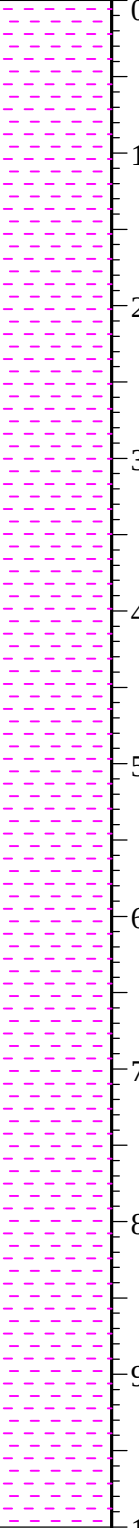
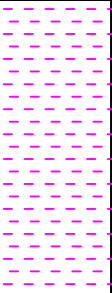
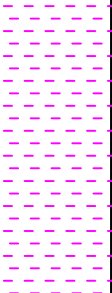
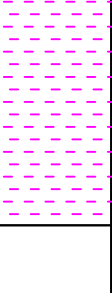


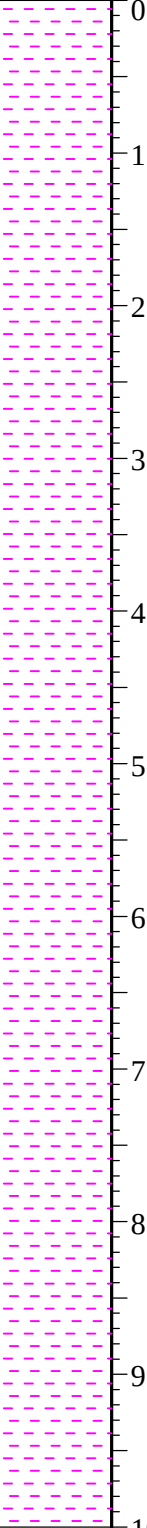
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	PROJ NO: 1347-EE-PEP-GEO-001-B	REV: B	
	SUBJECT: GEOTECHNICAL INVESTIGATION, PHASE I, FACTUAL REPORT, SOUTH ALUMINIUM SMELTER (SALCO) IRAN		

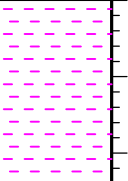
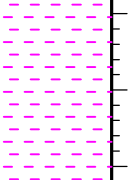
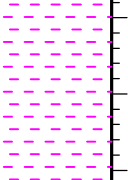
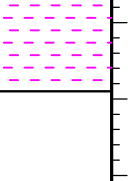
Enclosure G

SPT Boreholes Logs

BOREHOLE No.: BH-005		DRILLED : 2015/03/28 - 2015/03/28		X : 722624.98 Y : 3031824.43 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B			
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend	
		15Cm	15Cm	15Cm	Und	Rem			
0							Light grey lean CLAY		
1	D1	19	38	38			Light brown hard lean CLAY, CL		
2	D2	16	19	22			As above, CL		
3	D3	14	20	42			As above, CL		
4									
5									
6	D4	12	16	38			As above, CL		
7									
8									
9	D5	3	3	3			Light brown medium stiff lean CLAY		
10									
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc								Remarks : SPT Borehole	
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2	
		Client : NFC						Fig.: 1	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347		

BOREHOLE No.: BH-005		DRILLED : 2015/03/28 - 2015/03/28		X : 722624.98 Y : 3031824.43 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
11								
12	 D6	4	6	7			Light brown stiff lean CLAY, CL	
13								
14								
15	 D7	6	7	8			Light brown stiff to very stiff lean CLAY, CL	
16							End of Borehole at : 15.45 m	
17								
18								
19								
20								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc								Remarks :
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 2 Of 2
		Client : NFC						Fig.: 2
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-007		DRILLED : 2015/03/29 - 2015/03/29		X : 722675.02 Y : 3031856.71 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1	D1	19	33	40			Light brown hard lean CLAY, CL	
2	D2	14	18	18			As above	
3	D3	11	16	20			As above, CL	
4								
5	D4	7	10	16			Light brown very stiff lean CLAY, CL	
6	D5	8	8	7			Light brown stiff to very stiff lean CLAY, CL	
7								
8	D6	8	8	7			Light brown stiff to very stiff lean CLAY, CL	
9	D7	6	7	8			Light brown stiff to very stiff lean CLAY, CL	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 3
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-007		DRILLED : 2015/03/29 - 2015/03/29		X : 722675.02 Y : 3031856.71 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D8	14	11	12			Light brown very stiff lean CLAY, CL	
11								
12	 D9	9	10	13			As above, CL	
13								
14	 D10	11	14	15			As above, CL	
15								
15	 D11	11	13	13			As above	
16								
End of Borehole at : 15.45 m								
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

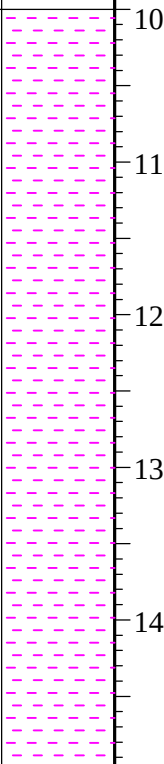
Sheet: 2 Of 2

Fig.: 4

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-012		DRILLED : 2015/03/29 - 2015/03/29		X : 722676.18 Y : 3031797.18 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	8	22	30			Light grey hard lean CLAY, CL	
3	D2	19	38	38			As above	
4								
5	D3	19	38	38			Light grey hard lean CLAY, CL	
6	D4	14	20	28			Light grey hard lean CLAY, CL	
7								
8	D5	2	3	4			Light grey medium stiff lean CLAY, CL	
9	D6	3	3	4			As above, CL	
10								
D: Disturbed U: Undisturbed CB: Core Barrel DE: Denison LU: Lugeon LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 5	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-012		DRILLED : 2015/03/29 - 2015/03/29		X : 722676.18 Y : 3031797.18 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light grey lean CLAY	
11								
12	 D7	4	4	3			Light grey medium stiff lean CLAY, CL	
13	 D8	4	5	4			Light grey stiff lean CLAY, CL	
14								
15	 D9	3	4	3			Light grey medium stiff lean CLAY, CL	
15							End of Borehole at : 15.00 m	
16								
17								
18								
19								
20								

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 6

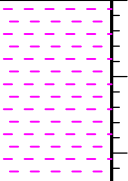
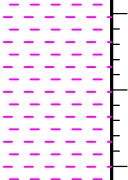
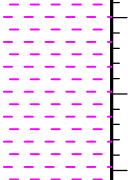
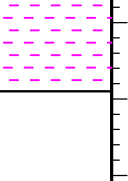
Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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D: Disturbed
 CB: Core Barrel
 LU: Lugeon

U: Undisturbed
 DE: Denison
 LE: Lefranc

Remarks :

BOREHOLE No.: BH-020		DRILLED : 2015/03/29 - 2015/03/29		X : 722734.31 Y : 3031914.31 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0								
	 D1	18	25	31			Light brown hard lean CLAY	
1								
	 D2	22	37	43			Light brown hard lean CLAY, CL	
2								
3	 D3	18	25	30			As above, CL	
4								
	 D4	7	9	12			Light brown very stiff lean CLAY, CL	
5								
	 =							
6	 D5	5	5	5			Light brown stiff lean CLAY, CL	
7								
	 D6	3	4	4			Light brown medium stiff to stiff lean CLAY, CL	
8								
9	 D7	3	4	6			Light brown stiff lean CLAY, CL	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 7	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-020		DRILLED : 2015/03/29 - 2015/03/29		X : 722734.31 Y : 3031914.31 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D8	4	6	6			Light brown stiff lean CLAY	
11								
12	 D9	5	5	5			As above, CL	
13								
14	 D10	4	6	7			As above, CL	
15								
15	 D11	5	6	8			As above, CL	
16								
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
Soil Engineering Services Consultant & Contractor								Sheet: 2 Of 2 Fig.: 8
Proj No. : 1347								

BOREHOLE No.: BH-029		DRILLED : 2015/04/15 - 2015/04/15		X : 722772.86 Y : 3031845.35 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	15	20	22			Light brown hard lean CLAY	
3	D2	13	16	18			As above	
4								
5	D3	12	9	7			Light brown very stiff lean CLAY	
6	D4	6	8	7			Light brown stiff to very stiff lean CLAY	
7								
8	D5	9	3	5			Light brown medium stiff to stiff lean CLAY	
9	D6	4	3	3			Light brown medium stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 9
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-029		DRILLED : 2015/04/15 - 2015/04/15		X : 722772.86 Y : 3031845.35 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	D7	3	2	3			Light brown medium stiff lean CLAY	
11								
	D8	2	2	1			Light brown soft lean CLAY	
12								
	D9	4	3	3			Light brown medium stiff lean CLAY	
13								
	D10	4	3	5			Light brown medium stiff to stiff lean CLAY	
14								
	D11	3	2	3			Light brown medium stiff lean CLAY	
15								
	D12	4	5	3			Light brown medium stiff to stiff lean CLAY	
16								
	D13	3	4	2			Light brown medium stiff lean CLAY	
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						Sheet: 2 Of 2
		Client : NFC						Fig.: 10
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-038		DRILLED : 2015/04/15 - 2015/04/15		X : 722971.47 Y : 3031739.63 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	14	12	12			Light brown very stiff lean CLAY	
3	D2	12	11	11			As above	
4								
5	D3	9	9	11			As above	
6	D4 LE01	7	6	6			Light brown stiff lean CLAY	
7								
8	D5	6	5	5			As above	
9								
10	D6	5	5	4			As above	
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 11	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-038		DRILLED : 2015/04/15 - 2015/04/15		X : 722971.47 Y : 3031739.63 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
11	D7	4	5	4			Light brown stiff lean CLAY	
12	D8	5	5	6			As above	
14	D9	4	5	6			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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT	Sheet: 2 Of 2
	Client : NFC	Fig.: 12

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-047		DRILLED : 2015/04/10 - 2015/04/10		X : 723170.09 Y : 3031633.91 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	11	14	15			Light brown very stiff lean CLAY, CL	
3	D2	20	21	15			Light brown hard lean CLAY	
4								
5	D3	10	15	17			As above, CL	
6	D4 LE01	4	5	7			Light brown stiff lean CLAY, CL	
7								
8	D5	6	6	7			As above, CL	
9	D6	5	7	6			As above, CL	
10								

D: Disturbed

CB: Core Barrel

LU: Lugeon

U: Undisturbed

DE: Denison

LE: Lefranc

Remarks :
SPT Borehole

	Project : SOUTH ALUMINUM SMELTER PLANT	Sheet: 1 Of 2
	Client : NFC	Fig.: 13

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-047		DRILLED : 2015/04/10 - 2015/04/10		X : 723170.09 Y : 3031633.91 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	6	5	6			Light brown lean CLAY	
11							Light brown stiff lean CLAY, CL	
12	 D8	4	5	5			As above, CL	
13								
14	 D9	5	7	8			Light brown stiff to very stiff lean CLAY, CL	
15								
16	 D10	7	9	10			Light brown very stiff lean CLAY, CL	
17								
18							End of Borehole at : 15.45 m	
19								
20								

 D: Disturbed

 U: Undisturbed

 CB: Core Barrel

 DE: Denison

 LU: Lugeon

 LE: Lefranc

Remarks :

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 14

Soil Engineering Services Consultant & Contractor

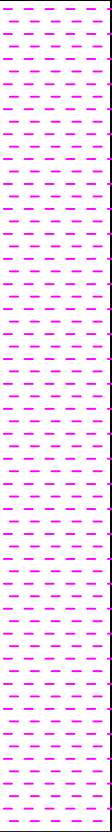
Proj No. : 1347

BOREHOLE No.: BH-055		DRILLED : 2015/04/15 - 2015/04/15		X : 723346.69 Y : 3031539.94 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	11	18	35			Light brown hard lean CLAY	
3	D2	12	20	31			As above	
4								
5	D3	6	12	15			Light brown very stiff lean CLAY	
6	D4	3	4	7			Light brown stiff lean CLAY	
7	LE01							
8								
9								
10	D5	6	7	8			Light brown stiff to very stiff lean CLAY	
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc								
							Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC	
Soil Engineering Services Consultant & Contractor							Sheet: 1 Of 2 Fig.: 15	
Proj No. : 1347								

BOREHOLE No.: BH-055		DRILLED : 2015/04/15 - 2015/04/15		X : 723346.69 Y : 3031539.94 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
11	 D6	5	6	7			Light brown stiff lean CLAY	
12								
13	 D7	3	4	5			As above	
14	 D8	8	10	13			Light brown very stiff lean CLAY	
15	 D9	7	9	12			As above	
16							End of Borehole at : 15.45 m	
17								
18								
19								
20								
 D: Disturbed  U: Undisturbed  CB: Core Barrel  DE: Denison  LU: Lugeon  LE: Lefranc Remarks :								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 2 Of 2
		Client : NFC						Fig.: 16
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-060		DRILLED : 2015/04/15 - 2015/04/15		X : 723456.98 Y : 3031481.20 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	12	20	30			Light brown hard lean CLAY	
3	D2	8	15	23			As above	
4								
5	D3	5	9	11			Light brown very stiff lean CLAY	
6	D4	4	3	3			Light brown medium stiff lean CLAY	
7								
8	D5	5	8	10			Light brown very stiff lean CLAY	
9	D6	4	5	7			Light brown stiff lean CLAY	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 3
		Client : NFC						Fig.: 17
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-060		DRILLED : 2015/04/15 - 2015/04/15		X : 723456.98 Y : 3031481.20 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	 D7	6	8	12			Light brown very stiff lean CLAY	
11								
12	 D8	6	7	7			Light brown stiff lean CLAY	
13								
14	 D9	4	5	5			As above	
15								
16	 D10	5	6	8			As above	
17								
18	 D11	5	8	9			Light brown very stiff lean CLAY	
19								
20	 D12	10	12	14			As above	
	 D13	9	10	12			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	
Soil Engineering Services Consultant & Contractor							Fig.: 18	
						Proj No. : 1347		

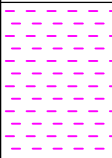
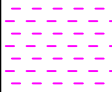
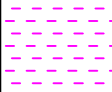
BOREHOLE No.: BH-060		DRILLED : 2015/04/15 - 2015/04/15		X : 723456.98 Y : 3031481.20 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20							Light brown lean CLAY	
21	D14	4	5	5			Light brown stiff lean CLAY	
22								
23	D15	5	6	7			As above	
24	D16	6	7	7			As above	
25	D17	4	5	5			As above	
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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 19

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-072		DRILLED : 2015/04/21 - 2015/04/21		X : 722822.73 Y : 3031779.43 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Grey lean CLAY	
1								
2	D1	13	17	21			Grey hard lean CLAY	
3	D2	9	13	23			As above	
4								
5	D3	11	13	19			Light brown hard lean CLAY	
6	D4	10	10	25			As above	
7								
8	D5	8	9	14			Light brown very stiff lean CLAY	
9	D6	3	3	4			Light brown medium stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 20	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-072		DRILLED : 2015/04/21 - 2015/04/21		X : 722822.73 Y : 3031779.43 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	5	10	7			Light brown very stiff lean CLAY	
11								
12	 D8	4	5	11			As above	
13								
14	 D9	3	3	7			Light brown stiff lean CLAY	
15	 D10	5	5	7			As above	
16							End of Borehole at : 15.45 m	
17								
18								
19								
20								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks :								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 2 Of 2
		Client : NFC						Fig.: 21
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-083		DRILLED : 2015/04/16 - 2015/04/16		X : 723065.48 Y : 3031650.21 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	 D1	13	10	11			Light brown very stiff lean CLAY	
3	 D2	11	10	10			As above	
4								
5	 D3	7	9	12			As above	
6	  D4	7	7	8			Light brown stiff to very stiff lean CLAY	
7								
8	 D5	5	6	5			Light brown stiff lean CLAY	
9	 D6	4	4	6			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 3	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-083		DRILLED : 2015/04/16 - 2015/04/16		X : 723065.48 Y : 3031650.21 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	 D7	4	5	5			Light brown stiff lean CLAY	
11								
	 D8	5	6	6			As above	
12								
	 D9	5	9	9			Light brown very stiff lean CLAY	
13								
	 D10	5	5	7			Light brown stiff lean CLAY	
14								
	 D11	7	6	6			As above	
15								
	 D12	6	4	7			As above	
16								
	 D13	7	6	6			As above	
17								
18								
19								
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.: 23	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-083		DRILLED : 2015/04/16 - 2015/04/16		X : 723065.48 Y : 3031650.21 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20							Light brown lean CLAY	
21	D14	11	13	15			Light brown very stiff lean CLAY	
22								
23	D15	9	11	8			As above	
24	D16	10	11	11			As above	
25	D17	9	10	10			As above	
26							End of Borehole at : 25.95 m	
27								
28								
29								
30								

D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc	Remarks :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 24

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-088		DRILLED : 2015/04/17 - 2015/04/17		X : 723175.82 Y : 3031591.48 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	15	18	15			Light grey hard lean CLAY	
3	D2	10	11	19			Light grey very stiff lean CLAY	
4								
5	D3	7	7	11			Light brown very stiff lean CLAY	
6	D4	6	5	5			Light brown stiff lean CLAY	
7								
8	D5	5	4	5			As above	
9	D6	4	5	6			As above	
10								

D: Disturbed

CB: Core Barrel

LU: Lugeon

U: Undisturbed

DE: Denison

LE: Lefranc

Remarks :

SPT Borehole

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 1 Of 2
	Client : NFC		Fig.: 25

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-088		DRILLED : 2015/04/17 - 2015/04/17		X : 723175.82 Y : 3031591.48 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	4	4	5			Light brown lean CLAY	
							Light brown stiff lean CLAY	
11								
12	 D8	4	4	4			Light brown medium stiff to stiff lean CLAY	
13								
14	 D9	4	3	4			Light brown medium stiff lean CLAY	
15	 D10	5	4	4			Light brown medium stiff to stiff lean CLAY	
							End of Borehole at : 15.45 m	
16								
17								
18								
19								
20								

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 26

Soil Engineering Services Consultant & Contractor		Proj No. : 1347
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BOREHOLE No.: BH-091		DRILLED : 2015/04/10 - 2015/04/10		X : 723347.00 Y : 3031556.00 LEVEL : 0.00		METHOD : Rotary drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	7	12	13			Light brown very stiff lean CLAY, CL	
3	D2	5	8	7			Light brown stiff to very stiff lean CLAY, CL	
4								
5	D3	9	11	13			Light brown very stiff lean CLAY, CL	
6	D4 LE01	7	8	8			Light brown very stiff lean CLAY, CL	
7								
8								
9	D5	7	6	5			Light brown stiff lean CLAY, CL	
10								

D: Disturbed

CB: Core Barrel

LU: Lugeon

U: Undisturbed

DE: Denison

LE: Lefranc

Remarks :
SPT Borehole

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 1 Of 3
	Client : NFC		Fig.: 27

Soil Engineering Services Consultant & Contractor

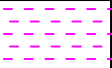
Proj No. : 1347

BOREHOLE No.: BH-091		DRILLED : 2015/04/10 - 2015/04/10		X : 723347.00 Y : 3031556.00 LEVEL : 0.00		METHOD : Rotary drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10								
	 D6	5	4	4			Light brown medium stiff to stiff lean CLAY, CL	
11								
	 D7	5	4	5			Light brown stiff lean CLAY, CL	
12								
	 D8	4	6	6			As above, CL	
13								
	 D9	7	8	9			Light brown very stiff lean CLAY, CL	
14								
	 D10	6	10	12			Light brown very stiff lean CLAY, CL	
15								
	 D11	9	12	13			As above, CL	
16								
17								
18								
19								
20								

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

	Project : SOUTH ALUMINUM SMELTER PLANT	Sheet: 2 Of 3
	Client : NFC	Fig.: 28

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-091		DRILLED : 2015/04/10 - 2015/04/10		X : 723347.00 Y : 3031556.00 LEVEL : 0.00		METHOD : Rotary drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D12	14	14	13			Light brown very stiff lean CLAY, CL	
		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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 29

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-092		DRILLED : 2015/04/18 - 2015/04/18		X : 723264.09 Y : 3031544.49 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	 D1	11	10	12			Light brown very stiff lean CLAY	
3	 D2	9	8	12			As above	
4								
5	 D3	8	7	7			Light brown stiff lean CLAY	
6	  D4	5	4	6			As above	
7								
8	 D5	5	6	5			As above	
9	 D6	4	5	6			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 3 Fig.: 30	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-092		DRILLED : 2015/04/18 - 2015/04/18		X : 723264.09 Y : 3031544.49 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	 D7	4	4	5			Light brown stiff lean CLAY	
11								
	 D8	8	7	8			Light brown stiff to very stiff lean CLAY	
12								
	 D9	4	5	10			As above	
14								
	 D10	5	7	8			As above	
15								
	 D11	6	6	7			Light brown stiff lean CLAY	
16								
	 D12	5	5	6			As above	
18								
19								
20								

 D: Disturbed

 CB: Core Barrel

 LU: Lugeon

 U: Undisturbed

 DE: Denison

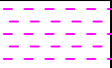
 LE: Lefranc

Remarks :

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 3
	Client : NFC		Fig.: 31

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-092		DRILLED : 2015/04/18 - 2015/04/18		X : 723264.09 Y : 3031544.49 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D13	6	5	7			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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 32
Soil Engineering Services Consultant & Contractor			Proj No. : 1347

BOREHOLE No.: BH-102		DRILLED : 2015/04/16 - 2015/04/16		X : 723484.78 Y : 3031427.03 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	11	16	22			Light brown hard lean CLAY	
3	D2	7	11	12			Light brown very stiff lean CLAY	
4								
5	D3	12	17	17			Light brown hard lean CLAY	
6	D4	3	5	6			Light brown stiff lean CLAY	
7								
8	D5	4	5	6			As above	
9	D6	4	5	5			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 3
		Client : NFC						Fig.: 33
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-102		DRILLED : 2015/04/16 - 2015/04/16		X : 723484.78 Y : 3031427.03 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	 D7	7	10	8			Light brown very stiff lean CLAY	
11								
	 D8	7	10	10			As above	
12								
	 D9	9	10	15			As above	
13								
	 D10	8	8	12			As above	
14								
	 D11	14	15	16			Light brown hard lean CLAY	
15								
	 D12	13	14	15			Light brown very stiff lean CLAY	
16								
17								
18								
19								
20								

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 3
	Client : NFC		Fig.: 34

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-102		DRILLED : 2015/04/16 - 2015/04/16		X : 723484.78 Y : 3031427.03 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D13	10	11	12			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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 35

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-122		DRILLED : 2015/04/16 - 2015/04/16		X : 723021.91 Y : 3031621.57 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	15	18	15			Light grey hard lean CLAY	
3	D2	14	11	11			Light grey very stiff lean CLAY	
4								
5	D3	12	10	11			As above	
6	D4	5	5	5			Light grey stiff lean CLAY	
7								
8	D5	6	5	6			Light brown stiff lean CLAY	
9	D6	8	9	10			Light brown very stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 36	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-122		DRILLED : 2015/04/16 - 2015/04/16		X : 723021.91 Y : 3031621.57 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	D7	7	6	7			Light brown lean CLAY	
11							Light brown stiff lean CLAY	
12	D8	7	8	10			Light brown very stiff lean CLAY	
13	D9	8	9	11			As above	
14								
15	D10	6	7	9			As above	
16	End of Borehole at : 15.45 m							
17								
18								
19								
20								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc								Remarks :
Project : SOUTH ALUMINUM SMELTER PLANT								Sheet: 2 Of 2
Client : NFC								Fig.: 37
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-135		DRILLED : 2015/04/20 - 2015/04/20		X : 723308.71 Y : 3031468.86 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	16	30	39			Light brown hard lean CLAY	
3	D2	11	18	23			As above	
4								
5	D3	5	6	8			Light brown stiff lean CLAY	
6	D4	4	4	5			As above	
7								
8	D5	3	3	4			Light brown medium stiff lean CLAY	
9	D6	4	4	5			Light brown stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC								Sheet: 1 Of 2
Soil Engineering Services Consultant & Contractor								Fig.: 38
Proj No. : 1347								

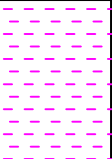
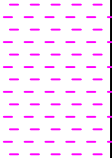
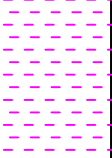
BOREHOLE No.: BH-135		DRILLED : 2015/04/20 - 2015/04/20		X : 723308.71 Y : 3031468.86 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B			
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend	
		15Cm	15Cm	15Cm	Und	Rem			
10	 D7	4	4	5			Light brown lean CLAY		
							Light brown stiff lean CLAY		
11									
12	 D8	3	5	6			As above		
13									
14	 D9	3	5	5			As above		
15	 D10	4	12	15			Light brown very stiff lean CLAY		
16							End of Borehole at : 15.45 m		
17									
18									
19									
20									

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 39

Soil Engineering Services Consultant & Contractor		Proj No. : 1347
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BOREHOLE No.: BH-152		DRILLED : 2015/04/19 - 2015/04/19		X : 722784.98 Y : 3031708.52 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	33	48	45			Light grey hard lean CLAY	
3	D2	12	14	23			Light brown hard lean CLAY	
4								
5	D3	9	15	17			As above	
6	D4	5	6	7			Brown stiff lean CLAY	
7								
8	D5	5	6	6			As above	
9	D6	4	4	5			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 40
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-152		DRILLED : 2015/04/19 - 2015/04/19		X : 722784.98 Y : 3031708.52 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B			
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend	
		15Cm	15Cm	15Cm	Und	Rem			
10	D7	4	5	4			Brown lean CLAY		
11							Brown stiff lean CLAY		
12	D8	5	6	8			As above		
13	D9	7	10	9			Brown very stiff lean CLAY		
14									
15	D10	10	11	16			As above		
16	End of Borehole at : 15.45 m								
17									
18									
19									
20									
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc								Remarks :	
							Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
							Client : NFC		Fig.: 41
Soil Engineering Services Consultant & Contractor							Proj No. : 1347		

BOREHOLE No.: BH-158		DRILLED : 2015/04/10 - 2015/04/10		X : 722917.39 Y : 3031638.04 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	20	25	23			Light brown hard lean CLAY, CL	
3	D2	18	18	14			As above, CL	
4								
5	D3	7	8	10			Light brown very stiff lean CLAY, CL	
6	D4	6	7	8			Light brown stiff to very stiff lean CLAY, CL	
7								
8	D5	5	6	7			Light brown stiff lean CLAY, CL	
9	D6	5	6	8			As above, CL	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC Sheet: 1 Of 2								
Soil Engineering Services Consultant & Contractor Proj No. : 1347 Fig.: 42								

BOREHOLE No.: BH-158		DRILLED : 2015/04/10 - 2015/04/10		X : 722917.39 Y : 3031638.04 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B			
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend	
		15Cm	15Cm	15Cm	Und	Rem			
10	 D7	6	9	11			Light brown lean CLAY		
							Light brown very stiff lean CLAY, CL		
11									
12	 D8	5	6	8			Light brown stiff lean CLAY, CL		
13									
14	 D9	7	9	10			Light brown very stiff lean CLAY, CL		
15	 D10	10	11	10			As above, CL		
							End of Borehole at : 15.45 m		
16									
17									
18									
19									
20									

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 43

Soil Engineering Services Consultant & Contractor		Proj No. : 1347
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BOREHOLE No.: BH-163		DRILLED : 2015/04/18 - 2015/04/19		X : 723005.66 Y : 3031591.05 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	19	28	28			Light grey hard lean CLAY	
3	D2	13	24	26			Light brown hard lean CLAY	
4								
5	D3	21	30	33			Brown hard lean CLAY	
6	D4	12	17	18			As above	
7								
8	D5	8	10	9			Brown very stiff lean CLAY	
9	D6	5	6	6			Brown stiff lean CLAY	
10								
D: Disturbed U: Undisturbed CB: Core Barrel DE: Denison LU: Lugeon LE: Lefranc Remarks : SPT Borehole								
S S S Project : SOUTH ALUMINUM SMELTER PLANT								Sheet: 1 Of 3
S S S Client : NFC								Fig.: 44
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-163		DRILLED : 2015/04/18 - 2015/04/19		X : 723005.66 Y : 3031591.05 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	5	5	4			Brown lean CLAY	
11							Brown stiff lean CLAY	
12	 D8	4	4	5			As above	
13								
14	 D9	6	7	6			As above	
15								
16	 D10	9	9	12			Brown very stiff lean CLAY	
17								
18	 D11	8	10	11			As above	
19								
20	 D12	10	11	10			As above	
21								

 D: Disturbed
 CB: Core Barrel
 LU: Lugeon

 U: Undisturbed
 DE: Denison
 LE: Lefranc

Remarks :



Project : SOUTH ALUMINUM SMELTER PLANT

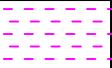
Client : NFC

Sheet: 2 Of 3

Fig.: 45

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

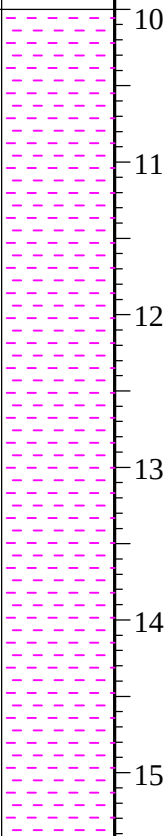
BOREHOLE No.: BH-163		DRILLED : 2015/04/18 - 2015/04/19		X : 723005.66 Y : 3031591.05 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D13	9	10	13			Brown very stiff lean CLAY	
		End of Borehole 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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 46

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-176		DRILLED : 2015/04/02 - 2015/04/02		X : 723314.62 Y : 3031426.60 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Grey lean CLAY	
1								
2	D1	19	43	49			Grey hard lean CLAY, CL	
3	D2	10	24	37			Light brown hard lean CLAY, CL	
4								
5	D3	9	13	14			Brown very stiff lean CLAY, CL	
6	D4	4	5	8			Brown stiff lean CLAY, CL	
7								
8	D5	4	6	8			As above, CL	
9	D6	3	5	7			As above, CL	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 47	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-176		DRILLED : 2015/04/02 - 2015/04/02		X : 723314.62 Y : 3031426.60 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	3	6	7			Brown lean CLAY	
							Brown stiff lean CLAY, CL	
11								
12	 D8	6	7	7			As above, CL	
13								
14	 D9	8	10	11			Brown very stiff lean CLAY, CL	
15	 D10	11	13	13			As above, CL	
							End of Borehole at : 15.45 m	
16								
17								
18								
19								
20								

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 48

Soil Engineering Services Consultant & Contractor		Proj No. : 1347
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BOREHOLE No.: BH-183		DRILLED : 2015/04/17 - 2015/04/17		X : 723469.10 Y : 3031344.37 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	8	13	19			Light brown hard lean CLAY	
3	D2	6	8	10			Light brown very stiff lean CLAY	
4								
5	D3	7	7	8			Light brown stiff to very stiff lean CLAY	
6	D4	5	5	6			Light brown stiff lean CLAY	
7								
8	D5	3	3	4			Light brown medium stiff lean CLAY	
9	D6	4	5	6			Light brown stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 49	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-183		DRILLED : 2015/04/17 - 2015/04/17		X : 723469.10 Y : 3031344.37 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	D7	4	4	5			Light brown lean CLAY	
11							Light brown stiff lean CLAY	
12	D8	7	10	6			Light brown very stiff lean CLAY	
13	D9	4	5	5			Light brown stiff lean CLAY	
14								
15	D10	4	5	6			As above	
16	End of Borehole at : 15.45 m							
17								
18								
19								
20								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc								Remarks :
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 2 Of 2
		Client : NFC						Fig.: 50
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-187		DRILLED : 2015/04/06 - 2015/04/06		X : 722762.79 Y : 3031790.67 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	12	18	24			Light brown hard lean CLAY, CL	
3	D2	8	15	14			Light brown very stiff lean CLAY, CL	
4								
5	D3	18	17	20			Light brown hard lean CLAY, CL	
6	D4	12	14	13			Light brown very stiff lean CLAY, CL	
7								
8	D5	6	7	5			Light brown stiff lean CLAY, CL	
9	D6	4	3	4			Light brown medium stiff lean CLAY, CL	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
SES Project : SOUTH ALUMINUM SMELTER PLANT SES Client : NFC							Sheet: 1 Of 2 Fig.: 51	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-187		DRILLED : 2015/04/06 - 2015/04/06		X : 722762.79 Y : 3031790.67 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	 D7	6	7	7			Light brown stiff lean CLAY, CL	
11								
12	 D8	6	5	6			As above, CL	
13								
14	 D9	8	10	10			Light brown very stiff lean CLAY, CL	
15	 D10	9	10	10			As above, CL	
							End of Borehole at : 15.45 m	
16								
17								
18								
19								
20								
 D: Disturbed  U: Undisturbed  CB: Core Barrel  DE: Denison  LU: Lugeon  LE: Lefranc Remarks :								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 2 Of 2 Fig.: 52	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-196		DRILLED : 2015/04/06 - 2015/04/06		X : 723079.64 Y : 3031609.54 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	11	10	13			Light brown very stiff lean CLAY, CL	
3	D2	8	11	13			As above, CL	
4								
5	D3	13	13	15			As above, CL	
6	D4	4	5	6			Light brown stiff lean CLAY, CL	
7								
8	D5	4	4	4			Light brown medium stiff to stiff lean CLAY, CL	
9	D6	4	5	5			Light brown stiff lean CLAY, CL	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 53	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-196		DRILLED : 2015/04/06 - 2015/04/06		X : 723079.64 Y : 3031609.54 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B			
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend	
		15Cm	15Cm	15Cm	Und	Rem			
10	 D7	5	6	5			Light brown lean CLAY		
							Light brown stiff lean CLAY, CL		
11									
12	 D8	6	7	6			As above, CL		
13									
14	 D9	7	9	8			Light brown very stiff lean CLAY, CL		
15	 D10	8	9	9			As above, CL		
							End of Borehole at : 15.45 m		
16									
17									
18									
19									
20									

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

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 54

Soil Engineering Services Consultant & Contractor		Proj No. : 1347
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BOREHOLE No.: BH-203		DRILLED : 2015/04/19 - 2015/04/19		X : 723195.70 Y : 3031692.31 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	17	24	20			Light brown hard lean CLAY	
3	D2	13	25	21			As above	
4								
5	D3	7	15	13			Light brown very stiff lean CLAY	
6	D4	8	8	7			Light brown stiff to very stiff lean CLAY	
7								
8	D5	6	7	7			Light brown stiff lean CLAY	
9	D6	5	6	6			As above	
10								
D: Disturbed U: Undisturbed CB: Core Barrel DE: Denison LU: Lugeon LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 3 Fig.: 55	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-203		DRILLED : 2015/04/19 - 2015/04/19		X : 723195.70 Y : 3031692.31 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10							Light brown lean CLAY	
	D7	4	5	6			Light brown stiff lean CLAY	
11								
	D8	4	5	3			Light brown medium stiff to stiff lean CLAY	
12								
	D9	9	10	10			Light brown very stiff lean CLAY	
13								
	D10	8	9	8			As above	
14								
	D11	15	12	11			As above	
15								
	D12	15	20	17			Light brown hard lean CLAY	
16								
17								
18								
19								
20								

D: Disturbed

CB: Core Barrel

LU: Lugeon

U: Undisturbed

DE: Denison

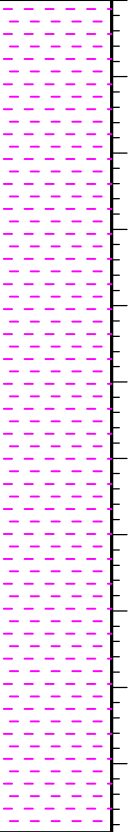
LE: Lefranc

Remarks :

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 3
	Client : NFC		Fig.: 56

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-203		DRILLED : 2015/04/19 - 2015/04/19		X : 723195.70 Y : 3031692.31 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	 D13	7	6	8			Light brown stiff lean CLAY	
21								
22	 D14	8	10	11			Light brown very stiff lean CLAY	
23	 D15	9	10	11			As above	
24								
25	 D16	7	10	13			As above	
							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

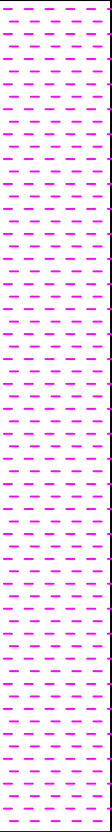
Sheet: 3 Of 3

Fig.: 57

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-206		DRILLED : 2015/04/15 - 2015/04/15		X : 722705.81 Y : 3031815.87 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Brown lean CLAY	
1								
2	D1	13	20	29			Brown hard lean CLAY	
3	D2	11	17	23			Light brown hard lean CLAY	
4								
5	D3	9	10	12			Light brown very stiff lean CLAY	
6	D4	5	4	5			Light brown stiff lean CLAY	
7								
8	D5	9	10	12			Light brown very stiff lean CLAY	
9	D6	10	14	11			As above	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC								Sheet: 1 Of 3
Soil Engineering Services Consultant & Contractor								Fig.: 58
						Proj No. : 1347		

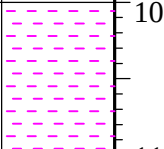
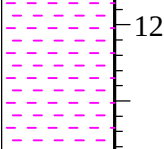
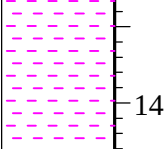
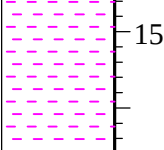
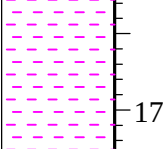
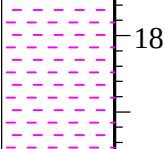
BOREHOLE No.: BH-206		DRILLED : 2015/04/15 - 2015/04/15		X : 722705.81 Y : 3031815.87 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20							Light brown lean CLAY	
21	D14	12	9	11			Light brown very stiff lean CLAY	
22								
23	D15	10	11	16			As above	
24	D16	8	12	17			As above	
25	D17	9	10	18			As above	
End of Borehole at : 25.45 m								
26								
27								
28								
29								
30								

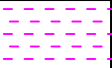
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc	Remarks :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 60

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-213		DRILLED : 2015/04/16 - 2015/04/16		X : 723557.77 Y : 3031362.38 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	10	17	17			Light brown hard lean CLAY	
3	D2	9	10	12			Light brown very stiff lean CLAY	
4								
5	D3	9	11	12			As above	
6	D4	3	5	8			Light brown stiff lean CLAY, CL	
7								
8	D5	4	4	5			As above	
9	D6	5	5	6			As above	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 3 Fig.: 61	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-213		DRILLED : 2015/04/16 - 2015/04/16		X : 723557.77 Y : 3031362.38 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	4	6	6			Light brown lean CLAY	
							Light brown stiff lean CLAY	
11								
12	 D8	3	3	3			Light brown medium stiff lean CLAY	
13								
14	 D9	3	3	4			As above	
15								
16	 D10	5	5	4			Light brown stiff lean CLAY	
17								
18	 D11	6	6	7			As above	
19								
20	 D12	4	5	6			As above	
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
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89								
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								
100								
 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.: 62
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-213		DRILLED : 2015/04/16 - 2015/04/16		X : 723557.77 Y : 3031362.38 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D13	5	5	6			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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 63
Soil Engineering Services Consultant & Contractor			Proj No. : 1347

BOREHOLE No.: BH-217		DRILLED : 2015/04/11 - 2015/04/12		X : 722832.73 Y : 3031748.30 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Grey lean CLAY	
1								
2	D1	30	35	34			Grey hard lean CLAY, CL	
3	D2	16	30	49			As above	
4								
5	D3	14	15	15			Brown very stiff lean CLAY, CL	
6	D4	7	16	15			Brown hard lean CLAY, CL	
7								
8	D5	6	6	8			Brown stiff lean CLAY, CL	
9	D6	5	6	8			As above, CL	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 64
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-217		DRILLED : 2015/04/11 - 2015/04/12		X : 722832.73 Y : 3031748.30 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	5	6	7			Brown lean CLAY	
11							Brown stiff lean CLAY and lime, CL	
12	 D8	6	6	7			As above, CL	
13								
14	 D9	9	9	8			Brown very stiff lean CLAY, CL	
15								
16	 D10	9	11	10			As above, CL	
17								
18							End of Borehole at : 15.45 m	
19								
20								

 D: Disturbed

 U: Undisturbed

 CB: Core Barrel

 DE: Denison

 LU: Lugeon

 LE: Lefranc

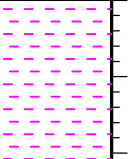
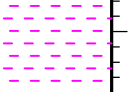
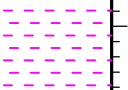
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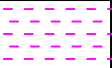
	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 65

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-221		DRILLED : 2015/04/21 - 2015/04/21		X : 722875.14 Y : 3031725.75 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	36	43	38			Light grey hard lean CLAY	
3	D2	16	30	$\frac{50}{13}$			Light brown hard lean CLAY	
4								
5	D3	14	20	25			As above	
6	D4	7	9	8			Brown very stiff lean CLAY	
7								
8	D5	7	8	7			Brown stiff to very stiff lean CLAY	
9	D6	8	10	9			Brown very stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 3 Fig.: 66	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-221		DRILLED : 2015/04/21 - 2015/04/21		X : 722875.14 Y : 3031725.75 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	9	11	12			Brown lean CLAY	
11							Brown very stiff lean CLAY	
12	 D8	9	10	12			As above	
13	 D9	10	11	11			As above	
14								
15	 D10	12	15	17			Brown hard lean CLAY	
16	 D11	14	20	20			As above	
17								
18	 D12	14	19	23			As above	
19								
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.: 67
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-221		DRILLED : 2015/04/21 - 2015/04/21		X : 722875.14 Y : 3031725.75 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D13	15	17	18			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 :
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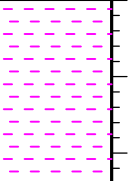
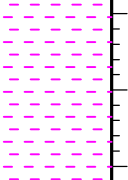
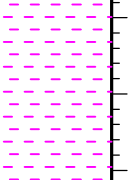
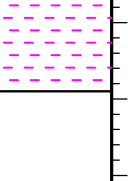
	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 68

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-224		DRILLED : 2015/04/11 - 2015/04/11		X : 722935.04 Y : 3031694.33 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	18	22	18			Light brown hard lean CLAY, CL	
3	D2	6	7	7			Light brown stiff lean CLAY, CL	
4								
5	D3	10	17	18			Light brown hard lean CLAY , CL	
6	D4	9	12	15			Light brown very stiff lean CLAY, CL	
7								
8	D5	5	8	9			As above, CL	
9	D6	4	7	8			Light brown stiff to very stiff lean CLAY, CL	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 69	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-224		DRILLED : 2015/04/11 - 2015/04/11		X : 722935.04 Y : 3031694.33 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	D7	5	6	8			Light brown lean CLAY	
11							Light brown stiff lean CLAY, CL	
12	D8	5	6	8			As above, CL	
13	D9	7	9	10			Light brown very stiff lean CLAY, CL	
14								
15	D10	10	11	22			Light brown hard lean CLAY, CL	
16	End of Borehole at : 15.45 m							
17								
18								
19								
20								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc								Remarks :
								Sheet: 2 Of 2
Project : SOUTH ALUMINUM SMELTER PLANT								Fig.: 70
Client : NFC								
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-232		DRILLED : 2015/04/21 - 2015/04/21		X : 723113.05 Y : 3031599.14 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	19	22	24			Light grey hard lean CLAY	
3	D2	21	20	26			Light brown hard lean CLAY	
4								
5	D3	11	15	21			As above	
6	D4	8	9	12			Brown very stiff lean CLAY	
7								
8	D5	6	9	10			As above	
9	D6	8	10	12			As above	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc								
							Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC	
Soil Engineering Services Consultant & Contractor							Sheet: 1 Of 2 Fig.: 71	
Proj No. : 1347								

BOREHOLE No.: BH-232		DRILLED : 2015/04/21 - 2015/04/21		X : 723113.05 Y : 3031599.14 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	7	9	11			Brown very stiff lean CLAY	
11								
12	 D8	7	8	7			Brown stiff to very stiff lean CLAY	
13								
14	 D9	8	8	10			Brown very stiff lean CLAY	
15								
15.45	 D10	9	11	13			As above	
16							End of Borehole at : 15.45 m	
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

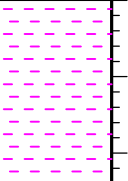
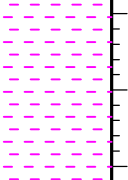
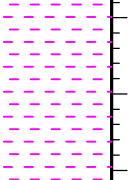
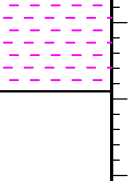
Sheet: 2 Of 2

Fig.: 72

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-239		DRILLED : 2015/04/17 - 2015/04/17		X : 723215.32 Y : 3031545.18 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0								
1								
2	D1	12	14	15			Light brown very stiff lean CLAY	
3	D2	12	14	12			As above	
4								
5	D3	11	10	10			As above	
6	D4	4	3	3			Light brown medium stiff lean CLAY	
7								
8	D5	4	5	6			Light brown stiff lean CLAY	
9	D6	3	4	5			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 73
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-239		DRILLED : 2015/04/17 - 2015/04/17		X : 723215.32 Y : 3031545.18 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	4	4	4			Light brown medium stiff to stiff lean CLAY	
11								
12	 D8	5	7	6			Light brown stiff lean CLAY	
13								
14	 D9	5	6	6			As above	
15								
15.45	 D10	6	6	5			As above	
16								
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

Sheet: 2 Of 2

Fig.: 74

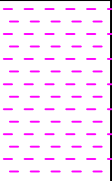
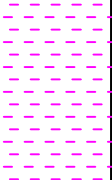
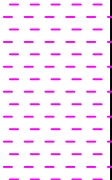
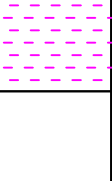
Soil Engineering Services Consultant & Contractor

Proj No. : 1347

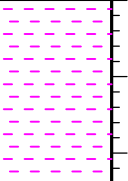
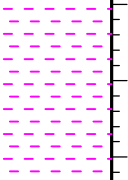
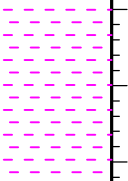
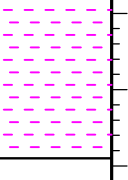
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DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0								
1								
2	D1	14	14	12			Light brown very stiff lean CLAY	
3	D2	12	11	14			As above	
4								
5	D3	10	11	8			As above	
6	D4	8	9	11			As above	
7	LE01							
8								
9								
10	D5	8	7	6			Light brown stiff lean CLAY	
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
 Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 75	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-247		DRILLED : 2015/04/21 - 2015/04/22		X : 723391.04 Y : 3031451.19 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10								
11	D6	6	6	7			Light brown stiff lean CLAY	
12								
13	D7	7	5	6			As above	
14	D8	5	5	7			As above	
15	D9	4	3	5			Light brown medium stiff to 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								Sheet: 2 Of 2 Fig.: 76
Soil Engineering Services Consultant & Contractor								Proj No. : 1347

BOREHOLE No.: BH-252		DRILLED : 2015/04/21 - 2015/04/21		X : 723451.06 Y : 3031419.24 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0								
1								
2	D1	10	11	20			Light brown hard lean CLAY	
3	D2	9	11	14			Light brown very stiff lean CLAY	
4								
5	D3	7	6	8			Light brown stiff lean CLAY	
6	D4	6	6	8			As above	
7								
8	D5	4	5	5			As above	
9	D6	5	4	7			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 77
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-252		DRILLED : 2015/04/21 - 2015/04/21		X : 723451.06 Y : 3031419.24 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	5	6	8			Light brown stiff lean CLAY	
11								
12	 D8	4	3	5			Light brown medium stiff to stiff lean CLAY	
13								
14	 D9	5	6	8			Light brown stiff lean CLAY	
15								
15.45	 D10	6	8	9			Light brown very stiff lean CLAY	
16								
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								Sheet: 2 Of 2 Fig.: 78
Soil Engineering Services Consultant & Contractor								Proj No. : 1347

BOREHOLE No.: BH-257		DRILLED : 2015/04/21 - 2015/04/21		X : 723488.19 Y : 3031393.75 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	14	12	19			Light brown hard lean CLAY	
3	D2	11	13	14			Light brown very stiff lean CLAY	
4								
5	D3	7	7	8			Light brown stiff to very stiff lean CLAY	
6	D4	6	7	7			Light brown stiff lean CLAY	
7								
8	D5	6	7	8			Light brown stiff to very stiff lean CLAY	
9	D6	5	4	4			Light brown medium stiff to stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC								Sheet: 1 Of 2 Fig.: 79
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-257		DRILLED : 2015/04/21 - 2015/04/21		X : 723488.19 Y : 3031393.75 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	4	4	5			Light brown stiff lean CLAY	
11								
12	 D8	5	6	6			As above	
13								
14	 D9	6	7	7			As above	
15								
15.45	 D10	5	7	9			Light brown very stiff lean CLAY	
16								
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

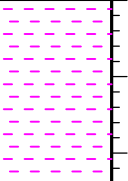
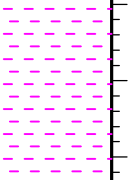
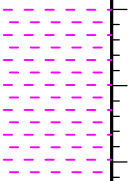
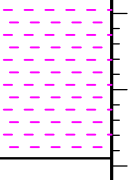
Sheet: 2 Of 2

Fig.: 80

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-261		DRILLED : 2015/04/21 - 2015/04/21		X : 722957.25 Y : 3031832.22 LEVEL :0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	14	16	13			Light brown very stiff lean CLAY	
3	D2	14	12	18			As above	
4								
5	D3	13	14	12			Light brown very stiff lean CLAY	
6	D4	11	10	9			As above	
7								
8	D5	8	7	6			Light brown stiff lean CLAY	
9	D6	7	7	6			As above	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 81	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-261		DRILLED : 2015/04/21 - 2015/04/21		X : 722957.25 Y : 3031832.22 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	6	6	7			Light brown stiff lean CLAY	
11								
12	 D8	6	5	7			As above	
13								
14	 D9	5	6	6			As above	
15								
15.45	 D10	7	8	6			As above	
16								
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

Sheet: 2 Of 2

Fig.: 82

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-266		DRILLED : 2015/04/20 - 2015/04/20		X : 723089.66 Y : 3031761.74 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	13	15	22			Light brown hard lean CLAY	
3	D2	13	15	20			As above	
4								
5	D3	15	11	9			Light brown very stiff lean CLAY	
6	D4	10	11	12			As above	
7								
8	D5	8	7	6			Light brown stiff lean CLAY	
9	D6	5	6	7			As above	
10								

D: Disturbed

CB: Core Barrel

LU: Lugeon

U: Undisturbed

DE: Denison

LE: Lefranc

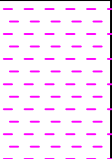
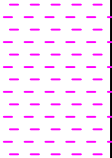
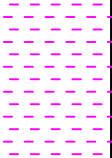
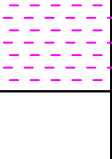
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SPT Borehole

	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 1 Of 2
	Client : NFC		Fig.: 83

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-266		DRILLED : 2015/04/20 - 2015/04/20		X : 723089.66 Y : 3031761.74 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	5	4	5			Light brown stiff lean CLAY	
11								
12	 D8	3	4	4			Light brown medium stiff to stiff lean CLAY	
13								
14	 D9	10	12	13			Light brown very stiff lean CLAY	
15								
15.45	 D10	11	14	14			As above	
16								
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

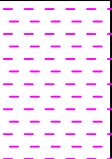
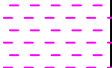
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Fig.: 84

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

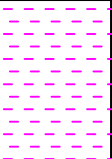
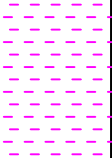
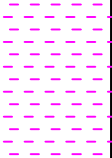
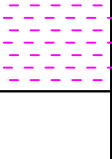
BOREHOLE No.: BH-271		DRILLED : 2015/04/11 - 2015/04/11		X : 122961.04 Y : 3031786.77 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0								
1								
2	D1	15	35	26			Brown hard lean CLAY, CL	
3	D2	12	25	32			As above, CL	
4								
5	D3	20	23	24			As above, CL	
6	D4	7	9	10			Brown very stiff lean CLAY, CL	
7								
8	D5	5	7	8			Brown stiff to very stiff lean CLAY, CL	
9	D6	4	4	6			Brown stiff lean CLAY, CL	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 85	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-271		DRILLED : 2015/04/11 - 2015/04/11		X : 122961.04 Y : 3031786.77 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	5	6	8			Brown stiff lean CLAY, CL	
11								
12	 D8	9	9	11			Brown very stiff lean CLAY, CL	
13	 D9	7	8	10			As above, CL	
14								
15	 D10	7	9	8			As above, CL	
							End of Borehole at : 15.45 m	
16								
17								
18								
19								
20								

 D: Disturbed  U: Undisturbed	 CB: Core Barrel  DE: Denison	 LU: Lugeon  LE: Lefranc	Remarks :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 86
Soil Engineering Services Consultant & Contractor			Proj No. : 1347

BOREHOLE No.: BH-278		DRILLED : 2015/04/15 - 2015/04/15		X : 724065.49 Y : 3030994.79 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Grey lean CLAY	
1								
2	D1	10	17	22			Brown hard lean CLAY	
3	D2	11	10	12			Brown very stiff lean CLAY	
4								
5	D3	9	8	10			Brown very stiff lean CLAY	
6	D4	3	5	4			Brown stiff lean CLAY	
7								
8	D5	4	5	5			As above	
9	D6	5	7	6			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 87
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-278		DRILLED : 2015/04/15 - 2015/04/15		X : 724065.49 Y : 3030994.79 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	6	8	7			Brown stiff to very stiff lean CLAY	
11								
12	 D8	7	9	10			Brown very stiff lean CLAY	
13								
14	 D9	6	12	11			As above	
15								
15.45	 D10	10	16	22			Brown hard lean CLAY	
16								
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

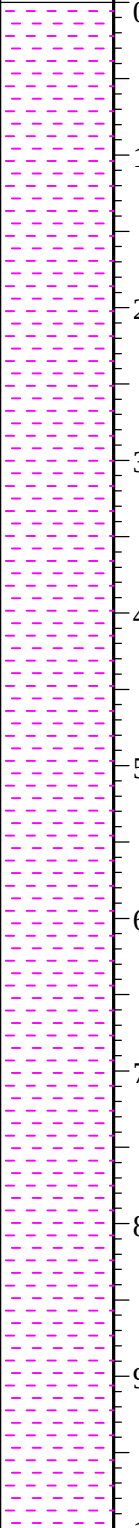
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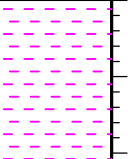
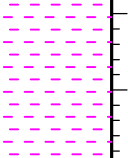
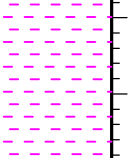
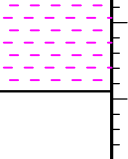
Sheet: 2 Of 2

Fig.: 88

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-281		DRILLED : 2015/04/15 - 2015/04/15		X : 723999.29 Y : 3031030.03 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Grey lean CLAY	
1								
2	 D1	14	24	28			Grey hard lean CLAY	
3	 D2	8	15	16			As above	
4								
5	 D3	7	7	8			Brown stiff to very stiff lean CLAY	
6	 D4	8	10	11			Brown very stiff lean CLAY	
7								
8	 D5	7	12	11			As above	
9	LE01							
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 89	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-281		DRILLED : 2015/04/15 - 2015/04/15		X : 723999.29 Y : 3031030.03 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D6	6	6	7			Brown stiff lean CLAY	
11								
12	 D7	5	6	6			As above	
13								
14	 D8	4	5	6			As above	
15								
15	 D9	3	6	7			As above	
16								
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

Sheet: 2 Of 2

Fig.: 90

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-287		DRILLED : 2015/04/15 - 2015/04/15		X : 723986.21 Y : 3031005.47 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Grey lean CLAY	
1								
2	D1	12	15	18			Grey hard lean CLAY	
3	D2	9	12	16			Light brown very stiff lean CLAY	
4								
5	D3	6	8	12			Brown very stiff lean CLAY	
6	D4	4	4	3			Brown medium stiff lean CLAY	
7								
8	D5	4	3	4			As above	
9	D6	5	9	11			Brown very stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 3 Fig.: 91	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-287		DRILLED : 2015/04/15 - 2015/04/15		X : 723986.21 Y : 3031005.47 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10								
	 D7	6	9	12			Brown very stiff lean CLAY	
11								
	 D8	5	9	8			As above	
12								
	 D9	7	12	13			As above	
13								
	 D10	11	14	15			As above	
14								
	 D11	10	15	15			Brown very stiff lean CLAY	
15								
	 D12	9	13	14			As above	
16								
	 D13	8	7	8			Brown stiff to very stiff lean CLAY	
17								
18								
19								
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.: 92
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-287		DRILLED : 2015/04/15 - 2015/04/15		X : 723986.21 Y : 3031005.47 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20								
21	D14	6	7	7			Brown stiff lean CLAY	
22								
23	D15	5	6	7			As above	
24	D16	4	5	4			As above	
25								
26	D17	4	3	4			Brown medium stiff lean CLAY	
26							End of Borehole at : 25.95 m	
27								
28								
29								
30								

D: Disturbed

CB: Core Barrel

LU: Lugeon

U: Undisturbed

DE: Denison

LE: Lefranc

Remarks :

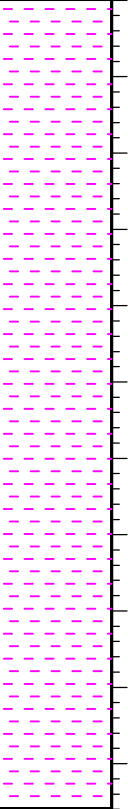
Project : SOUTH ALUMINUM SMELTER PLANT
Client : NFC

Sheet: 3 Of 3
Fig.: 93

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-291		DRILLED : 2015/04/08 - 2015/04/08		X : 723862.59 Y : 3031276.01 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light grey lean CLAY	
1								
2	D1	8	10	9			Light brown very stiff lean CLAY, CL	
3								
4	D2	4	7	9			As above, CL	
5								
6	D3	2	4	3			Light brown medium stiff lean CLAY, CL	
7								
8	D4	3	4	5			Light brown stiff lean CLAY, CL	
9								
10								
D: Disturbed CB: Core Barrel LU: Lugeon Remarks : SPT Borehole U: Undisturbed DE: Denison LE: Lefranc								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 2
		Client : NFC						Fig.: 94
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

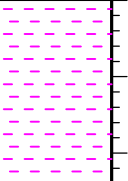
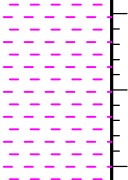
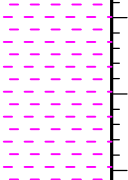
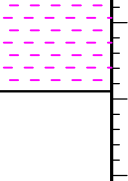
BOREHOLE No.: BH-291		DRILLED : 2015/04/08 - 2015/04/08		X : 723862.59 Y : 3031276.01 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D5	7	9	11			Light brown very stiff lean CLAY, CL	
11								
12	 D6	4	6	7			Light brown stiff lean CLAY, CL	
13								
14	 D7	7	6	5			As above, CL	
15	 D8	5	10	14			Light brown very stiff lean CLAY, CL	
							End of Borehole at : 15.29 m	
16								
17								
18								
19								
20								

 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc	Remarks :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 2 Of 2
	Client : NFC		Fig.: 95

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-300		DRILLED : 2015/04/17 - 2015/04/17		X : 723903.44 Y : 3031049.53 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	19	29	24			Light brown hard lean CLAY	
3	D2	10	14	18			As above	
4								
5	D3	9	8	11			Light brown very stiff lean CLAY	
6	D4	6	7	9			As above	
7								
8	D5	4	4	7			Light brown stiff lean CLAY	
9	D6	6	7	5			As above	
10								
D: Disturbed U: Undisturbed CB: Core Barrel DE: Denison LU: Lugeon LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 96	
Soil Engineering Services Consultant & Contractor						Proj No. : 1347		

BOREHOLE No.: BH-300		DRILLED : 2015/04/17 - 2015/04/17		X : 723903.44 Y : 3031049.53 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	8	7	6			Light brown stiff lean CLAY	
11								
12	 D8	7	6	6			As above	
13								
14	 D9	6	6	7			As above	
15								
15.45	 D10	6	7	8			Light brown stiff to very stiff lean CLAY	
16								
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

Sheet: 2 Of 2

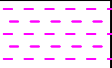
Fig.: 97

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-330		DRILLED : 2015/04/15 - 2015/04/15		X : 724082.59 Y : 3030867.30 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	20	24	28			Light brown hard lean CLAY	
3	D2	5	8	13			Light brown very stiff lean CLAY	
4								
5	D3	7	10	13			As above	
6	D4	7	6	9			Light brown stiff to very stiff lean CLAY	
7								
8	D5	5	5	7			Light brown stiff lean CLAY	
9	D6	6	7	6			As above	
10								
 D: Disturbed  CB: Core Barrel  LU: Lugeon  U: Undisturbed  DE: Denison  LE: Lefranc Remarks : SPT Borehole								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 1 Of 3
		Client : NFC						Fig.: 98
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-330		DRILLED : 2015/04/15 - 2015/04/15		X : 724082.59 Y : 3030867.30 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10								
	 D7	8	9	10			Light brown very stiff lean CLAY	
11								
	 D8	6	8	10			As above	
12								
	 D9	13	15	12			As above	
13								
	 D10	9	15	14			As above	
14								
	 D11	10	11	13			As above	
15								
	 D12	26	18	12			As above	
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 3	
Soil Engineering Services Consultant & Contractor							Fig.: 99	
						Proj No. : 1347		

BOREHOLE No.: BH-330		DRILLED : 2015/04/15 - 2015/04/15		X : 724082.59 Y : 3030867.30 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
20	D13	17	18	11			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 :
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	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 3 Of 3
	Client : NFC		Fig.: 100

Soil Engineering Services Consultant & Contractor	Proj No. : 1347
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BOREHOLE No.: BH-339		DRILLED : 2015/04/16 - 2015/04/16		X : 723822.59 Y : 3031270.09 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	 D1	12	14	17			Light brown hard lean CLAY	
3	 D2	11	12	15			Light brown very stiff lean CLAY	
4								
5	 D3	10	13	14			As above	
6	 D4	12	13	14			As above	
7	LE01							
8								
9	 D5	6	7	6			Light brown stiff lean CLAY	
10								

 D: Disturbed

 U: Undisturbed

 CB: Core Barrel

 DE: Denison

 LU: Lugeon

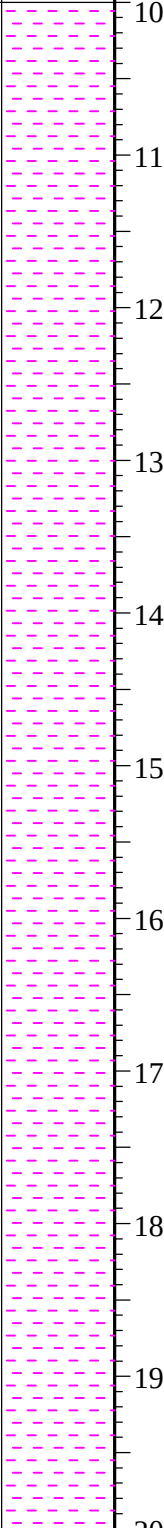
 LE: Lefranc

Remarks :
SPT Borehole

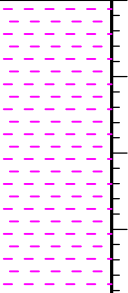
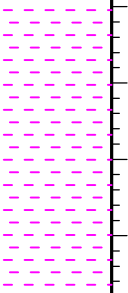
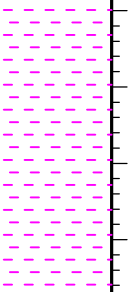
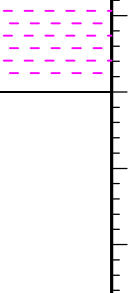
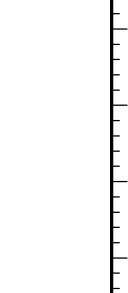
	Project : SOUTH ALUMINUM SMELTER PLANT		Sheet: 1 Of 2
	Client : NFC		Fig.: 101

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-339		DRILLED : 2015/04/16 - 2015/04/16		X : 723822.59 Y : 3031270.09 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10								
	 D6	8	8	7			Light brown stiff to very stiff lean CLAY	
11								
	 D7	8	7	6			Light brown stiff lean CLAY	
12								
	 D8	8	8	7			Light brown stiff to very stiff lean CLAY	
13								
	 D9	9	7	6			Light brown stiff lean CLAY	
14								
	 D10	13	12	12			Light brown very stiff lean CLAY	
15								
	 D11	11	12	13			As above	
16								
	 D12	13	14	12			As above	
17								
18								
19								
20								
End of Borehole at : 20.00 m								
 D: Disturbed  CB: Core Barrel  LU: Lugeon		Remarks :						
 U: Undisturbed  DE: Denison  LE: Lefranc								
		Project : SOUTH ALUMINUM SMELTER PLANT						Sheet: 2 Of 2
		Client : NFC						Fig.: 102
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-348		DRILLED : 2015/04/15 - 2015/04/17		X : 723730.64 Y : 3031254.95 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	14	14	24			Light brown hard lean CLAY	
3	D2	11	14	18			As above	
4								
5	D3	8	12	14			Light brown very stiff lean CLAY	
6	D4	7	7	8			Light brown stiff to very stiff lean CLAY	
7								
8	D5	9	11	10			Light brown very stiff lean CLAY	
9	D6	9	20	11			Light brown hard lean CLAY	
10								
D: Disturbed U: Undisturbed CB: Core Barrel DE: Denison LU: Lugeon LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2	
Soil Engineering Services Consultant & Contractor							Fig.: 103	
							Proj No. : 1347	

BOREHOLE No.: BH-348		DRILLED : 2015/04/15 - 2015/04/17		X : 723730.64 Y : 3031254.95 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	8	11	13			Light brown very stiff lean CLAY	
11								
12	 D8	7	10	9			As above	
13								
14	 D9	7	6	7			Light brown stiff lean CLAY	
15								
16	 D10	6	7	5			As above	
17								
18	End of Borehole at : 15.50 m							
19								
20								
21								

 D: Disturbed
 CB: Core Barrel
 LU: Lugeon

 U: Undisturbed
 DE: Denison
 LE: Lefranc

Remarks :



Project : SOUTH ALUMINUM SMELTER PLANT

Client : NFC

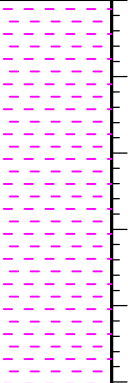
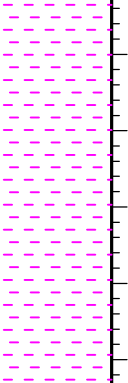
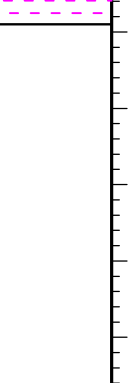
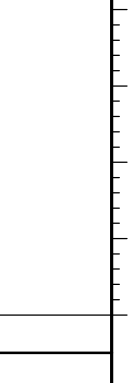
Sheet: 2 Of 2

Fig.: 104

Soil Engineering Services Consultant & Contractor

Proj No. : 1347

BOREHOLE No.: BH-356		DRILLED : 2015/04/15 - 2015/04/15		X : 723904.45 Y : 3031157.85 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
0							Light brown lean CLAY	
1								
2	D1	14	17	19			Light brown hard lean CLAY	
3	D2	7	11	12			Light brown very stiff lean CLAY	
4								
5	D3	7	6	8			Light brown stiff lean CLAY	
6	D4	6	6	7			As above	
7								
8	D5	8	9	7			Light brown very stiff lean CLAY	
9	D6	7	6	6			Light brown stiff lean CLAY	
10								
D: Disturbed CB: Core Barrel LU: Lugeon U: Undisturbed DE: Denison LE: Lefranc Remarks : SPT Borehole								
Project : SOUTH ALUMINUM SMELTER PLANT Client : NFC							Sheet: 1 Of 2 Fig.: 105	
Soil Engineering Services Consultant & Contractor							Proj No. : 1347	

BOREHOLE No.: BH-356		DRILLED : 2015/04/15 - 2015/04/15		X : 723904.45 Y : 3031157.85 LEVEL : 0.00		METHOD : Rotary Drilling DRILL MACHINE : O.G.B		
DEPTH (m)	SAMPLE AND TYPE	S.P.T			VANE Kg/Cm ²		Description	Legend
		15Cm	15Cm	15Cm	Und	Rem		
10	 D7	8	9	10			Light brown very stiff lean CLAY	
11								
12	 D8	10	14	12			As above	
13								
14	 D9	9	12	10			As above	
15								
15.45	 D10	11	13	9			As above	
16								
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

Sheet: 2 Of 2

Fig.: 106

Soil Engineering Services Consultant & Contractor

Proj No. : 1347