Enclosure D
General Boreholes Logs

BOREHOLE No.:	DRILLED :	X : 722673.85	METHOD : **Continuous coring**
BH-001	**2015/04/27 - 2015/04/28**	Y : 3031916.24	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		Brown lean CLAY	
3						4	95		As above	
4					2	5	90		As above	
5	▽									
6						6	92		Light brown lean CLAY	
7						7	95		As above	
8						8	95		As above	
9					3	9	90		As above	
10										

D: Disturbed
U: Undisturbed
CB: Core Barrel
DE: Denison
LU: Lugeon
LE: Lefranc

Remarks :
1-General Borehole
2-Pressuremeter Test have been done in depths of:
(4.00-6.00,9.00-11.00,14.00-16.00, 19.00-21.00,24.00-26.00 and 29.00-31.00m)

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC
Sheet: 1 Of 5
Fig.: 1

Soil Engineering Services Consultant & Contractor
Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722673.85	METHOD : **Continuous coring**
BH-001	**2015/04/27 - 2015/04/28**	Y : 3031916.24	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						9	90			
11									As above	
						10	90			
12									As above	
						11	90			
13									As above	
						12	90			
14					4				As above	
						13	90			
15										
16									As above	
						14	95			
17									As above	
						15	95			
18									As above	
						16	95			
19					5				As above	
						17	90			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 5

Fig.: 2

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722673.85	METHOD : **Continuous coring**
BH-001	**2015/04/27 - 2015/04/28**	Y : 3031916.24	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Light brown lean CLAY	
						17	90			
21									As above	
						18	95			
22									As above	
						19	95			
23									As above	
						20	90			
24					6				As above	
						21	90			
25										
26									As above	
						22	95			
27									As above	
						23	90			
28									As above	
						24	95			
29					7				As above	
						25	90			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 5

Fig.: 3

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722673.85	METHOD : Continuous coring
BH-001	**2015/04/27 - 2015/04/28**	Y : 3031916.24	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7					
						25	90			
31									Light brown lean CLAY	
						26	92			
32									As above	
						27	90			
33									As above	
						28	93			
34					8				As above	
						29	95			
35	D1	15	30	35					Light brown hard lean CLAY	
						30	92			
36									Light brown lean CLAY	
						31	92			
37									As above	
						32	92			
38									As above	
						33	92			
39									As above	
						34	90			
40										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 5

Fig.: 4

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722673.85	METHOD : Continuous coring
BH-001	**2015/04/27 - 2015/04/28**	Y : 3031916.24	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D2	14	32	40		34	90		Light brown hard lean CLAY	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 5 Of 5

Fig.: 5

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722637.20	METHOD : **Continuous coring**
BH-004	**2015/05/09 - 2015/05/09**	Y : 3031847.39	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	98		Brown lean CLAY	
3						4	98		As above	
4						5	100		As above	
5					2	6	98		As above	
6						7	98		As above	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 6

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722637.20	METHOD : Continuous coring
BH-004	**2015/05/09 - 2015/05/09**	Y : 3031847.39	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Brown lean CLAY	
11						12	95		As above	
12						13	98		As above	
13						14	95		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 7

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722663.97	METHOD : **Continuous coring**
BH-014	**2015/05/08 - 2015/05/08**	Y : 3031774.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1	D1	18	25	29		2	100		Grey hard lean CLAY	
						3	100		Grey lean CLAY	
2						4	100		Brown lean CLAY	
3						5	100		As above	
4	D2	17	17	24	2	6	100		Brown hard lean CLAY	
						7	100		Brown lean CLAY	
5						8	100		As above	
6						9	100		As above	
7	D3	10	12	15	3	10	100		Brown very stiff lean CLAY	
						11	95		Brown lean CLAY	
8						12	95		As above	
9						13	95		As above	
10	D4	7	9	8		14	95		(See Next Page)	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 3

Fig.: 8

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722663.97	METHOD : Continuous coring
BH-014	**2015/05/08 - 2015/05/08**	Y : 3031774.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	7	9	8		15	95		Brown very stiff lean CLAY	10
11					4	16	90		As above	11
12						17	90		As above	12
13	D5	8	10	9		18	90		Brown very stiff lean CLAY	13
						19	90		Brown lean CLAY	
14						20	90		As above	14
15					5	21	90		As above	15
16	D6	5	4	8		22	90		Brown stiff lean CLAY	16
						23	95		Brown lean CLAY	
17						24	95		As above	17
18						25	95		As above	18
19	D7	3	7	8		26	92		Brown stiff to very stiff lean CLAY	19
						27	92		Brown lean CLAY	
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 9

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722663.97	METHOD : **Continuous coring**
BH-014	**2015/05/08 - 2015/05/08**	Y : 3031774.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description
20					6	28	90		Brown lean CLAY
21						29	90		As above
22	D8	4	7	8		30	90		Brown stiff to very stiff lean CLAY
						31	90		Brown lean CLAY
23						32	90		As above
24						33	90		As above
25	D9	5	7	9	7	34	90		Brown very stiff lean CLAY
						35	90		Brown lean CLAY
26						36	90		As above
27						37	90		As above
28	D10	4	3	5		38	90		Brown medium stiff to stiff lean CLAY
						39	90		Brown lean CLAY
29						40	90		As above
30									**End of Borehole at : 30.00 m**

Legend

D: Disturbed
CB: Core Barrel
LU: Lugeon
U: Undisturbed
DE: Denison
LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 3 Of 3

Client : NFC

Fig.: 10

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722633.55	METHOD : **Continuous coring**
BH-015	**2015/04/29 - 2015/04/29**	Y : 3031770.50	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 11

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722633.55	METHOD : **Continuous coring**
BH-015	**2015/04/29 - 2015/04/29**	Y : 3031770.50	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	100			
13									As above	
						14	100			
14									Brown lean CLAY	
						15	100			
15					4				As above	
						16	100			
16									As above	
						17	100			
17									As above	
						18	90			
18									As above	
						19	80			
19									As above	
						20	90			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 12

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722633.55	METHOD : Continuous coring
BH-015	**2015/04/29 - 2015/04/29**	Y : 3031770.50	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	
						21	95			
21									As above	
						22	90			
22									As above	
						23	90			
23									As above	
						24	90			
24									As above	
						25	95			
25									**End of Borehole at : 25.00 m**	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 13

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.52	METHOD : **Continuous coring**
BH-019	**2015/04/29 - 2015/04/29**	Y : 3031923.78	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		Brown lean CLAY	
3						4	90		As above	
4					2	5	97		As above	
5	▽					6	97		As above	
6						7	95		As above	
7						8	95		As above	
8					3	9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 3

Fig.: 14

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.52	METHOD : Continuous coring
BH-019	**2015/04/29 - 2015/04/29**	Y : 3031923.78	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11	95			
11									As above	
						12	95			
12					4				As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									As above	
						16	90			
16					5				As above	
						17	90			
17									As above	
						18	90			
18									As above	
						19	90			
19									As above	
						20	90			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 15

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.52	METHOD : Continuous coring
BH-019	**2015/04/29 - 2015/04/29**	Y : 3031923.78	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20									Brown lean CLAY	
						21	90			
21					6				As above	
						22	90			
22									As above	
						23	90			
23									As above	
						24	90			
24									As above	
						25	90			
25									**End of Borehole at : 25.00 m**	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 16

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722705.72	METHOD : **Continuous coring**
BH-023	**2015/04/29 - 2015/04/29**	Y : 3031899.27	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		Brown lean CLAY	
3						4	95		As above	
4					2	5	95		As above	
5						6	95		As above	
6	▽					7	95		As above	
7						8	95		As above	
8					3	9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 17

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722705.72	METHOD : **Continuous coring**
BH-023	**2015/04/29 - 2015/04/29**	Y : 3031899.27	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11	95			
11									As above	
						12	95			
12					4				As above	
						13	95			
13									As above	
						14	95			
14									As above	
						15	95			
15									As above	
						16	95			
16					5				As above	
						17	100			
17									As above	
						18	100			
18									As above	
						19	100			
19									As above	
						20	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 18

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.97	METHOD : Continuous coring
BH-024	**2015/05/07 - 2015/05/09**	Y : 3031885.15	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3	D1	32	34	29		5	100		Brown hard lean CLAY, CL	
4										
5					2	6	100		Brown lean CLAY	
6	D2	14	11	8		7	100		Brown very stiff lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	7	5	5		9	100		Brown stiff lean CLAY <CL/ML>	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 19

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.97	METHOD : Continuous coring
BH-024	**2015/05/07 - 2015/05/09**	Y : 3031885.15	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	10
11						10	100		As above	11
12	D4	6	7	5		11	100		Brown stiff lean CLAY, CL	12
13										13
14						12	100		Brown lean CLAY	14
15	D5	5	4	6	4	13	100		Brown stiff lean CLAY, CL	15
16										16
17						14	100		Brown lean CLAY	17
18	D6	5	5	7		15	100		Brown stiff lean CLAY, CL	18
19										19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 6

Fig.: 20

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.97	METHOD : **Continuous coring**
BH-024	**2015/05/07 - 2015/05/09**	Y : 3031885.15	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	20
						16	100			
21	D7	7	8	8					Brown very stiff lean CLAY with gypsum <CL/ML>	21
						17	100			
22										22
23									Brown lean CLAY	23
						18	100			
24	D8	9	10	9					Brown very stiff lean CLAY, CL	24
						19	100			
25					6				Brown lean CLAY	25
						20	100			
26										26
27	D9	10	11	12					Brown very stiff lean CLAY, CL	27
						21	100			
28										28
29									Brown lean CLAY	29
						22	100			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 6

Fig.: 21

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.97	METHOD : **Continuous coring**
BH-024	**2015/05/07 - 2015/05/09**	Y : 3031885.15	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	12	13	12	7				Brown very stiff lean CLAY, CL	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	13	15	15					Brown very stiff to hard SILT with gypsum <ML/CL>	33
34						25	100			34
35					8				Brown SILT	35
36	D12	16	15	17		26	100		Brown hard lean CLAY, CL	36
37						27	100			37
38									Brown lean CLAY	38
39	D13	17	18	20		28	100		Brown hard lean CLAY, CL	39
40						29	100			40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 22

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.97	METHOD : Continuous coring
BH-024	**2015/05/07 - 2015/05/09**	Y : 3031885.15	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9				Brown lean CLAY	40
41						30	100			41
42	D14	23	25	25					Brown hard lean CLAY, CL	42
43						31	100			43
44									Brown lean CLAY	44
						32	100			
45	D15	27	28	27	10				Brown hard lean CLAY <CL/ML>	45
46						33	100			46
47									Brown lean CLAY	47
						34	100			
48	D16	29	30	31					Brown hard lean CLAY, CL	48
49						35	100			49
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 23

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722716.97	METHOD : Continuous coring
BH-024	**2015/05/07 - 2015/05/09**	Y : 3031885.15	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D17	34	33	35		35	100		Brown hard lean CLAY, CL	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 24

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722709.40	METHOD : Continuous coring
BH-026	**2015/04/28 - 2015/04/29**	Y : 3031869.39	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	97		As above	
2						3	95		Brown lean CLAY	
3						4	97		As above	
4						5	97		As above	
5					2	6	95		As above	
6	▽					7	97		As above	
7						8	95		As above	
8						9	97		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 25

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722709.40	METHOD : Continuous coring
BH-026	**2015/04/28 - 2015/04/29**	Y : 3031869.39	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	95			
13									As above	
						14	92			
14									As above	
						15	95			
15					4				As above	
						16	95			
16									As above	
						17	95			
17									As above	
						18	95			
18									As above	
						19	95			
19									As above	
						20	95			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 26

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722794.93	METHOD : **Continuous coring**
BH-030	**2015/04/23 - 2015/04/25**	Y : 3031833.61	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Grey to brown lean CLAY	
3						4	100		Brown lean CLAY	
4					2	5	100		As above	
5						6	100		As above	
6						7	100		As above	
7						8	100		As above	
8					3	9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 4

Client : NFC

Fig.: 27

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722794.93	METHOD : **Continuous coring**
BH-030	**2015/04/23 - 2015/04/25**	Y : 3031833.61	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11	100			
11									As above	
						12	100			
12					4				As above	
						13	100			
13									As above	
						14	100			
14									As above	
						15	100			
15									As above	
						16	100			
16					5				As above	
						17	100			
17									As above	
						18	100			
18									As above	
						19	100			
19									As above	
						20	100			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 4

Fig.: 28

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722794.93	METHOD : **Continuous coring**
BH-030	**2015/04/23 - 2015/04/25**	Y : 3031833.61	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					6				Brown lean CLAY	
						21	100			
21									As above	
						22	100			
22									As above	
						23	100			
23									As above	
						24	100			
24					7				As above	
						25	90			
25									As above	
						26	90			
26									As above	
						27	90			
27									As above	
						28	90			
28									As above	
						29	90			
29					8				As above	
						30	90			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 4

Fig.: 29

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722794.93	METHOD : Continuous coring
BH-030	**2015/04/23 - 2015/04/25**	Y : 3031833.61	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30									Brown lean CLAY	
						31	90			
31									As above	
						32	90			
32									As above	
						33	90			
33									As above	
						34	90			
34					9				As above	
						35	90			
35									As above	
						36	90			
36									As above	
						37	90			
37									As above	
						38	90			
38									As above	
						39	90			
39									As above	
						40	90			
40										

End of Borehole at : 40.00 m

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 30

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722861.13	METHOD : Continuous coring
BH-033	**2015/04/22 - 2015/04/22**	Y : 3031798.37	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
						4	100		As above	
2						5	100		As above	
3						6	100		As above	
4						7	100		As above	
5					2	8	100		As above	
6						9	100		As above	
7						10	100		As above	
8						11	100		As above	
9						12	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 31

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722861.13	METHOD : Continuous coring
BH-033	**2015/04/22 - 2015/04/22**	Y : 3031798.37	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	13	100		Brown lean CLAY	
11						14	100		As above	
12						15	100		As above	
13						16	100		As above	
14						17	100		As above	
15					4	18	100		As above	
16						19	100		As above	
17						20	100		As above	
18						21	100		As above	
19						22	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 32

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722883.20	METHOD : **Continuous coring**
BH-034	**2015/04/22 - 2015/04/23**	Y : 3031786.62	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									Brown lean CLAY	
						2	100			
2									As above	
						3	100			
3									As above	
						4	100			
4									As above	
						5	100			
5									As above	
						6	100			
6					2				As above	
						7	100			
7									As above	
						8	100			
8									As above	
						9	100			
9									As above	
						10	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 33

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722883.20	METHOD : Continuous coring
BH-034	**2015/04/22 - 2015/04/23**	Y : 3031786.62	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 34

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722927.34	METHOD : **Continuous coring**
BH-036	**2015/04/24 - 2015/04/24**	Y : 3031763.13	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2										
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7										
8						8	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 35

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722927.34	METHOD : Continuous coring
BH-036	**2015/04/24 - 2015/04/24**	Y : 3031763.13	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12						11	100		As above	
13						12	100		As above	
14						13	100		As above	
15					4	14	100		As above	
16						15	100		As above	
17										
18										
19										
20										

End of Borehole at : 20.00 m

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 36

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723015.61	METHOD : Continuous coring
BH-041	**2015/04/25 - 2015/04/25**	Y : 3031716.14	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2										
3						4	100		As above	
4						5	100		As above	
5					2					
6						6	100		As above	
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 37

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723015.61	METHOD : Continuous coring
BH-041	**2015/04/25 - 2015/04/25**	Y : 3031716.14	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						9	100			
11										
									As above	
12						10	100			
13									As above	
						11	100			
14										
15					4				As above	
						12	100			
16									As above	
						13	100			
17										
									As above	
18						14	100			
19										
									As above	
20						15	100			
									End of Borehole at : 20.00 m	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 38

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723081.82	METHOD : **Continuous coring**
BH-043	**2015/05/01 - 2015/05/02**	Y : 3031680.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		As above	
3						4	95		Brown lean CLAY	
4					2	5	90		As above	
5						6	90		As above	
6						7	90		As above	
7						8	90		As above	
8						9	90		As above	
9					3	10	90		As above	
10										

▽ (groundwater level at approx. 5.5 m)

D: Disturbed
U: Undisturbed
CB: Core Barrel
DE: Denison
LU: Lugeon
LE: Lefranc

Remarks :
1-General Borehole
2-Pressuremeter Test have been done in depths of:
(4.00-6.00,9.00-11.00,14.00-16.00, 19.00-21.00,24.00-26.00 and 29.00-31.00m)

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC
Sheet: 1 Of 5
Fig.: 39

Soil Engineering Services Consultant & Contractor
Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723081.82	METHOD : **Continuous coring**
BH-043	**2015/05/01 - 2015/05/02**	Y : 3031680.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11	90			
11									As above	
						12	95			
12									As above	
						13	95			
13									As above	
						14	95			
14					4				As above	
						15	95			
15									As above	
						16	90			
16									As above	
						17	92			
17									As above	
						18	95			
18									As above	
						19	92			
19					5				As above	
						20	90			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 5

Fig.: 40

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723081.82	METHOD : **Continuous coring**
BH-043	**2015/05/01 - 2015/05/02**	Y : 3031680.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20									Brown lean CLAY	20
						21	90			
21									Brown lean CLAY	21
						22	95			
22									As above	22
						23	94			
23									As above	23
						24	95			
24					6				As above	24
						25	90			
25									As above	25
						26	90			
26									As above	26
						27	95			
27									As above	27
						28	95			
28									As above	28
						29	95			
29					7				As above	29
						30	90			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 5

Fig.: 41

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723081.82	METHOD : **Continuous coring**
BH-043	**2015/05/01 - 2015/05/02**	Y : 3031680.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30						31	90		Brown lean CLAY	30
31						27	90		Brown lean CLAY	31
32						28	90		As above	32
33						29	92		As above	33
34					8	30	90		As above	34
35	D1	5	10	15		31	90		Brown very stiff lean CLAY	35
36						32	90		Brown lean CLAY	36
37						33	90		As above	37
38						34	90		As above	38
39						35	90		As above	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 5

Fig.: 42

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723081.82	METHOD : Continuous coring
BH-043	**2015/05/01 - 2015/05/02**	Y : 3031680.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D2	10	20	14		35	90		Brown hard lean CLAY	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 5 Of 5

Fig.: 43

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723148.02	METHOD : **Continuous coring**
BH-046	**2015/04/22 - 2015/04/22**	Y : 3031645.66	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 44

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723148.02	METHOD : Continuous coring
BH-046	**2015/04/22 - 2015/04/22**	Y : 3031645.66	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 45

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723258.36	METHOD : **Continuous coring**
BH-051	**2015/04/23 - 2015/04/25**	Y : 3031586.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	95		As above	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 4

Fig.: 46

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723258.36	METHOD : **Continuous coring**
BH-051	**2015/04/23 - 2015/04/25**	Y : 3031586.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Brown lean CLAY	
11						12	95		As above	
12						13	100		As above	
13						14	80		As above	
14						15	90		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	95		As above	
18						19	85		As above	
19						20	95		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 4

Fig.: 47

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723258.36	METHOD : **Continuous coring**
BH-051	**2015/04/23 - 2015/04/25**	Y : 3031586.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	
						21	100			
21									As above	
						22	90			
22									As above	
						23	100			
23									As above	
						24	100			
24									As above	
						25	100			
25					6				As above	
						26	100			
26									As above	
						27	100			
27									As above	
						28	100			
28									As above	
						29	100			
29									As above	
						30	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 4

Fig.: 48

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723258.36	METHOD : **Continuous coring**
BH-051	**2015/04/23 - 2015/04/25**	Y : 3031586.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7				Brown lean CLAY	
						31	100			
31									As above	
						32	100			
32									As above	
						33	100			
33									As above	
						34	95			
34									As above	
						35	100			
35					8				As above	
						36	100			
36									As above	
						37	100			
37									As above	
						38	100			
38									As above	
						39	100			
39									As above	
						40	100			
40									**End of Borehole at : 40.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 4

Fig.: 49

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723280.43	METHOD : Continuous coring
BH-052	**2015/05/06 - 2015/05/07**	Y : 3031575.18	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3	D1	28	26	21		5	100		Brown hard lean CLAY, CL	
4										
5	▽				2	6	100		Brown lean CLAY	
6	D2	10	8	8		7	100		Brown very stiff lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	5	4	4		9	100		Brown medium stiff to stiff lean CLAY, CL	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 6

Fig.: 50

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723280.43	METHOD : Continuous coring
BH-052	**2015/05/06 - 2015/05/07**	Y : 3031575.18	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	10
11						10	100			11
12	D4	4	6	3					Brown stiff SILT <ML/CL>	12
13						11	100			13
14									Brown SILT	14
						12	100			
15	D5	7	9	9	4				Brown very stiff lean CLAY, CL	15
16						13	100			16
17									Brown lean CLAY	17
						14	100			
18	D6	12	14	15					Brown very stiff lean CLAY, CL	18
19						15	100			19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 6

Fig.: 51

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723280.43	METHOD : Continuous coring
BH-052	**2015/05/06 - 2015/05/07**	Y : 3031575.18	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	20
						16	100			
21	D7	14	15	13					Brown very stiff lean CLAY, CL	21
						17	100			
22										22
23									Brown lean CLAY	23
						18	100			
24	D8	16	16	17					Brown hard lean CLAY, CL	24
						19	100			
25					6				Brown lean CLAY	25
						20	100			
26										26
27	D9	17	15	16					Brown hard lean CLAY with gypsum <CL>	27
						21	100			
28										28
29									Brown lean CLAY	29
						22	100			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 6

Fig.: 52

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723280.43	METHOD : Continuous coring
BH-052	**2015/05/06 - 2015/05/07**	Y : 3031575.18	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	18	20	20	7				Brown hard lean CLAY, CL	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	23	22	25					Brown hard lean CLAY, CL	33
34						25	100			34
35					8	26	100		Brown lean CLAY	35
36	D12	25	25	27					Brown hard lean CLAY, CL	36
37						27	100			37
38						28	100		Brown lean CLAY	38
39	D13	26	28	20					Brown hard SILT with gypsum <ML/CL>	39
40						29	100			40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 53

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723280.43	METHOD : Continuous coring
BH-052	**2015/05/06 - 2015/05/07**	Y : 3031575.18	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9				Brown SILT	40
41						30	100			41
42	D14	25	28	30					Brown hard lean CLAY, CL	42
43						31	100			43
44									Brown lean CLAY	44
						32	100			
45	D15	29	28	32	10				Brown hard lean CLAY, CL	45
46						33	100			46
47	D16	32	34	35					Brown hard lean CLAY <CL/ML>	47
						34	100			
48									Brown lean CLAY	48
49						35	100			49
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 54

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723280.43	METHOD : Continuous coring
BH-052	**2015/05/06 - 2015/05/07**	Y : 3031575.18	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D17	35	35	33		35	100		Brown hard lean CLAY, CL	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 6 Of 6

Fig.: 55

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723324.57	METHOD : **Continuous coring**
BH-054	**2015/04/25 - 2015/04/25**	Y : 3031551.68	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	100		As above	
4						5	100		As above	
5					2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 56

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723324.57	METHOD : **Continuous coring**
BH-054	**2015/04/25 - 2015/04/25**	Y : 3031551.68	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Brown lean CLAY	
11						12	100		As above	
12						13	95		As above	
13						14	95		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	95		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 57

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723479.05	METHOD : **Continuous coring**
BH-061	**2015/05/02 - 2015/05/03**	Y : 3031469.46	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	100			
3									As above	
						4	100			
4					2				As above	
						5	80			
5	▽									
6									As above	
						6	100			
7									As above	
						7	100			
8					3				As above	
						8	100			
9									As above	
						9	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
1-General Borehole
2-Pressuremeter Test have been done in depths of:
(4.00-6.00,9.00-11.00,14.00-16.00, 19.00-21.00,24.00-26.00 and 29.00-31.00m)

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 58

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723479.05	METHOD : Continuous coring
BH-061	**2015/05/02 - 2015/05/03**	Y : 3031469.46	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						9	90		Light brown lean CLAY	
11						10	100		As above	
12						11	95		As above	
13					4	12	100		As above	
14						13	95		As above	
15						14	100		As above	
16						15	100		As above	
17						16	95		As above	
18					5	17	100		As above	
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 4

Fig.: 59

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723479.05	METHOD : Continuous coring
BH-061	**2015/05/02 - 2015/05/03**	Y : 3031469.46	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20						17	100		Light brown lean CLAY	20
21						18	100		As above	21
22						19	100		As above	22
23					6	20	100		As above	23
24						21	95		As above	24
25										25
26						22	98		As above	26
27						23	100		As above	27
28						24	100		As above	28
29					7	25	100		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 60

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723479.05	METHOD : Continuous coring
BH-061	**2015/05/02 - 2015/05/03**	Y : 3031469.46	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7	25	100		Light brown lean CLAY	30
31						26	100		As above	31
32						27	95		As above	32
33						28	100		As above	33
34						29	98		As above	34
35					8	30	100		As above	35
36						31	100		As above	36
37						32	90		As above	37
38						33	95		As above	38
39						34	100		As above	39
40									**End of Borehole at : 40.00 m**	40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 61

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723523.18	METHOD : Continuous coring
BH-063	**2015/05/26 - 2015/05/26**	Y : 3031445.96	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5					2	6	95		As above	
6						7	100		As above	
7						8	98		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 62

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723523.18	METHOD : **Continuous coring**
BH-063	**2015/05/26 - 2015/05/26**	Y : 3031445.96	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Light brown lean CLAY	
11						12	98		As above	
12						13	98		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	98		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 63

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723590.68	METHOD : Continuous coring
BH-066	**2015/05/05 - 2015/05/05**	Y : 3031410.04	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0		16	20	30	1	1	100		Light brown hard lean CLAY	
1						2	100		Light brown lean CLAY	
2						3	95		As above	
3		12	14	16		4	100		Light brown very stiff to hard lean CLAY	
4						5	100		Light brown lean CLAY	
5					2	6	100		As above	
6	▽	6	5	4		7	100		Light brown stiff lean CLAY	
7						8	95		Light brown lean CLAY	
8						9	100		As above	
9		5	4	4		10	98		Light brown medium stiff to stiff lean CLAY	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 64

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723590.68	METHOD : Continuous coring
BH-066	**2015/05/05 - 2015/05/05**	Y : 3031410.04	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	95		As above	
12		6	6	6		13	100		Light brown stiff lean CLAY	
13						14	98		Light brown lean CLAY	
14						15	100		As above	
15		5	6	7	4	16	100		Light brown stiff lean CLAY	
16						17	95		Light brown lean CLAY	
17						18	100		As above	
18		6	7	8		19	95		Light brown stiff to very stiff lean CLAY	
19						20	90		Light brown lean CLAY	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 65

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723590.68	METHOD : **Continuous coring**
BH-066	**2015/05/05 - 2015/05/05**	Y : 3031410.04	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	21	100		Light brown lean CLAY	
21		6	5	6		22	100		Light brown stiff lean CLAY	
22						23	95		Light brown lean CLAY	
23						24	100		As above	
24		14	20	32		25	100		Light brown hard lean CLAY	
25					6	26	100		Light brown lean CLAY	
26						27	100		As above	
27		4	5	5		28	90		Light brown stiff lean CLAY	
28						29	90		Light brown lean CLAY	
29						30	90		As above	
30									**End of Borehole at : 30.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 66

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722710.56	METHOD : Continuous coring
BH-067	**2015/04/28 - 2015/04/28**	Y : 3031839.13	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	97		Light brown lean CLAY	
3						4	95		As above	
4						5	95		As above	
5					2	6	95		As above	
6	▽					7	95		As above	
7						8	95		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 67

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722710.56	METHOD : Continuous coring
BH-067	**2015/04/28 - 2015/04/28**	Y : 3031839.13	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	92			
11									As above	
						12	92			
12									As above	
						13	95			
13									As above	
						14	95			
14									As above	
						15	95			
15					4				As above	
						16	90			
16									As above	
						17	90			
17									As above	
						18	90			
18									As above	
						19	90			
19									As above	
						20	90			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 3

Fig.: 68

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722710.56	METHOD : Continuous coring
BH-067	**2015/04/28 - 2015/04/28**	Y : 3031839.13	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	21	90		Light brown lean CLAY	
21						22	90		As above	
22						23	90		As above	
23						24	90		As above	
24						25	90		As above	
25									**End of Borehole at : 25.00 m**	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 69

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722734.45	METHOD : **Continuous coring**
BH-068	**2015/05/09 - 2015/05/09**	Y : 3031826.42	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	95		As above	
4						5	95		As above	
5	▽				2	6	100		As above	
6						7	98		As above	
7						8	95		As above	
8						9	100		As above	
9						10	98		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 70

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722734.45	METHOD : Continuous coring
BH-068	**2015/05/09 - 2015/05/09**	Y : 3031826.42	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	98			
11									As above	
						12	98			
12									As above	
						13	100			
13									As above	
						14	100			
14									As above	
						15	98			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 71

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722778.59	METHOD : **Continuous coring**
BH-070	**2015/04/25 - 2015/04/25**	Y : 3011802.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	90		Grey lean CLAY	
1						2	90		As above	
2						3	90		Brown lean CLAY	
3						4	90		As above	
4						5	90		As above	
5					2	6	90		As above	
6						7	90		As above	
7						8	90		As above	
8						9	90		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 72

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722778.59	METHOD : **Continuous coring**
BH-070	**2015/04/25 - 2015/04/25**	Y : 3011802.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	90			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15					4				As above	
						16	90			
16									As above	
						17	90			
17									As above	
						18	90			
18									As above	
						19	90			
19									As above	
						20	90			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 73

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722800.66	METHOD : **Continuous coring**
BH-071	**2015/04/23 - 2015/04/23**	Y : 3031791.18	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3										
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7										
8						8	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 74

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722800.66	METHOD : Continuous coring
BH-071	**2015/04/23 - 2015/04/23**	Y : 3031791.18	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						9	100		Brown lean CLAY	
11						10	100		As above	
12					3	11	100		As above	
13						12	100		As above	
14						13	100		As above	
15					4	14	100		As above	
16						15	100		As above	
17						16	100		As above	
18										
19										
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 75

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722861.13	METHOD : Continuous coring
BH-076	**2015/04/24 - 2015/04/24**	Y : 3031798.37	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2										
3						4	100		As above	
4						5	100		As above	
5					2					
6						6	100		As above	
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 76

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722861.13	METHOD : Continuous coring
BH-076	**2015/04/24 - 2015/04/24**	Y : 3031798.37	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12										
13						11	100		As above	
14						12	100		As above	
15					4	13	100		As above	
16										
17						14	100		As above	
18						15	100		As above	
19						16	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 77

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.07	METHOD : **Continuous coring**
BH-077	**2015/05/03 - 2015/05/03**	Y : 3031720.69	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	100			
3									Brown lean CLAY	
						4	95			
4									As above	
						5	95			
5	▽				2				As above	
						6	98			
6									As above	
						7	95			
7									As above	
						8	90			
8									As above	
						9	90			
9									As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 78

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.07	METHOD : Continuous coring
BH-077	**2015/05/03 - 2015/05/03**	Y : 3031720.69	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	90			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 79

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722977.20	METHOD : **Continuous coring**
BH-079	**2015/04/28 - 2015/04/29**	Y : 3031697.20	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5					2	6	100		As above	
6	▽					7	100		As above	
7						8	95		As above	
8						9	95		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 80

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722977.20	METHOD : **Continuous coring**
BH-079	**2015/04/28 - 2015/04/29**	Y : 3031697.20	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	90		As above	
14						15	85		As above	
15					4	16	100		As above	
16						17	95		As above	
17						18	100		As above	
18						19	95		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 81

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722999.27	METHOD : **Continuous coring**
BH-080	**2015/04/25 - 2015/04/25**	Y : 3031685.45	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1									As above	
2						3	100			
3									As above	
4						4	100			
5					2				As above	
	▽					5	100			
6									As above	
7						6	100			
8									As above	
9						7	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 82

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722999.27	METHOD : Continuous coring
BH-080	**2015/04/25 - 2015/04/25**	Y : 3031685.45	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						8	100			
12						9	100		As above	
13						10	100		As above	
14										
15					4	11	100		As above	
16						12	100		As above	
17						13	100		As above	
18						14	100		As above	
19						15	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 83

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723087.55	METHOD : **Continuous coring**
BH-084	**2015/05/03 - 2015/05/04**	Y : 3031638.47	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2									As above	
3					2	4	100		As above	
4									As above	
5	▽					5	100			
6									As above	
7						6	100			
8									As above	
9						7	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 84

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723087.55	METHOD : Continuous coring
BH-084	**2015/05/03 - 2015/05/04**	Y : 3031638.47	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						8	100			
12									As above	
13						9	100			
14									As above	
						10	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 85

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723109.61	METHOD : **Continuous coring**
BH-085	**2015/04/23 - 2015/04/23**	Y : 3031626.72	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 86

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723109.61	METHOD : Continuous coring
BH-085	**2015/04/23 - 2015/04/23**	Y : 3031626.72	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 87

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723153.75	METHOD : **Continuous coring**
BH-087	**2015/05/09 - 2015/05/09**	Y : 3031603.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	95		As above	
4						5	95		As above	
5	▽				2	6	93		As above	
6						7	90		As above	
7						8	90		As above	
8						9	90		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 88

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723153.75	METHOD : **Continuous coring**
BH-087	**2015/05/09 - 2015/05/09**	Y : 3031603.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	95			
13									As above	
						14	95			
14									As above	
						15	95			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 89

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723219.96	METHOD : **Continuous coring**
BH-090	**2015/04/22 - 2015/04/23**	Y : 3031567.99	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									As above	
						2	100			
2									Brown lean CLAY	
						3	100			
3									As above	
						4	100			
4									As above	
						5	100			
5					2				As above	
	▽					6	90			
6									As above	
						7	100			
7									As above	
						8	100			
8									As above	
						9	95			
9									As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 90

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723219.96	METHOD : **Continuous coring**
BH-090	**2015/04/22 - 2015/04/23**	Y : 3031567.99	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	85			
11									As above	
						12	100			
12									As above	
						13	90			
13									As above	
						14	100			
14									As above	
						15	100			
15					4				As above	
						16	90			
16									As above	
						17	85			
17									As above	
						18	85			
18									As above	
						19	95			
19									As above	
						20	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 91

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723286.16	METHOD : Continuous coring
BH-093	**2015/04/24 - 2015/04/24**	Y : 3031532.75	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 92

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723286.16	METHOD : Continuous coring
BH-093	**2015/04/24 - 2015/04/24**	Y : 3031532.75	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	95		As above	
14						15	100		As above	
15					4	16	95		As above	
16						17	95		As above	
17						18	95		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 93

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723396.50	METHOD : Continuous coring
BH-098	**2015/05/04 - 2015/05/06**	Y : 3038474.01	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3	D1	34	32	32		5	100		Brown hard lean CLAY, CL	
4										
5	▽				2	6	100		Brown lean CLAY	
6	D2	30	28	22		7	100		Brown hard lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	8	7	7		9	100		Brown stiff lean CLAY <CL>	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 94

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723396.50	METHOD : **Continuous coring**
BH-098	**2015/05/04 - 2015/05/06**	Y : 3038474.01	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12	D4	6	6	7		11	100		Brown stiff lean CLAY, CL	
13										
14						12	100		Brown lean CLAY	
15	D5	7	8	7	4	13	100		Brown stiff to very stiff lean CLAY, CL	
16										
17						14	100		Brown lean CLAY	
18	D6	8	9	9		15	100		Brown very stiff lean CLAY with gypsum <CL/ML>	
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 5

Fig.: 95

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723396.50	METHOD : Continuous coring
BH-098	**2015/05/04 - 2015/05/06**	Y : 3038474.01	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	
						16	100			
21	D7	8	7	9					Brown very stiff lean CLAY, CL	
						17	100			
22										
23									Brown lean CLAY	
						18	100			
24	D8	9	11	11					Brown very stiff lean CLAY, CL	
25					6	19	100			
26									Brown lean CLAY	
						20	100			
27	D9	12	14	14					Brown very stiff lean CLAY <CL>	
28						21	100			
29									Brown lean CLAY	
						22	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 5

Fig.: 96

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723396.50	METHOD : Continuous coring
BH-098	**2015/05/04 - 2015/05/06**	Y : 3038474.01	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	15	17	18	7				Brown hard lean CLAY, CL	30
31						23	100			31
32									Brown lean CLAY	32
						24	100			
33	D11	19	19	21					Brown hard lean CLAY, CL	33
34						25	100			34
35					8				Brown lean CLAY	35
						26	100			
36	D12	21	21	23					Brown hard lean CLAY, CL	36
37						27	100			37
38									Brown lean CLAY	38
39						28	100			39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 97

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723396.50	METHOD : Continuous coring
BH-098	**2015/05/04 - 2015/05/06**	Y : 3038474.01	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D13	28	27	27		28	100		Brown hard lean CLAY, CL	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 5 Of 5

Fig.: 98

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723506.85	METHOD : **Continuous coring**
BH-103	**2015/04/26 - 2015/04/26**	Y : 3031415.28	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	95			
1									As above	
						2	98			
2									As above	
						3	100			
3									As above	
						4	100			
4									As above	
						5	100			
5	▽				2				As above	
						6	96			
6									As above	
						7	100			
7									As above	
						8	100			
8									As above	
						9	100			
9									As above	
						10	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 99

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723506.85	METHOD : **Continuous coring**
BH-103	**2015/04/26 - 2015/04/26**	Y : 3031415.28	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	98			
11									As above	
						12	97			
12									As above	
						13	95			
13									As above	
						14	95			
14									As above	
						15	98			
15					4				As above	
						16	100			
16									As above	
						17	100			
17									As above	
						18	98			
18									As above	
						19	96			
19									As above	
						20	95			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 100

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723574.34	METHOD : **Continuous coring**
BH-106	**2015/04/27 - 2015/04/27**	Y : 3031379.35	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	D1	6	8	13	2	6	98		Light brown very stiff lean CLAY	
6						7	95		Light brown lean CLAY	
7						8	97		As above	
8						9	95		As above	
9						10	96		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 101

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723574.34	METHOD : Continuous coring
BH-106	**2015/04/27 - 2015/04/27**	Y : 3031379.35	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	3	3	3	3	11	98		Light brown medium stiff lean CLAY	10
11						12	100		Light brown lean CLAY	11
12						13	100		As above	12
13						14	95		As above	13
14						15	98		As above	14
15	D3	3	3	3	4	16	100		Light brown medium stiff lean CLAY	15
16						17	100		Light brown lean CLAY	16
17						18	95		As above	17
18						19	100		As above	18
19						20	98		As above	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 2 Of 3

Client : NFC

Fig.: 102

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723574.34	METHOD : Continuous coring
BH-106	**2015/04/27 - 2015/04/27**	Y : 3031379.35	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	9	8	8		20	98		Light brown very stiff lean CLAY	
									End of Borehole at : 20.45 m	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 103

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722757.09	METHOD : **Continuous coring**
BH-110	**2015/05/03 - 2015/05/04**	Y : 3031762.53	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
	D1	20	29	39		2	100		Grey hard lean CLAY	
1						3	100		Grey lean CLAY	
2						4	100		As above	
3						5	100		As above	
	D2	10	13	13		6	100		Grey very stiff lean CLAY	
4					2	7	95		Grey lean CLAY	
									As above	
5						8	98			
6						9	98		As above	
	D3	10	14	17		10	95		Grey hard lean CLAY	
7					3	11	95		Brown lean CLAY	
8						12	95		As above	
9						13	98		As above	
	D4	9	15	17		14	95		Brown hard lean CLAY	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 4

Client : NFC

Fig.: 104

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722757.09	METHOD : Continuous coring
BH-110	**2015/05/03 - 2015/05/04**	Y : 3031762.53	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						15	95			
11					4				As above	
						16	98			
12									As above	
						17	97			
	D5	7	7	7		18	94		Brown stiff lean CLAY	
13									Brown lean CLAY	
						19	94			
14									As above	
						20	95			
15					5				As above	
						21	95			
	D6	7	9	13		22	95		Brown very stiff lean CLAY	
16									Brown lean CLAY	
						23	95			
17									As above	
						24	95			
18										
						25	95			
	D7	5	4	9		26	95		Brown stiff lean CLAY	
19									As above	
						27	95			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 105

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722757.09	METHOD : **Continuous coring**
BH-110	**2015/05/03 - 2015/05/04**	Y : 3031762.53	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					6				Brown lean CLAY	20
						28	95			
21						29	95		As above	21
	D8	7	9	12		30	95		Brown very stiff lean CLAY	
22						31	95		Brown lean CLAY	22
23						32	95		As above	23
24						33	95		As above	24
	D9	9	9	12		34	95		Brown very stiff lean CLAY	
25					7	35	90		Brown lean CLAY	25
26						36	90		As above	26
27						37	90		As above	27
	D10	5	6	10		38	90		Brown very stiff lean CLAY	
28						39	90		Brown lean CLAY	28
29						40	90		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 106

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722757.09	METHOD : Continuous coring
BH-110	**2015/05/03 - 2015/05/04**	Y : 3031762.53	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description
30					8	41	95		Brown lean CLAY
	D11	5	7	10		42	95		Brown very stiff lean CLAY
31						43	95		Brown lean CLAY
32						44	92		As above
33						45	95		As above
	D12	3	5	8		46	95		Brown stiff lean CLAY
34						47	95		Brown lean CLAY
35					9	48	95		As above
36						49	93		As above
						50	93		As above
37						51	95		As above
	D13	5	9	7					Brown very stiff lean CLAY
38						52	95		
39						53	95		Brown lean CLAY
	D14	8	8	11		54	95		Brown very stiff lean CLAY
40									**End of Borehole at : 40.00 m**

Legend

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 107

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722823.30	METHOD : **Continuous coring**
BH-113	**2015/04/28 - 2015/04/28**	Y : 3031727.29	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light grey lean CLAY	
1						2	100		As above	
2						3	100		Light brown lean CLAY	
3						4	100		Brown lean CLAY	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	95		As above	
7						8	90		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 108

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722823.30	METHOD : **Continuous coring**
BH-113	**2015/04/28 - 2015/04/28**	Y : 3031727.29	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	85			
11									As above	
						12	90			
12									As above	
						13	95			
13									As above	
						14	100			
14									As above	
						15	100			
15					4				As above	
						16	95			
16									As above	
						17	100			
17									As above	
						18	85			
18									As above	
						19	95			
19									As above	
						20	85			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 109

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722889.50	METHOD : **Continuous coring**
BH-116	**2015/04/25 - 2015/04/25**	Y : 3031692.05	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
						4	100		As above	
2										
3						5	100		As above	
4						6	100		As above	
5	▽				2	7	100		As above	
6						8	100		As above	
7										
8						9	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 110

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722889.50	METHOD : Continuous coring
BH-116	**2015/04/25 - 2015/04/25**	Y : 3031692.05	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	10	100		Brown lean CLAY	
11									As above	
12						11	100			
13									As above	
14						12	100			
15					4				As above	
						13	100			
16									As above	
17						14	100			
18									As above	
						15	100			
19									As above	
						16	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 111

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722911.57	METHOD : **Continuous coring**
BH-117	**2015/05/03 - 2015/05/03**	Y : 3031680.31	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100			
	D1	38	35	28					Brown hard lean CLAY, CL	
3						5	100		Brown lean CLAY	
4										
5					2	6	100			
	D2	30	33	32					Brown hard lean CLAY, CL	
6						7	100		Brown lean CLAY	
7										
8						8	100			
	D3	20	23	19					Brown hard lean CLAY, CL	
9						9	100		Brown lean CLAY	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 112

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722911.57	METHOD : Continuous coring
BH-117	**2015/05/03 - 2015/05/03**	Y : 3031680.31	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3					
11						10	100			
12	D4	4	6	7					Brown stiff lean CLAY <CL>	
									Brown lean CLAY	
13						11	100			
14										
15	D5	6	4	5		12	100		Brown stiff lean CLAY, CL	
					4				Brown lean CLAY	
16						13	100			
17										
18	D6	3	4	6		14	100		Brown stiff lean CLAY, CL	
									Brown lean CLAY	
19						15	100			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 113

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722911.57	METHOD : **Continuous coring**
BH-117	**2015/05/03 - 2015/05/03**	Y : 3031680.31	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5					
	D7	5	6	4		16	100		Brown stiff lean CLAY, CL	
21									Brown lean CLAY	
						17	100			
22										
23						18	100			
	D8	8	8	6					Brown stiff SILT <ML/CL>	
24									Brown SILT	
						19	100			
25					6					
						20	100		As above	
	D9	15	17	18					Brown hard lean CLAY, CL	
26						21	100			
27	D10	17	18	18					As above, CL	
						22	100			
28										
	D11	18	19	20					As above, CL	
29						23	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 114

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722911.57	METHOD : **Continuous coring**
BH-117	**2015/05/03 - 2015/05/03**	Y : 3031680.31	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D12	20	21	21	7	24	100		Brown hard lean CLAY with gypsum <CL/ML>	30
31										31
31	D13	22	22	23		25	100		Brown hard lean CLAY, CL	32
32										
33	D14	23	25	25		26	100		As above, CL	33
34										34
34	D15	25	27	26	8	27	100		As above, CL	35
35										
36	D16	28	28	29		28	100		As above <CL/ML>	36
37										37
37	D17	30	32	33		29	100		As above, CL	38
38										
39	D18	32	32	35		30	100		As above, CL	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 115

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722911.57	METHOD : **Continuous coring**
BH-117	**2015/05/03 - 2015/05/03**	Y : 3031680.31	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9	30	100		Brown lean CLAY	
	D19	33	34	34					Brown hard lean CLAY, CL	
41						31	100			
42	D20	35	35	38					Brown hard lean CLAY with gypsum <CL/ML>	
						32	100			
43										
	D21	38	39	39					Brown hard lean CLAY, CL	
44						33	100			
45	D22	40	40	42	10				As above, CL	
						34	100			
46										
	D23	42	41	43					As above, CL	
47						35	100			
48	D24	43	44	40					Brown hard lean CLAY with gypsum <CL>	
						36	100			
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 116

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722911.57	METHOD : Continuous coring
BH-117	**2015/05/03 - 2015/05/03**	Y : 3031680.31	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D25	44	47	45		36	100		Brown hard lean CLAY, CL	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 117

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.64	METHOD : **Continuous coring**
BH-118	**2015/04/26 - 2015/04/27**	Y : 3031668.56	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	95		Light brown lean CLAY	
1						2	90		As above	
2						3	90		As above	
3						4	90		As above	
4						5	85		As above	
5	▽				2					
6						6	95		As above	
7						7	95		As above	
8						8	95		As above	
9						9	85		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
1-General Borehole
2-Pressuremeter Test have been done in depths of: 4.00-6.00,9.00-11.00,14.00-16.00,19.00-21.00,24.00-26.00,29.00-31.00m

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 118

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.64	METHOD : **Continuous coring**
BH-118	**2015/04/26 - 2015/04/27**	Y : 3031668.56	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	85		Light brown lean CLAY	
11						10	80		As above	
12						11	80		As above	
13						12	80		As above	
14						13	80		As above	
15					4					
16						14	80		As above	
17						15	80		As above	
18						16	80		As above	
19						17	80		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 119

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.64	METHOD : **Continuous coring**
BH-118	**2015/04/26 - 2015/04/27**	Y : 3031668.56	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	17	80		Light brown lean CLAY	20
21						18	80		As above	21
22						19	80		As above	22
23						20	80		As above	23
24						21	80		As above	24
25					6					25
26						22	90		As above	26
27						23	95		As above	27
28						24	95		As above	28
29						25	80		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 120

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.64	METHOD : **Continuous coring**
BH-118	**2015/04/26 - 2015/04/27**	Y : 3031668.56	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7				Light brown lean CLAY	30
						25	80			
31									As above	31
						26	100			
32									As above	32
						27	95			
33									As above	33
						28	95			
34									As above	34
						29	90			
35					8				As above	35
						30	95			
36									As above	36
						31	95			
37									As above	37
						32	95			
38									As above	38
						33	95			
39									As above	39
						34	95			
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 121

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722933.64	METHOD : **Continuous coring**
BH-118	**2015/04/26 - 2015/04/27**	Y : 3031668.56	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9	35	95		Light brown lean CLAY	40
41						36	95		As above	41
42						37	90		As above	42
43						38	100		As above	43
44						39	100		As above	44
45					10	40	95		As above	45
46						41	95		As above	46
47						42	95		As above	47
48						43	95		As above	48
49						44	100		As above	49
50									**End of Borehole at : 50.00 m**	50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 122

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722999.84	METHOD : **Continuous coring**
BH-121	**2015/05/03 - 2015/05/03**	Y : 3031633.32	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8						8	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 123

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722999.84	METHOD : Continuous coring
BH-121	**2015/05/03 - 2015/05/03**	Y : 3031633.32	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12						11	100		As above	
13										
14						12	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 124

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723043.93	METHOD : **Continuous coring**
BH-123	**2015/04/23 - 2015/04/23**	Y : 3031609.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	100			
3									As above	
						4	100			
4									As above	
						5	100			
5					2				As above	
	▽					6	100			
6									As above	
						7	100			
7									As above	
						8	90			
8									As above	
						9	90			
9									As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 125

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723043.93	METHOD : **Continuous coring**
BH-123	**2015/04/23 - 2015/04/23**	Y : 3031609.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 126

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : Continuous coring
BH-125	**2015/05/04 - 2015/05/05**	Y : 3031586.33	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3	D1	37	34	29		5	100		Brown hard lean CLAY <CL/ML>	
4										
5	▽				2	6	100		Brown lean CLAY	
6	D2	31	30	30		7	100		Brown hard lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	18	17	15		9	100		Brown hard lean CLAY, CL	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 127

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : Continuous coring
BH-125	**2015/05/04 - 2015/05/05**	Y : 3031586.33	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	10
11						10	100			11
12	D4	7	6	6					Brown stiff lean CLAY, CL	12
13						11	100			13
14									Brown lean CLAY	14
						12	100			
15	D5	6	5	4	4				Brown stiff lean CLAY, CL	15
16						13	100			16
17									Brown lean CLAY	17
						14	100			
18	D6	3	3	4					Brown medium stiff lean CLAY, CL	18
19						15	100			19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 128

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : Continuous coring
BH-125	**2015/05/04 - 2015/05/05**	Y : 3031586.33	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	20
						16	100			
21	D7	4	5	7					Brown stiff lean CLAY with gypsum <CL/ML>	21
						17	100			
22										22
23									Brown lean CLAY	23
						18	100			
24	D8	6	6	8					Brown stiff lean CLAY, CL	24
25					6	19	100			25
26									Brown lean CLAY	26
						20	100			
27	D9	10	10	12					Brown very stiff lean CLAY, CL	27
28						21	100			28
29									Brown lean CLAY	29
						22	100			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 129

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : Continuous coring
BH-125	**2015/05/04 - 2015/05/05**	Y : 3031586.33	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	11	11	10	7				Brown very stiff lean CLAY, CL	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	12	13	13					Brown very stiff lean CLAY with gypsum <CL/ML>	33
34						25	100			34
35					8				Brown lean CLAY	35
36	D12	15	17	18		26	100		Brown hard lean CLAY, CL	36
37						27	100			37
38									Brown lean CLAY	38
39						28	100			39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 130

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : Continuous coring
BH-125	**2015/05/04 - 2015/05/05**	Y : 3031586.33	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D13	35	32	31		28	100		Brown hard lean CLAY, CL	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 131

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : **Continuous coring**
BH-126	**2015/05/01 - 2015/05/02**	Y : 3031574.59	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 132

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723088.12	METHOD : Continuous coring
BH-126	**2015/05/01 - 2015/05/02**	Y : 3031574.59	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						9	100			
12						10	100		As above	
13									As above	
14						11	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 133

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723154.32	METHOD : **Continuous coring**
BH-128	**2015/05/09 - 2015/05/09**	Y : 3031551.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	98		As above	
7						8	95		As above	
8						9	98		As above	
9						10	98		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 134

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723154.32	METHOD : Continuous coring
BH-128	**2015/05/09 - 2015/05/09**	Y : 3031551.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	98		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 135

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723176.39	METHOD : Continuous coring
BH-129	**2015/05/03 - 2015/05/03**	Y : 3031539.34	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3										
4						5	100		As above	
5					2	6	100		As above	
6	▽									
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed
U: Undisturbed
CB: Core Barrel
DE: Denison
LU: Lugeon
LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC

Sheet: 1 Of 2
Fig.: 136

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723176.39	METHOD : Continuous coring
BH-129	**2015/05/03 - 2015/05/03**	Y : 3031539.34	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						8	100			
11									As above	
						9	100			
12										
13									As above	
						10	100			
14										
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 137

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723242.59	METHOD : **Continuous coring**
BH-132	**2015/04/25 - 2015/04/25**	Y : 3031504.10	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	100		As above	
4						5	95		As above	
5					2	6	100		Light brown lean CLAY	
6						7	90		Brown lean CLAY	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 138

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723242.59	METHOD : **Continuous coring**
BH-132	**2015/04/25 - 2015/04/25**	Y : 3031504.10	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	95			
11									As above	
						12	100			
12									As above	
						13	90			
13									As above	
						14	100			
14									As above	
						15	95			
15					4				As above	
						16	85			
16									As above	
						17	100			
17									As above	
						18	95			
18									As above	
						19	95			
19									As above	
						20	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 139

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723286.73	METHOD : Continuous coring
BH-134	**2015/05/07 - 2015/05/08**	Y : 3031480.61	DRILL MACHINE : G2-A
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4						6	100		As above	
5	▽									
6					2	7	100		As above	
7						8	100		As above	
8										
9									As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 140

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723286.73	METHOD : Continuous coring
BH-134	**2015/05/07 - 2015/05/08**	Y : 3031480.61	DRILL MACHINE : **G2-A**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						8	100		Brown lean CLAY	
11						9	100			
12						10	100		As above	
13					3	11	100		As above	
14						12	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 141

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723352.94	METHOD : **Continuous coring**
BH-137	**2015/05/08 - 2015/05/11**	Y : 3031445.37	DRILL MACHINE : **G2-A**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
						4	100		As above	
2										
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 142

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723352.94	METHOD : Continuous coring
BH-137	**2015/05/08 - 2015/05/11**	Y : 3031445.37	DRILL MACHINE : **G2-A**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						9	100			
11									As above	
						10	100			
12										
13									As above	
						11	100			
14										
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 143

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723375.00	METHOD : **Continuous coring**
BH-138	**2015/05/06 - 2015/05/08**	Y : 3031433.62	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									As above	
						2	100			
2									Brown lean CLAY	
						3	98			
3									As above	
						4	98			
4					2				As above	
						5	90			
5										
6	▽								As above	
						6	98			
7									As above	
						7	97			
8					3				As above	
						8	98			
9									As above	
						9	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
1-General Borehole
2-Pressuremeter Test have been done in depths of: 4.00-6.00,9.00-11.00,14.00-16.00,19.00-21.00,24.00-26.00,29.00-31.00m

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 144

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723375.00	METHOD : Continuous coring
BH-138	**2015/05/06 - 2015/05/08**	Y : 3031433.62	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						9	90		Brown lean CLAY	
11						10	98		As above	
12						11	98		As above	
13					4	12	98		As above	
14						13	90		As above	
15						14	98		As above	
16						15	98		As above	
17						16	98		As above	
18					5	17	90		As above	
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 145

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723375.00	METHOD : Continuous coring
BH-138	**2015/05/06 - 2015/05/08**	Y : 3031433.62	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20						17	90		Brown lean CLAY	20
21						18	90		As above	21
22						19	90		As above	22
23					6	20	95		As above	23
24						21	90		As above	24
25						22	90		As above	25
26						23	90		As above	26
27					7	24	95		As above	27
28						25	90		As above	28
29										29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 146

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723375.00	METHOD : Continuous coring
BH-138	**2015/05/06 - 2015/05/08**	Y : 3031433.62	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30									Brown lean CLAY	30
						26	90			
31									As above	31
						27	95			
32									As above	32
						28	95			
33					8				As above	33
						29	95			
34									As above	34
						30	90			
35	D1	10	11	9					Brown very stiff lean CLAY	35
						31	90			
36					9				Brown lean CLAY	36
						32	90			
37									As above	37
						33	95			
38									As above	38
						34	95			
39									As above	39
						35	95			
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 147

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723375.00	METHOD : Continuous coring
BH-138	**2015/05/06 - 2015/05/08**	Y : 3031433.62	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D2	9	7	12		36	90		Brown very stiff lean CLAY	40
41					10	37	95		Brown lean CLAY	41
42						38	95		As above	42
43						39	95		As above	43
44						40	94		As above	44
45	D3	8	10	14		41	94		Brown very stiff lean CLAY	45
46					11	42	95		Brown lean CLAY	46
47						43	95		As above	47
48						44	95		As above	48
49						45	95		As above	49
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 148

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723375.00	METHOD : Continuous coring
BH-138	**2015/05/06 - 2015/05/08**	Y : 3031433.62	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D4	7	9	10		45	95		Brown very stiff lean CLAY	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 149

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723441.21	METHOD : Continuous coring
BH-141	**2015/05/04 - 2015/05/08**	Y : 3031398.38	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	15Cm	15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100			
3	D1	38	35	35		5	100		Brown hard lean CLAY, CL	
4										
5	▽				2	6	100		Brown lean CLAY	
6	D2	29	30	30		7	100		Brown hard lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	21	20	20		9	100		Brown hard SILT <ML/CL>	
10										

D: Disturbed CB: Core Barrel LU: Lugeon
U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC

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Fig.: 150

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723441.21	METHOD : Continuous coring
BH-141	**2015/05/04 - 2015/05/08**	Y : 3031398.38	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown SILT	
11						10	100			
12	D4	5	5	4					Brown stiff lean CLAY, CL	
13						11	100			
14									Brown lean CLAY	
						12	100			
15	D5	4	5	3	4				Brown medium stiff to stiff lean CLAY, CL	
16						13	100			
17									Brown lean CLAY	
						14	100			
18	D6	6	4	4					Brown medium stiff to stiff lean CLAY <CL/ML>	
						15	100			
19									Brown lean CLAY	
						16	100			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 151

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723441.21	METHOD : Continuous coring
BH-141	**2015/05/04 - 2015/05/08**	Y : 3031398.38	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	20
						17	100			
21	D7	5	5	4					Brown stiff lean CLAY, CL	21
						18	100			
22										22
23									Brown lean CLAY	23
						19	100			
24	D8	7	8	8					Brown very stiff lean CLAY, CL	24
						20	100			
25					6				Brown lean CLAY	25
						21	100			
26										26
27	D9	11	12	10					Brown very stiff SILT <ML/CL>	27
						22	100			
28										28
29									Brown SILT	29
						23	100			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 152

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723441.21	METHOD : Continuous coring
BH-141	**2015/05/04 - 2015/05/08**	Y : 3031398.38	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	16	16	18	7				Brown hard lean CLAY, CL	30
31						24	100			31
32									Brown lean CLAY	32
						25	100			
33	D11	17	19	21					Brown hard lean CLAY, CL	33
34						26	100			34
35					8				Brown lean CLAY	35
						27	100			
36	D12	24	23	26					Brown hard lean CLAY with gypsum <CL/ML>	36
37						28	100			37
38									Brown lean CLAY	38
						29	100			
39	D13	25	27	27					Brown hard lean CLAY, CL	39
						30	100			
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 6

Fig.: 153

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723441.21	METHOD : Continuous coring
BH-141	**2015/05/04 - 2015/05/08**	Y : 3031398.38	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9				Brown lean CLAY	40
41						31	100			41
42	D14	25	28	26					Brown hard lean CLAY, CL	42
43						32	100			43
44									Brown lean CLAY	44
						33	100			
45	D15	28	30	30	10				Brown hard lean CLAY with gypsum <CL/ML>	45
46						34	100			46
47									Brown lean CLAY	47
						35	100			
48	D16	32	34	31					Brown hard lean CLAY, CL	48
									Brown lean CLAY	
49						36	100			49
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 154

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723441.21	METHOD : Continuous coring
BH-141	**2015/05/04 - 2015/05/08**	Y : 3031398.38	DRILL MACHINE : **GX-1TD**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D17	33	15	15		36	100		Brown very stiff lean CLAY, CL	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 6 Of 6

Fig.: 155

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723463.28	METHOD : **Continuous coring**
BH-142	**2015/04/22 - 2015/04/22**	Y : 3031386.64	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 156

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723463.28	METHOD : **Continuous coring**
BH-142	**2015/04/22 - 2015/04/22**	Y : 3031386.64	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15						16	100		As above	
16					4	17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 157

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723529.48	METHOD : **Continuous coring**
BH-145	**2015/04/24 - 2015/04/25**	Y : 3031351.40	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 4

Fig.: 158

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723529.48	METHOD : **Continuous coring**
BH-145	**2015/04/24 - 2015/04/25**	Y : 3031351.40	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	90		Light brown lean CLAY	
11						12	90		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 159

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723529.48	METHOD : **Continuous coring**
BH-145	**2015/04/24 - 2015/04/25**	Y : 3031351.40	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Light brown lean CLAY	
						21	100			
21									As above	
						22	100			
22									As above	
						23	100			
23									As above	
						24	100			
24									As above	
						25	100			
25					6				As above	
						26	100			
26									As above	
						27	90			
27									As above	
						28	100			
28									As above	
						29	100			
29									As above	
						30	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 4

Fig.: 160

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723529.48	METHOD : Continuous coring
BH-145	**2015/04/24 - 2015/04/25**	Y : 3031351.40	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7	31	100		Brown lean CLAY	30
31						32	100		As above	31
32						33	100		As above	32
33						34	95		Light brown lean CLAY	33
34						35	95		As above	34
35					8	36	95		As above	35
36						37	95		As above	36
37						38	95		As above	37
38						39	90		As above	38
39						40	95		As above	39
40									**End of Borehole at : 40.00 m**	40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 161

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723552.84	METHOD : Continuous coring
BH-146	**2015/05/05 - 2015/05/09**	Y : 3031338.96	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3	D1	38	36	36		5	100		Brown hard SILT <ML/CL>	
4										
5	▽				2	6	100		Brown SILT	
6	D2	34	28	28		7	100		Brown hard lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	26	20	19		9	100		Brown hard lean CLAY, CL	
10										

D: Disturbed CB: Core Barrel LU: Lugeon
U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC

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Fig.: 162

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723552.84	METHOD : Continuous coring
BH-146	**2015/05/05 - 2015/05/09**	Y : 3031338.96	DRILL MACHINE : **XY-1**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12	D4	6	5	5		11	100		Brown stiff lean CLAY <CL>	
13										
14						12	100		Brown lean CLAY	
15	D5	5	5	4	4	13	100		Brown stiff lean CLAY, CL	
16										
17						14	100		Brown lean CLAY	
18	D6	7	5	6		15	100		Brown stiff lean CLAY, CL	
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 163

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723552.84	METHOD : **Continuous coring**
BH-146	**2015/05/05 - 2015/05/09**	Y : 3031338.96	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	
						16	100			
21	D7	9	10	9					Brown very stiff lean CLAY <CL/ML>	
						17	100			
22										
23									Brown lean CLAY	
						18	100			
24	D8	12	14	16					Brown very stiff lean CLAY, CL	
						19	100			
25					6					
26									As above	
						20	100			
27	D9	14	14	17					Brown hard lean CLAY, CL	
						21	100			
28										
29									Brown lean CLAY	
						22	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 164

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723552.84	METHOD : Continuous coring
BH-146	**2015/05/05 - 2015/05/09**	Y : 3031338.96	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	18	18	17	7				Brown hard lean CLAY <CL/CH>	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	22	23	25					Brown hard lean CLAY, CL	33
34						25	100			34
35					8	26	100		Brown lean CLAY	35
36	D12	24	27	26					Brown hard lean CLAY, CL	36
37						27	100			37
38									Brown lean CLAY	38
39						28	100			39
40									**End of Borehole at : 40.00 m**	40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 165

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722718.78	METHOD : Continuous coring
BH-149	**2015/04/28 - 2015/04/28**	Y : 3031743.76	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light grey lean CLAY	
1						2	100		As above	
2						3	100		Light brown lean CLAY	
3						4	100		As above	
4						5	100		As above	
5	D1	16	32	35	2	6	100		Brown hard lean CLAY	
6						7	90		Brown lean CLAY	
7						8	95		As above	
8						9	85		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 3

Client : NFC

Fig.: 166

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722718.78	METHOD : Continuous coring
BH-149	**2015/04/28 - 2015/04/28**	Y : 3031743.76	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	7	8	8	3	11	95		Light brown very stiff lean CLAY	10
11						12	100		Light brown lean CLAY	11
12						13	100		As above	12
13						14	100		As above	13
14						15	100		As above	14
15	D3	8	9	15	4	16	95		Light brown very stiff lean CLAY	15
16						17	100		Brown lean CLAY	16
17						18	100		As above	17
18						19	95		As above	18
19						20	100		As above	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 167

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722718.78	METHOD : Continuous coring
BH-149	**2015/04/28 - 2015/04/28**	Y : 3031743.76	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	10	16	17		20	100		Brown hard lean CLAY	
									End of Borehole at : 20.45 m	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 168

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722807.00	METHOD : Continuous coring
BH-153	**2015/04/22 - 2015/04/25**	Y : 3031696.00	DRILL MACHINE : G2-A
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
						4	100		As above	
2						5	100		As above	
						6	100		As above	
3						7	100		As above	
4						8	100		As above	
						9	100		As above	
5					2	10	100		As above	
	▽					11	100		As above	
6						12	100		As above	
7						13	100		As above	
8						14	100		As above	
9						15	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 169

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722807.00	METHOD : Continuous coring
BH-153	**2015/04/22 - 2015/04/25**	Y : 3031696.00	DRILL MACHINE : **G2-A**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						16	100			
12						17	100		As above	
13									As above	
14						18	100			
15					4				As above	
16						19	100			
17						20	100		As above	
18									As above	
19						21	100			
20						22	100		As above	

End of Borehole at : 20.00 m

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 170

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722829.12	METHOD : **Continuous coring**
BH-154	**2015/05/06 - 2015/05/06**	Y : 3031685.02	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4					2	5	95		As above	
5	▽					6	100		As above	
6						7	100		As above	
7						8	98		As above	
8						9	95		As above	
9					3	10	98		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 171

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722829.12	METHOD : Continuous coring
BH-154	**2015/05/06 - 2015/05/06**	Y : 3031685.02	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Light brown lean CLAY	
						11	95			
11									As above	
						12	100			
12									As above	
						13	100			
13									As above	
						14	98			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 172

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722961.53	METHOD : **Continuous coring**
BH-160	**2015/04/29 - 2015/04/30**	Y : 3031614.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									As above	
						2	100			
2									Brown lean CLAY	
						3	95			
3									As above	
						4	95			
4					2				As above	
						5	95			
5	D1	6	11	13					Brown very stiff lean CLAY	
						6	97			
6	▽								Brown lean CLAY	
						7	100			
7									As above	
						8	100			
8					3				As above	
						9	95			
9									As above	
						10	95			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 173

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722961.53	METHOD : Continuous coring
BH-160	**2015/04/29 - 2015/04/30**	Y : 3031614.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	3	3	4		11	95		Brown medium stiff lean CLAY	10
11						12	95		Brown lean CLAY	11
12						13	95		As above	12
13					4	14	95		As above	13
14						15	95		As above	14
15	D3	4	5	6		16	95		Brown stiff lean CLAY	15
16						17	97		Brown lean CLAY	16
17						18	95		As above	17
18					5	19	95		As above	18
19						20	95		As above	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 174

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722961.53	METHOD : Continuous coring
BH-160	**2015/04/29 - 2015/04/30**	Y : 3031614.54	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	6	10	8		21	90		Brown very stiff lean CLAY	20
21						22	90		Brown lean CLAY	21
22						23	95		As above	22
23					6	24	90		As above	23
24						25	90		As above	24
25	D5	7	10	11		26	92		Brown very stiff lean CLAY	25
26						27	92		Brown lean CLAY	26
27						28	90		As above	27
28					7	29	90		As above	28
29						30	92		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 175

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722961.53	METHOD : Continuous coring
BH-160	**2015/04/29 - 2015/04/30**	Y : 3031614.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D6	10	17	20		31	92		Brown hard lean CLAY	30
31						32	95		Brown lean CLAY	31
32						33	92		As above	32
33					8	34	90		As above	33
34						35	90		As above	34
35	D7	5	9	15		36	90		Brown very stiff lean CLAY	35
36						37	90		Brown lean CLAY	36
37						38	90		As above	37
38					9	39	90		As above	38
39						40	90		As above	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 176

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722961.53	METHOD : Continuous coring
BH-160	**2015/04/29 - 2015/04/30**	Y : 3031614.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D8	8	11	14		40	90		Brown very stiff lean CLAY	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 177

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723005.66	METHOD : **Continuous coring**
BH-162	**2015/05/09 - 2015/05/09**	Y : 3031591.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 178

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723005.66	METHOD : Continuous coring
BH-162	**2015/05/09 - 2015/05/09**	Y : 3031591.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	100			
11									As above	
						12	100			
12									As above	
						13	98			
13									As above	
						14	100			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 179

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723071.87	METHOD : **Continuous coring**
BH-165	**2015/05/02 - 2015/05/03**	Y : 3031555.81	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3										
4						5	100		As above	
5	▽				2				As above	
6						6	100		As above	
7										
8						7	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 180

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723071.87	METHOD : Continuous coring
BH-165	**2015/05/02 - 2015/05/03**	Y : 3031555.81	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						8	100			
12									As above	
13						9	100			
14									As above	
						10	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 181

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723116.00	METHOD : Continuous coring
BH-167	**2015/05/02 - 2015/05/02**	Y : 3031532.32	DRILL MACHINE : **XY-1**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 182

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723116.00	METHOD : Continuous coring
BH-167	**2015/05/02 - 2015/05/02**	Y : 3031532.32	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						9	100			
12									As above	
13						10	100			
14									As above	
15						11	100			
									End of Borehole at : 15.00 m	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 183

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723138.07	METHOD : **Continuous coring**
BH-168	**2015/04/26 - 2015/04/26**	Y : 3031520.57	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	95			
1									As above	
						2	95			
2									As above	
						3	95			
3									As above	
						4	100			
4									As above	
						5	95			
5					2				As above	
						6	95			
6									As above	
						7	100			
7									As above	
						8	100			
8									As above	
						9	95			
9									As above	
						10	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 184

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723138.07	METHOD : **Continuous coring**
BH-168	**2015/04/26 - 2015/04/26**	Y : 3031520.57	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	95			
11									As above	
						12	100			
12									As above	
						13	100			
13									As above	
						14	95			
14									As above	
						15	95			
15					4				As above	
						16	100			
16									As above	
						17	95			
17									As above	
						18	95			
18									As above	
						19	85			
19									As above	
						20	95			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 185

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723270.48	METHOD : Continuous coring
BH-174	**2015/04/26 - 2015/04/28**	Y : 3031450.09	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	95		Light brown lean CLAY	
1						2	95		As above	
2						3	95		As above	
3						4	95		As above	
4						5	95		As above	
5	D1	11	17	18	2	6	100		Light brown hard lean CLAY	
6						7	100		Light brown lean CLAY	
7						8	100		As above	
8						9	100		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 186

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723270.48	METHOD : Continuous coring
BH-174	**2015/04/26 - 2015/04/28**	Y : 3031450.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	7	8	9	3	11	100		Light brown very stiff lean CLAY	
11						12	100		Light brown lean CLAY	
12						13	100		As above	
13						14	95		As above	
14						15	100		As above	
15	D3	10	12	15	4	16	95		Brown very stiff lean CLAY	
16						17	80		Light brown lean CLAY	
17						18	100		As above	
18						19	85		As above	
19						20	100		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 187

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723270.48	METHOD : Continuous coring
BH-174	**2015/04/26 - 2015/04/28**	Y : 3031450.09	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	7	12	11	5	21	80		Brown very stiff lean CLAY	20
21						22	85		Light brown lean CLAY	21
22						23	85		As above	22
23						24	90		As above	23
24						25	95		As above	24
25	D5	10	14	19	6	26	95		Brown hard lean CLAY	25
26						27	90		Brown lean CLAY	26
27						28	95		As above	27
28						29	100		As above	28
29						30	100		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 188

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723270.48	METHOD : Continuous coring
BH-174	**2015/04/26 - 2015/04/28**	Y : 3031450.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D6	9	18	27	7	31	100		Brown hard lean CLAY	30
31						32	95		Brown lean CLAY	31
32						33	80		As above	32
33						34	100		As above	33
34						35	95		As above	34
35	D7	15	27	43	8	36	100		Brown hard lean CLAY	35
36						37	100		Brown lean CLAY	36
37						38	95		As above	37
38						39	95		As above	38
39						40	100		As above	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 189

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723270.48	METHOD : Continuous coring
BH-174	**2015/04/26 - 2015/04/28**	Y : 3031450.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D8	29	50/12			40	100		Brown hard lean CLAY	40
									End of Borehole at : 40.22 m	
41										41
42										42
43										43
44										44
45										45
46										46
47										47
48										48
49										49
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 190

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723336.69	METHOD : Continuous coring
BH-177	**2015/03/02 - 2015/05/03**	Y : 3031414.85	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8										
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 2

Client : NFC

Fig.: 191

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723336.69	METHOD : Continuous coring
BH-177	**2015/03/02 - 2015/05/03**	Y : 3031414.85	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	8	100		Brown lean CLAY	
									As above	
						9	100			
11									As above	
						10	100			
12									As above	
						11	100			
13									As above	
						12	100			
14									As above	
						13	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 192

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723424.96	METHOD : **Continuous coring**
BH-181	**2015/04/23 - 2015/04/23**	Y : 3031367.86	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 193

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723424.96	METHOD : **Continuous coring**
BH-181	**2015/04/23 - 2015/04/23**	Y : 3031367.86	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 194

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722783.88	METHOD : **Continuous coring**
BH-188	**2015/04/27 - 2015/04/27**	Y : 3031779.45	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									Brown lean CLAY	
						2	100			
2									As above	
						3	95			
3									As above	
						4	93			
4					2				As above	
						5	95			
5									As above	
						6	95			
6									As above	
						7	95			
7									As above	
						8	95			
8					3				As above	
						9	90			
9									As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 195

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722783.88	METHOD : **Continuous coring**
BH-188	**2015/04/27 - 2015/04/27**	Y : 3031779.45	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11	90			
11									Light brown lean CLAY	
						12	90			
12					4				As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									As above	
						16	90			
16					5				As above	
						17	90			
17									As above	
						18	90			
18									As above	
						19	90			
19									As above	
						20	90			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 196

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722777.74	METHOD : **Continuous coring**
BH-191	**2015/05/08 - 2015/05/08**	Y : 3031767.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	95		As above	
3						4	95		As above	
4						5	100		As above	
5	▽				2	6	85		As above	
6						7	90		As above	
7						8	95		As above	
8						9	90		As above	
9						10	85		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 197

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722777.74	METHOD : Continuous coring
BH-191	**2015/05/08 - 2015/05/08**	Y : 3031767.90	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Brown lean CLAY	
11						12	90		As above	
12						13	90		As above	
13						14	95		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 198

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723084.79	METHOD : **Continuous coring**
BH-194	**2015/05/06 - 2015/05/06**	Y : 3031619.21	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4					2	5	100		As above	
5	▽					6	98		As above	
6						7	95		As above	
7						8	100		As above	
8						9	100		As above	
9					3	10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 199

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723084.79	METHOD : Continuous coring
BH-194	**2015/05/06 - 2015/05/06**	Y : 3031619.21	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Light brown lean CLAY	
						11	90			
11									As above	
						12	92			
12									As above	
						13	95			
13									As above	
						14	90			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 200

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723162.29	METHOD : **Continuous coring**
BH-197	**2015/04/22 - 2015/04/22**	Y : 3031724.06	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 201

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723162.29	METHOD : **Continuous coring**
BH-197	**2015/04/22 - 2015/04/22**	Y : 3031724.06	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 202

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723178.79	METHOD : **Continuous coring**
BH-205	**2015/04/29 - 2015/04/30**	Y : 3031686.95	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	95		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	90		As above	
4						5	95		As above	
5					2	6	85		As above	
6						7	95		As above	
7						8	100		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 203

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723178.79	METHOD : **Continuous coring**
BH-205	**2015/04/29 - 2015/04/30**	Y : 3031686.95	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D1	4	5	6	3	11	100		Light brown stiff lean CLAY	
11						12	95		Light brown lean CLAY	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15	D2	5	6	10	4	16	100		Light brown very stiff lean CLAY	
16						17	100		Light brown lean CLAY	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 204

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723178.79	METHOD : **Continuous coring**
BH-205	**2015/04/29 - 2015/04/30**	Y : 3031686.95	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D3	5	6	7	5	21	100		Light brown stiff lean CLAY	
21						22	100		Light brown lean CLAY	
22						23	100		As above	
23						24	95		As above	
24						25	100		As above	
25	D4	12	19	23	6	26	95		Light brown hard lean CLAY	
26						27	95		Light brown lean CLAY	
27						28	95		As above	
28						29	90		As above	
29						30	85		As above	
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 205

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723178.79	METHOD : **Continuous coring**
BH-205	**2015/04/29 - 2015/04/30**	Y : 3031686.95	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D5	7	9	11	7	31	100		Light brown very stiff lean CLAY	30
31						32	100		Light brown lean CLAY	31
32						33	80		As above	32
33						34	90		As above	33
34						35	95		As above	34
35	D6	6	8	15	8	36	85		Light brown very stiff lean CLAY	35
36						37	80		Light brown lean CLAY	36
37						38	80		As above	37
38						39	90		As above	38
39						40	85		As above	39
40									**End of Borehole at : 40.00 m**	40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 206

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722983.31	METHOD : **Continuous coring**
BH-208	**2015/05/02 - 2015/05/02**	Y : 3031668.11	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3										
4						5	100		As above	
5	▽				2	6	100		As above	
6									As above	
7						7	100			
8									As above	
9						8	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 207

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722983.31	METHOD : Continuous coring
BH-208	**2015/05/02 - 2015/05/02**	Y : 3031668.11	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						9	100			
12						10	100		As above	
13									As above	
14						11	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 208

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723001.79	METHOD : Continuous coring
BH-209	**2015/05/02 - 2015/05/03**	Y : 3031658.28	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 209

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723001.79	METHOD : Continuous coring
BH-209	**2015/05/02 - 2015/05/03**	Y : 3031658.28	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12						11	100		As above	
13										
14						12	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 210

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722837.00	METHOD : Continuous coring
BH-214	**2015/04/25 - 2015/04/25**	Y : 3031756.25	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3										
4						5	100		As above	
5					2	6	100		As above	
6										
7						7	100		As above	
8						8	100		As above	
9						9	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 211

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722837.00	METHOD : Continuous coring
BH-214	**2015/04/25 - 2015/04/25**	Y : 3031756.25	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	10	100		Brown lean CLAY	
11						11	100		As above	
12						12	100		As above	
13						13	100		As above	
14										
15					4	14	100		As above	
16										
17						15	100		As above	
18										
19						16	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 212

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722853.77	METHOD : **Continuous coring**
BH-215	**2015/05/07 - 2015/05/07**	Y : 3031747.32	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	95		As above	
6						7	98		As above	
7						8	100		As above	
8						9	100		As above	
9						10	98		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 213

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722853.77	METHOD : Continuous coring
BH-215	**2015/05/07 - 2015/05/07**	Y : 3031747.32	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Light brown lean CLAY	
11						12	100		As above	
12						13	98		As above	
13						14	98		As above	
14						15	95		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 214

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722841.16	METHOD : **Continuous coring**
BH-218	**2015/05/07 - 2015/05/07**	Y : 3031743.84	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	98		As above	
6						7	98		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 215

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722841.16	METHOD : Continuous coring
BH-218	**2015/05/07 - 2015/05/07**	Y : 3031743.84	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 216

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722849.55	METHOD : **Continuous coring**
BH-219	**2015/05/07 - 2015/05/07**	Y : 3031739.37	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	95		As above	
6						7	100		As above	
7						8	100		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 217

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722849.55	METHOD : Continuous coring
BH-219	**2015/05/07 - 2015/05/07**	Y : 3031739.37	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	90			
11									As above	
						12	98			
12									As above	
						13	95			
13									As above	
						14	90			
14									As above	
						15	90			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 218

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722910.45	METHOD : Continuous coring
BH-223	**2015/04/28 - 2015/04/28**	Y : 3031706.95	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	D1	9	14	14	2	6	100		Light brown very stiff lean CLAY	
6						7	100		Light brown lean CLAY	
7						8	95		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 219

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722910.45	METHOD : Continuous coring
BH-223	**2015/04/28 - 2015/04/28**	Y : 3031706.95	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	3	4	6	3	11	95		Light brown stiff lean CLAY	10
11						12	100		Light brown lean CLAY	11
12						13	95		As above	12
13						14	95		As above	13
14						15	95		As above	14
15	D3	8	18	14	4	16	95		Light brown hard lean CLAY	15
16						17	90		Light brown lean CLAY	16
17						18	95		As above	17
18						19	100		As above	18
19						20	100		As above	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 220

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722910.45	METHOD : Continuous coring
BH-223	**2015/04/28 - 2015/04/28**	Y : 3031706.95	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	4	6	9	5	21	90		Light brown stiff to very stiff lean CLAY	
21						22	85		Light brown lean CLAY	
22						23	90		As above	
23						24	90		As above	
24						25	95		As above	
25	D5	10	13	15					Light brown very stiff lean CLAY	
									End of Borehole at : 25.45 m	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 221

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722828.54	METHOD : **Continuous coring**
BH-225	**2015/05/07 - 2015/05/09**	Y : 3031740.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1	D1	18	28	40					Light brown hard lean CLAY	
						2	100			
2									Light brown lean CLAY	
						3	100			
3									As above	
						4	100			
4	D2	5	7	10					Light brown very stiff lean CLAY	
						5	100			
5					2				Light brown lean CLAY	
						6	100			
6										
						7	100			
7	D3	5	8	8					Light brown very stiff lean CLAY	
						8	95			
8									Light brown lean CLAY	
						9	100			
9									As above	
						10	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 222

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722828.54	METHOD : Continuous coring
BH-225	**2015/05/07 - 2015/05/09**	Y : 3031740.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	5	6	7	3	11	100		Light brown stiff lean CLAY	
11						12	100		Light brown lean CLAY	
12						13	100		As above	
13	D5	5	4	6		14	98		Light brown stiff lean CLAY	
14						15	95		Light brown lean CLAY	
15					4	16	100		As above	
16	D6	6	8	10		17	98		Light brown very stiff lean CLAY	
17						18	100		Light brown lean CLAY	
18						19	95		As above	
19	D7	6	6	7		20	100		Light brown stiff lean CLAY	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 223

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722828.54	METHOD : Continuous coring
BH-225	**2015/05/07 - 2015/05/09**	Y : 3031740.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	21	95		Light brown lean CLAY	20
21						22	98		As above	21
22	D8	8	10	11		23	100		Light brown very stiff lean CLAY	22
23						24	100		Light brown lean CLAY	23
24						25	100		As above	24
25	D9	9	11	12	6	26	100		Light brown very stiff lean CLAY	25
26						27	98		Light brown lean CLAY	26
27						28	100		As above	27
28	D10	9	10	13		29	95		Light brown very stiff lean CLAY	28
29						30	100		Light brown lean CLAY	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 224

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722828.54	METHOD : Continuous coring
BH-225	**2015/05/07 - 2015/05/09**	Y : 3031740.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7	31	100		Light brown lean CLAY	30
31	D11	10	12	17		32	100		Light brown very stiff lean CLAY	31
32						33	98		Light brown lean CLAY	32
33						34	100		As above	33
34	D12	13	17	18		35	95		Light brown hard lean CLAY	34
35					8	36	100		Light brown lean CLAY	35
36						37	100		As above	36
37	D13	17	17	20		38	95		Light brown hard lean CLAY	37
38						39	95		Light brown lean CLAY	38
39						40	100		As above	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 225

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722828.54	METHOD : Continuous coring
BH-225	**2015/05/07 - 2015/05/09**	Y : 3031740.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D14	18	20	23		40	100		Light brown hard lean CLAY	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 226

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722845.32	METHOD : **Continuous coring**
BH-226	**2015/04/25 - 2015/04/25**	Y : 3031731.43	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4						6	100		As above	
5	▽				2	7	100		As above	
6						8	100		As above	
7										
8						9	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 227

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722845.32	METHOD : **Continuous coring**
BH-226	**2015/04/25 - 2015/04/25**	Y : 3031731.43	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						10	100			
11										
									As above	
12						11	100			
13									As above	
14						12	100			
15					4				As above	
16						13	100			
17									As above	
						14	100			
18									As above	
19						15	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 228

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 722929.92	METHOD : **Continuous coring**
BH-227	**2015/05/03 - 2015/05/03**	Y : 3031690.86	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		Brown lean CLAY	
3						4	95		As above	
4						5	95		As above	
5	▽				2	6	90		As above	
6						7	90		As above	
7						8	90		As above	
8						9	90		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 229

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722929.92	METHOD : **Continuous coring**
BH-227	**2015/05/03 - 2015/05/03**	Y : 3031690.86	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	90			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 230

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722934.91	METHOD : **Continuous coring**
BH-228	**2015/05/03 - 2015/05/03**	Y : 3031688.10	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		Brown lean CLAY	
3						4	95		As above	
4						5	95		As above	
5	▽				2	6	95		As above	
6						7	95		As above	
7						8	95		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 231

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722934.91	METHOD : Continuous coring
BH-228	**2015/05/03 - 2015/05/03**	Y : 3031688.10	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	90			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 232

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723117.28	METHOD : **Continuous coring**
BH-229	**2015/05/09 - 2015/05/09**	Y : 3031607.08	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	95		As above	
6						7	90		As above	
7						8	100		As above	
8						9	100		As above	
9						10	98		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 233

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723117.28	METHOD : Continuous coring
BH-229	**2015/05/09 - 2015/05/09**	Y : 3031607.08	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	98		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 234

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723134.05	METHOD : **Continuous coring**
BH-230	**2015/05/09 - 2015/05/09**	Y : 3031598.15	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1	D1	15	17	21					Grey hard lean CLAY	
						2	100			
2									Brown lean CLAY	
						3	95			
3									As above	
						4	95			
4	D2	10	15	15					Brown very stiff lean CLAY	
						5	95			
5	▽				2				Brown lean CLAY	
						6	95			
6									As above	
						7	95			
7	D3	8	7	8					Brown stiff to very stiff lean CLAY	
						8	95			
8									Brown lean CLAY	
						9	95			
9									As above	
						10	95			
10										

D: Disturbed CB: Core Barrel LU: Lugeon
U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC

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Fig.: 235

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723134.05	METHOD : Continuous coring
BH-230	**2015/05/09 - 2015/05/09**	Y : 3031598.15	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	6	7	5	3	11	95		Brown stiff lean CLAY	
11						12	93		Brown lean CLAY	
12						13	95		As above	
13	D5	7	6	4		14	95		Brown stiff lean CLAY	
14						15	95		Brown lean CLAY	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 236

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723105.11	METHOD : Continuous coring
BH-231	**2015/05/09 - 2015/05/09**	Y : 3031603.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1	D1	13	16	23					Light brown hard lean CLAY	
						2	100			
2									Light brown lean CLAY	
						3	100			
3									As above	
						4	100			
4	D2	10	11	13					Light brown very stiff lean CLAY	
						5	100			
5					2				Light brown lean CLAY	
	▽					6	90			
6									As above	
						7	95			
7	D3	9	10	13					Light brown very stiff lean CLAY	
						8	90			
8									Light brown lean CLAY	
						9	90			
9									As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 237

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723105.11	METHOD : Continuous coring
BH-231	**2015/05/09 - 2015/05/09**	Y : 3031603.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	8	10	12	3	11	90		Light brown very stiff lean CLAY	
11						12	90		Light brown lean CLAY	
12						13	90		As above	
13	D5	6	8	6		14	95		Light brown stiff lean CLAY	
14						15	98		Light brown lean CLAY	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 238

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723121.44	METHOD : **Continuous coring**
BH-233	**2015/05/03 - 2015/05/04**	Y : 3031594.67	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 239

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723121.44	METHOD : Continuous coring
BH-233	**2015/05/03 - 2015/05/04**	Y : 3031594.67	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						8	100			
12						9	100		As above	
13									As above	
14						10	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 240

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723137.77	METHOD : **Continuous coring**
BH-235	**2015/05/05 - 2015/05/06**	Y : 3031585.98	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1	D1	16	27	30		2	100		Light brown hard lean CLAY	
2						3	100		Light brown lean CLAY	
3						4	100		As above	
4	D2	8	15	17		5	100		Light brown hard lean CLAY	
5					2	6	100		Light brown lean CLAY	
6						7	100		As above	
7	D3	4	4	5		8	100		Light brown stiff lean CLAY	
8						9	100		Light brown lean CLAY	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 241

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723137.77	METHOD : **Continuous coring**
BH-235	**2015/05/05 - 2015/05/06**	Y : 3031585.98	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	5	6	7	3	11	100		Light brown stiff lean CLAY	
11						12	95		Light brown lean CLAY	
12						13	100		As above	
13	D5	5	5	5		14	95		Light brown stiff lean CLAY	
14						15	100		Light brown lean CLAY	
15					4	16	100		As above	
16	D6	8	10	15		17	98		Light brown very stiff lean CLAY	
17						18	100		Light brown lean CLAY	
18						19	100		As above	
19	D7	8	9	12		20	100		Light brown very stiff lean CLAY	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 242

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723137.77	METHOD : Continuous coring
BH-235	**2015/05/05 - 2015/05/06**	Y : 3031585.98	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	21	100		Light brown lean CLAY	20
21						22	95		As above	21
22	D8	5	6	8		23	100		Light brown stiff lean CLAY	22
23						24	98		Light brown lean CLAY	23
24						25	95		As above	24
25	D9	12	12	12		26	100		Light brown very stiff lean CLAY	25
26					6	27	100		Light brown lean CLAY	26
27						28	100		As above	27
28	D10	10	15	16		29	100		Light brown hard lean CLAY	28
29						30	100		Light brown lean CLAY	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 243

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723137.77	METHOD : **Continuous coring**
BH-235	**2015/05/05 - 2015/05/06**	Y : 3031585.98	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description
30					7	31	95		Light brown lean CLAY
	D11	12	20	29					Light brown hard lean CLAY
31						32	95		
32						33	100		Light brown lean CLAY
33						34	98		As above
	D12	13	22	25					Light brown hard lean CLAY
34						35	98		
35					8	36	100		Light brown lean CLAY
36						37	100		As above
	D13	8	12	15					Light brown very stiff lean CLAY
37						38	95		
38						39	100		Light brown lean CLAY
39						40	100		As above
	D14	12	18	23		41	98		Light brown hard lean CLAY
40									**End of Borehole at : 40.00 m**

Legend

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 244

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723190.73	METHOD : Continuous coring
BH-238	**2015/04/22 - 2015/04/22**	Y : 3031557.79	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									As above	
						2	100			
2									Brown lean CLAY	
						3	100			
3									As above	
						4	100			
4									As above	
						5	100			
5									As above	
						6	100			
6					2				As above	
						7	100			
7									As above	
						8	100			
8									As above	
						9	100			
9									As above	
						10	95			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 245

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723190.73	METHOD : Continuous coring
BH-238	**2015/04/22 - 2015/04/22**	Y : 3031557.79	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11	100			
11					3				As above	
						12	100			
12									As above	
						13	100			
13									As above	
						14	95			
14									As above	
						15	100			
15									As above	
						16	100			
16					4				As above	
						17	100			
17									As above	
						18	100			
18									As above	
						19	90			
19									As above	
						20	95			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 246

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723190.73	METHOD : Continuous coring
BH-238	**2015/04/22 - 2015/04/22**	Y : 3031557.79	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20									Brown lean CLAY	
						21	100			
21					5				As above	
						22	100			
22									As above	
						23	95			
23									As above	
						24	75			
24									As above	
						25	90			
25									**End of Borehole at : 25.00 m**	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723108.82	METHOD : **Continuous coring**
BH-240	**2015/05/09 - 2015/05/09**	Y : 3031591.19	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	95		As above	
4						5	98		As above	
5					2	6	95		As above	
6						7	95		As above	
7						8	90		As above	
8						9	90		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 248

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723108.82	METHOD : Continuous coring
BH-240	**2015/05/09 - 2015/05/09**	Y : 3031591.19	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	98			
13									As above	
						14	98			
14									As above	
						15	95			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 249

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723125.60	METHOD : **Continuous coring**
BH-241	**2015/05/09 - 2015/05/09**	Y : 3031582.26	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	95			
3									As above	
						4	95			
4									As above	
						5	95			
5	▽				2				As above	
						6	95			
6									Brown lean CLAY	
						7	95			
7									As above	
						8	90			
8									As above	
						9	90			
9									As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 250

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723125.60	METHOD : Continuous coring
BH-241	**2015/05/09 - 2015/05/09**	Y : 3031582.26	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	90			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 251

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723210.20	METHOD : **Continuous coring**
BH-242	**2015/05/09 - 2015/05/09**	Y : 3031541.69	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1	D1	27	39	30		2	100		Grey hard lean CLAY	
2						3	98		Brown lean CLAY	
3						4	98		As above	
4	D2	17	18	19		5	100		Brown hard lean CLAY	
5	▽				2	6	95		Brown lean CLAY	
6						7	98		As above	
7	D3	15	15	14		8	98		Brown very stiff lean CLAY	
8						9	100		Brown lean CLAY	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 252

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723210.20	METHOD : Continuous coring
BH-242	**2015/05/09 - 2015/05/09**	Y : 3031541.69	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	8	9	9	3	11	100		Brown very stiff lean CLAY	
11						12	100		Brown lean CLAY	
12						13	100		As above	
13	D5	5	5	7		14	100		Brown stiff lean CLAY	
14						15	98		Brown lean CLAY	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 253

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723395.26	METHOD : **Continuous coring**
BH-244	**2015/05/02 - 2015/05/02**	Y : 3031459.14	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4					2	5	100		As above	
5						6	95		As above	
6						7	100		As above	
7						8	95		As above	
8						9	80		As above	
9					3	10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 254

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723395.26	METHOD : Continuous coring
BH-244	**2015/05/02 - 2015/05/02**	Y : 3031459.14	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	95		As above	
14						15	95		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 255

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723412.04	METHOD : Continuous coring
BH-245	**2015/05/02 - 2015/05/02**	Y : 3031450.21	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	100			
3									As above	
						4	100			
4					2				As above	
						5	100			
5	D1	4	7	10					Light brown very stiff lean CLAY	
						6	95			
6									Light brown lean CLAY	
						7	95			
7									As above	
						8	95			
8									As above	
						9	95			
9					3				As above	
						10	95			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 256

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723412.04	METHOD : Continuous coring
BH-245	**2015/05/02 - 2015/05/02**	Y : 3031450.21	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	3	3	4		11	95		Light brown medium stiff lean CLAY	
11						12	95		Light brown lean CLAY	
12						13	95		As above	
13						14	95		As above	
14						15	95			
15	D3	3	4	5					Light brown stiff lean CLAY	
									End of Borehole at : 15.45 m	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 257

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723383.09	METHOD : **Continuous coring**
BH-246	**2015/05/01 - 2015/05/02**	Y : 3031455.42	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	100			
3									As above	
						4	100			
4					2				As above	
						5	100			
5	▽								As above	
						6	95			
6									As above	
						7	85			
7									As above	
						8	85			
8									As above	
						9	95			
9					3				As above	
						10	95			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 258

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723383.09	METHOD : Continuous coring
BH-246	**2015/05/01 - 2015/05/02**	Y : 3031455.42	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						11	100		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	90		As above	
14						15	95		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 259

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723399.42	METHOD : **Continuous coring**
BH-248	**2015/05/04 - 2015/05/04**	Y : 3031446.73	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4					2	5	100		As above	
5	▽					6	100		As above	
6						7	100		As above	
7						8	95		As above	
8						9	100		As above	
9					3	10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 260

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723399.42	METHOD : Continuous coring
BH-248	**2015/05/04 - 2015/05/04**	Y : 3031446.73	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 261

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723468.72	METHOD : **Continuous coring**
BH-253	**2015/05/03 - 2015/05/03**	Y : 3031409.84	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 262

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723468.72	METHOD : Continuous coring
BH-253	**2015/05/03 - 2015/05/03**	Y : 3031409.84	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 263

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723386.81	METHOD : **Continuous coring**
BH-255	**2015/05/07 - 2015/05/08**	Y : 3031443.25	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
	D1	17	42	50		1	100		Light brown hard lean CLAY	
1									Light brown lean CLAY	
						2	100			
2									As above	
						3	100			
3										
	D2	27	49	50		4	90		Brown hard lean CLAY	
4									Light brown lean CLAY	
						5	80			
5					2				As above	
						6	90			
6										
	D3	3	4	4		7	90		Light brown medium stiff to stiff lean CLAY	
7									Light brown lean CLAY	
						8	85			
8									As above	
						9	85			
9										
	D4	9	7	6		10	90		Light brown stiff lean CLAY	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 264

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723386.81	METHOD : **Continuous coring**
BH-255	**2015/05/07 - 2015/05/08**	Y : 3031443.25	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	10
						11	95			
11									As above	11
						12	90			
12										12
	D5	5	5	7		13	95		Brown stiff lean CLAY	
13									Brown lean CLAY	13
						14	95			
14									As above	14
						15	90			
15					4					15
	D6	9	11	18		16	95		Brown very stiff lean CLAY	
16									Brown lean CLAY	16
						17	80			
17									As above	17
						18	90			
18										18
	D7	8	11	18		19	95		Brown very stiff lean CLAY	
19									Brown lean CLAY	19
						20	80			
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 265

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723386.81	METHOD : **Continuous coring**
BH-255	**2015/05/07 - 2015/05/08**	Y : 3031443.25	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	21	100		Light brown lean CLAY	20
21						22	95			21
22	D8	7	7	10		23	90		Brown very stiff lean CLAY Brown lean CLAY	22
23						24	90		As above	23
24						25	95			24
25	D9	18	32	47	6	26	90		Brown hard lean CLAY Light brown lean CLAY	25
26						27	100		As above	26
27						28	95			27
28	D10	12	24	39		29	95		Light brown hard lean CLAY Light brown lean CLAY	28
29						30	90		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 266

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723386.81	METHOD : **Continuous coring**
BH-255	**2015/05/07 - 2015/05/08**	Y : 3031443.25	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description
30					7				
	D11	12	25	50		31	100		Light brown hard lean CLAY
31									Light brown lean CLAY
						32	90		
32									As above
						33	95		
33									
	D12	22	28	25		34	95		Light brown hard lean CLAY
34									Light brown lean CLAY
						35	100		
35					8				Brown lean CLAY
						36	95		
36									
	D13	25	48	50		37	100		Brown hard lean CLAY
37									Brown lean CLAY
						38	95		
38									As above
						39	95		
39									
	D14	24	50	50		40	95		Brown hard lean CLAY
40									

End of Borehole at : 40.00 m

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 267

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723493.18	METHOD : Continuous coring
BH-258	**2015/05/04 - 2015/05/04**	Y : 3031391.00	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	98		As above	
7						8	95		As above	
8						9	98		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 268

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723493.18	METHOD : Continuous coring
BH-258	**2015/05/04 - 2015/05/04**	Y : 3031391.00	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	90		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 269

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723036.70	METHOD : **Continuous coring**
BH-264	**2015/05/02 - 2015/05/02**	Y : 3031789.93	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	95		Brown lean CLAY	
3						4	92		As above	
4						5	92		As above	
5					2	6	95		As above	
6						7	95		As above	
7						8	92		As above	
8						9	92		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 270

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723036.70	METHOD : Continuous coring
BH-264	**2015/05/02 - 2015/05/02**	Y : 3031789.93	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	90			
12									As above	
						13	90			
13									As above	
						14	90			
14									As above	
						15	90			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 271

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723063.18	METHOD : **Continuous coring**
BH-265	**2015/05/02 - 2015/05/02**	Y : 3031775.84	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	95		As above	
2						3	95		Brown lean CLAY	
3						4	92		As above	
4						5	92		As above	
5	▽				2	6	95		As above	
6						7	95		As above	
7						8	95		As above	
8						9	92		As above	
9						10	92		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 272

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723063.18	METHOD : Continuous coring
BH-265	**2015/05/02 - 2015/05/02**	Y : 3031775.84	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	94			
11									As above	
						12	95			
12									As above	
						13	95			
13									As above	
						14	95			
14									As above	
						15	95			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 273

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722887.59	METHOD : **Continuous coring**
BH-268	**2015/04/23 - 2015/04/23**	Y : 3031829.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Grey lean CLAY	
1						2	100		As above	
2						3	100		Brown lean CLAY	
3						4	100		As above	
4						5	100		As above	
5					2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 3

Client : NFC

Fig.: 274

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722887.59	METHOD : Continuous coring
BH-268	**2015/04/23 - 2015/04/23**	Y : 3031829.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	10
						11	100			
11									As above	11
						12	100			
12									As above	12
						13	100			
13									As above	13
						14	100			
14									As above	14
						15	100			
15					4				As above	15
						16	100			
16									As above	16
						17	100			
17									As above	17
						18	100			
18									As above	18
						19	100			
19									As above	19
						20	100			
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 275

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722887.59	METHOD : Continuous coring
BH-268	**2015/04/23 - 2015/04/23**	Y : 3031829.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	21	100		Brown lean CLAY	
21						22	100		As above	
22						23	100		As above	
23						24	100		As above	
24						25	100		As above	
25									**End of Borehole at : 25.00 m**	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 276

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722940.56	METHOD : Continuous coring
BH-270	**2015/05/04 - 2015/05/05**	Y : 3031800.86	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100			
3	D1	30	32	28		5	100		Brown hard SILT <ML/CL>	
4										
5					2	6	100		Brown SILT	
6	D2	24	22	21		7	100		Brown hard lean CLAY, CL	
7										
8						8	100		Brown lean CLAY	
9	D3	7	6	6		9	100		Brown stiff lean CLAY, CL	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 277

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722940.56	METHOD : Continuous coring
BH-270	**2015/05/04 - 2015/05/05**	Y : 3031800.86	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	10
11						10	100			11
12	D4	5	4	4					Brown medium stiff to stiff SILT <ML/CL>	12
13						11	100			13
14									Brown SILT	14
						12	100			
15	D5	7	8	7	4				Brown stiff to very stiff lean CLAY, CL	15
16						13	100			16
17									Brown lean CLAY	17
						14	100			
18	D6	8	8	10					Brown very stiff lean CLAY, CL	18
19						15	100			19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 278

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722940.56	METHOD : Continuous coring
BH-270	**2015/05/04 - 2015/05/05**	Y : 3031800.86	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	20
						16	100			
21	D7	11	12	14					Brown very stiff SILT <ML/CL>	21
						17	100			
22										22
23									Brown SILT	23
						18	100			
24	D8	16	16	18					Brown hard lean CLAY, CL	24
						19	100			
25					6				Brown lean CLAY	25
						20	100			
26										26
27	D9	19	21	20					Brown hard lean CLAY, CL	27
						21	100			
28										28
29									Brown lean CLAY	29
						22	100			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 279

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722940.56	METHOD : Continuous coring
BH-270	**2015/05/04 - 2015/05/05**	Y : 3031800.86	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	23	25	25	7				Brown hard lean CLAY <CL/ML>	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	26	28	26					Brown hard lean CLAY, CL	33
34						25	100			34
35					8	26	100		Brown lean CLAY	35
36	D12	29	30	30					Brown hard lean CLAY ,CL	36
37						27	100			37
38									Brown lean CLAY	38
39						28	100			39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 280

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 722940.56	METHOD : Continuous coring
BH-270	**2015/05/04 - 2015/05/05**	Y : 3031800.86	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D13	32	30	33		28	100		Brown hard SILT <ML/CL>	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 281

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723046.49	METHOD : **Continuous coring**
BH-274	**2015/04/29 - 2015/04/29**	Y : 3031744.48	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4					2	5	100		As above	
5	▽					6	95		As above	
6						7	95		As above	
7						8	95		As above	
8						9	95		As above	
9					3	10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 282

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723046.49	METHOD : **Continuous coring**
BH-274	**2015/04/29 - 2015/04/29**	Y : 3031744.48	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Light brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	100			
13									As above	
						14	85			
14					4				As above	
						15	95			
15									As above	
						16	95			
16									As above	
						17	100			
17									As above	
						18	85			
18									As above	
						19	85			
19					5				As above	
						20	90			
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 283

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723046.49	METHOD : Continuous coring
BH-274	**2015/04/29 - 2015/04/29**	Y : 3031744.48	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20									Light brown lean CLAY	
						21	95			
21									As above	
						22	100			
22									As above	
						23	100			
23									As above	
						24	100			
24									As above	
						25	100			
25									**End of Borehole at : 25.00 m**	
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 284

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724021.36	METHOD : **Continuous coring**
BH-280	**2015/05/03 - 2015/05/03**	Y : 3031018.29	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 285

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724021.36	METHOD : Continuous coring
BH-280	**2015/05/03 - 2015/05/03**	Y : 3031018.29	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 286

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723939.51	METHOD : **Continuous coring**
BH-289	**2015/05/04 - 2015/05/05**	Y : 3031030.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	95		As above	
3						4	95		As above	
4					2	5	80		As above	
5	▽									
6						6	90		As above	
7						7	95		As above	
8						8	90		As above	
9						9	100		As above	
10										

D: Disturbed
U: Undisturbed
CB: Core Barrel
DE: Denison
LU: Lugeon
LE: Lefranc

Remarks :
General Borehole
Pressuremeter Test have been done in depths of:
5,10,15,20,25,30 (m.)

Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC

Sheet: 1 Of 5
Fig.: 287

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723939.51	METHOD : Continuous coring
BH-289	**2015/05/04 - 2015/05/05**	Y : 3031030.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Light brown lean CLAY	10
11						10	100		As above	11
12						11	100		Brown lean CLAY	12
13						12	100		As above	13
14						13	85		As above	14
15					4				As above	15
16						14	90		As above	16
17						15	95		As above	17
18						16	100		As above	18
19						17	90		As above	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 5

Fig.: 288

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723939.51	METHOD : Continuous coring
BH-289	**2015/05/04 - 2015/05/05**	Y : 3031030.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5	17	90		Brown lean CLAY	20
21						18	95		As above	21
22						19	95		As above	22
23						20	95		As above	23
24						21	95		Light brown lean CLAY	24
25					6				As above	25
26						22	90		Brown lean CLAY	26
27						23	95		As above	27
28						24	95		As above	28
29						25	95		As above	29
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 5

Fig.: 289

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723939.51	METHOD : **Continuous coring**
BH-289	**2015/05/04 - 2015/05/05**	Y : 3031030.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7				Brown lean CLAY	
						25	95			
31									As above	
						26	100			
32									As above	
						27	95			
33									As above	
						28	90			
34									As above	
						29	95			
35					8				As above	
						30	90			
36									As above	
						31	95			
37									As above	
						32	90			
38									As above	
						33	100			
39									As above	
						34	95			
40										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 5

Fig.: 290

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723939.51	METHOD : Continuous coring
BH-289	**2015/05/04 - 2015/05/05**	Y : 3031030.36	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9	35	80		Brown lean CLAY	
41						36	85		As above	
42						37	85		As above	
43						38	90		As above	
44						39	85		As above	
45					10	40	95		As above	
46						41	85		As above	
47						42	80		As above	
48						43	100		As above	
49						44	90		As above	
50									**End of Borehole at : 50.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 5 Of 5

Fig.: 291

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723840.52	METHOD : **Continuous coring**
BH-290	**2015/04/30 - 2015/04/30**	Y : 3031287.75	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	95		As above	
4						5	100		As above	
5					2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 292

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723840.52	METHOD : **Continuous coring**
BH-290	**2015/04/30 - 2015/04/30**	Y : 3031287.75	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	95		As above	
13						14	100		As above	
14						15	95		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 293

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723884.66	METHOD : **Continuous coring**
BH-292	**2015/05/07 - 2015/05/07**	Y : 3031264.26	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	70		As above	
3						4	90		As above	
4						5	90		As above	
5 ▽					2	6	95		As above	
6						7	90		As above	
7						8	95		As above	
8						9	90		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 294

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723884.66	METHOD : Continuous coring
BH-292	**2015/05/07 - 2015/05/07**	Y : 3031264.26	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	85		Light brown lean CLAY	
11						12	90		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 295

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723980.12	METHOD : **Continuous coring**
BH-293	**2015/05/06 - 2015/05/06**	Y : 3031193.58	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	90		As above	
3						4	90		As above	
4						5	90		As above	
5	▽				2	6	90		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 296

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723980.12	METHOD : **Continuous coring**
BH-293	**2015/05/06 - 2015/05/06**	Y : 3031193.58	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	100			
11									As above	
						12	100			
12									Brown lean CLAY	
						13	90			
13									As above	
						14	95			
14									As above	
						15	90			
15					4				As above	
						16	100			
16									As above	
						17	100			
17									As above	
						18	100			
18									As above	
						19	100			
19									As above	
						20	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 297

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723970.25	METHOD : **Continuous coring**
BH-294	**2015/05/06 - 2015/05/06**	Y : 3031175.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	95		As above	
3						4	50		As above	
4						5	60		As above	
5	▽				2	6	90		As above	
6						7	90		As above	
7						8	90		As above	
8						9	90		As above	
9						10	50		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 298

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723970.25	METHOD : Continuous coring
BH-294	**2015/05/06 - 2015/05/06**	Y : 3031175.05	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	70		Brown lean CLAY	
11						12	85		As above	
12						13	75		As above	
13						14	95		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 299

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723938.68	METHOD : **Continuous coring**
BH-297	**2015/04/28 - 2015/04/28**	Y : 3031115.74	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	D1	4	5	6	2	6	100		Light brown stiff lean CLAY	
6						7	98		Light brown lean CLAY	
7						8	96		As above	
8						9	95		As above	
9						10	96		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 3

Client : NFC

Fig.: 300

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723938.68	METHOD : Continuous coring
BH-297	**2015/04/28 - 2015/04/28**	Y : 3031115.74	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	4	7	6	3	11	98		Light brown stiff lean CLAY	
11						12	95		Light brown lean CLAY	
12						13	94		As above	
13						14	96		As above	
14						15	100		As above	
15	D3	7	6	12	4	16	98		Light brown very stiff lean CLAY	
16						17	97		As above	
17						18	95		As above	
18						19	95		As above	
19						20	95		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 3

Fig.: 301

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723938.68	METHOD : Continuous coring
BH-297	**2015/04/28 - 2015/04/28**	Y : 3031115.74	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	5	7	7		20	95		Light brown stiff lean CLAY	
									End of Borehole at : 20.45 m	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 302

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723916.51	METHOD : **Continuous coring**
BH-299	**2015/04/29 - 2015/04/29**	Y : 3031074.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Light brown lean CLAY	
						1	100			
1									As above	
						2	100			
2									As above	
						3	100			
3									As above	
						4	100			
4					2				As above	
						5	100			
5	▽								As above	
						6	98			
6									As above	
						7	98			
7									As above	
						8	98			
8					3				As above	
						9	100			
9									As above	
						10	100			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 303

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723916.51	METHOD : Continuous coring
BH-299	**2015/04/29 - 2015/04/29**	Y : 3031074.09	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						11	100		Light brown lean CLAY	
11						12	98		As above	
12					4	13	96		As above	
13						14	98		As above	
14						15	97		As above	
15						16	95		As above	
16					5	17	95		As above	
17						18	94		As above	
18						19	93		As above	
19						20	93		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 304

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723863.85	METHOD : **Continuous coring**
BH-303	**2015/04/25 - 2015/04/25**	Y : 3030975.17	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	85		Light brown lean CLAY	
1						2	90		As above	
2						3	95		As above	
3						4	95		As above	
4						5	95		As above	
5 ▽					2	6	95		As above	
6						7	95		As above	
7						8	95		As above	
8						9	95		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 305

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723863.85	METHOD : **Continuous coring**
BH-303	**2015/04/25 - 2015/04/25**	Y : 3030975.17	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	95		As above	
18						19	95		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 306

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724006.32	METHOD : **Continuous coring**
BH-305	**2015/05/05 - 2015/05/05**	Y : 3031155.87	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	90		As above	
4						5	95		As above	
5	▽				2	6	95		Brown lean CLAY	
6						7	90		As above	
7						8	90		As above	
8						9	95		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 2

Fig.: 307

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724006.32	METHOD : **Continuous coring**
BH-305	**2015/05/05 - 2015/05/05**	Y : 3031155.87	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	90			
11									As above	
						12	100			
12									As above	
						13	100			
13									As above	
						14	100			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 308

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723986.49	METHOD : Continuous coring
BH-307	**2015/05/10 - 2015/05/12**	Y : 3031118.63	DRILL MACHINE : **GX-1TD**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description
0					1	1	100		Brown lean CLAY
						2	100		As above
1						3	100		As above
2						4	100		As above
3	D1	35	35	32		5	100		Brown hard lean CLAY, CL
4									
5	▽				2	6	100		Brown lean CLAY
6	D2	18	19	16		7	100		Brown hard lean CLAY with gypsum <CL/ML>
7									
8						8	100		Brown lean CLAY
9	D3	9	8	7		9	100		Brown stiff to very stiff lean CLAY, CL
10									

Legend: 0 1 2 3 4 5 6 7 8 9 10

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 309

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723986.49	METHOD : Continuous coring
BH-307	**2015/05/10 - 2015/05/12**	Y : 3031118.63	DRILL MACHINE : **GX-1TD**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	9	100		Brown lean CLAY	
11						10	100		As above	
12	D4	6	6	5		11	100		Brown stiff lean CLAY, CL	
13										
14						12	100		Brown lean CLAY	
15	D5	7	8	6	4	13	100		Brown stiff lean CLAY with gypsum <CL>	
16										
17						14	100		Brown lean CLAY	
18	D6	9	10	7		15	100		Brown very stiff lean CLAY, CL	
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 5

Fig.: 310

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723986.49	METHOD : Continuous coring
BH-307	**2015/05/10 - 2015/05/12**	Y : 3031118.63	DRILL MACHINE : **GX-1TD**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	20
						16	100			
21	D7	11	11	13					Brown very stiff lean CLAY, CL	21
						17	100			
22										22
23						18	100			23
24	D8	12	13	14					Brown very stiff lean CLAY <CL/ML>	24
25					6	19	100			25
26									Brown lean CLAY	26
						20	100			
27	D9	16	18	18					Brown hard lean CLAY, CL	27
28						21	100			28
29									Brown lean CLAY	29
						22	100			
30										30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 311

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723986.49	METHOD : Continuous coring
BH-307	**2015/05/10 - 2015/05/12**	Y : 3031118.63	DRILL MACHINE : **GX-1TD**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	20	21	21	7				Brown hard lean CLAY, CL	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	23	24	25					Brown hard lean CLAY <CL>	33
34						25	100			34
35					8				Brown lean CLAY	35
36	D12	25	25	27		26	100		Brown hard lean CLAY, CL	36
37						27	100			37
38									Brown lean CLAY	38
39						28	100			39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 312

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723986.49	METHOD : Continuous coring
BH-307	**2015/05/10 - 2015/05/12**	Y : 3031118.63	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D13	28	30	30					Brown hard lean CLAY, CL	
									End of Borehole at : 40.45 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 313

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723963.00	METHOD : Continuous coring
BH-309	**2015/04/29 - 2015/05/03**	Y : 3031074.49	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	D1	5	3	6	2	6	98		Light brown stiff lean CLAY	
6						7	97		Light brown lean CLAY	
7						8	98		As above	
8						9	95		As above	
9						10	98		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 314

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723963.00	METHOD : Continuous coring
BH-309	**2015/04/29 - 2015/05/03**	Y : 3031074.49	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	5	4	5	3	11	97		Light brown stiff lean CLAY	
11						12	100		Light brown lean CLAY	
12					4	13	91		As above	
13						14	95		As above	
14						15	94		As above	
15	D3	6	6	11		16	90		Light brown very stiff lean CLAY	
16						17	89		Light brown lean CLAY	
17					5	18	92		As above	
18						19	90		As above	
19						20	95		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 315

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723963.00	METHOD : **Continuous coring**
BH-309	**2015/04/29 - 2015/05/03**	Y : 3031074.49	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	8	11	14		21	97		Light brown very stiff lean CLAY	
21						22	95		Light brown lean CLAY	
22					6	23	90		As above	
23						24	90		As above	
24						25	92		As above	
25	D5	9	12	17		26	91		Light brown very stiff lean CLAY	
26						27	93		Light brown lean CLAY	
27					7	28	90		As above	
28						29	91		As above	
29						30	95		As above	
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 316

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723963.00	METHOD : Continuous coring
BH-309	**2015/04/29 - 2015/05/03**	Y : 3031074.49	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D6	17	19	22		31	95		Light brown hard lean CLAY	30
31						32	85		Light brown lean CLAY	31
32						33			As above	32
33					8	34	100		As above	33
34	D7	8	10	11		35	100		Light brown very stiff lean CLAY	34
35						36	90		Light brown lean CLAY	35
36						37	90		As above	36
37					9	38	90		As above	37
38						39	90		As above	38
39	D8	10	12	12		40	100		Light brown very stiff lean CLAY	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 317

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723963.00	METHOD : Continuous coring
BH-309	**2015/04/29 - 2015/05/03**	Y : 3031074.49	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40									Light brown lean CLAY	40
						41	100			
41									As above	41
						42	90			
42					10				As above	42
						43	98			
43									As above	43
						44	98			
44									As above	44
						45	97			
45	D9	5	6	7					Light brown stiff lean CLAY	45
						46	95			
46									Light brown lean CLAY	46
						47	93			
47					11				As above	47
						48	96			
48									As above	48
						49	97			
49									As above	49
						50	100			
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 318

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723963.00	METHOD : Continuous coring
BH-309	**2015/04/29 - 2015/05/03**	Y : 3031074.49	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D10	9	8	7		50	100		Light brown stiff to very stiff lean CLAY	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 6 Of 6

Fig.: 319

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723924.30	METHOD : Continuous coring
BH-310	**2015/05/07 - 2015/05/08**	Y : 3031001.80	DRILL MACHINE : **XY-1**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3										
4						5	100		As above	
5	▽				2				As above	
6						6	100		As above	
7										
8						7	100		As above	
9										
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 320

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723924.30	METHOD : Continuous coring
BH-310	**2015/05/07 - 2015/05/08**	Y : 3031001.80	DRILL MACHINE : **XY-1**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						8	100			
12						9	100		As above	
13						10	100		As above	
14										
15					4	11	100		As above	
16										
17						12	100		As above	
18						13	100		As above	
19						14	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 321

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723948.94	METHOD : **Continuous coring**
BH-311	**2015/05/02 - 2015/05/02**	Y : 3030988.65	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	90		As above	
3						4	95		As above	
4						5	90		As above	
5 ▽					2	6	100		As above	
6						7	100		As above	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 322

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723948.94	METHOD : Continuous coring
BH-311	**2015/05/02 - 2015/05/02**	Y : 3030988.65	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						11	95			
11									As above	
						12	95			
12									As above	
						13	100			
13									As above	
						14	100			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 323

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723971.01	METHOD : Continuous coring
BH-312	**2015/05/10 - 2015/05/12**	Y : 3030976.91	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3	D1	25	20	18		5	100		Brown hard lean CLAY with gypsum <CL>	
4										
5	▽					6	100		Brown lean CLAY	
6	D2	12	10	8		7	100		Brown very stiff lean CLAY, CL	
7										
8					2	8	100		Brown lean CLAY	
9	D3	7	7	6		9	100		Brown stiff lean CLAY, CL	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 324

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723971.01	METHOD : Continuous coring
BH-312	**2015/05/10 - 2015/05/12**	Y : 3030976.91	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						9	100			
11					3				As above	
						10	100			
12	D4	6	5	6					Brown stiff lean CLAY <CL/ML>	
						11	100			
13										
14									Brown lean CLAY	
						12	100			
15	D5	8	9	10					Brown very stiff lean CLAY with gypsum, CL	
						13	100			
16										
17									Brown lean CLAY	
						14	100			
18					4				As above	
						15	100			
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 325

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723971.01	METHOD : Continuous coring
BH-312	**2015/05/10 - 2015/05/12**	Y : 3030976.91	DRILL MACHINE : **XY-2B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description
20	D6	10	9	11	5	16	100		Brown very stiff lean CLAY, CL
21	D7	12	13	12		17	100		As above, CL
22									
23						18	100		Brown lean CLAY
24	D8	15	17	18		19	100		Brown hard lean CLAY, CL
25					6	20	100		Brown lean CLAY
26						21	100		As above
27	D9	18	19	16		22	100		Brown hard SILT <ML/CL>
28						23	100		Brown SILT
29									
30									

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 326

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723971.01	METHOD : Continuous coring
BH-312	**2015/05/10 - 2015/05/12**	Y : 3030976.91	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	21	20	23	7	24	100		Brown hard lean CLAY, CL	30
31						25	100		Brown lean CLAY	31
32						26	100		As above	32
33	D11	23	25	23		27	100		Brown hard lean CLAY, CL	33
34						28	100		Brown lean CLAY	34
35					8	29	100		As above	35
36	D12	25	25	27		30	100		Brown hard lean CLAY, CL	36
37										37
38						31	100		Brown lean CLAY	38
39	D13	26	28	28		32	100		Brown hard lean CLAY with gypsum <CL/ML>	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 327

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723971.01	METHOD : Continuous coring
BH-312	**2015/05/10 - 2015/05/12**	Y : 3030976.91	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9				Brown lean CLAY	40
41						33	100			41
42	D14	24	26	26					Brown hard lean CLAY, CL	42
43						34	100			43
44									Brown lean CLAY	44
						35	100			
45	D15	30	31	28	10				Brown hard lean CLAY, CL	45
46						36	100			46
47									Brown lean CLAY	47
						37	100			
48	D16	32	32	33					Brown hard lean CLAY, CL	48
49						38	100			49
50										50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 328

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723971.01	METHOD : Continuous coring
BH-312	**2015/05/10 - 2015/05/12**	Y : 3030976.91	DRILL MACHINE : **XY-2B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D17	35	36	34		38	100		Brown hard lean CLAY <CL>	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 329

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724037.22	METHOD : Continuous coring
BH-315	**2015/05/08 - 2015/05/08**	Y : 3030941.67	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 330

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724037.22	METHOD : Continuous coring
BH-315	**2015/05/08 - 2015/05/08**	Y : 3030941.67	DRILL MACHINE : **XY-1**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						9	100			
12									As above	
13						10	100			
14									As above	
						11	100			
15					4				As above	
16						12	100			
17									As above	
18						13	100			
19									As above	
						14	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 331

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724059.28	METHOD : **Continuous coring**
BH-316	**2015/05/01 - 2015/05/01**	Y : 3030929.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	95		As above	
2						3	100		As above	
3						4	100		As above	
4						5	95		As above	
5	▽				2	6	95		As above	
6						7	100		Brown lean CLAY	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 332

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724059.28	METHOD : Continuous coring
BH-316	**2015/05/01 - 2015/05/01**	Y : 3030929.92	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 333

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724125.49	METHOD : Continuous coring
BH-319	**2015/05/02 - 2015/05/02**	Y : 3030894.68	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	90		As above	
3						4	95		As above	
4						5	90		As above	
5	▽				2	6	95		As above	
6						7	95		As above	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 334

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724125.49	METHOD : Continuous coring
BH-319	**2015/05/02 - 2015/05/02**	Y : 3030894.68	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	95		As above	
12						13	95		As above	
13						14	90		As above	
14						15	90		Brown lean CLAY	
15					4	16	95		As above	
16						17	95		As above	
17						18	90		As above	
18						19	95		As above	
19						20	95		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 335

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723928.11	METHOD : Continuous coring
BH-323	**2015/05/16 - 2015/05/16**	Y : 3030949.52	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1			Light brown lean CLAY	
1						2			As above	
2						3			As above	
3						4			As above	
4						5			As above	
5	▽					6			As above	
6					2	7			As above	
7						8			As above	
8						9			As above	
9						10			As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 336

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723928.11	METHOD : **Continuous coring**
BH-323	**2015/05/16 - 2015/05/16**	Y : 3030949.52	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11			Light brown lean CLAY	
11						12			As above	
12						13			As above	
13						14			As above	
14						15			As above	
15					4	16			As above	
16						17			As above	
17						18			As above	
18						19			As above	
19						20			As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 337

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723972.25	METHOD : **Continuous coring**
BH-325	**2015/05/07 - 2015/05/08**	Y : 3030926.03	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8										
9						9	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 338

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723972.25	METHOD : **Continuous coring**
BH-325	**2015/05/07 - 2015/05/08**	Y : 3030926.03	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						10	100			
12						11	100		As above	
13						12	100		As above	
14						13	100		As above	
15					4	14	100		As above	
16						15	100		As above	
17						16	100		As above	
18						17	100		As above	
19						18	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 339

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723994.32	METHOD : **Continuous coring**
BH-326	**2015/05/01 - 2015/05/01**	Y : 3030914.28	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	95		As above	
2						3	90		As above	
3						4	100		As above	
4						5	100		As above	
5 ▽					2	6	90		As above	
6						7	95		As above	
7						8	95		As above	
8						9	95		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 340

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723994.32	METHOD : **Continuous coring**
BH-326	**2015/05/01 - 2015/05/01**	Y : 3030914.28	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Light brown lean CLAY	
						11	100			
11					3				As above	
						12	100			
12									As above	
						13	100			
13									As above	
						14	95			
14									As above	
						15	100			
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 341

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724016.39	METHOD : **Continuous coring**
BH-327	**2015/04/29 - 2015/04/30**	Y : 3030902.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	85		Brown lean CLAY	
3						4	90		As above	
4						5	90		As above	
5	D1	7	8	9	2	6	90		Light brown very stiff lean CLAY	
6						7	95		Light brown lean CLAY	
7						8	95		As above	
8						9	90		As above	
9						10	95		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 342

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724016.39	METHOD : Continuous coring
BH-327	**2015/04/29 - 2015/04/30**	Y : 3030902.54	DRILL MACHINE : **O.G.B**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	6	9	20	3	11	95		Light brown very stiff lean CLAY	10
11						12	95		Light brown lean CLAY	11
12						13	95		As above	12
13						14	90		As above	13
14						15	95		As above	14
15	D3	12	17	18	4	16	100		Light brown hard lean CLAY	15
16						17	95		Light brown lean CLAY	16
17						18	95		As above	17
18						19	95		As above	18
19						20	90		As above	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 343

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724016.39	METHOD : Continuous coring
BH-327	**2015/04/29 - 2015/04/30**	Y : 3030902.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	12	15	17	5	21	100		Light brown hard lean CLAY	
21						22	90		Brown lean CLAY	
22						23	90		As above	
23						24	95		As above	
24						25	100		As above	
25	D5	9	15	24	6	26	95		Brown hard lean CLAY	
26						27	95		Brown lean CLAY	
27						28	95		As above	
28						29	100		As above	
29						30	100		As above	
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 5

Fig.: 344

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724016.39	METHOD : Continuous coring
BH-327	**2015/04/29 - 2015/04/30**	Y : 3030902.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D6	15	28	38	7	31	95		Brown hard lean CLAY	
31						32	100		Brown lean CLAY	
32						33	95		As above	
33						34	100		As above	
34						35	95		As above	
35	D7	35	38	42	8	36	95		Brown hard lean CLAY	
36						37	100		Brown lean CLAY	
37						38	95		As above	
38						39	100		As above	
39						40	100		As above	
40										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 5

Fig.: 345

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724016.39	METHOD : Continuous coring
BH-327	**2015/04/29 - 2015/04/30**	Y : 3030902.54	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D8	45	50/8			40	100		Brown hard lean CLAY	
									End of Borehole at : 40.25 m	
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 5 Of 5

Fig.: 346

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724104.66	METHOD : Continuous coring
BH-331	**2015/05/02 - 2015/05/04**	Y : 3030855.55	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1					
	D1	28	36	48		1	100		Light brown hard lean CLAY	
1									Light brown lean CLAY	
						2	100			
2									As above	
						3	90			
3										
	D2	9	11	14		4	90		Light brown very stiff lean CLAY	
4									Light brown lean CLAY	
						5	90			
5	▽				2				As above	
						6	95			
6										
	D3	5	6	7		7	100		Light brown stiff lean CLAY	
7									Light brown lean CLAY	
						8	95			
8									Brown lean CLAY	
						9	90			
9										
	D4	5	9	16		10	90		Brown very stiff lean CLAY	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Sheet: 1 Of 4

Client : NFC

Fig.: 347

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724104.66	METHOD : Continuous coring
BH-331	**2015/05/02 - 2015/05/04**	Y : 3030855.55	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Brown lean CLAY	
11						12	95		As above	
12						13	90			
	D5	11	11	10					Brown very stiff lean CLAY	
13						14	95		Brown lean CLAY	
14						15	95		As above	
15					4	16	100			
	D6	8	10	12					Light brown very stiff lean CLAY	
16						17	95		Light brown lean CLAY	
17						18	95		As above	
18						19	90			
	D7	17	23	31					Light brown hard lean CLAY	
19						20	100		Brown lean CLAY	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 348

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724104.66	METHOD : Continuous coring
BH-331	**2015/05/02 - 2015/05/04**	Y : 3030855.55	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20					5				Brown lean CLAY	
						21	95			
21										
						22	95			
	D8	14	27	37					Brown hard lean CLAY	
22									Light brown lean CLAY	
						23	95			
23									As above	
						24	100			
24										
	D9	9	9	15		25	95		Light brown very stiff lean CLAY	
25					6				Light brown lean CLAY	
						26	95			
26									As above	
						27	95			
27										
	D10	18	22	21		28	100		Light brown hard lean CLAY	
28									Light brown lean CLAY	
						29	95			
29									As above	
						30	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 3 Of 4

Fig.: 349

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724104.66	METHOD : **Continuous coring**
BH-331	**2015/05/02 - 2015/05/04**	Y : 3030855.55	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30					7					
	D11	13	20	27		31	95		Brown hard lean CLAY	
31									Brown lean CLAY	
						32	95			
32									As above	
						33	90			
33										
	D12	27	41	43		34	90		Brown hard lean CLAY	
34									Brown lean CLAY	
						35	95			
35					8				As above	
						36	85			
36										
	D13	24	42	46		37	85		Brown hard lean CLAY	
37									Brown lean CLAY	
						38	85			
38									As above	
						39	90			
39										
	D14	21	43	50/13		40	95		Brown hard lean CLAY	
40									**End of Borehole at : 40.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 4 Of 4

Fig.: 350

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724148.80	METHOD : **Continuous coring**
BH-333	**2015/05/09 - 2015/05/10**	Y : 3030832.06	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	100		As above	
8										
9						9	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 351

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 724148.80	METHOD : Continuous coring
BH-333	**2015/05/09 - 2015/05/10**	Y : 3030832.06	DRILL MACHINE : **GX-1TD**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
11						10	100			
12									As above	
13						11	100			
14									As above	
						12	100			
15					4				As above	
16						13	100			
17									As above	
						14	100			
18									As above	
						15	100			
19									As above	
						16	100			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 352

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723712.25	METHOD : **Continuous coring**
BH-334	**2015/04/29 - 2015/04/30**	Y : 3031328.82	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Brown lean CLAY	
						2	100		As above	
1						3	100		As above	
2						4	100		As above	
3						5	100		As above	
4										
5	▽				2	6	100		As above	
6										
7						7	100		As above	
8										
9						8	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 353

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723712.25	METHOD : **Continuous coring**
BH-334	**2015/04/29 - 2015/04/30**	Y : 3031328.82	DRILL MACHINE : **GX-1TD**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	
						9	100			
11										
									As above	
12						10	100			
13					4				As above	
						11	100			
14									As above	
						12	100			
15									As above	
						13	100			
16										
17									As above	
						14	100			
18										
19									As above	
						15	100			
20										

End of Borehole at : 20.00 m

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 354

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723734.32	METHOD : Continuous coring
BH-335	**2015/05/10 - 2015/05/11**	Y : 3031317.07	DRILL MACHINE : **XY-3**
		LEVEL : 0.00	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1			Brown lean CLAY	
						2			As above	
1						3			As above	
2						4			As above	
3	D1	34	32	29		5			Brown hard lean CLAY with gypsum <CL/ML>	
4										
5					2	6			Brown lean CLAY	
6	D2	26	24	20		7			Brown hard lean CLAY, CL	
7										
8						8			Brown lean CLAY	
9	D3	9	8	8		9			Brown very stiff lean CLAY, CL	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 1 Of 6

Fig.: 355

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723734.32	METHOD : **Continuous coring**
BH-335	**2015/05/10 - 2015/05/11**	Y : 3031317.07	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Brown lean CLAY	10
11						10				11
12	D4	7	5	5					Brown stiff lean CLAY, CL	12
13						11	100			13
14									Brown lean CLAY	14
						12	100			
15	D5	7	6	4					Brown stiff lean CLAY <CL>	15
16						13	100			16
17					4				Brown lean CLAY	17
						14	100			
18	D6	6	8	9					Brown very stiff lean CLAY, CL	18
19						15	100			19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 6

Fig.: 356

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723734.32	METHOD : **Continuous coring**
BH-335	**2015/05/10 - 2015/05/11**	Y : 3031317.07	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20									Brown lean CLAY	
						16	100			
21	D7	9	11	11	5				Brown very stiff lean CLAY, CL	
22						17	100			
23									Brown lean CLAY	
						18	100			
24	D8	11	13	14					Brown very stiff lean CLAY <CL/ML>	
25						19	100			
26									Brown lean CLAY	
						20	100			
27	D9	15	17	17	6				Brown hard lean CLAY, CL	
28						21	100			
29									Brown lean CLAY	
						22	100			
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 357

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723734.32	METHOD : Continuous coring
BH-335	**2015/05/10 - 2015/05/11**	Y : 3031317.07	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30	D10	19	20	19	7				Brown hard lean CLAY, CL	30
31						23	100			31
32						24	100		Brown lean CLAY	32
33	D11	22	23	22					Brown hard lean CLAY, CL	33
34						25	100			34
35					8	26	100		Brown lean CLAY	35
36	D12	25	24	26					Brown hard SILT with gypsum <ML/CL>	36
37						27	100			37
38						28	100		Brown SILT	38
39	D13	25	27	28					Brown hard lean CLAY, CL	39
40						29	100			40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 358

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723734.32	METHOD : **Continuous coring**
BH-335	**2015/05/10 - 2015/05/11**	Y : 3031317.07	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40					9				Brown lean CLAY	
41						30	100			
42	D14	28	30	30					Brown hard lean CLAY, CL	
43						31	100			
44									Brown lean CLAY	
						32	100			
45	D15	29	28	31	10				Brown hard lean CLAY, CL	
46						33	100			
47									Brown lean CLAY	
						34	100			
48	D16	32	31	32					Brown hard SILT with gypsum <ML/CL>	
49						35	100			
50										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 359

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723734.32	METHOD : Continuous coring
BH-335	**2015/05/10 - 2015/05/11**	Y : 3031317.07	DRILL MACHINE : **XY-3**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
50	D17	35	34	36		35	100		Brown hard lean CLAY, CL	
									End of Borehole at : 50.45 m	
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 360

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723800.52	METHOD : **Continuous coring**
BH-338	**2015/04/28 - 2015/04/30**	Y : 3031281.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	95		As above	
2						3	95		As above	
3						4	90		As above	
4						5	85		As above	
5					2	6	90		As above	
6						7	100		As above	
7						8	100		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
1-General Borehole
2-Pressuremeter Test have been done in depths of: 4.00-6.00,9.00-11.00,14.00-16.00,19.00-21.00,24.00-26.00,29.00-31.00m

Project : SOUTH ALUMINUM SMELTER PLANT

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Client : NFC

Fig.: 361

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723800.52	METHOD : **Continuous coring**
BH-338	**2015/04/28 - 2015/04/30**	Y : 3031281.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10						10	100		Light brown lean CLAY	
11					3	11	100		As above	
12						12	95		As above	
13						13	100		As above	
14						14	100		As above	
15										
16					4	15	95		As above	
17						16	95		As above	
18						17	95		As above	
19						18	100		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 362

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723800.52	METHOD : **Continuous coring**
BH-338	**2015/04/28 - 2015/04/30**	Y : 3031281.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20						18	100		Light brown lean CLAY	
21					5	19	100		As above	
22						20	95		As above	
23						21	100		As above	
24						22	100		As above	
25										
26					6	23	100		As above	
27						24	100		As above	
28						25	95		As above	
29						26	90		As above	
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 363

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723800.52	METHOD : Continuous coring
BH-338	**2015/04/28 - 2015/04/30**	Y : 3031281.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
30						26	90		Light brown lean CLAY	30
31					7	27	90		As above	31
32						28	100		As above	32
33						29	95		As above	33
34						30	100		As above	34
35	D1	25	36	34	8	31	95		Light brown hard lean CLAY	35
36						32	100		Light brown lean CLAY	36
37						33	100		As above	37
38						34	95		As above	38
39						35	100		As above	39
40										40

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 364

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723800.52	METHOD : **Continuous coring**
BH-338	**2015/04/28 - 2015/04/30**	Y : 3031281.83	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
40	D2	30	37	36	9	36	100		Light brown hard lean CLAY	40
41						37	95		Light brown lean CLAY	41
42						38	100		As above	42
43						39	100		As above	43
44						40	100		As above	44
45	D3	27	38	35	10	41	100		Light brown hard lean CLAY	45
46						42	100		Light brown lean CLAY	46
47						43	100		As above	47
48						44	100		As above	48
49						45	100		As above	49
50									**End of Borehole at : 50.00 m**	50

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 365

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723888.80	METHOD : **Continuous coring**
BH-342	**2015/05/06 - 2015/05/06**	Y : 3031234.85	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	90		As above	
3						4	100		As above	
4						5	90		As above	
5	▽				2	6	90		As above	
6						7	75		As above	
7						8	70		As above	
8						9	70		As above	
9						10	90		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 366

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723888.80	METHOD : Continuous coring
BH-342	**2015/05/06 - 2015/05/06**	Y : 3031234.85	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	95		Light brown lean CLAY	
11						12	100		As above	
12						13	95		As above	
13						14	100		As above	
14						15	100		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 367

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723932.93	METHOD : **Continuous coring**
BH-344	**2015/05/06 - 2015/05/06**	Y : 3031211.35	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	95		As above	
4						5	90		As above	
5	▽				2	6	95		As above	
6						7	90		As above	
7						8	95		Brown lean CLAY	
8						9	95		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 368

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723932.93	METHOD : **Continuous coring**
BH-344	**2015/05/06 - 2015/05/06**	Y : 3031211.35	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	100		Light brown lean CLAY	
11						12	100		As above	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15					4	16	100		As above	
16						17	100		As above	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 369

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723752.71	METHOD : **Continuous coring**
BH-349	**2015/04/28 - 2015/04/28**	Y : 3031245.20	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	90		As above	
3						4	95		As above	
4						5	95		As above	
5	▽				2	6	95		As above	
6						7	90		As above	
7						8	95		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 370

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723752.71	METHOD : **Continuous coring**
BH-349	**2015/04/28 - 2015/04/28**	Y : 3031245.20	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	95			
11									As above	
						12	100			
12									As above	
						13	100			
13									As above	
						14	100			
14									As above	
						15	95			
15					4				As above	
						16	90			
16									As above	
						17	100			
17									As above	
						18	95			
18									As above	
						19	90			
19									As above	
						20	85			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 371

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723791.25	METHOD : **Continuous coring**
BH-351	**2015/05/03 - 2015/05/03**	Y : 3031211.21	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	95		As above	
6						7	97		As above	
7						8	95		As above	
8						9	92		As above	
9						10	93		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

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Fig.: 372

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723791.25	METHOD : Continuous coring
BH-351	**2015/05/03 - 2015/05/03**	Y : 3031211.21	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3	11	92		Light brown lean CLAY	
11						12	90		As above	
12						13	90		As above	
13						14	89		As above	
14						15	89		As above	
15									**End of Borehole at : 15.00 m**	
16										
17										
18										
19										
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 373

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723813.32	METHOD : **Continuous coring**
BH-352	**2015/05/04 - 2015/05/05**	Y : 3031199.47	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1			Grey lean CLAY	
1						2			Brown lean CLAY	
2						3			As above	
3						4			As above	
4					2	5			As above	
5						6			As above	
6	▽					7			As above	
7						8			As above	
8					3	9			As above	
9						10			As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 374

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723813.32	METHOD : Continuous coring
BH-352	**2015/05/04 - 2015/05/05**	Y : 3031199.47	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10									Brown lean CLAY	
						11				
11									As above	
						12				
12					4				As above	
						13				
13									As above	
						14				
14									As above	
						15				
15									As above	
						16				
16					5				As above	
						17				
17									As above	
						18				
18									As above	
						19				
19									As above	
						20				
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 375

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Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723835.39	METHOD : **Continuous coring**
BH-353	**2015/05/05 - 2015/05/06**	Y : 3031187.72	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1				Grey lean CLAY	
						1	90			
1	D1	20	23	18					Grey hard lean CLAY	
						2	90			
2									Brown lean CLAY	
						3	90			
3					2				As above	
						4	90			
4	D2	5	7	10					Brown very stiff lean CLAY	
						5	90			
5									Brown lean CLAY	
						6	90			
6					3				As above	
						7	90			
7	D3	7	5	7					Brown stiff lean CLAY	
						8	90			
8									Brown lean CLAY	
						9	90			
9					4				As above	
						10	90			
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 376

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723835.39	METHOD : **Continuous coring**
BH-353	**2015/05/05 - 2015/05/06**	Y : 3031187.72	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D4	5	7	5		11	90		Brown stiff lean CLAY	10
11						12	85		Brown lean CLAY	11
12						13	90		As above	12
13	D5	4	5	6	5	14	90		Brown stiff lean CLAY	13
14						15	90		Brown lean CLAY	14
15						16	95		As above	15
16	D6	6	7	9		17	95		Brown very stiff lean CLAY	16
17						18	90		Brown lean CLAY	17
18					6	19	90		As above	18
19	D7	5	3	5		20	90		Brown medium stiff to stiff lean CLAY	19
20										20

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 377

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723835.39	METHOD : **Continuous coring**
BH-353	**2015/05/05 - 2015/05/06**	Y : 3031187.72	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20						21	90		Brown lean CLAY	20
21						22	90		As above	21
22	D8	3	4	4		23	90		Brown medium stiff to stiff lean CLAY	22
23					7	24	90		Brown lean CLAY	23
24						25	90		As above	24
25	D9	7	5	6		26	90		Brown stiff lean CLAY	25
26						27	90		Brown lean CLAY	26
27						28	90		As above	27
28	D10	7	9	5	8	29	95		Brown stiff lean CLAY	28
29						30	95		Brown lean CLAY	29
30									**End of Borehole at : 30.00 m**	30

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 378

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723882.39	METHOD : **Continuous coring**
BH-355	**2015/04/27 - 2015/04/27**	Y : 3031169.59	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	D1	6	8	10	2	6	100		Light brown very stiff lean CLAY	
6						7	98		Light brown lean CLAY	
7						8	100		As above	
8						9	95		As above	
9						10	97		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 379

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723882.39	METHOD : Continuous coring
BH-355	**2015/04/27 - 2015/04/27**	Y : 3031169.59	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10	D2	6	7	7	3	11	97		Light brown stiff lean CLAY	
11						12	95		Light brown lean CLAY	
12						13	100		As above	
13						14	100		As above	
14						15	100		As above	
15	D3	5	5	6	4	16	98		Light brown stiff lean CLAY	
16						17	95		Light brown lean CLAY	
17						18	100		As above	
18						19	100		As above	
19						20	100		As above	
20										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 380

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723882.39	METHOD : Continuous coring
BH-355	**2015/04/27 - 2015/04/27**	Y : 3031169.59	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
20	D4	3	2	3		20	100		Light brown medium stiff lean CLAY	
									End of Borehole at : 20.45 m	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Path: L:\Soil\1347\Soils\Phase-01\All-log\1347-GB.LOG-Id: 2010

BOREHOLE No.:	DRILLED :	X : 723929.25	METHOD : **Continuous coring**
BH-357	**2015/04/28 - 2015/04/28**	Y : 3031151.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
0					1	1	100		Light brown lean CLAY	
1						2	100		As above	
2						3	100		As above	
3						4	100		As above	
4						5	100		As above	
5	▽				2	6	100		As above	
6						7	100		As above	
7						8	96		As above	
8						9	100		As above	
9						10	100		As above	
10										

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :
General Borehole

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

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Fig.: 382

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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BOREHOLE No.:	DRILLED :	X : 723929.25	METHOD : **Continuous coring**
BH-357	**2015/04/28 - 2015/04/28**	Y : 3031151.23	DRILL MACHINE : **O.G.B**
		LEVEL : **0.00**	

DEPTH (m)	SAMPLE AND TYPE	S.P.T 15Cm	S.P.T 15Cm	S.P.T 15Cm	Box No.	Run No.	TCR (%)	RQD (%)	Description	Legend
10					3				Light brown lean CLAY	
						11	98			
11									As above	
						12	97			
12									As above	
						13	97			
13									As above	
						14	96			
14									As above	
						15	95			
15					4				As above	
						16	100			
16									As above	
						17	98			
17									As above	
						18	96			
18									As above	
						19	95			
19									As above	
						20	95			
20									**End of Borehole at : 20.00 m**	

D: Disturbed CB: Core Barrel LU: Lugeon

U: Undisturbed DE: Denison LE: Lefranc

Remarks :

Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

Sheet: 2 Of 2

Fig.: 383

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

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