Bredero Price (Malaysia) Sdn. Bhd.
COMPANY NO. 12792 – A

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25720 Kuantan, Pahang Darul Makmur
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Telephone : (60) 09-583-3131
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#12-08/09 Orchard Towers
Singapore 238875
Telephone : (65) 6732 2355
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E-mail: qparsons@bredero.com

19 June 2002

CHLOR*RID INTERNATIONAL

P.O. Box 908
CHANDLER, AZ 85244
U.S.A.
Attention: Mr Hap Peters

Re: Bredero Price – Malaysia use of Chlor*Rid on internal steel surface of pipe.

To Whom It May Concern:

Bredero Price – Malaysia were required to achieve specific salt limitations (less then 1 microgram/cm^2) for the preparation of the internal steel surface of a pipeline project. Existing contamination levels found on the surface of the pipe during the start-up of production were too high for existing systems to efficiently process. Bredeo Price, with the use of Chlor*Rid were able to achieve the clients specification requirements in a timely and cost effective manner.

Please contact the undersigned for further clarification, if required.

Mr Quinn Parsons
Bredero Price - Malaysia

The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

September 10, 2002

After the recovery of the vintage Stratoliner B-307 from Seattle's Elliot Bay on March 27, 2002, Boeing used CHLOR*RID to remove corrosion inducing salt water contaminates.
Shortly after hoisting the historical aircraft onto a barge with a crane, a 1% solution of CHLOR*RID in fresh water was applied to the exterior with a 2,000 psi pressure washer. Testing the exterior skin after the wash with the CHLOR*TEST kit showed negligible chlorides levels of 1.5 and 3.0 micrograms/cm^2.
The B-307 was moved to a hangar for removal and replacement of damaged parts and the interior. Both the exterior and reachable parts of the interior were washed with 1% solution of CHLOR*RID using a 2,000 psi pressure washer. Further testing with the CHLOR*TEST showed non-detectable levels of chlorides.
Subsequent testing of the water wash at the Boeing Materials Technology laboratories showed no compatibility problems with the metallurgy of the aircraft.

Mark Kempton
Manager, Flight Test
307 Stratoliner Restoration

September 5, 2000

Mr. Michael Leote
Triborough Bridge and Tunnel Authority
Robert Moses Building Randall's Island
New York, NY 10035-0035

Subject: Verrazano Bridge, CHLOR*RID test

Dear Michael,

As per our telephone conversation, here is the report regarding the tests performed on August 29, 2000. The test was performed on the lower level, eastbound side at the end of the main bridge structure where the ramp extension begins. Nikos, of Keystone Construction Company, chose a column that was typical in regards to the overcoat portion of the coating work. The subject area was on a vertical portion of the column, had some intact paint and a rather large area, approximately 10 inches wide by 16 inches high, exhibited a great deal of corrosion. At the center of the corroded area there was hard pack rust approximately ½ inch in thickness. The people present were Nikos, Scott Smith, a KTA-Tator Inspector and myself. Nikos used a air powered needle gun and wire wheel and prepared an area the width of the column and approximately 3 feet high typical to the surface preparation usually performed on that job prior to application of paint.
(Usually a pressure wash would have been performed, but for the test there was not one readily available.) After the area was prepared by power tool, a test was performed with the CHLOR*TEST to check existing chloride levels. The actual test location was about 2 inches above center of the corroded area. The area was then hand washed with a garden hose and tap water and scrubbed with a brush. A second test was the performed immediately below and adjacent to the first test area. The corroded area was then washed with CHLOR*RID DTS. The solution was taken directly from the container, brushed on to the surface and rinsed off with tap water from the hose. A third test was taken to determine the chloride level after the CHLOR*RID DTS hand wash. The first test was taken by myself, the second by Nikos and the third by Scott Wilson. The results were as follows.

Prior to any wash	(Test 1)	~8 micrograms per square centimeter
After water wash	(Test 2)	~12 micrograms per square centimeter
After CHLOR*RID DTS wash	(Test 3)	~1 microgram per square centimeter

The roadway was shut down about 10 p.m. and the test was performed about 11 p.m., August 29, 2000. Nikos was concerned that in prior applications in this type scenario there was rust bleed through paint film less than 24 hours old. After 24 hours, he reported to me that there was absolutely no rust bleed after the CHLOR*RID DTS wash.

I spoke afterwards to Mr. Jack Bracco of Xymax Paint Company and he felt the salts were the cause of the rust bleed and that removing those salts is a correct resolution.

I spoke to Mr. James Brackin of KTA Tator Inspection and he informed me that, prior to Keystone using any of our product for salts removal, a submittal had to be done and the product approved for use. I would be pleased to offer any assistance I can provide in attaining that approval.

Best regards,

Jim Johnson

UNITED COATINGS
A Unit of Digital Systems Research, Inc.

750 Chautauqua
P.O. Box 7156
Portsmouth, VA 23707
Phone 757/398-0785
Fax 757/397-4119

Customer:N/A
Vessel:U.S.S. SAIPAN
Item Location:Flight Deck
Subject:Use of CHLOR*RID

Date: 7/18/99
Job No. N/A
Para. No. N/A
Item No. N/A

Mr. Jerry Colahan
Chlor-Rid International
P.O. Box 908
Chandler, Arizona 85244

Dear Mr. Colahan:

With this letter we would like to inform you how we have successfully reduced chloride levels using your CHLOR*RID product on the following job we recently completed. The job was on the U.S.S. Saipan, which is an amphibious warfare ship or helicopter carrier. The scope of the job was to remove the existing non-skid and primer coatings by vacuum hydroblasting and replace the coatings system anew.

CHLOR*RID was not originally in the specification. Upon surface chloride checks as per NAVSEA standard item 009-32, chloride levels were found to be well above the allowable levels of five or less micrograms per centimeter square. Some areas sampled were as high as 38 micrograms per centimeter square. Areas with high chlorides were re-hydroblasted several times. These areas were still above the acceptable range. At this time a deviation was submitted to the Supervisor of Shipbuilding, Portsmouth to add the CHLOR*RID solution to the hydroblast supply water to reduce the chlorides to an acceptable level to proceed with the project. NAVSEA approved the deviation and initial mixture of 300 parts water to one part CHLOR*RID was used to blast the substrate. This mixture reduced chloride levels, but not within acceptable levels. A mixture of 240 parts water to one part CHLOR*RID was utilized next, reducing the chloride levels to borderline acceptable levels. Finally a mixture of 200 parts water to one part CHLOR*RID revealed readings of 3 or less micrograms per centimeter square.

Using the 200:1 ratio on the unblemished areas of the flight deck where corrosion was not visually detectable revealed chloride levels that were not detectable with the Bresle or Chlor-rid chloride detection kits. On occasion, small areas of the flight deck had pitts filled with black colored corrosion products, some of these areas had chloride levels in excess of five micrograms per centimeter square after the 200:1 hydroblast. A dosmatic pump was used to spray a 100:1 ratio of water and CHLOR*RID on the aforementioned areas followed by re-hydroblasting. These areas revealed chloride levels of less than five micrograms per centimeter square.

The Hydrocat machines which accomplish the vacuum hydroblasting were not designed to blast the backside or bottom of the tie down cups on the flight deck. They are not capable of blasting right up to the flight deck superstructure or other vertical appendages by nature of their design. These areas or strips were power tool cleaned to a SSPC-SP11 or bare metal. The power-tooled areas were sprayed with the Dosmatic pump at a 200:1 ratio and thinner wiped prior to applying the primer.

United Coatings Corp. has used CHLOR*RID successfully on commercial and Coast Guard projects in the past and now can add the United States Navy to the list. Thank you for producing such a high quality product that performs so well.

Yours truly,
Ronnie Kinsel
Production Manager
United Coatings Corp.

CHLORIDE TEST RESULTS

Maintenance Date: 4/25/95

Bridge Number and Location: B-1 1-71 Columbia County, S Hwy. 33 & Wisconsin River

Subject: Test effectiveness of CHLOR*RID in normal wash down procedures.

CHLOR*RID was used in maintenance wash down of above bridge. Wash down process included 2,000 psi pressure wash using "water cannon' strewn from a 500 gallon holding tank. Holding tank contained a mixture of field accessed water and CHLOR*RID. No other detergents or washing agents were used. CHLOR*RID mixture of 1: 100 was utilized.

On April 25th, the wash down of the eastern half of the bridge was completed. This wash down included approximately 26,000 sq. ft. This included the eastern traffic lane (approx. 1,300 linear feet), sidewalk, bridge wall/curb and the outer support beam underneath. This wash down utilized 2,000 gallons of water and 20 gallons of CHLOR*RID. Therefore, One (1) gallon of CHLOR*RID was utilized for every 1,300 sq ft of surface cleaned.

This coverage ratio was well within Manufacturer's recommended coverage for the surface cleaned. Manufacturer tests of CHLOR*RID have found it effective in Chloride removal in "worse case" conditions at I G-al to 300 sq. ft. and in "smooth surface" conditions at 1 Gal to 1,500 sq. ft.

Field test for the presence of Chlorides was taken before and after bridge wash down. Results of this field test are shown below-.

Surface Material	Before Wash	After Wash
Painted Steel	80 ppm	Undetectable
Concrete	242 ppm	Undetectable

Field test utilized swabbing of surface with Deionized Water and testing of the water with Tritration strip to measure the presence of Chlorides. Test was conducted by Don Roush of
CHLOR*RID of Wisconsin. Visual observation also showed the surface to be clean of any residue of any type.

CONCLUSION: Washing the bridge with the above mixture of CHLOR*RID in normal maintenance procedures was effective in the elimination of Chlorides from the surface. This is an essential step if effective coating (painting/other) is to be done.

CHLORIDE TEST RESULTS

Test Date: 8/29/95

Bridge Number and Location: #62-523, Dale Street, over the Burlington Rail Road St. Paul MN.

Subject: Test effectiveness of CHLOR*RID verses water in chloride removal

Test Process:
CHLOR*RID was used in a spot-wash test on the bridge above. The test process included 4,000 psi pressure washer using a "zero tip" for a needle stream from a 100 gallon holding tank. The holding tank contained a mixture of potable water and CHLOR*RID. No other detergents or washing agents were used. A CHLOR*RID: water mixture of 1:100 was utilized.

On August 29, there were three tests performed; one on concrete, one on corten steel and one on painted steel. These tests involved three steps:

1. The first step was a procedure (see procedure below) to detect the amount of chlorides on the surface.
2. The second step utilized the identical procedure to detect the amount of chlorides left on the surfaces after washing with potable water.
3. The third step utilized the identical procedure to detect the amount of chlorides remaining on the surfaces after rinsing with a 1:100 mixture of CHLOR*RID and potable water.

The results of the three steps are recorded and shown below:

Surface Material	Before Wash	Wash with Water	Wash with CHLOR*RID
Concrete Deck	855 ppm	342 ppm	Undetectable
Corten Steel	855 ppm	855 ppm	Undetectable
Painted Steel	285 ppm	285 ppm	Undetectable

Test Procedure:
The tests results were derived from the BresleSampler$_{tm}$ Kit, this procedure involved placing a BresleSampler$_{tm}$ patch on the surface. An "Extraction Liquid" was injected behind the patch to mix with any impurities that might be present. The "Extraction liquid" was then removed and placed in a beaker where a tritation set was used to measure the presence of Chlorides. Test was conducted by Don Roush of CHLOR*RID of Wisconsin, and overseen by Mr. Tracy Moe, P.E. (Bridge Division) City of St.Paul, and Mr. Dave Gaffke (Bridge Supervisor) City of St. Paul.

CONCLUSION: Washing of the tested areas with the above mixture of CHLOR*RID has shown results of the elimination of Chlorides more effective than washing with potable water. This is an essential step if effective coating (painting/other) is to be done .

CHLORIDE TEST RESULTS

Test Date: 6/7/96

Bridge # and Location: 0710001 Intersection of Hwy. 72 and Hwy. 251 Ogle County, Il

Subject: Test effectiveness of CHLOR*RID verses water in chloride removal

Test Process:
CHLOR*RID was used in a spot-wash test on the bridge above. The test process included 900 psi pressure washer using a " 15 degree tip" for a fan stream from a 400 gallon holding tank. The holding tank contained a mixture of 3 50 gals of potable water and 1% CHLOR*RID. No other detergents or washing agents were used. A CHLOR*RID: water mixture of 1:100 was utilized.

On June 6, there were two tests performed; These test where performed on Corten A-589 steel
These tests involved three steps:

1. The first step was a procedure (see procedure below) to detect the amount of chlorides on the surface.
2. The second step utilized the identical procedure to detect the amount of chlorides left on the surfaces after washing with potable water.
3. The third step utilized the identical procedure to detect the amount of chlorides remaining on the surfaces after rinsing with a 1:100 mixture of CHLOR*RID and potable water.

The results of the three steps are recorded and shown below:

Surface Material	Before Wash	Wash with Water	Wash with CHLOR*RI
Corten A-588 East	410 ppm	200 ppm	82 ppm
Corten A-588 West	1038 ppm		385 ppm

Test Procedure:
The tests results were derived from the KTA Tator SCAT Kit, this procedure involved swabbing a 3 X 6 surface with 11 ml. of Distilled water. Then placing a Chloride detecting strip in the water. This test was conducted by Don Roush of CHLOR*RID of Wisconsin**,** Inc. and Bob Milano of Illinois Department of Transportation.

CONCLUSION: Washing of the rusted test areas with the above mixture of CHLOR*RID has shown results of the elimination of Chlorides more effective than washing with potable water. This is an essential step if effective coating (painting/other) is to be done.

CHLORIDE REMOVAL TEST

Test Date: 8/6/96

Bridge Location: Highway - 64, Lincoln County, WI.

Subject: Test effectiveness of CHLOR*RID in chloride removal

Test Process:

CHLOR*RID was used in a washing test on the bridge above. The test process included 200 psi pressure washer using about 12 gallons per minute from a 1000 gallon holding tank. The holding tank contained a mixture of potable water and CHLOR*RID. No other detergents or washing agents were used. A CHLOR*RID: water mixture of 1:100 was utilized.

On August 6, there were two tests performed; on painted steel. These tests involved three steps:

1. The first step was a procedure (see procedure below) to detect the amount of chlorides on the surface.

2. The third step utilized the identical procedure to detect the amount of chlorides remaining on the surfaces after rinsing with a 1:100 mixture of CHLOR*RID and potable water.

The results of the three steps are recorded and shown below:

Surface Material	Before Wash	Wash with CHLOR*RID
Painted steel Northside	200-300 Mg	Undetectable
Painted steel Southside	300-400 Mg.	Undetectable

Test Procedure:
The tests results were derived from the BresleSampler™. Kit this procedure involved placing a BresleSampler™ patch on the surface. An "Extraction Liquid" was injected behind the patch to mix with any impurities that might be present. The "Extraction liquid" was then removed and placed in a beaker where a tritation set was used to measure the presence of Chlorides. Test was conducted by Don Roush of CHLOR*RID of Wisconsin, and over seen by Lincoln County Hwy. Dept.

CONCLUSION: Washing of the tested areas with the above mixture of CHLOR*RID has shown results of the elimination of Chlorides more effective than washing with potable water. This is an essential step if effective coating (painting/other) is to be done.

CHLORIDE TEST RESULTS

Test Date: 9/4/96

Bridge Location: Intersection of 1-90 and Hwy 75 South Beloit, IL.

Subject: Test effectiveness of CHLOR*RID in chloride removal

Test Process:
CHLOR*RID was used in a spot-wash test on the bridge above. The test process included 3000 psi pressure washer using a "rotating head" for a circle stream from a 55 gallon holding tank. The holding tank contained a mixture of 55 gals of potable water and 1% CHLOR*RID. No other detergents or washing agents were used. A CHLOR*RID: water mixture of 1:100 was utilized.

On September 4, there were two tests performed; These test where performed on a corroded painted surface. These tests involved two steps:
1. The first step was a procedure (see procedure below) to detect the amount of chlorides on the surface.
2. The second step utilized the identical procedure to detect the amount of chlorides remaining on the surfaces after rinsing with a 1:100 mixture of CHLOR*RID and potable water.

The results of the three steps are recorded and shown below:

Surface Material	Before Wash	Wash with CHLOR*RID
Fascia (T.)	180-200 ppm	0-20 ppm
Fascia (A.)	180-200 ppm	0-20 ppm
Horz. (H.)	876 ppm	4 ppm
Horz. (B.)	786 ppm	0-20 ppm
Web (W.)	198-236 ppm	0-20 ppm

Test Procedure:
The tests results were derived from the KTA Tator SCAT Kit, this procedure involved swabbing a 3 X 6 surface with 11 ml. of distilled water. Then placing a Chloride detecting strip in the water and the BresleSampler™ Kit, this procedure involved placing a BresleSampler™ patch on the surface. An "Extraction Liquid" was injected behind the patch to mix with any impurities that might be present. The "Extraction liquid" was then removed and placed in a beaker where a tritation set was used to measure the presence of Chlorides. This test was conducted by Don Roush of CHLOR*RID of Wisconsin, Inc. and Bob Milano of Illinois Department of Transportation

CONCLUSION: Washing of the tested areas with the above mixture of CHLOR*RID has shown results of the elimination of Chlorides more effective than washing with potable water. This is an essential step if effective coating (painting/other) is to be done.

CHLORIDE TEST RESULTS

Test Date: 7/8/96

Bridge Location: Lower Lake Shore Drive & Navy Pier Chicago, Il.

Subject: Test effectiveness of CHLOR*RID verses water in chloride removal.

Test Process:

CHLOR*RID was used in a wash test on the above bridge. The tests processes included a 3,000psi pressure washer using a spinning head stream from a 500 gallon holding tank. The holding tank contained a mixture of potable water and CHLOR*RID. No other detergents or washing agents were used A CHLOR*RID water mixture of 1: 100 was used. The tests were performed on two painted steel beams with equal amounts of contamination.

Tests:

1. The first test was to determine the amount of chlorides on the surface of beam #1.
2. The second test was to determine the amount of chlorides on the surface of beam #1 after washing with potable water.
3. The third test was to determine the amount of chlorides on the surface of beam #2 after washing. with a mixture of I gallon of CHLOR*RID: 100 gallons of potable water.

The test results recorded and shown below were tests all conducted on the west side of the bridge.

Results:

Place of test on beam

	Before Wash	After Wash with water	After Wash with Chlor*rid
West side of beam #1	120 Mg	120 Mg	
East side of beam #1	120 Mg	120 Mg	
Under Flange of beam #1	300 Mg	300 Mg	
West side of beam #2			Undetectable
East side of beam #2			Undetectable
Under Flange of beam #2			Undetectable

Test Procedure:

The tests results were derived from the BresleSampler™ Kit. This procedure involved placing a BresleSampler™ patch on the surface and injecting an "Extraction Liquid" behind the patch to mix with any impurities that might be present. The "Extraction liquid" was then removed and placed in a beaker where a tritation set was used to measure the presence of Chlorides. Tests were conducted by Don Roush of CHLOR*RID of Wisconsin, and overseen by Mr. Andy Moe, PE City of St. Paul,
(Bridge Division) and Mr. Dave Gaffke (Bridge Supervisor) City of St. Paul.

CONCLUSION: Washing of the tested areas with CHLOR*RID has shown results more effective in the removal of Chlorides than washing with potable water. This is essential for effective long-term coatings.

CHLOR *RID of WISCONSIN, Inc-
23 71 Kimberly St Green Bay, WI. 54313

CHLOR*RID IN PAPER MILLS

On April 24, 1995 Chlor*rid of Wisconsin was contacted by Quality Sandblasting of Green Bay, WI., inquiring about a chloride contamination problem on the steel structure of paper machine #12 at the Procter & Gamble Paper Company. This was a very delicate job: first, the structure had to be washed to remove the large debris of paper stuck to the surface, then it was sponge blasted (this method was required by specifications of Procter & Gamble), the structure was then tested for its levels of chloride contamination, which showed very high levels, well over 1,000 parts-per-million (ppm). These levels were not acceptable for coating (according to Procter & Gamble's specifications). This is when Chlor*rid was washed on to the surface in a conventional air sprayer (50 psi) with a mixture of 3oz. of Chlor*rid to 1 gallon of water. A BresleSampler™ test kit was used to test the levels of chlorides now on the surface. The chloride levels dropped down to an undetectable level, according to the test kit below 20 ppm. Hours after the surface was cleaned with Chlor*rid there was no presence of any flashback rust. This shows how effective Chlor*rid is in removing chlorides from contaminated surfaces, even with little water pressure. Both Quality Sandblasting (contractor) and the Engineers at CPR & ASSOCIATES and Procter & Gamble were very impressed with the results of Chlor*rid.

CHLOR*RID of WISCONSIN Inc.
Ph: 414-496-5989 FAX.- 414-496-9921

BRIAN CALLOW & ASSOCIATES LTD

#304, 1560 Hillside Ave
Victoria, British Columbia
V8T 5B8
Telephone:(604) 370-1201
Fax: (604) 370-2381

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6 October, 1995

A Report on the Comparison of the Use

CHLOR*RID

on One Floating Leads and not the other.

INDEX

BRIAN CALLOW & ASSOCIATES LTD

#304, 1560 Hillside Ave
Victoria, British Columbia
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1.0 INTRODUCTION

1.1 Two floating leads belonging to British Columbia Ferry Corporation (B.C.F.C.) were removed from their location at Lyall Harbour on Saturna Island in July and August, 1995 for docking, maintenance and filling with foam.

1.2 The first unit was treated in accordance with the specification for surface preparation by dry sandblasting, and no more. The second unit was wet sandblasted, washed down with CHLOR*RID, then swept again to remove all "flash" rust.

2.0 INSPECTION RESULTS

2.1 The first unit exhibited the characteristic "black rust" forming in all salt contaminated areas. The second unit showed none of these characteristics. Photographs of the resultant surface preparation are contained in Appendix 1.

3.0 CONCLUSIONS

3.1 The surface preparation of the second floating lead was far superior to that of the first lead, as shown in Appendix 1.

4.0 RECOMMENDATIONS

4.1 It was recommended to B.C.F.C. that some method be included in future specifications for checking the salt contamination of sandblasted surfaces and any contamination be removed by the use of a salt neutralizer such as CHLOR*RID.

Inspections conducted and report prepared by:

Brian Callow, P. Eng

To: Chlor*Rid International, Inc
Attn: Jerry Colohan
Jim Johnson
Fax Nr: 001116028210364
Re: Our Order No. 1484
Date: 12 July 1996
Pages: 3, including this cover sheet

FACSIMILE
CORROCOAT ENGINEERING (AUST.) PTY. LTD
A.C.N. 009 063 503

Dear Jerry,

Firstly, please thank Jim for the prompt action on the quart of Chlor*Rid, we couldn't get it that fast from our
own east coast – 2 days.

The sample was taken to Brisbane, Queensland by Keith Clayborough our Manager – Mechanical Services, for test
on one of 3 large pumps (cast iron 1946) currently being repaired (letter faxed 5 July).

Keith tested chlorides at 600 PPM. The water blaster had a 20:1 ratio with a suspect gauge so he hand washed as
per your instructions at 1% dilution using a broom to scrub. After 1 hour testing showed reduction to 20 PPM.
This compared to previous 3 days alternate washing blasting. Next 2 pumps 470 & 420 PPM to 4 PPM.
Testing was carried out with an electronic conductivity meter.

Corrocoat would like to order 1 x 55 gallons of Chlor*Rid to start with as per the attached purchase order.