PLAINTIFF'S EXHIBIT
RMC-401

INTRACOMPANY CORRESPONDENCE

R-9E (Rev 1-68)

FROM: Ronald E. Benton - Industrial Hygiene - GOB - LL

TO: E. W. DRESSEN - SAN PATRICIO REDUCTION PLANT

COPIES TO: H. V. Helton, E. Jack Gates, R. W. Winstead, P. R. Laden, W. A. Wright, J. R. Amos, Dr. E. C. Irby - EXO

DATE: January 30, 1984 SUBJECT: ASBESTOS SURVEY - SAN PATRICIO

In the early 1970's, Reynolds Metals Company instituted a program to remove all non-essential asbestos-containing products from our manufacturing facilities. Although this program has been quite successful, several areas still remain where asbestos is currently being used. Consequently, the Medical Department, along with Central Engineering, has begun a final effort to eliminate all inhalation exposure to asbestos. In order to accomplish this goal, all asbestos-containing products which have feasible substitutes will be eliminated from RMC facilities. Where there are no feasible substitutes, appropriate work practices will be developed, so that there will be no inhalation exposure to asbestos while using the product.

As part of this effort, the San Patricio Reduction Plant was visited on November 9 and 10, 1983, to evaluate the status of the plant's asbestos control program. During this audit, those asbestos-containing products in inventory were identified, as well as those already in place or currently being used by the plant.

Results of this survey indicate that the San Patricio Reduction Plant has made considerable progress in eliminating the use of most asbestos-containing products. The audit did reveal, however, several areas which need some additional attention.

First, those asbestos-containing products currently being used by the plant were identified. For several of the products, it was determined that a potential exposure to asbestos may exist due to the application or condition of the material. For several others, feasible substitutes have been identified and are readily obtainable. Consequently, it is our recommendation that the plant should remove these items from use and substitute a non-asbestos product. Table 1 lists each of these products, as well as potential substitutes. Where possible, the plant should return its current inventory of these items for credit. If this is not feasible, then the plant should stock only those items necessary, until the substitutes have been obtained. The remaining asbestos-containing products should be placed in labeled, sealed plastic bags and disposed of in an approved sanitary landfill. Contact the Environmental Control Department for information on proper disposal procedures and approved landfills.

Second, ten (10) bulk samples of material already in place or currently being used were collected and screened for asbestos. In addition, a number of products were positively identified during the audit as containing asbestos (Appendix II & III). Based on these results, Table 2 was developed, identifying the various applications of those products found to contain asbestos. It should be noted that, for those products already in place, (e.g., pipe insulation, transite hood liners, boiler insulation, etc.), the presence of undisturbed, non-friable asbestos does not represent an exposure hazard. Consequently, there is no requirement to remove those types of products from the plant. If, however, work is performed on any of these products (e.g., demolition, repair), then non-asbestos substitutes should be utilized, where available, and appropriate work practices followed to eliminate any inhalation exposure to asbestos (Appendix IV). The non-asbestos substitutes should be color coded (e.g., Reynolds blue) and accurate records kept to prevent the need for expensive and unnecessary controls during future work. Due to the many disadvantages and continuing expense of encapsulation, it is not a recommended control method for most loose or damaged insulation. In certain situation, enclosure of existing asbestos pipe or duct insulation with a lagging material may be an acceptable control method. Please contact the Industrial Hygiene Department for specifics. If work is performed on an item not listed in Tables I or II, it should be handled as asbestos, until appropriate analytical results can be obtained.

Third, although marinite is no longer used by the San Patricio Plant (other than molten metal plugs), numerous items (donuts and slab floats) were found in the warehouse and storage area adjacent to the bag filter equipment. In order to prevent exposure to asbestos from the inadvertent handling, cutting or sawing of the marinite, it should be removed from the plant and properly disposed of in an approved landfill. Again, contact the Environmental Control Department for information on proper disposal procedures and approved landfills.

Finally, in order to accomplish the objectives of this program and to ensure its continued effectiveness, it is recommended that someone at the San Patricio Plant be designated as contact person. In this regard, that individual would receive and disseminate information concerning non-asbestos substitutes.

In addition, he would review all Material Safety Data sheets (MSDS) for new products, to ensure that no asbestos is contained in them. (Note: A procedure is currently being developed through Purchasing which wi l allow Reynolds Metals Company to determine whether or not a product contains asbestos before it enters the plant.) Finally,

this person would be responsible for making certain that the appropriate safe-handling procedures are utilized when working with asbestos-containing products.

If you have any questions concerning this report, or if further information is desired, please feel free to contact us.

Ronald E. Benton

Robert G. Burton

REB/csd

Att.

TABLE 2

SAN PATRICIO REDUCTION PLANT
ASBESTOS CONTAINING MATERIALS

TYPE OF PRODUCT	APPLICATION	AREAS(s) (depts.)	SPECIAL HANDLING	SUBSTITUTES
AUTOMOTIVE & FRICTION				
Brake linings/pads, Clutch plates	mobile equipment, machine brakes	ALL	D	Scan Pac RF-38 and other non-asbestos products - Kevlar
CLOTHING				
Gloves, jackets	body, hand protection	Laboratory, Elec. Shop	B	FR-8 cotton, treated wool, Zetex, Kevlar, Tempo Gloves
ELECTRICAL PRODUCTS & COMPONENTS				
Wire	TC wire	Elec. Shop	A	Fiberglass
GASKETS				
Compressed sheet	pump seals, metal joint seals	ALL	A	Garlock Blu-Guard, Anchor; contact individual supplier.
Woven cloth	metal joint seals	FAC 60, Powerhouse Maint.	B	Fiberglass, ceramic fiber
PACKING				
Rope (woven & braided)	pump packing, oven/fce. door seals	ALL	A (impregnated) B (non-impregnated)	Fiberglass, ceramic fiber
FIRE & HEAT SHIELDING				
Transite	Fce./heater walls pipe	Lab, Maint. Shop, garage, FAC 60, Pot rebuilding, Elec.Shop	A	Contact Rex Roto, Pyrotec, and Hi Temp for your particular application.

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TABLE 2

SAN PATRICIO REDUCTION PLANT

ASBESTOS CONTAINING MATERIALS

TYPE OF PRODUCT	APPLICATION	AREAS(s) (depts.)	SPECIAL HANDLING	SUBSTITUTES
Marinite	molten metal plug	Casthouse	B	Pyrotect B-3, N-12, N-14, Hi Temp H32 & Rex Roto, Pyrofoam PC
Millboard		front of fce. in forging area	B	Pyrotec B-3, N12, N14, Hi Temp H32 & Rex Roto, Pyrofoam PC
Bulk Thermal Insulation	vessel & pipe insulation	ALL	C	Mineral wool, fiberglass, non-asbestos calcium silicate
Sleeves	laboratory equipment	Laboratory	B	Fiberglass, ceramic fiber

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PLANT SAN PATRICIO REDUCTION PLANT

SURVEYED BY RONALD E. BENTON
ROBERT G. BURTON

LOCATION

DATE

DIVISION

ASBESTOS SURVEY

SAMPLE #	SAMPLE LOCATION	APPLICATION	ANALYTICAL RESULTS
1T	Powerhouse	water stand pipe insulation	Yes
	Bldg. 41 Powerhouse Maint.	transite pipe (soap machine & hot water pipe)	Yes
	Bldg. 41 Powerhouse Maint.	lub oil sep. transite sleeves	Yes
	Bldg. 40 Powerhouse	(Cooper Bessemer) old vessel and pipe insul.	Yes
	Bldg. 40 Powerhouse	(oil, H_2O, exhaust ducts stand pipes)	Yes
	Bldg. 42 Powerhouse	(exhaust and pipe insul. natural gas)	Yes
	Bldg. 41 Powerhouse	vessel & pipe insul., sheet mill board against wall	Yes
	Power Plant Control Room	water pipe in rest room	Yes
2T	Bldg. 42	natural gas line	Yes
3T	Boiler Piping	Cement over mineral wool/ fiberglass	Yes
4T	Boiler Piping	Straight run white block material	No
5T	Potroom	leg isolator	Yes
	Potroom	pot leg isolators, pot duct isolator	Yes
	Pot rebuilding	asbestos jacket, scrap sheet gasket, several	Yes
	Pot rebuilding	sheets transite under a hood	Yes
	Boilers	pipe cement insul. - at elbows & joints	Yes
6T	Potroom	siphon tip gasket	Yes
7T	Fac. 160	sheets of material	Yes
8T	Lab- Environmental	pipe insul.	Yes
	Lab - Environmental	distillation column has damps with asb. sleeves,	Yes
	Lab-Environmental	also tap of unit transite, H_2O pipe insul., lab cart	Yes
	Lab-Environmental	taps - transite, several paper discs (new part lab),	Yes
	Lab-Environmental	piece of rope	Yes
9T	Carbon Plant	mixer insulation	Yes
	Carbon Plant	old mixer & pipe insul.	Yes

RMC0800260000471

PLANT San Patricio Reduction Plant

SURVEYED BY RONALD E. BENTON & ROBERT G. BURTON

LOCATION

DATE

DIVISION

ASBESTOS SURVEY

SAMPLE #	SAMPLE LOCATION	APPLICATION	ANALYTICAL RESULTS
10T	Wet Lab	pipe insulation - outside long hood	Yes
	Wet Lab	transite, mittens, muffle fces lined with transite (front & back), ring gaskets,	Yes
	Wet Lab	sleeves, Prec. Sci. oven asb. door seals, pipe insul.	Yes
	Wet Lab	behind cabinet, Haskins heater, transite lined disc with holes	Yes
	Wet Lab	(outside hood)	Yes
	Elec. Shop	TC wire ideal battery roll	Yes
	Elec. Shop	Red/White & bin.wire, gloves transite blocks in blue cabinet	Yes
	Tin Shop Area	asb. jacket under table	Yes
	Tin Shop Area	by stop signs	Yes
	Forge Area	millboard in front 2 fces.	Yes
	Maint. Shop	htr. for molten metal pumps transite lining (scrap pcs.	Yes
	Maint. Shop	next to pump), clutch plates sheet gasket material, brake	Yes
	Maint. Shop	shoe assemblys, packing	Yes
	Casthouse	rope in storage area across from #7 fce., ? stoppers	Yes
	Casthouse	for molten metal	Yes
	Storeroom	packing, gaskets (sheet & woven cloth), brake lining	Yes
	Storeroom	& pads, gloves, rolls sheet gasket material, blanket, sheets of	Yes
	Storeroom	transite, marinite, TC wire	Yes
	Garage	transite walls on food warmer, roll sheet gasket material	Yes
	Garage	brake assembly, precut gaskets and metal gaskets	Yes
	Carpenter Shop	small roll 6" gasket material	Yes
	Reagent Bldg.	ring gaskets (mill board type)	Yes
	Fac 60	gasket material, asb. blanket	Yes
	Fac.60	3 sheets board material	Yes
	Storage area(bay)	.3 boxes marinite	Yes
	Filter Area	slab floats	Yes

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APPENDIX III

SAN PATRICIO REDUCTION PLANT

STOREROOM ASBESTOS PRODUCTS*

PRODUCT	STOCK NUMBER
Woven asbestos gaskets	16-05-0110
Woven asbestos gaskets	16-05-0160
Flexataulic gasket	16-06-0010
Flexataulic gasket	16-06-0020
Flexataulic gasket	16-06-0030
Flexataulic gasket	16-06-0040
Packing	16-25-0500
Packing	16-25-5500
Packing	16-25-0495
Packing	16-25-2800
Gloves	22-60-1225
Brake lining	54-43-6545
Brake pads	54-43-6560
Brake pads	78-86-5600
Brake pads	78-86-6050
Brake pads	78-86-7257
Brake pads	78-86-3685
Brake pads	78-86-74?1
Brake pads	78-86-7551
Woven gasket	72-76-3560
Head gasket	86-14-1294
Gasket	86-14-1300
Gasket	86-14-1305
Gasket	86-14-1310
Round rolled metal asbestos	87-13-2560
Round rolled metal asbestos	87-13-2590
Metal jacketed asbestos wire	87-13-3280
Sheet gasket	87-13-3370
Marinite donuts	72-77-0083
Powerhouse Maintenance Shop (Bldg. 41)	
Ring gasket	82-15-2778
Packing	82-15-2813
Gaskets	82-15-2798
Gaskets	82-15-3398
Gaskets	82-15-3610
Copper clad asb. gaskets	82-15-3570
Copper clad asb. gaskets	82-15-3815
Copper clad asb. gaskets	82-15-3862
Copper clad asb. gaskets	82-15-3870

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SAN PATRICIO REDUCTION PLANT

STOREROOM ASBESTOS PRODUCTS*

PRODUCT	STOCK NUMBER
Copper clad asb. gaskets	82-15-3810
Copper clad asb. gaskets	82-15-4157
Copper clad asb. gaskets	82-15-4162
Copper clad asb. gaskets	82-15-3908
Copper clad asb. gaskets	82-15-3890
Asb. disc gaskets	84-23-2310
Asb. disc gaskets	84-23-2575
Asb. disc gaskets	84-23-2580
Gaskets	83-28-3554
Gaskets	83-28-3610
Gaskets	83-28-3620
Gaskets	83-28-3623
Asb. cloth gasket	83-28-3557
Gasket (sheet)	87-11-1713
Gasket (sheet)	87-11-1800
Gasket (sheet)	87-28-3889
Gasket (sheet)	87-28-1375
Gasket (sheet)	87-25-1443
Sheet gasket	83-28-4337
Sheet gasket	83-28-4339
Sheet gasket	83-28-4338
Sheet gasket	83-28-4305
Sheet gasket	83-28-4485
Sheet gasket	83-28-4475
Sheet gasket	83-28-4455
Sheet gasket	83-28-4065
Sheet gasket	83-28-4055
Sheet gasket	83-28-4100
Sheet gasket	83-28-4210
Sheet gasket	83-28-4200
Sheet gasket	83-28-4108
Sheet gasket	83-28-4015
Sheet gasket	83-28-4106
Sheet gasket	83-28-4170
Sheet gasket	83-28-4140
Sheet gasket	83-28-4120
Sheet gasket	83-28-4157

* Note: This list is not all inclusive, but only contains those items noted during this survey to contain asbestos.

APPENDIX IV

SPECIAL HANDLING PROCEDURES

SPECIAL HANDLING PROCEDURE
"A"

This procedure is for those products which should pose no asbestos exposure while removing or handling the material. Examples of the types of materials included are: Asbestos covered wire, clutch facings, compressed gaskets, and asphalt roof coating.

SPECIAL EQUIPMENT REQUIRED:

Labeled 6 mil plastic trash bags with ties (available from local safety supply distributor).

MEDICAL EXAMINATIONS:

None required.

PERSONAL PROTECTIVE EQUIPMENT:

None required.

WORK PRACTICES:

1. No asbestos scrap shall be left on the floors, walkways, or equipment.

2. All asbestos scrap shall be placed and sealed in labeled plastic bags and disposed of at an approved sanitary landfill. (The plant or corporate Environmental Control Department should be contacted for specifics.)

3. No blowing or dry-sweeping, scraping, or sanding of asbestos materials or surfaces covered with asbestos-containing material shall be permitted.

MONITORING:

None required.

* It is the position of RMC that the machining or cutting of transite and marinite cannot be performed without an inhalation exposure to asbestos. There may be, however, certain isolated instances where in-place transite must be saved. In those situations, Special Handling Procedure C should be followed.

(Rev. 11/83)

RMC0800260000476

SPECIAL HANDLING PROCEDURE
"B"

This procedure is for those products which, when handled or removed from existing surfaces, should not result in asbestos exposures above the OSHA permissible exposure level. (Exposures may, however, be above the 0.1 fiber/cc medical maintenance level.) Examples of the types of materials included are: Rope, cloth, gloves, blankets, and coats.

SPECIAL EQUIPMENT:

Labeled 6 mil plastic trash bags with ties (available from local safety supply distributor).

MEDICAL EXAMINATIONS:

Annually, personnel involved in the removal or handling of materials in this group shall be provided a physical examination, if exposures exceed 0.1 fibers/cc. This examination shall include a chest x-ray, pulmonary function test (FVC and FEV), and a complete history.

PERSONAL PROTECTIVE EQUIPMENT:

Half-mask air-purifying respirator (Examples: 3M #8710 or #9900 Series, American Optical #1050, or any other NIOSH respirator approved for asbestos). NOTE: Employees issued respirators must be instructed as to the proper use, care, and fit of the respirator.

WORK PRACTICES:

1. No asbestos scrap shall be left on the floors, walkways, or equipment.

2. No blowing or dry-sweeping, scraping, or sanding of asbestos material or surfaces covered with asbestos-containing material shall be permitted.*

3. All disposable respirators and scrap asbestos material shall be placed and sealed in labeled plastic bags and disposed of at an approved sanitary landfill. (The plant or corporate Environmental Control Department should be contacted for specifics.)

MONITORING:

Periodic monitoring will be carried out by, or under the direction of, the corporate Industrial Hygiene Department. Based on the results of the monitoring study, any necessary recommendations will be made.

*All asbestos-containing material shall be kept thoroughly wetted, while handling and/or removing the material.

SPECIAL HANDLING PROCEDURE
"C"

This procedure is for those products which, when handled or removed from existing surfaces, may result in exposures above the OSHA Standard. Examples of the types of materials covered are: Furnace and oven wall, door, and ceiling insulation and steampipe and boiler insulation.

SPECIAL EQUIPMENT:

1. Labeled 6 mil plastic bags with ties (available from local safety supply distributor).

2. If available, vacuum cleaner equipped with special filter, to prevent re-entrainment of asbestos fibers into the work-place.

3. Warning signs indicating ASBESTOS HAZARD.

MEDICAL MONITORING:

Annually, personnel involved in the removal or handling of materials in this group shall be provided a physical examination, if exposures exceed 0.1 fibers/cc. This examination shall include a chest x-ray, pulmonary function test (FVC and FEV), and a complete history.

PERSONAL PROTECTIVE EQUIPMENT:

1. Half-mask air-purifying respirator, equipped with a high efficiency filter (Examples: WILLSON #1210, NORTON #7506, MSA Comfo II (#459440), or any other NIOSH-approved non-disposable respirator. NOTE: Employees issued respirators must be instructed as to the proper use, care, and fit of the respirator.

2. Disposable coveralls, head and foot coverings, and gloves shall be provided to each employee involved in the demolition, removal, and/or handling of asbestos insulation.

WORK PRACTICES:

1. Prior to beginning removal or demolition of any asbestos material, caution signs shall be placed around the work area, at a distance safety away from any dust which may be created. For large projects (i.e. furnaces, ovens, boilers, etc.), the immediate work area shall be enclosed in a plastic room.

Work Practices Continued

2. A decontamination area shall be established, to allow the workers a place to don and remove the personal protective equipment.

3. Disposable coveralls, gloves, and head and foot coverings shall be disposed of in the labeled 6 mil plastic bags.

4. All asbestos insulation material shall be kept thoroughly wetted, while handling and/or removing the material.

5. No blowing or dry-sweeping, scraping, or sanding of asbestos material or surfaces covered with asbestos-containing material shall be permitted. Where practical, the residual scrap material on work surfaces should be vacuumed with a special vacuum cleaner equipped with an HEPA filter, to prevent re-entrainment of the asbestos fibers into the workplace. Otherwise, work surfaces should be double-wet cleaned.

6. All scrap asbestos material, as well as the disposable personal protective equipment, shall be placed and sealed in a labeled plastic bag and disposed of at an approved sanitary landfill. (The plant or corporate Environmental Control Department should be contacted for any specifics.)

MONITORING:

1. Measurements of airborne asbestos fibers, during the handling and/or removal of asbestos material, shall be conducted by, or under the direction of, the Corporate Industrial Hygiene Department.

2. Based on the results of the monitoring study, the Corporate Industrial Hygiene Department will make any necessary recommendations concerning additional monitoring, employee notification and training, and any changes in personal protective equipment.

SPECIAL HANDLING PROCEDURE
"p"

This procedure covers the recommended work practices to be used when changing/installing brake shoes.

SPECIAL EQUIPMENT:

1. Labeled 6 mil plastic bags with ties (available at local safety supply distributor).

2. Heavy-duty paper towels or rags, for wiping brake drums.

MEDICAL EXAMINATIONS:

Annually, personnel involved in the removal or handling of materials in this group shall be provided a physical examination, if exposures exceed 0.1 fibers/cc. This examination shall include a chest x-ray, pulmonary function test (FVC and FEV), and a complete history.

PERSONAL PROTECTIVE EQUIPMENT:

Half-mask air-purifying respirator (Examples: 3M #8710, 9900 Series, American Optical #1050, or any other NIOSH-approved respirator for asbestos). NOTE: Employees issued respirators must be instructed as to the proper use, care, and fit of the respirator.

WORK PRACTICES:

1. All brake drums shall be wiped clean, using a wet paper towel or rag. No blowing or dry-sweeping shall be permitted.

2. All disposable respirators, towels, and/or rags used to clean the brake drums shall be placed and sealed in labeled plastic bags and disposed of at an approved sanitary landfill. (The plant or corporate Environmental Control Department should be contacted for any specifics.)

MONITORING:

1. Measurements of airborne asbestos fibers during the removal, cleaning, and reinstallation of brake shoes shall be conducted by, or under the direction of, the Corporate Industrial Hygiene Department.

2. Based on the results of the monitoring study, the Corporate Industrial Hygiene Department will make any necessary recommendations concerning additional monitoring, employee notification and training, and any changes in personal protective equipment.