



Project Information

Surveyor Name	GCK	Certificate Number	U-210-10171
Owner		Customer	
Drainage Area		PO Number	1-1618
Pipe Segment Reference	TC4-M5-16 to TC4-M5-17	Date	7/29/2022 11:53
Street	Midgard	City	POSMville
Comments			

Manhole

Upstream MH	TC4-M5-16	Rim to Invert (U)	
Grade to Invert (U)		Rim to Grade (U)	
Downstream MH	TC4-M5-17	Rim to Invert (D)	
Grade to Invert (D)		Rim to Grade (D)	
Pipe Use	Sanitary Sewage Pipe	Direction of Survey	Downstream

Pipe

Height (Diameter)	8	Width	
Shape	Circular	Material	Vitrified Clay Pipe
Lining Method		Pipe Joint Length	
Total Length		Length Surveyed	304.2
Year Constructed		Year Renewed	

Misc

Flow Control		Media Label	6/19/09
Purpose	Pre-Rehabilitation Survey	Consequence of Failure	
Pre-Cleaning	Heavy Cleaning	Date Cleaned	7/29/2022 11:53
Weather	Light Rain	Location Code	Easement/Right of Way
Additional Info		Location Details	

Custom

Custom 1	1	Custom 2	1
Custom 3	12	Custom 4	9
Custom 5	0	Custom 6	1
Custom 7	0	Custom 8	0
Custom 9	0	Custom 10	0

Project

Reverse Setup ID		Sheet (Group) Number	
Imperial Units (US)	True	Pressure Value	
Work Order		Project	TC4
Coating Method		Completed	Yes

Insp Tech Used

CCTV	Yes	Laser	No
Sidewall	No	Sonar	No
Zoom	No	Other	No

Inspection

Inspection Status Complete Inspection

Reviewed By

**Reviewer Certificate
Number**

Count Groups

Taps	1	Roots	1
Cracks / Fractures	12	Broken / Holes / Collapse	9
Deposits	0	Obstruction	0
Abandoned Survey	1		

Scores

Structure Peak Score	10	Structure Peak Grade	2
Structure Mean Score	0.26	Structure Mean Grade	1
Service Peak Score	1	Service Peak Grade	1
Service Mean Score	0	Service Mean Grade	1

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Project: TC4

Date: 7/29/2022 11:53:00 AM

Street: Midgard

Length Surveyed: 304.2

Run Number:

Height (Diameter): 8




Pipe Segment Reference: TC4-M5-16 to TC4-M5-17




Upstream MH: TC4-M5-16


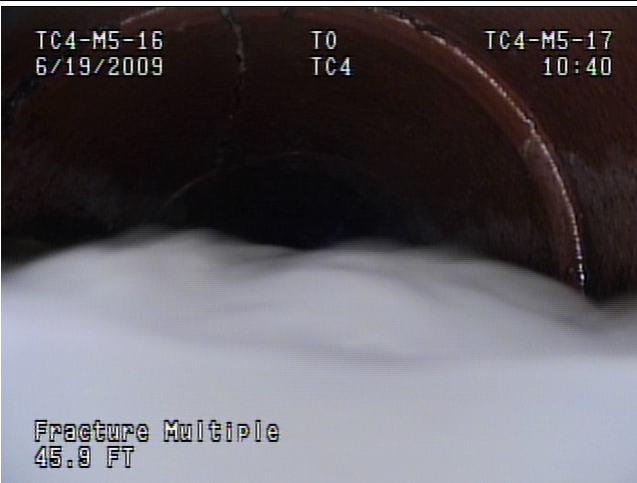

Downstream MH: TC4-M5-17




Direction of Survey: Downstream



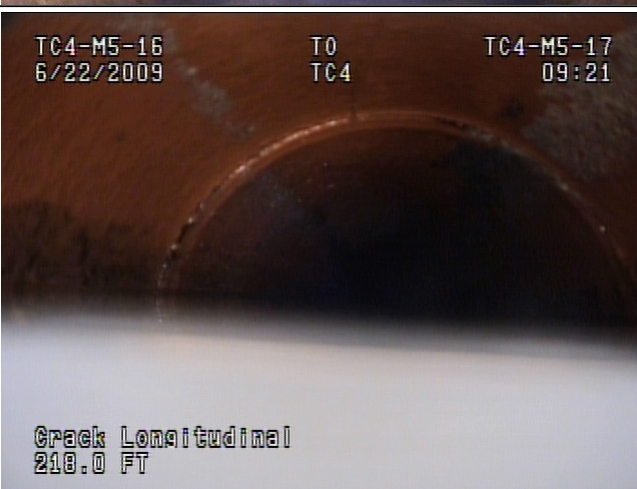
Material: Vitrified Clay Pipe




Distance	Fault Observation	Time	Picture
7.0	Fracture Circumferential Position: 6 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:24:50	
7.5	Miscellaneous Water Level Severity: None Defect: 0 Percent: 10	00:00:44	
11.4	Fracture Multiple Position: 12 To 1 Severity: None Cont Defect: S01 Defect: 0 Percent: 0 Joint Remarks: N/L Struct Weight: 4	00:01:56	




Distance	Fault Observation	Time	Picture
21.1	Broken Soil Visible Position: 9 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 5	00:03:46	 <p>TC4-M5-16 6/19/2009 TO TC4 TC4-M5-17 10:30</p> <p>Broken Soil Visible 21.1 FT</p>
21.1	Fracture Multiple Position: 12 To 1 Severity: None Cont Defect: F01 Defect: 0 Percent: 0 Joint Remarks: N/L Struct Weight: 4	00:04:02	 <p>TC4-M5-16 6/19/2009 TO TC4 TC4-M5-17 10:31</p> <p>Fracture Multiple 21.1 FT</p>
36.0	Fracture Circumferential Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Joint Remarks: N/L Struct Weight: 2	00:06:48	 <p>TC4-M5-16 6/19/2009 TO TC4 TC4-M5-17 10:33</p> <p>Fracture Circumferential 36.0 FT</p>




Distance	Fault Observation	Time	Picture
41.7	Broken Soil Visible Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Struct Weight: 5	00:11:50	
45.9	Fracture Multiple Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 4	00:12:57	
69.4	Miscellaneous Abandoned Survey Severity: None Defect: 0 Percent: 0 Remarks: NEEDS JETTING	00:21:07	



Distance	Fault Observation	Time	Picture
91.8	Fracture Circumferential Position: 2 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:29:55	 <p>TC4-M5-16 6/22/2009 TO TC4 TC4-M5-17 09:11</p> <p>Fracture Circumferential 91.8 FT</p>
191.3	Roots Fine Lateral Position: 9 Severity: None Defect: 0 Percent: 0 Maint Weight: 1	00:35:06	 <p>TC4-M5-16 6/22/2009 TO TC4 TC4-M5-17 09:16</p> <p>Roots Fine Lateral 191.3 FT</p>
191.3	Tap Break-in Activity Position: 8 Severity: None Size: 6 Defect: 0 Percent: 0	00:34:47	 <p>TC4-M5-16 6/22/2009 TO TC4 TC4-M5-17 09:16</p> <p>Tap Break-in Active 191.3 FT</p>

Distance	Fault Observation	Time	Picture
192.8	Fracture Multiple Position: 7 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 4	00:36:33	
203.0	Fracture Circumferential Position: 11 To 2 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:38:08	
218.0	Crack Longitudinal Position: 12 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:39:29	

Distance	Fault Observation	Time	Picture
244.8	Crack Multiple Position: 12 To 1 Severity: None Cont Defect: S02 Defect: 0 Percent: 0 Joint Struct Weight: 3	00:41:25	 <p>TC4-M5-16 6/22/2009</p> <p>T0 TC4</p> <p>TC4-M5-17 09:22</p> <p>Crack Multiple 244.8 FT</p>
258.7	Broken Soil Visible Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 5	00:44:03	 <p>TC4-M5-16 6/22/2009</p> <p>T0 TC4</p> <p>TC4-M5-17 09:25</p> <p>Broken Soil Visible 258.7 FT</p>
258.7	Crack Multiple Position: 12 To 1 Severity: None Cont Defect: F02 Defect: 0 Percent: 0 Joint Struct Weight: 3	00:43:34	 <p>TC4-M5-16 6/22/2009</p> <p>T0 TC4</p> <p>TC4-M5-17 09:25</p> <p>Crack Multiple 258.7 FT</p>

Distance	Fault Observation	Time	Picture
263.8	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: S03 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:45:23	
267.2	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: F03 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:46:08	
273.5	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: S04 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:47:38	

Distance	Fault Observation	Time	Picture
275.9	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: F04 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:48:29	
283.7	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: S05 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:49:57	
295.2	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: F05 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:50:45	

Distance	Fault Observation	Time	Picture
301.9	Crack Circumferential Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Struct Weight: 1	00:52:53	
304.2	Access Point Manhole Severity: None Defect: 0 Percent: 0 Remarks: TC4-M5-17	00:53:32	

Project: TC4

Date: 7/29/2022 11:53:00 AM

Street: Midgard

Length Surveyed: 304.2

Run Number:

Height (Diameter): 8

Pipe Segment Reference: TC4-M5-16 to TC4-M5-17

Upstream MH: TC4-M5-16

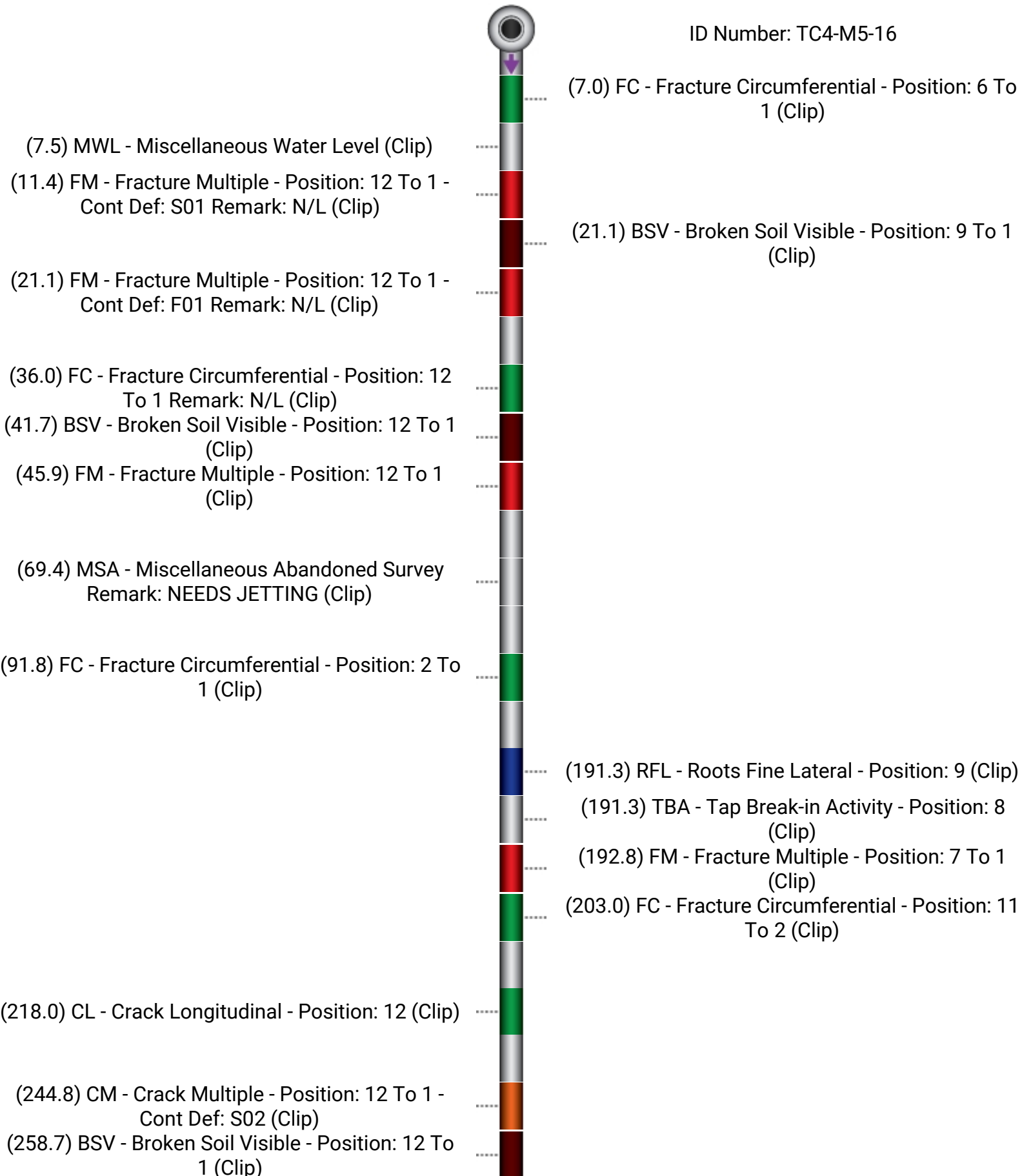
Downstream MH: TC4-M5-17

Direction of Survey: Downstream

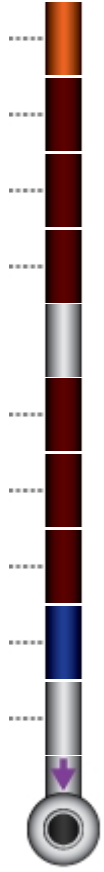
Material: Vitrified Clay Pipe

Severity
Light-1
Moderate-2
Average-3
Heavy-4
Severe-5

ID Number: TC4-M5-16



- (258.7) CM - Crack Multiple - Position: 12 To 1 - Cont Def: F02 (Clip)
- (263.8) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: S03 (Clip)
- (267.2) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: F03 (Clip)
- (273.5) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: S04 (Clip)
- (275.9) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: F04 (Clip)
- (283.7) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: S05 (Clip)
- (295.2) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: F05 (Clip)
- (301.9) CC - Crack Circumferential - Position: 12 To 1 (Clip)
- (304.2) AMH - Access Point Manhole Remark: TC4-M5-17 (Clip)



Total Distance: 304.2

ID Number: TC4-M5-17

Nassco C.C.T.V. Defect Code Information

Grade	Structural	O&M	Overall
5	35	0	35
4	16	0	16
3	9	0	9
2	10	0	10
1	1	1	2
Overall	71	1	72
Number of Defects	20	1	21
Pipe Rating	5744	1100	5744
Pipe Ratings Index	3.6	1	3.4

Nassco C.C.T.V. Defect Code Information

Distance	Video Ref	Code	Cont Defect	Value			Joint	Circumferential Location	
				Dimension		%		At / From	To
				1st	2nd				
7	1490	FC - Fracture Circumferential			0	0	X	6	1
7.5	44	MWL - Miscellaneous Water Level			0	10			
11.4	116	FM - Fracture Multiple	S01		0	0	X	12	1
		N/L							
21.1	226	BSV - Broken Soil Visible			0	0	X	9	1
21.1	242	FM - Fracture Multiple	F01		0	0	X	12	1
		N/L							
36	408	FC - Fracture Circumferential			0	0	X	12	1
		N/L							
41.7	710	BSV - Broken Soil Visible			0	0		12	1
45.9	777	FM - Fracture Multiple			0	0	X	12	1
69.4	1267	MSA - Miscellaneous Abandoned Survey			0	0			
		NEEDS JETTING							
91.8	1795	FC - Fracture Circumferential			0	0	X	2	1
191.3	2106	RFL - Roots Fine Lateral			0	0		9	
191.3	2087	TBA - Tap Break-in Activity		6	0	0		8	
192.8	2193	FM - Fracture Multiple			0	0	X	7	1
203	2288	FC - Fracture Circumferential			0	0	X	11	2
218	2369	CL - Crack Longitudinal			0	0	X	12	
244.8	2485	CM - Crack Multiple	S02		0	0	X	12	1
258.7	2643	BSV - Broken Soil Visible			0	0	X	12	1
258.7	2614	CM - Crack Multiple	F02		0	0	X	12	1
263.8	2723	BSV - Broken Soil Visible	S03		0	0	X	12	1
267.2	2768	BSV - Broken Soil Visible	F03		0	0	X	12	1
273.5	2858	BSV - Broken Soil Visible	S04		0	0	X	12	1

275.9	2909	BSV - Broken Soil Visible	F04	0	0	X	12	1
283.7	2997	BSV - Broken Soil Visible	S05	0	0	X	12	1
295.2	3045	BSV - Broken Soil Visible	F05	0	0	X	12	1
301.9	3173	CC - Crack Circumferential		0	0		12	1
304.2	3212	AMH - Access Point Manhole		0	0			
TC4-M5-17								

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Additional Reports for Session TC4

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