



APPENDIX B

SITE INVESTIGATION PHOTOGRAPHS

Photograph Number	Description
RH3-1	Doors between Harbor Tunnel and Pumphouse 59 (penetrations not liquid-tight) – 5/94
RH3-2	Doors between Harbor Tunnel and Pumphouse 59. Note dogging brackets on frame – 5/94
RH3-3	Coring drop track door bulkhead near Critical Infrastructure Note coring location #2 – 5/94
RH3-4	Drop track near Critical Infrastructure looking toward Pumphouse 59 – 5/94
RH3-5	Liquid-tight door at Critical Infrastructure Note rope tie-off – 5/94. Counterweight closing cable.
RH3-6	Coring keyway on liquid-tight bulkhead near Critical Infrastructure – 5/94
RH3-7	Concrete coring transferring equipment from truck to Red Hill train at Critical Infrastructure – 5/94
RH3-8	Coring bulkhead at liquid-tight door near Critical Infrastructure – 5/94
RH3-9	Location of cores 3 and 4 in Critical Infrastructure side of PWC Pump Critical Infrastructure looking toward Red Hill – 5/94
RH3-10	Drilling core No. 3 at Critical Infrastructure Note thin bulkhead at this location – 5/94
RH3-11	Drilling core No. 4 at Critical Infrastructure
RH3-12	Typical core of gunite and steel
RH3-13	Coring at drop track door Critical Infrastructure Note counterweight tube for door closing back of operator.
RH3-14	Coring bulkhead key at Critical Infrastructure Rail flatcar being used as platform.
RH3-15	Drop trap door at Critical Infrastructure looking downgrade. Note rope tie-off. Door release mechanism broken. Sump in lower left behind Mr. Transue has float to trigger door for ventilation control in background – 5/94
RH3-16	Drop track door at Critical Infrastructure looking toward Red Hill tanks – 5/94
RH3-17	Critical Infrastructure door closing test. Note track has been knocked off cams by the closing door – 5/94
RH3-18	Critical Infrastructure door closing test. Door closed. Track in lowered position – 5/94
RH3-19	Critical Infrastructure Door closed but poorly sealed. Some warpage apparent under visual observation.
RH3-20	Critical Infrastructure 5" I&WF sections



- RH3-21 Area downgrade from **Critical Infrastructure** near **Critical Infrastructure** Potential site of new liquid-tight bulkhead/door – 5/94
- RH3-22 Area near sump. Potential site of new liquid-tight bulkhead/door – 5/94
- RH3-23 Area near **Critical Infrastructure** Potential site for new liquid-tight bulkhead/door. Looking downgrade – 5/94
- RH3-24 **Critical Infrastructure** taken from area next to sump (note sump guard rail) showing double track and tunnel transition from wide to narrow in background looking downgrade – 6/94
- RH3-25 **Critical Infrastructure** looking upgrade – 6/94
- RH3-26 **Critical Infrastructure** looking downgrade – 6/94
- RH3-27 **Critical Infrastructure** looking upgrade at tunnel transition from narrow to wide – 6/94
- RH3-28 **Critical Infrastructure** looking downgrade showing tunnel transition from wide to narrow – 6/94
- RH3-29 Looking upgrade toward sump area. End of tunnel transition **Critical Infrastructure** – 6/94
- RH3-30 Another potential bulkhead location downgrade from **Critical Infrastructure** – 5/94
- RH3-31 **Critical Infrastructure** 4' x 4' wall patch is former cross tunnel or drain that has been sealed – 6/94
- RH3-32 Water riser pipe showing concrete seal around pipe – 6/94
- RH3-33 Water riser pipe at **Critical Infrastructure** – 5/94
- RH3-34 Possible grouting pipes in ceiling and side wall of Harbor Tunnel – 5/94
- RH3-35 Corroded arch supports in Harbor Tunnel – 6/94
- RH3-36 Epoxy injection repairs. Note small tubes left in place – 6/94
- RH3-37 Tunnel wall openings – 6/94
- RH3-38 Deteriorated wall to floor joint at **Critical Infrastructure** – 6/94
- RH3-39 Deteriorated wall to floor joint at **Critical Infrastructure** – 6/94
- RH3-40 Deteriorated wall to floor joint at **Critical Infrastructure** – 6/94
- RH3-41 Opening in ceiling near sump by **Critical Infrastructure** – possibly intended for hanging pipe support – 6/94
- RH3-42 Piping support from ceiling in sump area – 6/94
- RH3-43 PWC water pump station – 5/94
- RH3-44 Water pumps in PWC pump station – 5/94
- RH3-45 Pumps and access to well (foreground) in PWC pump station – 5/94
- RH3-46 Piping in PWC pump station – 5/94
- RH3-47 Tunnel leading from **Critical Infrastructure** – 5/94
- RH3-48 **Critical Infrastructure** which cut crosswise through Red Hill – 5/94



RH3-49	Tunnel from Critical Infrastructure	5/94
RH3-50	Tunnel from Critical Infrastructure	5/94
RH3-51	Piping repairs at anchor – 5/94	
RH3-52	Deteriorated floor grating over floor trench in Red Hill tank area – 5/94	
RH3-53	Deteriorated metal water shielding in Critical Infrastructure	5/94
RH3-54	Deteriorated conduit near Critical Infrastructure	5/94
RH3-55	Cracked ceiling and corroded conduit near ceiling Critical Infrastructure	6/94
RH3-56	Door to shaft leading to Critical Infrastructure	6/94
RH3-57	Critical Infrastructure exterior – 6/94	
RH3-100	Exterior entrance to Critical Infrastructure	5/94
RH3-101	Exterior entrance to Critical Infrastructure	5/94
RH3-102	Exterior entrance to Critical Infrastructure	5/94
RH3-103	Critical Infrastructure entrance to lower access tunnel – 5/94	
RH3-104	Above ground 500,000 gallon water storage tank – 5/94	
RH3-105	Abandoned 22-ton low pressure carbon dioxide storage tank Critical Infrastructure	5/94
RH3-106	Twin-agent fire fighting rail car located at Y-intersection at underground water pump station – 5/94	
RH3-107	Twin-agent storage tanks on rail car; 500 lbs. Purple K dry chemical and 100 gal. Pre-mixed AFFF – 5/94	
RH3-108	Valved outlet for fire hose station, lower access tunnel at fuel tanks – 5/94	
RH3-109	Valved outlet for fire hose station, Harbor Tunnel – 5/94	
RH3-110	New 6-inch water line located in ventilating shaft, looking up from Harbor Tunnel – 5/94	
RH3-111	New 6-inch water line exiting base of ventilating shaft at Harbor Tunnel level – 5/94	
RH3-112	Y-intersection Critical Infrastructure	
	Note – fuel lines on left, 6-inch water line top center of photo – 5/94	
RH3-113	6-inch Clayton reducing valve on 6-inch water line, lower access tunnel – 6/94	
RH3-114	Typical steel supports for fuel lines in Harbor Tunnel Critical Infrastructure	
	Critical Infrastructure	5/94
RH3-115	Rail locomotive and steel support for fuel lines – 5/94	
RH3-116	Typical valve gallery ab base of fuel tank, lower access tunnel – 5/94	
RH3-117	Typical valve gallery on opposite side of lower access tunnel – 5/94	



Critical Infrastructure

RH3-1 DOORS BETWEEN HARBOR TUNNEL AND PUMP HOUSE 59
(PENETRATIONS NOT LIQUID TIGHT) - 5/94.

Critical Infrastructure

RH3-2 DOORS BETWEEN HARBOR TUNNEL AND PUMPHOUSE 59.
NOTE DOGGING BRACKETS ON FRAME - 5/94.



Critical Infrastructure

RH3-3 CORING DROP TRACK DOOR BULKHEAD NEAR Critical Infrastructure
Critical Infrastructure NOTE CORING LOCATION #2 - 5/94.

Critical Infrastructure

RH3-4 DROP TRACK NEAR Critical Infrastructure LOOKING TOWARD PH
59 - 5/94.



Critical Infrastructure

RH3-5 LIQUID TIGHT DOOR AT Critical Infrastructure NOTE ROPE TIE
OFF - 5/94. COUNTERWEIGHT CLOSING CABLE.

Critical Infrastructure

RH3-6 CORING KEY WAY ON LIQUID TIGHT BULKHEAD NEAR
Critical Infrastructure 5/94.



Critical Infrastructure

RH3-7 CONCRETE CORING TRANSFERRING EQUIPMENT FROM
TRUCK TO RED HILL TRAIN AT Critical Infrastructure 5/94.

RH3-8 CORING BULKHEAD AT LIQUID TIGHT
DOOR NEAR Critical Infrastructure 5/94.

Critical Infrastructure



Critical Infrastructure

RH3-9 LOCATION OF CORES 3 & 4 IN **Critical Infrastructure**
Critical Infrastructure SIDE OF PWC PUMP **Critical Infrastructure** LOOKING
TOWARD RED HILL - 5/94.

RH3-10 DRILLING CORE NO. 3 AT **Critical Infrastructure**
Critical Infrastructure NOTE THIN BULKHEAD AT THIS
LOCATION - 5/94.

Critical Infrastructure



Critical Infrastructure

RH3-11 DRILLING CORE NO. 4 AT Critical Infrastructure

Critical Infrastructure

RH3-12 TYPICAL CORE OF GUNITE AND STEEL.



Critical Infrastructure

RH3-13 CORING AT DROP TRACK DOOR Critical Infrastructure NOTE
COUNTER WEIGHT TUBE FOR DOOR CLOSING BACK OF
OPERATOR.

RH3-14 CORING BULKHEAD KEY AT Critical Infrastructure
Critical Infrastructure RAIL FLATCAR BEING USED AS
PLATFORM.

Critical Infrastructure



Critical Infrastructure

RH3-15 DROP TRACK DOOR Critical Infrastructure LOOKING DOWNGRADE.
NOTE ROPE TIE OFF. DOOR RELEASE MECHANISM BROKEN. SUMP
IN LOWER LEFT BEHIND MR. TRANSUE HAS FLOAT TO TRIGGER
DOOR CLOSURE - 5/94.

Critical Infrastructure

RH3-16 DROP TRACK DOOR Critical Infrastructure LOOKING TOWARD RED
HILL TANKS - 5/94.



Critical Infrastructure

RH3-17 Critical Infrastructure DOOR CLOSING TEST. NOTE TRACK HAS
BEEN KNOCKED OFF CAMS BY THE CLOSING DOOR - 5/94.

Critical Infrastructure

RH3-18 Critical Infrastructure DOOR CLOSING TEST. DOOR CLOSED.
TRACK IN LOWERED POSITION - 5/94.



Critical Infrastructure

RH3-19

Critical Infrastructure DOOR CLOSED
BUT POORLY SEALED. SOME
WARPAGE APPARENT UNDER
VISUAL OBSERVATION.

RH3-20

Critical Infrastructure 6" I&WF SECTIONS.

Critical Infrastructure



Critical Infrastructure

RH3-21 AREA DOWNGRADE FROM Critical Infrastructure NEAR Critical Infrastructure
Critical Infrastructure POTENTIAL SITE OF NEW LIQUID TIGHT
BULKHEAD/DOOR - 5/94.

Critical Infrastructure

RH3-22 AREA NEAR SUMP. POTENTIAL SITE OF NEW LIQUID TIGHT
BULKHEAD/DOOR - 5/94.



Critical Infrastructure

RH3-23 AREA NEAR **Critical Infrastructure** POTENTIAL SITE FOR
NEW LIQUID TIGHT BULKHEAD/DOOR. LOOKING
DOWNGRADE - 5/94.

Critical Infrastructure

RH3-24 **Critical Infrastructure** TAKEN FROM AREA NEXT TO SUMP (NOTE
SUMP GUARD RAIL) SHOWING DOUBLE TRACK AND
TUNNEL TRANSITION FROM WIDE TO NARROW IN
BACKGROUND LOOKING DOWNGRADE - 6/94.



Critical Infrastructure

RH3-25

Critical Infrastructure

LOOKING UPGRADE - 6/94.

Critical Infrastructure

RH3-26

Critical Infrastructure

LOOKING DOWNGRADE - 6/94.



Critical Infrastructure

RH3-27 Critical Infrastructure LOOKING UPGRADE AT TUNNEL
TRANSITION FROM NARROW TO WIDE - 6/94.

Critical Infrastructure

RH3-28 Critical Infrastructure LOOKING DOWNGRADE SHOWING TUNNEL
TRANSITION FROM WIDE TO NARROW - 6/94.



Critical Infrastructure

RH3-29 LOOKING UPGRADE TOWARD SUMP AREA. END OF TUNNEL
TRANSITION Critical Infrastructure 6/94.

Critical Infrastructure

RH3-30 ANOTHER POTENTIAL BULKHEAD LOCATION DOWNGRADE
FROM Critical Infrastructure 5/94.



Critical Infrastructure

RH3-31

Critical Infrastructure

4' X 4' WALL PATCH IS FORMER
CROSS TUNNEL OR DRAIN THAT HAS
BEEN SEALED - 6/94.

RH3-32 WATER RISER PIPE SHOWING
CONCRETE SEAL AROUND PIPE - 6/94.

Critical Infrastructure



Critical Infrastructure

RH3-33 WATER RISER PIPE AT Critical Infrastructure - 5/94.

Critical Infrastructure

RH3-34 POSSIBLE GROUTING PIPES IN CEILING AND SIDE WALL OF HARBOR TUNNEL - 5/94.



RH3-35 CORRODED ARCH SUPPORTS IN
HARBOR TUNNEL - 6/94.

Critical Infrastructure

RH3-36 EPOXY INJECTION REPAIRS. NOTE
SMALL TUBES LEFT IN PLACE - 6/94.

Critical Infrastructure



Critical Infrastructure

RH3-37 TUNNEL WALL OPENINGS - 6/94.

Critical Infrastructure

RH3-38 DETERIORATED WALL TO FLOOR JOINT AT Critical Infrastructure
Critical Infrastructure 6/94.



Critical Infrastructure

RH3-39 DETERIORATED WALL TO FLOOR JOINT AT Critical Infrastructure
Critical Infrastructure 6/94.

Critical Infrastructure

RH3-40 DETERIORATED WALL TO FLOOR JOINT AT Critical Infrastructure
Critical Infrastructure 6/94.



Critical Infrastructure

RH3-41 OPENING IN CEILING NEAR SUMP BY Critical Infrastructure POSSIBLY
INTENDED FOR HANGING PIPE SUPPORT - 6/94.

RH3-42 PIPING SUPPORT FROM CEILING IN
SUMP AREA - 6/94.

Critical Infrastructure



Critical Infrastructure

RH3-43 PWC WATER PUMP STATION - 5/94.

Critical Infrastructure

RH3-44 WATER PUMPS IN PWC PUMP STATION - 5/94.



Critical Infrastructure

RH3-45 PUMPS AND ACCESS TO WELL (FOREGROUND) IN PWC
PUMP STATION - 5/94.

RH3-46 PIPING IN PWC PUMP STATION - 5/94.

Critical Infrastructure



Critical Infrastructure

RH3-47 TUNNEL LEADING FROM: **Critical Infrastructure**
Critical Infrastructure 5/94.

Critical Infrastructure

RH3-48 **Critical Infrastructure** WHICH CUT
CROSSWISE THROUGH RED HILL - 5/94.



Critical Infrastructure

RH3-49

TUNNEL FROM

Critical Infrastructure

Critical Infrastructure 5/94.

Critical Infrastructure

RH3-50

TUNNEL FROM

Critical Infrastructure

Critical Infrastructure 5/94.



RH3-51 PIPING REPAIRS AT ANCHOR - 5/94.

Critical Infrastructure

Critical Infrastructure

RH3-52 DETERIORATED FLOOR GRATING OVER FLOOR TRENCH IN
RED HILL TANK AREA - 5/94.



Critical Infrastructure

RH3-53 DETERIORATED METAL WATER SHIELDING IN Critical Infrastructure
Critical Infrastructure - 5/94.

RH3-54 DETERIORATED CONDUIT NEAR Critical Infrastructure
Critical Infrastructure 5/94.

Critical Infrastructure



Critical Infrastructure

RH3-55 CRACKED CEILING AND
CORRODED CONDUIT NEAR
CEILING Critical Infrastructure 6/94.

RH3-56 DOOR TO SHAFT LEADING TO Critical Infrastructure
Critical Infrastructure 6/94.

Critical Infrastructure



Critical Infrastructure

RH3-57 Critical Infrastructure EXTERIOR - 6/94.

APPENDIX B-1

SITE INVESTIGATIONS PHOTOGRAPHS

<u>Photograph Number</u>	<u>Description</u>
RH3-100	Exterior entrance to Critical Infrastructure 5/94
RH3-101	Exterior entrance to Critical Infrastructure 5/94
RH3-102	Exterior entrance to Critical Infrastructure 5/94
RH3-103	Critical Infrastructure entrance to lower access tunnel - 5/94
RH3-104	Above ground 500,000 gallon water storage tank - 5/94
RH3-105	Abandoned 22 ton low pressure carbon dioxide storage tank, Critical Infrastructure 5/94
RH3-106	Twin-agent fire fighting rail car located at Y-intersection at underground water pump station - 5/94
RH3-107	Twin-agent storage tanks on rail car; 500 lbs. Purple K dry chemical and 100 gal. Pre-mixed AFFF - 5/94
RH3-108	Valved outlet for fire hose station, lower access tunnel at fuel tanks - 5/94
RH3-109	Valved outlet for fire hose station, Harbor Tunnel - 5/94
RH3-110	New 6 inch water line located in ventilating shaft, looking up from Harbor Tunnel - 5/94
RH3-111	New 6 inch water line exiting base of ventilating shaft at Harbor Tunnel level - 5/94

RH3-112

Y-intersection

Critical Infrastructure

Critical Infrastructure

Note - fuel lines on left, 6 inch water line top center of photo - 5/97

RH3-113

6 inch Clayton reducing valve on 6 inch water line, lower access tunnel - 6/94

RH3-114

Typical steel supports for fuel lines in Harbor Tunnel

Critical Infrastructure

Critical Infrastructure

5/94

RH3-115

Rail locomotive and steel support for fuel lines - 5/94

RH3-116

Typical valve gallery at base of fuel tank, lower access tunnel - 5/94

RH3-117

Typical valve gallery on opposite side of lower access tunnel - 5/94



Critical Infrastructure

RH3-100 EXTERIOR ENTRANCE TO Critical Infrastructure 5/94

Critical Infrastructure

RH3-101 EXTERIOR ENTRANCE TO Critical Infrastructure 5/94



Critical Infrastructure

RH3-102 EXTERIOR ENTRANCE TO Critical Infrastructure 5/94

Critical Infrastructure

RH3-103 – Critical Infrastructure ENTRANCE TO LOWER ACCESS TUNNEL – 5/94



Critical Infrastructure

RH3-104 ABOVEGROUND 500,000 GALLON WATER STORAGE TANK –
5/94

Critical Infrastructure

RH3-105 ABANDONED 22-TON LOWER PRESSURE CARBON DIOXIDE
STORAGE TANK, Critical Infrastructure 5/94



Critical Infrastructure

RH3-106 TWIN-AGENT FIRE FIGHTING RAIL CAR LOCATED AT Y-INTERSECTION AT UNDERGROUND WATER PUMP STATION – 5/94

Critical Infrastructure

RH3-107 TWIN-AGENT STORAGE TANKS ON RAIL CAR; 500 LBS. PURPLE K DRY CHEMICAL AND 100 GAL PRE-MIXED AFFF – 5/94



Critical Infrastructure

RH3-108 VALVED OUTLET FOR FIRE HOSE
STATION, LOWER ACCESS TUNNEL AT
FUEL TANKS – 5/94

Critical Infrastructure

RH3-109 VALVED OUTLET FOR FIRE HOSE STATION, HARBOR
TUNNEL – 5/94



Critical Infrastructure

RH3-110 NEW 6-INCH WATER LINE LOCATED IN
VENTILATING SHAFT, LOOKING UP
FROM HARBOR TUNNEL – 5/94

Critical Infrastructure

RH3-111 NEW 6-INCH WATER LINE EXITING BASE OF VENTILATING
SHAFT AT HARBOR TUNNEL LEVEL – 5/94



Critical Infrastructure

RH3-112 Y-INTERSECTION **Critical Infrastructure**
Critical Infrastructure NOTE:
FUEL LINES ON LEFT, 6-INCH WATER LINE TOP CENTER OF
PHOTO - 5/97

Critical Infrastructure

RH3-113 6-INCH CLAYTON REDUCING VALVE ON 6-INCH WATER LINE,
LOWER ACCESS TUNNEL - 6/94



Critical Infrastructure

RH3-114 TYPICAL STEEL SUPPORTS FOR FUEL LINES IN HARBOR
TUNNEL Critical Infrastructure
Critical Infrastructure - 5/94

Critical Infrastructure

RH3-115 RAIL LOCOMOTIVE AND STEEL SUPPORT FOR FUEL LINES –
5/94



Critical Infrastructure

RH3-116 TYPICAL VALVE GALLERY AT BASE OF FUEL
TANK, LOWER ACCESS TUNNEL – 5/94

Critical Infrastructure

RH3-117 TYPICAL VALVE GALLERY ON OPPOSITE SIDE OF LOWER
ACCESS TUNNEL – 5/94