

RedZone
ROBOTICS

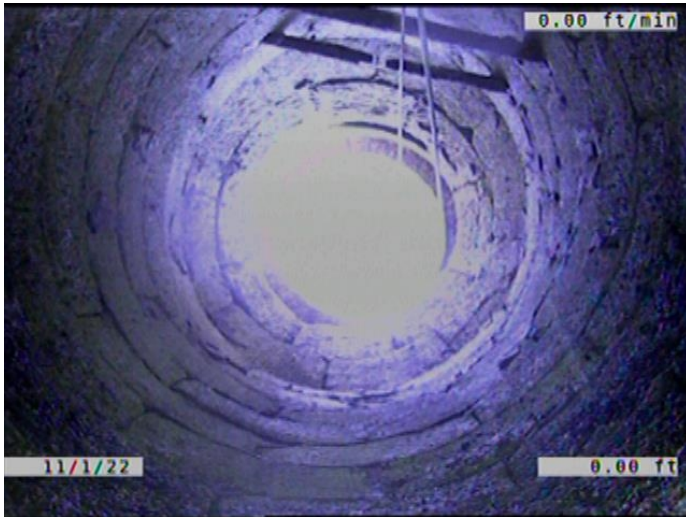
Street:	South California Street		Flow Control:	Not Controlled	
City:	Hobart, IN		Year Renewed:		
Location:	Alley		Tape/Media #:		
Purpose:	Routine Assessment		Dia/Height:	12"	
Use:	Sanitary Sewage Pipe		Material:	VCP	
Drain Area:			Lining:	None	
Category:	NA				
Comment:					
Location Details:			Direction of Survey:	Downstream	
US MH:	M-504-011	DS MH:	M-504-012	Total Length Surveyed (ft):	143.3

O&M Index:	1.77	O&M Quick:	2J1B	O&M Rating:	131.00
Structural Index:	2.75	Structural Quick:	4C34	Structural Rating:	162.00
Overall Index:	2.20	Overall Quick:	4C34	Overall Rating:	293.00

Position	Code	Observation	Video (sec)	Grade
M-504-011				
.0	AMH	Manhole	1	NA
.0	MWL	Miscellaneous Water Level	63	NA
2.2	DSF(S01)	Deposits Settled Fine	116	M 2
6.8	MWLS(S02)	Miscellaneous Water Level Sag	165	S 2
9.0	B	Broken	215	S 4
9.0	DAE	Deposits Attached Encrustation	234	M 2
9.8	DAGS	Deposits Attached Grease	282	M 2
15.8	MWLS(F02)	Miscellaneous Water Level Sag	322	S 2
16.6	FM	Fracture Multiple	357	S 4
16.6	DAE	Deposits Attached Encrustation	368	M 2
19.3	CM	Crack Multiple	418	S 3
19.3	DAE(S03)	Deposits Attached Encrustation	452	M 2
21.9	RFJ	Roots Fine Joint	491	M 1
21.9	FM	Fracture Multiple	528	S 4
31.4	MWLS	Miscellaneous Water Level Sag	577	S 2
36.2	CL	Crack Longitudinal	617	S 2
39.6	MWLS(S04)	Miscellaneous Water Level Sag	642	S 2
42.4	RFJ	Roots Fine Joint	686	M 1
53.0	RFJ	Roots Fine Joint	768	M 1

53.0	CM	Crack Multiple	800	S 3
55.3	SSS(S12)	Surface Damage Surface Spalling	891	S 2
55.3	B(S05)	Broken	909	S 4
57.0	MWLS(F04)	Miscellaneous Water Level Sag	950	S 2
63.0	RFJ	Roots Fine Joint	1012	M 1
68.7	MWLS(S06)	Miscellaneous Water Level Sag	1049	S 2
77.3	MWLS(F06)	Miscellaneous Water Level Sag	1091	S 2
78.4	RFJ(S07)	Roots Fine Joint	1129	M 1
80.6	MWLS(S08)	Miscellaneous Water Level Sag	1152	S 2
83.7	JAM	Joint Angular Medium	1203	S 3
92.5	MWLS(F08)	Miscellaneous Water Level Sag	1263	S 2
95.2	MWLS(S09)	Miscellaneous Water Level Sag	1283	S 2
97.3	TBI	Tap Break-in Intruding	1342	M 2
104.3	JAM	Joint Angular Medium	1421	S 3
119.0	DR(S10)	Deformed Rigid	1509	S 4
127.3	DR(F10)	Deformed Rigid	1602	S 4
127.3	SSS(F12)	Surface Damage Surface Spalling	1610	S 2
127.3	B(F05)	Broken	1613	S 4
135.3	SSS	Surface Damage Surface Spalling	1682	S 2
135.3	B(S11)	Broken	1721	S 4
140.1	DAR	Deposits Attached Ragging	1792	M 2
140.8	MWLS(F09)	Miscellaneous Water Level Sag	1812	S 2
141.7	RFJ(F07)	Roots Fine Joint	1830	M 1
141.7	DSF(F01)	Deposits Settled Fine	1839	M 2
141.7	DAE(F03)	Deposits Attached Encrustation	1846	M 2
141.7	B(F11)	Broken	1854	S 4
143.3	AMH	Manhole	1989	NA

M-504-012



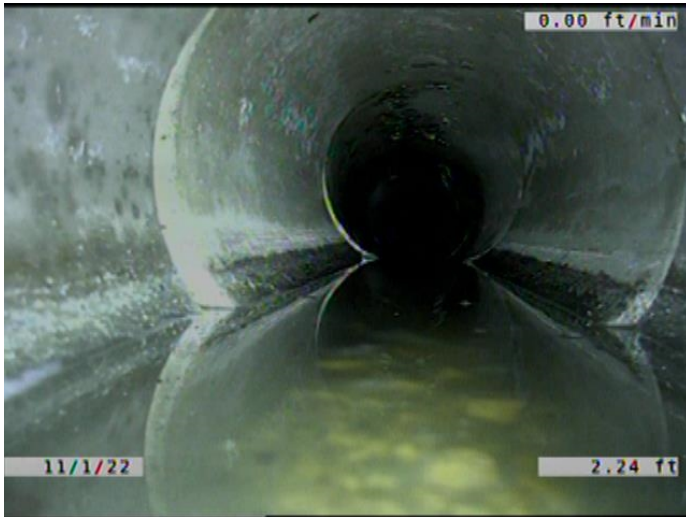
Code: **AMH**
 Description: **Manhole**

Distance (ft): **.0**
 Structural Grade: **0**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **NO**
 Remarks: **M-504-011**



Code: **MWL**
 Description: **Miscellaneous Water Level**

Distance (ft): **.0**
 Structural Grade: **0**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **5.000**
 Continuous Index:
 Within 8" of Joint: **NO**
 Remarks:



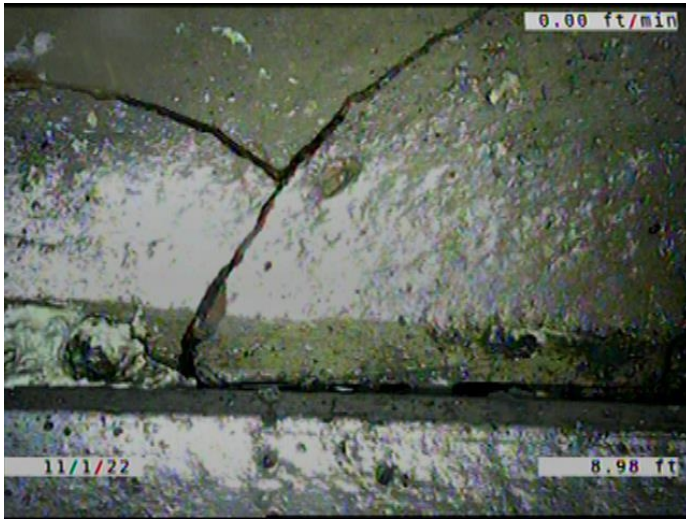
Code: **DSF**
Description: **Deposits Settled Fine**

Distance (ft): **2.2**
Structural Grade: **0**
O&M Grade: **2**
Clock Start/From: **5**
Clock To: **7**
1st Value:
2nd Value:
Value Percent: **5.000**
Continuous Index: **S01**
Within 8" of Joint: **YES**
Remarks:



Code: **MWLS**
Description: **Miscellaneous Water Level Sag**

Distance (ft): **6.8**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **10.000**
Continuous Index: **S02**
Within 8" of Joint: **NO**
Remarks:



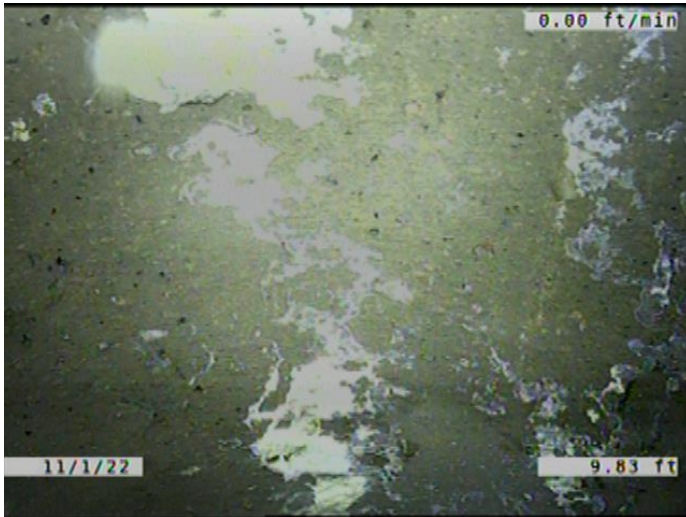
Code: **B**
 Description: **Broken**

Distance (ft): **9.0**
 Structural Grade: **4**
 O&M Grade: **0**
 Clock Start/From: **9**
 Clock To: **1**
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



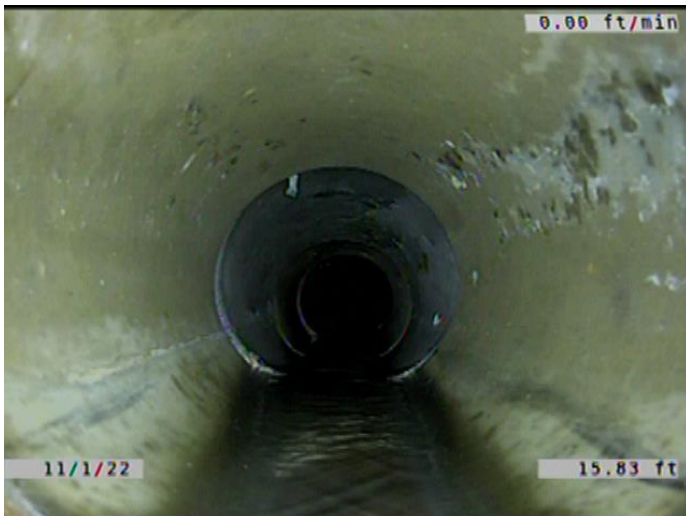
Code: **DAE**
 Description: **Deposits Attached Encrustation**

Distance (ft): **9.0**
 Structural Grade: **0**
 O&M Grade: **2**
 Clock Start/From: **12**
 Clock To: **2**
 1st Value:
 2nd Value:
 Value Percent: **5.000**
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



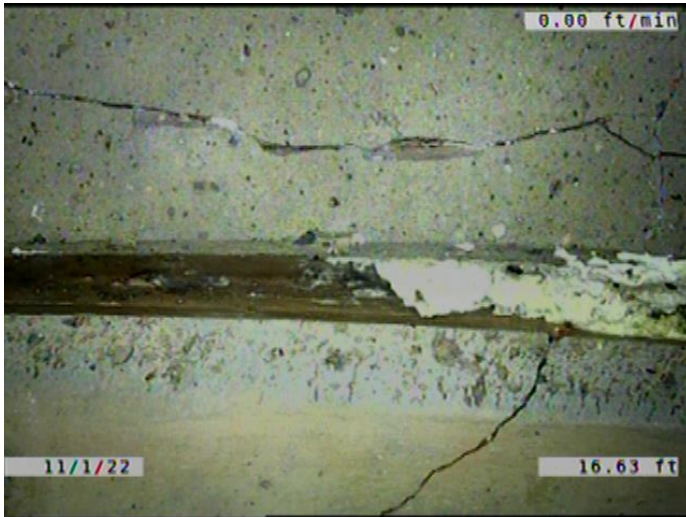
Code: **DAGS**
 Description: **Deposits Attached Grease**

Distance (ft): **9.8**
 Structural Grade: **0**
 O&M Grade: **2**
 Clock Start/From: **10**
 Clock To: **2**
 1st Value:
 2nd Value:
 Value Percent: **5.000**
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



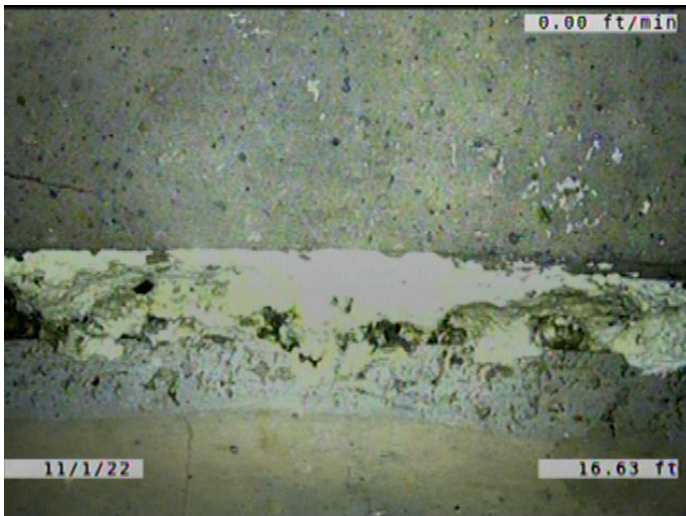
Code: **MWLS**
 Description: **Miscellaneous Water Level Sag**

Distance (ft): **15.8**
 Structural Grade: **2**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **10.000**
 Continuous Index: **F02**
 Within 8" of Joint: **NO**
 Remarks:



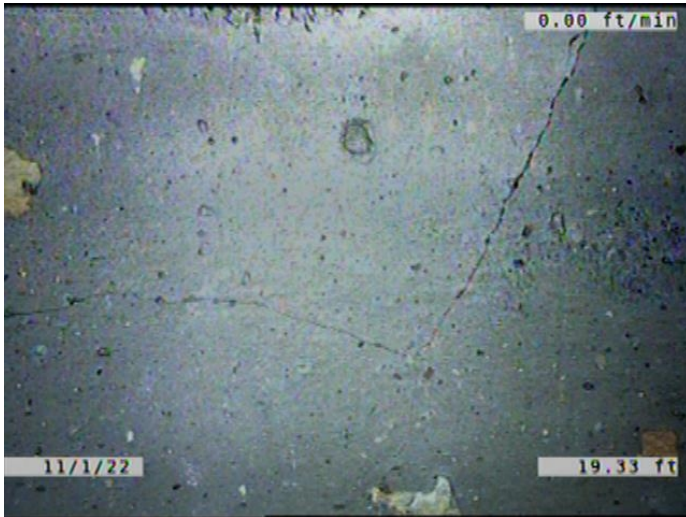
Code: **FM**
Description: **Fracture Multiple**

Distance (ft): **16.6**
Structural Grade: **4**
O&M Grade: **0**
Clock Start/From: **9**
Clock To: **1**
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



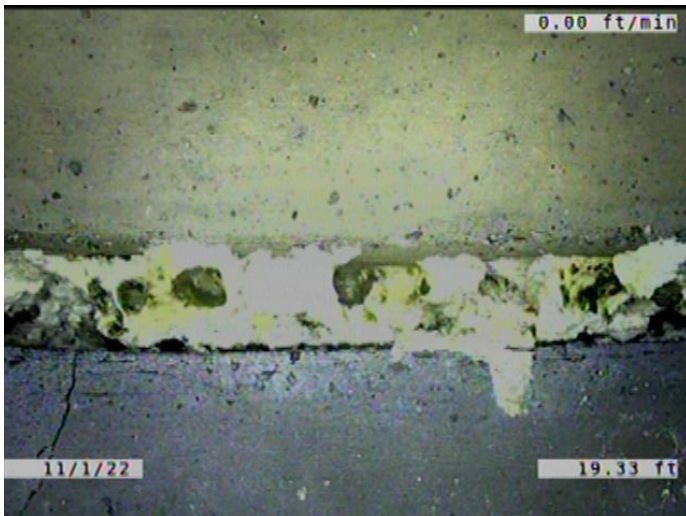
Code: **DAE**
Description: **Deposits Attached Encrustation**

Distance (ft): **16.6**
Structural Grade: **0**
O&M Grade: **2**
Clock Start/From: **11**
Clock To: **2**
1st Value:
2nd Value:
Value Percent: **5.000**
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



Code: **CM**
Description: **Crack Multiple**

Distance (ft): **19.3**
Structural Grade: **3**
O&M Grade: **0**
Clock Start/From: **9**
Clock To: **1**
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



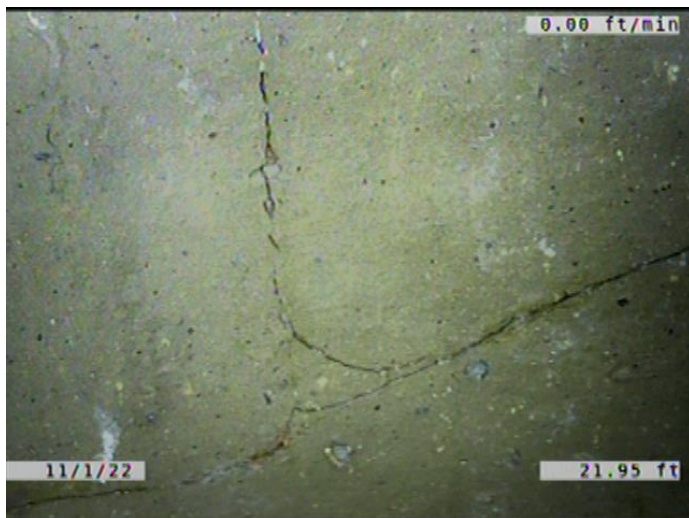
Code: **DAE**
Description: **Deposits Attached Encrustation**

Distance (ft): **19.3**
Structural Grade: **0**
O&M Grade: **2**
Clock Start/From: **9**
Clock To: **3**
1st Value:
2nd Value:
Value Percent: **5.000**
Continuous Index: **S03**
Within 8" of Joint: **YES**
Remarks:



Code: **RFJ**
 Description: **Roots Fine Joint**

Distance (ft): **21.9**
 Structural Grade: **0**
 O&M Grade: **1**
 Clock Start/From: **9**
 Clock To: **11**
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



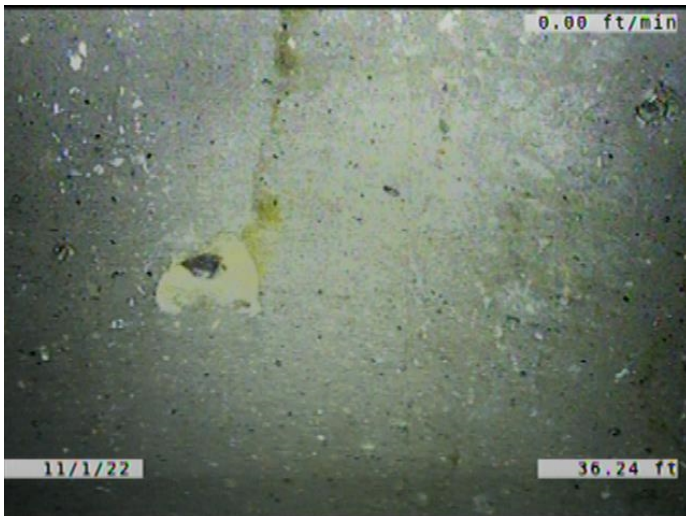
Code: **FM**
 Description: **Fracture Multiple**

Distance (ft): **21.9**
 Structural Grade: **4**
 O&M Grade: **0**
 Clock Start/From: **8**
 Clock To: **12**
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



Code: **MWLS**
Description: **Miscellaneous Water Level Sag**

Distance (ft): **31.4**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **10.000**
Continuous Index:
Within 8" of Joint: **NO**
Remarks:



Code: **CL**
Description: **Crack Longitudinal**

Distance (ft): **36.2**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From: **2**
Clock To:
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



Code: **MWLS**
 Description: **Miscellaneous Water Level Sag**

Distance (ft): **39.6**
 Structural Grade: **2**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **15.000**
 Continuous Index: **S04**
 Within 8" of Joint: **NO**
 Remarks:



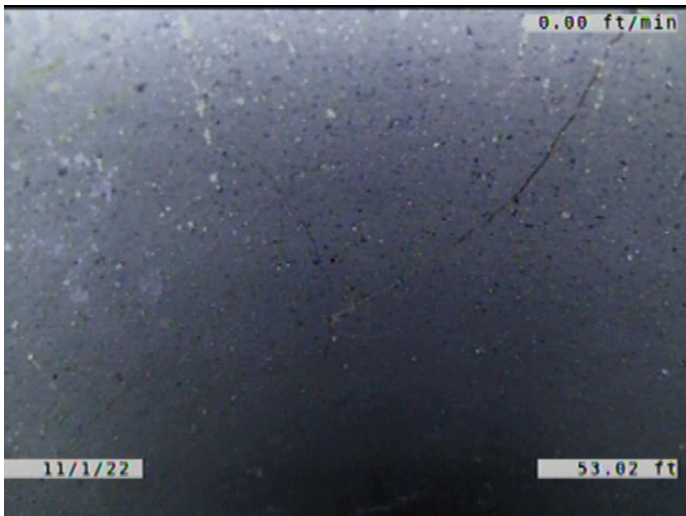
Code: **RFJ**
 Description: **Roots Fine Joint**

Distance (ft): **42.4**
 Structural Grade: **0**
 O&M Grade: **1**
 Clock Start/From: **11**
 Clock To: **2**
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



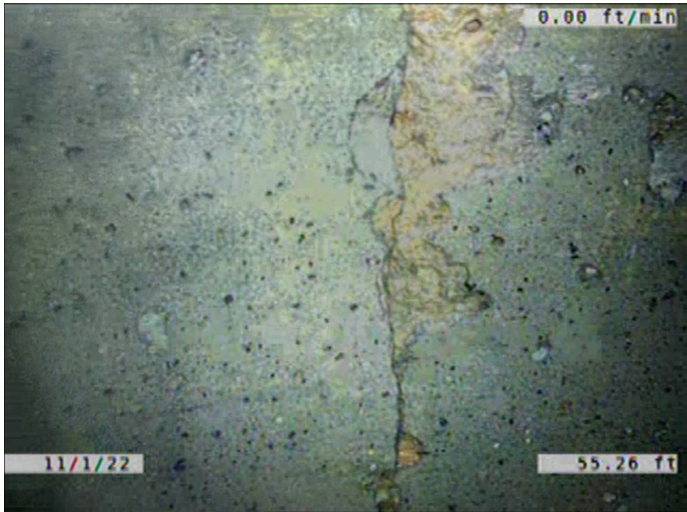
Code: **RFJ**
Description: **Roots Fine Joint**

Distance (ft): **53.0**
Structural Grade: **0**
O&M Grade: **1**
Clock Start/From: **9**
Clock To: **1**
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



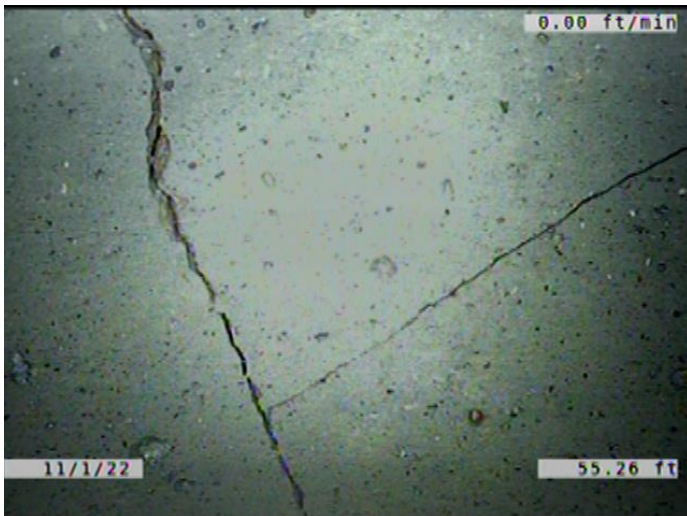
Code: **CM**
Description: **Crack Multiple**

Distance (ft): **53.0**
Structural Grade: **3**
O&M Grade: **0**
Clock Start/From: **9**
Clock To: **12**
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



Code: **SSS**
Description: **Surface Damage Surface Spalling**

Distance (ft): **55.3**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From: **8**
Clock To: **4**
1st Value:
2nd Value:
Value Percent:
Continuous Index: **S12**
Within 8" of Joint: **YES**
Remarks:



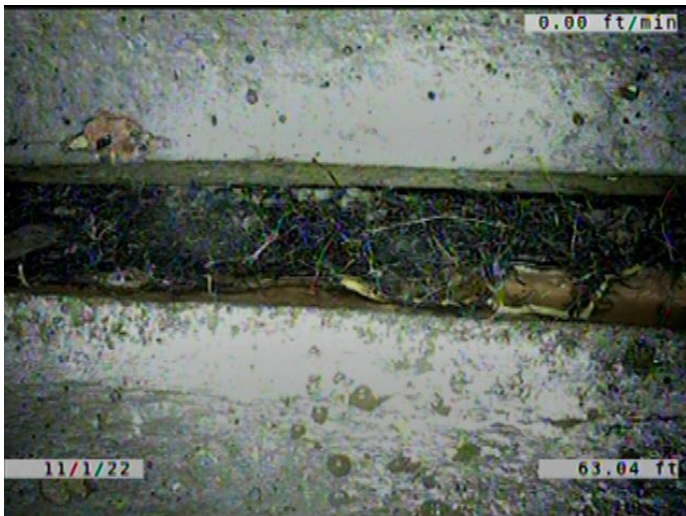
Code: **B**
Description: **Broken**

Distance (ft): **55.3**
Structural Grade: **4**
O&M Grade: **0**
Clock Start/From: **12**
Clock To: **12**
1st Value:
2nd Value:
Value Percent:
Continuous Index: **S05**
Within 8" of Joint: **YES**
Remarks:



Code: **MWLS**
Description: **Miscellaneous Water Level Sag**

Distance (ft): **57.0**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **15.000**
Continuous Index: **F04**
Within 8" of Joint: **NO**
Remarks:



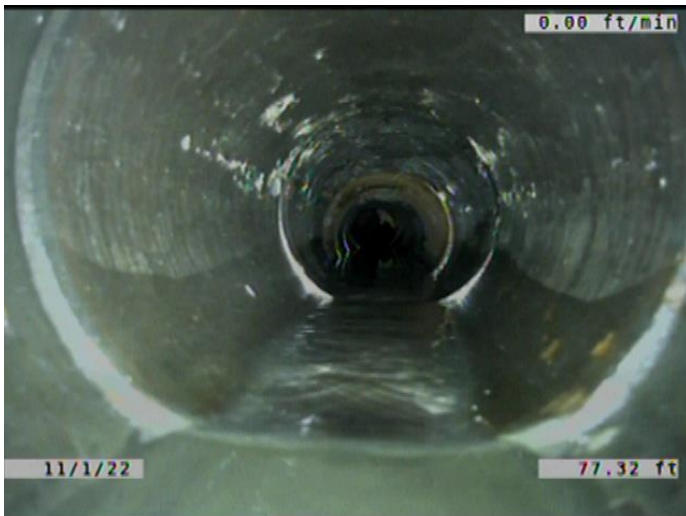
Code: **RFJ**
Description: **Roots Fine Joint**

Distance (ft): **63.0**
Structural Grade: **0**
O&M Grade: **1**
Clock Start/From: **8**
Clock To: **2**
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



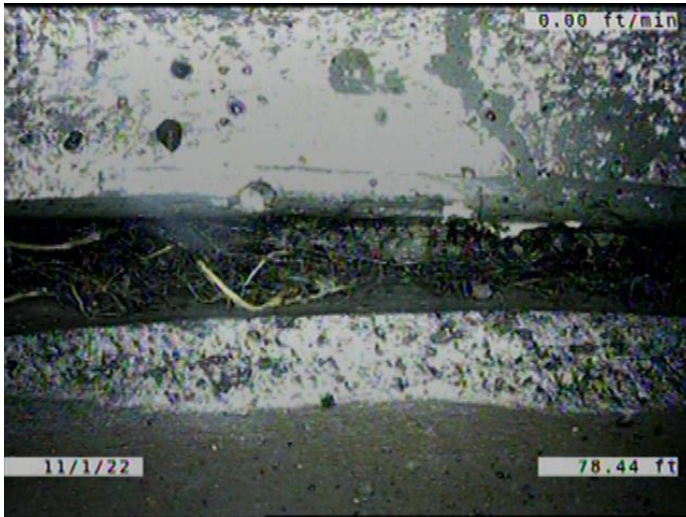
Code: **MWLS**
Description: **Miscellaneous Water Level Sag**

Distance (ft): **68.7**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **15.000**
Continuous Index: **S06**
Within 8" of Joint: **NO**
Remarks:



Code: **MWLS**
Description: **Miscellaneous Water Level Sag**

Distance (ft): **77.3**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **15.000**
Continuous Index: **F06**
Within 8" of Joint: **NO**
Remarks:



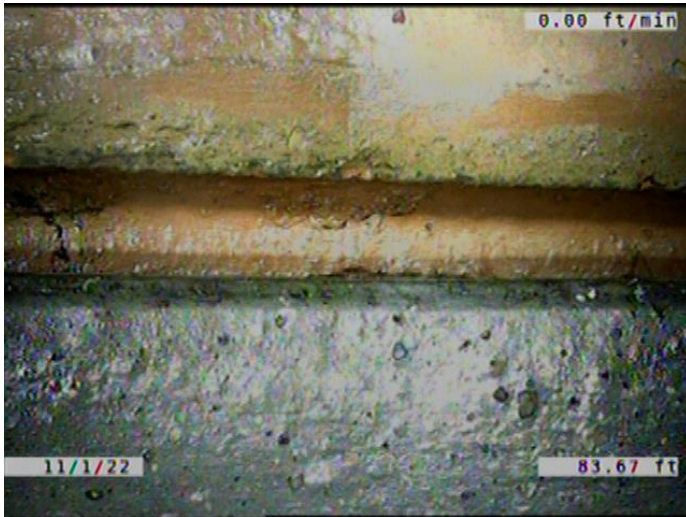
Code: **RFJ**
Description: **Roots Fine Joint**

Distance (ft): **78.4**
Structural Grade: **0**
O&M Grade: **1**
Clock Start/From: **8**
Clock To: **3**
1st Value:
2nd Value:
Value Percent:
Continuous Index: **S07**
Within 8" of Joint: **YES**
Remarks:



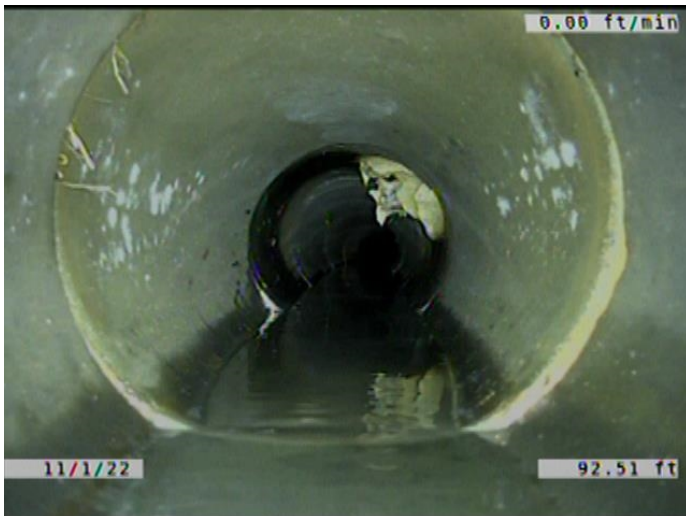
Code: **MWLS**
Description: **Miscellaneous Water Level Sag**

Distance (ft): **80.6**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **10.000**
Continuous Index: **S08**
Within 8" of Joint: **NO**
Remarks:



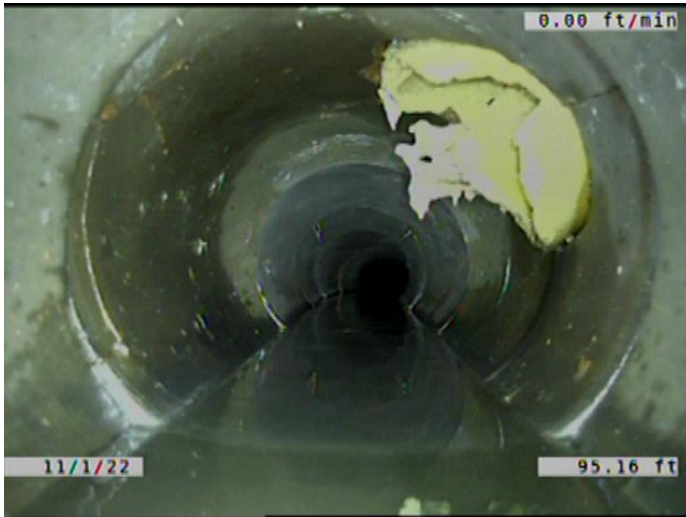
Code: **JAM**
 Description: **Joint Angular Medium**

Distance (ft): **83.7**
 Structural Grade: **3**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **NO**
 Remarks:



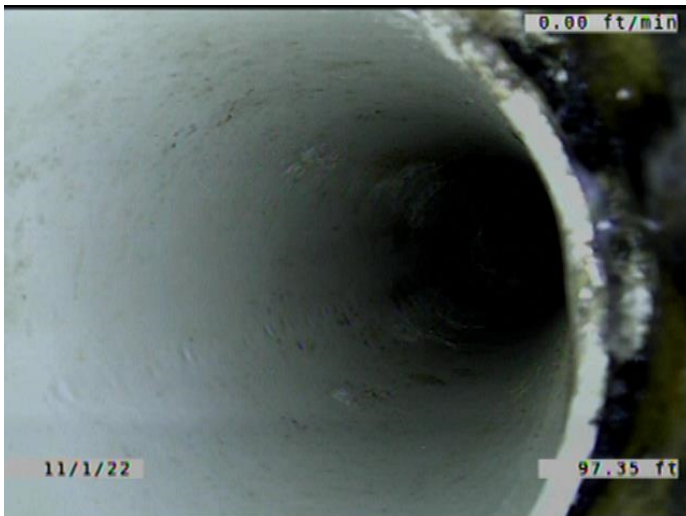
Code: **MWLS**
 Description: **Miscellaneous Water Level Sag**

Distance (ft): **92.5**
 Structural Grade: **2**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **10.000**
 Continuous Index: **F08**
 Within 8" of Joint: **NO**
 Remarks:



Code: **MWLS**
 Description: **Miscellaneous Water Level Sag**

Distance (ft): **95.2**
 Structural Grade: **2**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **25.000**
 Continuous Index: **S09**
 Within 8" of Joint: **NO**
 Remarks:



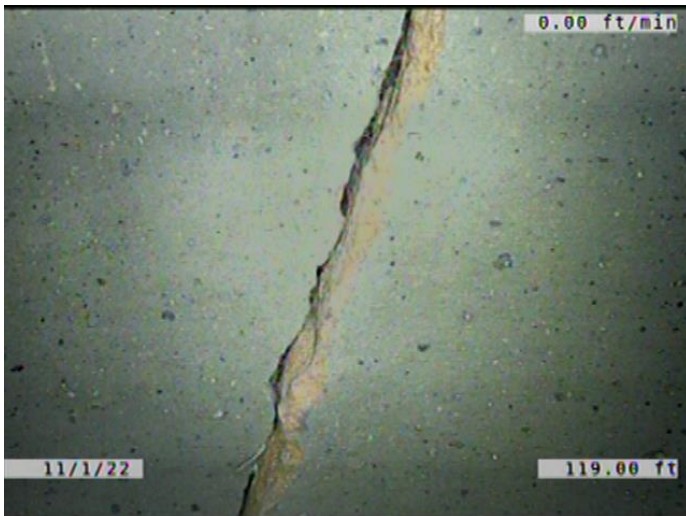
Code: **TBI**
 Description: **Tap Break-in Intruding**

Distance (ft): **97.3**
 Structural Grade: **0**
 O&M Grade: **2**
 Clock Start/From: **2**
 Clock To:
 1st Value: **4.000**
 2nd Value: **3.000**
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **YES**
 Remarks:



Code: **JAM**
 Description: **Joint Angular Medium**

Distance (ft): **104.3**
 Structural Grade: **3**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **NO**
 Remarks:



Code: **DR**
 Description: **Deformed Rigid**

Distance (ft): **119.0**
 Structural Grade: **4**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **5.000**
 Continuous Index: **S10**
 Within 8" of Joint: **NO**
 Remarks:



Code: **DR**
Description: **Deformed Rigid**

Distance (ft): **127.3**
Structural Grade: **4**
O&M Grade: **0**
Clock Start/From:
Clock To:
1st Value:
2nd Value:
Value Percent: **5.000**
Continuous Index: **F10**
Within 8" of Joint: **NO**
Remarks:



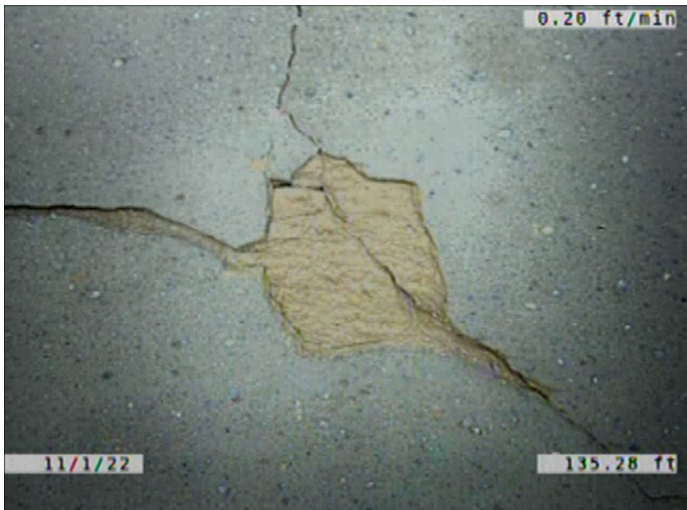
Code: **SSS**
Description: **Surface Damage Surface Spalling**

Distance (ft): **127.3**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From: **8**
Clock To: **4**
1st Value:
2nd Value:
Value Percent:
Continuous Index: **F12**
Within 8" of Joint: **YES**
Remarks:



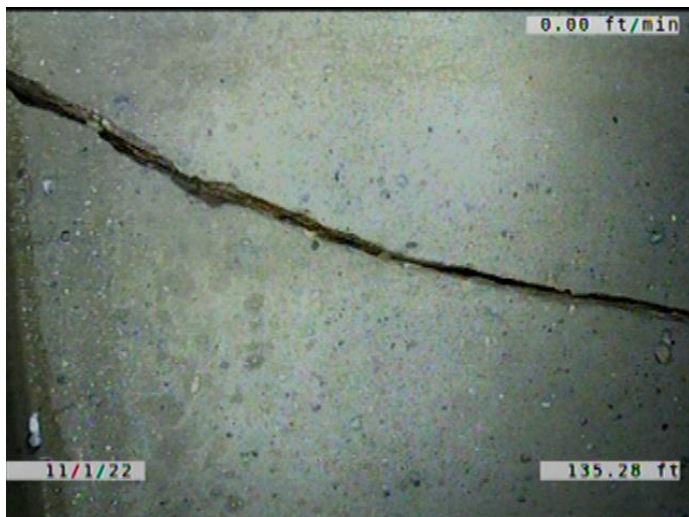
Code: **B**
Description: **Broken**

Distance (ft): **127.3**
Structural Grade: **4**
O&M Grade: **0**
Clock Start/From: **12**
Clock To: **12**
1st Value:
2nd Value:
Value Percent:
Continuous Index: **F05**
Within 8" of Joint: **YES**
Remarks:



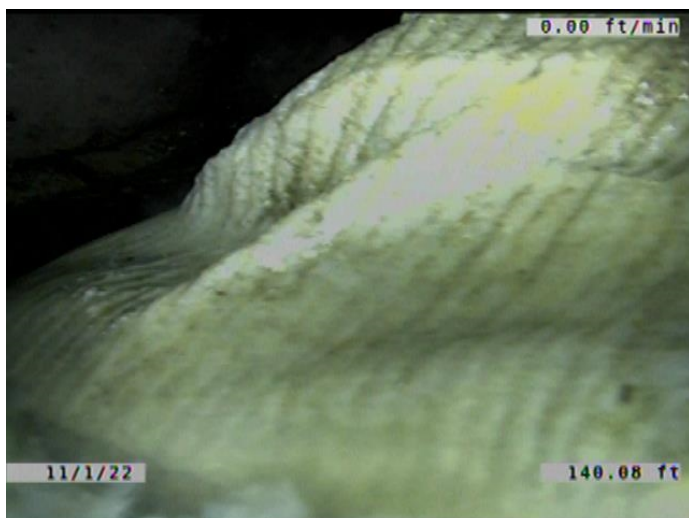
Code: **SSS**
Description: **Surface Damage Surface Spalling**

Distance (ft): **135.3**
Structural Grade: **2**
O&M Grade: **0**
Clock Start/From: **12**
Clock To:
1st Value:
2nd Value:
Value Percent:
Continuous Index:
Within 8" of Joint: **NO**
Remarks:



Code: **B**
Description: **Broken**

Distance (ft): **135.3**
Structural Grade: **4**
O&M Grade: **0**
Clock Start/From: **12**
Clock To: **12**
1st Value:
2nd Value:
Value Percent:
Continuous Index: **S11**
Within 8" of Joint: **YES**
Remarks:



Code: **DAR**
Description: **Deposits Attached Ragging**

Distance (ft): **140.1**
Structural Grade: **0**
O&M Grade: **2**
Clock Start/From: **5**
Clock To: **7**
1st Value:
2nd Value:
Value Percent: **10.000**
Continuous Index:
Within 8" of Joint: **YES**
Remarks:



Code: **MWLS**
 Description: **Miscellaneous Water Level Sag**

Distance (ft): **140.8**
 Structural Grade: **2**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent: **25.000**
 Continuous Index: **F09**
 Within 8" of Joint: **NO**
 Remarks:



Code: **RFJ**
 Description: **Roots Fine Joint**

Distance (ft): **141.7**
 Structural Grade: **0**
 O&M Grade: **1**
 Clock Start/From: **8**
 Clock To: **3**
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index: **F07**
 Within 8" of Joint: **YES**
 Remarks:



Code: **DSF**
Description: **Deposits Settled Fine**

Distance (ft): **141.7**
Structural Grade: **0**
O&M Grade: **2**
Clock Start/From: **5**
Clock To: **7**
1st Value:
2nd Value:
Value Percent: **5.000**
Continuous Index: **F01**
Within 8" of Joint: **YES**
Remarks:



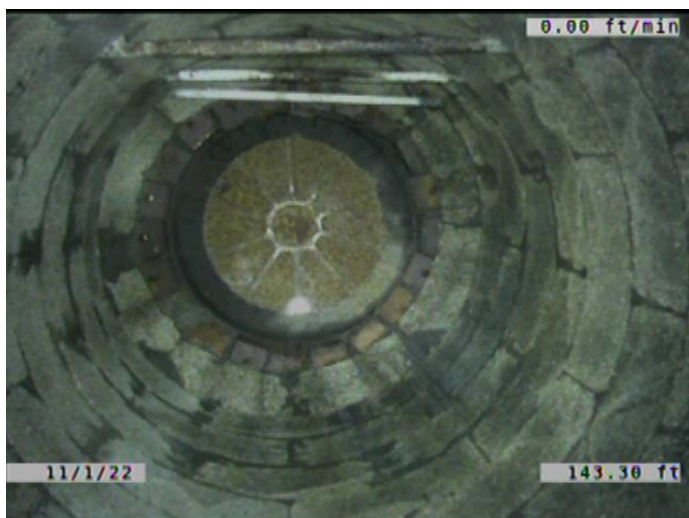
Code: **DAE**
Description: **Deposits Attached Encrustation**

Distance (ft): **141.7**
Structural Grade: **0**
O&M Grade: **2**
Clock Start/From: **9**
Clock To: **3**
1st Value:
2nd Value:
Value Percent: **5.000**
Continuous Index: **F03**
Within 8" of Joint: **YES**
Remarks:



Code: **B**
 Description: **Broken**

Distance (ft): **141.7**
 Structural Grade: **4**
 O&M Grade: **0**
 Clock Start/From: **12**
 Clock To: **12**
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index: **F11**
 Within 8" of Joint: **YES**
 Remarks:



Code: **AMH**
 Description: **Manhole**

Distance (ft): **143.3**
 Structural Grade: **0**
 O&M Grade: **0**
 Clock Start/From:
 Clock To:
 1st Value:
 2nd Value:
 Value Percent:
 Continuous Index:
 Within 8" of Joint: **NO**
 Remarks: **M-504-012**