PLAINTIFF'S EXHIBIT

SH-1755

Terry Carver - Exp. Time
Manville Corp. - 641 - 3351

July 29, 1988

From: William Schrof - ETSO - DISTILLING

To: Walter Harbuck - Supervisor Operations & Maint. - DISTILLING

Subject: Instrumentation Cable Tray Fireproofing

P1 I have reviewed the condition of the DU-2 cable tray which was fireproofed with insulation containing asbestos. Approximately 40% (300 sq. ft.) of the insulation has been damaged due to the cable tray being used as a walkway. To remove the damaged sheets of insulation (18 sheets 26in. x 96in.) would cost $[illegible] while the cost to replace the damaged insulation would be $ 7M .

The instrument cable tray runs from the south end of the pump alley to the control room. Sheets of insulation that have been severely damaged are identified on the attached sketch.

P2 Above the cable tray are overhead cooling fans which enhance the chances of the asbestos becoming airborne. Cable trays B directly adjacent to the cable tray of concern (C) ~~were found to~~ have ~~no~~ fire-proofing material ~~(see sketch).~~ on sides and the bottom. Cable tray C has no Insulation?

P4 Shell EGGS (17 EG-2) state that pneumatic and electrical instrumentation in hydrocarbon process areas ~~shall be encased in Johns~~ Manville Marinite INSULATION. ~~However~~, ~~I~~ IS believed that these standards did not apply when the cable trays ~~without~~ fireproofing WERE installed.

THIS INSUL DOES NOT CONTAIN ASBESTOS.

P5 Due to the condition of some fireproofing sheets, I feel ~~we should remove the~~ that the damaged material SHOULD BE REMOVED. If a decision is made to replace the damaged top fireproofing cover, I feel we should use the Marinite I insulating board which should be sealed with undercoating and painted with epon ester gray. Also, some type of support (angle iron) under the top layer should be added for additional strength. The Marinite for the sides and bottom of the cable tray need not be replaced but must be sealed.

I would like to meet with you to discuss my findings and plan a course of action. If additional information is needed please let me know.

The other options (including #) < . complete removal . replacement with new type

LAM 018190

WE. J.
bcc: ~~William~~ Schrof

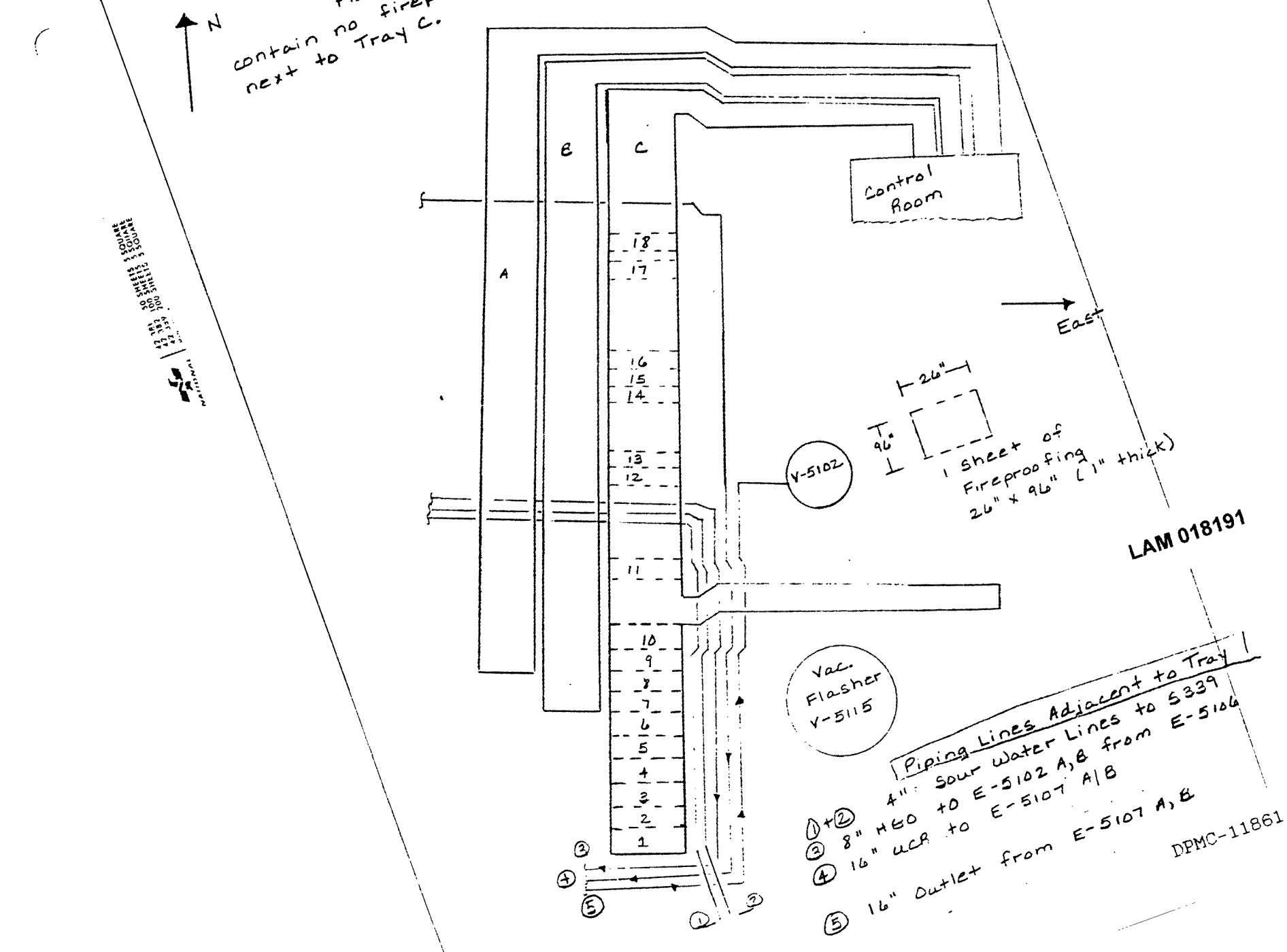
DPMC-11860

cc: G.E. ROE D.G. JAEGER ROB SATELLITE
R.L. JACOBY D.F. CRAFT

SKETCH

OU-2 Cable Tray With Asbestos Fire Protection

Please Note: Cable Trays A+B currently contain no fireproofing. These trays are located next to Tray C.



LAM 018191

DPMC-11861

From: William Schrof ETSO - DU1/DU2

To: Walter Harbuck, Operations Supervisor, DU1/DU2
Di Mai, Instrument Engineer

Subject: Instrumentation Cable Tray Fireproofing

An Instrument Cable Tray in DU-2 was fireproofed with a material that contained asbestos. As a result of the cable tray being used as walkway, the top fireproofing cover has been severely damaged in specific areas along the cable tray creating a concern over the exposure of asbestos fibers (see sketch for the location of damaged fireproofing sheets). Approximately 40% of the fireproofing (approximately 18 sheets 26in. x 96in.) material has been severely damaged.

Recommendations

The damaged asbestos fire protection material must be removed (approximately 300 sq.ft.). Sheets of insulation near the south end of the cable tray have been broken into large pieces. These large pieces can be dislodged by heavy wind or the cable tray being used as a walkway again. Whatever the circumstances this is a potential hazard to employees below the tray. The potential of the asbestos fiber becoming airborne is enhanced due to the location of overhead air cooling fans. As to whether the damaged material should be replaced and if replaced what fire and thermal protective material should be installed is what I would like to discuss with you. Shell EGGS (17 EG-2) state that pneumatic and electrical instrumentation in hydrocarbon process areas shall be encased in Johns Manville Marinite insulating board. These process areas would include regions with high fire risks, hot piping manifolds etc. However, after a thorough walkdown of the unit, I found none of the cable trays directly adjacent to the cable tray of concern to have any fireproofing material. If we do decide to replace the fireproofing material, I feel we should use the Marinite insulating board. The Marinite for the top of the cable tray should be sealed with undercoating and painted with epon ester gray. Also, some type of support (angle iron) under the top layer of the Marinite should be added for additional strength. The Marinite for the sides and bottoms need not be replaced but must be sealed. The cost to remove the existing fireproofing material is approximately . The cost of 18 sheets of Marinite, accessories, and labor is approximately

Materials + Labor

Complete Removal (50 sheets) = $6M (Top Cover)

Johns Manville Marinite I (45 sht.) = $8,200 ✓ "
Accessories = $2000 ✓ "
Sizing = $170 ✓ "

Replace Labor (MH) = 175 = 5M ✓ "

Removal of 20 sheets ≈ $3M

Insulation = $3.5M
accessories = $825
sizing = $75

Installation Labor = $2.5M

Cost estimates

contacted johns manville:

Sheets of 4' x 8' insulation (1" thick) = $182.18 / sheet

$75 to cut 18 sheets to 26in. x 96in.

Duke Grace → $6000 for complete removal (approx. 45 sheets)

Complete Removal + Replacement

Removal of ≃ 45 = $6M

manville sheets = $8,200 (45 * 182.18)

accessories = 25% of 8,200 = $2000

sizing = (45/18) ($75) = $200

* manhours x $28.50 =

Removal of Damaged Sheets ≈20

Removal of 20 sheets ≈ $3M

Insulation = $3.5M
accessories = $825
sizing = $75
Installation + labor = $2.5M

LAM 018194

DPMC-11864

Rx. OLF.

(1) ESTIMATE COSTS: 200 SHEETS 38" x 96"

with or without plates — [w/ Manville Marinite I INSULATION] ~ $60M / 200 sheets => $300

(2) TOTAL AREA TO REPLACE EXISTING AS IS: 576; 720 in²

(3) EST. SHEETS: 576,720 / 3648 => 158

(4) COST? $47,400 materials

Labor 4 men 40 x 4 x 2 = ? 2 wks => 360M x $20/hr

TOTAL: $60 — $80M $7200

(5) Galvanized Metal Lamination (?) or already included.

$11.25/ft² (576,720 in² x ft²/144 in²)

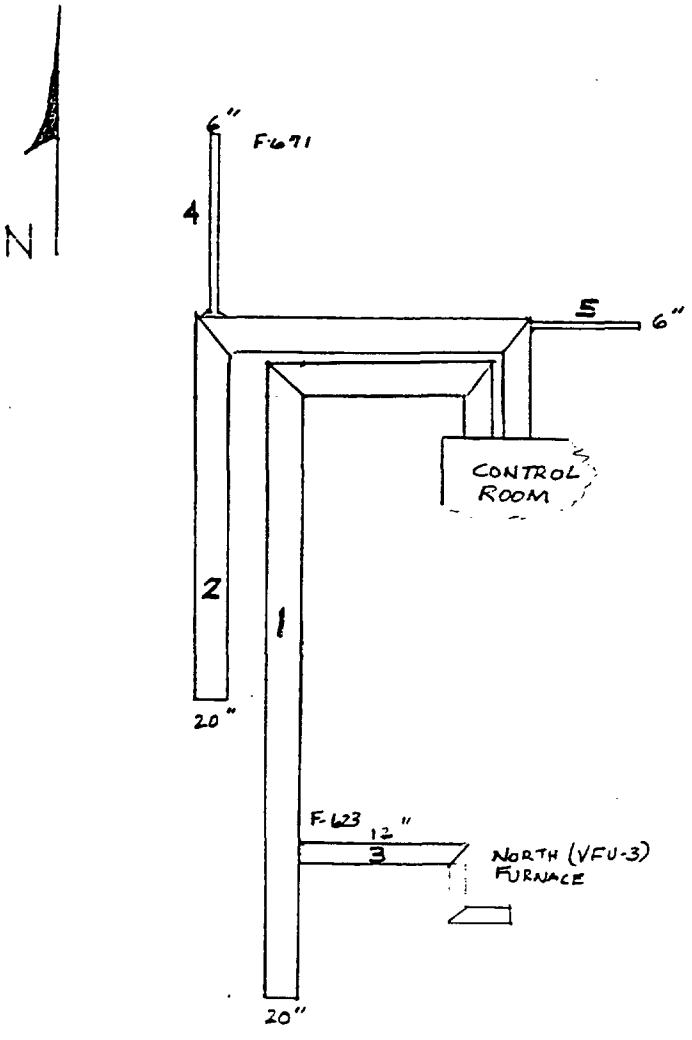
=> $45,056

[PROMATEC] DURASTEEL CHASE PROTECTION

LAM 018195

DU-2 POWER CABLE TRAY
WITH ASBESTOS FIRE PROCTECTION

1 - 500' ; 20" - COMPLETELY ENCLOSED TRAY
2 - 300' ; 20" - BOTTOM AND SIDES ENCLOSED ONLY
3 - 125' ; 12" - PARTIALLY ENCLOSED TRAY
4 - 100' ; 6" - BOTTOM AND SIDES ENCLOSED ONLY
5 - 30' ; 6" - PARTIALLY ENCLOSED TRAY



LAM 018196

DPMC-11866

(APPROXIMATE DIMENSIONS AND SIZES)

9-10-87 G. Vasquez

July 29, 1988

From: William Schrof - ETSO - DISTILLING
To: Walter Harbuck - Supervisor Operations & Maint. - DISTILLING

Subject: Instrumentation Cable Tray Fireproofing

I have reviewed the condition of the DU-2 cable tray which was fireproofed with insulation containing asbestos. Approximately 40% (300 sq. ft.) of the insulation has been damaged due to the cable tray being used as a walkway. To remove the damaged sheets of insulation (20 sheets 26in. x 96in.) would cost $ 2.5 M while the cost to replace the damaged insulation would be $ 10 M.

The instrument cable tray runs from the south end of the pump alley to the control room. Sheets of insulation that have been severely damaged are identified on the attached sketch.

Above the cable tray are overhead cooling fans which enhance the chances of the asbestos becoming airborne. Cable tray B directly adjacent to cable tray C (see sketch) contains fireproofing material on the sides and bottom but has no top cover. Cable tray A contains no fireproofing material.

Shell EGGS (17 EG-2) state that pneumatic and electrical instrumentation in hydrocarbon process areas shall be encased in Johns Manville Marinite. However, it is believed that this standard did not apply when the cable trays without fireproofing were installed.

Due to the condition of some fireproofing sheets, I feel that the damaged material should be removed. If a decision is made to replace the damaged top fireproofing cover, I feel that we should use the Marinite I insulating board which should be sealed with undercoating and painted with epon ester gray. Also, angle iron supports attached to the cable tray on two foot centers under the top layer of Marinite will give additional strength. The Marinite for the sides and bottom of the cable tray need not be replaced but must be sealed.

If a decision is made to remove all of the existing fireproof insulation eliminating the concern over asbestos, the total cost would be approximately $ 6 M. Complete replacement of all fireproof insulation with Johns Manville Marinite I would cost approximately $ 18 M(Top cover in Area C).

LAM 018197

DPMC-11867

With this information, I would like to meet with you to discuss a course of action. If additional information is needed please let me know.

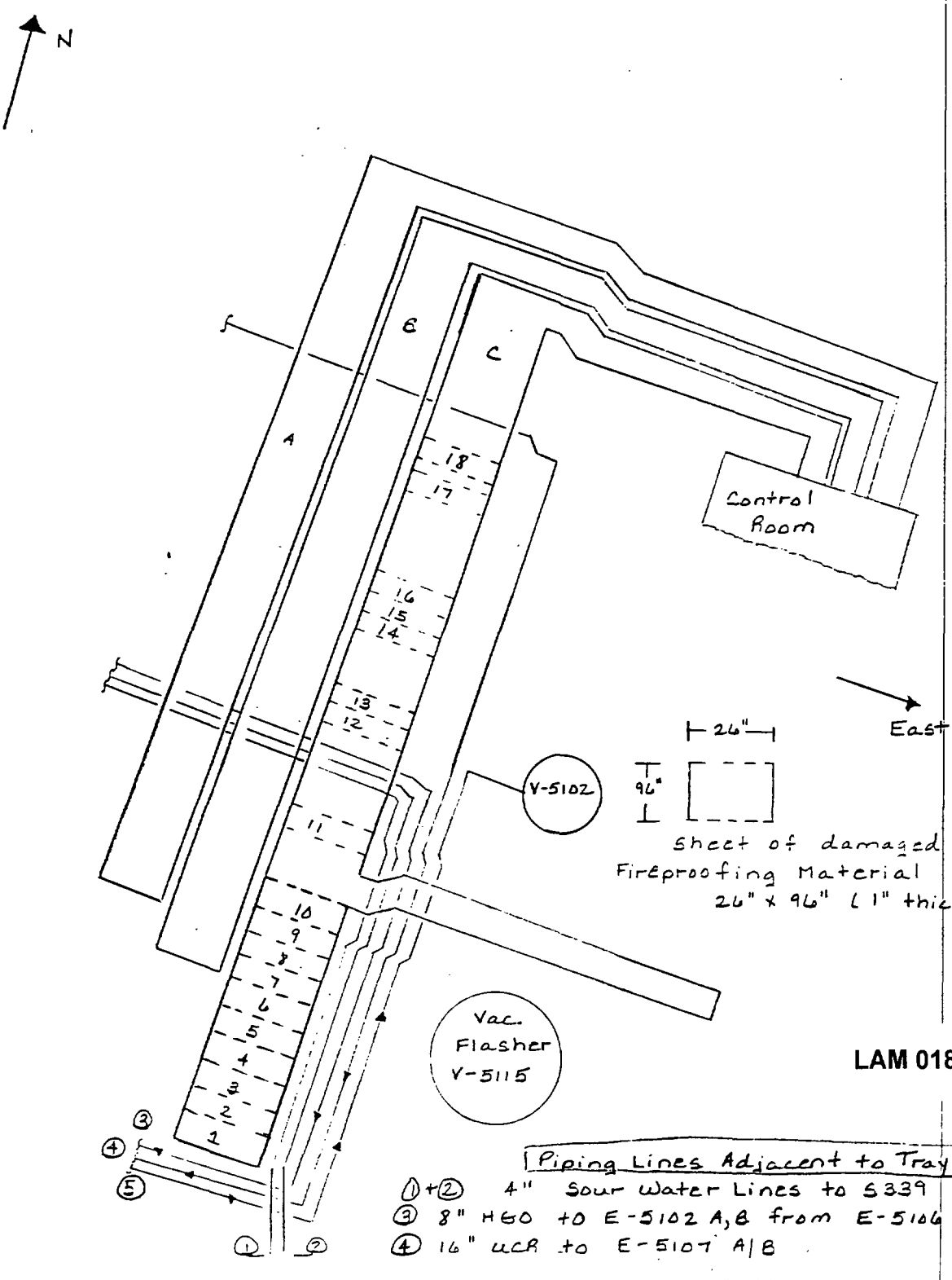
William Schrof Jr.

William Schrof Jr.

cc: R. L. Jacoby
D. G. Jaegar
D. E. Grace
G. Vasquez
ROB SATELLITE

SKETCH

OU-2 Cable Tray With Asbestos Fire Protection



Sheet of damaged Fireproofing Material 26" x 96" (1" thick)

LAM 018199

Piping Lines Adjacent to Tray 1

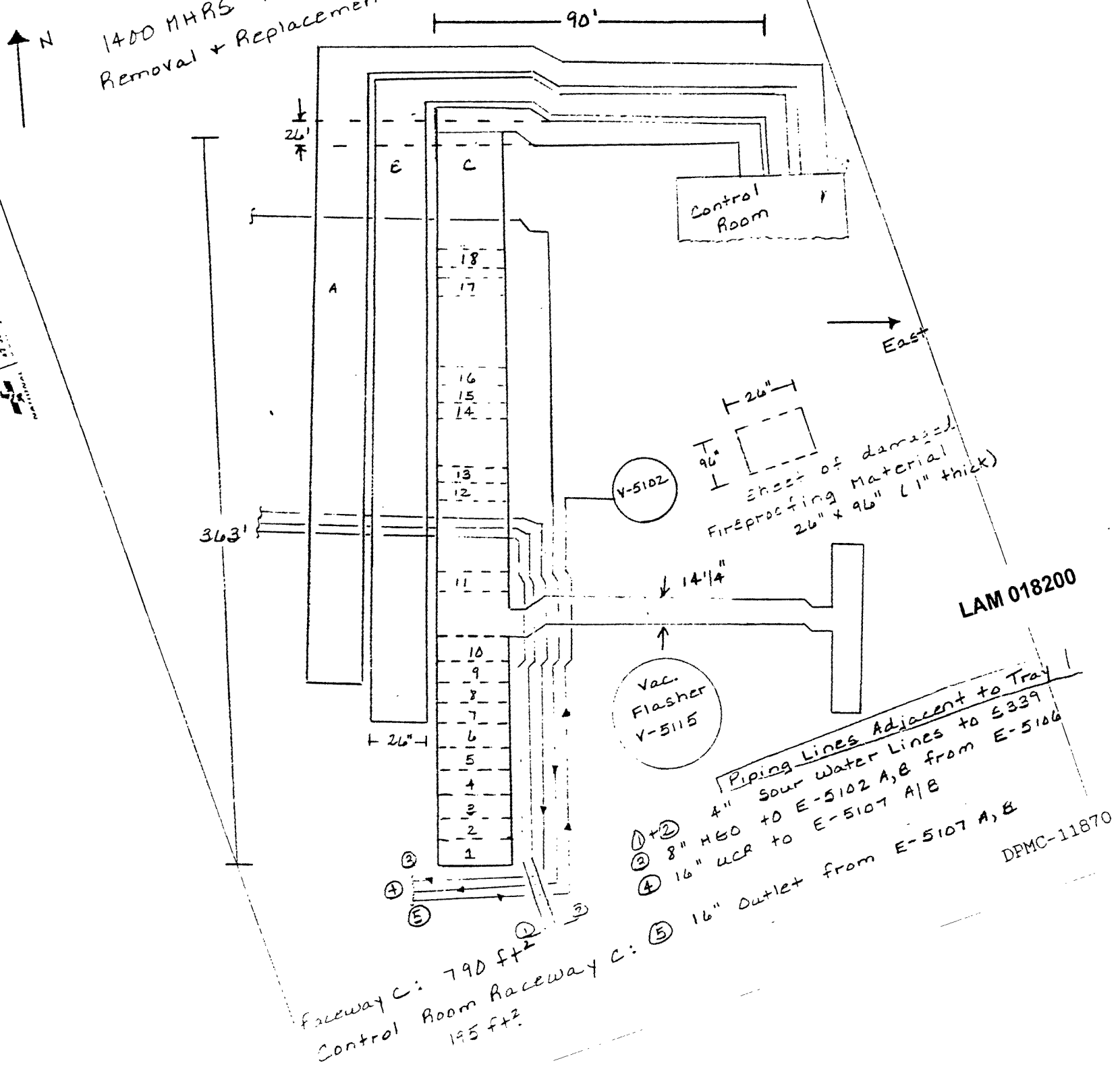
①+② 4" Sour Water Lines to S339
③ 8" HGO to E-5102 A,B from E-5106
④ 16" UCR to E-5107 A|B
⑤ 16" Outlet from E-5107 A, B

SKETCH

OIL-2 Cable Tray with Asbestos Fire Protection

Dimensions: Cable Tray C

1400 MHRS For Asbestos Removal + Replacement of New Fireproof Material (Tray C+B)



Raceway C: 790 ft²

Control Room Raceway C: 195 ft²

LAM 018200

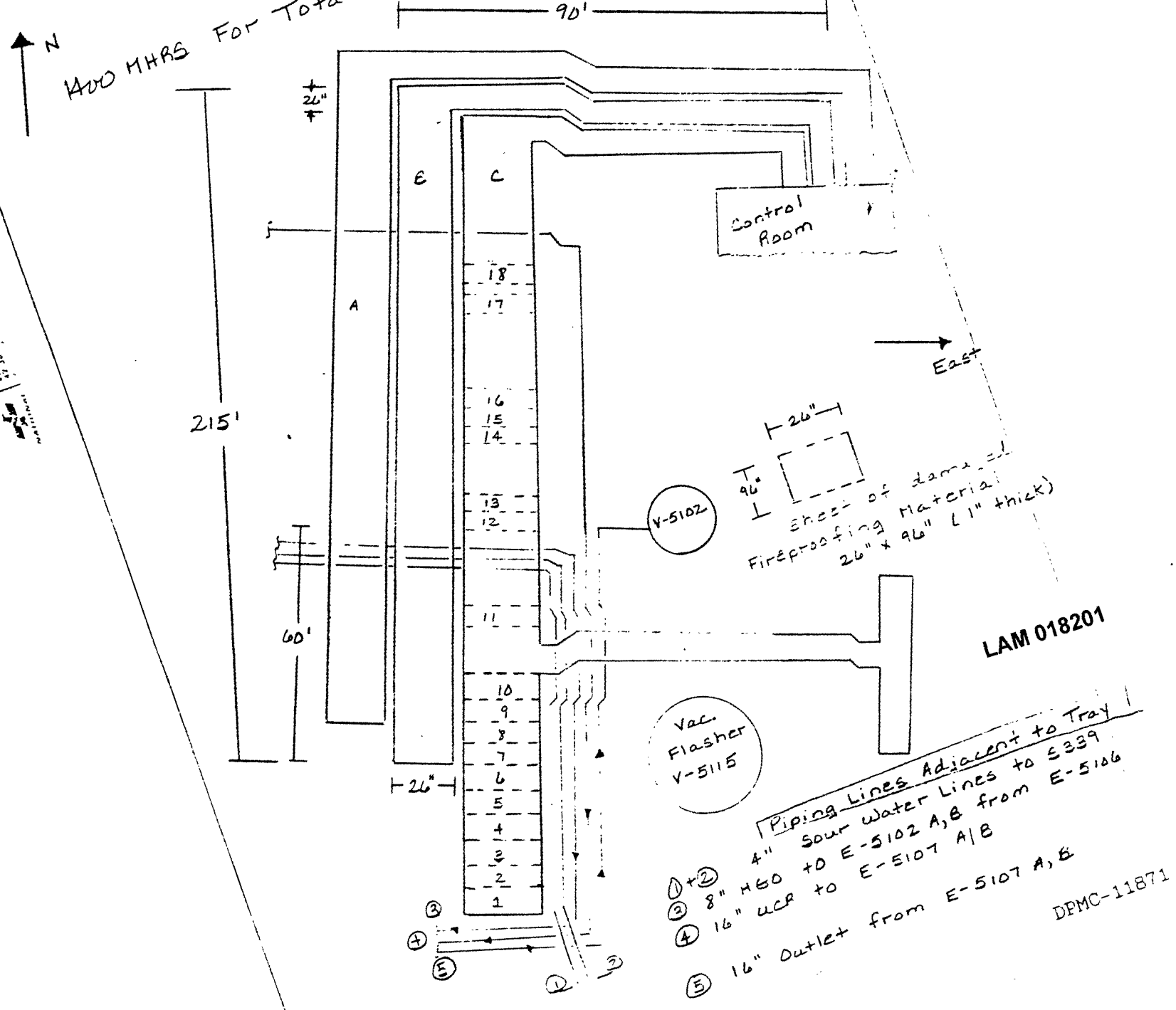
DPMC-11870

SKETCH

DL-2 Cable Tray with Asbestos Fire Protection

Dimensions: Cable Tray B

400 MHRS For Total Removal & Installation of Trays C+B



Raceway B: 465 ft²

Control Room Raceway B: 195 ft²

LAM 018201

DPMC-11871