	2.9	45	1	32	62	0.5	7	1.7	2	130
86LFA300812	1	8.9	3	330	14	96	3.6	55	1	40	92	0.6	8.7	2		220
86LFA300813	1	7.9	1	250	10	72	2.8	60		36	69	0.6	7.3	1.8	1	50
86LFA300814	1	9.3	1	360	13	100	3.2	45	2	35	77	0.7	11	2.6		160
86LFA300815	1	7.5	3	270	11	91	2.8	55	2	42	69	0.6	10	2.2	1	120
86LFA300816	1	8.3	1	280	13	94	3.2	55	2	45	74	0.5	7.5	1.7	2	50
86LFA300817	1	9.2	1	410	14	120	4.3	50	2	56	100	0.6	10	2.3		50
86LFA300817	2	10	1	390	13	110	4.4		2	57	100	0.7	10	2.4	0.5	120
86LFA300818	1	10	4	420	15	140	4.7	40		61	110	0.7	11	2.7	2	180
86LFA300819	1	10	1	380	17	130	4.6	40	2	52	120	0.6	10	2.4	2	120
86LFA300820	1	9.2	1	390	18	140	4.4	30	1	82	110	0.6	11	2.4		150
86LFA300821	1	8.2	1	380	14	140	3.9	30	2	62	110	0.6	11	2.9	1	120
86LFA300822	1	8.2	1	390	13	150	3.9	40	3	52	96	0.5	12	3.3		140
86LFA300823	1	9.3	1	570	25	150	5.3	65	1	85	120	0.7	14	3.4	0.5	50
86LFA300901	1	12	3	590	18	100	4.6	60	1	53	130	0.8	12	2.6	3	300
86LFA300902	1	9.1	1	490	16	120	4.2	45	2	53	110	0.6	11	2.5	2	170
86LFA300903	1	8.8	4	470	18	120	4.1	40	1	55	110	0.6	11	2.5		220
86LFA300904	1	8.4	1	470	15	110	4.1	50	2	46	120	0.6	11	2.4	2	180
86LFA300905	1	8.7	1	450	17	110	4	40	1	46	95	0.6	11	2.5	1	160
86LFA300906	1	8.9	3	470	18	110	4.1	40	2	49	110	0.6	11	2.5		210
86LFA300906	2	8.7	1	460	15	110	3.8		2	46	110	0.6	10	2.3	2	50
86LFA300907	1	10	1	470	18	120	4.3	45	2	61	120	0.7	11	2.5		160
86LFA300908	1	10	1	530	18	130	4.6	50	2	66	120	0.6	12	2.6		170
86LFA300909	1	9.1	1	510	17	150	4.5	45	2	60	120	0.6	11	2.4	3	130
86LFA300910	1	4.1	1	340	17	130	3.5	30	1	73	100	0.3	8.4	1.8		200
86LFA300911	1	3	1	290	17	120	3.7	25	1	56	110	0.3	8.4	1.8	1	200
86LFA300912	1	2.7	1	500	16	110	3.5	25	1	70	110	0.2	8.3	1.8		150
86LFA300913	1	2.7	1	230	12	89	2.8	30	2	54	82	0.2	6.4	1.4		180
86LFA301001	1	9.1	1	350	15	94	3.5	50	2	49	99	0.7	9.3	2.1		50
86LFA301002	1	8.9	2	350	15	110	3.3	60	4	38	95	0.7	10	2.2		170
86LFA301003	1	10	4	390	15	100	3.6	60	3	30	100	0.7	10	2.5	2	150
86LFA301004	1	10	1	360	15	100	3.6	60	2	47	97	0.8	10	2.4		50
86LFA301004	2	11	1	400	14	97	3.7		2	35	93	0.8	10	2.5	0.5	110
86LFA301005	1	11	3	360	15	110	3.9	60	4	45	110	0.7	10	2.4		140
86LFA301006	1	11	1	400	16	100	3.7	60	4	47	100	0.7	10	2.5	2	130
86LFA301007	1	8.2	1	320	13	130	3.5	40	9	40	83	0.6	8.2	2.1	1	190
86LFA301008	1	7.3	3	290	12	86	2.9	40	3	42	70	0.5	7	1.7	5	170
86LFA301009	1	10	1	270	11	96	2.8	40	8	32	61	0.6	6	1.6	4	50
86LFA301010	1	7.3	2	260	9	77	2.6	35	5	24	54	0.5	6.3	1.8	2	110
86LFA301012	1	6.2	1	230	10	72	2.5	40	3	33	50	0.4	6.1	1.7	1	140
86LFA301014	1	7.8	1	290	11	98	3.1	50	3	47	81	0.5	7	1.8	1	110
86LFA301016	1	7.2	3	250	10	100	2.9	45	4	33	69	0.6	6.6	1.7	1	120

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	pct	ppb	ppm	pm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA301019	1	8.9	1	310	14	110	3.3	60	3	46	77	0.6	7.9	2	2	150
86LFA301020	1	7.9	1	240	14	110	3	40	3	41	70	0.5	7.4	1.8		220
86LFA301021	1	7.3	1	310	21	180	3.9	40		85	93	0.6	8.1	2		200
86LFA301201	1	8.9	3	410	16	110	3.8	45	3	47	91	0.6	10	2.1	2	50
86LFA301202	1	7.9	1	310	14	110	3.5	45	4	50	75	0.6	8.9	2.1	2	150
86LFA301203	1	8.9	1	400	16	110	4.1	40	3	61	95	0.8	11	2.3	2	140
86LFA301204	1	9.2	1	330	12	110	3.6	65	3	51	78	0.6	7.6	1.7		110
86LFA301205	1	7.1	1	300	11	100	3.2	45	2	47	73	0.6	7.4	1.7	1	50
86LFA301206	1	7.5	1	270	11	110	3.3	60	5	56	79	0.6	7.5	1.7	2	50
86LFA301207	1	7.9	1	330	12	110	3.2	60	3	49	78	0.7	7.9	1.8	2	170
86LFA301208	1	8.1	1	340	12	110	3.7	60	2	63	82	0.7	8.6	2	2	120
86LFA301209	1	9.3	1	430	18	160	4.7	40	2	70	130	0.8	11	2.4	2	180
86LFA301210	1	9.4	1	370	15	130	4.2	40	4	58	100	0.9	10	2.1	3	140
86LFA301211	1	9.4	1	390	16	140	4.3	40	5	63	100	0.7	10	2.3	2	120
86LFA301212	1	9.5	1	360	16	140	4.2	40	5	71	91	0.8	9.4	2.2	3	220
86LFA301212	2	9.2	1	390	15	140	4.2		5	53	92	0.8	9.1	2.2	2	200
86LFA301213	1	10	2	380	15	130	4.8	40	3	70	100	0.7	10	2.3	3	140
86LFA301214	1	10	1	390	17	130	4.5	45	2	58	100	0.8	10	2.2	2	50
86LFA301215	1	11	4	420	21	140	4.6	40	2	74	130	1.4	11	2.5	3	130
86LFA301216	* 1	6.5	1	300	12	110	3.3	30	1	45	79	0.6	7.2	1.6		110
86LFA301218	1	9.4	1	260	13	110	3	40		45	69	1.2	7.2	1.8	2	150
86LFA301219	1	9.2	1	220	13	110	3.4	50	2	56	82	2.1	7.1	1.7	2	210
86LFA301220	1	13	1	250	17	110	3.4	45	2	55	78	1.2	6.9	1.7	2	160
86LFA301221	1	12	1	250	15	120	3.6	45	2	53	73	1.1	6.1	1.4		200
86LFA301301	* 1	9.4	1	400	23	130	4.4	125		74	100	0.7	11	2.4		150
86LFA301302	1	8.5	3	490	30	160	5.6	65		85	120	0.5	11	2.2	2	170
86LFA301402	1	10	3	350	14	110	3.8	60	2	57	96	0.9	11	2.4		160
86LFA301402	2	11	1	370	16	120	3.8		2	51	100	0.9	12	2.5	1	140
86LFA301403	1	10	3	350	14	98	3.7	60	2	48	89	1	11	2.5	1	150
86LFA301404	1	11	1	350	15	99	3.7	50		46	100	0.9	11	2.5	2	130
86LFA301405	1	11	1	400	16	120	4	50	1	60	100	1	12	2.7	2	150
86LFA301406	1	11	1	390	17	110	4.1	55	1	45	110	1	11	2.7	1	180
86LFA301407	1	10	1	390	17	120	4.5	60	2	43	110	0.9	11	2.7	1	120
86LFA301408	1	11	1	400	14	100	4	55	1	53	110	1.1	11	2.6		120
86LFA301409	1	11	1	360	16	120	3.9	60	2	53	100	0.9	11	2.6		190
86LFA301410	1	11	3	320	11	91	3.4	40	1	40	90	1.5	10	2.2		110
86LFA301410	2	13	1	370	15	90	3.5		1	38	94	1.6	11	2.3	2	130
86LFA301411	1	13	1	390	17	120	4.2	40	1	52	130	1.5	12	2.5	3	140
86LFA301412	1	12	1	360	15	110	4	40	2	42	120	1.7	12	2.6	2	50
86LFA301413	1	14	4	380	16	120	4.1	40	1	54	130	1.8	12	2.5		130
86LFA301414	1	12	1	390	16	110	4.1	45	2	57	120	1.2	12	2.4	2	140
86LFA301602	1	10	1	380	24	160	5.1	60	3	80	110	0.7	10	2.3	1	50
86LFA301603	1	10	1	470	26	180	5.4	55	2	85	120	0.8	10	2.4	2	50
86LFA301604	1	9.4	1	410	26	160	4.9	60	1	73	110	0.7	10	2.4	1	50
86LFA301605	1	10	1	450	27	170	5	80	0.5	70	110	0.8	10	2.3	3	50
86LFA301606	1	11	1	430	26	150	5.1	60	1	88	120	0.8	10	2.4	2	50
86LFA301607	1	10	1	440	25	150	5.2	50	0.5	71	120	0.8	10	2.4	2	50
86LFA301608	1	10	1	420	24	170	4.9	65	2	70	100	0.7	10	2.4	2	50
86LFA301609	1	10	1	430	26	170	5	55	2	80	110	0.8	10	2.1	2	50
86LFA301611	1	7.5	1	250	24	120	4.6	130	1	74	100	0.6	7.3	1.8	0.5	50

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	pct	ppb	ppm	pm	ppm						
86LFA301612	1	7.3	11	320	27	120	4.2	100	1	66	110	0.4	8.1	1.8	0.5	50
86LFA301613	1	4.7	1	1700	16	72	3	80	2	54	66	0.2	5.2	1.3	0.5	50
86LFA301901	* 1	9	1	370	19	130	4.2	60	2	61	99	0.6	10	2.1	2	50
86LFA301902	1	12	1	630	21	140	5.4	60	2	55	150	0.8	12	2.6	0.5	50
86LFA301903	1	12	1	670	24	110	5	60	0.5	64	140	0.8	12	2.6	0.5	50
86LFA301904	1	12	5	720	25	120	5.2	55	2	58	150	0.8	12	2.8	1	50
86LFA301905	1	13	1	720	28	120	5.6	60	0.5	78	150	0.8	14	3.2	1	50
86LFA301906	1	11	1	530	21	140	5	60	1	51	120	0.8	12	2.9	1.3	50
86LFA301907	1	12	1	630	27	120	5.4	60	2	81	130	0.8	12	3	2	50
86LFA301908	1	14	1	660	25	150	5.8	80	3	78	150	0.8	13	2.9	2	50
86LFA301909	1	33	5	560	36	200	6.2	205	3	87	160	1.2	12	2.9	1	50
86LFA302001	1	12	1	460	17	140	4.5	55	2	57	120	0.7	11	2.6		50
86LFA302004	1	11	1	510	17	120	4.2	60	2	57	110	0.8	11	2.6	1	170
86LFA302004	2	12	1	540	17	120	4.3		2	69	120	0.8	12	2.9	0.5	150
86LFA302006	1	12	1	420	15	140	4.3	75	3	59	110	1.1	10	2.7	1	180
86LFA302007	1	12	1	400	18	140	4.4	80	1	59	110	1.4	10	2.4		110
86LFA302008	1	14	1	400	19	150	4.6	80	3	57	120	1	11	2.6	1	150
86LFA302009	* 1	15	1	410	20	150	4.8	80	4	72	120	1.1	11	2.7		250
86LFA302010	1	11	1	410	16	130	3.9	45	3	64	93	0.7	8.7	2.2	2	150
86LFA302011	1	13	1	400	20	130	4.1	25	1	67	110	1.2	10	2.5	1	170
86LFA302012	1	12	1	400	18	140	4.1	35	4	52	110	1.5	11	2.7		120
86LFA302013	1	12	1	430	18	160	4.4	40	4	67	110	1	11	2.8	1	130
86LFA302014	1	8.4	1	400	18	150	4.3	50	2	59	100	1.2	11	3	2	170
86LFA302015	1	6.9	1	380	16	140	3.7	45	2	70	100	0.6	9.5	2.1	1	180
86LFA302016	1	10	1	390	17	130	4.1	40	3	72	100	0.6	11	2.3	2	110
86LFA302017	1	7	1	430	16	120	4.1	30	1	61	100	0.6	11	2.5	1	160
86LFA302017	2	7.3	1	440	15	120	4		0.5	64	100	0.6	11	2.5	2	150
86LFA302018	1	13	1	310	15	120	3.6	70	3	56	90	0.9	10	2.3	2	120
86LFA302019	1	13	1	400	21	160	4.2	20	5	61	97	0.8	10	2.3	5	190
86LFA302101	* 1	11	1	420	22	110	4	45	2	48	91	1	8.9	2.3	4	50
86LFA302103	1	18	1	490	26	100	4.8	50	2	50	120	1.5	12	2.9	2	50
86LFA302104	1	14	1	520	21	140	5.1	55	2	76	110	1.2	13	3	1	50
86LFA302104	2	13	1	480	24	130	4.8	50	2	43	110	1.1	12	2.7	1	50
86LFA302105	1	14	1	410	18	140	4.4	40	2	44	100	1.4	11	2.8	0.5	50
86LFA302106	1	16	1	430	24	150	4.8	40	5	60	120	1.7	12	2.7	3	50
86LFA302107	1	17	6	510	31	150	5.8	50	3	79	140	1.9	13	3	3	50
86LFA302108	1	17	1	440	25	150	5	45	2	54	130	1.5	12	2.8	3	50
86LFA302109	1	16	1	470	23	120	5.1	40	5	51	110	1.4	11	2.6	3	50
86LFA302110	1	17	3	410	24	130	4.8	40	4	51	110	1.2	10	2.4	4	50
86LFA302110	2	18	1	380	28	160	5.4	40	4	54	120	1.3	11	2.7	4	50
86LFA302111	1	15	3	410	24	140	4.8	30	6	57	120	1.3	11	2.4	5	110
86LFA302112	1	15	5	480	24	150	4.9	45	2	64	130	1.3	11	2.4	4	50
86LFA302113	1	12	1	320	21	120	3.9	40	3	42	91	1.2	11	2.4	4	50
86LFA302114	1	12	1	350	18	130	4	40	2	55	100	1	9.4	2.1	6	50
86LFA302115	1	11	1	390	20	91	4.1	45	3	46	83	1	9	2.1	4	50
86LFA302116	1	11	1	350	19	100	4.1	40	2	42	83	1.3	9	2.1	8	50
86LFA302116	2	11	1	380	19	100	4.4	40	3	34	91	1.3	9	2.1	7	50
86LFA302117	1	12	1	450	22	140	4.5	40	3	68	95	0.9	10	2.3	7	50
86LFA302118	1	13	1	570	24	150	5.4	40	2	62	110	1.1	12	2.9	3	50
86LFA302201	1	23	1	450	29	180	6.8	60	0.5	79	130	2.3	12	2.5	2	50
86LFA302202	1	12	1	420	24	130	4.7	40	1	43	94	1	11	2.3	3	50

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	pct	ppb	ppm	pm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA302203	1	9.5	1	450	20	110	4.5	40	1	49	93	0.8	9.5	2.2	2	50
86LFA302204	1	10	2	360	18	140	4.3	35	6	50	81	2.2	8.1	2	2	50
86LFA302205	1	7.8	1	360	16	100	3.9	25	1	49	79	0.6	9.2	2.1	3	50
86LFA302205	2	8.3	1	310	15	88	4	25	0.5	32	82	0.6	8.7	2.1	3	50
86LFA302206	1	10	4	430	28	150	5.1	45	2	46	95	0.8	13	2.6	2	50
86LFA302208	1	12	6	390	20	110	4.1	35	2	45	90	1.1	11	2.4	1	50
86LFA302209	1	13	1	400	18	130	4.3	40	2	45	93	1	11	2.7	1	50
86LFA302210	1	12	1	420	20	150	4.6	40	2	42	100	0.8	12	2.9	2	50
86LFA302211	1	11	1	390	18	130	4.3	40	2	52	99	0.9	11	2.7	2	50
86LFA302213	1	11	4	370	17	110	4.3	40	2	39	90	1.1	9.3	2.1	3	50
86LFA302214	1	15	1	400	21	120	4.9	35	3	53	120	1.6	11	2.3	5	50
86LFA302215	1	37	1	510	29	160	4.8	30	3	70	140	2.9	11	2.3	4	50
86LFA302216	1	10	1	370	23	150	4.4	15	3	58	110	1.4	8.6	1.7	3	50
86LFA302301	1	14	1	440	25	150	5.3	60	0.5	67	120	1	11	2.3	0.5	50
86LFA302302	1	12	3	390	24	140	4.8	40	2	78	110	0.9	10	2	1	50
86LFA302303	1	13	2	430	27	120	4.7	40	1	71	100	1	10	2.1	1	50
86LFA302304	1	13	1	430	30	130	4.7	40	0.5	72	96	1	10	2.1	0.5	50
86LFA302305	1	24	14	360	29	130	4.5	30	2	72	100	3.4	10	2.2	2	50
86LFA302401	1	12	3	360	21	120	4.3	60	1	43	88	1	10	2	2	50
86LFA302401	2	12	1	380	19	120	4.3	40	0.5	51	90	1	10	2	2	50
86LFA302402	1	13	4	380	23	130	4.5	35	1	49	94	1	10	2	1	50
86LFA302403	1	14	1	480	27	160	5.4	30	1	70	110	1.1	11	2.6	0.5	50
86LFA302404	1	13	1	390	20	140	4.9	35	2	51	110	1.1	10	2.4	2	50
86LFA302405	1	13	1	410	21	140	4.4	25	1	43	89	1	10	2.2	2	50
86LFA302503	1	30	1	460	23	110	4.5	15	2	49	120	1.8	11	2.6	7	50
86LFA302604	* 1	20	1	460	24	120	5.1	30	1	64	120	1.7	11	2.3	1	50
86LFA302801	* 1	25	9	550	25	100	5.1	25	1	47	130	1.9	12	2.6	3	50
86LFA302902	* 1	11	6	440	18	100	4.3	25	2	56	95	1.2	11	2.3	1	50
86LFA302903	* 1	13	4	460	19	100	4.6	30	1	52	110	1.2	11	2.3	2	50
86LFA302904	1	12	1	450	22	110	4.7	30	2	42	110	1.3	11	2.2	2	50
86LFA302905	1	12	1	450	23	100	4.3	25	2	53	96	1.2	11	2.2	1	50
86LFA302905	2	11	4	440	20	100	4.1	30	1	55	97	1.3	10	2.1	0.5	50
86LFA302906	1	15	3	430	21	97	4.3	30	1	51	100	1.2	11	2.1	0.5	50
86LFA302907	1	13	1	470	21	96	4.6	25	0.5	38	100	1.3	12	2.9	2	50
86LFA302908	1	14	4	420	20	100	4.3	25	1	39	96	1.2	11	2.7	2	50
86LFA302909	1	16	1	430	25	100	4.4	15	1	41	100	1.3	12	2.8	0.5	50
86LFA302910	1	20	6	530	24	110	4.9	20	2	48	120	1.5	13	3.2	2	50
86LFA302911	1	13	1	590	21	80	5.6	15	2	61	150	1.5	13	3.3	0.5	50
86LFA302912	* 1	20	1	590	25	120	5.2	20	2	55	120	1.6	12	2.8	4	50
86LFA303001	1	13	1	380	20	110	4.8	15	2	39	110	1.2	23.3	3.4	3	50
86LFA303101	1	17	1	600	21	120	5	30	1	50	120	1.5	12	2.8	2	50
86LFA303102	1	16	1	460	22	120	5.1	20	2	39	110	1.4	12	2.9	3	50
86LFA303103	1	13	6	550	24	110	5.1	25	2	42	120	1.3	13	3.5	3	50
86LFA303104	1	18	1	470	23	120	4.5	20	2	41	110	1.3	13	4.1	2	50
86LFA303202	1	24	1	470	19	90	4.3	15	2	43	130	2.2	15	3.8	11	50
86LFA303203	1	15	1	360	16	120	4.2	10	4	40	100	1.4	11	2.8	5	50
86LFA303204	* 1	19	3	400	21	120	4.1	15	3	54	120	1.3	14	3.2	5	50
86LFA303205	1	20	1	570	27	150	5.4	10	2	42	140	1.8	16	4.1	5	50
86LFA303206	1	17	1	460	26	120	5	10	4	42	130	1.3	13	3.1	9	50
86LFA303207	1	18	1	460	22	130	4.9	10	4	65	110	1.5	12	3.1	9	50
86LFA303208	1	17	1	420	21	110	4.8	10	2	46	120	1.2	14	3.5	8	50

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	pct	ppb	ppm	pm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA303209	1	19	1	580	27	100	5.4	25	1	53	140	2	17	4.6	6	50
86LFA303210	1	21	1	480	22	130	4.9	20	3	36	140	1.9	16	4.1	6	50
86LFA303211	1	21	1	440	23	120	4.3	25	2	45	130	1.8	15	3.9	5	50
86LFA303212	1	23	1	470	24	120	4.6	30	2	46	150	1.9	16	4.6	5	160
86LFA303213	1	24	1	510	18	130	4.9	25	6	42	150	2	16	4.4	8	50
86LFA303214	1	24	7	500	27	120	4.8	20	4	58	170	2	17	4.7	4	50
86LFA303215	1	25	4	550	23	130	5.4	25	3	64	160	2.2	18	5.1	4	50
86LFA303216	1	23	1	670	25	120	5	20	3	63	160	2.1	17	4.3	5	50
86LFA303217	1	22	1	460	26	110	4.9	20	2	49	140	1.8	16	4.3	5	50
86LFA303218	1	22	1	510	24	120	4.9	25	4	44	160	1.9	18	4.3	13	50
86LFA303219	1	26	1	560	24	120	5.2	30	4	49	160	2.1	18	4.3	4	50
86LFA303220	* 1	22	1	470	24	130	5	30	4	46	150	2	17	4.6	8	50
86LFA303224	1	12	1	440	17	100	3.6	10	2	36	120	1.2	13	3.5	5	50
86LFA303303	1	20	1	450	23	110	4.5	15	1	47	150	1.7	18	4.3	3	100
86LFA303303	2	18	1	470	18	93	4.2	20	2	33	140	1.8	16	4	3	50
86LFA303304	1	19	8	400	20	94	4.5	20	3	30	170	1.4	20	4.4	9	50
86LFA303305	1	25	1	540	24	110	5.3	25	2	42	150	1.5	15	3.4	3	50
86LFA303306	1	23	1	530	25	130	5.7	25	3	43	150	1.6	16	3.4	7	50
86LFA303307	1	19	4	490	23	110	5.3	30	3	52	140	1.3	14	3.3	5	50
86LFA303308	1	19	9	570	22	130	5.2	30	2	60	150	2.5	14	3.3	2	50
86LFA303309	1	19	1	530	23	120	4.9	30	2	43	140	1.3	14	3.2	3	50
86LFA303310	1	20	1	390	18	97	4.4	20	1	23	150	1.8	20.5	7	3	50
86LFA303311	1	18	1	520	24	110	5.3	30	1	50	140	1.5	14	3	0.5	50
86LFA303312	1	20	1	540	22	130	5.6	30	3	46	150	1.4	15	3.5	3	50
86LFA303313	1	17	1	430	22	93	4.7	30	3	38	130	1.3	14	3.1	2	50
86LFA303313	2	18	1	500	25	100	5.1	30	2	61	140	1.3	14	3	2	50
86LFA303314	1	19	1	470	24	120	5.1	30	3	56	140	1.5	14	3.4	3	50
86LFA303315	1	21	4	510	25	140	5.5	25	2	62	150	1.4	15	3.5	3	50
86LFA303316	1	20	3	490	29	120	5.5	30	3	69	150	1.4	15	3.2	3	50
86LFA303317	1	22	1	530	20	120	5.4	30	2	50	150	1.4	14	3.3	3	50
86LFA303318	1	22	1	550	27	140	5.2	25	3	53	140	1.5	16	3.7	2	50
86LFA303319	1	19	1	440	21	96	4.8	20	4	34	190	1.5	21.4	5.2	7	50
86LFA303320	1	22	1	550	24	110	5.1	30	2	41	180	1.7	20	5	5	50
86LFA303321	1	18	1	560	24	110	5	30	3	50	180	1.5	20.3	4.8	4	50
86LFA303322	1	20	1	520	19	99	5	25	2	53	180	1.6	20.3	4.8	4	50
86LFA303323	1	20	1	470	20	110	4.9	25	3	30	160	1.9	19	4.4	4	50
86LFA303701	10	7	5										0.6			
86LFA303801	10	19	1										0.7			
86LFA303803	10	33	2										0.8			
86LFA303805	10	36	2										0.8			
86LFA303806	10	32	1										0.7			
86LFA303807	10	24	1										0.9			
86LFA303808	10	24	2										0.8			
86LFA303809	10	23	2										0.6			
86LFA303810	10	23	>1										0.3			
86LFA303811	10	29	>1										0.6			
86LFA303812	10	23	1										0.8			
86LFA303813	10	25	2										0.6			
86LFA303814	10	19	2										0.6			
86LFA303815	10	19	46										0.6			
86LFA303816	10	23	1										0.6			

sample	obs	As	Au	Ba	Co	Cr	Fe	Hg	Mo	Ni	Rb	Sb	Th	U	W	Zn
		ppm	ppb	ppm	ppm	ppm	pct	ppb	ppm	pm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA303901	10	11	2									0.6				
86LFA303902	10	10	2									0.6				
86LFA303903	10	14	2									0.6				
86LFA303904	10	11	2									0.8				
86LFA303905	10	12	2									1.0				
86LFA303906	10	10	2									0.8				
86LFA303907	10	11	2									1.0				
86LFA303908	10	15	2									0.6				
86LFA303909	10	10	4									0.6				
86LFA303910	10	6	<1									0.6				
86LFA303911	10	11	2									1.0				
86LFA303912	10	11	2									0.8				
86LFA303913	10	11	2									1.0				
86LFA303914	10	16	2									0.9				
86LFA303915	10	12	2									0.6				
86LFA303916	10	10	3									0.7				
86LFA303917	10	10	1									0.7				
86LFA303918	10	11	4									0.6				
86LFA303919	10	9	1									0.4				
86LFA303920	10	10	4									0.6				
86LFA303921	10	9	2									0.4				
86LFA303922	10	9	2									0.6				
86LFA304001	10	15	1									0.4				
86LFA304002	10	9	2									0.4				
86LFA304003	10	9	3									0.2				
86LFA304004	10	10	4									0.4				
86LFA304005	10	7	<1									0.3				
86LFA304006	10	9	2									0.2				
86LFA304007	10	11	2									0.3				
86LFA304008	10	7	2									0.3				
86LFA304009	10	6	1									0.2				
86LFA304010	10	7	1									0.2				
86LFA304011	10	6	3									0.2				
86LFA304012	10	6	1									0.2				
86LFA304013	10	7	3									0.2				
86LFA304014	10	7	1									0.2				
86LFA304015	10	7	<1									0.2				
86LFA304102	10	12	2									1.4				
86LFA304103	10	12	3									1.0				
86LFA304104	10	9	3									1.0				
86LFA304106	10	19	2									1.0				
86LFA304107	10	9	5									1.0				
86LFA304108	10	10	2									1.0				
86LFA304109	10	15	3									1.2				
86LFA304110	10	14	4									1.0				
86LFA304111	10	12	4									0.9				
86LFA304112	10	10	4									1.2				
86LFA304113	10	10	19									1.0				
86LFA304202	10	14	<1									0.9				
86LFA304204	10	15	3									0.9				
86LFA304205	10	15	2									1.0				

sample	obs	As ppm	Au ppb	Ba ppm	Co ppm	Cr ppm	Fe pct	Hg ppb	Mo ppm	Ni pm	Rb ppm	Sb ppm	Th ppm	U ppm	W ppm	Zn ppm
86LFA304206	10	10	<1									0.8				
86LFA304804	10	7	2									0.4				
86LFA304901	10	10	4									1.8				
86LFA304902	10	19	3									1.6				
86LFA304903	10	14	4									1.6				
86LFA304905	10	17	5									1.8				
86LFA304906	10	17	6									1.8				

TABLE IV GEOCHEMISTRY OF BEDROCK SAMPLES OVERBURDEN DRILLING PROGRAM

Sample	obs	As ppm	Au ppb	Ba ppm	Co ppm	Cr ppm	Fe pct	Mo ppm	Ni ppm	Rb ppm	Sb ppm	Th ppm	U ppm	W ppm	Zn ppm
86LFA3001BR	1	93.9	1	240	17	130	4.0	1	77	120	41.8	9.2	2.1	4	50
86LFA3002BR	1	6.9	4	290	13	110	3.2	1	74	85	0.4	7.8	1.7	1	50
86LFA3003BR	1	7	3	290	17	130	3.7	1	69	100	0.3	7.8	1.7	0.5	50
86LFA3004BR	1	5.4	4	330	22	150	3.4	2	120	110	0.3	9.1	1.9	2	50
86LFA3006BR	1	3.8	1	260	13	150	3.0	1	69	74	0.2	6.6	1.5	0.5	50
86LFA3007BR	1	1.8	1	170	8	70	2.0	1	39	46	0.1	4.4	1.1	0.5	50
86LFA3009BR	1	2	4	170	9	97	3.0	1	63	83	0.1	6.5	1.6	0.5	50
86LFA3012BR	1	16	1	200	11	93	2.8	2	43	66	2.4	5.9	1.4	2	200
86LFA3014BR	1	13	4	380	18	120	4.3	1	52	120	1.2	12	2.7		160
86LFA3014BR	1	13	1	240	12	100	4.1	2	50	220	2.7	13	2.1	3	50
86LFA3016BR	1	4.7	1	140	13	93	2.9	0.5	55	90	0.2	6.3	1.5	0.5	50
86LFA3019BR	1	11	1	330	11	56	3.4	1	37	59	0.3	4	1	0.5	50
86LFA3020BR	1	17	1	310	19	200	4.4	2	83	94	0.5	11	2.8	0.5	50
86LFA3021BR	1	3.3	3	210	5	25	1.7	1	10	10	0.4	8.2	2.7	0.5	50
86LFA3022BR	1	9	1	300	16	120	3.7	0.5	64	86	0.8	7.8	1.8	0.5	50
86LFA3023BR	1	72	14	200	11	80	2.3	0.5	44	63	9.3	5.3	1.2	0.5	50
86LFA3024BR	1	4.9	3	410	11	86	3.5	0.5	36	95	1.8	9.1	1.6	2	50
86LFA3025BR	1	16	1	210	10	34	3.3	1	31	67	1.1	9.3	2.3	2	50
86LFA3026BR	1	13	7	700	6	10	1.7	2	50	48	0.6	4.9	1.6	2	50
86LFA3027BR	1	4.1	4	660	17	100	5.5	2	38	190	0.8	15	3	3	50
86LFA3028BR	1	8.7	3	480	15	86	5.6	0.5	43	180	0.8	14	3.1	3	50
86LFA3029BR	1	7	1	410	20	140	0.0	0.5	82	100	0.4	9.4	2	2	50
86LFA3030BR	1	1.4	3	500	2.5	10	1.8	2	10	150	0.1	21.9	2	0.5	50
86LFA3031BR	1	1.8	1	540	2.5	10	1.3	2	10	140	0.3	11	2	0.5	50
86LFA3032BR	1	5.5	1	310	8	73	2.5	2	10	120	1.1	13	3	2	50
86LFA3034BR	1	2.5	1	330	22	110	5.7	2	76	150	0.8	12	2.7	1	110
86LFA3036BR	1	8.7	1	440	10	96	3.0	1	44	110	1.5	8.3	2	2	50
86LFA3037BR	1	30	1	370	48	140	5.4	2	110	180	1	12	3.3	2	50
86LFA3038BR	1	13	2	430	10	28	4.1	1	10	110	0.2	12	2.2	5	170
86LFA3039BR	1	9.1	1	130	23	170	4.1	1	140	59	0.7	13	2.2	2	50
86LFA3040BR	1	9.2	1	230	9	200	6.2	1	99	120	0.8	11	2.3	1	50
86LFA3041BR	1	10	1	130	8	22	3.1	2	10	23	0.2	9.4	2	7	50
86LFA3042BR	1	24	3	570	9	91	4.2	3	10	220	4.8	16	5.1	3	50
86LFA3048BR	1	16	1	420	15	73	5.0	3	24	72	1.4	9.4	2.8	0.5	110
86LFA3049BR	1	6.8	1	420	15	140	4.3	2	48	100	0.5	10	2.7	0.5	130
86LFA3050BR	1	5.3	4	210	19	86	4.5	0.5	36	89	0.8	10	2	1	50

TABLE V LIST OF DUPLICATE ANALYSES FOR SELECTED ELEMENTS IN CLAY FRACTION OF TILL

SAMPLES ANALYZED BY BONDAR-CLEGG AND CO. LTD

sample	obs	As 1	As 2	Cu 1	Cu 2	Hg 1	Hg 2	Pb 1	Pb 2	Sn 1	Sn 2	U 1	U 2	Zn 1	Zn 2
		ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300104	2	3	2	21	21	40	40	23	22	2	4	0.9	0.5	72	71
86LFA300210	2	13	7	44	45	70	65	27	25	1	0.5	0.9	0.1	130	133
86LFA300214	2	12	8	32	32	115	100	31	27		8	0.0	0.1	109	101
86LFA300310	2	14	7	47	53	80	70	27	26	7	3	0.5	0.1	141	137
86LFA300312	2	7	5	37	41	50	40	26	26	2	4	0.3	0.3	137	148
86LFA300501	2	11	11	54	52	90	100	35	32	3	1	0.7	0.1	139	136
86LFA300519	2	9	6	39	43	65	65	21	18		0.5	0.7	0.1	116	126
86LFA300707	2	10	9	31	34	85	75	23	19		6	0.0	0.5	93	92
86LFA300803	2	12	14	47	54	70	75	32	23	1	2	0.7	0.5	136	151
86LFA300904	2	11	6	41	41	55	40	21	18	3	4	0.5	0.3	118	114
86LFA300910	2	5	4	43	48	65	40	20	19	2	5	0.3	0.9	132	122
86LFA301001	2	12	8	51	51	80	75	24	20	5	8	0.7	0.3	127	126
86LFA301008	2	10	11	40	33	80	65	20	17	2	5	0.5	0.7	103	97
86LFA301012	2	14	7	29	30	80	65	18	15		4	0.4	0.5	82	75
86LFA301203	2	5	9	45	45	85	65	22	22		9	0.5	0.3	127	129
86LFA301213	2	8	10	53	46	65	60	29	24	3	5	0.0	0.4	157	145
86LFA301412	2	15	6	24	25	40	40	23	20	6	5	0.3	0.7	97	99
86LFA301602	2	14	15	58	41	90	100	14	21	6	1	0.8	1.0	128	128
86LFA301908	2	15	16	46	45	95	100	19	22	3	4	1.0	1.0	137	138
86LFA302014	2	7	5	38	43	70	65	25	24	3	3	0.3	0.6	143	133
86LFA302117	2	14	14	46	40	75	85	23	18	4	7	1.0	0.8	125	126
86LFA302216	2	8	9	35	30	30	20	19	15	2	4	0.8	0.3	91	86
86LFA302904	2	13	14	60	50	50	40	26	24	1	7	0.5	1.0	125	129
86LFA303207	2	24	26	46	45	20	20	16	23	3	8	1.2	1.6	131	126
86LFA303213	2	28	24	45	39	30	40	14	21	8	7	2.0	2.0	138	143
86LFA303305	2	11	11	60	48	35	35	20	17	10	6	1.4	1.7	111	119
86LFA303308	2	10	10	47	41	40	35	18	17	7	5	1.3	1.2	118	109
86LFA303314	2	12	12	53	42	30	40	23	20	5	9	1.5	0.8	122	118
86LFA303320	2	18	19	44	30	25	35	27	27	8	6	1.8	1.8	135	132
86LFA303334	2	14	14	46	35	25	40	30	24	9	12	2.7	2.3	141	127
86LFA303344	2	22	24	31	41	30	40	26	24	7	5	2.2	2.3	144	147
86LFA303357	2	28	33	40	46	30	35	22	20	6	12	2.6	2.6	210	206
86LFA303404	2	12	13	24	23	15	20	18	15	7	8	0.6	0.9	122	117
86LFA303901	2	19	23	28	27	20	25	28	26	11	8	1.2	0.7	93	81
86LFA303907	2	18	22	36	34	25	30	28	28	2	11	1.7	1.1	114	116
86LFA304903	2	34	27	71	72	155	160	32	26	4	8	1.1	0.9	167	156
86LFA30504A	2	12	10	38	35	60	60	25	23	4	4	1.0	0.7	135	125

TABLE VI LIST OF DUPLICATE ANALYSES FOR SELECTED ELEMENTS IN CLAY FRACTION OF TILL

SAMPLES ANALYZED BY BONDAR-CLEGG AND CO. LTD (1) AND CHEMEX LABS LTD (10)

sample	obs	As 1	As 10	Cu 1	Cu 10	Hg 1	Hg 10	Pb 1	Pb 10	Sn 1	Sn 10	U 1	U 10	Zn 1	Zn 10
		ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300101	10	10		40	35	55		27	18	2		0.6		131	117
86LFA300102	10	12		41	35	60		30	19	6		0.7		139	121
86LFA300104	10	3		21	18	40		23	14	2		0.9		72	70
86LFA300202	10	16		36	34	45		29	20	3		0.5		147	128
86LFA300203	10	17		46	45	65		36	26	1		0.3		156	147
86LFA300205	10	11		47	40	70		26	17	0		0.9		139	125
86LFA300208	10	12	9	42	42	65		26	19	0	1	1.0	0.7	142	125
86LFA300209	10	10		41	35	60		27	17	1		0.7		133	121
86LFA300210	10	13		44	35	70		27	16	1		0.9		130	110
86LFA300211	10	14	12	40	37	60		26	18	0	1	0.9	0.8	116	114
86LFA300212	10	13		39	34	95		24	14	0		0.5		129	108
86LFA300301	10	13		41	35	55		33	21	0		0.0		136	110
86LFA300302	10	10		40	35	55		27	19	0		0.6		143	122
86LFA300303	10	12		44	38	65		27	17	3		0.7		149	131
86LFA300304	10	12		44	41	70		28	16	5		0.7		145	132
86LFA300308	10	14		47	41	90		30	16	3		0.6		141	121
86LFA300311	10	11		43	37	60		26	16	3		0.9		150	133
86LFA300314	10	10	10	31	31	70		23	15	2	1	0.9	0.4	103	95
86LFA300315	10	14	9	41	40	90		24	16	0	1	0.5	0.4	135	120
86LFA300401	10	13		43	22	50		29	8	0		0.5		155	77
86LFA300402	10	8		35	33	65		23	13	4		0.7		110	103
86LFA300404	10	13		47	43	90		23	16	2		0.5		151	138
86LFA300501	10	11		54	53	90		35	27	3		0.7		139	131
86LFA300506	10	11	7	58	55	75		28	24	0	1	0.4	0.5	158	131
86LFA300510	10	12	10	41	37	90		23	15	0	1	0.4	0.1	106	95
86LFA300514	10	7		39	35	60		20	13	2		0.3		93	92
86LFA300515	10	10	7	34	32	90		21	15	2	1	0.3	0.4	97	89
86LFA300516	10	8		42	39	80		24	20	0		0.0		112	107
86LFA300517	10	11		41	36	75		24	17	0		0.3		107	104
86LFA300518	10	13		44	40	90		26	19	0		0.3		118	112
86LFA300521	10	12	9	52	45	80		24	15	0	1	0.0	0.2	135	108
86LFA300523	10	5	3	19	18	15		13	8	3	1	0.3	0.2	72	74
86LFA300612	10	12	10	68	67	55		33	24	0	1	0.7	0.4	181	141
86LFA300802	10	18		67	65	135		40	30	5		0.5		173	116
86LFA300804	10	18		47	24	90		35	14	5		0.3		149	78
86LFA300805	10	14		49	45	85		32	23	3		0.7		150	133
86LFA300807	10	14		49	46	90		33	25	0		0.9		142	134
86LFA300809	10	10		42	39	90		29	20	0		0.7		135	129
86LFA300810	10	15		50	45	95		28	21	0		0.7		129	129

sample	obs	As 1	As 10	Cu 1	Cu 10	Hg 1	Hg 10	Pb 1	Pb 10	Sn 1	Sn 10	U 1	U 10	Zn 1	Zn 10
		ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA300811	10	8	7	34	35	90		24	15	8	1	0.7	0.2	105	97
86LFA300812	10	14		48	43	110		30	22	3		0.7		129	121
86LFA300820	10	15		70	57	65		31	24	1		0.5		188	142
86LFA300821	10	12		63	54	65		28	23	3		0.9		156	129
86LFA300822	10	15		76	62	90		30	23	3		0.9		180	144
86LFA300901	10	12		45	43	90		23	18	5		0.2		132	119
86LFA300902	10	11	6	44	42	65		26	17	4	1	0.5	0.5	126	111
86LFA300903	10	8	5	43	36	55		23	14	2	1	0.5	0.2	123	103
86LFA300904	10	11		41	34	55		21	16	3		0.5		118	120
86LFA300910	10	5		43	38	65		20	18	2		0.3		132	124
86LFA300911	10	4	4	44	41	50		23	17	3	1	0.3		112	121
86LFA300913	10	2	2	18	12	25		16	12	0	1	0.3	0.4	55	61
86LFA301002	10	13	11	47	43	90		23	17	2	1	0.5	0.2	129	110
86LFA301003	10	13	10	44	43	85		22	18	4	1	0.5	0.4	135	124
86LFA301004	10	14	14	42	43	80		21	18	0	1	0.3	0.3	118	109
86LFA301006	10	12		46	40	100		24	20	9		0.3		119	114
86LFA301007	10	11	10	53	45	65		22	15	1	1	0.5	0.2	123	100
86LFA301009	10	18		41	32	80		20	16	6		0.5		96	93
86LFA301013	10	11		41	38	95		22	18	3		0.7		153	117
86LFA301018	10	5		47	42	80		23	18	0		0.3		141	120
86LFA301019	10	11	11	43	42	100		23	18	6	1	0.5	0.2	131	109
86LFA301205	10	8	10	42	43	110		24	18	0	1	0.9	0.3	139	122
86LFA301206	10	7		39	35	70		21	16	4		0.5		115	112
86LFA301207	10	5		34	32	80		21	17	4		0.5		126	107
86LFA301208	10	8	10	38	38	85		24	17	0	1	0.3	0.3	121	108
86LFA301209	10	14		51	50	90		29	21	5		0.0		146	134
86LFA301210	10	13	10	51	46	65		27	17	2	1	0.0	0.4	179	126
86LFA301212	10	8		53	47	80		30	20	0		0.3		143	130
86LFA301214	10	9	10	53	49	80		31	22	2	1	0.5	0.4	152	130
86LFA301215	10	8		49	41	55		28	20	8		0.3		148	125
86LFA301217	10	5	4	31	28	40		22	13	4	1	0.9	0.2	101	85
86LFA301218	10	15		42	32	70		23	20	3		0.5		137	112
86LFA301219	10	11	10	36	31	80		44	33	0	1	0.3		171	128
86LFA301222	10	9	14	30	28	70		141	113	0	1	0.5	0.2	218	179
86LFA301402	10	9		51	42	70		27	20	1		0.3		152	134
86LFA301404	10	14	11	56	47	65		26	19	2	1	0.5	0.5	151	119
86LFA301405	10	14	9	45	46	60		26	20	3	1	0.7	0.4	152	119
86LFA301406	10	12		55	42	70		22	17	3		0.5		142	122
86LFA301407	10	7		50	37	70		23	20	9		0.0		129	115
86LFA301408	10	14	9	54	47	75		22	17	3	1	0.3	0.2	151	121
86LFA301410	10	10		34	28	50		24	20	3		0.5		123	110
86LFA301412	10	15		24	25	40		23	19	6		0.3		97	103
86LFA301413	10	12		20	20	30		20	18	0		0.3		87	91

sample	obs	As 1	As 10	Cu 1	Cu 10	Hg 1	Hg 10	Pb 1	Pb 10	Sn 1	Sn 10	U 1	U 10	Zn 1	Zn 10
		ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
86LFA301414	10	13	10	29	27	35		21	15	5	1	0.3	0.4	92	88
86LFA302004	10	8		53	44	70		27	17	2		0.5		177	147
86LFA302006	10	11	12	49	44	120		30	19	5	1	0.5	0.2	126	108
86LFA302011	10	11		52	46	45		28	23	6		0.3		149	135
86LFA302014	10	7	6	38	36	70		25	19	3	1	0.3	0.8	143	112

TABLE VII LIST OF DUPLICATE ANALYSES FOR SELECTED ELEMENTS IN CLAY
PLUS SILT FRACTION OF TILL

SAMPLES ANALYZED BY BONDAR-CLEGG AND CO. LTD

sample	obs	As 1	As 2	Au 1	Au 2	Hg 1	Hg 2	Sb 1	Sb 2
		ppm	ppm	ppb	ppb	ppb	ppb	ppm	ppm
86LFA300308	2	7.8	7.3	2		1	30		0.5
86LFA300408	2	7.7	8.5	1		1	45		0.5
86LFA300508	2	8	8.6	1		1	35		0.6
86LFA300701	2	9.1	10	1		1	50		0.6
86LFA300712	2	9.3	8.5	4		1	50		0.5
86LFA300806	2	9	10	1		1	45		0.6
86LFA300817	2	9.2	10	1		1	50		0.6
86LFA300906	2	8.9	8.7	3		1	40		0.6
86LFA301004	2	10	11	1		1	60		0.8
86LFA301212	2	9.5	9.2	1		1	40		0.8
86LFA301402	2	10	11	3		1	60		0.9
86LFA301410	2	11	13	3		1	40		1.5
86LFA302004	2	11	12	1		1	60		0.8
86LFA302017	2	7	7.3	1		1	30		0.6
86LFA302104	2	14	13	1		1	55	50	1.2
86LFA302110	2	17	18	3		1	40	40	1.2
86LFA302116	2	11	11	1		1	40	40	1.3
86LFA302205	2	7.8	8.3	1		1	25	25	0.6
86LFA302401	2	12	12	3		1	60	40	1
86LFA302905	2	12	11	1		4	25	30	1.2
86LFA303303	2	20	18	1		1	15	20	1.7
86LFA303313	2	17	18	1		1	30	30	1.3

Reproductibility in silt fraction
by Bondar Clegg and co. ltd

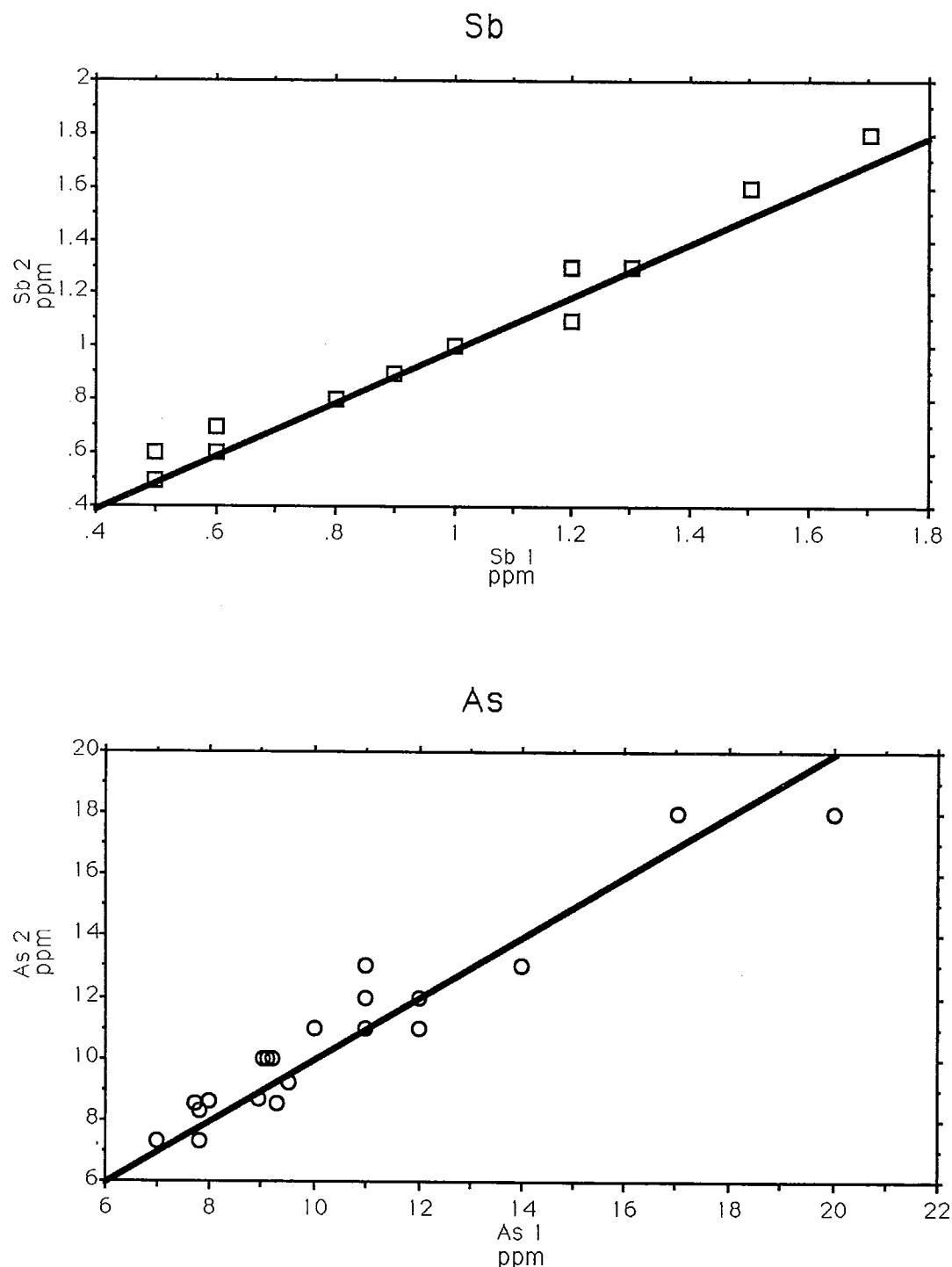


Figure 45: Duplicate analyses for antimony (Sb) and arsenic (As),
clay plus silt fraction of till Bondar-Clegg and Co. Ltd

Reproductibility in clay
fraction by Bondar Clegg
and co. ltd

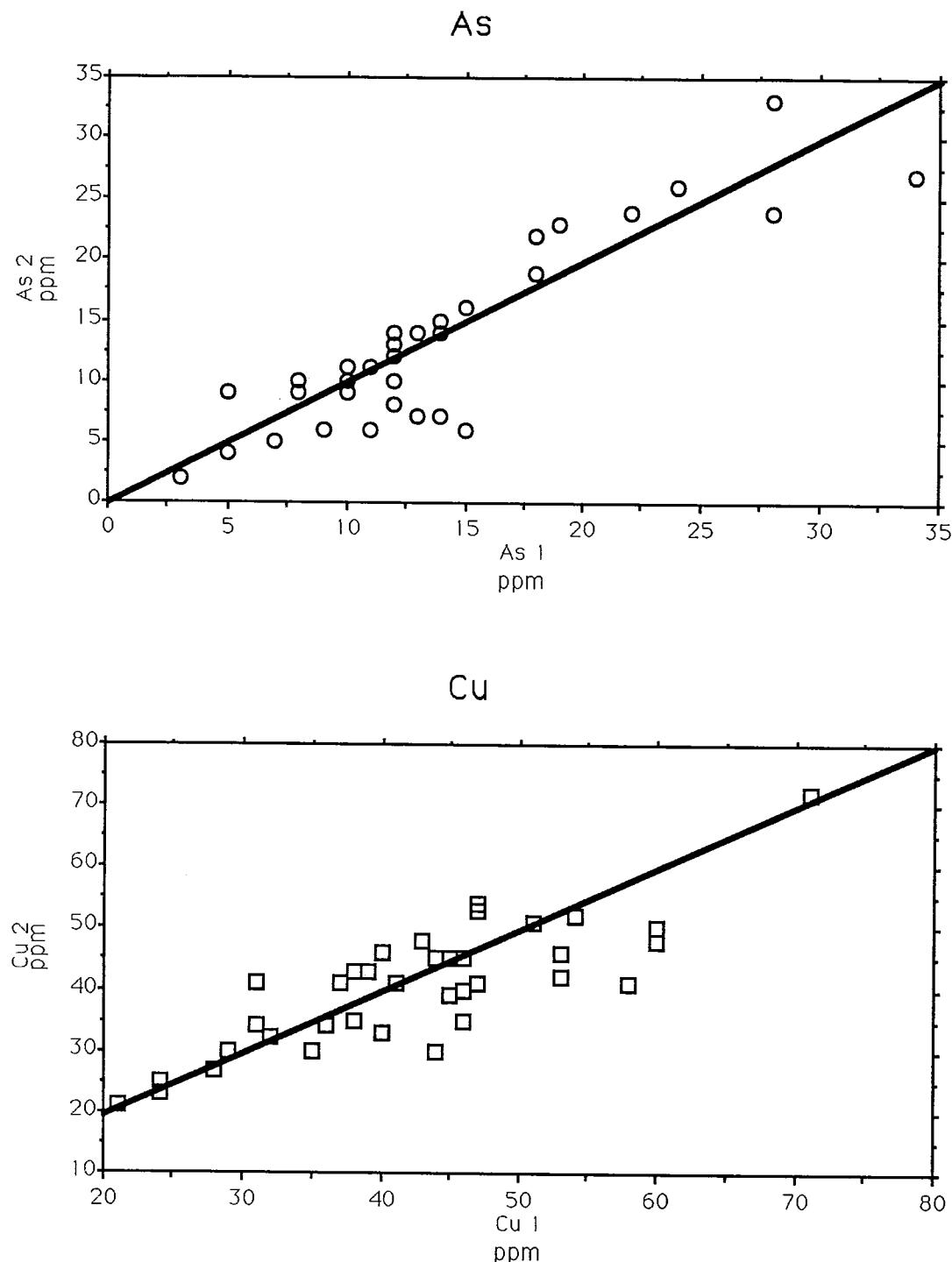


Figure 46: Duplicate analyses for arsenic (As) and copper (Cu), clay fraction of till, Bondar-Clegg and Co. Ltd.

Reproductibility in clay
fraction by Bondar Clegg
and co. ltd

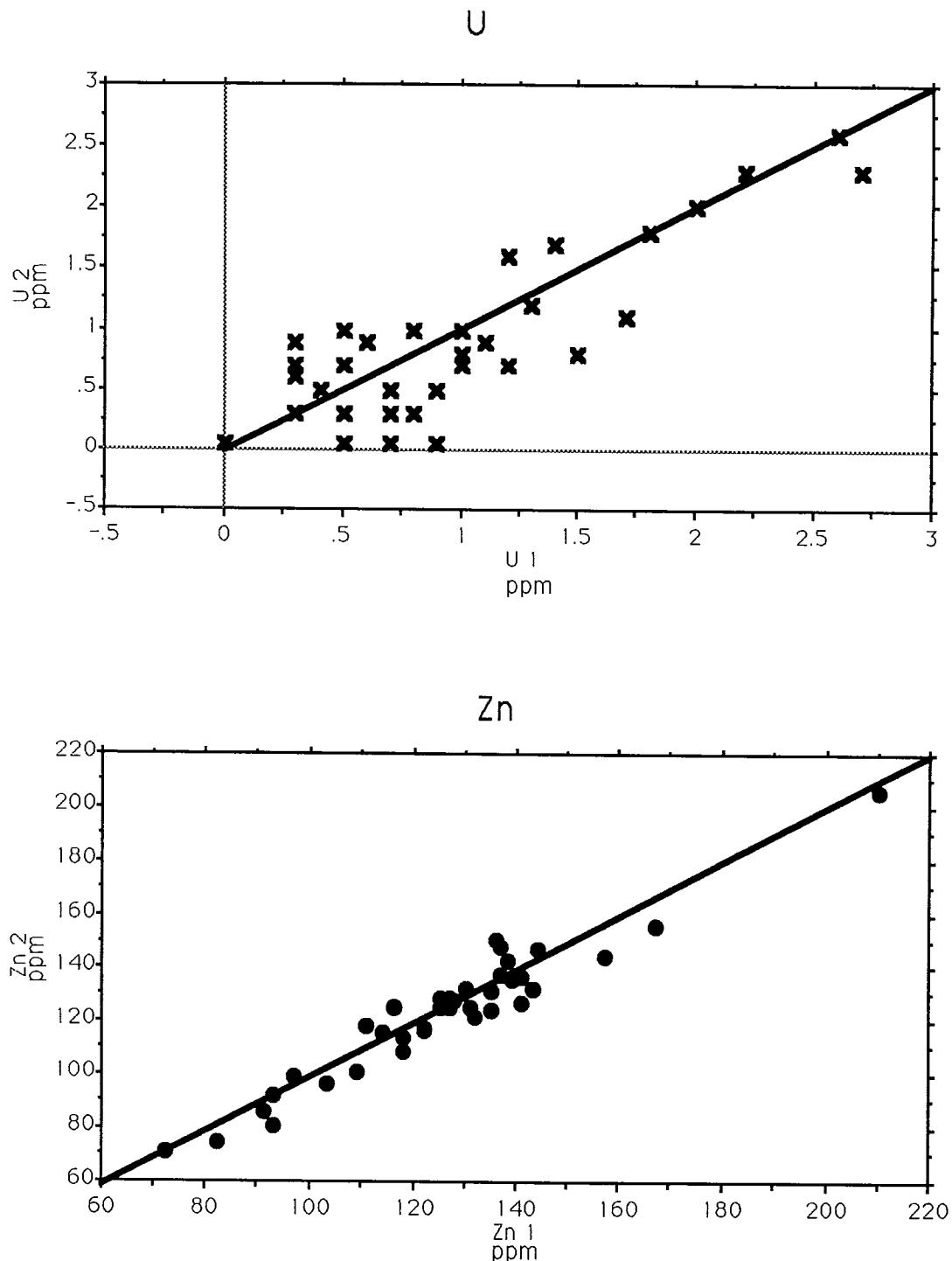


Figure 47: Duplicate analyses for uranium (U) and zinc (Zn), clay fraction of till, Bondar-Clegg and Co. Ltd.

Reproducibility in clay
fraction by Bondar Clegg
and co. ltd

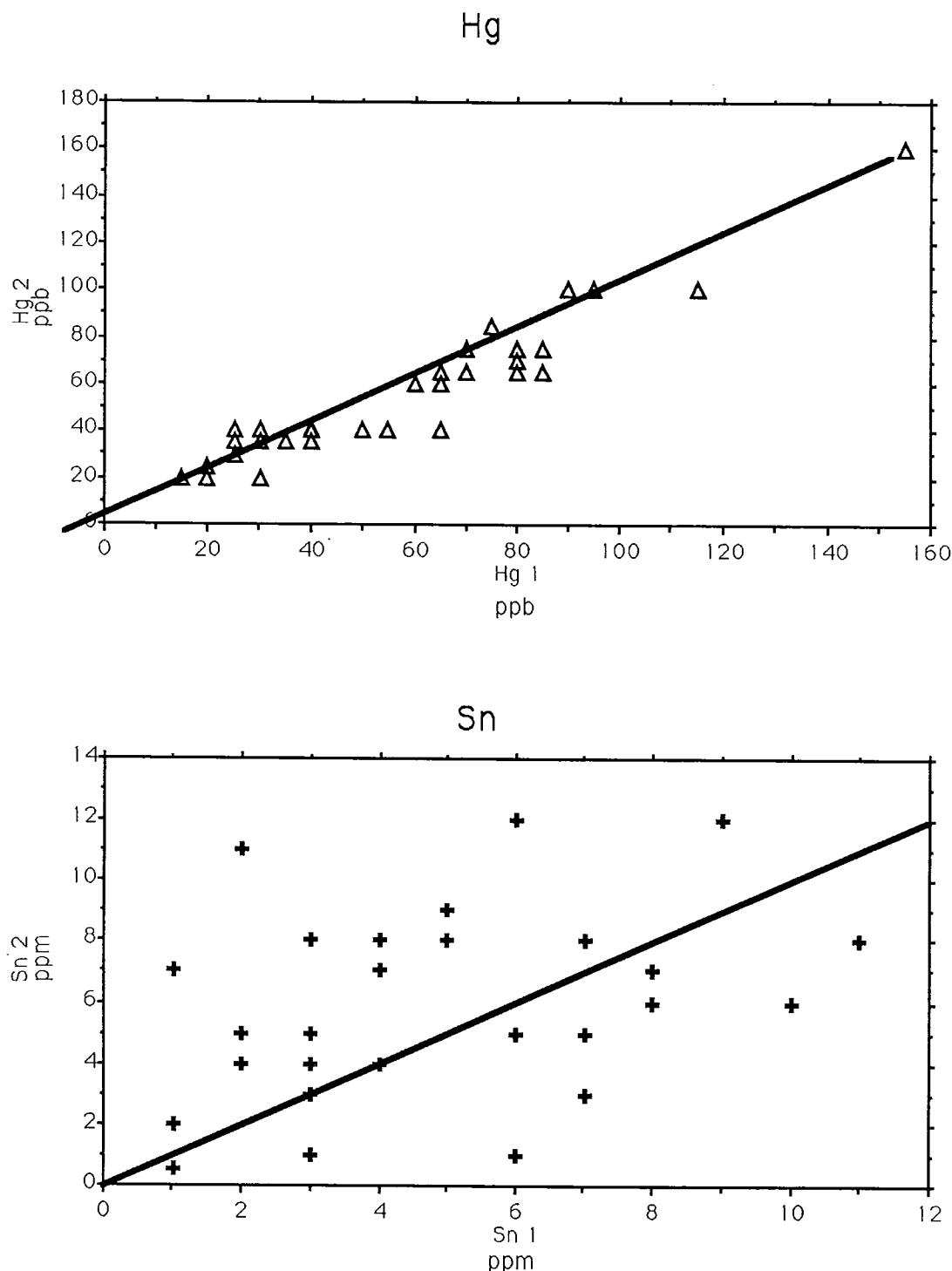


Figure 48: Duplicate analyses for mercure (Hg) and tin (Sn), clay fraction of till, Bondar-Clegg and Co. Ltd.

Reproducibility for clay fraction
First Results from Bondar Clegg and co. ltd
Second Results from Chemex Labs ltd

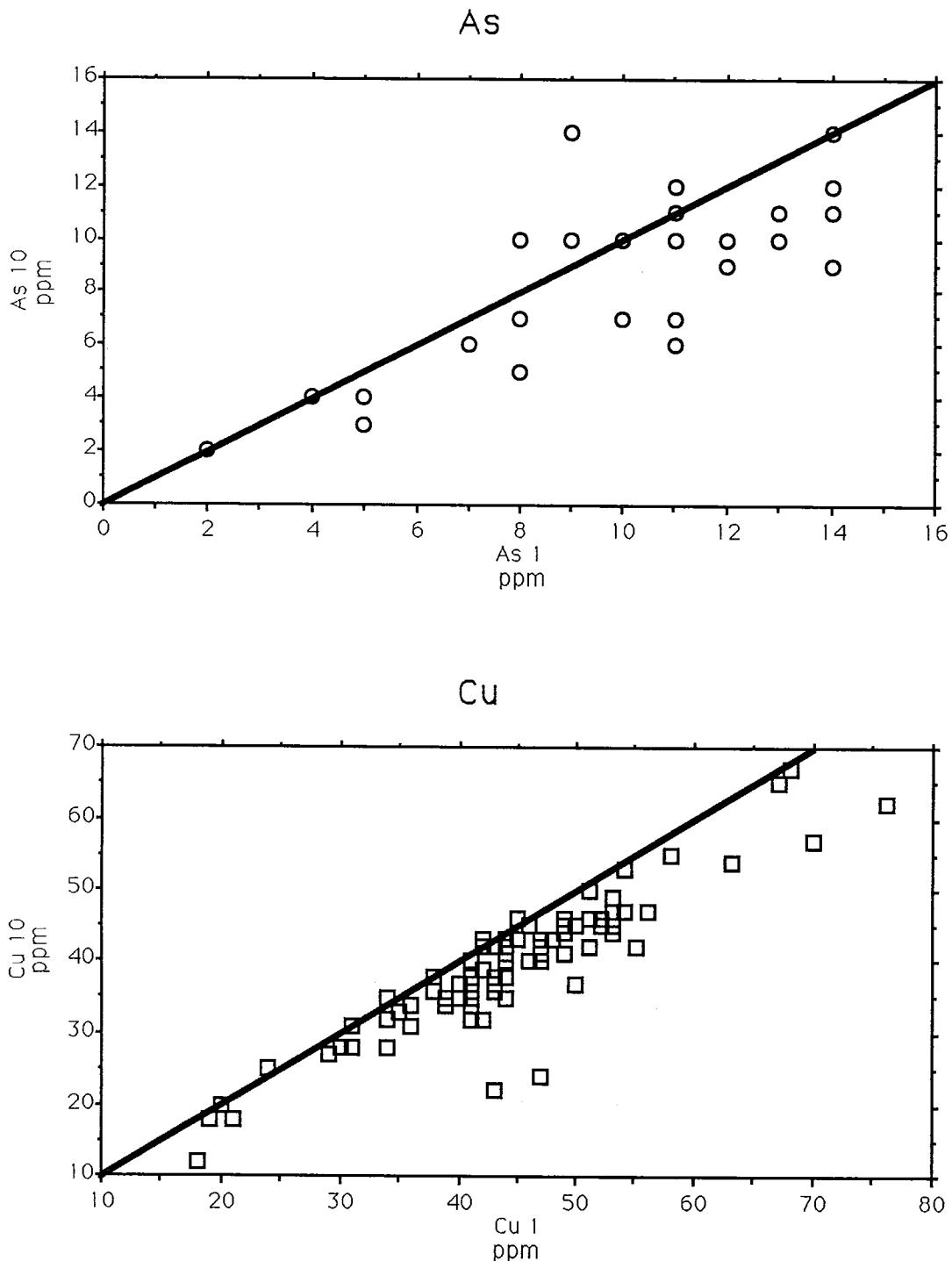


Figure 49: Duplicate analyses for arsenic (As) and copper (Cu), clay fraction of till, Bondar Clegg and Co. Ltd(1) and Chemex Labs Ltd (10).

Reproductibility for clay fraction
First Results from Bondar Clegg and co. ltd
Second Results from Chemex Labs ltd

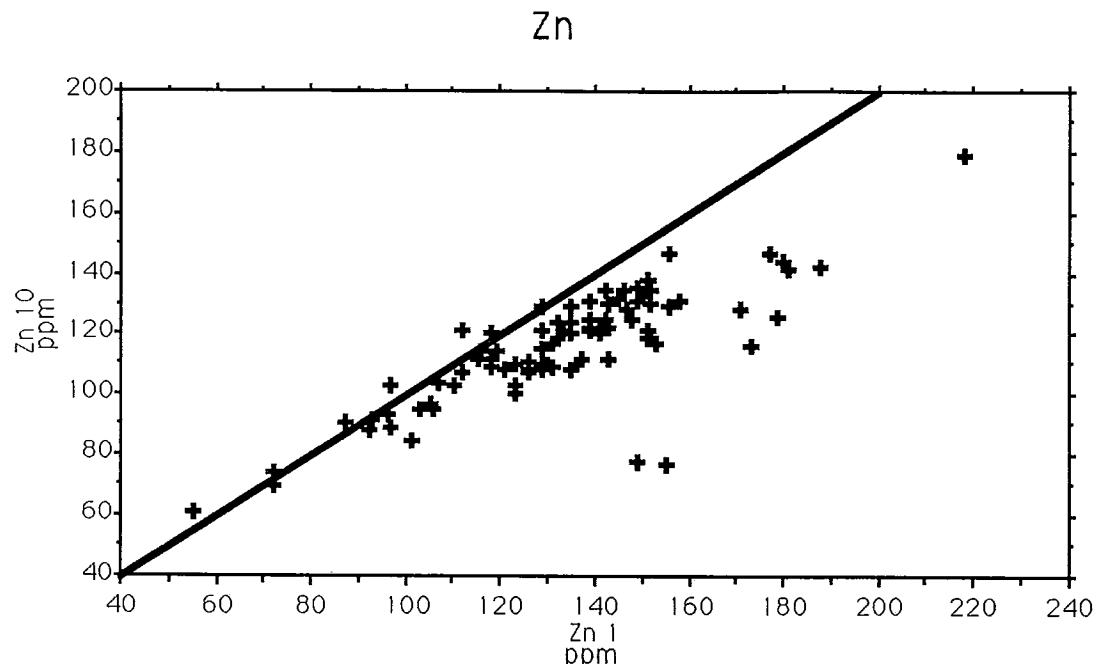


Figure 50: Duplicate analyses for zinc (Zn), clay fraction of till,
Bondar Clegg and Co. Ltd(1) and Chemex Labs Ltd (10).