
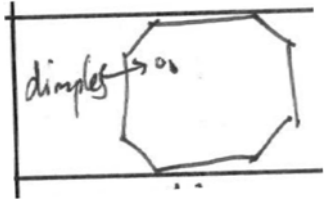




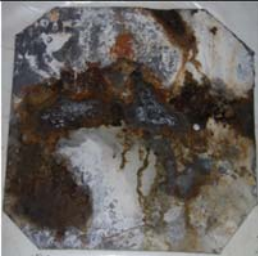






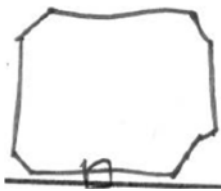

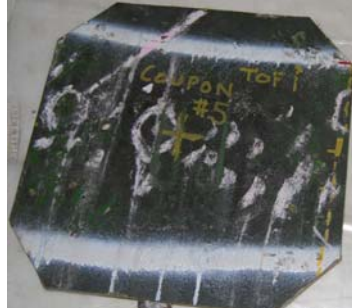

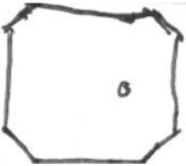




COUPON SPECIFICS		
Coupon ID	1	1
Coupon Location	14-UD-A-42-45-107	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.147")	
Locations of Welds	None	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Deposits	Standard coating with paint
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Wet	Dry
Smell	Damp, burnt	Burnt
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 Corrosion found, as expected, but no pits	
Presence of corrosion	Yes	No
Isolated pitting	No	No
Isolated pitting within areas of general corrosion	No	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown	N/A
Identify if selected attack at welds	N/A	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

COUPON SPECIFICS		
Coupon ID	2	2
Coupon Location	14-ER-E3-12-33-40	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.157")	Prove-up: minimum 0.150"
Locations of Welds	None	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Lots of deposits and coatings	Regular coating
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Wet	Dry
Smell	Thick, burnt, musty, muddy	Burnt but less intense than exterior
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 Backside corrosion and pits found, as expected	
Presence of corrosion	Yes	Yes
Isolated pitting	Yes	Yes
Isolated pitting within areas of general corrosion	Yes	No (pit is not in area of general corrosion)
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown, black, gray	Brown
Identify if selected attack at welds	N/A	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

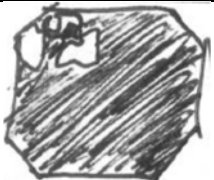
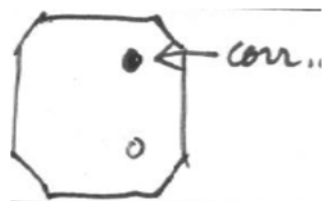
COUPON SPECIFICS		
Coupon ID	3	3
Coupon Location	14-ER-E3-13-9-18	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.033")	(No prove-up-phase thickness)
Locations of Welds	None	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Thick, brown, grey deposits	Standard coating with paint
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Wet	Dry
Smell	Burnt, like wax or coconut oil	None
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	[Field notes say "Yes," but that is a misunderstanding. Moisture was corrosion product, not petroleum product. Please see concrete notes for Coupon 3]	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>Corrosion found, despite expectation of manufacturing flaw only. No horizontal flaw on actual coupon</p>	
Presence of corrosion	Yes	Yes
Isolated pitting	Yes	Yes
Isolated pitting within areas of general corrosion	Yes	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	White, brown	Brown
Identify if selected attack at welds	N/A	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

COUPON SPECIFICS		
Coupon ID	5	5
Coupon Location	14-BA-26-15-15-8	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.047")	
Locations of Welds	None	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Concrete layer, thin	Standard coating
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Dry	Dry
Smell	Burnt	Burnt
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>Corrosion found, as expected (writing says "horiz bulge")</p>	
Presence of corrosion	Yes	No
Isolated pitting	No	No
Isolated pitting within areas of general corrosion	No	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown	N/A
Identify if selected attack at welds	N/A	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

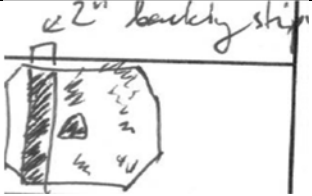
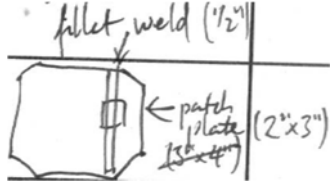


COUPON SPECIFICS		
Coupon ID	6	6
Coupon Location	14-BA-24-8-36-30	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: No reported thickness; greater than 0.200")	(No prove-up-phase thickness)
Locations of Welds	None	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Scrapes	Standard coating
Scale	Concrete	None
Observed Biological Material	None	None
Wet or Dry	Dry	Dry
Smell	Burnt	Burnt
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>Small amount of corrosion found, although no indication was found in NDE and sketch</p>	
Presence of corrosion	Yes, small	Yes, tiny
Isolated pitting	No	No
Isolated pitting within areas of general corrosion	No	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown	Brown
Identify if selected attack at welds	N/A	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

COUPON SPECIFICS		
Coupon ID	7	7
Coupon Location	14-BA-23-7-38-49	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.157")	Prove-up: minimum 0.135"
Locations of Welds	None	

ON SITE VISUAL EXAMINATION

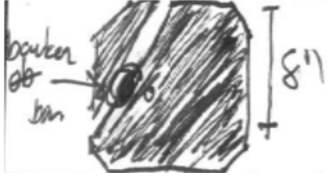

Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Lots of general corrosion	Standard coating
Scale	Yes, thick, varied	None
Observed Biological Material	None	None
Wet or Dry	Wet	Dry
Smell	Burnt, damp	Burnt
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 Lots of corrosion found, as expected	
Presence of corrosion	Yes	Yes
Isolated pitting	Yes	No
Isolated pitting within areas of general corrosion	Yes	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown, black	Brown
Identify if selected attack at welds	N/A	N/A

Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		
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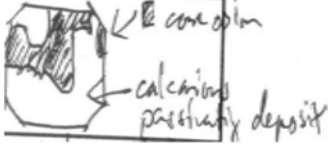



COUPON SPECIFICS		
Coupon ID	8	8
Coupon Location	14-BA-20-13-236-43	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.069")	Prove-up: minimum 0.200"
Locations of Welds	About 2" from right edge of front face (interior face)	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	White coating	Standard coating with pink, white paint
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Dry	Dry
Smell	Burnt metal	Fuel-like
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>Manufacturing flaw and slight corrosion found, as expected.</p>	
Presence of corrosion	Yes	No
Isolated pitting	Yes (Pit 1: 5" from left, 2" from top) (Pit 2: 7" from left, 5" from top)	No
Isolated pitting within areas of general corrosion	Yes	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown	No
Identify if selected attack at welds	Yes	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

COUPON SPECIFICS		
Coupon ID	10	10
Coupon Location	14-LD-3-9-24-215	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.198")	Prove-up: minimum 0.200"
Locations of Welds	None	

ON SITE VISUAL EXAMINATION

Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Coal-tar-like	Lots of surface debris
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Wet	Dry
Smell	Coal-tar-like	None
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>Only minor corrosion found, as expected. Black substance was not expected in sketch</p>	
Presence of corrosion	Yes (small)	Yes
Isolated pitting	No	Yes
Isolated pitting within areas of general corrosion	No	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown	Brown
Identify if selected attack at welds	N/A	N/A

Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		
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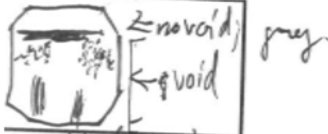
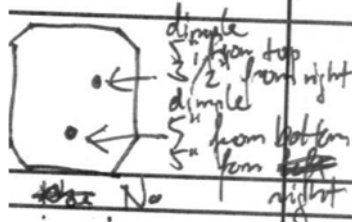


COUPON SPECIFICS		
Coupon ID	A1	A1
Coupon Location	14-BA-23-9-95-50	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.134")	
Locations of Welds	None	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Abundant corrosion product	Standard coating
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Dry	Dry
Smell	Burnt, musty	Burnt
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>General and pitting corrosion found, as expected (Writing: "corrosion" and "calcareous passivating deposit")</p>	 <p>(Writing: "scratches, grinding marks" and "rust")</p>
Presence of corrosion	Yes	Yes
Isolated pitting	Yes (Pit: 7.5" from left, 2.5" from top)	No
Isolated pitting within areas of general corrosion	Yes	No
Linked pitting within areas of general corrosion	Yes	No
Identify color of corrosion products	Dark brown	Brown
Identify if selected attack at welds	Yes	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

Thu, 21 Jun 2018, 10:30 PM

COUPON SPECIFICS

Coupon ID	A2	A2
Coupon Location	14-BA-11-4-226-50	
Coupon Dimensions	12" * 12"	
Coupon Thickness	¼" (NDE: minimum 0.161")	(no prove-up-phase thickness)
Locations of Welds	None	

ON SITE VISUAL EXAMINATION


Checks	Observations	
	Exterior	Interior
Deposits, Coatings, Debris	Thin concrete film on 50% of surface	Standard coating
Scale	None	None
Observed Biological Material	None	None
Wet or Dry	Dry	Dry
Smell	None	None
Presence of petroleum product between steel and concrete surface, and on or above the leg of the angle backer bar embedded in the concrete	No	No
Provide a sketch of the coupon showing all indications. Provide ID#s for all indications on coupon and compare with NDE expected results sketch	 <p>General metal loss and general corrosion found, as expected</p>	
Presence of corrosion	Yes, general	No
Isolated pitting	No	No
Isolated pitting within areas of general corrosion	No	No
Linked pitting within areas of general corrosion	No	No
Identify color of corrosion products	Brown	N/A
Identify if selected attack at welds	N/A	N/A
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.		

6/20/2018: 1400

CONCRETE SAMPLE SPECIFICS

Sample ID	1	1
Sample Location	14-UD-A-42-45-107	
Sample Dimensions	12X12 INCHES	

ON SITE VISUAL EXAMINATION

Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	1/8" Void on left side, no voids in all other areas	
Biological Materials	None	
Wet or Dry	Dry	
Smell	None	
Temperature	76.9	F
Surface pH	9 to 9.5	
Structure to Electrolyte	-0.252	Volts/CSE
Concrete Resistivity	26.4 Horizontal 31.1 Vertical	k-ohm-cm k-ohm-cm
General Condition	Excellent, sound concrete with some discoloration and no cracks and no delamination	
		

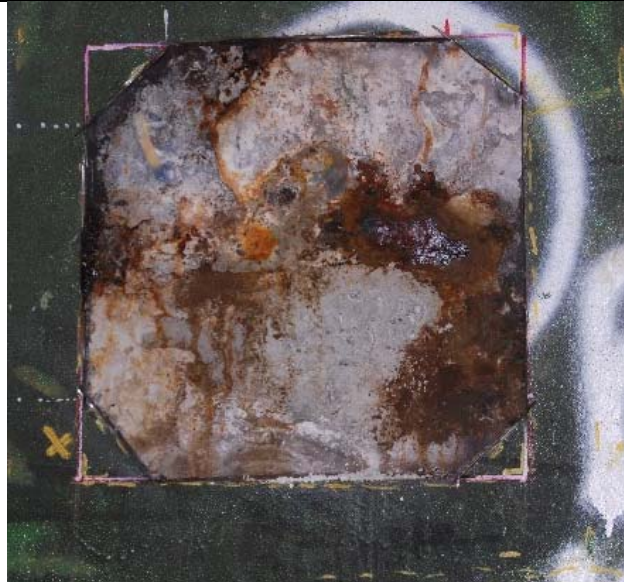
6/19/2018: 0930

CONCRETE SAMPLE SPECIFICS

Sample ID	2	2
Sample Location	14-ER-E3-12-33-40	
Sample Dimensions	12X12 INCHES	

ON SITE VISUAL EXAMINATION

Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	1/8" void at upper left side. Otherwise no voids.	
Biological Materials	None	
Wet or Dry	Slightly damp	
Smell	Musty, no fuel	
Temperature	80.0	F
Surface pH	10-11 corroded area 11-12 non-corroded area	
Structure to Electrolyte	-0.380	Volts/CSE
Concrete Resistivity	19.0 Horizontal 17.5 Vertical	k-ohm-cm k-ohm-cm
General Condition	Good sound condition with some minor spalling and corrosion product. Coupon took some hammering to remove	



6/19/2018: 14:00

CONCRETE SAMPLE SPECIFICS

Sample ID	3	3
Sample Location	14-ER-E3-13-7-18	
Sample Dimensions	12X12 INCHES	

ON SITE VISUAL EXAMINATION

Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	On left side, uneven corrosion product and a 1/16-inch void. Otherwise, no voids.	
Biological Materials	None	
Wet or Dry	Mostly dry, with some damp spots	
Smell	None	
Temperature	79.3	F
Surface pH	11-12 dry areas, 7-8 in areas with corrosion product	
Structure to Electrolyte	-0.488	Volts/CSE
Concrete Resistivity	27.8 Horizontal 31.2 Vertical	K-Ohm-cm
General Condition	Good, with some corrosion products. Corrosion product was black on the left side, and brown in some other areas. Concrete was hard and difficult to drill for powder samples. Coupons required some hammering and prying to remove after cutting.	



6/20/2018: 0800


CONCRETE SAMPLE SPECIFICS

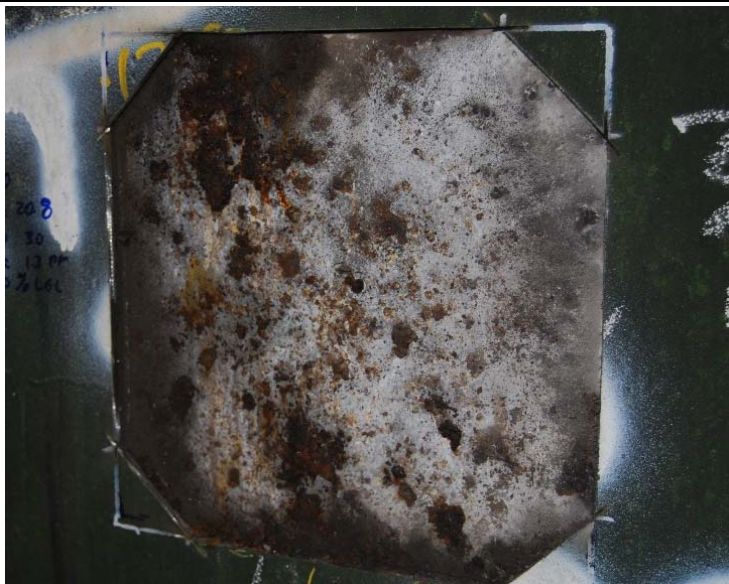
Sample ID	5	5
Sample Location	14-DA-26-15-15-8	
Sample Dimensions	12X12 INCHES	


ON SITE VISUAL EXAMINATION

Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	1/16" Void on top right side, no voids in all other areas	
Biological Materials	None	
Wet or Dry	Dry	
Smell	None	
Temperature	78.5	F
Surface pH	11-12	
Structure to Electrolyte	-0.220	Volts/CSE
Concrete Resistivity	19.1 Horizontal 22.0 Vertical	k-ohm-cm k-ohm-cm
General Condition	Excellent, sound concrete	



CONCRETE SAMPLE SPECIFICS		
Sample ID	6	6
Sample Location	14-BA-24-8-36-30	
Sample Dimensions	12X12 INCHES	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	None, however some loose adhering grout present	
Biological Materials	None	
Wet or Dry	Dry	
Smell	None	
Temperature	77.4F	F
Surface pH	12.5	
Structure to Electrolyte	-0.387	Volts/CSE
Concrete Resistivity	Horizontal = 387 Vertical = 359	k-ohm-cm k-ohm-cm
General Condition	Concrete is sound, no delamination. There is loose adhering grout on left side and middle	
		

CONCRETE SAMPLE SPECIFICS		
Sample ID	7	7
Sample Location	14-BA-23-7-38-49	
Sample Dimensions	12X12 INCHES	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	3/8" void on left side. 1/16" void on top right otherwise no voids	
Biological Materials	None	
Wet or Dry		
Smell	none	
Temperature	77.5F	F
Surface pH	9- 10	
Structure to Electrolyte		Volts/CSE
Concrete Resistivity	Horizontal = 39.3 Vertical = 42.4	k-ohm-cm k-ohm-cm
General Condition	Concrete is sound with no delamination or cracks. Some brown and black corrosion products on concrete	
		


CONCRETE SAMPLE SPECIFICS		
Sample ID	8	8
Sample Location	14-BA-20-13-23-4	
Sample Dimensions	12X12 INCHES	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	1/16" Void on left side, no voids in all other areas	
Biological Materials	None	
Wet or Dry	Dry	
Smell	None	
Temperature	80.0	F
Surface pH	11-12	
Structure to Electrolyte	-0.248	Volts/CSE
Concrete Resistivity	30.9 Horizontal 27.5 Vertical	k-ohm-cm k-ohm-cm
General Condition	Excellent, sound concrete with no cracks or delamination. Coupon had steel backing plate	
		


6/21/2018: 0930

CONCRETE SAMPLE SPECIFICS

Sample ID	10	10
Sample Location	14-LD-3-9-24-215	
Sample Dimensions	12X12 INCHES	

ON SITE VISUAL EXAMINATION

Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	None	
Biological Materials	None	
Wet or Dry	Dry	
Smell	Smells like coal tar	
Temperature	77.6	F
Surface pH	12-12.5	
Structure to Electrolyte	-0.181	Volts/CSE
Concrete Resistivity	27.3 Horizontal 38.1 Vertical	k-ohm-cm k-ohm-cm
General Condition	Excellent, sound concrete with no cracks or delamination. Coupon had to be cut into two pieces to remove. What appears to be coal tar coating present on backside of coupon and concrete.	
		

CONCRETE SAMPLE SPECIFICS		
Sample ID	A1	A1
Sample Location	14-BA-23-9-95-50	
Sample Dimensions	12X12 INCHES	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	1/8" Void on left side, no voids in all other areas	
Biological Materials	None	
Wet or Dry	Mostly dry with damp areas around corrosion product	
Smell	None	
Temperature	77.5	F
Surface pH	11-12 in dry areas, 7-8 in corroded area	
Structure to Electrolyte	-0.448 (dry area) -0.432 (damp area w. corrosion products)	Volts/CSE
Concrete Resistivity	32.9 Horizontal 37.0 Vertical	k-ohm-cm
General Condition	Good condition with sound concrete, no cracks or delamination. Corrosion products are present on concrete.	
		

CONCRETE SAMPLE SPECIFICS		
Sample ID	A2	A2
Sample Location	14-BA-11-4-226-50	
Sample Dimensions	12X12 INCHES	
ON SITE VISUAL EXAMINATION		
Checks	Observations	
	Exterior	Units
Void space between concrete and liner (if any)	1/2" Void on left and bottom side. 1/4" void on the right side	
Biological Materials	None	
Wet or Dry	Dry	
Smell	None	
Temperature	78.4	F
Surface pH	11-12	
Structure to Electrolyte	-0.226 (middle) -0.230 (right side)	Volts/CSE
Concrete Resistivity	35.8 Horizontal 36.1 Vertical	k-ohm-cm
General Condition	Good condition with sound concrete, no cracks or delamination. There is a layer of concrete which appears to have come off. Below that layer is sound concrete.	
Provide photo documentation with a minimum resolution of 2560 x 1920 of the coupon, front and back.	