PLAINTIFF'S EXHIBIT
CAP-18

MEMORANDUM FOR FILE

ASBESTOS USE IN EL PASO PLANT 9/10-9/29/76

Following is a departmental break-down of asbestos use at the El Paso Plant for the period stated.

EL PASO LAB

1. Strips of Millboard Sheet

Used on counter surfaces to place hot beakers, absorb moisture and acid. Also used on hot plates to prevent beakers from breaking. Strips cut by Carpenter Shop? Steve Sarmiento says no. Frayed edges are being coated today with sodium silicate applied with paint brush.

2. Pre-cut Millboard Squares

Purchased from Fisher. Listed in catalogue as "OSHA approved." Frayed edges will be coated as above. Possibility of requesting that edges be coated by Fisher before shipping to prevent release of fibers from frayed edges. This assumes continued use of asbestos in the lab. Controversy over letter from Philadelphia OSHA Area Director re his opinion that asbestos use in the laboratory is not regulated by the OSHA Asbestos Standard. OSHA officials in Washington were infuriated about the letter and quickly denounced it. Asarco should be wary of personal interpretation of the asbestos standard, unless the interpretation is clearly stated in a credible document, such as the "Federal Register".

3. Asbestos Cloth

Placed on hotplates to prevent beakers from breaking; also to absorb acid spills and evenly distribute heat. Strips (rolled up, wired into place) used as siding on fire assay canopy hood. In addition, a cushion to prevent breakage of acid bottles when placed on shelf.

4. Aluminum-coated Asbestos Gloves

Used by fire assayers. All uncoated asbestos gloves have been removed from use and placed in plastic trash bags for disposal. These bags are not tied or labelled.

5. Transite

Pads on cupel boards are transite.

6. Refrasil (Asbestos Substitute)

Small test strips presently being used on counter tops, hot plate surfaces. Squares of Refrasil (manufactured by Hitco, a subsidiary of Armco Steel Co.) placed in beakers of concentrated HNO_3 and H_2SO_4 did not dissolve. However, the piece in H_2SO_4 appeared charred or coated with a carbonaceous material. Question as to whether Refrasil will withstand muffle furnace temperature (1200-1400°F). The Refrasil cloth appears to lose its beige color after exposure to heat of this intensity. With heavy abrasion, the material becomes frayable. Upon further agitation silica fibers are released. Based on these preliminary observations, substitution of asbestos cloth skirts in production areas of the plant is open to question.

MINERALS ASSAY LAB

1. Uncoated Asbestos Gloves

Used in past by fire assayers.

2. Transite

Applications include surface on fire assay table, plates on cupel boards, frame around inside muffle furnace door, shelving for hot tongs (hot plates), and flame suppressors on sides of hot plates.

3. Asbestos Cloth

Hot plate and counter covers.

UMPIRE LAB

1. Asbestos Millboard

   Strips protect counter tops. Squares, stored on top of hoods, are placed in front of beakers on hot plate to prevent ventilation air from cooling. Pieces are also used to cover crack between hot plate and hood to block cool air from passing under the plate and interfering with the flame. Panels are additionally placed inside muffle furnaces against walls to direct heat. These panels are stored beneath the furnaces when not in use. Roll of millboard sheet stored in furnace room (not in labelled container).

2. Asbestos Cloth

   Cloth strips found on hot plates. Cloth sleeves on tongs. Roll of cloth asbestos in furnace room (not in labelled container). Rolls are said to be cut to size by Carpenter Shop.

3. Transite

   Squares used as flame suppressors on sides of hot plates, pads on cupel boards and panels on counter tops.

4. Asbestos Rope

   Masons caulk muffle furnaces with rope. Rope, applied wet, used to patch around muffle furnace shell when cavities develop.

5. Uncoated Asbestos Gloves

   Used by fire assayers.

NOTE: Considerable asbestos debris throughout the lab.

WAREHOUSE

1. Waste heat boiler gaskets - compressed asbestos

2. Quigley:

Ramming Mixes - Chromix - Air Set (Plastic wet)

Castables - (Fire clay - chrome - chrome magnesite - alumina) - Hearthcrete - hydraulic-set (dry) - chrome magnesite

Bonding Mortars - (Air and heat set) - Q-chrome - Air-set (dry)

Plastic Insulation - (Lightweight) - Insulag - Hydraulic-set (dry)

Castables - (Lightweight - insulating) - Plastic Insulcrete - Hydraulic-set (dry)

Gun Coating & Mixes - (for Pneumatic Nozzle Mix Guns)

Guntapite Q.S. - Chemical-set (dry)(for piping of tap holes)

Chemical Analysis	
SiO_2	4.3%
Al_2O_3	0.5%
Fe_2O_3	2.0%
CaO	3.1%
MgO	87.6%
Cr_2O_3	0.3%
Alkalies	1.9%
L.O.I.(?)	0.4%

Others - Furnace Patch 168

Chemical Analysis	
MgO	55.6%
SiO_2	4.3%
Al_2O_3	0.9%
Fe_2O_3	1.2%
CaO	36.9%
B_2O_3	0.1%
Alkalies, as Na_2O	1.0%

HER 0000115

Insulag Chemical Analysis	
SiO_2	46.0%
Al_2O_3	24.6%
Fe_2O_3	1.4%
CaO	19.5%
MgO	4.9%
TiO_2	0.6%
Alkalies	1.1%
L.O.I.	1.9%

3. 1000 psi rope - Acid Plant JM (Thermo-Pac)

   500 psi rope - Blast Furnace caulk JM (T-P)

4. Ryder Cement - Asb.? (Ryder Thermokote 1-GP one coat cement) Caution labels read: "... Thermokote cements do not contain asbestos fibers."

5. 1/8" Asbestos Rollboard JM (NOTE: 1/16 in labs no longer stocked by warehouse)

6. Ryder Mineral Wool - used to plug peepholes in Reverb (750# bale) ((Wisco)) -- check re asbestos

7. Asbestos cloth (dry woven)

8. Asbestos cloth - wire impregnated (woven)

BLAST FURNACE

1. Uncoated Asbestos Gloves

   Furnacemen.

2. Asbestos Rope

   Masons used for furnace caulking. Box of JM Thermo-Pac 500 asbestos rope broken open in storage room north of office.

3. Aluminized Asbestos (and rayon) Jackets

   Furnacemen.

4. Asbestos Cloth

Curtain material for slag launder ventilation, slag kettle hood and bullion hood on No. 2 furnace. Similar curtain arrangements have been torn off hoods for the other two furnaces.

NOTE: Not known if Quigley Insulag or asbestos rope used on lead settlers.

SINTER PLANT

1. Asbestos Cloth

Skirts on hoods over D&L machine grates-discharge end. Wire reinforced cloth is cut to size as gaskets for hoods over D&L machines - discharge end. Piece of asbestos cloth used to patch a vertical duct on D&L machine fire floor.

CONVERTERS

1. Asbestos Cloth

Skirts on converter hoods. Scraps noted in work areas.

NOTE: Asbestos rope scrap found near #2 converter.

REVERB

1. Asbestos Cloth

Skirts around matte hoods. Pieces laying over matte launders (heat shield?). Scraps discarded at side of matte launders. also near waste heat boilers.

2. Asbestos Steam Pipe Cover

Scrap found near No. north matte launder.

HER 0000117

ANODE

1. Asbestos Gloves

2. Asbestos Rope

   Used to seal molds and occasionally caulk furnaces. Stored damp in closed plastic garbage container labelled "Danger-Asbestos".

3. Asbestos Cloth

   Pieces shield fuel lines from furnace heat.

4. Other Materials

   a. Ryder No.1 cement (no asbestos) - to seal molds after caulking with asbestos rope.

   b. Kaowool blanket - afterburner end plate gasket.

   c. Aluminum-coated rayon jackets.

CADMIUM

1. Asbestos Rope

   On sides of swing door of clean-out chute for uptake (a seal to prevent spillage of hot Cd dust). Suggestion made that slide gate be installed to remove need for rope.

2. Asbestos Gloves

   Used occasionally. New gloves in use are aluminized.

3. Transite

   Cadmium baghouse.

HER 0000118

ZINC FUMING

1. Asbestos Rope

   Furnace caulking between jackets; also boiler caulking. Plastic container designated "Danger-Asbestos-Zn Department". Being used instead as garbage can.

2. Asbestos Millboard

   South side of holding furnace, near tapping area. Heat Shield?

3. Asbestos Cloth

   Large piece draped over guard rail south of holding furnace. Heat shield?

WEDGE ROASTERS

1. Asbestos Rope

   To pack umbrella ring inside roaster.

2. Ryder No. 1 Cement (no asbestos)

   Junction of flue hopper and chute on screw conveyor.

ACID PLANT

1. Asbestos Rope

   Patch leaks in emergency.

   Packing spools (should only have to be done once).

2. Asbestos Gaskets

   Available from warehouse.

3. Asbestos Cloth

Roll found.

4. Transite

Cooling tower.

ZINC KILN

1. Asbestos Cloth

Skirt on exhaust collar, discharge end of kilns.

2. Asbestos Millboard

Gasket on downcomer pipe - west of zinc cooling tubes.

MASONS

1. Asbestos Rope

Caulking in blast furnaces only.

2. Asbestos Cloth

Heat shield near converters.

3. Asbestos Millboard

Placed wet into reverb matte tap block.

OLD GE BUILDING

1. JM Thermobestos Block Insulation

Open boxes. Pieces scattered in and outside building.

2. JM Thermobestos Pipe Insulation

Open boxes.

HER 0000120

UNLOADING, SAMPLING, MILL, COTTRELL

No asbestos found.

AUTO SHOP

1. Asbestos Cloth

   Shield during welding around gasoline tanks, etc. Curtain for welding.

2. Brake Shoes

   All vehicle and crane shoes are drilled and countersunk at a shop in town.

MACHINE SHOP

1. Asbestos Cloth

   Welding curtains (being replaced).

2. Asbestos Gloves, Mittens

3. Babbitrite (R) ((heavy grease and asbestos fiber)).

   Used for patching.

BOILER SHOP

1. Asbestos Millboard

   Heat shield near furnace for heating steel tapping bars. Piece cemented to top of gas-fired rivet heater.

2. Asbestos Cloth

   Heat shield near furnace used to heat tap bars.

PIPE SHOP

1. Asbestos Gaskets

   Stored inside and outside west door of store room, on wall peg. Hold plate gaskets on blast furnace water jackets.

HER 0000121

2. Garlock (R) Packing

For pipe valves.

3. American 750 (asphalt floor tile-like material)
(contains asbestos?)

To fabricate gaskets.

4. Other Asbestos Materials

a. Scrap asbestos rope. Used for joint packing.

b. Scrap asbestos cloth on ground. To fabricate blast furnace tuyere gaskets.

c. Transite pipe scrap.

d. JM Magnesia Block Insulation (85% Magnesia)-Asbestos?

CARPENTER SHOP

Asbestos products are reportedly no longer cut in this shop. The following miscellaneous asbestos material was found in the area:

1. Transite

Pieces of sheet, pipe, plank and corrugated siding stored along east fence.

2. Asbestos Cloth

Piece in south storage shed overhead rack.

3. Asbestos Rope

Piece in south storage shed, side room to west, on shelf.

4. Asbestos Sheet

Roll in south storage shed, side room to west, on shelf.