

Hardy BBT Limited,  
2227 Douglas Road,  
BURNABY, B.C.  
V5C 5A9



Hardy BBT Limited  
CONSULTING ENGINEERING & ENVIRONMENTAL SERVICES

TELEPHONE: (604) 294-3811  
FAX: (604) 294-4664

## FAX TRANSMITTAL

Number of pages following this cover sheet is: \_\_\_\_\_  
Please contact the sender if this transmission is incomplete

DATE: DEC 23/91

CLIENT FAX #: 270. 0451

CLIENT PHONE #: \_\_\_\_\_

ATTENTION: MR. VIC BARBER

AT: XYPEX

FROM: P. McGRATH

SENT BY: \_\_\_\_\_

HARDY FILE # VA01618

Paper Copy to Follow: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

VIC

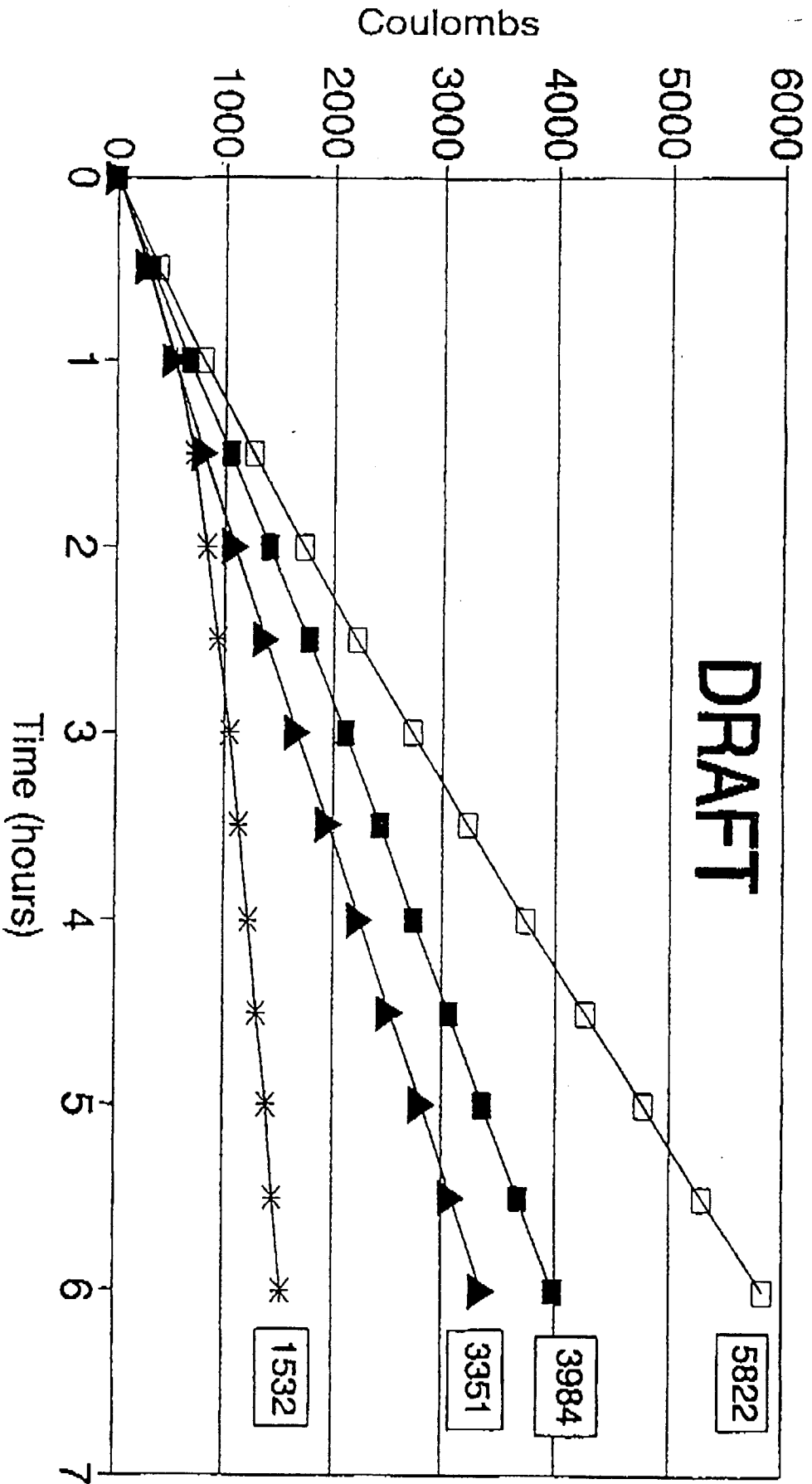
• Attached are preliminary test results  
of the Rapid Chloride Permeability test.

• If results are correct then the  
data suggests an optimum dosage at  
which chloride permeability is quite  
low.

• Please call to discuss.

XYPEX - RAPID CHLORIDE PERMEABILITY  
(AASHTO T277-83)

DRAFT



CONCRETE  
TEST REPORTOFFICE  
PROJECT NO. VAG1619CLIENT  
CC XYPEX CHEMICAL CORPORATION (1)  
DIVISION COPY (1)TO  
XYPEX CHEMICAL CORPORATION  
13731 MAYFIELD PLACE  
RICHMOND, B.C.  
V6V 2G9

ATTN: MR. D'ARCY MAINWARING

PROJECT TESTING OF CONCRETE STRENGTHS

OCT 28 1991

SET NO. 2 NO. OF SPECIMENS 4 DATE RECEIVED 31.Sep.26 DATE CAST 31.Sep.23

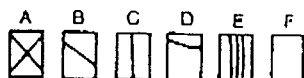
IDENTIFICATION NUMBER	DATE TESTED	AGE AT TEST (DAYS)	AVERAGE DIAMETER (mm) OR SIDE (mm x mm)	AVERAGE LENGTH OR SPAN (mm)	MAXIMUM LOAD (kN)	AVERAGE CROSS-SECTIONAL AREA (m <sup>2</sup> )	COMPRESSIVE STRENGTH (MPa)	TYPE OF FRACTURE **
A	Sep. 26	3	152.6	305.2	230	0.01829	12.6	
B	Sep. 30	7	152.6	305.2	335	0.01829	18.3	
C	Oct. 21	28	152.6	305.2	515	0.01829	28.2	
D	Oct. 21	28	152.6	305.2	516	0.01829	28.2	

SPEC. STRENGTH	20.00 MPa	CONCRETE TEMP	°C	SLUMP	90 mm
CEMENT TYPE		AIR TEMP	°C	AIR CONTENT	%
CEMENT CONTENT	kg/m <sup>3</sup>	CAST TIME		DENSITY	
AGGREGATE SIZE	mm	CAST BY	CLIENT	PLASTIC	kg/m <sup>3</sup>
ADMIXTURE		MOLD TYPE		HARDENED	kg/m <sup>3</sup>
SUPPLIER		INITIAL CURING TEMP: MAXIMUM	°C	MINIMUM	°C
MIX NO.	MX20	LOCATION:			
TRUCK NO.		REFERENCE #1.			
TICKET NO.		CAST IN AFTERNOON.			
BATCH TIME		COMMENTS:			
LOAD VOLUME	m <sup>3</sup>				
CUMULATIVE VOL.	m <sup>3</sup>				

TEST METHOD: CSA CAN 3 A23.2

Page 1 END OF REPORT

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\*\*TYPE OF FRACTURE REQ'D WHEN  
CYLINDER FAILS TO MEET SPECIFIED  
28 DAY STRENGTH.

PER

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of the test results is provided only on written request.

CONCRETE  
TEST REPORTOFFICE  
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PROJECT TESTING OF CONCRETE STRENGTHS

SET NO. 9 NO. OF SPECIMENS 4 DATE RECEIVED 91.Sep.26 DATE CAST 91.Sep.23

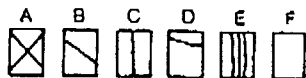
IDENTIFICATION NUMBER	DATE TESTED	AGE AT TEST (DAYS)	AVERAGE DIAMETER (mm) OR SIDE (mm x mm)	AVERAGE LENGTH OR SPAN (mm)	MAXIMUM LOAD (kN)	AVERAGE CROSS-SECTIONAL AREA (m <sup>2</sup> )	COMPRESSIVE STRENGTH (MPa)	TYPE OF FRACTURE **
A	Sep. 26	3	152.6	305.2	282	0.01829	15.4	
B	Sep. 30	7	152.6	305.2	426	0.01829	23.3	
C	Oct. 21	28	152.6	305.2	594	0.01829	32.5	
D	Oct. 21	28	152.6	305.2	590	0.01829	32.3	

SPEC. STRENGTH	20.00 MPa	CONCRETE TEMP	°C	SLUMP	80 mm
CEMENT TYPE		AIR TEMP	°C	AIR CONTENT	%
CEMENT CONTENT	kg/m <sup>3</sup>	CAST TIME		DENSITY	
AGGREGATE SIZE	mm	CAST BY	CLIENT	PLASTIC	kg/m <sup>3</sup>
ADMIXTURE		MOLD TYPE		HARDENED	kg/m <sup>3</sup>
SUPPLIER		INITIAL CURING TEMP: MAXIMUM	°C	MINIMUM	°C
MIX NO.	MX20	LOCATION:	REFERENCE #2 (2%)		
TRUCK NO.		COMMENTS:			
TICKET NO.					
BATCH TIME					
LOAD VOLUME	m <sup>3</sup>				
CUMULATIVE VOL	m <sup>3</sup>				

TEST METHOD: CSA CAN 3 A23#2

Page 1 END OF REPORT

Hardy BBT Limited

\*\*TYPE OF FRACTURE REQ'D WHEN  
CYLINDER FAILS TO MEET SPECIFIED  
28 DAY STRENGTH.PER *P. McE...*

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CONCRETE  
TEST REPORT

OFFICE  
PROJECT NO. VA01618

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TO  
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13731 MAYFIELD PLACE  
RICHMOND, B.C.  
V6V 2G9

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PROJECT TESTING OF CONCRETE STRENGTHS

SET NO. 10 NO. OF SPECIMENS 4 DATE RECEIVED 91.Sep.26 DATE CAST 91.Sep.23

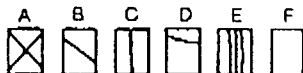
JENTI- FICATION NUMBER	DATE TESTED	AGE AT TEST (DAYS)	AVERAGE DIAMETER (mm) OR SIDE (mm x mm)	AVERAGE LENGTH OR SPAN (mm)	MAXIMUM LOAD (kN)	AVERAGE CROSS-SECTIONAL AREA (m²)	COMPRESSIVE STRENGTH (MPa)	TYPE OF FRACTURE **
A	Sep.26	3	152.6	305.2	240	0.01829	13.1	
B	Sep.30	7	152.6	305.2	397	0.01829	21.7	
C	Oct.21	28	152.6	305.2	534	0.01829	29.2	
D	Oct.21	28	152.6	305.2	558	0.01829	30.5	

SPEC. STRENGTH	20.00	MPa	CONCRETE TEMP	°C	SLUMP	175	mm
CEMENT TYPE			AIR TEMP	°C	AIR CONTENT		%
MENT CONTENT		kg/m³	CAST TIME		DENSITY		
AGGREGATE SIZE		mm	CAST BY	CLIENT	PLASTIC		kg/m³
ADMIXTURE			MOLD TYPE		HARDENED		kg/m³
SUPPLIER			INITIAL CURING TEMP: MAXIMUM	°C	MINIMUM		°C
MIX NO.	MX20		LOCATION:				
TRUCK NO.			REFERENCE #3	(3.0%)			
TICKET NO.			COMMENTS:				
BATCH TIME							
LOAD VOLUME		m³					
CUMULATIVE VOL.		m³					

TEST METHOD: CSA CAN 3 A23-2

Page 1 END OF REPORT

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PER

*P. M. [Signature]*

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TEST REPORT

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PROJECT TESTING OF CONCRETE STRENGTHS

SET NO. 11 NO. OF SPECIMENS 4 DATE RECEIVED 91.Sep.26 DATE CAST 91.Sep.23

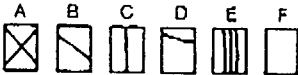
IDENTI- FICATION NUMBER	DATE TESTED	AGE AT TEST (DAYS)	AVERAGE DIAMETER (mm) OR SIDE (mm x mm)	AVERAGE LENGTH OR SPAN (mm)	MAXIMUM LOAD (kN)	AVERAGE CROSS-SECTIONAL AREA (m²)	COMPRESSIVE STRENGTH (MPa)	TYPE OF FRACTURE **
A	Sep.26	3	152.6	305.2	248	0.01829	13.6	
B	Sep.30	7	152.6	305.2	445	0.01829	24.3	
C	Oct.21	28	152.6	305.2	615	0.01829	33.6	
D	Oct.21	28	152.6	305.2	612	0.01829	33.5	

SPEC. STRENGTH	20.00 MPa	CONCRETE TEMP	°C	SLUMP	150 mm
CEMENT TYPE		AIR TEMP	°C	AIR CONTENT	%
CEMENT CONTENT	kg/m³	CAST TIME		DENSITY	
AGGREGATE SIZE	mm	CAST BY	CLIENT	PLASTIC	kg/m³
ADMIXTURE		MOLD TYPE		HARDENED	kg/m³
SUPPLIER		INITIAL CURING TEMP: MAXIMUM	°C	MINIMUM	°C
MIX NO.	MX20	LOCATION:	REFERENCE #4 (4%)		
TRUCK NO.		COMMENTS:			
TICKET NO					
BATCH TIME					
LOAD VOLUME	m³				
CUMULATIVE VOL.	m³				

TEST METHOD: CSA CAN 3 A23#2

Page 1 END OF REPORT

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28 DAY STRENGTH.

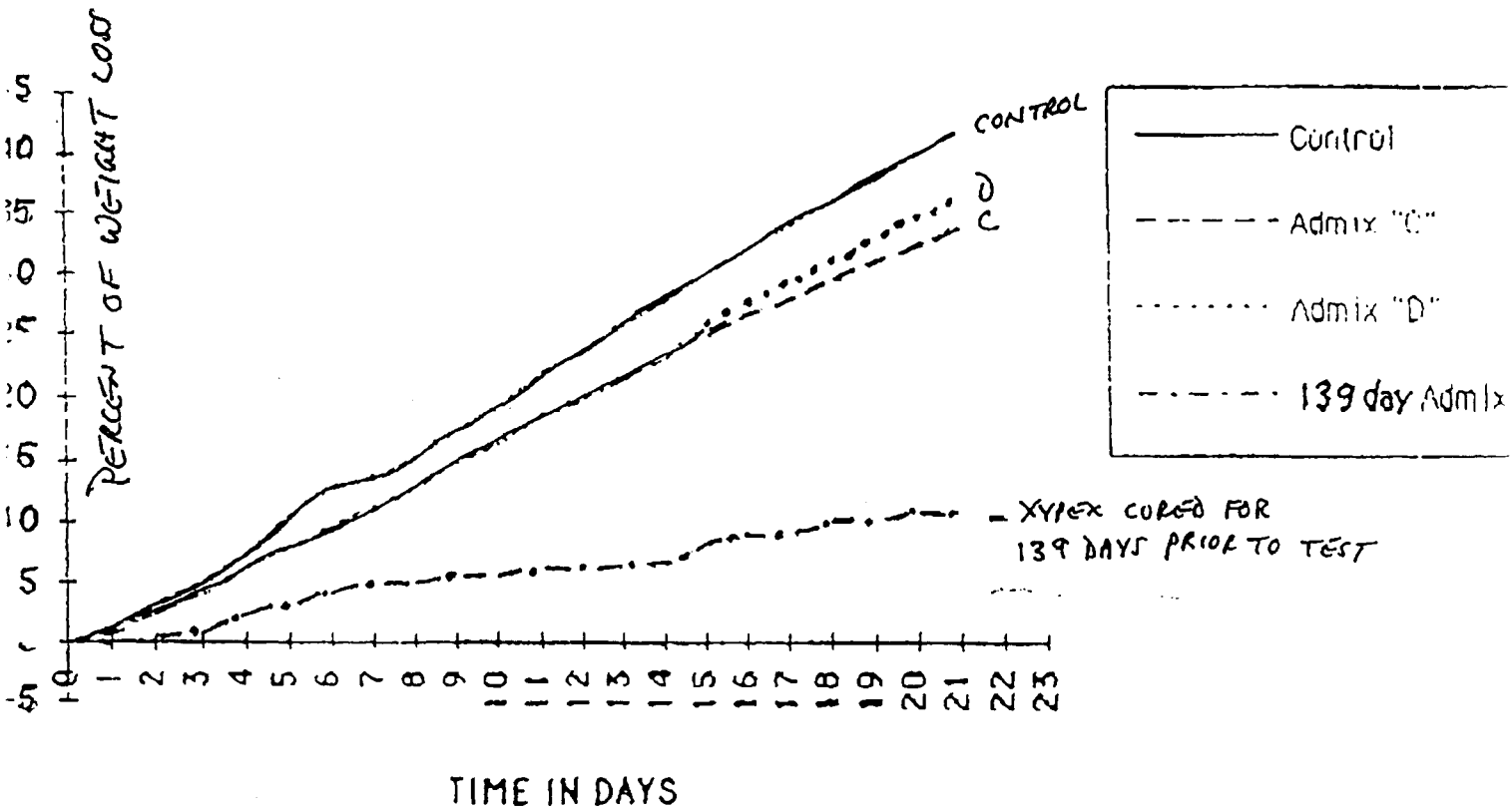
PER

*P. McKeown*

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25-DAY CURE

25-DAY CURE ACID COMPARISON TEST - 7% H<sub>2</sub>SO<sub>4</sub> SOLUTION  
pH .7



# 40 DAY CURE ACID COMPARISON - 7% H2SO4 Ph .7

