

Camp Shelby, Mississippi

Evaluation CCTV Inspection Report for Sanitary Sewer Main Improvements

CCTV INSPECTION REPORT: Vol. 8

Suncoast Job #: 557

Tape #1024 25 3220 21 22 24 25 26 27



2/21/2006

Camp Shelby, MS - EXECUTIVE SUMMARY #7

A total of 20,652 linear feet of sanitary sewer were defect coded and analyzed in this report. The pipe was mostly polyethylene with some vitrified clay, concrete and PVC segments. The following pages contain recommendations and detailed ratings.

The recommendations are summarized as follows:

- Two thousand eight hundred and forty five (2,845) linear feet should be lined with cured-in-place liner. Three (3) segments will need to have point repair, saw cut and/or cleaning conducted prior to installing the liner.
- Six (6) sections of pipe will eventually need to have protruding taps saw cut or point repairs conducted if cured in place pipe is to be installed. However, these are on pipes that do not yet exhibit sufficient problems to warrant cured-in-place.
- Two (2) pipes will need to have point repairs or protruding taps saw cut conducted in order to complete the TV inspection.
- Four (4) service taps were noted as containing roots up the lateral. This is a potential problem that could cause I/I or capacity problems at the tap itself or in the main sewer if the roots grow into the pipe.
- Three (3) service taps will need to either be cleaned or repaired prior to any lateral cured-in-place liner being installed.
- Two (2) service taps were noted as having roots up the tap. This is a potential problem that could cause I/I or capacity problems at the tap itself or in the main sewer if the roots grow into the pipe.

Pipe segments have been summarized in order as presented on the tapes.

Camp Shelby, MS #557
Rehabilitation Recommendations
Summary of Work

USMH	DSMH	DIA	LF Total	LF TV	Type	Rating	CIPP Liner	RTS TAP	PR LAT	SC Tap	PR ML	Recommendation
Tape 1024												
190	189	10	241	241	PE	0.0		0	0	0	0	No rehabilitation recommended
189	188	10	243	243	PE	0.0		0	0	0	0	No rehabilitation recommended
028	027	12	403	403	PE	1.8		0	0	0	1	Re-inspect in 3-5 years
027	026	12	49	49	PE	0.0		0	0	0	0	No rehabilitation recommended
026	025	12	302	302	PE	0.0		0	0	0	0	No rehabilitation recommended
025	024	12	65	65	PE	1.4		0	0	0	0	Re-inspect in 3-5 years
024	023	12	237	237	PE	0.0		0	0	0	0	No rehabilitation recommended
023	022	12	101	101	PE	0.0		0	0	0	0	No rehabilitation recommended
022	022A	12	260	260	PE	0.2		0	0	0	1	Re-inspect in 3-5 years
022A	021	12	446	446	PE	0.0		0	0	0	0	No rehabilitation recommended
021	020	12	56	56	PE	1.6		0	0	0	0	Re-inspect in 3-5 years
020	019	10	60	60	CON	18.0	60	0	0	0	0	Install cured-in-place liner
019	018	15	445	445	PE	3.4		0	0	0	1	Re-inspect in 3-5 years
018	017	15	166	166	PE	4.5		0	0	0	0	Re-inspect in 3-5 years
017	016	15	192	192	PE	5.5		0	0	0	0	Re-inspect in 3-5 years
016	015	15	280	280	PE	15.0	280	0	0	0	0	Install cured-in-place liner
015	014	15	169	169	PE	5.3		0	0	0	0	Re-inspect in 3-5 years
		Total	3723	3723			340	0	0	0	3	
Tape 1025												
014	013	15	145	145	PE	6.2		0	0	0	0	Re-inspect in 3-5 years
013	012	15	66	66	PE	2.3		0	0	0	0	Re-inspect in 3-5 years
012	011	15	299	299	PE	0.2		0	0	0	0	Re-inspect in 3-5 years
011	010	15	176	176	PE	3.1		0	0	0	0	Re-inspect in 3-5 years
010	008	15	370	370	PE	3.8		0	0	0	0	Re-inspect in 3-5 years
009	008	15	125	125	PE	4.8		0	0	0	0	Re-inspect in 3-5 years
008	007	15	300	300	PE	2.0		0	0	0	0	Re-inspect in 3-5 years
007	006	15	221	221	PE	2.0		0	0	0	0	Re-inspect in 3-5 years
166	165	12	285	285	PE	1.1		0	0	0	0	Re-inspect in 3-5 years
165	164	12	415	415	PE	4.0		0	1	2	0	Re-inspect in 3-5 years
282	164A	8	221	221	PE	0.0		0	0	0	0	No rehabilitation recommended
164A	164	8	90	90	PE	0.0		0	0	0	0	No rehabilitation recommended
		Total	2693	2693			0	0	1	2	0	
Tape 3220												
164	162A	12	366	366	PE	2.5		0	0	0	0	Re-inspect in 3-5 years
162A	162	12	302	302	PE	0.0		0	0	0	0	No rehabilitation recommended
162	161	12	76	76	PE	0.0		0	0	0	0	No rehabilitation recommended
161	160	12	332	332	PE	1.8		0	0	0	0	Re-inspect in 3-5 years
160	159A	12	390	390	PE	0.0		0	0	0	0	No rehabilitation recommended
159A	159	12	407	407	PE	0.0		0	0	0	0	No rehabilitation recommended
159	131	12	492	492	PE	0.0		0	0	0	0	No rehabilitation recommended
180	189	10	245	245	PE	0.0		0	0	0	0	No rehabilitation recommended
109	108	10	248	248	PE	0.0		0	0	0	0	No rehabilitation recommended
188	136	10	304	304	PE	0.0		0	0	0	0	No rehabilitation recommended
		Total	3170	3170			0	0	0	0	0	
Tape 3221												
88	87	8	442	442	PE	0.0		0	0	0	0	No rehabilitation recommended
413	413A	12	349	349	PVC	25.6	349	2	1	0	0	Install cured-in-place liner
414	407	8	360	360	VC	0.4		0	0	0	0	Re-inspect in 3-5 years
393A	392	0	220	220	VC	6.3		0	0	1	0	Re-inspect in 3-5 years
426	425	8	296	296	VC	13.7	296	0	0	1	0	Conduct saw cut(s) or point repair(s) & install cured-in-place liner
105	104	8	362	340	VC	19.1	340	0	0	1	2	Conduct saw cut(s) or point repair(s) & install cured-in-place liner
124	103	8	100	100	VC	0.0		0	0	0	0	No rehabilitation recommended
122	94	8	279	279	VC	0.0		0	0	0	0	No rehabilitation recommended
		Total	2416	2394			985	2	1	3	2	
Tape 3222												
73	72	8	224	224	VC	41.8	224	1	0	0	0	Install cured-in-place liner
73	72complete	8	224	224	VC	0.0						Previous with mols cut
74	29	8	362	362	PVC	1.4		0	0	0	0	Re-inspect in 3-5 years

USMH	DSMH	DIA	LF Total	LF TV	Type	Rating	CIPP Liner	RTS TAP	PR LAT	SC Tap	PR ML	Recommendation
197	196	8	164	164	PVC	0.9		0	1	0	0	Re-inspect in 3-5 years
87	88	8	302	302	PE	0.0		0	0	0	0	No rehabilitation recommended
111	110	8	304	304	VC	12.0	304	0	0	0	0	Install cured-in-place liner
		Total	1590	1590			528	1	1	0	0	
Tape 3224												
105	104	8	386	386	VC	15.6	386	0	0	1	0	Conduct saw cut(s) or point repair(s) & install cured-in-place liner
157	156	15	413	413	PE	0.0		0	0	0	0	No rehabilitation recommended
156	155	15	293	293	PE	1.0		0	0	0	0	Re-inspect in 3-5 years
155	154	15	362	362	PE	0.0		0	0	0	0	No rehabilitation recommended
154	153	15	510	510	PE	0.8		0	0	0	0	Re-inspect in 3-5 years
153	152A	18	461	461	PE	0.0		0	0	0	0	No rehabilitation recommended
		Total	2405	2405			366	0	0	1	0	
Tape 3225												
373A	373	8		171	VC	8.8		0	0	0	1	Conduct saw cut(s) or point repair(s) & complete TV inspection
413	413A	8	345	345	PVC	22.0	345	2	0	0	0	Install cured-in-place liner
393A	392	8	216	216	VC	3.1		0	0	0	0	Re-inspect in 3-5 years
82	81	8	93	93	VC	17.1	93	0	0	0	0	Install cured-in-place liner
31	30	8	188	188	PVC	14.2	188	1	0	0	0	Install cured-in-place liner
136	135	18	243	243	PE	0.0		0	0	0	0	No rehabilitation recommended
137	136	18	243	243	PE	0.0		0	0	0	0	No rehabilitation recommended
133	132	18	514	468	PE	0.0		0	0	0	0	No rehabilitation recommended
132	131	18	516	516	PE	0.0		0	0	0	0	No rehabilitation recommended
134	178	24		41	PE	0.0		0	0	0	0	Reduce flow and re-televise line
		Total	2358	2524			626	3	0	0	1	
Tape 3226												
134	178	24		94	CON	0.0		0	0	0	0	See 134-178again for complete inspection
178	133	24		130	CON	0.0		0	0	0	0	See 178-133again for complete inspection
134	178again	24	393	393	CON	5.0		0	0	0	1	Re-inspect in 3-5 years
178	133again	24	187	187	CON	3.7		0	0	0	0	Re-inspect in 3-5 years
		Total	580	804			0	0	0	0	1	
Tape 3227												
89	88	8	223	97	VC	14.7		0	0	0	1	Conduct saw cut(s) or point repair(s) & complete TV inspection
139	138	18		149	PE	0.0		0	0	0	0	See 139-138revagain for complete inspection
139	138rev	18	356	356	PE	0.0		0	0	0	0	No rehabilitation recommended
138	137	18	124	124	PE	4.8		0	0	0	0	Re-inspect in 3-5 years
140	139	18	277	277	PE	0.0		0	0	0	0	No rehabilitation recommended
141	140	18	354	354	PE	0.0		0	0	0	0	No rehabilitation recommended
		Total	1336	1359			0	0	0	0	1	

Grand Total 20261 20652

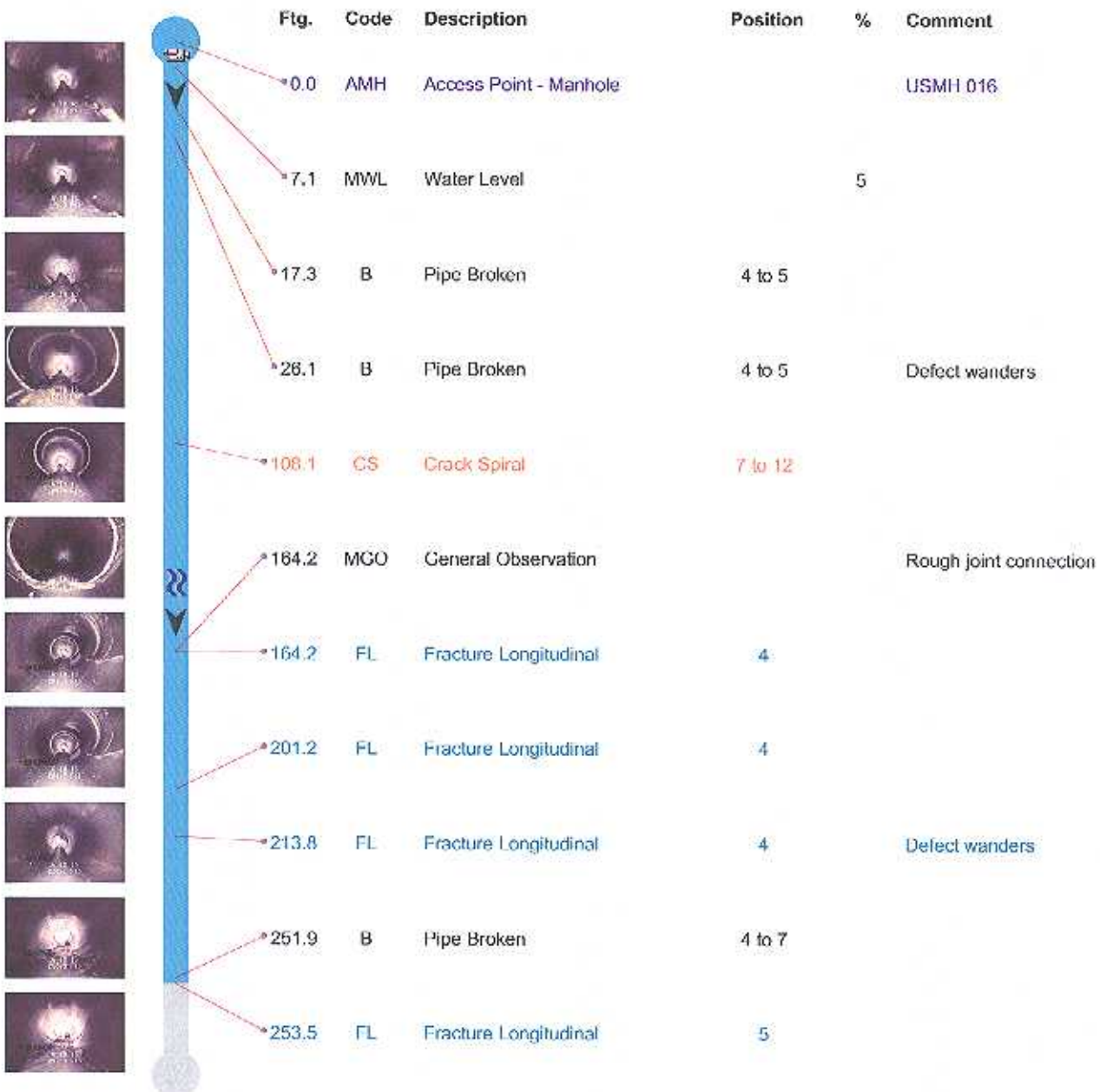
2845 6 3 6 8



U: 016

D: 015

Surveyors name Suncoast/MB	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 1				
PIO No. 557	Pipeline Segment Reference 016 - 015	Date 1/3/2006	Time 12:00:00 AM	Location (Street Name and number) In Passerent	Locality Camp Shelby, MS				
Further Location details		Upstream Manhole Number 016	Rim to Invert 6.33	Grade to Invert	Rim to Grade				
Downstream Manhole Number 015	Rim to Invert 7	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control De-Watered using Jetter	Height 15		
Width 15	Shape Circular	Material Polyethylene	Ln. Method	Pipe Joint Length 44	Total Length 280	Length Surveyed 278.1	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 1024
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/3/2006	Weather Dry	Additional Information VHS# 01:45:24. Pipe has been lined				

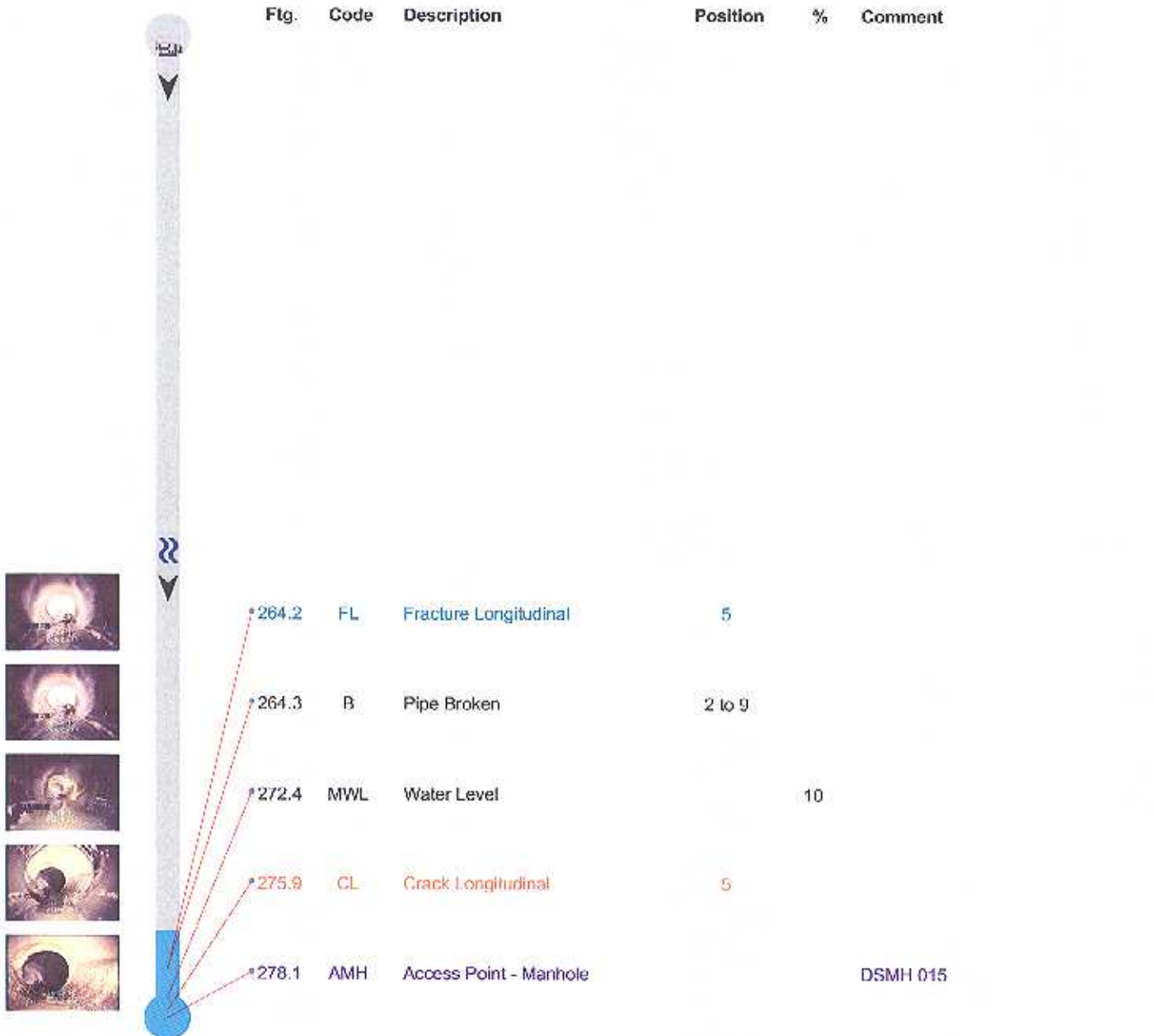




U: 016

D: 015

Surveyors name Suncoast/MB	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 2				
PIO No. 667	Pipeline Segment Reference 016 - 015	Date 1/3/2006	Time 12:00:00 AM	Location (Street Name and number) In Fessenden	Locality Camp Shelby, MS				
Further Location details		Upstream Manhole Number 016	Rim to Invert 8.33	Grade to Invert	Rim to Grade				
Downstream Manhole Number 015	Rim to Invert 7	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control De-Watered using Jetter	Height 15		
Width 16	Shape Circular	Material Polyethylene	Ln. Method	Pipe Joint Length 44	Total Length 200	Length Surveyed 2/8.1	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 1024
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/3/2006	Weather Dry	Additional Information VHS# 01:45:24, Pipe has been lined				

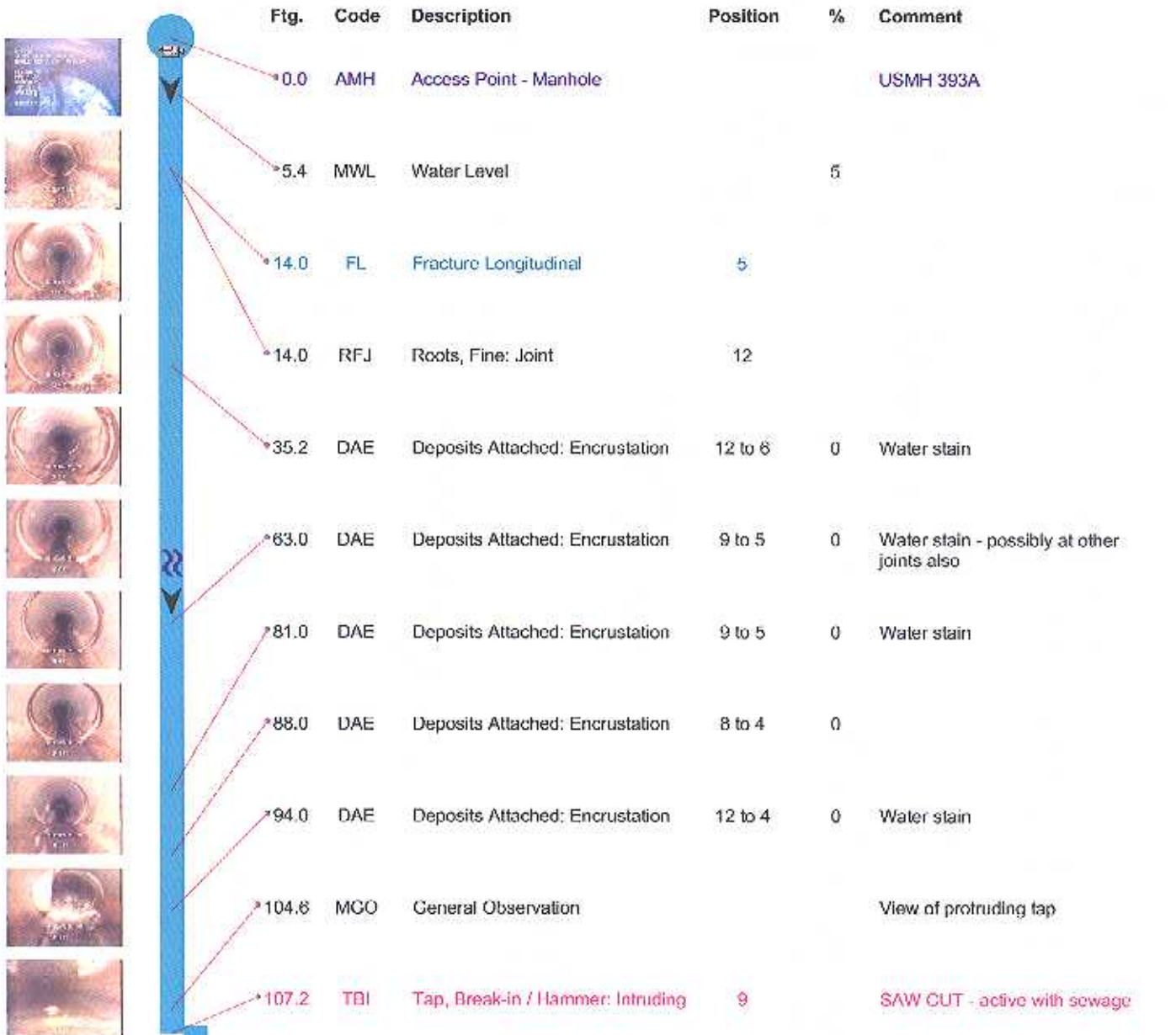




U: 393A

D: 392

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet				
PIO No. 557	Pipeline Segment Reference 393A - 393	Date 1/18/2008	Time 12:00:00 AM	Location (Street Name and number) 6th St.	Locality Camp Shelby, MS				
Further Location details Bldg. 510		Upstream Manhole Number 393A	Rim to Invert 10	Grade to Invert	Rim to Grade				
Downstream Manhole Number 392	Rim to Invert 5.67	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control Not controlled	Height 8		
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 8	Total Length 228	Length Surveyed 107.9	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 00:48:01				





U: 393A

D: 392

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 2
PIO No. 557	Pipeline Segment Reference 393A - 393	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) 5th St	Locality Camp Shelby, MS
Further Location details Bldg. 510		Upstream Manhole Number 393A	Rim to Invert 10	Grade to Invert	Rim to Grade
Downstream Manhole Number 392	Rim to Invert 5.67	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height 6
Width 0	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 228
				Length Surveyed 107.9	Year Laid
				Year Rehabilitated	Media # / VIR Start Tape 3221
Purpose Infiltration/inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 00:48:01

Ftg. Code Description Position % Comment



• 107.5 MSA Survey Abandoned At protruding tap

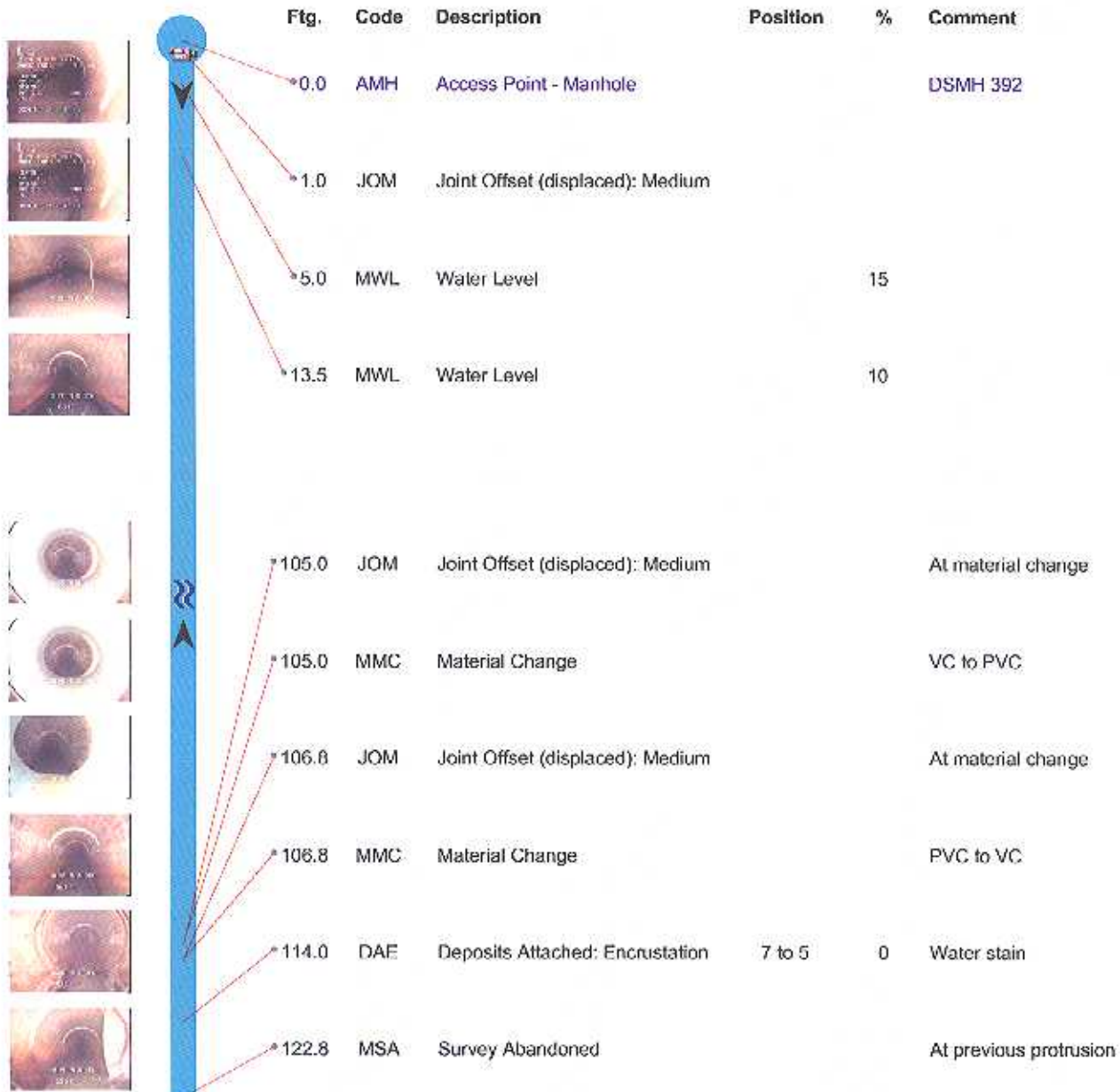
• 107.9 MSA Survey Abandoned



U: 393A

D: 392rev

Surveyors name Suncoast/PY	Certificate Number 02-000	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet				
P/O No. 557	Pipeline Segment Reference 393A - 392	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) 5th St	Locality Camp Shelby, MS				
Further Location details Bldg. 510		Upstream Manhole Number 393A	Rim to Invert 10	Grade to Invert	Rim to Grade				
Downstream Manhole Number 392uv	Rim to Invert 5.67	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Upstream	Flow Control Not controlled	Height 0		
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 228	Length Surveyed 122.8	Year Laid	Year Rehabilitated	Media # / YIR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 00:52:42, Reverse setup				

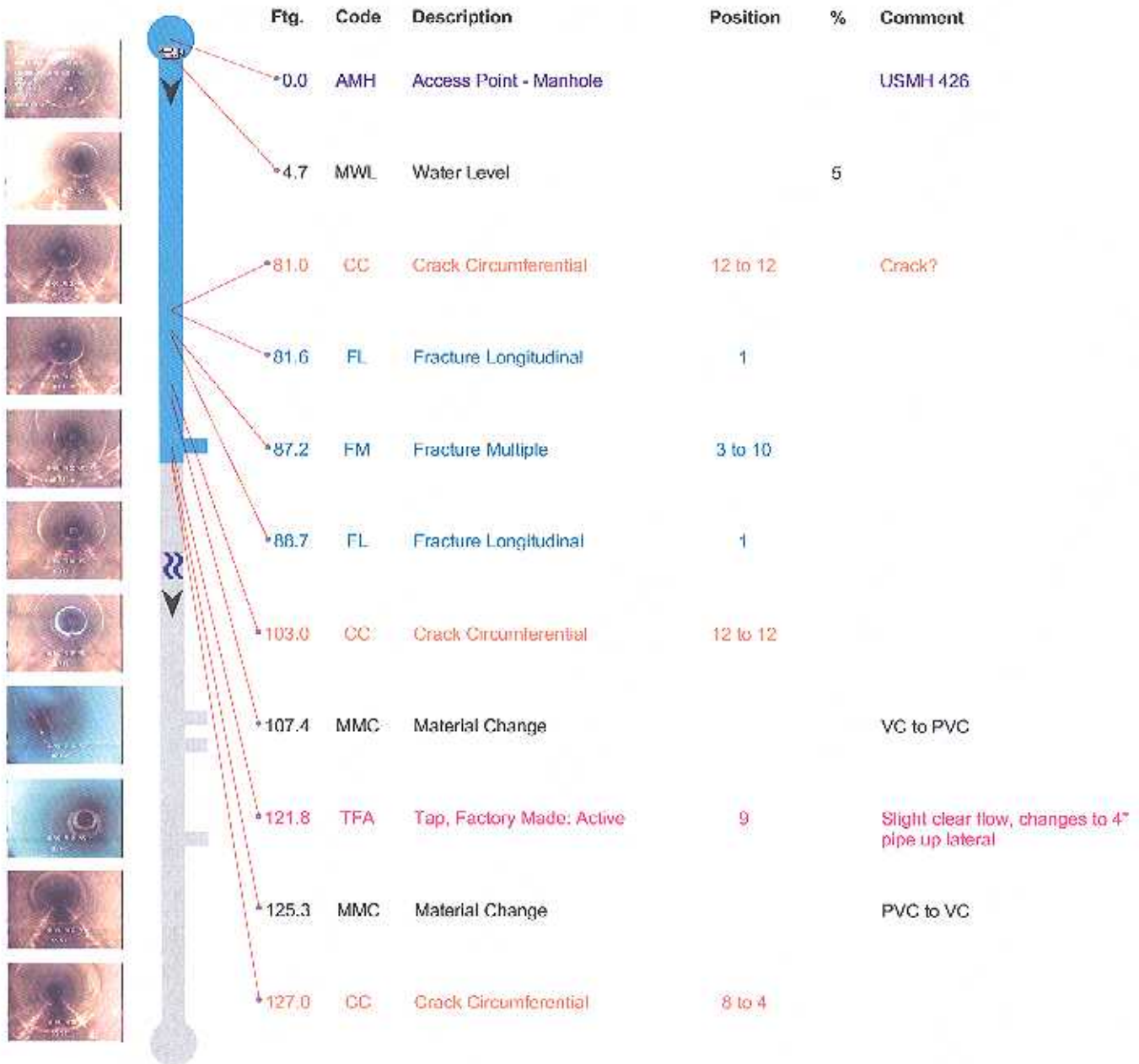




U: 426

D: 425

Surveyors name Suncoast/JPY	Certificate Number 02-080	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 1
P/O No. 557	Pipeline Segment Reference 426 - 425	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) Jackson Ave.	Locality Camp Shelby, MS
Further Location details Bldg. 704		Upstream Manhole Number 426	Rim to Invert 3.58	Grade to Invert	Rim to Grade
Downstream Manhole Number 425	Rim to Invert 5.17	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height 8
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 296
				Length Surveyed 300.7	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 00:59:25, DSMH 425 is a drop Invert at 5.17 to floor at 7.07

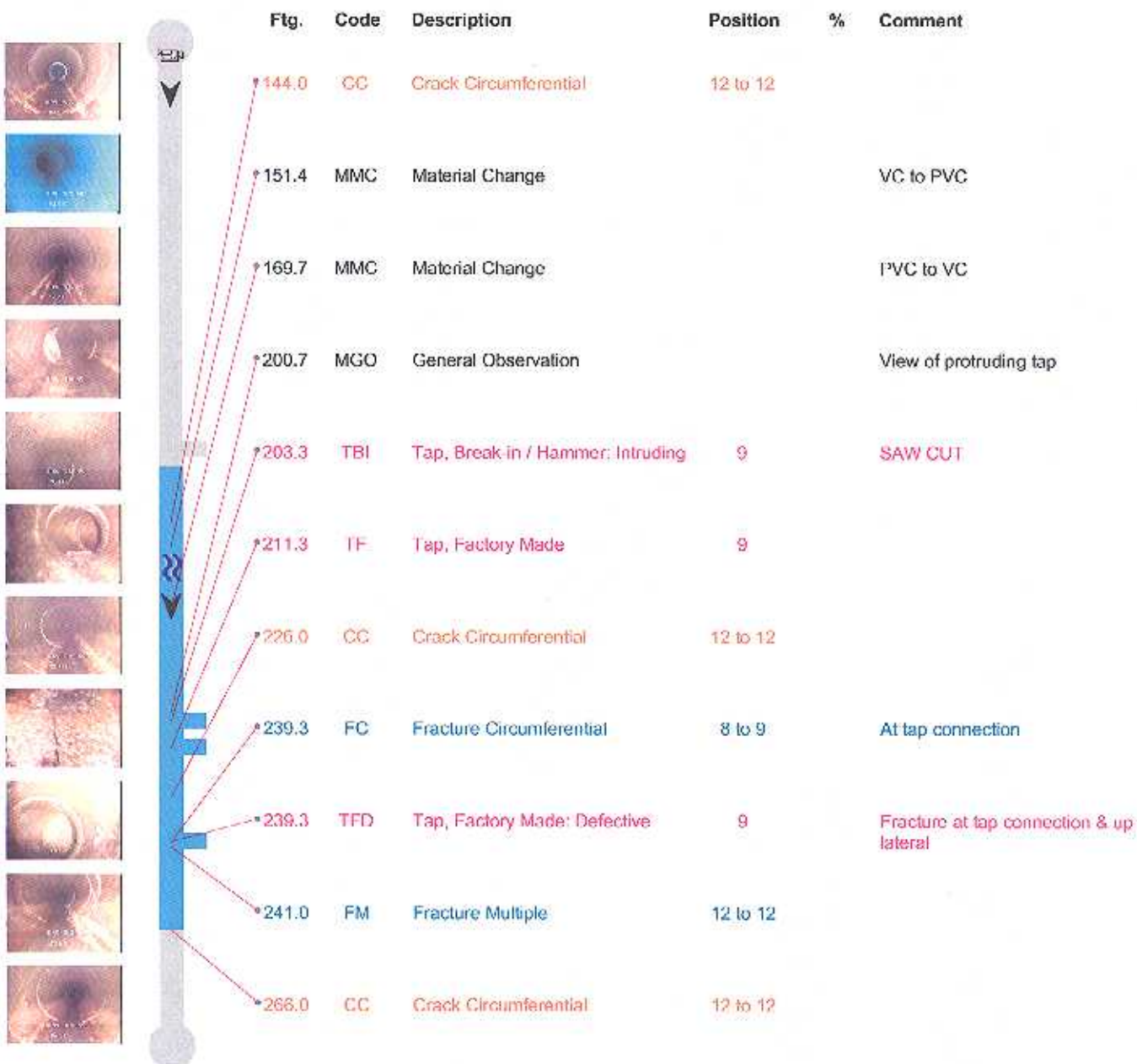




U: 426

D: 425

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 2
P/O No. 557	Pipeline Segment Reference 426 - 425	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) Jackson Ave.	Locality Camp Shelby, MS
Further Location details Bldg. 704		Upstream Manhole Number 426	Rim to Invert 3.58	Grade to Invert	Rim to Grade
Downstream Manhole Number 425	Rim to Invert 5.17	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height 8
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 296
				Length Surveyed 300.7	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 00:59:26, DSMH 425 is a drop invert at 5.17 to floor at 7.67

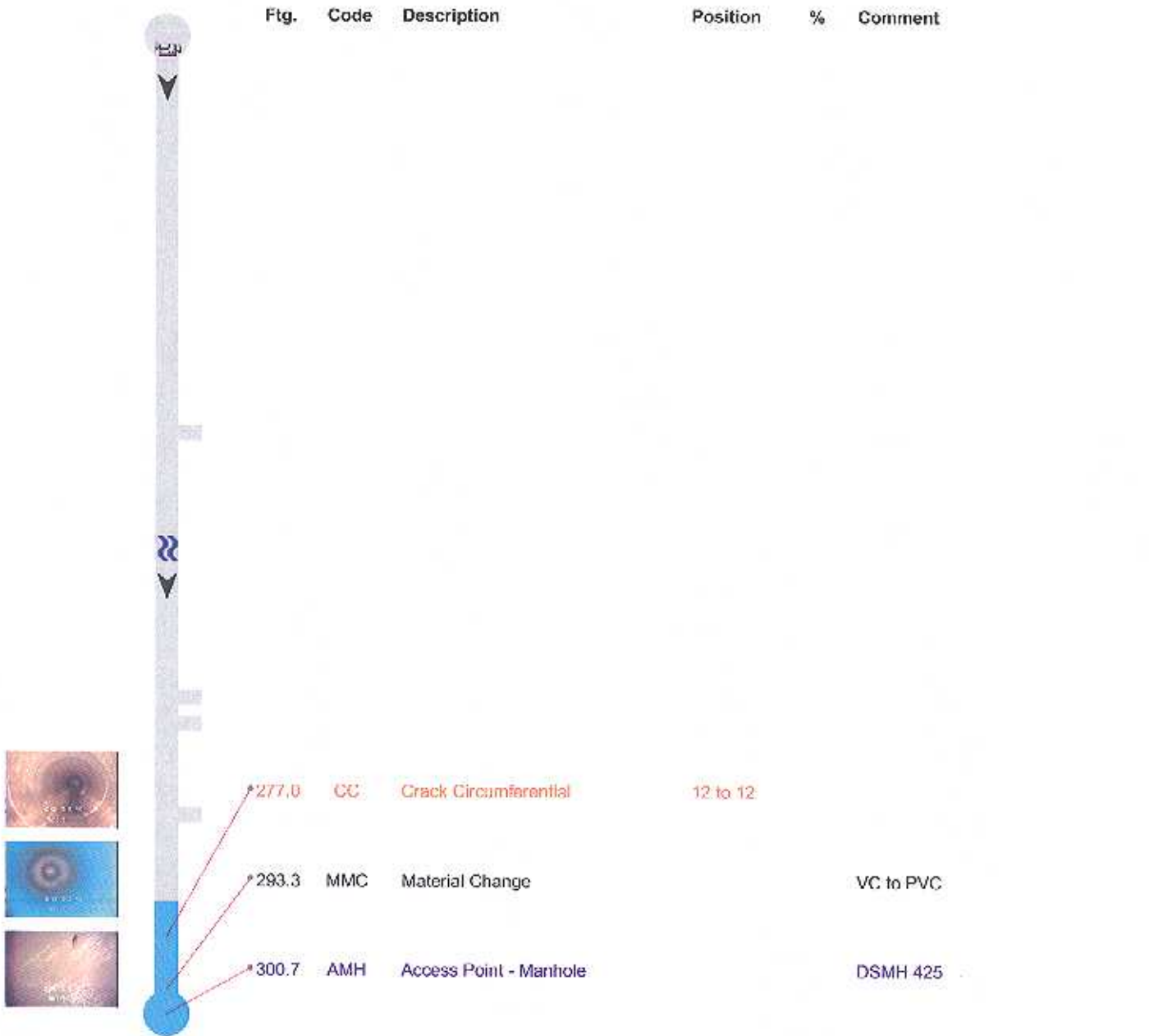




U: 426

D: 425

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 3				
PIQ No. 557	Pipeline Segment Reference 426 - 425	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) Jackson Ave.	Locality Camp Shelby, MS				
Further Location details Bldg_704		Upstream Manhole Number 426	Rim to Invert 3.58	Grade to Invert	Rim to Grade				
Downstream Manhole Number 425	Rim to Invert 5.17	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control Not controlled	Height 8		
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Mottled	Pipe Joint Length 3	Total Length 296	Length Surveyed 300.7	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 00:59:25, DSMH 425 is a drop invert at 5.17 to floor at 7.67				

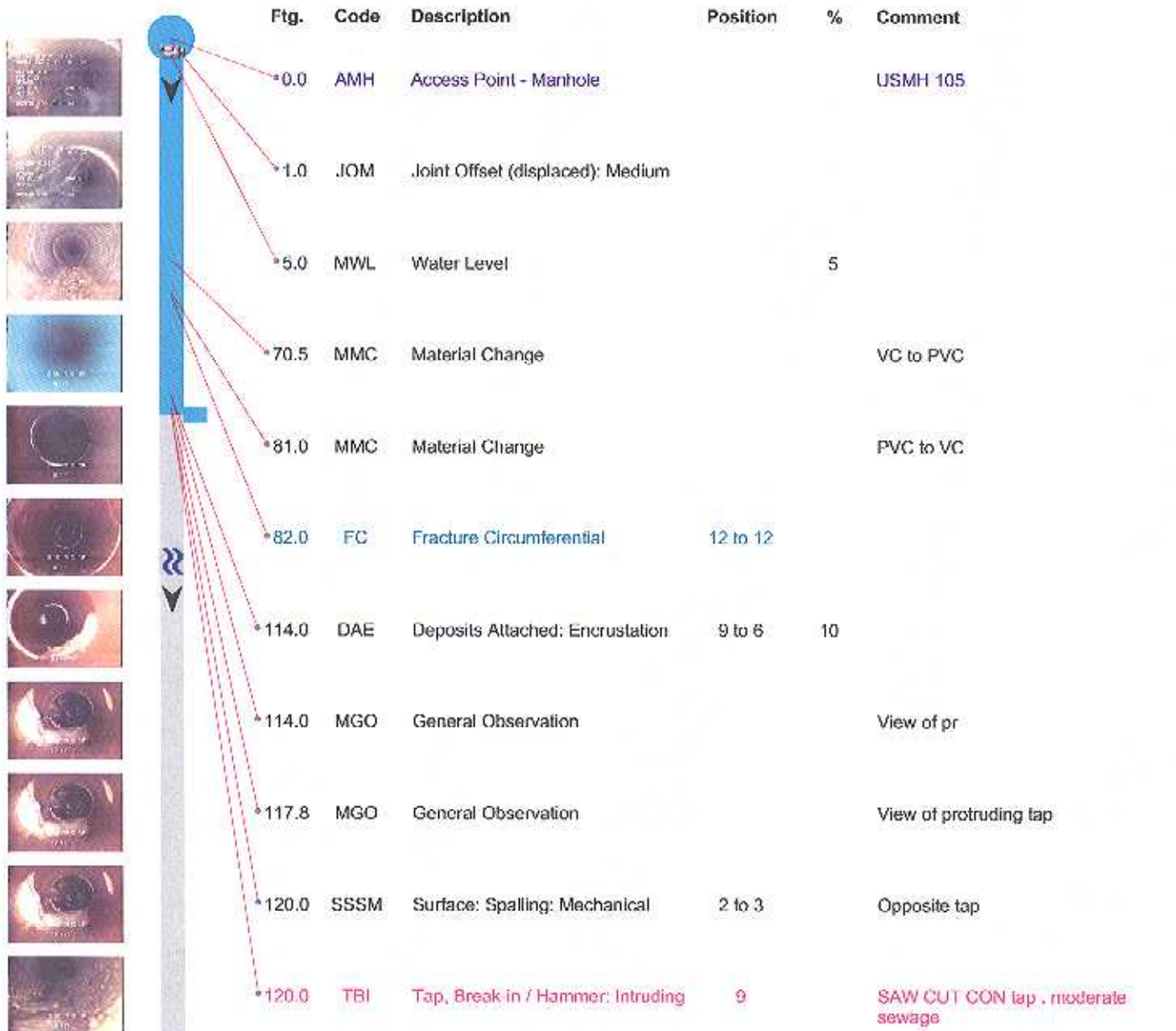




U: 105

D: 104

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 1
PIO No. 557	Pipeline Segment Reference 105 - 104	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St.	Locality Camp Shelby, MS
Further Location details		Upstream Manhole Number 105	Rim to Invert 7.67	Grade to Invert	Rim to Grade
Downstream Manhole Number 104	Rim to Invert 7.5	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height 8
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 362
				Length Surveyed 318.4	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 01:12:16





U: 105

D: 104

Surveyors name Suncoast/PY	Certificate Number 02-090	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 2				
P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St	Locality Camp Shelby, MS				
Further Location details		Upstream Manhole Number 105	Rim to Invert 7.67	Grade to Invert	Rim to Grade				
Downstream Manhole Number 104	Rim to Invert 7.5	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control Not controlled	Height 8		
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 8	Total Length 382	Length Surveyed 318.4	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 01:12:16				

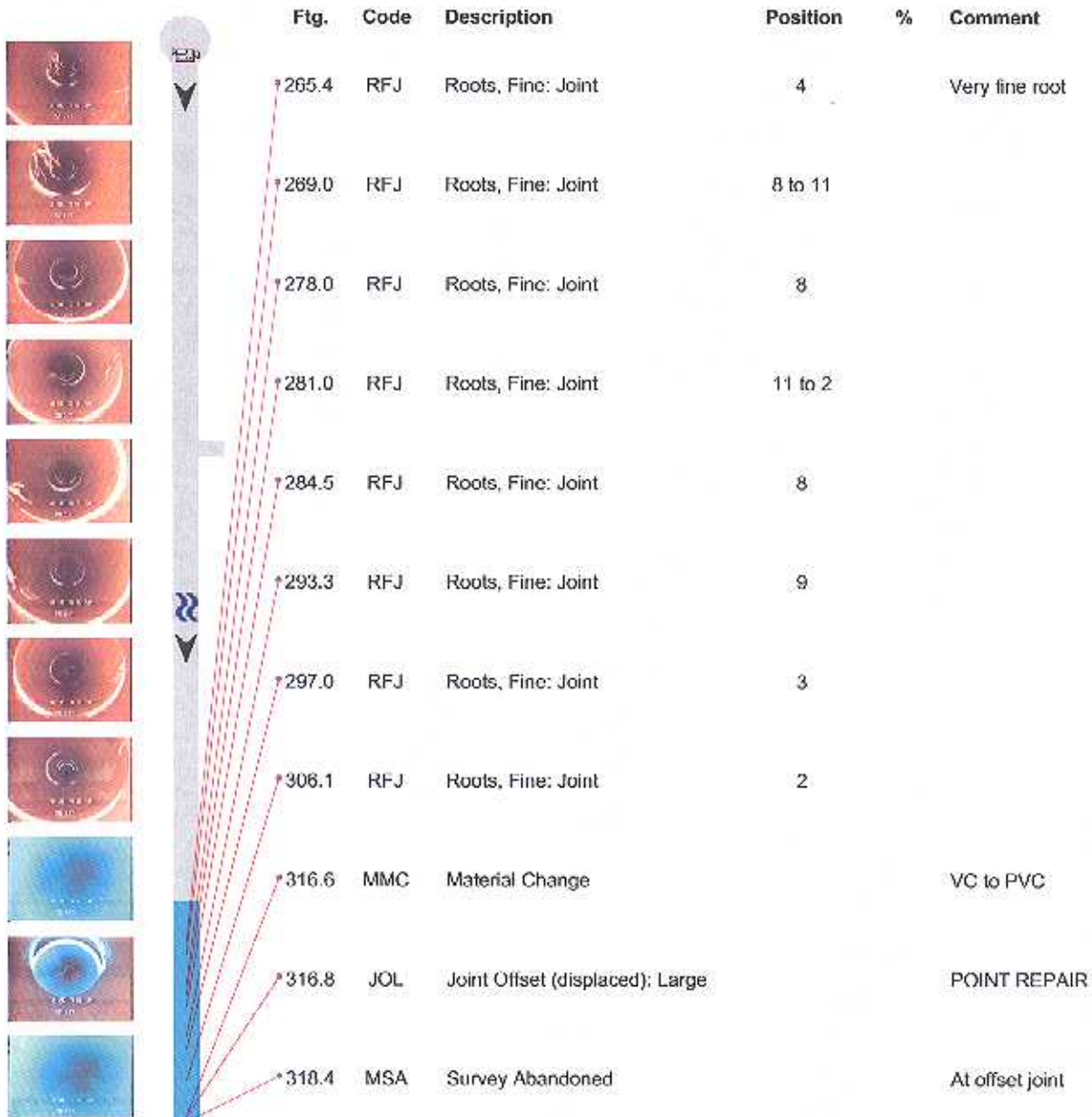
	Ftg.	Code	Description	Position	%	Comment
	136.0	FC	Fracture Circumferential	12 to 12		
	138.1	MMC	Material Change			VC to PVC
	160.0	MMC	Material Change			PVC to VC
	163.0	RFJ	Roots, Fine: Joint	9		
	170.0	RFJ	Roots, Fine: Joint	8		
	179.0	FC	Fracture Circumferential	4 to 11		
	179.0	RFJ	Roots, Fine: Joint	10 to 2		
	182.0	RFJ	Roots, Fine: Joint	8 to 10		
	225.0	RMJ	Roots, Medium, Joint	10 to 2	20	
	231.0	RMJ	Roots, Medium, Joint	8 to 4	15	
	253.4	RFJ	Roots, Fine: Joint	8 to 10		



U: 105

D: 104

Surveyors name Suncoast/PY	Certificate Number 02-000	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Street 3
P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St	Locality Camp Shelby, MS
Further Location details		Upstream Manhole Number 105	Rim to Invert 7.87	Grade to Invert	Rim to Grade
Downstream Manhole Number 104	Rim to Invert 7.5	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
Flow Control Not controlled	Height 3				
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 382
Length Surveyed 318.4	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 3221		
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 01:12:16

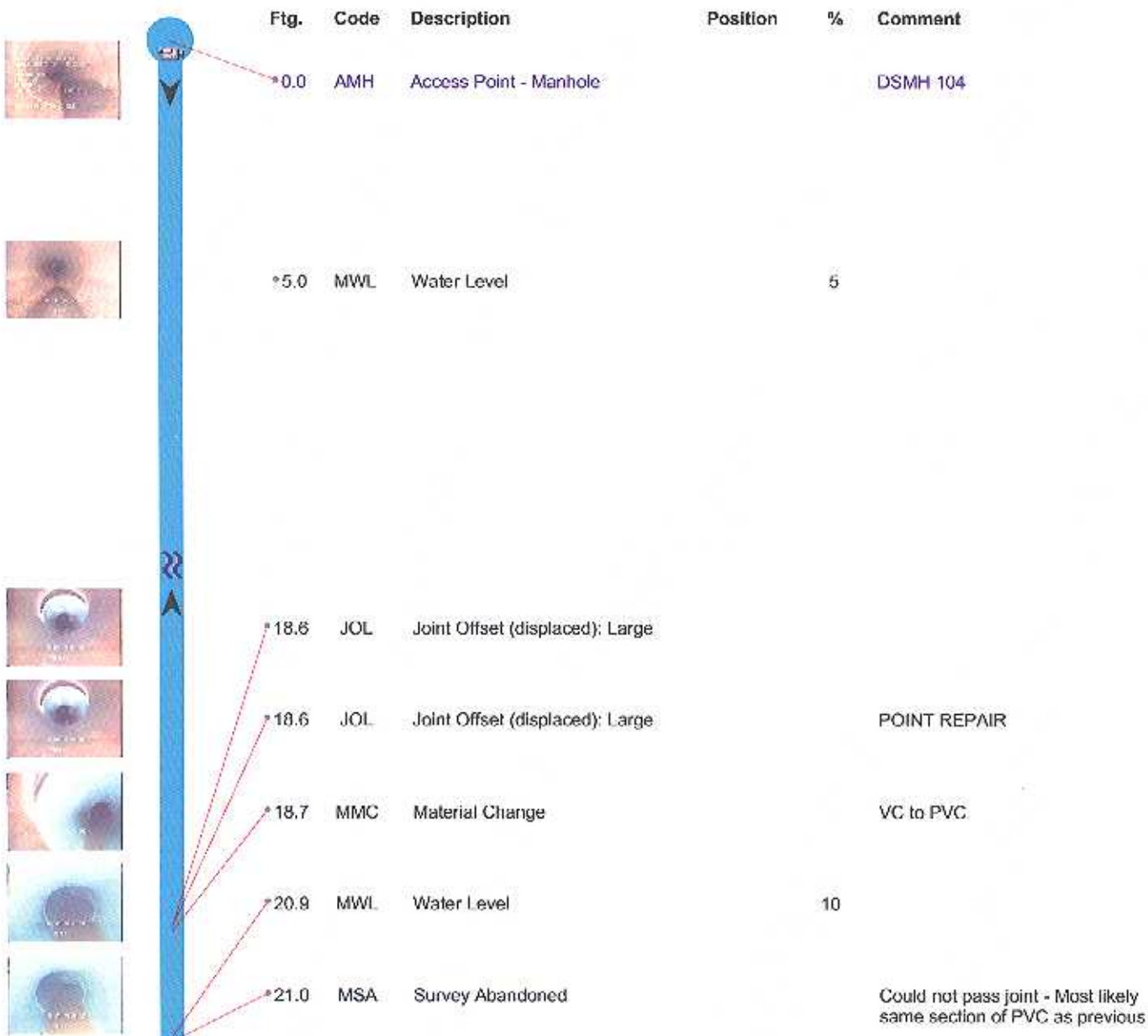




U: 105

D: 104rev

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 1
P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/16/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St	Locality Camp Shelby, MS
Further Location details		Upstream Manhole Number 105	Rim to Invert 7.87	Grade to Invert	Rim to Grade
Downstream Manhole Number 104rev	Rim to Invert 7.5	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Upstream
				Flow Control Not controlled	Height 8
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 8	Total Length 882
				Length Surveyed 21	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3221
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/16/2006	Weather Dry	Additional Information VHS# 01:24:41, Reverse setup

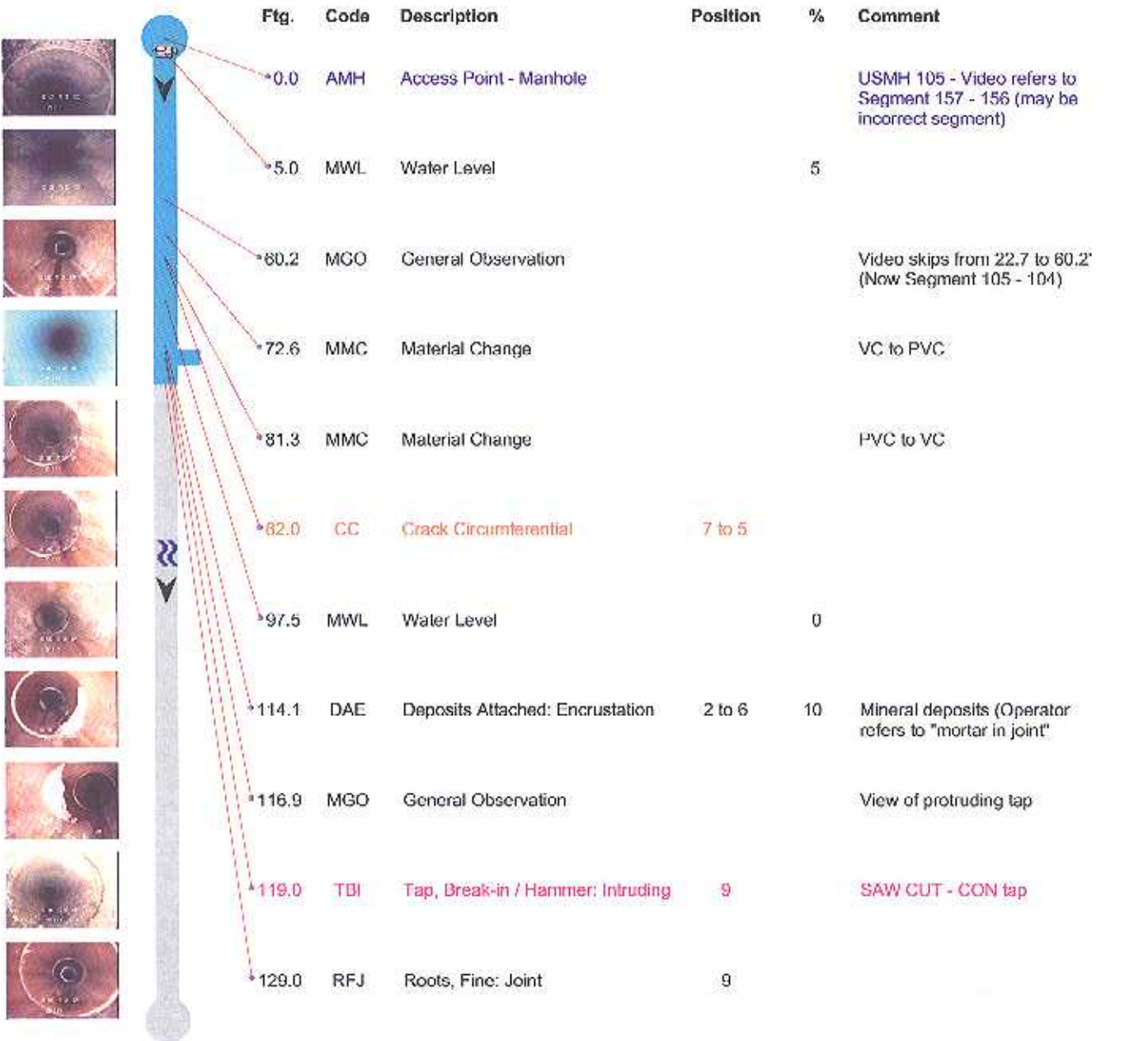




U: 105

D: 104

Surveyors name Suncoast/JPY	Certificate Number 02-080	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 1
P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/19/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St	Locality Camp Shelby, MS
Further Location details Bldg. 2805		Upstream Manhole Number 105	Rim to Invert 7.75	Grade to Invert	Rim to Grade
Downstream Manhole Number 104	Rim to Invert 7.58	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height 8
Width 8	Shape Circular	Material Vitrified Clay Pipe	I.n. Method	Pipe Joint Length 3	Total Length 366
				Length Surveyed 365.9	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3224
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/19/2006	Weather Dry	Additional Information VHS# 00:00:00

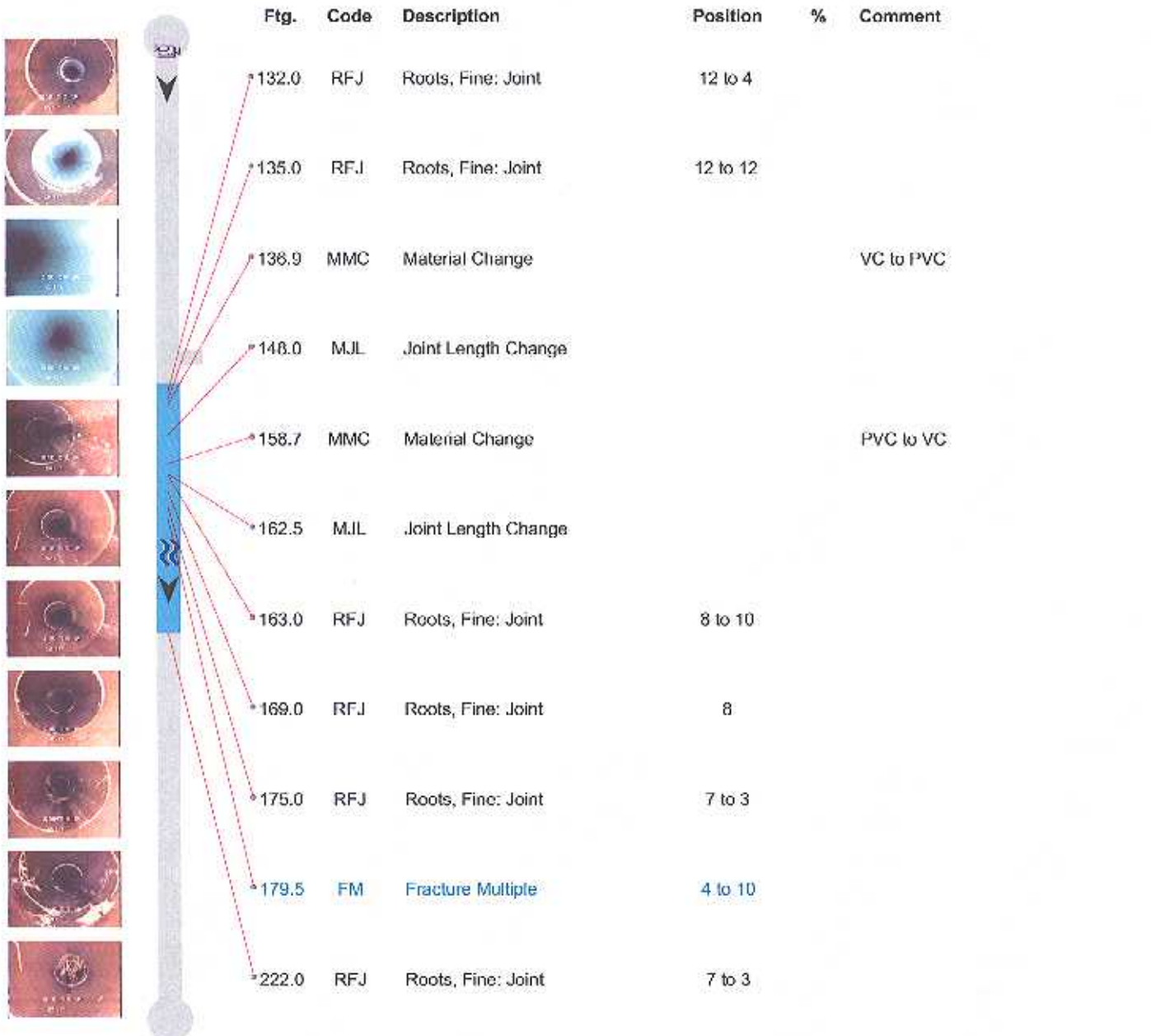




U: 105

D: 104

Surveyors name Suncoast/PPY	Certificate Number 02-080	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 2
P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/19/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St	Locality Camp Shelby, MS
Further Location details Bldg. 2905		Upstream Manhole Number 105	Rim to Invert 7.75	Grade to Invert	Rim to Grade
Downstream Manhole Number 104	Rim to Invert 7.58	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height 8
Width 8	Shape Circular	Material Vitrified Clay Pipe	In. Method	Pipe Joint Length 3	Total Length 388
				Length Surveyed 385.0	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3224
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/19/2006	Weather Dry	Additional Information VHS# 00:00:00

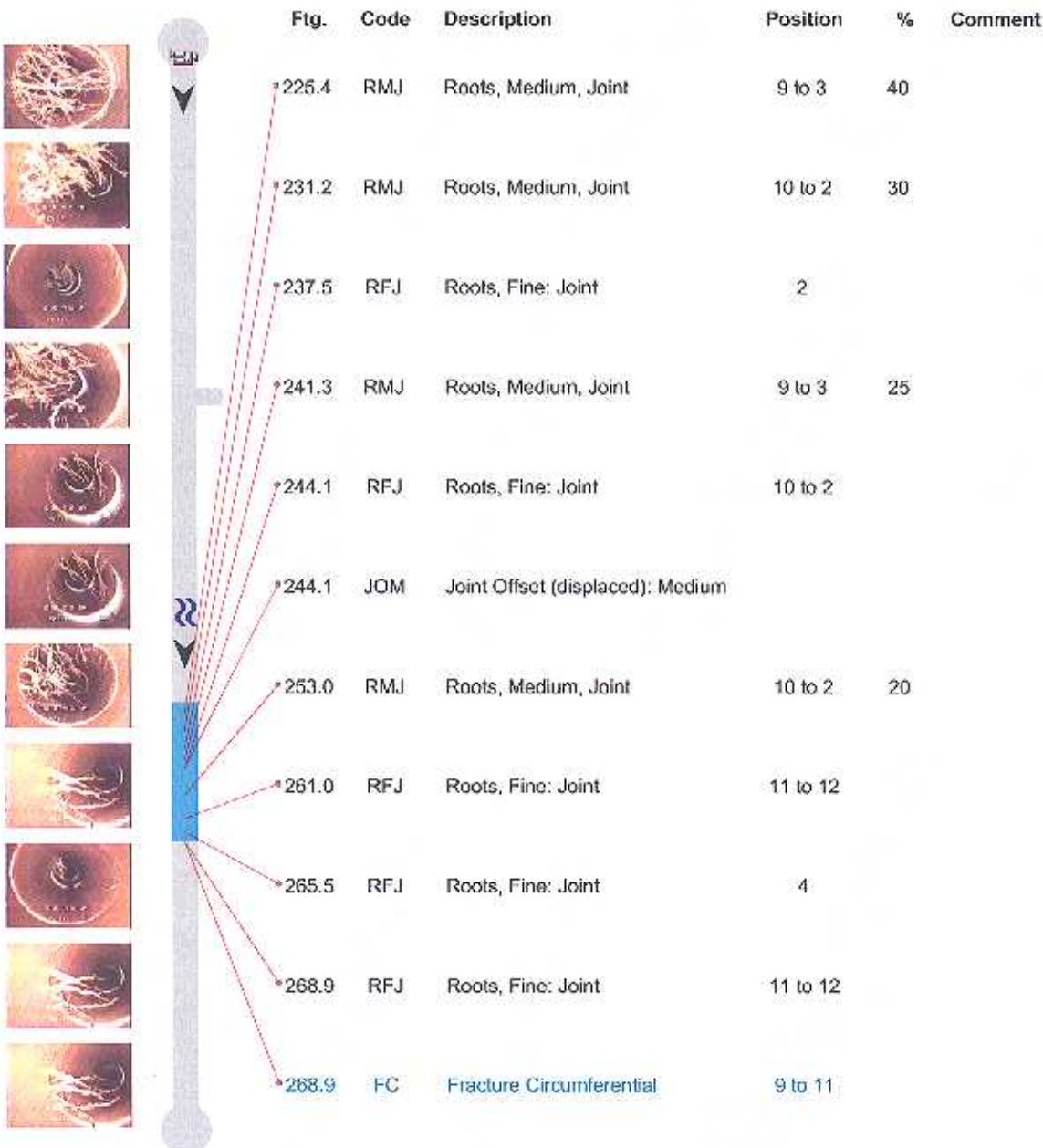




U: 105

D: 104

Surveyors name Suncoast/PY	Certificate Number 02-060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 3
P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/19/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St.	Locality Camp Shelby, MS
Further Location details Bldg. 2905		Upstream Manhole Number 105	Rim to Invert 7.75	Grade to Invert	Rim to Grade
Downstream Manhole Number 104	Rim to Invert 7.38	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream
				Flow Control Not controlled	Height .8
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 300
				Length Surveyed 365.9	Year Laid
				Year Rehabilitated	Media # / VTR Start Tape 3224
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/19/2006	Weather Dry	Additional Information VHS# 00.00.00





U: 105

D: 104

Surveyors name Suncoast/PHY	Certificate Number 02-000	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 4
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P/O No. 557	Pipeline Segment Reference 105 - 104	Date 1/19/2006	Time 12:00:00 AM	Location (Street Name and number) 30th St.	Locality Camp Shelby, MS
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Further Location details Bldg. 2005	Upstream Manhole Number 105	Rim to Invert 7.75	Grade to Invert	Rim to Grade
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Downstream Manhole Number 104	Rim to Invert 7.56	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control Not controlled	Height 8
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Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 3	Total Length 366	Length Surveyed 365.9	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 3224
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Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 1/19/2006	Weather Dry	Additional Information VHS# 00:00:00
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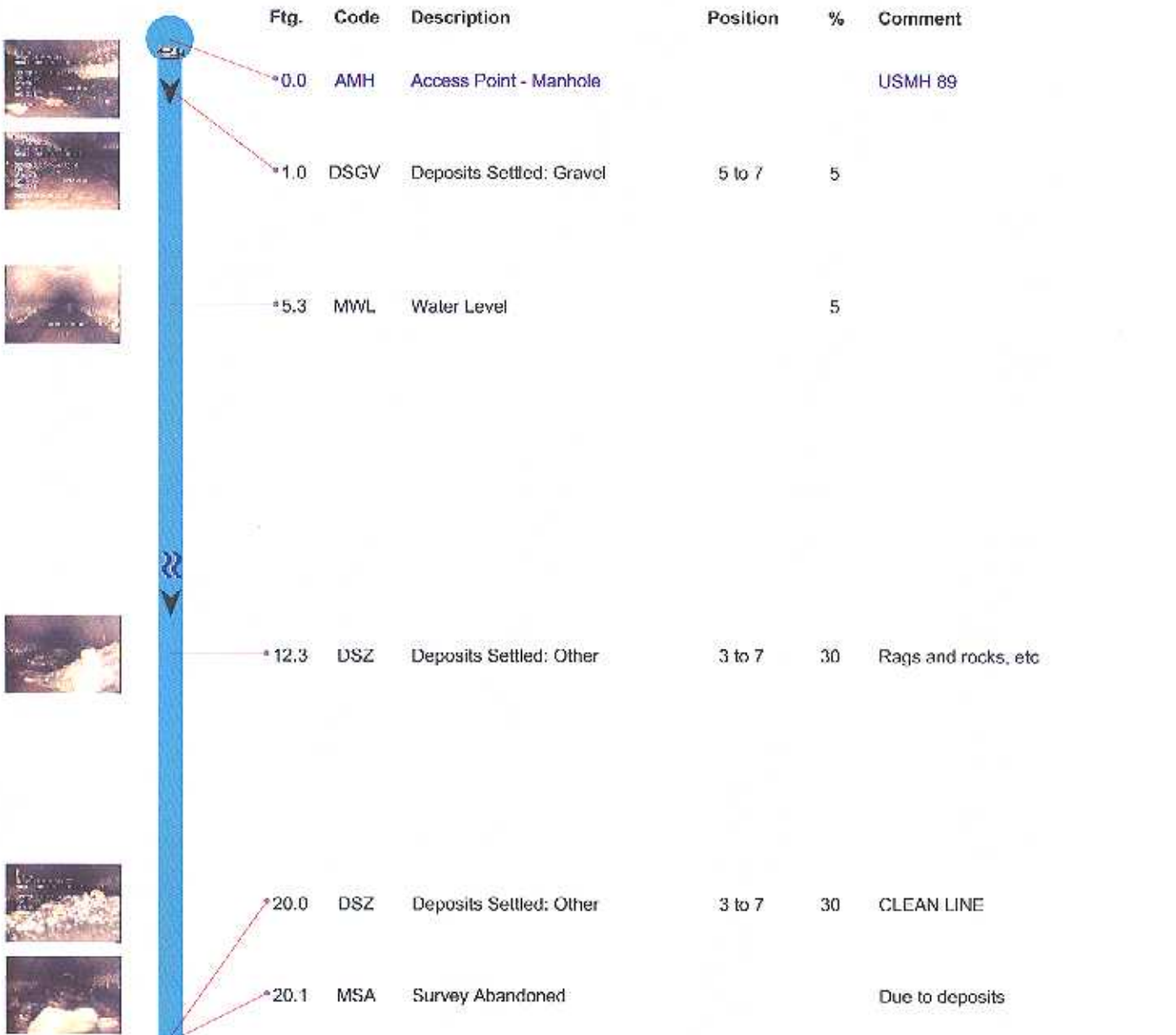




U: 89

D: 88

Surveyors name Suncoast/PPY	Certificate Number 02 060	System Owner City of Camp Shelby	Survey Customer City of Camp Shelby	Drainage Area	Sheet 1				
P/O No. 557	Pipeline Segment Reference 89 - 88	Date 2/1/2006	Time 12:00:00 AM	Location (Street Name and number) Jackson Ave.	Locality Camp Shelby, MS				
Further Location details Bldg. 2735		Upstream Manhole Number 89	Rim to Invert 13.17	Grade to Invert	Rim to Grade				
Downstream Manhole Number 88	Rim to Invert 10.75	Grade to Invert	Rim to Grade	Use of Sewer Sanitary	Direction Downstream	Flow Control Plugged	Height 8		
Width 8	Shape Circular	Material Vitrified Clay Pipe	Ln. Method	Pipe Joint Length 4	Total Length 223	Length Surveyed 20.1	Year Laid	Year Rehabilitated	Media # / VTR Start Tape 3227
Purpose Infiltration/Inflow Investigation	Sewer Category	Pre-Cleaning Heavy Cleaning	Cleaned 2/1/2006	Weather Dry	Additional Information VHS# 00.00.00				



PACP

Condition Codes

ACB	Access Point - Catch Basin
ACOH	Access Point - Cleanout: House
ACOM	Access Point - Cleanout: Mainline
ACOP	Access Point - Cleanout: Property
ADP	Access Point - Discharge Point
AEP	Access Point - End of Pipe
AJB	Access Point - Junction Box
AM	Access Point - Meter
AMH	Access Point - Manhole
AOC	Access Point - Other Special Chamber
ATC	Access Point - Tee Connection
AWA	Access Point - Wastewater Access Device
AWW	Access Point - Wet Well
B	Pipe Broken
BSV	Pipe Broken: Soil Visible
BVV	Pipe Broken: Void Visible
CC	Crack Circumferential
CL	Crack Longitudinal
CM	Crack Multiple
CS	Crack Spiral
D	Pipe Deformed
DAE	Deposits Attached: Encrustation
DAGS	Deposits Attached: Grease
DAR	Deposits Attached: Ragging
DAZ	Deposits Attached: Other
DB	Brickwork - Displaced
DH	Brick Deformed Horizontally
DI	Brickwork - Dropped Invert
DNF	Deposits Ingress: Fine
DNGV	Deposits Ingress: Gravel
DNZ	Deposits Ingress: Other
DSC	Deposits Settled: Compacted
DSF	Deposits Settled: Fine
DSGV	Deposits Settled: Gravel
DSZ	Deposits Settled: Other
DV	Brick Deformed Vertically
FC	Fracture Circumferential
FL	Fracture Longitudinal
FM	Fracture Multiple
FS	Fracture Spiral
H	Hole in Pipe
HSV	Hole in Pipe: Soil Visible
HVV	Hole in Pipe: Void Visible
ID	Infiltration - Dripper
IG	Infiltration - Gusher
IR	Infiltration - Runner
ISGT	Intruding Seal Material - Grout
ISSR	Intruding Seal Material - Sealing Ring
ISSRB	Intruding Seal Material - Sealing Ring: Broken
ISSRH	Intruding Seal Material - Sealing Ring: Hanging
ISZ	Intruding Seal Material - Other
IW	Infiltration - Weeper
JAL	Joint Angular: Large
JAM	Joint Angular: Medium
JOL	Joint Offset (displaced): Large
JOM	Joint Offset (displaced): Medium
JSL	Joint Separated (open): Large
JSM	Joint Separated (open): Medium
LD	Line - Down

LFAC	Lining Failure - Abandoned Connection
LFB	Lining Failure - Blistered
LFBK	Lining Failure - Buckled
LFCS	Lining Failure - Service Cut Shifted
LFD	Lining Failure - Detached
LFDE	Lining Failure - Defected End
LFOC	Lining Failure - Overcut Service
LFUC	Lining Failure - Undercut Service
LFW	Lining Failure - Wrinkled
LFZ	Lining Failure - Other
LL	Line - Left
LLD	Line - Left/Down
LLU	Line - Left/Up
LR	Line - Right
LRD	Line - Right/Down
LRU	Line - Right/Up
LU	Line - Up
MB	Brickwork - Missing
MCU	Camera Underwater
MGO	General Observation
MGP	General Photograph
MJL	Joint Length Change
MLC	Lining Change
MMC	Material Change
MML	Brickwork - Missing Mortar: Large
MMM	Brickwork - Missing Mortar: Medium
MMS	Brickwork - Missing Mortar: Small
MSA	Survey Abandoned
MSC	Dimension/Shape Change
MWL	Water Level
MWLS	Water Level: Sag
MWM	Water Mark
MYN	Dye Test: Not Visible
MYV	Dye Test: Visible
OBB	Obstacle - Brick or Masonry
OBC	Obstacle - Object Thru Connection
OBI	Obstacle - Object Protruding Thru Wall
OBJ	Obstacle - Object Wedged in Joint
OBM	Obstacle - Pipe Material in Invert
OBN	Obstacle - Construction Debris
OBP	Obstacle - External Piper or Cable in Sewer
OBR	Obstacle - Rocks
OBS	Obstacle - Built into Structure
OBZ	Obstacle - Other Objects
RBB	Roots, Ball: Barrel
RBC	Roots, Ball, Connection
RBJ	Roots, Ball, Joint
RBL	Roots, Ball: Lateral
RFB	Roots, Fine: Barrel
RFC	Roots, Fine: Connection
RFJ	Roots, Fine: Joint
RFL	Roots, Fine: Lateral
RMB	Roots, Medium: Barrel
RMC	Roots, Medium: Connection
RMJ	Roots, Medium, Joint
RML	Roots, Medium: Lateral
RPL	Point Repair - Localized Lining
RPLD	Point Repair - Localized Lining: Defective

RPP	Point Repair - Patch Repair
RPPD	Point Repair - Patch Repair: Defective
RPR	Point Repair - Pipe Replaced
RPRD	Point Repair - Pipe Replaced: Defective
RPZ	Point Repair - Other
RPZD	Point Repair - Other: Defective
RTB	Roots, Tap: Barrel
RTC	Roots, Tap: Connection
RTJ	Roots, Tap: Joint
RTL	Roots, Tap: Lateral
SAM	Surface: Aggregate Missing
SAMC	Surface: Aggregate Missing: Chemical
SAMM	Surface: Aggregate Missing: Mechanical
SAMZ	Surface: Aggregate Missing: Not Evident
SAP	Surface: Aggregate Projecting
SAPC	Surface: Aggregate Projecting: Chemical
SAPM	Surface: Aggregate Projecting: Mechanical
SAPZ	Surface: Aggregate Projecting: Not Evident
SAV	Surface: Aggregate Visible
SAVC	Surface: Aggregate Visible: Chemical
SAVM	Surface: Aggregate Visible: Mechanical
SAVZ	Surface: Aggregate Visible: Not Evident
SCP	Surface: Corrosion Products
SMW	Surface: Missing Wall
SMWC	Surface: Missing Wall: Chemical
SMWM	Surface: Missing Wall: Mechanical
SMWZ	Surface: Missing Wall: Not Evident
SRC	Surface: Reinforcement Corroded
SRCC	Surface: Reinforcement Corroded: Chemical
SRCM	Surface: Reinforcement Corroded: Mechanical
SRCZ	Surface: Reinforcement Corroded: Not Evident
SRI	Surface: Roughness Increased
SRIC	Surface: Roughness Increased: Chemical
SRIM	Surface: Roughness Increased: Mechanical
SRIZ	Surface: Roughness Increased: Not Evident
SRP	Surface: Reinforcement Projecting
SRPC	Surface: Reinforcement Projecting: Chemical
SRPM	Surface: Reinforcement Projecting: Mechanical
SRPZ	Surface: Reinforcement Projecting: Not Evident
SRV	Surface: Reinforcement Visible
SRVC	Surface: Reinforcement Visible: Chemical
SRVM	Surface: Reinforcement Visible: Mechanical
SRVZ	Surface: Reinforcement Visible: Not Evident
SSS	Surface: Spalling
SSSM	Surface: Spalling: Mechanical
SSSZ	Surface: Spalling: Not Evident
SZ	Surface: Other
SZM	Surface: Other: Mechanical
SZZ	Surface: Other: Not Evident
TB	Tap, Break-in / Hammer
TBA	Tap, Break-in / Hammer: Active
TBB	Tap, Break-in / Hammer: Abandoned
TBC	Tap, Break-in / Hammer: Capped
TBD	Tap, Break-in / Hammer: Defective
TBI	Tap, Break-in / Hammer: Intruding
TF	Tap, Factory Made
TFA	Tap, Factory Made: Active
TFB	Tap, Factory Made: Abandoned

TFC	Tap, Factory Made: Capped
TFD	Tap, Factory Made: Defective
TFI	Tap, Factory Made: Intruding
TS	Tap, Saddle
TSA	Tap, Saddle: Active
TSB	Tap, Saddle: Abandoned
TSC	Tap, Saddle: Capped
TSD	Tap, Saddle: Defective
TSI	Tap, Saddle: Intruding
VC	Vermin - Cockroach
VR	Vermin - Rat
VZ	Vermin - Other
WFC	Weld Failure - Circumferential
WFL	Weld Failure - Longitudinal
WFM	Weld Failure - Multiple
WFS	Weld Failure - Spiral
WFZ	Weld Failure - Other
XB	Brick Collapsed
XP	Pipe Collapsed