

LEGENDE/LEGEND

--- CONTOURNEMENT BYPASS

□ EAU DE PROCEDE PROCESS WATER

○ EAU D'ETANCHEITE GLAND WATER

MEI-CHEM

Niocan INC.
NIOCBURM / CANADA

PROJET NIOCAN PROJECT
CONCENTRATEUR 27000t/d-27000t/d CONCENTRATOR
SCHEMA DE PROCEDE-PROCESS FLOWSHEET
ENTREPOSAGE ET PREPARATION DES REACTIFS-F.2/2
STORAGE AND REAGENT PREPARATION-S.2/2

DESIGNED M. COURCHESNE DATE 99/06/20 CHECKED DATE

DRAWN P. DESCHENEAUX DATE 99/06/20 APPROVED DATE

EMIS POUR ETUDE DE FASABILITE R.M.N.C. SCALE

EMIS POUR APPROBATION P.D.N.C. DEPARTMENT MECANIQUE

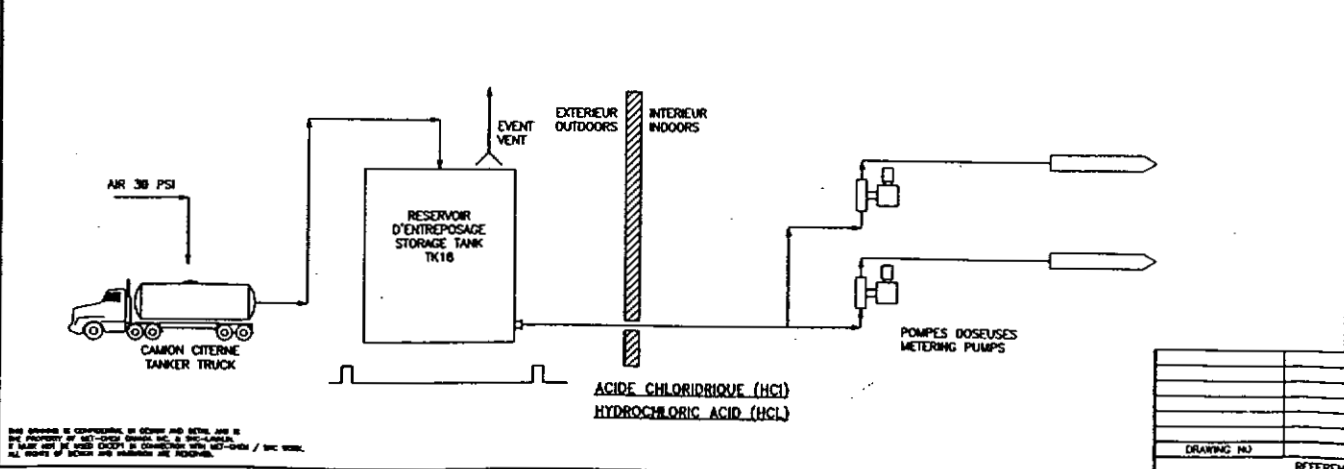
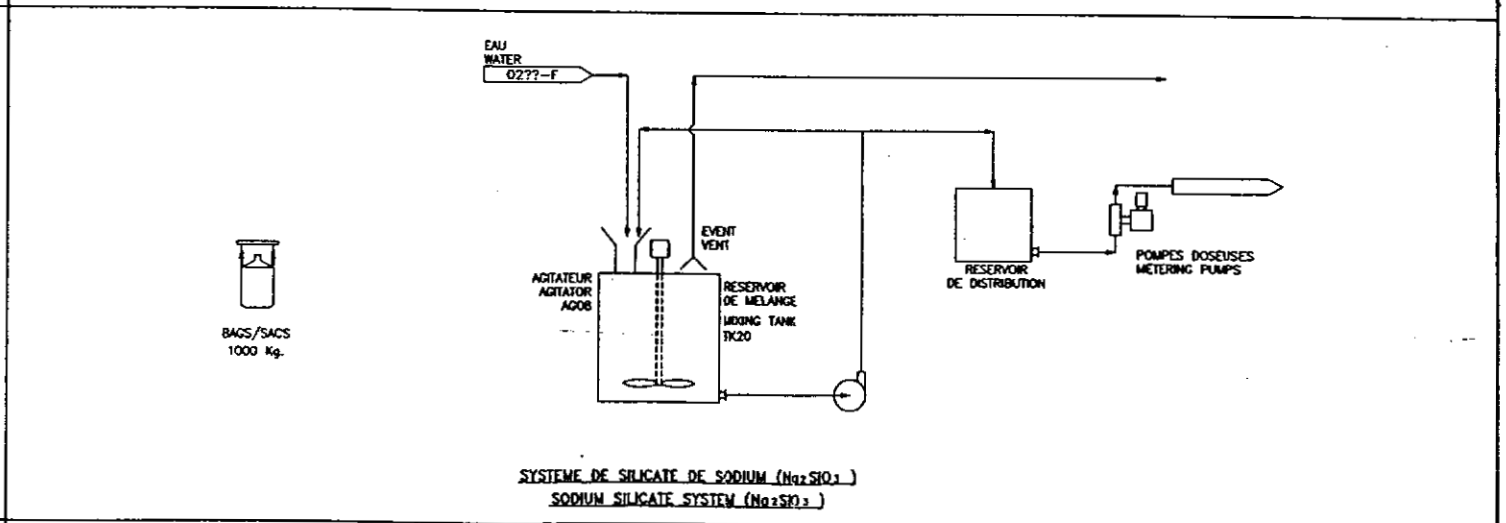
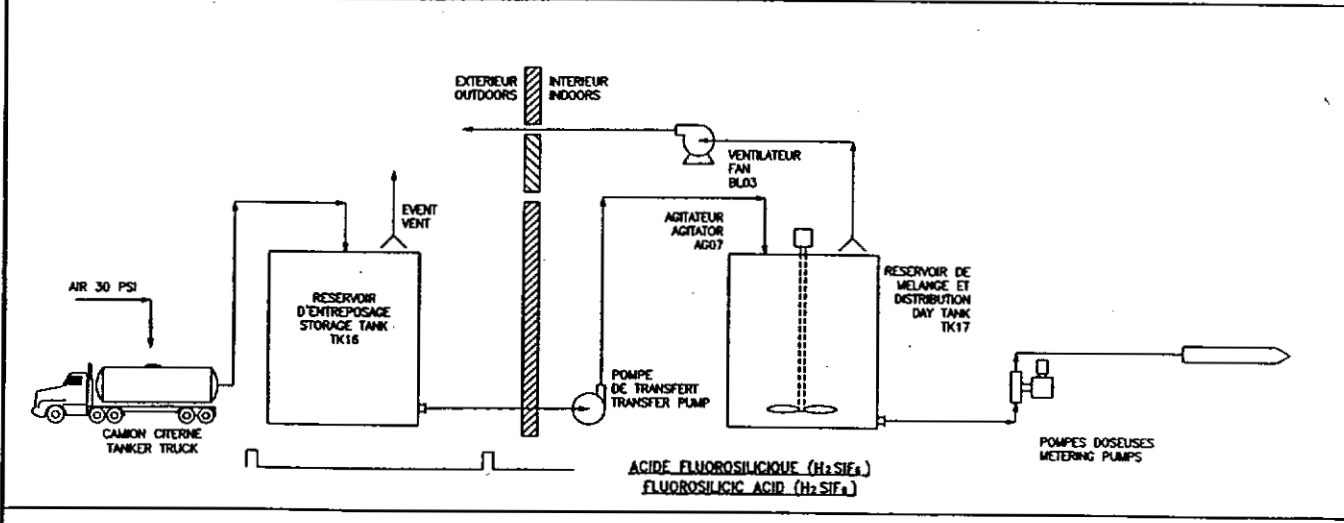
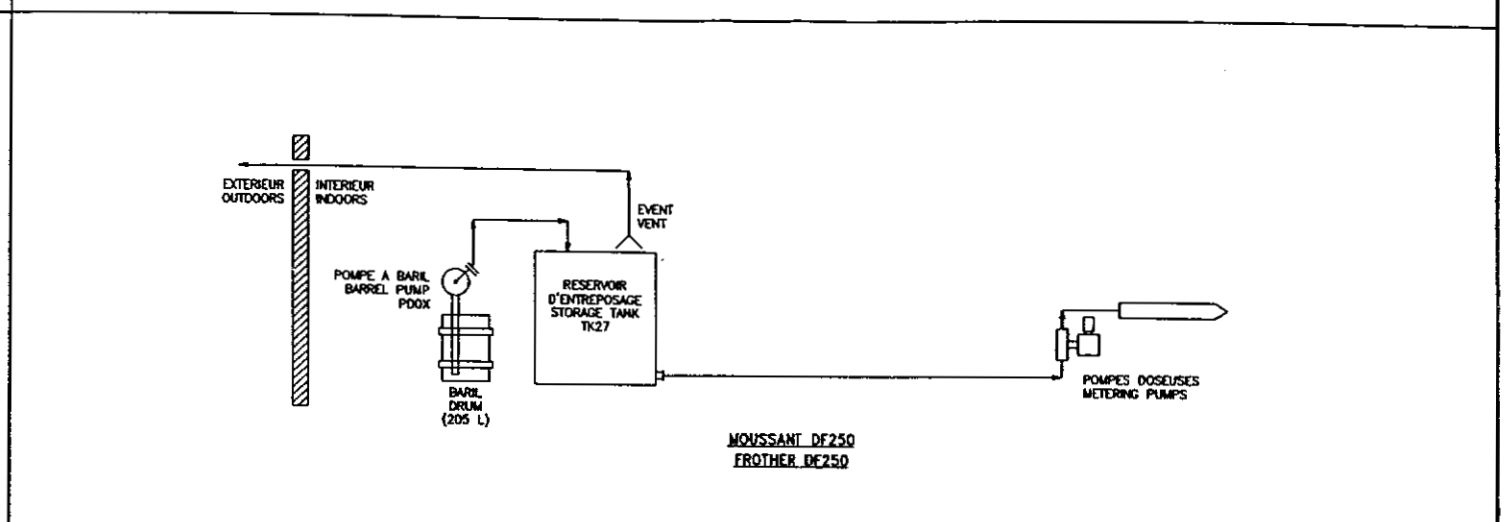
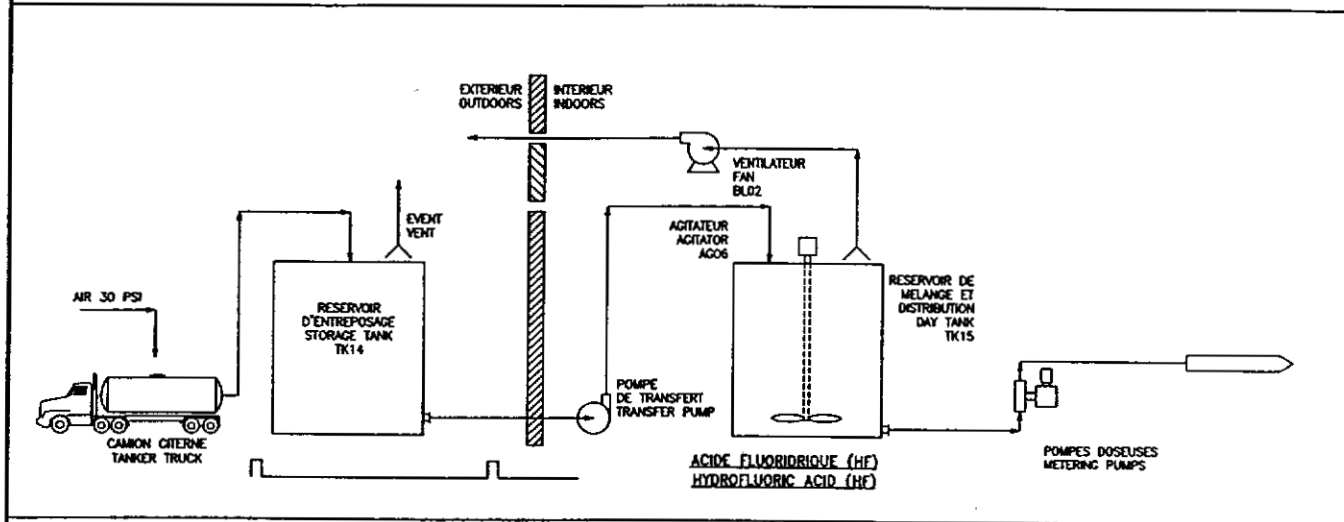
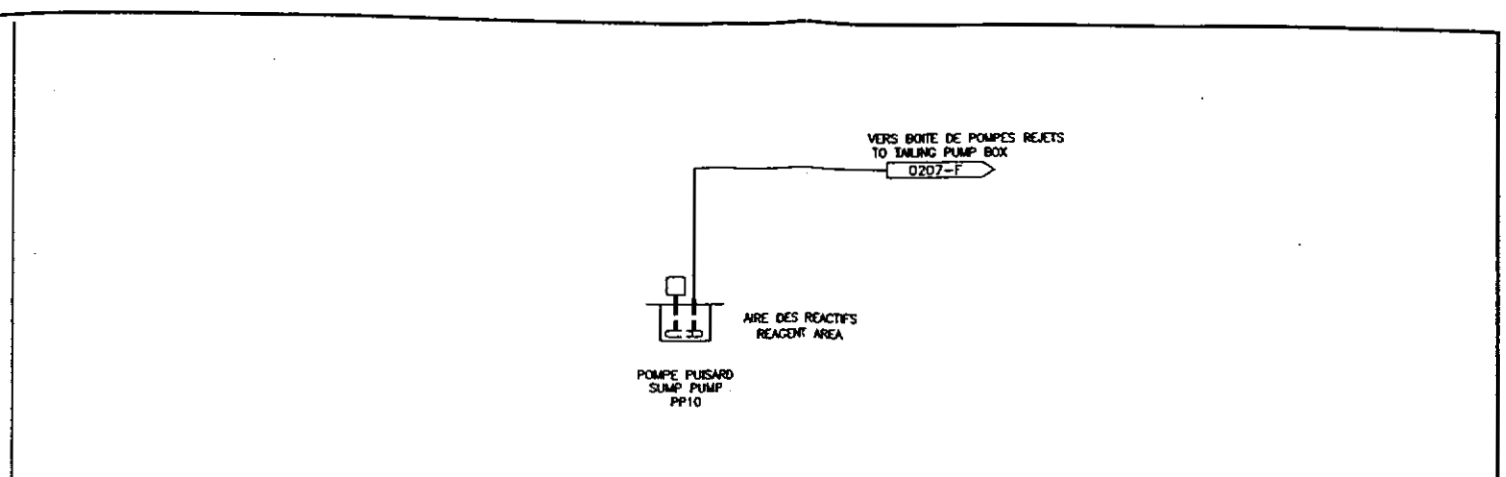
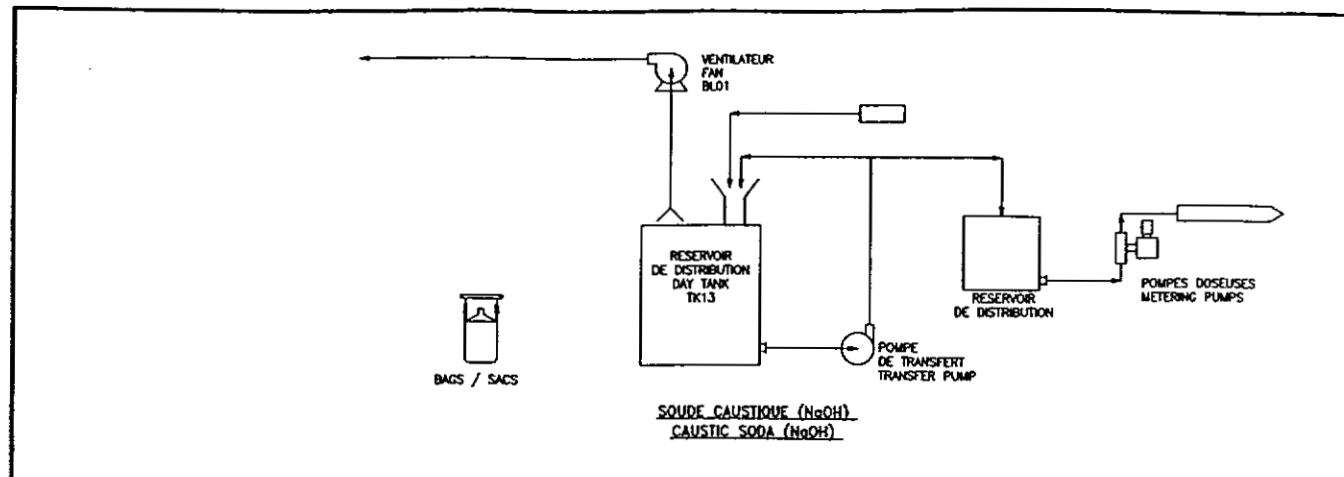
EMIS POUR APPROBATION G.R.L.M.C. BY APP

CLIENT APPROVAL ISSUED FOR CONSTRUCTION

DRAWING NO A1-99017-0213-F REV. C

DRAWING NO	TITLE	NO	DATE	TITLE	BY	APP	DATE
	REFERENCE DRAWINGS			REVISIONS			

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LEGENDE/LEGEND

- CONTOURNEMENT BYPASS
- EAU DE PROCEDE PROCESS WATER
- EAU D'ETANCHEITE GLAND WATER

DESIGNED M. COURCHESNE	DATE 99/08/20	CHECKED	DATE
DRAWN P. DESCHENEAUX	DATE 99/08/20	APPROVED	DATE
NUMEROS D'EQUIPEMENT AJOUTES	P.D./M.C.	DEPARTMENT	MECANIQUE
SCALE	BY APP	CLIENT APPROVAL	ISSUED FOR CONSTRUCTION

DRAWING NO A1-99017-0212-F

REV C

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DRAWING NO	TITLE	NO	DATE	TITLE	BY	APP
	REFERENCE DRAWINGS			REVISIONS		

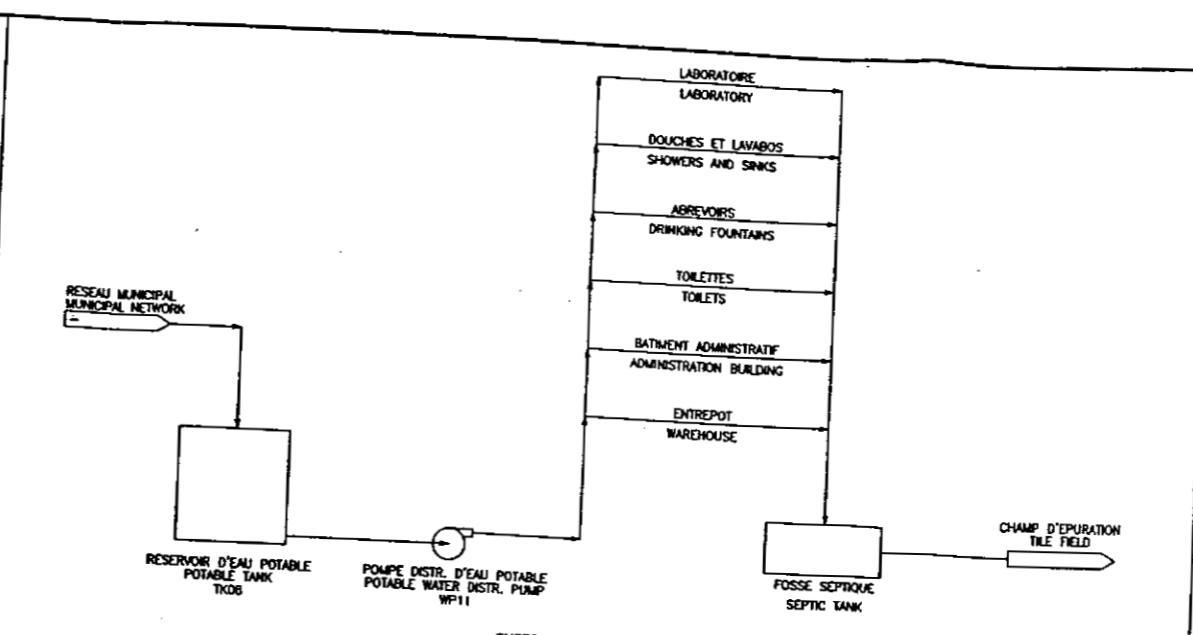
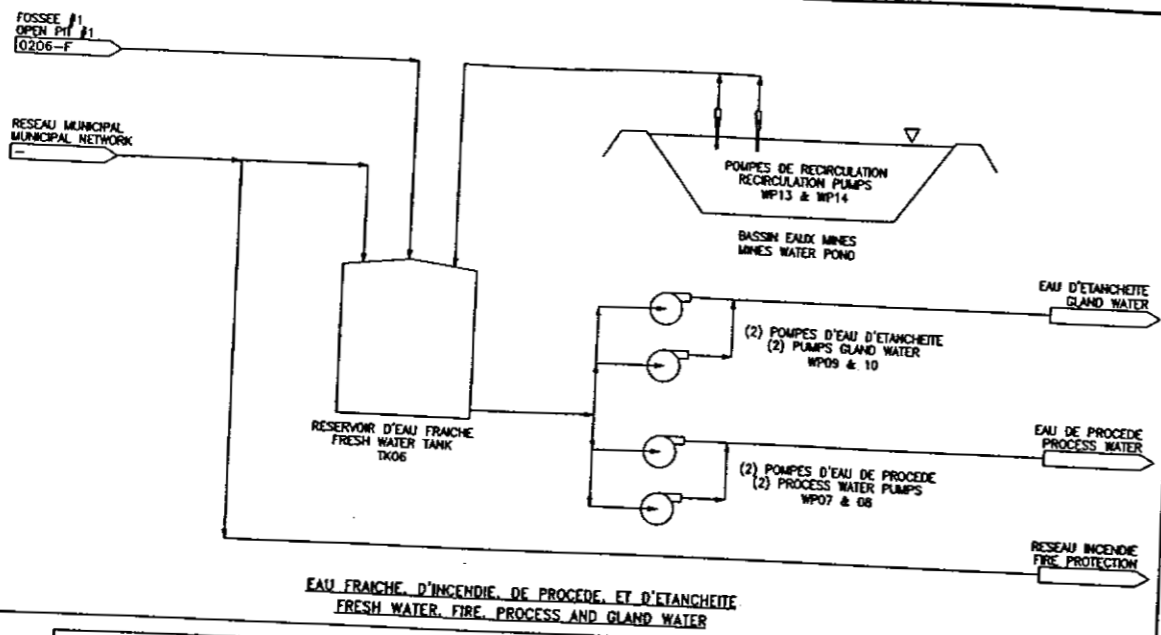
MEI-CHEM

Niocan INC.
NIOCAN / CANADA

PROJET NIOCAN PROJECT
CONCENTRATEUR 2700tp/d-2700tp/d CONCENTRATOR
SCHEMA DE PROCEDE-PROCESS FLOWSHEET
ENTREPOSAGE ET PREPARATION DES REACTIFS-F.1/2
STORAGE AND REAGENT PREPARATION-S.1/2

DRAWING NO A1-99017-0212-F

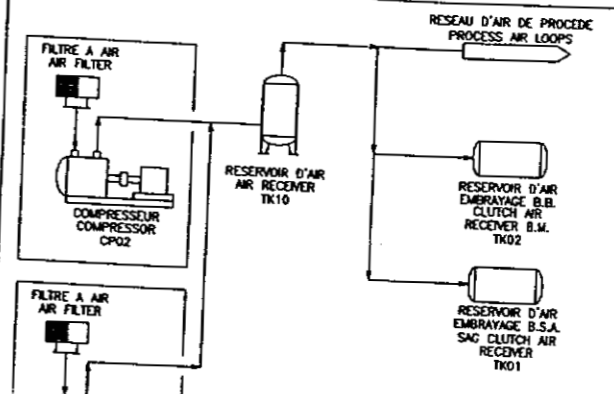
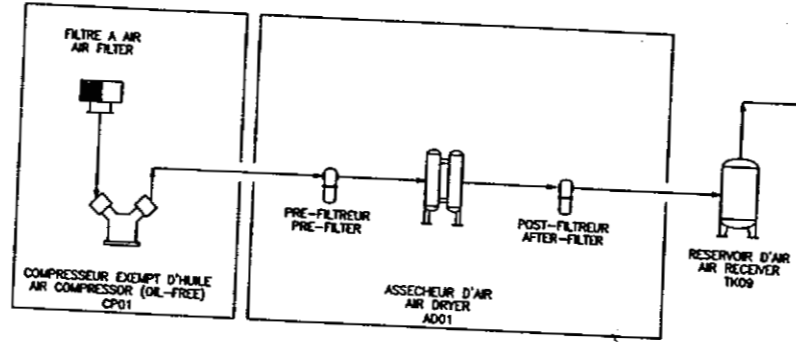
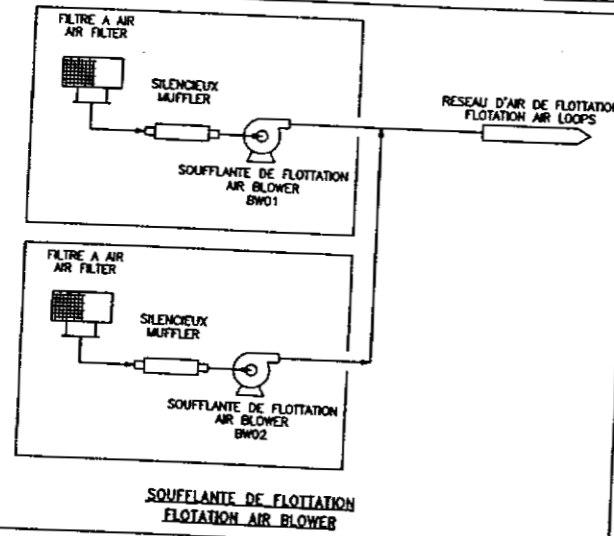
REV C



LEGENDE / LEGEND
 - CONTOURNEMENT BYPASS
 □ EAU DE PROCEDE PROCESS WATER
 ○ EAU D'ETANCHETTE GLAND WATER

**EAU FRAICHE D'INCENDIE, DE PROCEDE, ET D'ETANCHETTE
 FRESH WATER, FIRE, PROCESS AND GLAND WATER**

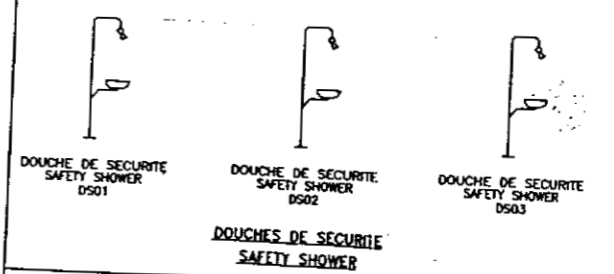
**SYSTEME D'EAU POTABLE
 POTABLE WATER SYSTEM**



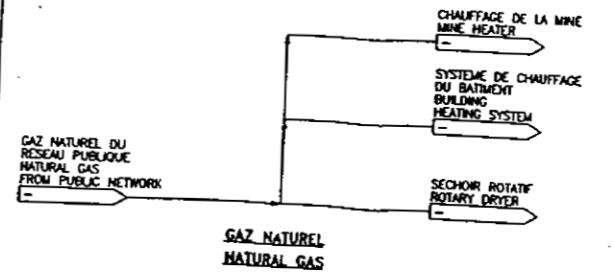
**SOUFFLANTE DE FLOTTATION
 FLOTATION AIR BLOWER**

**AIR D'INSTRUMENTATION
 INSTRUMENTATION AIR**

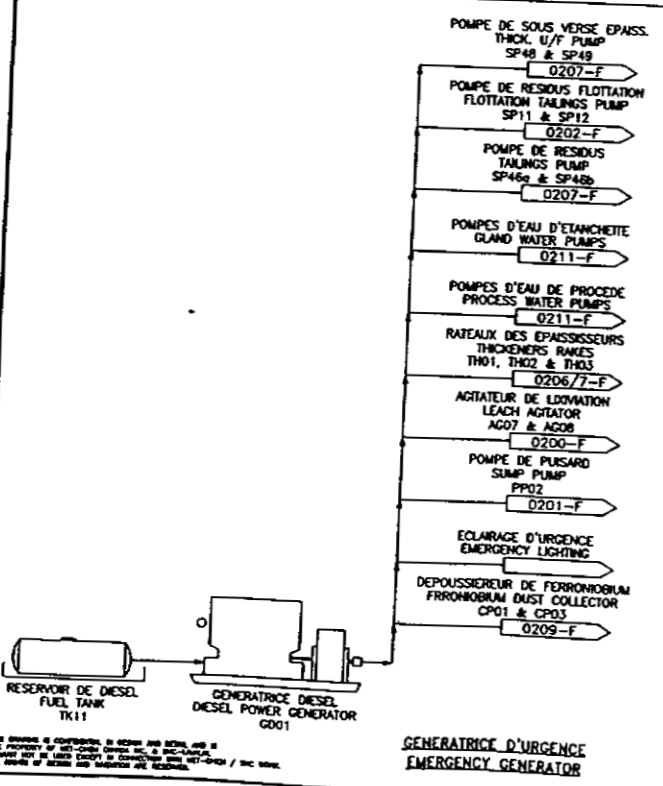
**AIR DE PROCEDE
 PROCESS AIR**



**DOUCHES DE SECURITE
 SAFETY SHOWER**



**GAZ NATUREL
 NATURAL GAS**



**GENERATRICE D'URGENCE
 EMERGENCY GENERATOR**

THE DESIGNER IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND THE PROPERTY OF THE CLIENT. THE CLIENT IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE PROJECT. A 10% OF THE DESIGN AND CONSTRUCTION COSTS WILL BE PAID BY THE CLIENT.

NO	DATE	TITLE	BY	APP
C	99/12/07	EMIS POUR ETUDE DE Faisabilité	R.M.M.C.	P.D.SCHENEVAUX
B	99/10/01	NUMEROS D'EQUIPEMENT AJOUTES	P.D.M.C.	SCALE
A	99/08/27	EMIS POUR APPROBATION	BK/MC	

DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/08/20		
DRIVER		APPROVED	

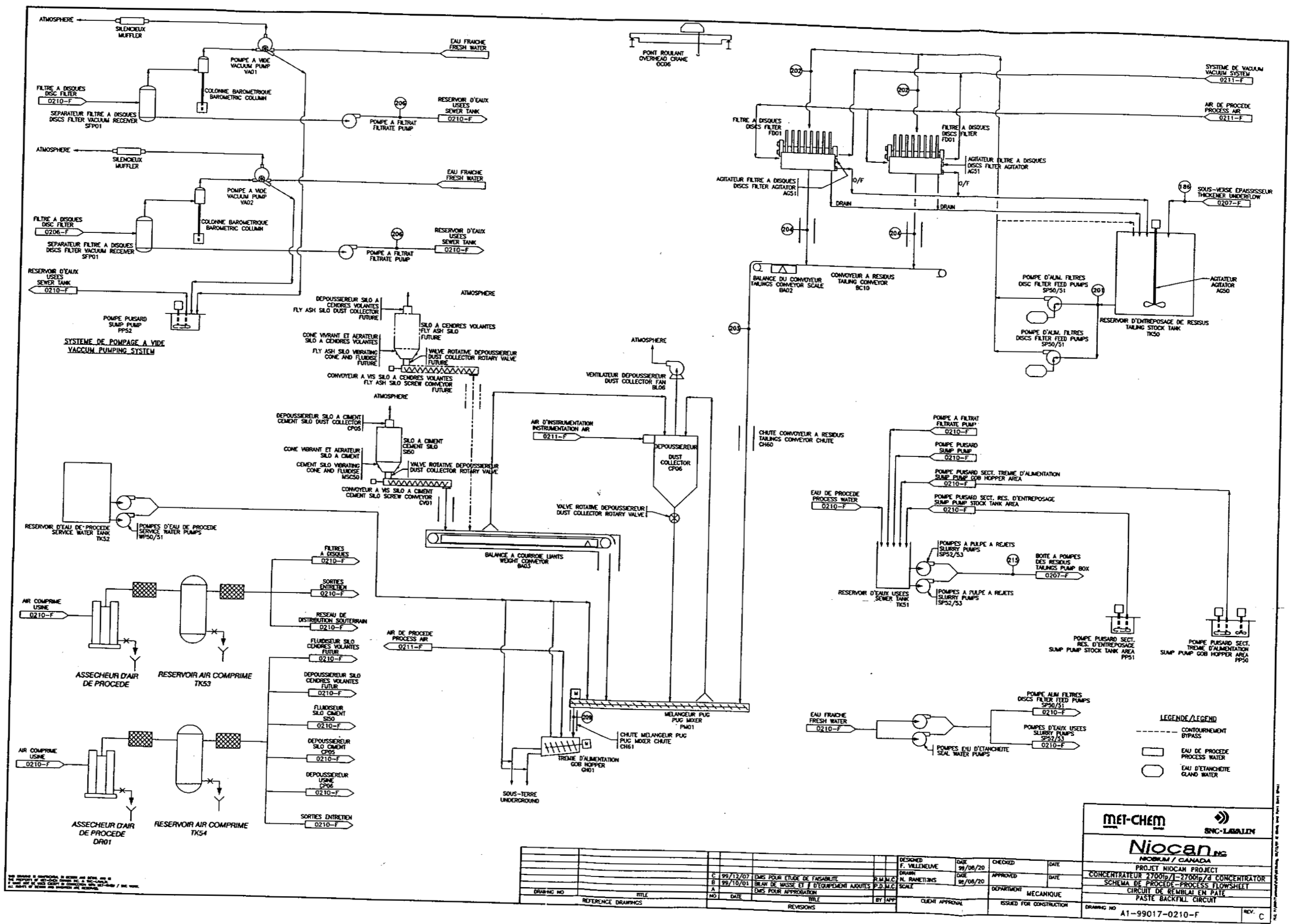
CLIENT APPROVAL	ISSUED FOR CONSTRUCTION

MEF-CHEM

Niocan INC.
 NIOCAN / CANADA

PROJET NIOCAN PROJECT
 CONCENTRATEUR 2700tpj/2700tpj/d CONCENTRATOR
 SCHEMA DE PROCEDE-PROCESS FLOWSHEET
 UTILITES SERVICES

DESIGN NO A1-99017-0211-F



NOTES: 1. TO BE REVIEWED BY SUPERVISOR, IN GENERAL, AND DESIGN, AND BY THE OPERATOR, IN PARTICULAR, PRIOR TO CONSTRUCTION. 2. THIS DRAWING IS THE PROPERTY OF NIOCAN INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. 3. NIOCAN INC. IS NOT RESPONSIBLE FOR ANY DAMAGE TO PERSONS OR PROPERTY, OR FOR ANY CONSEQUENCES ARISING FROM THE USE OF THIS DRAWING.

NO	DATE	TITLE	BY	APP	CLIENT APPROVAL
C	99/12/07	EMIS POUR ETUDE DE FASABILITE	F.M.J.L.C.		
B	99/10/01	BILAN DE MASSE ET D'EQUIPEMENT AJOUTES P.D.M.C. SCALE	N. RANETTINS		
A		EMIS POUR APPROBATION			

DESIGNED	DATE	CHECKED	DATE
F. VILLENEUVE	99/08/20		
APPROVED	DATE		

MEI-CHEM **SNC-LABALIN**

Niocan INC
NIOCAN / CANADA

PROJET NIOCAN PROJECT
CONCENTRATEUR 2700g/l-2700g/d CONCENTRATOR
SCHEMA DE PROCÉDE-PROCESS FLOWSHEET
CIRCUIT DE REMBLAI EN PÂTE
PASTE BACKFILL CIRCUIT

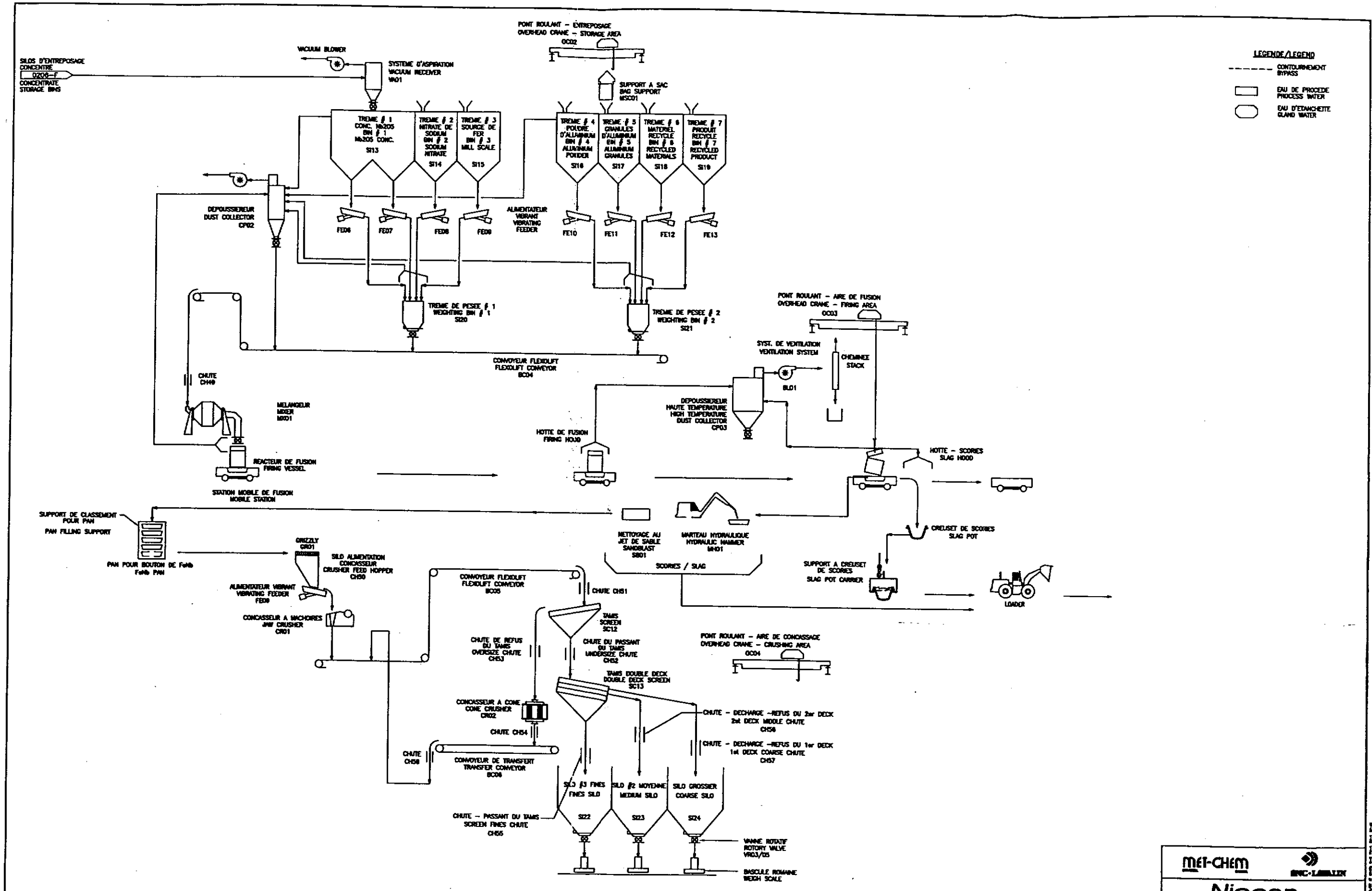
DRAWING NO: A1-99017-0210-F

LEGENDE/LEGEND

--- CONTOURNEMENT BYPASS

□ EAU DE PROCÉDE PROCESS WATER

○ EAU D'ÉTANCHÉITE GLAND WATER



LEGENDE / LEGEND
 - - - - - CONTOURNEMENT BYPASS
 □ EAU DE PROCEDE PROCESS WATER
 ○ EAU D'ETAICHETTE GLAND WATER

PROJET NIOCAN / CANADA
 CONCENTRATEUR 2500 tpd - 2500 tpd CONCENTRATOR
 SCHEMA DE PROCEDE - PROCESS FLOWSHEET
 CONVERTISSEUR DE FERRO-NIOBIUM
 FERRO-NIOBIUM CONVERTER

NO	DATE	TITRE	BY	APP
C	05/10/20	DES POUR ETUDE DE FUSIBILITE	MM	MC
B	05/10/01	PLAN DE MISE ET D'ETALONNAGE AJOUTES P.T.M.C.	MM	MC
A	05/08/27	DES POUR APPROBATION	MM	MC

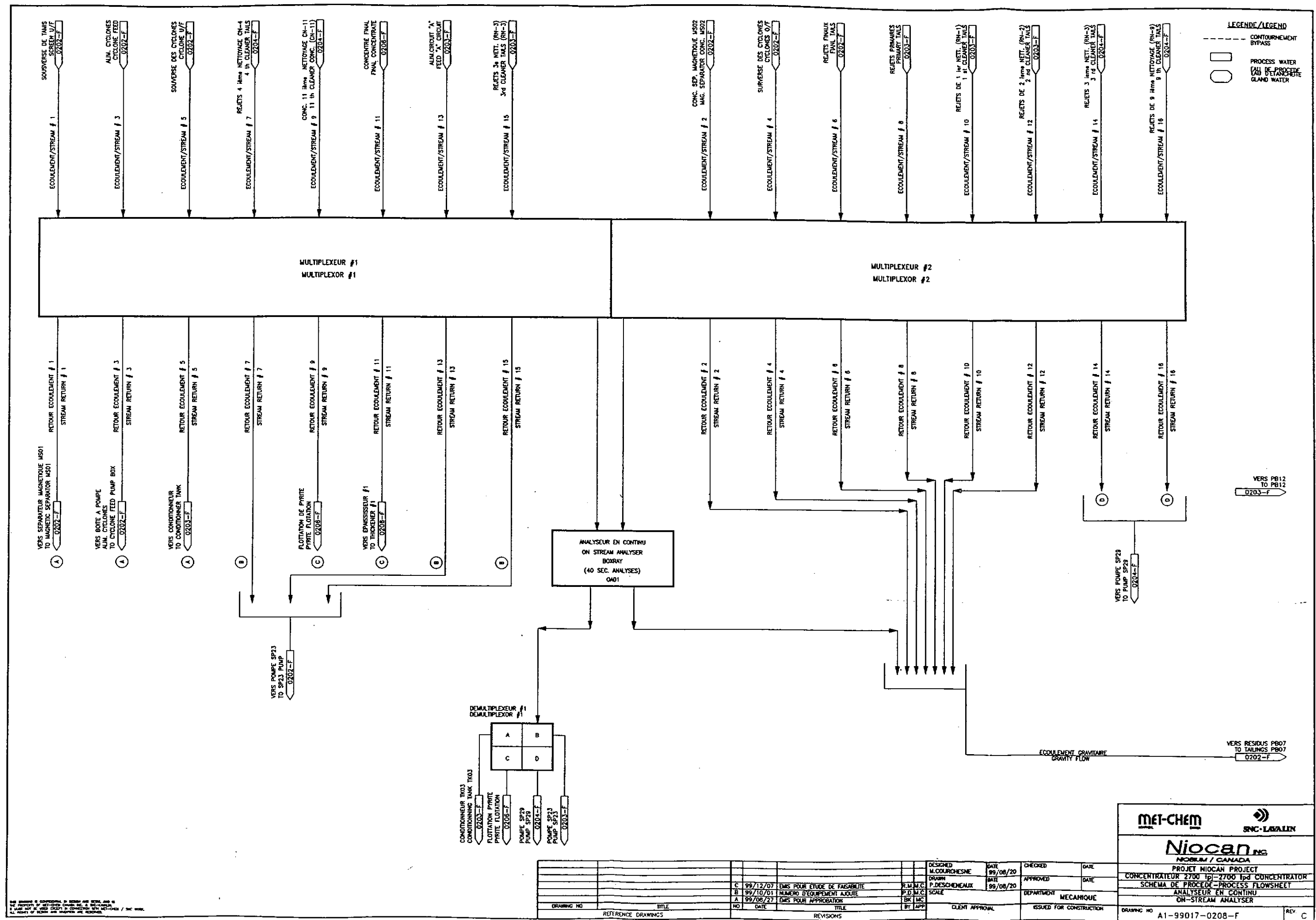
DESIGNED	DATE	CHECKED	DATE
GORLON COOPER	05/08/20	APPROVED	05/08/20
PAKCHENEALY	05/08/20		

MET-CHEM
 INC. - LABALIN

Niocan INC.
 NIOCAN / CANADA

PROJET NIOCAN PROJECT
 CONCENTRATEUR 2500 tpd - 2500 tpd CONCENTRATOR
 SCHEMA DE PROCEDE - PROCESS FLOWSHEET
 CONVERTISSEUR DE FERRO-NIOBIUM
 FERRO-NIOBIUM CONVERTER

DEPARTMENT: MECANIQUE
 CLIENT APPROVAL: []
 ISSUED FOR CONSTRUCTION: []
 DRAWING NO: A1-99017-0209-F
 REV: C



NOTES: 1. CONTOURNEMENT BYPASS... 2. PROCESS WATER... 3. ...

NO	DATE	TITLE	REVISIONS
C	99/12/07	EMS POUR ETUDE DE FAISABILITE	R.M.M.C.
B	99/10/01	NUMERO D'EQUIPEMENT AJOUTE	P.D.M.C.
A	99/06/27	EMS POUR APPROBATION	BK.MC

DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/08/20		
P. DESCHENAUX	99/08/20		

MEI-CHEM
SNC-LABALIN

Niocan INC.
NIOBIUM / CANADA

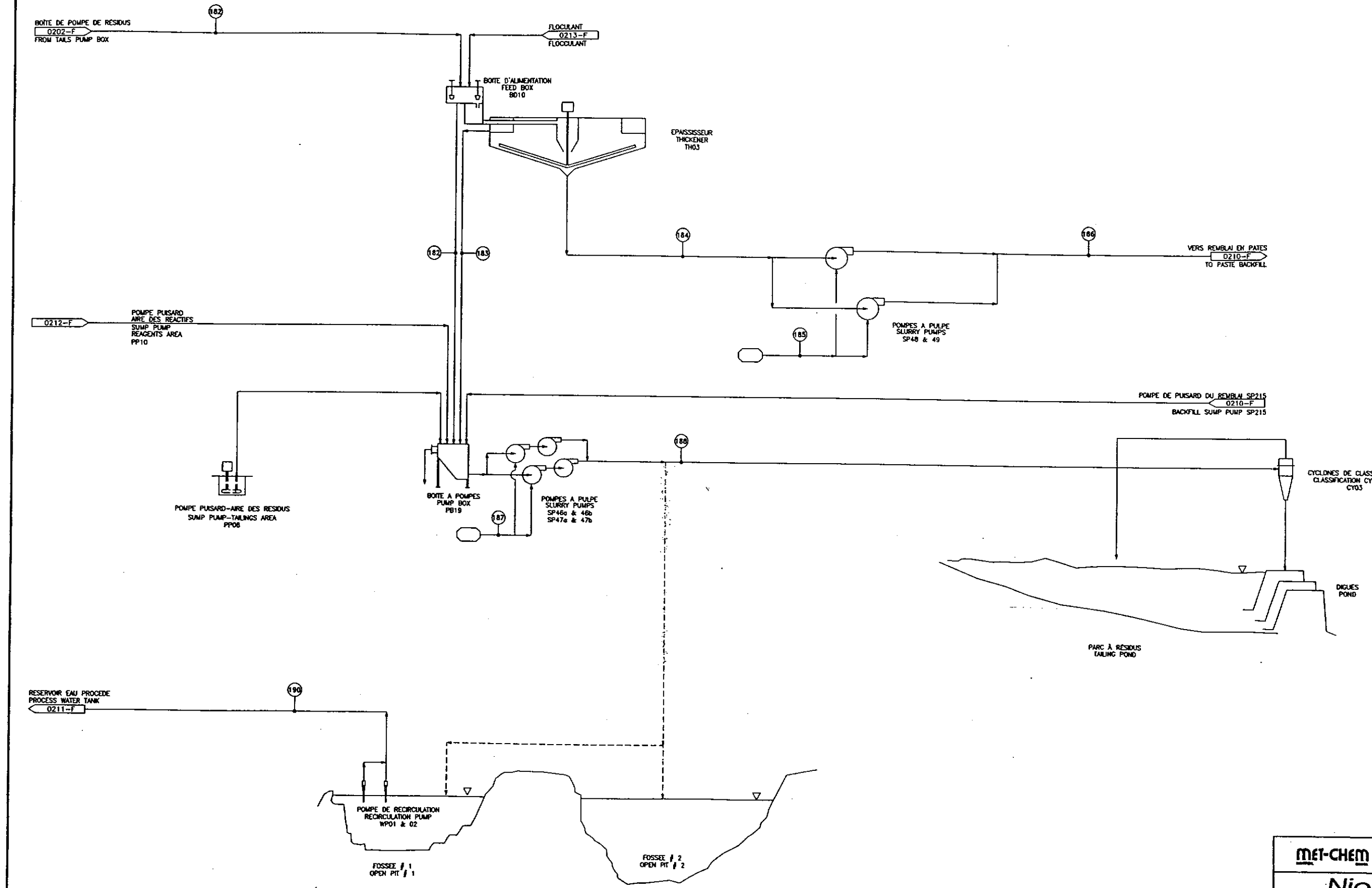
PROJET NIOCAN PROJECT
CONCENTRATEUR 2700 tpj-2700 lpd CONCENTRATOR
SCHEMA DE PROCÉDE-PROCESS FLOWSHEET
ANALYSEUR EN CONTINU
ON-STREAM ANALYSER

CLIENT APPROVAL: _____
ISSUED FOR CONSTRUCTION: _____

DRAWING NO: A1-99017-0208-F
REV: C

LEGENDE / LEGEND

- CONTOURNEMENT BYPASS
- (m³/hr) EAU DE PROCEDE PROCESS WATER
- (m³/hr) EAU D'ETANCHETTE GLAND WATER



NOT A PART OF CONTRACT. ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPERTY OF NIOCAN CANADA INC. A NIOCAN COMPANY. IT IS TO BE USED ONLY IN CONNECTION WITH THE CONTRACT AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/09/08	APPROVED	DATE
DRAWN	DATE	DEPARTMENT	MECANIQUE
P. DESCHENEAUX	99/09/08	ISSUED FOR CONSTRUCTION	
SCALE			
A.B.M.C.			
A.B.M.C.			

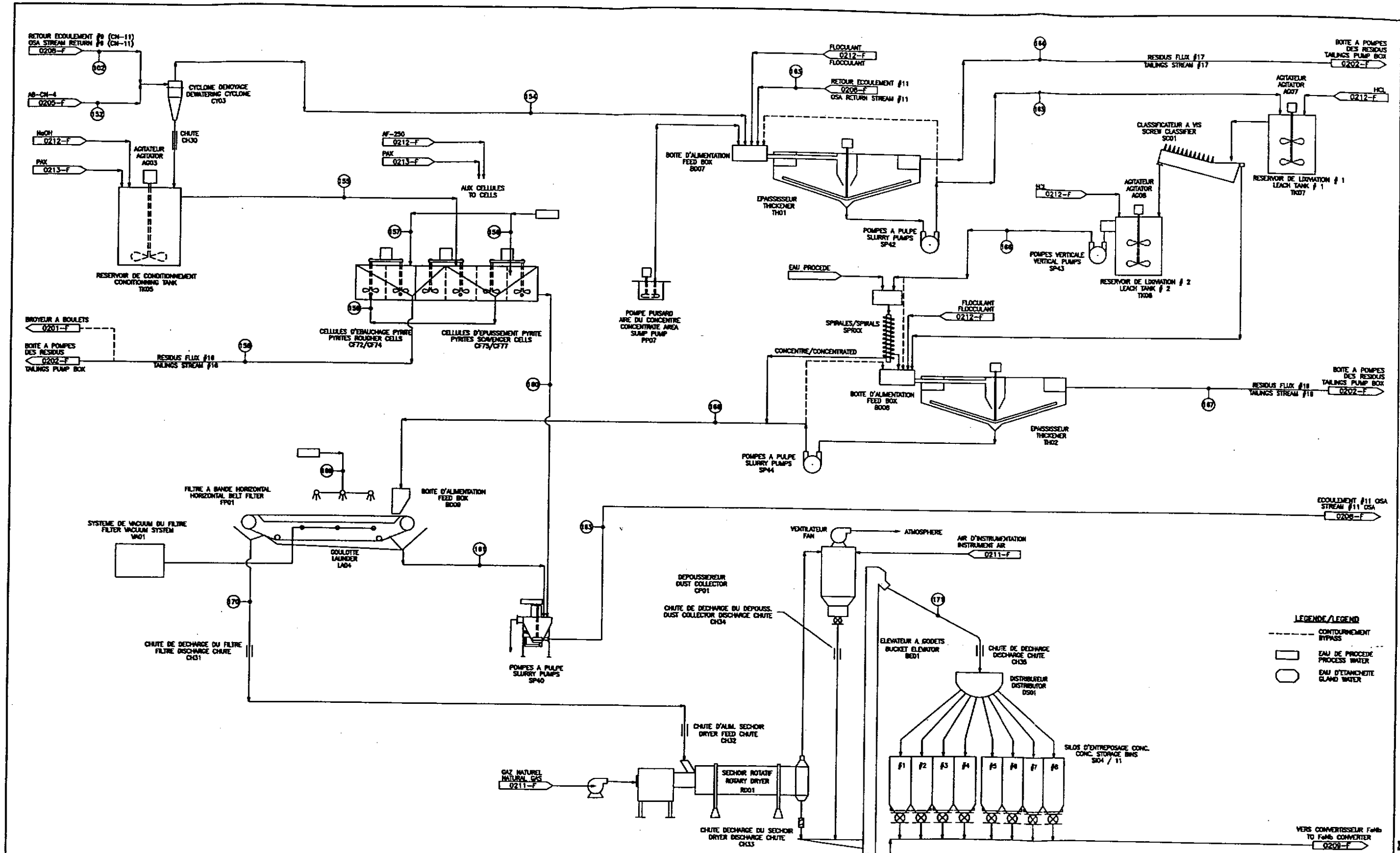
DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/09/08	APPROVED	DATE
DRAWN	DATE	DEPARTMENT	MECANIQUE
P. DESCHENEAUX	99/09/08	ISSUED FOR CONSTRUCTION	
SCALE			
A.B.M.C.			
A.B.M.C.			

met-chem **INC-LABALIN**

Niocan INC.
NIOCAN / CANADA

PROJET NIOCAN PROJECT
CONCENTRATEUR 2700tpj/1-2700tpj CONCENTRATOR
SCHEMA DE PROCEDE-PROCESS FLOWSHEET
DISPOSITION DES RESIDUS ET RECIRCULATION D'EAU
TAILINGS DISPOSAL SYSTEM AND RECLAIM WATER

DRAWING NO. A1-99017-0207-F REV. C



LEGENDE / LEGEND

--- CONTOURNEMENT BYPASS

□ EAU DE PROCEDE PROCESS WATER

○ EAU D'ETANCHEITE GLAND WATER

NO	DATE	TITRE	REVISIONS
C	09/12/07	EMIS POUR ETUDE DE FABRIQUE	
B	09/10/01	BLAN DE MASSE ET D'EQUIPEMENT ADOPTE	
A	09/08/77	EMIS POUR APPROBATION	

mei-chem **INC-LABRIEX**

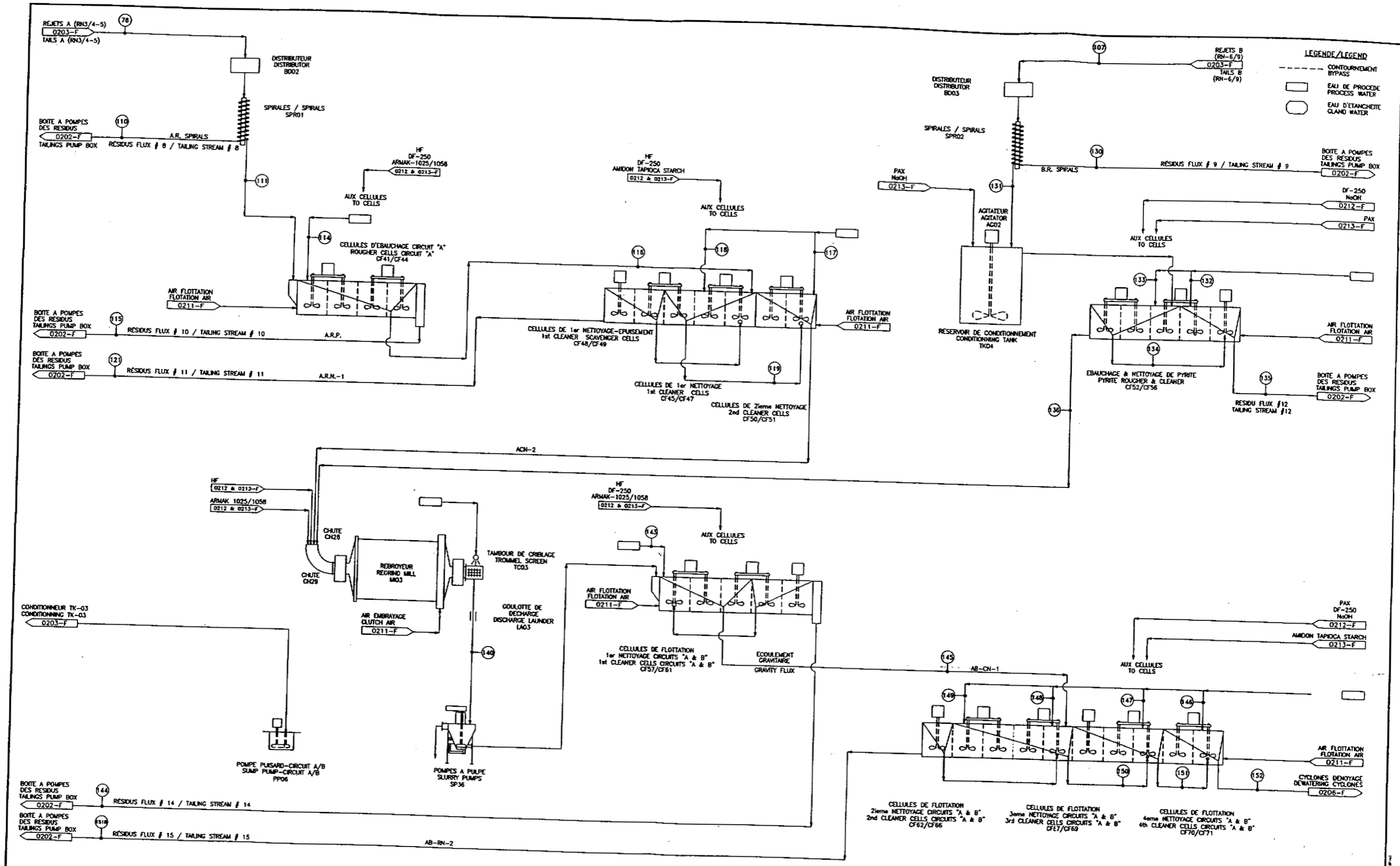
Niocan INC
NIOCAN / CANADA

PROJECT NIOCAN PROJECT
CONCENTRATEUR 2700 TPD - 2700 TPD CONCENTRATOR
SCHEMA DE PROCEDE - PROCESS FLOWSHEET
POLISSAGE, LIQUATION, FILTRATION ET SECHAGE
POLISHING, LEACHING, FILTRATION AND DRYING CIRCUITS

DESIGNED: M. G. ROCHESNE
DRAWN: P. DESCHENEAUX
DATE: 09/08/10
CHECKED: []
APPROVED: []
DATE: 09/08/10
DEPARTMENT: MECANIQUE
ISSUED FOR CONSTRUCTION

CLIENT APPROVAL: []
DRAWING NO: A1-99017-0206-F
REV: C

NOTES: 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. REFER TO THE RELEVANT SPECIFICATIONS FOR MATERIALS AND FINISHES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.



LEGENDE / LEGEND
 - - - - - CONTOURNEMENT BYPASS
 □ EAU DE PROCÉDE PROCESS WATER
 ○ EAU D'ÉTANCHÉITE GLAND WATER

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DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/06/19		
DRIVEN		APPROVED	
P. DESCHENEAUX	99/08/19		
DRAWING NO.	TITLE	SCALE	DEPARTMENT
A	EMIS POUR APPROBATION	BY BK / MC	MECANIQUE
REVISIONS	DATE	TITLE	BY

met-chem **SNC-LABALIN**

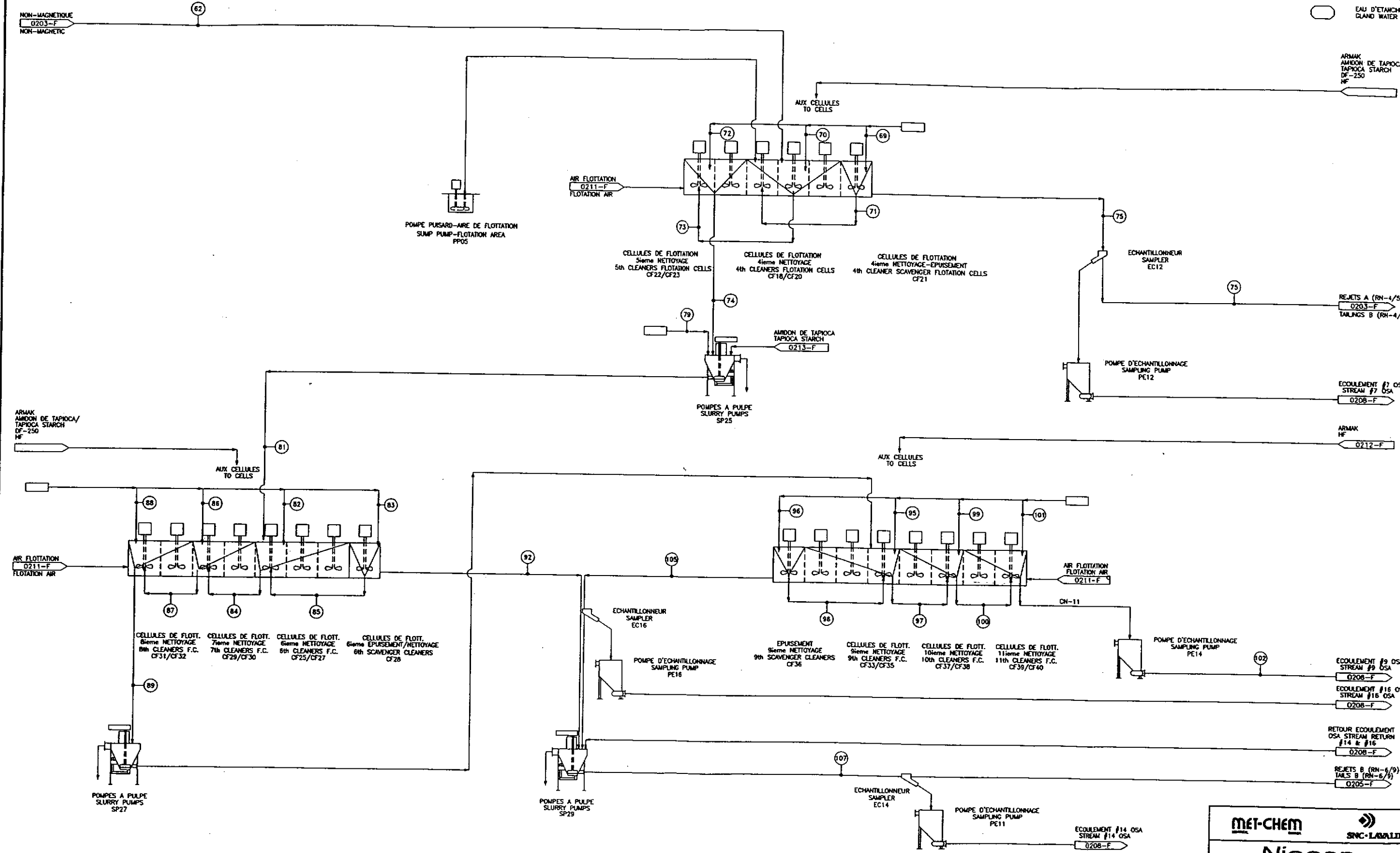
Niocan
 NIOLUM / CANADA

PROJET NIOCAN PROJECT
 CONCENTRATEUR 2700 tpd-2700 tpd CONCENTRATOR
 SCHEMA DE PROCÉDE-PROCESS FLOWSHEET
 FLOTATION CIRCUIT A&B TRAITEMENT DES RÉSIDUS
 FLOTATION A&B TAILINGS TREATMENT CIRCUIT

DRAWING NO. A1-99017-0205-F REV. C

LEGENDE / LEGEND

- - - - - CONTOURNEMENT BYPASS
- EAU DE PROCEDE PROCESS WATER
- EAU D'ETANCHETTE GLAND WATER



NOTES: 1. This drawing is confidential. It contains information that is the property of MET-CHEM. It is to be used only for the project for which it was prepared. 2. All work shall be done in accordance with the specifications and standards of the client.

DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/06/19		
DRAWN	DATE	APPROVED	DATE
P. DESCHENEUX	99/06/19		
SCALE		DEPARTMENT	MECANIQUE
		ISSUED FOR CONSTRUCTION	
CLIENT APPROVAL			

DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/06/19		
DRAWN	DATE	APPROVED	DATE
P. DESCHENEUX	99/06/19		
SCALE		DEPARTMENT	MECANIQUE
		ISSUED FOR CONSTRUCTION	
CLIENT APPROVAL			

MET-CHEM **SNC-LABALIN**

Niocan INC.
MOBLUM / CANADA

PROJET NIOCAN PROJECT
CONCENTRATEUR 2700 tp - 2700 Tpd CONCENTRATOR
SCHEMA DE PROCEDE - PROCESS FLOWSHEET
FLOTATION - NETTOYAGES #4 A #11
FLOTATION CLEANING STAGES 4th TO 11th

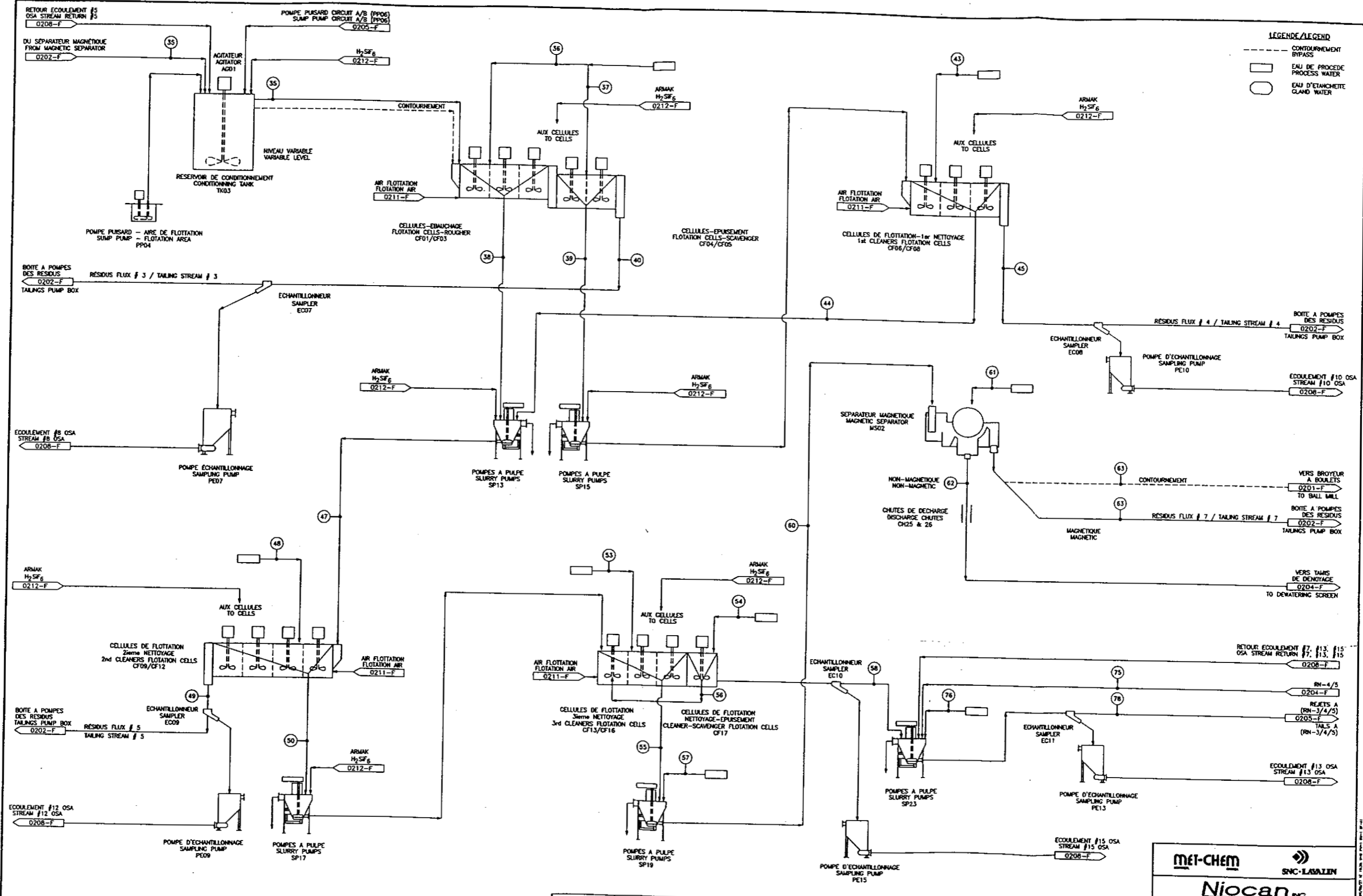
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LEGENDE / LEGEND

--- CONTOURNEMENT BYPASS

□ EAU DE PROCÉDE PROCESS WATER

○ EAU D'ÉTANCHÉITE GLAND WATER



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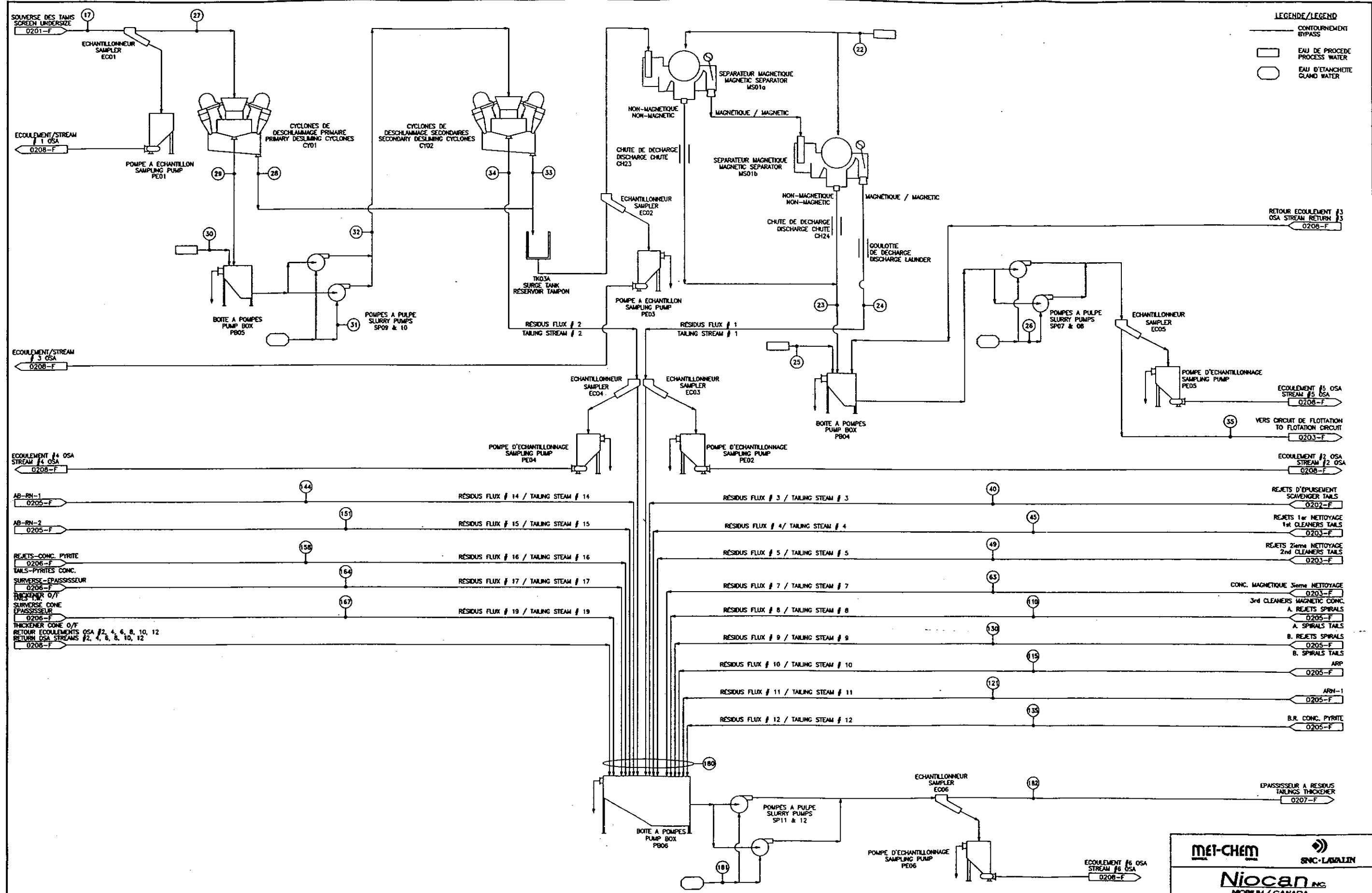
DESIGNED	DATE	CHECKED	DATE
M. COURCHESNE	99/08/19		
DRAWN	DATE	APPROVED	DATE
P. DESCHENEAUX	99/08/19		
SCALE		DEPARTMENT	MECANIQUE
BY	DATE	TITLE	ISSUED FOR CONSTRUCTION
BY APP			

met-chem **SNC-LAVALIN**

Niocan INC.
NIOBERUM / CANADA

PROJET NIOCAN PROJECT
CONCENTRATEUR 2700 tpd-2700 tpd CONCENTRATOR
SCHEMA DE PROCÉDE-PROCESS FLOWSHEET
FLOTTATION, ÉBAUCHAGE, ÉPUISSAGE & NETT. #1A/3
FLOTTATION, ROUGHER, SCAVENGER & 1st TO 3rd CLEANERS

DESIGNED: M. COURCHESNE DATE: 99/08/19 CHECKED: DATE:
 DRAWN: P. DESCHENEAUX DATE: 99/08/19 APPROVED: DATE:
 SCALE: DEPARTMENT: MECANIQUE
 BY: BY APP TITLE: ISSUED FOR CONSTRUCTION
 DRAWING NO: A1-99017-0203-F REV. C



LEGENDE/LEGEND
 CONTOURNEMENT BYPASS
 EAU DE PROCEDE PROCESS WATER
 EAU D'ETANCHETTE GRAND WATER

ECOULEMENT #4 OSA
 STREAM #4 OSA
 0208-F

AB-RN-1
 0205-F

AB-RN-2
 0205-F

REJETS CONC. PYRITE
 0206-F

TAILS-PYRITES CONC.
 0206-F

SURVERSE-EPASSISSEUR
 0206-F

THICKENER O/F
 0206-F

SURVERSE CONC
 EPASSISSEUR
 0206-F

THICKENER CONC O/F
 RETOUR ECOULEMENTS OSA #2, 4, 6, 8, 10, 12
 RETURN OSA STREAMS #2, 4, 6, 8, 10, 12
 0208-F

MEI-CHEM SNC-LAMALIN

Niocan INC.
 NIORBUM / CANADA

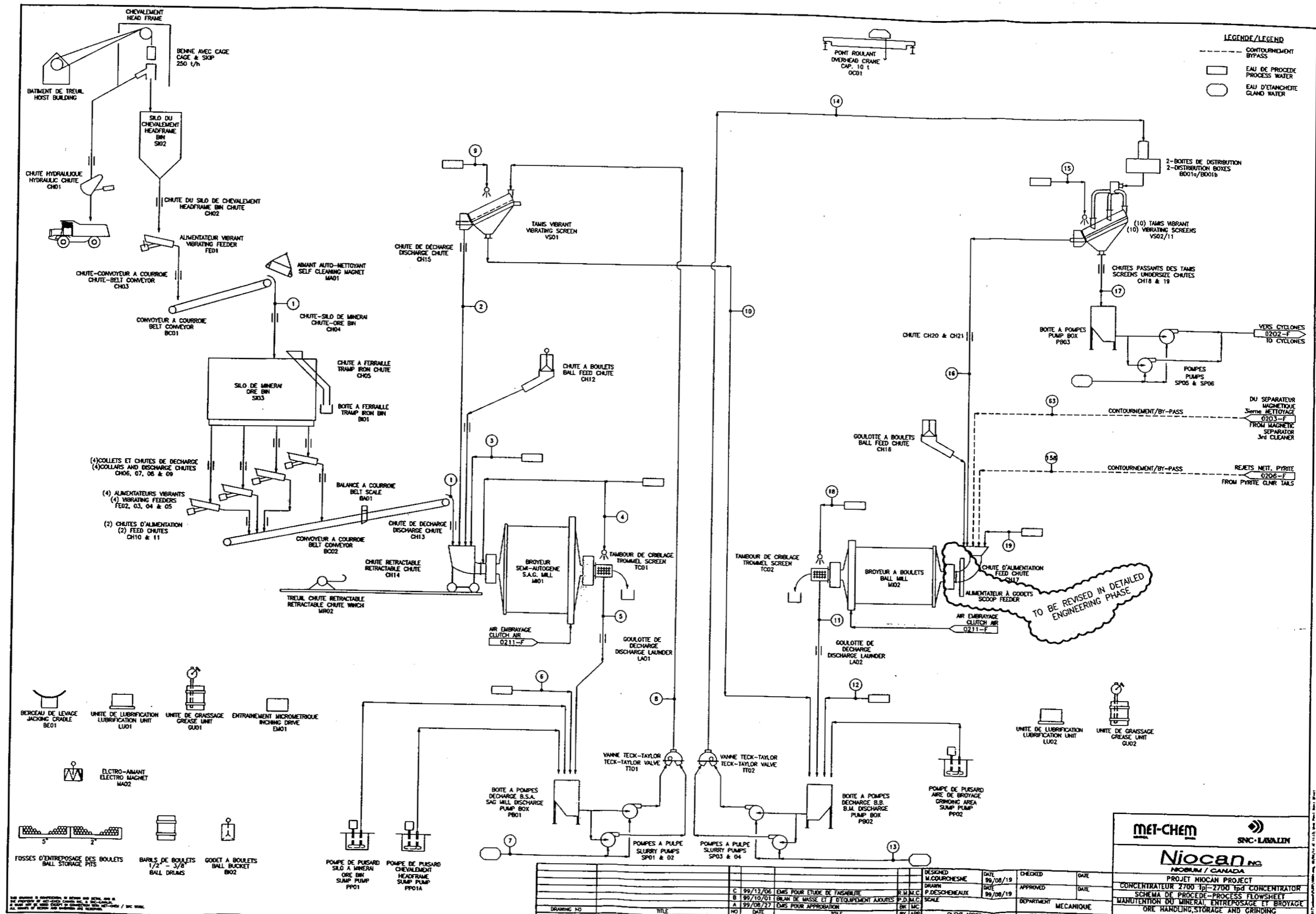
PROJET NIOCAN PROJECT
 CONCENTRATEUR 2700 tpd-2700 tpd CONCENTRATOR
 SCHEMA DE PROCEDE-PROCESS FLOWSHEET
 DESCHLAIMAGE, SEP. MAG. & POMPAGE DES RESIDUS
 DESLIMING, MAGNETIC SEPARATION AND TAIL PUMPING

DESIGNED M. COURCHESNE	DATE 99/08/19	CHECKED	DATE
DRAWN P. DESCHENEAUX	DATE 99/08/19	APPROVED	DATE
SCALE	DEPARTMENT MECANIQUE	ISSUED FOR CONSTRUCTION	

DRAWING NO. A1-99017-0202-F REV. C

NO	DATE	TITLE	BY	APP	CLIENT APPROVAL
C	99/12/06	EMIS POUR ETUDE DE FAISABILITE	R.W.M.C.		
B	99/10/01	BILAN DE MASSE ET D'EQUIPEMENT AJOUTES	P.D.M.C.		
A	99/08/27	EMIS POUR SOUMISSION	BK/MC		

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met-chem **SNC-LAVALIN**

Niocan
NIOCAN / CANADA

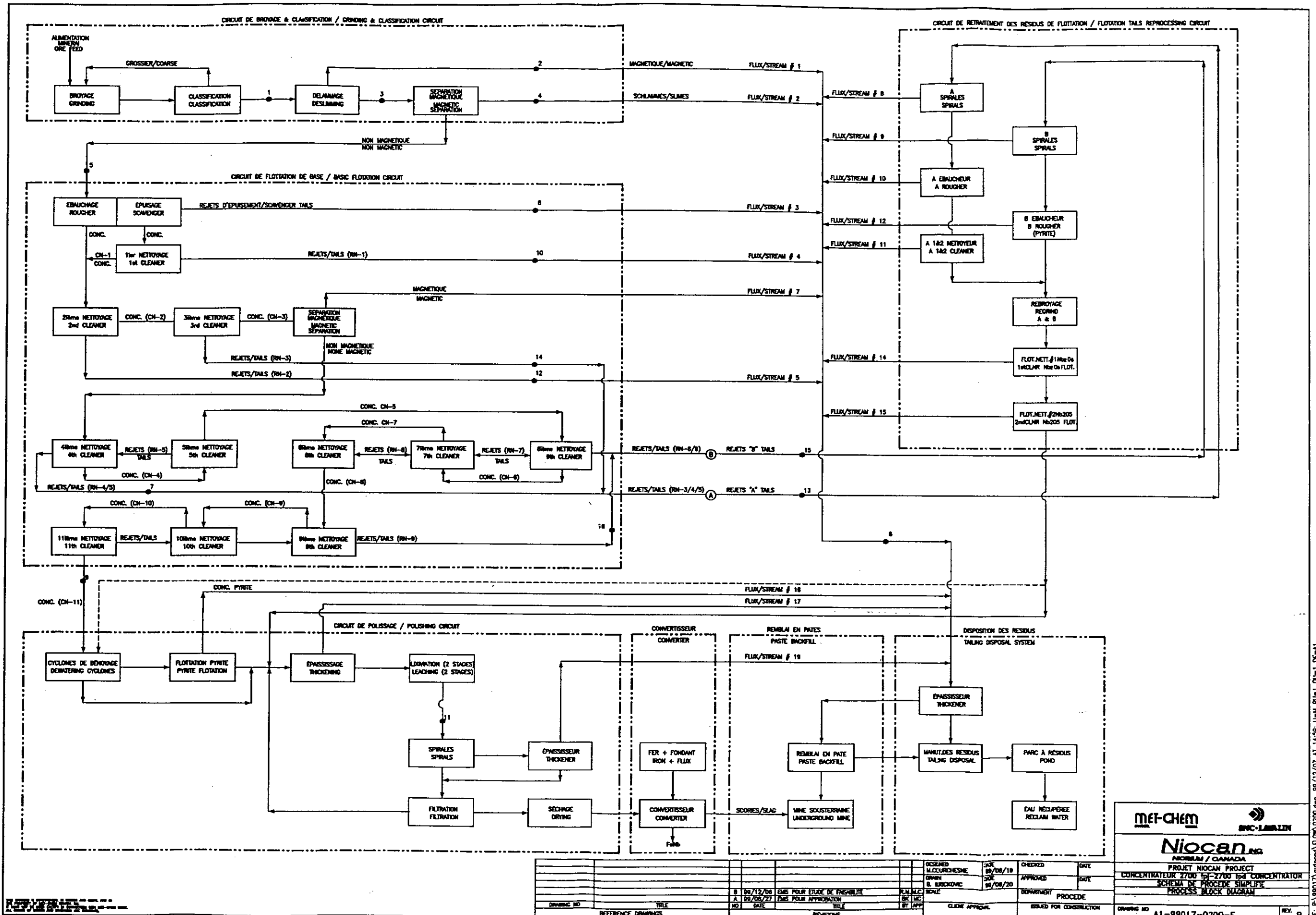
PROJET NIOCAN PROJECT
CONCENTRATEUR 2700 tpd - 2700 tpd CONCENTRATOR
SCHEMA DE PROCÉDE - PROCESS FLOWSHEET
MAINTIEN DU MINÉRAI, ENTREPOSAGE ET BROYAGE
ORE HANDLING, STORAGE AND GRINDING

DESIGNED M. COURCHESNE	DATE 99/08/19	CHECKED	DATE
DRAWN P. DESCHENEAUX	DATE 99/08/19	APPROVED	DATE
SCALE		DEPARTMENT	MECANIQUE
CLIENT APPROVAL		ISSUED FOR CONSTRUCTION	

DRAWING NO: A1-99017-0201-F REV. C

NO	DATE	TITLE	BY	APP
C	99/13/06	EMIS POUR ETUDE DE FASABILITE	R.M.N.C.	
B	99/10/01	BLAN DE MASSE ET D'EQUIPEMENT AJOUTES	P.D.N.C.	
A	99/08/27	EMIS POUR APPROBATION	BR.M.C.	

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DESIGNED	DATE	CHECKED	DATE
DESIGNÉ	09/08/19	VERIFIÉ	
DRAWN	09/08/20	APPROUVÉ	
BY		DATE	

NO	DATE	TITLE	BY	APPR.
1	09/12/08	ÉMISSION POUR ÉTUDE DE FÉASIBILITÉ		
2	09/05/27	ÉMISSION POUR APPROBATION		

CLIENT APPROVAL	ISSUED FOR CONSTRUCTION	DRAWING NO	REV.
		A1-99017-0200-F	B

FILE: P:\99017\redwood\FLOW\0200.dwg, 99/12/07 AT 14:59, User: P141, Q1=1, D1=41