

2023 ANNUAL PROGRESS REPORT

SWMU-1 OILY WATER SEWER

HF SINCLAIR PUGET SOUND REFINING LLC

MARCH 21, 2024

SUBMITTED BY:



HF Sinclair Puget Sound Refining LLC

8505 South Texas Road
Anacortes, WA 98221

SUBMITTED TO:

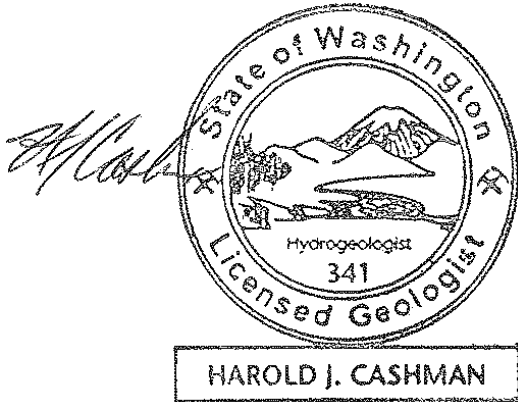


Washington State Department of Ecology

Industrial Section
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Olympia, WA 98504-7600

CERTIFICATION STATEMENT

All geologic and hydrogeologic work performed pursuant to this report was conducted under the supervision and direction of the geologist listed below:

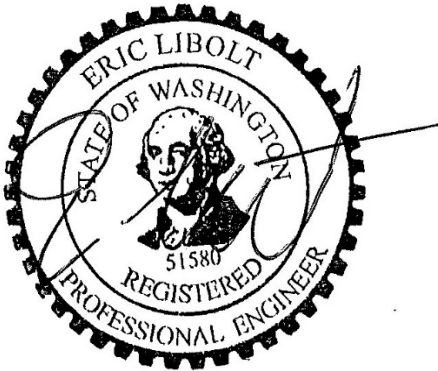


3/21/2024

Harold Cashman P.G.

Date

All engineering work performed pursuant to this report was conducted under the supervision and direction of the engineer listed below:



3/21/2024

Eric Libolt P.E.

Date

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1. INTRODUCTION

This annual progress report has been prepared in accordance with the requirements in Section VII.C. of Agreed Order No. DE 16298 (AO). The AO was entered into by the Washington State Department of Ecology (Ecology) and Shell Oil Products US Puget Sound Refinery, the predecessor to HF Sinclair Puget Sound Refining LLC (HFSPSR). The objective of the AO is to investigate and conduct remedial actions to the HFSPSR Oily Water Sewer (OWS) system, also referred to as Solid Waste Management Unit 1 (SWMU-1).

Per Section VII.A of the AO, an Investigation and Response Plan (IRP) was prepared to provide a framework to investigate the integrity of the OWS and respond to any releases or threatened releases from the OWS that are discovered during the investigation. Ecology approved the IRP by letter and email on June 24, 2022. The AO requires HFSPSR to submit an annual progress report to Ecology by April 1st of each year following the implementation of the IRP.

The IRP outlined four phases of OWS inspections to be completed by December 31, 2031. Per the IRP, sewer inspections were completed in 2023. This report describes the 2023 sewer inspection findings, ongoing site characterization efforts, and sewer repairs.

This annual progress report has been prepared in accordance with the requirements in the AO. All figures referenced in this report are included in Appendix A. All tables referenced in this report are included in Appendix B.

1.1 GENERAL SITE INFORMATION

HFSPSR is situated two miles east of the city of Anacortes on the southern portion of March Point, a north-south oriented peninsula approximately 1.3 miles wide and 2.6 miles long. HFSPSR owns approximately 828 acres of the southern portion of March Point. The HFSPSR petroleum refining facilities occupy approximately 550 acres in the central portion of the property. The site address is 8505 South Texas Road, Anacortes, Washington 98221. The property location is shown on Figure A-1.

1.2 CONTACT INFORMATION

Contact information for the project consultant and property owner/facility operator are included below.

- Ecology Site Manager: Lyddie Austin
 - Address: P.O. Box 47600 Olympia, WA 98504-7600
 - Phone: (564) 233-8039
 - Email: lyddie.austin@ecy.wa.gov
- Project Consultant: ALL4, LLC.
 - Address: 228 E Champion St #101, Bellingham, WA 98225
 - Contact: Eric Libolt
 - Phone: (360) 685-8326
 - Email: elibolt@all4inc.com
- Property Owner/Facility Operator: HFSPSR
 - Address: 8505 South Texas Road, Anacortes, WA 98221
 - Contact: Jim Schneider
 - Phone: (360) 293-0868
 - Email: Jim.Schneider@HFSinclair.com

2. DEVIATIONS FROM THE INVESTIGATION AND RESPONSE PLAN

In accordance with VII.C.1 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report any deviations from the Investigation and Response Plan.

There were no deviations from the IRP in 2023.

3. OILY WATER SEWER ASSESSMENT

In accordance with VII.C.2 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report the findings of the sewer assessment, including the general condition of the OWS system components, the location and description of any problems identified and their cause, and a description of actions taken or planned to repair or maintain system components based on the results of the testing.

The 2023 OWS video inspections were completed by Vortex Companies, LLC (Vortex). The 2023 video inspections were completed in general accordance with the National Association of Sewer Service Compliance (NASSCO) Pipeline Assessment Certification Program (PACP) and Manhole Assessment Certification Program (MACP).

The OWS segments inspected in 2023 include the main trunk line from manhole B-3 to manhole B-01 along “B” Street, from manhole 5-A to manhole B-02 along 5th Street, and from manhole D-12 to manhole D-1.1 along “D” Street. A map showing the sewer segments inspected in 2023 is provided as Figure A-2.

The 2023 sewer inspection videos were provided to TRC Environmental Corporation (TRC) for the assessment of observed sewer defects (e.g., cracking, fractures, offset joints, etc.) using the NASSCO structural rating system.

3.1 2023 VIDEO INSPECTION FINDINGS

TRC presented the 2023 inspection findings in a report titled *2023 Process Sewer Inspections and Repair Recommendations* dated March 5, 2024. The report included an assessment of the inspected OWS system components, the location and description of any problems identified, and repair recommendations. The TRC 2023 report is included in Appendix C.

Following the NASSCO structural rating determination, TRC assigned each defect a separate prioritization rating (PR) based on the potential for a release. The PR system is based on a scale of 1-4. The scale indicates the level of prioritization for follow-up actions. For example, a rating of 4 would indicate a

significant structural defect with a potential for release, whereas a rating of 1 would be a small structural defect. The definition of each PR value can be found in Attachment 1 of the TRC report.

TRC identified one sewer defect assigned a PR 4. Per the rating system used by TRC, a PR 4 equates to a significant structural defect with the potential for release.

The required action for a PR 4 is to conduct an initial release investigation through the collection of soil and groundwater samples and to schedule a moderate priority mitigation effort.

3.2 AREA OF CONCERN-2

The sewer defect assigned a PR 4 is located 206.8 ft south of manhole B-01 (Setup ID 2023-11 and 2023-31 of the TRC report). The PR 4 location has been identified as Area of Concern-2 (AOC-2). Per the IRP, the site characterization of AOC-2 will be initiated in 2024. A detailed site map of AOC-2 is provided as Figure A-3.

4. RELEASES

In accordance with VII.C.3 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report information on the nature and extent of releases identified including the characteristics of the release, sampling results, how soil and groundwater quality was evaluated, and information on the extent of soil and groundwater impacts.

One release was identified in 2023. Prior to issuance of the AO, Shell (former refinery operator) conducted voluntary video inspections on portions of the OWS segments. Voluntary video inspections completed from 2017-2019 that overlap with the 2023 video inspections are shown on Figure A-2. The overlapping OWS segments include the main trunk line from:

- Manhole 5-O to manhole 5-P along 5th Street.
- Manhole D-23 to manhole D-1.1 along “D” Street.

Video inspections completed from 2017-2019 for the above-mentioned sewer segments were provided to Whatcom Environmental Services (WES) in 2022 for assessment using the NASSCO structural rating system. WES assigned each structural rating an environmental evaluation ranking (EER). The EER report titled *Evaluation and NASSCO Rating of Existing Sewer Videos* dated December 5, 2022. is provided in Appendix D.

Area of Concern-1 (AOC-1) was identified in the 2022 *Evaluation and NASSCO Rating of Existing Sewer Videos* report. AOC-1 is located between manhole D-20 and manhole D-21 along “D” Street (Figure A-4). AOC-1 contained one EER 4 and three EER 3s, which equates to a moderate to high potential for process sewer exfiltration.

Per Section 2.1 of the IRP, the EERs identified in 2022 were used to guide the OWS soil investigation conducted in 2023. An initial soil investigation was conducted at AOC-1 in April 2023.

4.1 AREA OF CONCERN-1 RELEASE

Following the identification of AOC-1, an initial soil investigation was completed in April 2023 to investigate the subsurface conditions at the site. A release was confirmed following the review of laboratory analytical results for four soil samples collected from AOC-1.

4.1.1 SOIL SAMPLE COLLECTION

Four soil samples were collected from AOC-1 on April 10 and 13, 2023 and sent to ALS Laboratory Group in Everett, WA. The soil sample locations are shown on Figure A-5. The soil sample descriptions, depths of collection and field screening results are included in Table B-1.

The following laboratory methods were used to analyze the soil samples:

- NWTPH-EPH:
 - Extractable petroleum hydrocarbons
- NWTPH-VPH:
 - Volatile petroleum hydrocarbons
- EPA Method 8260:
 - Benzene, toluene, ethylbenzene, total xylenes (BTEX) and halogenated volatile organic compounds (VOCs)
- EPA Method 8270 SIM:
 - Naphthalenes and carcinogenic polycyclic aromatic hydrocarbons (cPAHs)
- EPA Method 7196:
 - Chromium (VI)
- EPA Method 7471:
 - Mercury
- EPA Method 6020:
 - Arsenic, cadmium, chromium, lead, nickel, and zinc
- Chromium (III) is lab calculated by subtracting the chromium (VI) concentration from the total chromium concentration.

4.1.2 SOIL SAMPLE RESULTS

The AOC-1 laboratory analytical results are summarized in Tables B-2 through B-5. The original laboratory analytical data reports are provided in Appendix E.

Soil sample *B-3-23 5ft* had a concentration of total naphthalene that exceeded the MTCA Method A cleanup value for industrial properties (Table B-4).

Soil sample *B-3-23 5ft* failed the total site risk analysis for protection of groundwater through leaching (Table B-5). Soil samples *B-3-23 5ft* and *B-4-23 5.5ft* failed the total site hazard index for protection of groundwater through leaching (Table B-5). These values were calculated using the fixed parameter three-phase partitioning model for vadose (unsaturated) zone as described in WAC 173-340-747(4) and based on Equation 747-1. The MTCA Method C Calculation Worksheets are included in Appendix F.

4.1.3 GEOLOGY AND HYDROGEOLOGY

The OWS at AOC-1 is underlain by diamicton. The diamicton (also known as Unit B) is unstratified with a matrix of silt or clay supporting variable amounts of sand and gravel. The estimated range of permeability is 10^{-5} to 10^{-8} cm/sec. The USCS classification is ML or CL and Unit B is approximately 50 feet thick beneath AOC-1 (HF Sinclair, 2023).

Soil boring B1-02 was reviewed. The boring was drilled approximately 120 feet east of AOC-1. The boring location is shown on Figure A-4. The borelog shows that the diamicton is at least 50 feet thick in that portion of the refinery. The borelog states that water was encountered at 24 feet below ground surface during drilling. The B1-02 borelog is included in Appendix G.

4.1.4 AOC-1 SUPPLEMENTAL INFORMATION

The maintenance and repair history of the AOC-1 D St. sewer segment was researched and it was determined that the EER 4 identified in the 2022 report was a cutout in the pipe to allow manhole D-20 to access the main trunk line. The line was original pipe installed circa 1957. Manhole D-20 was installed in 2002 per plan drawing 35ES0034. It is not uncommon for new manholes to be built around existing

pipes and the pipe be broken out when construction of the manhole is complete. A photo of the EER 4 identified in manhole D-20 is included in Attachment 3 of the 2023 TRC report (Setup ID 2023-ST-5, Structure ID D-20).

Based on the maintenance and repair history of manhole D-20, the EER 4 identified in the 2022 *Evaluation and NASSCO Rating of Existing Sewer Videos* report is actually not an EER 4 and could not cause a release to soil or groundwater. The EER 3s identified at AOC-1 in the 2022 report were corroborated by the 2023 inspection findings (TRC, 2024; Figure A-4).

4.1.5 OWS REPAIRS

Repairs to the OWS at AOC-1 were not initiated in 2023. The 2023 sewer inspection evaluation report identified five PR 3s within AOC-1 that correspond with the EER 3s identified in the 2022 sewer inspection evaluation report (Figure A-4). The required action for a PR 3 is to document the defect in the refinery record and to schedule a low priority mitigation effort (TRC, 2024).

5. CORRECTIVE ACTIONS AND INTERIM MEASURES

In accordance with VII.C.4 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report a description of the corrective actions or interim measures taken or planned to remediate soil or groundwater, including the volume and disposition of contaminated soil removed, and measures taken to monitor or remediate groundwater.

TRC provided HFSPSR with repair recommendations for all PR 3 and PR 4 sewer/manhole defects found during the 2023 video inspections. The repair recommendations can be found in the attached TRC report (Appendix C).

Repairs to the OWS were initiated in 2023 and completed in January 2024 by Insituform. A map showing the location of repairs completed as of January 19, 2024 is provided as Figure A-6. The following repairs to the OWS were completed as of January 19, 2024:

- Manhole 5-F to manhole D-12 was lined with cured-in-place-pipe (CIPP) lining.
- Manhole 5-M to manhole D-12 was lined with CIPP lining.

6. RISK OF CONTAMINATION MIGRATION

In accordance with VII.C.7 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report measures to assess and prevent the risk of migration of contamination until a final remedy is implemented, including the elements of a groundwater monitoring program (number and location of wells, parameters monitored, frequency of monitoring).

Due to the location of critical infrastructure within the release area, additional remediation actions will not be conducted at AOC-1 until access is available (e.g., at refinery closure or if other maintenance/demolition activities allow for access).

Per the IRP, the site characterization of AOC-2 will begin in 2024 and the risk of contamination migration will be evaluated at the site.

7. INACCESSIBLE AREAS

In accordance with VII.C.5 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report areas that were determined to be inaccessible and where contaminated soil or groundwater was left in place.

Due to the location of critical infrastructure, AOC-1 is inaccessible for further remediation actions.

The accessibility of further investigation and remediation at AOC-2 will be evaluated in 2024.

8. CONCLUSIONS

The 2023 OWS inspections identified one sewer pipe location given a ranking of PR 4. This location has been identified as AOC-2. Per the IRP, the site characterization of AOC-2 will be initiated in 2024 to determine if a release from the OWS has occurred at that location.

The 2022 evaluation of OWS inspections conducted from 2017-2019 resulted in the identification of AOC-1. The 2023 evaluation of OWS inspections conducted in 2023 resulted in the identification of AOC-2. The location of AOC-1 and AOC-2 relative to each other are shown on Figure A-4.

The 2022 sewer inspection evaluation report concluded that there was a moderate to high potential for process sewer exfiltration within AOC-1. An initial soil investigation was completed in April 2023 which confirmed a release to soil at AOC-1. Due to the location of critical infrastructure within the release area, additional remediation action will not be conducted at AOC-1 until access is available (e.g., at refinery closure or if other maintenance/demolition activities allow for access).

Repairs to the OWS were initiated in 2023 and completed in 2024. Additional repairs will be evaluated following the review of repair recommendations submitted by TRC in March 2024.

9. REFERENCES

HF Sinclair Puget Sound Refining LLC. March 15, 2023. Sludge Disposal Facility, Closure and Post Closure Plan, HF Sinclair Puget Sound Refining LLC.

HollyFrontier Puget Sound Refinery. February 27, 2023. 2022 Annual Progress Report SWMU 1 – Oily Water Sewer.

HollyFrontier Puget Sound Refinery. June 15, 2022. Investigation and Response Plan SWMU 1 – Oily Water Sewer.

TRC. March 5, 2024. 2023 Process Sewer Inspections and Repair Recommendations.

Washington State Department of Ecology. Agreed Order for Interim Action – Oily Water Sewer (SWMU-1). No. DE 16298.

Washington State Department of Ecology. June 2016. Guidance for Remediation of Petroleum Contaminated Sites. Publication No. 10-09-057.

Whatcom Environmental Services. December 5, 2022. Evaluation and NASSCO Rating of Existing Sewer Videos.

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122°38'0"W 122°36'0"W 122°34'0"W 122°32'0"W 122°30'0"W

1:100,000



48°30'0"N

48°30'0"N

48°28'0"N

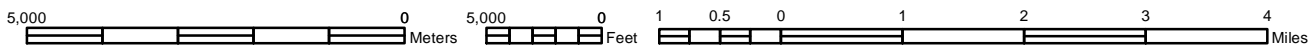
48°28'0"N

48°26'0"N

48°26'0"N

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HII; NOAA National Centers for Environmental Information

122°38'0"W 122°36'0"W 122°34'0"W 122°32'0"W 122°30'0"W



Site Location
8505 S Texas Road
Anacortes, WA 98221

Prepared for:



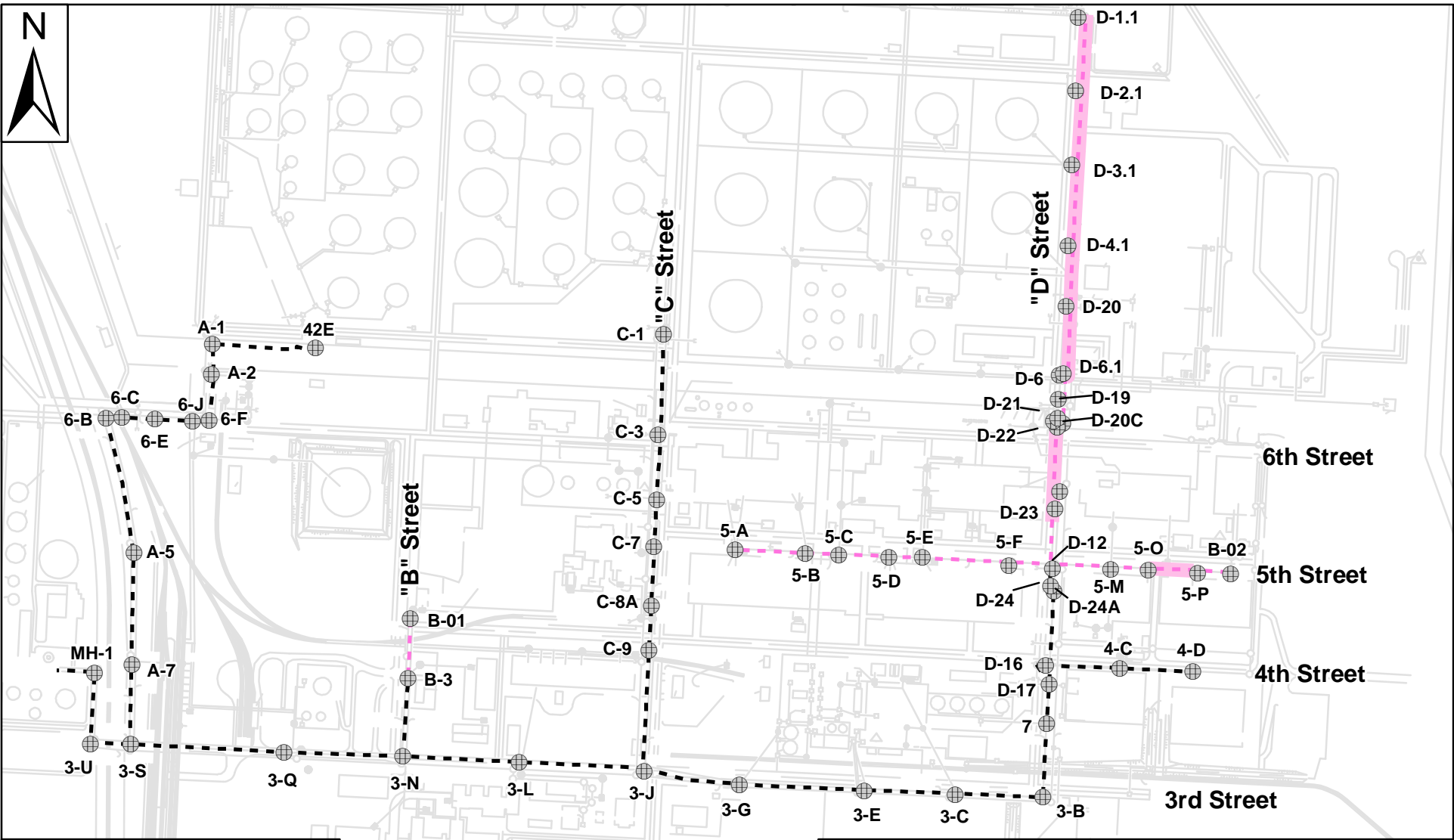
Prepared by:







Site Location Map

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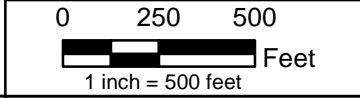
Figure A-1



-  Manhole
-  OWS Main Trunk Line
-  2023 Inspection Segment
-  2017-2019 Inspection Segment

All data are approximate and should be used for relative location reference only.

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Prepared by:

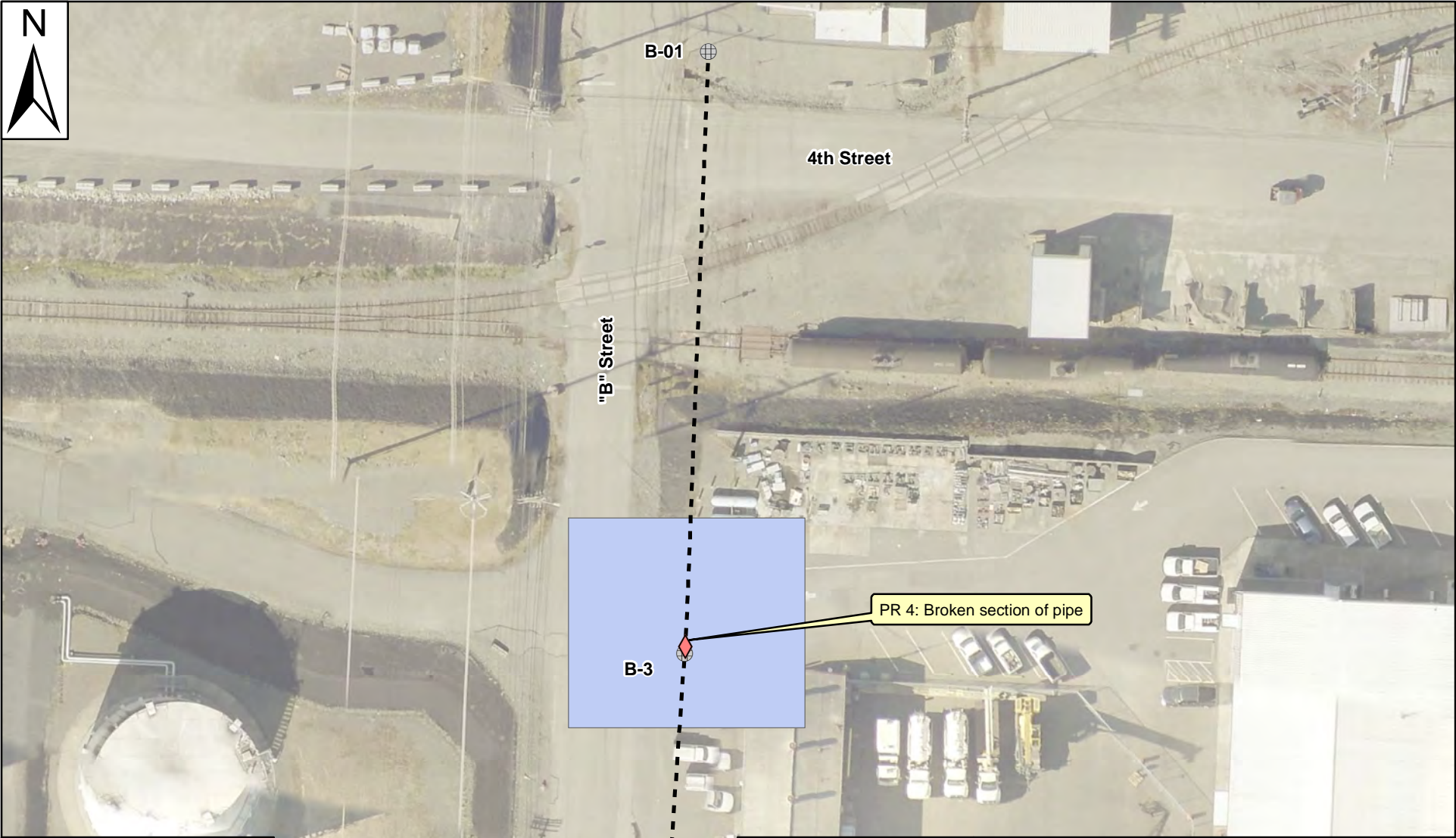






2023 Inspection Map

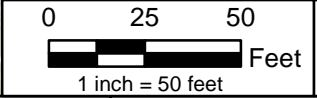
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Figure A-2



-  TRC PR
-  Manhole
-  OWS Main Trunk Line
-  Area of Concern-2



Area of Concern-2 Detail Site Map

All data are approximate and should be used for relative location reference only.

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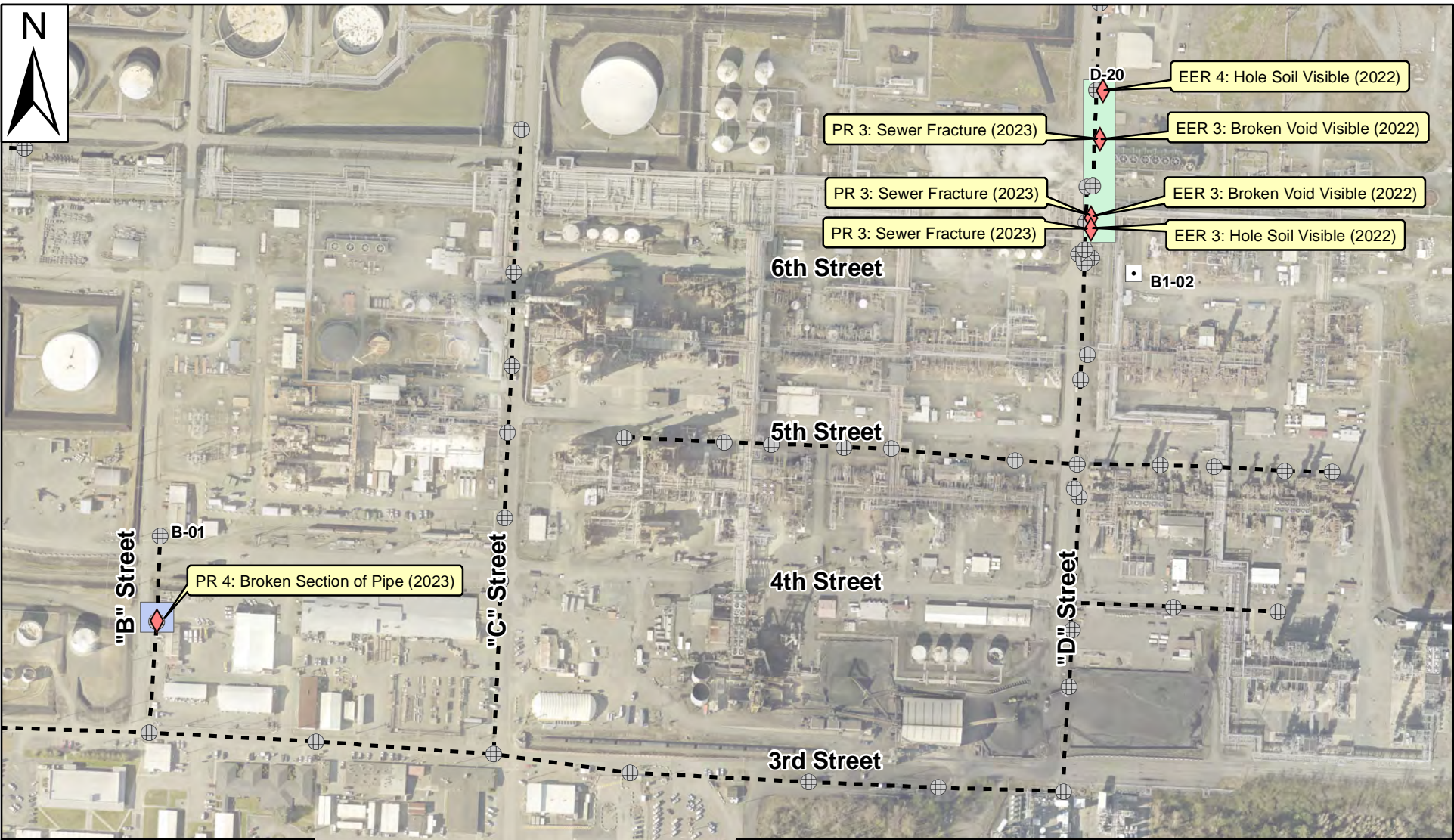
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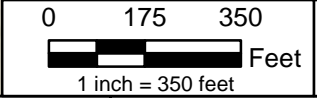
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Figure A-3



-  Manhole
-  PR/EER
-  Soil Boring
-  OWS Main Trunk Line
-  Area of Concern-1
-  Area of Concern-2

All data are approximate and should be used for relative location reference only.



2023 Areas of Concern Location Map

Prepared for:


Prepared by:

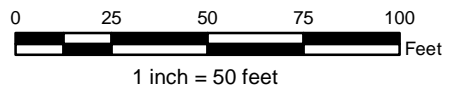

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Figure A-4



- ⊙ Soil Sample
- Met MTCA C Cleanup Levels
- Exceeded MTCA C Cleanup Levels
- - - OWS Main Trunk Line
- Area of Concern-1



All data are approximate and should be used for relative location reference only.

Area of Concern-1 Soil Sample Analytical Results Summary Map

Prepared for:



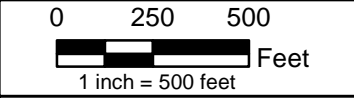
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Figure A-5



OWS 2023 Repairs Map

- Manhole
- OWS Main Trunk Line
- OWS repaired in 2023

All data are approximate and should be used for relative location reference only.

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Prepared by:

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Figure A-6

**APPENDIX B -
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Table B-1
AOC-1 Soil Sample Descriptions
HF Sinclair Puget Sound Refining LLC

| Sample ID | Date | Soil Sample Description | PID (ppm) | Sheen Test ^(a) |
|---------------|-----------|---|-----------|---------------------------|
| B-1-23 6 ft | 4/10/2023 | Gravelly silty sand, brown | 0.6 | SS |
| B-2-23 6 ft | 4/10/2023 | Medium to fine silty sand, brown to black | 1.1 | SS |
| B-3-23 5 ft | 4/13/2023 | Silty sand with gravel, firm, brown. | 1087 | VHS |
| B-4-23 5.5 ft | 4/13/2023 | Medium to fine sand, brown, firm | 860 | VHS |

^(a) NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen; VHS = Very Heavy Sheen

Table B-2
AOC-1 Soil Sample Petroleum Analytical Results
HF Sinclair Puget Sound Refining LLC

| Sample ID | EPA-8260 Benzene (mg/kg) | EPA-8260 Toluene (mg/kg) | EPA-8260 Ethylbenzene (mg/kg) | EPA-8260 Xylenes (mg/kg) | EPA-8260 n-Hexane (mg/kg) |
|---|--------------------------------|--------------------------------|-------------------------------------|--------------------------------|---------------------------------|
| MTCA Method C Direct Contact Cleanup Level ^(a) : | 2,400 | 280,000 | 350,000 | 700,000 | 210,000 |
| Protection of Ground Water (Vadose) ^(b) : | 0.03 ^(c) | 4.5 | 5.9 | 14 | 72 |
| B-1-23 6 ft (4/10/2023) | (ND<0.005) | (ND<0.01) | (ND<0.01) | (ND<0.01) | (ND<0.01) |
| B-2-23 6 ft (4/10/2023) | (ND<0.005) | (ND<0.01) | (ND<0.01) | (ND<0.01) | (ND<0.01) |
| B-3-23 5 ft (4/13/2023) | (ND<0.005) | 0.014 | 0.018 | 0.066 | 0.35 |
| B-4-23 5.5 ft (4/13/2023) | (ND<0.005) | (ND<0.01) | (ND<0.01) | (ND<0.01) | 0.018 |

^(a) Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed then the non-carcinogenic value was applied.

^(b) Protection of groundwater values obtained from CLARC tables unless otherwise noted.

^(c) MTCA A cleanup level for industrial properties was chosen because it is an Applicable or Relevant and Appropriate Requirement (ARAR).

MTCA A cleanup levels are already adjusted for leaching and natural background concentrations.

ND indicates analyte was not detected at level above reporting limit (shown in parentheses)

Table B-3
AOC-1 Soil Sample Metal Analytical Results
HF Sinclair Puget Sound Refining LLC

| Sample ID | EPA-6020 Arsenic mg/kg | EPA-6020 Cadmium mg/kg | EPA-7196 Chromium (VI) mg/kg | CrVI - Total Cr Chromium(III) mg/kg | EPA-6020 Lead mg/kg | EPA-6020 Nickel mg/kg | EPA-7471 Mercury mg/kg | EPA-6020 Zinc mg/kg |
|---|------------------------------|------------------------------|------------------------------------|---|---------------------------|-----------------------------|------------------------------|---------------------------|
| MTCA Method C Direct Contact Cleanup Level ^(a) : | 88 | 3500 | 260 | 5,300,000 | 1000 ^(c) | 70,000 | 2.0 ^(c) | 1,100,000 |
| Protection of Ground Water (Vadose) ^(b) : | 20 ^(c) | 0.69 | 19 ^(c) | 480,000 | 3,000 | 130 | 2.1 | - |
| B-1-23 6 ft (4/10/2023) | 2.6 | 0.11 | ND(<5) | 26 | 6.8 | 38 | 0.025 | 41 |
| B-2-23 6 ft (4/10/2023) | 3.2 | 0.12 | ND(<5) | 40 | 6.7 | 52 | 0.044 | 49 |
| B-3-23 5 ft (4/13/2023) | 4 | ND(<0.1) | ND(<5) | 37 | 4 | 64 | 0.026 | 52 |
| B-4-23 5.5 ft (4/13/2023) | 2.8 | ND(<0.1) | ND(<5) | 33 | 3 | 61 | 0.038 | 41 |

^(a) Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed

then the non-carcinogenic value was applied.

^(b) Protection of groundwater values obtained from CLARC tables unless otherwise noted.

^(c) MTCA A cleanup level for industrial properties was chosen because it is an Applicable or Relevant and Appropriate Requirement (ARAR). MTCA A cleanup levels are already adjusted for leaching and natural background concentrations.

ND indicates analyte was Not Detected at level above reporting limit (shown in parentheses)

Table B-4
AOC-1 Soil Sample cPAH Analytical Results
HF Sinclair Puget Sound Refining LLC

| Constituent | MTCA Method C Direct Contact Cleanup Level ^(a) (mg/kg) | Protection of Ground Water (Vadose) Cleanup Level ^(b) (mg/kg) | Toxicity Equivalency Factor (TEF) (mg/kg) | Relative Mobility Factor (RMF _n) (mg/kg) | B-1-23 6 ft (4/10/2023) | B-2-23 6 ft (4/10/2023) | B-3-23 5 ft (4/13/2023) | B-4-23 5.5 ft (4/13/2023) |
|--|---|--|---|--|-------------------------|-------------------------|-------------------------|---------------------------|
| Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) (EPA-8270 SIM): | | | | | | | | |
| Benzo[A]Anthracene | - | 0.72 ^(c) | 0.1 | 2.71 | (ND<0.020) | 0.076 | (ND<0.100) | 0.096 |
| Benzo[A]Pyrene | 130 | 3.9 | 1 | 1 | (ND<0.020) | 0.35 | (ND<0.100) | 0.07 |
| Benzo[B]Fluoranthene | - | 2.46 ^(c) | 0.1 | 0.79 | (ND<0.020) | 0.17 | (ND<0.100) | 0.067 |
| Benzo[K]fluoranthene | - | 2.46 ^(c) | 0.1 | 0.79 | (ND<0.020) | (ND<0.020) | (ND<0.100) | (ND<0.020) |
| Chrysene | - | 0.8 ^(c) | 0.01 | 2.43 | (ND<0.020) | 0.11 | 0.11 | 0.17 |
| Dibenz[A,H]Anthracene | - | 3.57 ^(c) | 0.1 | 0.54 | (ND<0.020) | 0.12 | (ND<0.100) | (ND<0.020) |
| Indeno[1,2,3-Cd]Pyrene | - | 6.94 ^(c) | 0.1 | 0.28 | (ND<0.020) | 0.1 | (ND<0.100) | (ND<0.020) |
| Total cPAH Equivalent (Teq) ^(e) | 130 | - | - | - | 0.015 | 0.397 | 0.078 | 0.107 |
| Polycyclic Aromatic Hydrocarbons (PAHs) (EPA-8270 SIM): | | | | | | | | |
| Acenaphthene | 210,000 | 49 | - | - | (ND<0.020) | 0.027 | 0.53 | 0.18 |
| Anthracene | 1,100,000 | 1,100 | - | - | (ND<0.020) | 0.091 | (ND<0.100) | (ND<0.020) |
| Fluoranthene | 140,000 | 630 | - | - | (ND<0.020) | 0.068 | (ND<0.100) | 0.11 |
| Fluorene | 140,000 | 51 | - | - | (ND<0.020) | (ND<0.020) | 0.65 | 0.17 |
| Total Naphthalene | 70,000 | 5 ^(e) | - | - | (ND<0.020) | (ND<0.020) | 5.2 | 0.84 |
| Pyrene | 110,000 | 330 | - | - | (ND<0.020) | 0.047 | 0.4 | 0.32 |

^(a) Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed then the non-carcinogenic value was applied.

^(b) Protection of groundwater values obtained from CLARC tables unless otherwise noted.

^(c) Values calculated from WAC 173-340-747, Equation 747-1. cPAHs were calculated using the MTCA Method A groundwater cleanup level for benzo[a]pyrene.

^(d) cPAH level calculated using Toxicity equivalency methodology provided in WAC 173-340-708(8)

^(e) MTCA A cleanup level for industrial properties was chosen because it is an ARAR. MTCA A cleanup levels are already adjusted for leaching and natural background concentrations.

Total Naphthalene is the sum of naphthalene, 1-methylnaphthalene and 2-methylnaphthalene.

BOLD & shaded - indicates that the concentration in the sample exceeds the most stringent cleanup level.

ND indicates analyte was not detected at level above reporting limit (shown in parentheses)

For ND values, the TEF was multiplied by one half the reporting limit

TEF - Toxicity Equivalency Factor (WAC 173-340-900 table 708.2)

TEq - Toxicity Equivalency to benzo(a)pyrene, calculated by multiplying result by appropriate TEF.

RMF_n - Relative Mobility Factor (Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs) - Implementation Memorandum #10)

Table B-5
AOC-1 Soil Cleanup Hazard Quotients
HF Sinclair Puget Sound Refining LLC

| Sample ID | Protection of Soil Direct Contact: Human Health Method C | | Protection of Ground Water Quality (Leaching) Potable Ground Water: Human Health Protection | |
|------------------------------|--|------------------------|---|------------------------|
| | Cancer Risk Threshold | Hazard Index Threshold | Cancer Risk Threshold | Hazard Index Threshold |
| | 1.00E-05 | 1.00E+00 | 1.00E-05 | 1.00E+00 |
| B-1-23 6 ft (4/10/2023) | 5.07E-09 | 1.45E-03 | 6.50E-07 | 3.55E-01 |
| B-2-23 6 ft (4/10/2023) | 1.31E-07 | 4.83E-02 | 2.92E-07 | 5.16E-02 |
| B-3-23 5 ft (4/13/2023) | 4.88E-08 | 4.10E-03 | 1.74E-05 | 2.45E+00 |
| B-4-23 5.5 ft (4/13/2023) | 3.49E-08 | 5.39E-03 | 3.02E-06 | 1.26E+00 |

BOLD & shaded - indicates that the sample exceeded hazard threshold and failed risk analysis.

**APPENDIX C -
2023 PROCESS SEWER INSPECTIONS AND REPAIR RECOMMENDATIONS**

2023 Process Sewer Inspections and Repair Recommendations

Date: March 5, 2024

Prepared For: HF Sinclair Puget Sound Refining LLC

Prepared By: TRC Environmental Corporation



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Tables

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Attachments

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| Attachment 1 | HF Sinclair Puget Sound Refining LLC Process Sewer Prioritization Rating System |
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1. Field Inspections

1.1. Background

The HF Sinclair Puget Sound Refining LLC (HFSPSR) Puget Sound Refinery’s (“Refinery”) process sewer, also referred to as Oily Water Sewer (OWS), has been in operation since constructed in 1958. The process sewer system is the underground piping system that consists of drain hubs, manholes, hatches, and other access points, which conveys process wastewater to the Refinery’s wastewater treatment system.

An Investigation and Response Plan (IRP), dated June 15, 2022, was prepared for the Refinery in accordance with the requirements in the Agreed Order No. DE 16298 (AO), Section VII.A. The IRP describes measures to investigate the process sewer system and respond to releases or threatened releases, if any, discovered during the investigation. The process sewer inspection process covers a ten (10)-year cycle. This report describes sections of the process sewer inspected during 2023, and into the first quarter of 2024, in accordance with the IRP, and findings from those inspections.

1.2. Process Sewer Field Inspections

During 2023, and into the first quarter of 2024, approximately 3,850 linear feet (LF) of sewer line segments and 28 manholes (also known as “structures”) were inspected. Field inspections were completed by Vortex Companies, LLC (“Vortex”) and Insituform Technologies, LLC (“Insituform”). Data were processed and filed with a Setup ID. Locations were confirmed in the field daily with Vortex and Refinery personnel and are presented in **Figure 1**. The following **Table 1** and **Table 2** present segments and manholes inspected during this field inspection effort, with **Table 1** also presenting comments associated with the video footage.

Manhole 5-A and part of segment 5-A to 23-1 were not inspected during this effort due to Refinery sewer isolation operations. Manhole D-12 was inspected during this effort but is recommended for reinspection during a future effort with additional flow mitigation into manhole. These structures and segment will be inspected in a later phase.

Table 1. Inspected Segments

| Setup ID | Segment ID | Pipe Dia. (IN) | Inspected Footage (LF) | Comments |
|----------|-------------|----------------|------------------------|----------|
| 2023-1 | D-1.1:D-2.1 | 15 | 253.4 | |
| 2023-2 | D-2.1:D-3.1 | 15 | 255.4 | |
| 2023-3 | D-3.1:D-4.1 | 15 | 412.3 | |
| 2023-4 | D-4.1:D-20 | 15 | 82.9 | |
| 2023-5 | D-20:D-6.1 | 15 | 227.7 | |
| 2023-6 | D-6.1:D-6 | 15 | 10.5 | |
| 2023-7 | D-6:D-19 | 15 | 82 | |



| Setup ID | Segment ID | Pipe Dia. (IN) | Inspected Footage (LF) | Comments |
|----------|-------------|----------------|------------------------|---|
| 2023-8 | D-19:D-20C | 19 | 64.3 | |
| 2023-9 | D-22:D-23 | 30 | 332 | |
| 2023-10 | D-23:D-24 | 30 | 217.3 | |
| 2023-11 | B-1:B-3 | 10 | 209.4 | |
| 2023-12 | B-02:5-P | 21 | 55.7 | |
| 2023-13 | 5-B:5-C | 18 | 82 | |
| 2023-14 | 5-C: 5-D | 18 | 265.3 | |
| 2023-15 | 5-D: 5-E | 18 | 89.5 | |
| 2023-16 | B-02:5-P | 21 | 55.2 | Reinspection of 2023-12. |
| 2023-17 | 23-4: 5-B | 18 | 133.2 | |
| 2023-18 | 23-1:5-A | 18 | 38.7 | Survey abandoned early due to sewer isolation plug. |
| 2023-19 | 23-1:23-2 | 18 | 26.6 | |
| 2023-20 | 23-2:23-3 | 18 | 52.6 | |
| 2023-21 | 23-3:23-4 | 18 | 26.1 | |
| 2023-22 | 5-F:D-12 | 21 | 134.5 | Survey abandoned early due to tap in pipe bottom. |
| 2023-23 | D-1.1:D-2.1 | 15 | 253.1 | Reinspection of 2023-1. |
| 2023-24 | D-2.1:D-3.1 | 15 | 253.3 | Reinspection of 2023-2. |
| 2023-25 | D-3.1:D-4.1 | 15 | 412 | Reinspection of 2023-3. |
| 2023-26 | D-6:D-19 | 30 | 82.3 | Reinspection of 2023-7. |
| 2023-27 | D-21:D-22 | 30 | 14.9 | Survey abandoned early due to high water level. |
| 2023-28 | 5-E:5-F | 21 | 268 | |
| 2023-29 | 5-P:5-0 | 21 | 207.7 | |
| 2023-30 | 5-0:5-M | 21 | 82 | |
| 2023-31 | B-1:B-3 | 10 | 208.7 | Reinspection of 2023-11. |
| 2023-32 | D-21:D-22 | 30 | 21.5 | Reinspection of 2023-27. |
| 2023-33 | D-20C:D-22 | 30 | 16.2 | |
| 2023-34 | 5-M:D-12 | 21 | 53.4 | Inspection ended early. |



| Setup ID | Segment ID | Pipe Dia. (IN) | Inspected Footage (LF) | Comments |
|----------|------------|----------------|------------------------|--|
| 2023-35 | 5-M:D-12 | 21 | 103.4 | Reinspection of 2023-34. Survey abandoned early due to high water level. |
| 2023-36 | 5-F:D-12 | 21 | 136.9 | Reinspection of 2023-22. |
| 2023-37 | 5-M:D-12 | 21 | 203 | Reinspection of 2023-34 and 2023-35. |

Table 2. Inspected Manholes

| Setup ID | Manhole ID |
|------------|------------|
| 2023-ST-1 | D-1.1 |
| 2023-ST-2 | D-2.1 |
| 2023-ST-3 | D-3.1 |
| 2023-ST-4 | D-4.1 |
| 2023-ST-5 | D-20 |
| 2023-ST-6 | D-6.1 |
| 2023-ST-7 | D-6 |
| 2023-ST-8 | D-23 |
| 2023-ST-9 | 23-1 |
| 2023-ST-10 | 23-2 |
| 2023-ST-11 | 23-3 |
| 2023-ST-12 | 23-4 |
| 2023-ST-13 | 5-C |
| 2023-ST-14 | D-21 |
| 2023-ST-15 | 5-B |
| 2023-ST-16 | 5-D |
| 2023-ST-17 | 5-E |
| 2023-ST-18 | 5-F |
| 2023-ST-19 | 5-M |
| 2023-ST-20 | 5-0 |
| 2023-ST-21 | 5-P |

| Setup ID | Manhole ID |
|------------|------------|
| 2023-ST-22 | B-02 |
| 2023-ST-23 | B-1 |
| 2023-ST-24 | B-3 |
| 2023-ST-25 | D-19 |
| 2023-ST-26 | D-20C |
| 2023-ST-27 | D-22 |
| 2023-ST-28 | D-12 |

2. Field Data Review

2.1. Video Review

Sewer segment and manhole inspection videos for the listed segments and manholes in **Table 1** and **Table 2** were provided to TRC by Vortex between August 9, 2023, and August 28, 2023 and by Insituform on January 24, 2024. Following receipt of sewer inspection videos, TRC's team of certified National Association of Sewer Service Companies (NASSCO) staff reviewed videos for completeness and quality and provided an initial identification of defects using a NASSCO certified software. Sewer segments and manholes were reviewed using NASSCO's Pipeline Assessment Certification Program (PACP) and Manhole Assessment Certification Program (MACP) structural rating (SR) system to structurally rate sewer defects (e.g., cracking, deformities, etc.).

Following structural rating, TRC assigned defects a separate prioritization rating (PR) which takes into consideration the potential for release. This rating system was made specifically for the Refinery and can be found in **Attachment 1**. Each PR category is based on defect characteristics and the prioritization for follow-up actions and documentation.

Summary inspection reports, including PR identifiers and photos of defects, for segments and manholes can be found in **Attachment 2** and **Attachment 3**, respectively.

2.2. Repair Recommendations

Cleaning and inspection activities for the sewers revealed that some locations required further analysis or rehabilitation. Defects rated with a PR of 3 or 4 are grouped together in repair areas (e.g., Repair Area 1, Repair Area 2, etc.) based on proximity and are shown on **Figure 2A** through **Figure 2E**.

Repair Area 1 (2023-5, 2023-7, and 2023-26)

- 2023-5 (D-20:D-6.1)
 - Continue monitoring, or scope for future repair, sewer segment for PR=3 fracture between approximately 103 and 108 ft south of MH D-20.
- 2023-7 and 2023-26 (D-6:D-19)

- Continue monitoring, or scope for future repair, sewer segment for PR=3 multiple repair patches and fracture between approximately 60 and 85 ft south of MH D-6.

Repair Area 2 (2023-10)

- 2023-10 (D-23:D-24)
 - Line with cured in place pipe (CIPP), or dig and replace, entire segment from MH D-23 to MH D-24 for PR=3 surface damage corrosion.

Repair Area 3 (2023-22 and 2023-28)

- 2023-22 (5-F:D-12)¹
 - CIPP entire segment from MH 5-F to MH D-12, for PR=3 surface damage reinforcement visible.
- 2023-28 (5-E:5-F)
 - CIPP entire segment from MH 5-E to MH 5-F, for PR=3 surface damage reinforcement visible and fracture.

Repair Area 4 (2023-13 and 2023-14)

- 2023-13 (5-B:5-C)
 - Continue monitoring, or scope for future repair, sewer segment for PR=3 fracture between approximately 78 and 83 ft east of MH 5-B.
- 2023-14 (5-C:5-D)
 - Dig and replace sewer segment for PR=3 joint offset between approximately 262 and 267 ft east of MH 5-C.

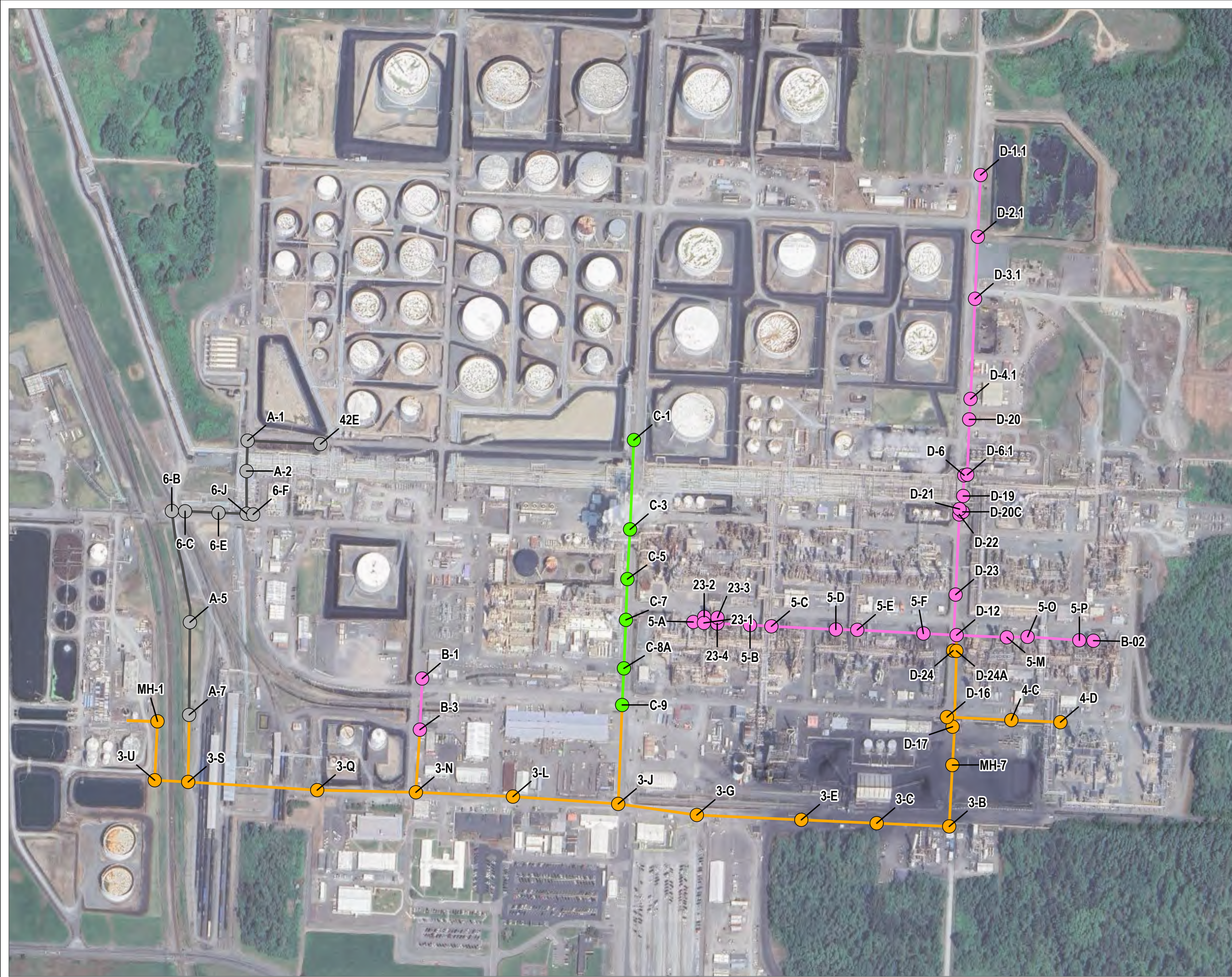
Repair Area 5 (2023-11 and 2023-31)

- 2023-11 and 2023-31 (B-1:B-3)
 - CIPP entire segment from B-1 to B-3, for PR=3 fractures and PR=4 broken section of pipe.

¹ 2023-22 (5-F:D-12) and 2023-34 (5-M:D-12) were lined with CIPP on January 19, 2024.

Figures

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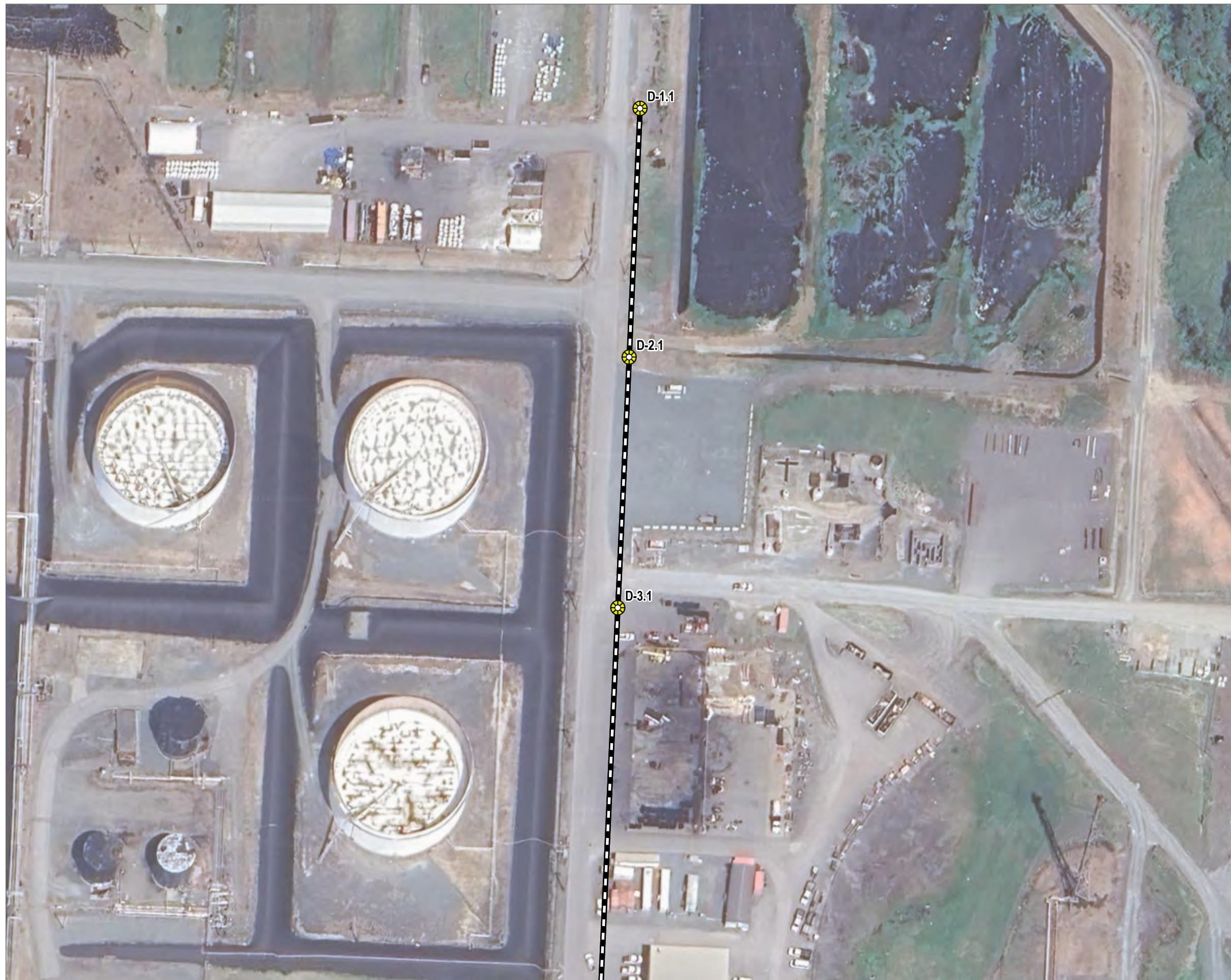
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- DECEMBER 31, 2023
 - DECEMBER 31, 2026
 - DECEMBER 31, 2028
 - DECEMBER 31, 2031

BASE MAP: GOOGLE EARTH PRO AERIAL IMAGERY
 SERVICE LAYER, 2/2024
 DATA SOURCES: TRC



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| TITLE: PROCESS SEWER INSPECTION SCOPE | | | |
| DRAWN BY: | A. CLINE | PROJ. NO.: | 542643.0000.0000 |
| CHECKED BY: | S. RAY | FIGURE 1 | |
| APPROVED BY: | N. LONGTIN | | |
| DATE: | FEBRUARY 2024 | | |
| TRC | | 505 EAST HUNTLAND DRIVE SUITE #250 AUSTIN, TX 78752 PHONE: 512.329.6080 | |
| FILE: | | PSR_3_4_Defects.aprx | |

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet, Map Rotation: 0
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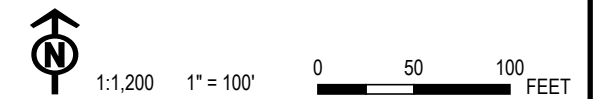
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- Prioritization Rating = 3
- Prioritization Rating = 4

Continuous Defects

- Prioritization Rating = 3
- Sewer Structure
- Sewer Lines
- Sewer Inspection Route

BASE MAP: GOOGLE EARTH PRO AERIAL IMAGERY
 SERVICE LAYER, 2/2024
 DATA SOURCES: TRC



PROJECT: HF SINCLAIR PUGET SOUND REFINING LLC
 PUGET SOUND REFINERY
 2023 PROCESS SEWER INSPECTIONS
 AND REPAIR RECOMMENDATIONS

TITLE: **2023 SEWER INSPECTIONS AND
 PRIORITIZATION RATED DEFECTS 3 & 4**

| | | | |
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| DRAWN BY: | A. CLINE | PROJ. NO.: | 542643.0000.0000 |
| CHECKED BY: | S. RAY | FIGURE 2A | |
| APPROVED BY: | N. LONGTIN | | |
| DATE: | FEBRUARY 2024 | | |

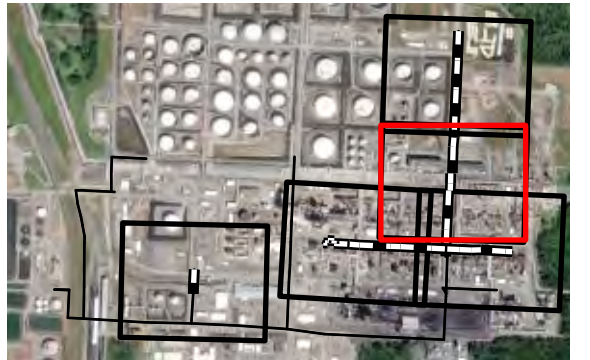
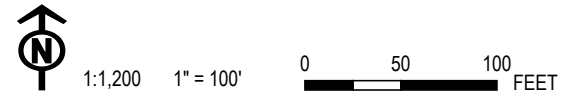
TRC 505 EAST HUNTLAND DRIVE
 SUITE #250
 AUSTIN, TX 78752
 PHONE: 512.329.6080
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- Point Defects**
- Prioritization Rating = 3
 - Prioritization Rating = 4
- Continuous Defects**
- Prioritization Rating = 3
 - ⊗ Sewer Structure
 - Sewer Lines
 - - - Sewer Inspection Route

BASE MAP: GOOGLE EARTH PRO AERIAL IMAGERY
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 DATA SOURCES: TRC



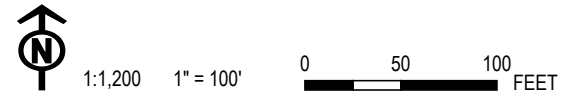
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| TITLE: 2023 SEWER INSPECTIONS AND PRIORITIZATION RATED DEFECTS 3 & 4 | |
| DRAWN BY: A. CLINE | PROJ. NO.: 542643.0000.0000 |
| CHECKED BY: S. RAY | FIGURE 2B |
| APPROVED BY: N. LONGTIN | |
| DATE: FEBRUARY 2024 | |
| | |
| 505 EAST HUNTLAND DRIVE SUITE #250 AUSTIN, TX 78752 PHONE: 512.329.6080 | |
| FILE: | PSR_3_4_Defects.aprx |


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- Point Defects**
- Prioritization Rating = 3
 - Prioritization Rating = 4
- Continuous Defects**
- Prioritization Rating = 3
 - ⊗ Sewer Structure
 - Sewer Lines
 - Sewer Inspection Route

BASE MAP: GOOGLE EARTH PRO AERIAL IMAGERY
 SERVICE LAYER, 2/2024
 DATA SOURCES: TRC

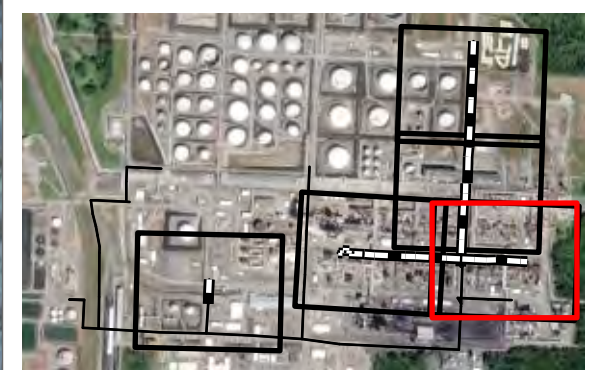
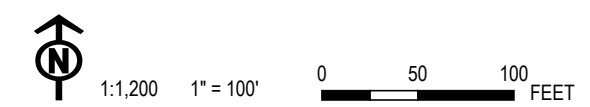


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| TITLE: 2023 SEWER INSPECTIONS AND PRIORITIZATION RATED DEFECTS 3 & 4 | |
| DRAWN BY: A. CLINE | PROJ. NO.: 542643.0000.0000 |
| CHECKED BY: S. RAY | FIGURE 2C |
| APPROVED BY: N. LONGTIN | |
| DATE: FEBRUARY 2024 | |
|  | |
| 505 EAST HUNTLAND DRIVE SUITE #250 AUSTIN, TX 78752 PHONE: 512.329.6080 | |
| FILE: | PSR_3_4_Defects.aprx |



- Point Defects**
- Prioritization Rating = 3
 - Prioritization Rating = 4
- Continuous Defects**
- Prioritization Rating = 3
 - ⊗ Sewer Structure
 - Sewer Lines
 - ⊞ Sewer Inspection Route

BASE MAP: GOOGLE EARTH PRO AERIAL IMAGERY
 SERVICE LAYER, 2/2024
 DATA SOURCES: TRC



| | |
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| TITLE: 2023 SEWER INSPECTIONS AND PRIORITIZATION RATED DEFECTS 3 & 4 | |
| DRAWN BY: A. CLINE | PROJ. NO.: 542643.0000.0000 |
| CHECKED BY: S. RAY | FIGURE 2D |
| APPROVED BY: N. LONGTIN | |
| DATE: FEBRUARY 2024 | |
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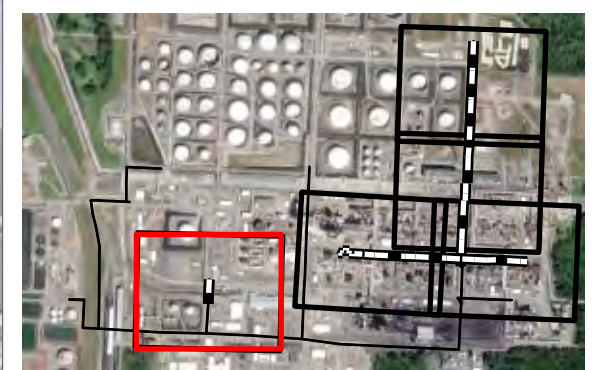
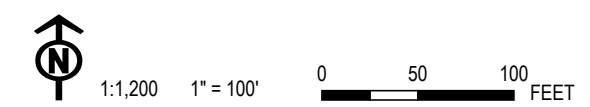
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Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet, Map Rotation: 0
 - Saved By: ACLINE on 2/26/2024, 11:36:53 AM, File Path: T:\1-PROJECTS\HolyFrontier\Puget_Sound_Sewer\2-APRXP\SR_3_4_Defects.aprx, Layout Name: Figure 2



- Point Defects**
- Prioritization Rating = 3
 - Prioritization Rating = 4
- Continuous Defects**
- Prioritization Rating = 3
 - ⊗ Sewer Structure
 - Sewer Lines
 - ⊢ Sewer Inspection Route

BASE MAP: GOOGLE EARTH PRO AERIAL IMAGERY
 SERVICE LAYER, 2/2024
 DATA SOURCES: TRC



| | |
|---|-----------------------------|
| PROJECT: HF SINCLAIR PUGET SOUND REFINING LLC PUGET SOUND REFINERY 2023 PROCESS SEWER INSPECTIONS AND REPAIR RECOMMENDATIONS | |
| TITLE: 2023 SEWER INSPECTIONS AND PRIORITIZATION RATED DEFECTS 3 & 4 | |
| DRAWN BY: A. CLINE | PROJ. NO.: 542643.0000.0000 |
| CHECKED BY: S. RAY | FIGURE 2E |
| APPROVED BY: N. LONGTIN | |
| DATE: FEBRUARY 2024 | |
| | |
| 505 EAST HUNTLAND DRIVE SUITE #250 AUSTIN, TX 78752 PHONE: 512.329.6080 | |
| FILE: | PSR_3_4_Defects.aprx |

Attachment 1: HF Sinclair Puget Sound Refinery Process Sewer Prioritization Rating System

HF Sinclair Puget Sound Refining LLC
Sewer Prioritization Ratings






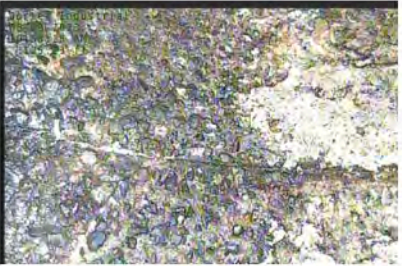


| Rating | Characteristic / Examples | Actions and Documentation |
|--------|--|--|
| 4 | <p>Significant structural defect with potential for release.</p> <p>Examples: Large holes at or below the segment/manhole flow line and above groundwater table; completely separated joints with exposed surrounding soil above groundwater table; collapsed pipe sections.</p> | <p>Conduct initial release investigation involving the collection of soil and/or shallow groundwater sample(s). Groundwater samples will be collected only if the potential release occurred at or below the shallow groundwater table elevation. Schedule for moderate priority mitigation effort (primarily repair based on Refinery operational needs and accessibility or reinspection to monitor defect condition).</p> <p>If soil or groundwater concentrations exceed cleanup levels specified in Section 3.4 of IRP, a workplan for initiating an interim remedial action will be submitted to Ecology within 120 days. If a presumptive interim action is selected, the workplan will be submitted to Ecology within 60 days of the completion on the site characterization work.</p> |
| 3 | <p>Moderate structural defect.</p> <p>Examples: Significant fractures/cracks at or below the pipe/manhole flow line; groundwater infiltration at defect; significant corrosion. Defects that both higher risk for future potential release or structural failure.</p> | <p>Document in the Refinery record. Schedule for low priority mitigation effort (primarily repair based on Refinery operational needs and accessibility or reinspection to monitor defect condition).</p> |
| 2 | <p>Small to moderate structural defect.</p> <p>Examples: Moderate fractures/cracks above the pipe/manhole flow line; joint improperly seated; pipe reinforcement visible, moderate corrosion in pipe.</p> | <p>Document in the Refinery record.</p> |
| 1 | <p>Small structural defect.</p> <p>Examples: Hairline cracks; minor corrosion/deterioration of pipe/manhole material; visible aggregate; small offset joint; missing sealing rings.</p> | <p>Document in the Refinery record.</p> |







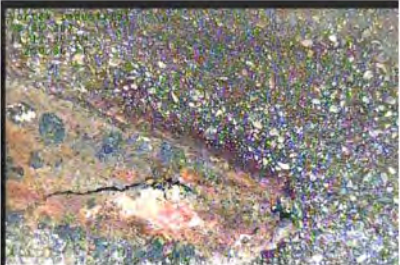


Notes:

1. IRP = Investigation and Response Plan dated June 15, 2022.




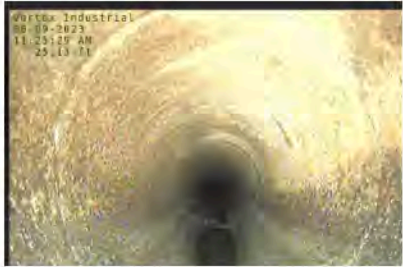

Attachment 2: Process Segment Inspection Summary Reports








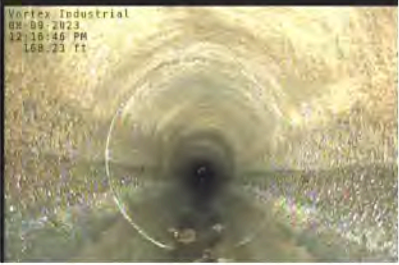
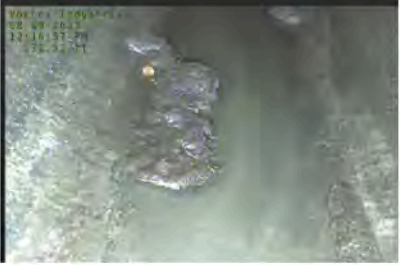
| | | | | | | | | | | | |
|------------|-------------|-----------------------|-------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-1 | Inspection Date | Aug 9, 2023 | Inspected Length (ft) | 253.4 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 6 |
| Segment ID | D-1.1:D-2.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 1 | Peak C/O&M Rating | 0 | | |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-1.1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 253.4 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |       |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Multiple | Point | 176 | Structural | 0 | 5-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 221.5 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 221.5 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 250.8 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Longitudinal | Point | 250.8 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Manhole | Point | 253.4 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-2.1 |  |


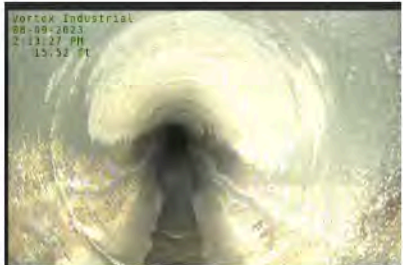

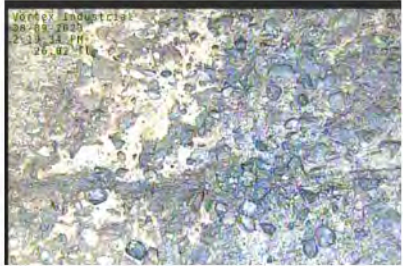




| | | | | | | | | | | | |
|------------|-------------|-----------------------|-------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-2 | Inspection Date | Aug 9, 2023 | Inspected Length (ft) | 255.4 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 4 |
| Segment ID | D-2.1:D-3.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 1 | Peak C/O&M Rating | 2 | | |




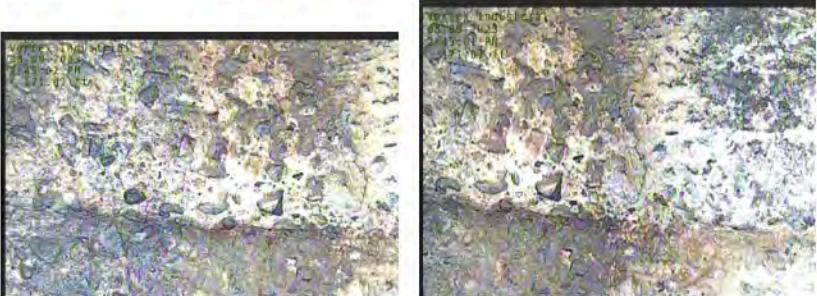

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-2.1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 255.4 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |    |







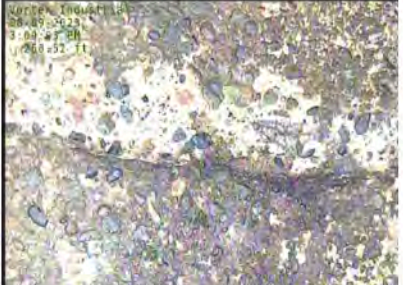
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Deposits Settled Fine | Continuous | 37.5 - 93.2 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Fine |    |
| Crack Circumferential | Point | 93.3 | Structural | 0 | 4-5 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 105.29 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Settled Fine | Continuous | 119.2 - 127 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Fine |   |
| Deposits Settled Fine | Point | 168.6 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Fine |   |









| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 201.8 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Manhole | Point | 255.4 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-3.1 |   |






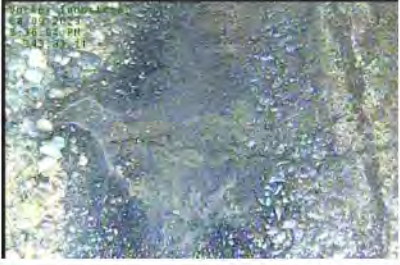

| | | | | | | | | | | | |
|------------|-------------|-----------------------|-------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-3 | Inspection Date | Aug 9, 2023 | Inspected Length (ft) | 412.3 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Total PR Defects | 27 |
| Segment ID | D-3.1:D-4.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|--|
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-3.1 |  |
| Surface Aggregate Visible | Continuous | 0 - 412.3 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Aggregate Visible |       |








| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|--------------------|---|
| Miscellaneous General Observation | Point | 87.4 | Miscellaneous | 0 | 6 | 0 | 0 | 0 | 0 | Object in pipe |  |
| Miscellaneous General Observation | Point | 116.8 | Miscellaneous | 0 | 6 | 0 | 0 | 0 | 0 | Object in Pipe |  |
| Crack Longitudinal | Point | 122.7 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 171.1 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Miscellaneous General Observation | Point | 177.1 | Miscellaneous | 0 | 6 | 0 | 0 | 0 | 0 | Object in Pipe |  |









| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------------|---|
| Deposits Settled Gravel | Continuous | 228.1 - 236 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Gravel |   |
| Crack Longitudinal | Point | 237.5 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 246.1 | Structural | 0 | 4-5 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Longitudinal | Point | 261.9 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 268.5 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

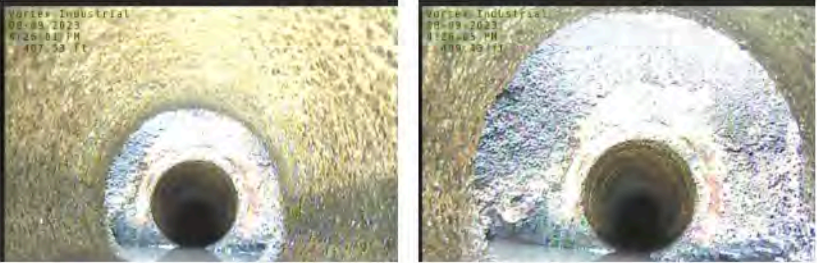

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 292 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 327.9 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 334.6 | Structural | 0 | 3-5 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Circumferential | Point | 337.6 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 337.6 | Structural | 0 | 6-7 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Circumferential | Point | 341 | Structural | 0 | 4-7 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 341 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 343.8 | Structural | 0 | 6-7 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 347.3 | Structural | 0 | 4-5 | 1 | 0 | 0 | 1 | Crack Circumferential |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 347.3 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 354.8 | Structural | 0 | 5-10 | 2 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Circumferential | Point | 359.1 | Structural | 0 | 4-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 371 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Circumferential | Point | 379.1 | Structural | 0 | 8-10 | 1 | 0 | 0 | 2 | Crack Circumferential |   |

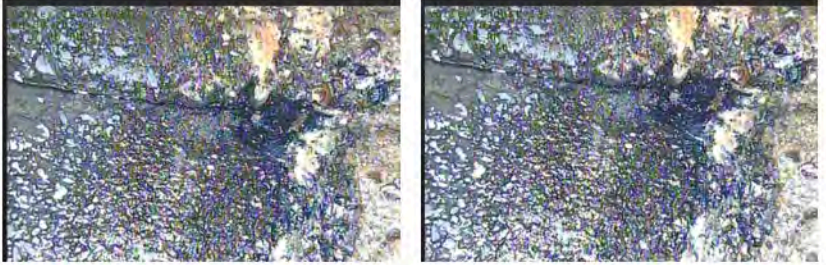

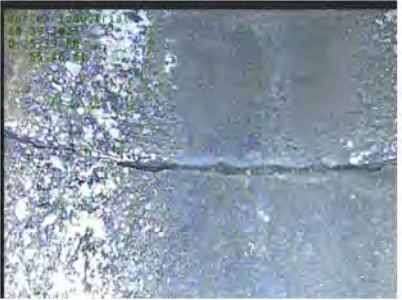

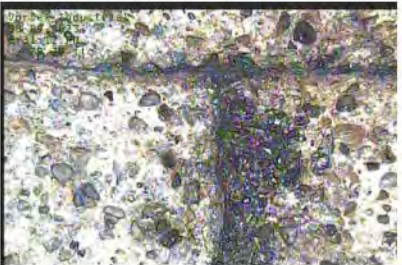

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 379.3 | Structural | 0 | 4-7 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Longitudinal | Point | 388.6 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 395.1 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

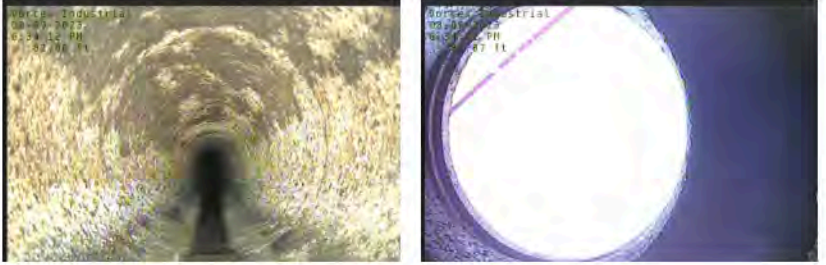
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------------|--|
| Crack Longitudinal | Point | 395.1 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 404.4 | Structural | 0 | 3-5 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Circumferential | Point | 406.4 | Structural | 0 | 6-11 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Deposits Settled Gravel | Point | 406.7 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Gravel |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------|---|
| Manhole | Point | 412.3 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-4.1 |   |








| | | | | | | | | | | | |
|------------|------------|-----------------------|-------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-4 | Inspection Date | Aug 9, 2023 | Inspected Length (ft) | 82.9 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 7 |
| Segment ID | D-4.1:D-20 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 82.9 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Aggregate Visible |      |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-4.1 |  |


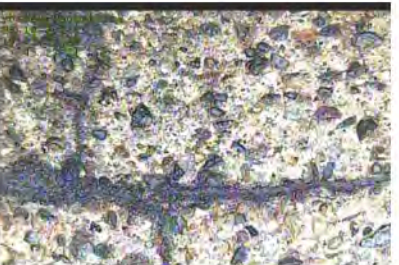
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 7.8 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 49.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 55.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 73.7 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 79.8 | Structural | 0 | 12 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Multiple | Point | 79.8 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |


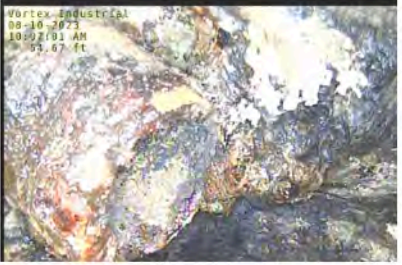

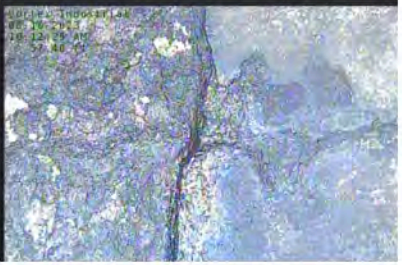



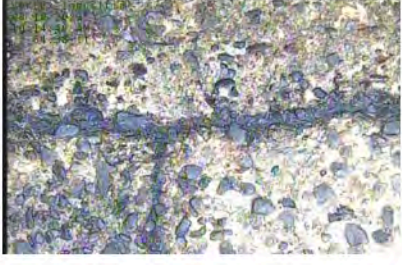


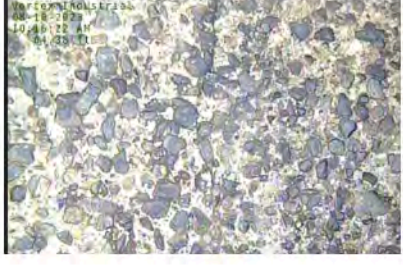

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------|---|
| Manhole | Point | 82.9 | Constructional | 0 | | 1 | 0 | 0 | 0 | D-20 |  |

| | | | | | | | | | | | |
|------------|------------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-5 | Inspection Date | Aug 10, 2023 | Inspected Length (ft) | 227.7 | Defects Rated ≥3 | 1 | Peak Structural Rating | 4 | Total PR Defects | 64 |
| Segment ID | D-20:D-6.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 4 | | |


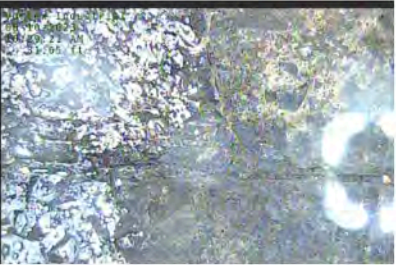


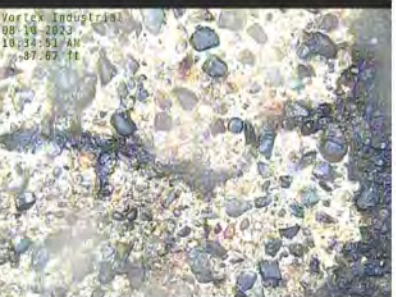



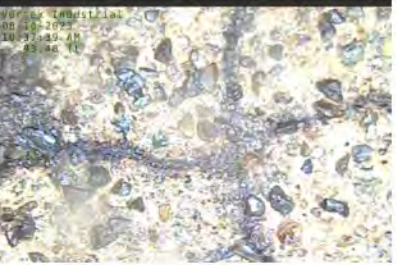
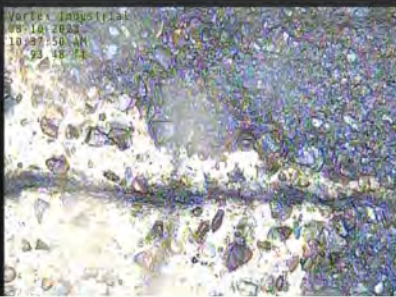

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-20 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 227.7 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |      |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 9.2 | Structural | 0 | 10-3 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Longitudinal | Point | 15.5 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 21.5 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 21.5 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 21.5 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |










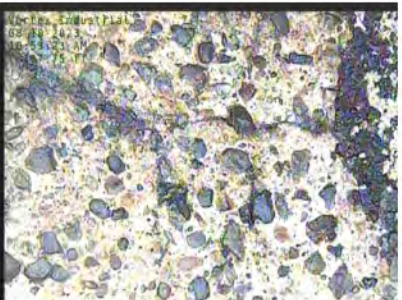


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 21.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 25.3 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Longitudinal | Point | 27.4 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 27.4 | Structural | 0 | 12 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 45.3 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 45.3 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |








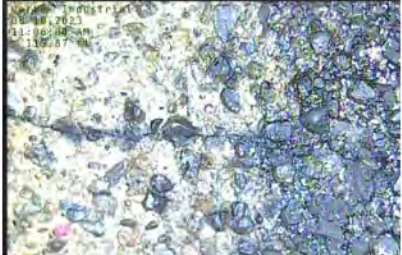
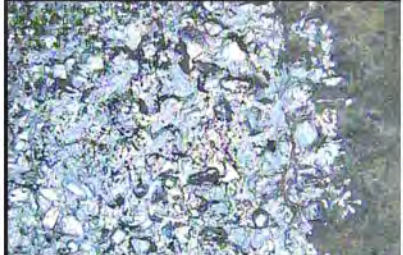
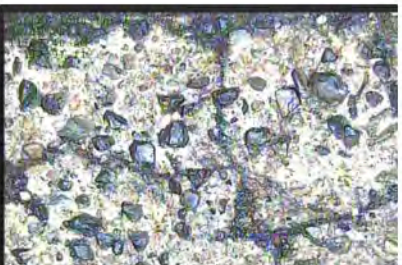


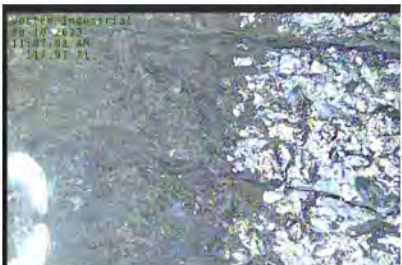

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------------------------|---|
| Tap Break-In Intruding | Point | 54.7 | Constructional | 0 | 11 | 0 | 4 | 0 | 1 | Tap Break-In Intruding |    |
| Fracture Multiple | Point | 57.4 | Structural | 0 | 10-3 | 4 | 0 | 0 | 2 | Fracture Multiple |    |
| Crack Longitudinal | Point | 57.4 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 64.4 | Structural | 0 | 9 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 64.4 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Miscellaneous Water Level | Point | 66.7 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------|---|
| Crack Multiple | Point | 69.7 | Structural | 0 | 3-6 | 3 | 0 | 0 | 1 | Crack Multiple |      |
| Crack Multiple | Point | 75.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Tap Factory Activity | Point | 79 | Constructional | 0 | 12 | 0 | 0 | 0 | 0 | Tap Factory Activity |   |
| Crack Multiple | Point | 80.4 | Structural | 0 | 12-2 | 3 | 0 | 0 | 1 | Crack Multiple |   |





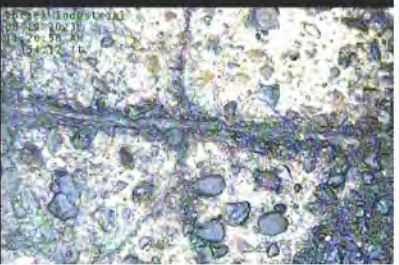
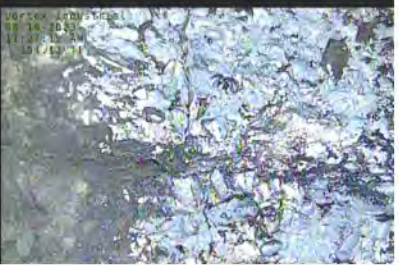
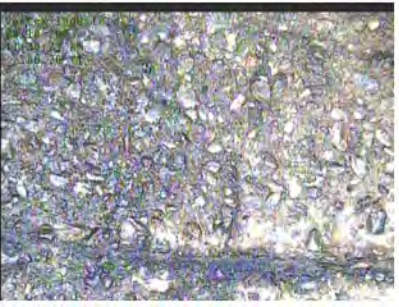
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 81.7 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 81.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 87.7 | Structural | 0 | 3-9 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Multiple | Point | 93.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |

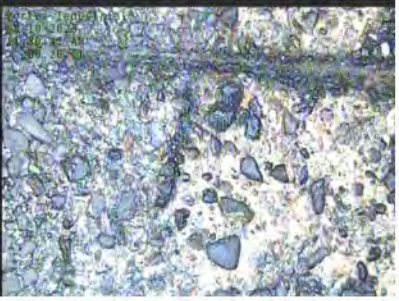
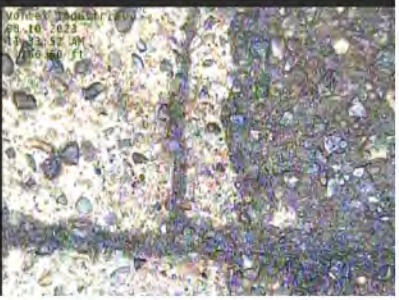
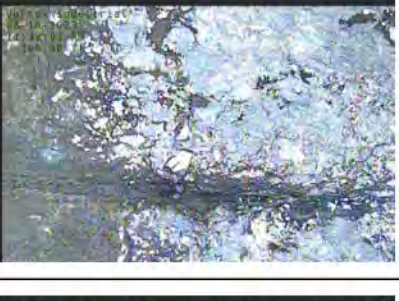


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 99.5 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Multiple | Point | 103.7 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|--|
| Crack Multiple | Point | 105.8 | Structural | 0 | 8-4 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Fracture Circumferential | Point | 105.8 | Structural | 0 | 5-7 | 2 | 0 | 0 | 3 | Fracture Circumferential |      |
| Crack Multiple | Point | 107.7 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Crack Multiple |    |


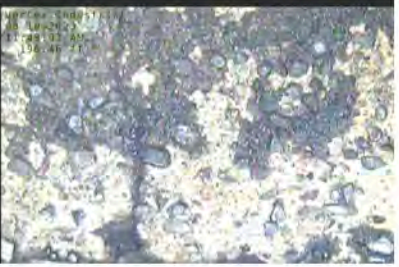
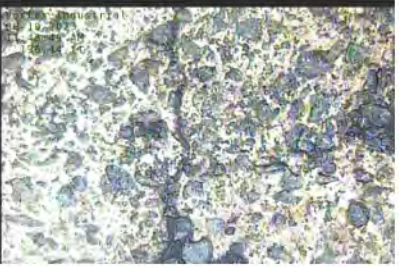



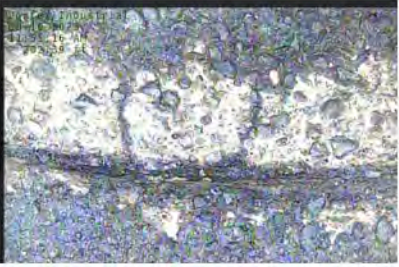

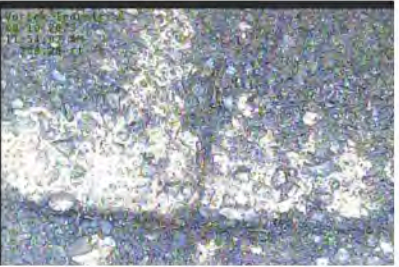
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 110.1 | Structural | 0 | 6-9 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Multiple | Point | 111.8 | Structural | 0 | 8-4 | 2 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Circumferential | Point | 115.9 | Structural | 0 | 6-9 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Multiple | Point | 117.9 | Structural | 0 | 8-10 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Circumferential | Point | 117.9 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |   |

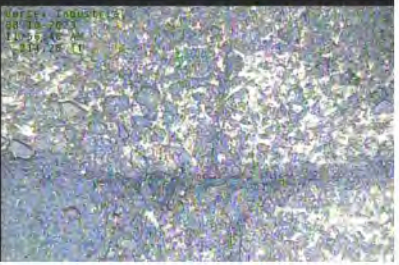



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Circumferential | Point | 124.1 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 129.8 | Structural | 0 | 9 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 129.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 135.8 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 141.9 | Structural | 0 | 12-12 | 1 | 0 | 0 | 2 | Crack Circumferential |     |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 148.2 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 148.2 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 154.1 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 154.1 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 154.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 160.2 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |






| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 160.2 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 166.6 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 166.6 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 172.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 172.3 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 172.3 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

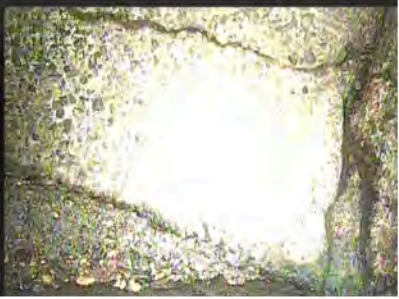

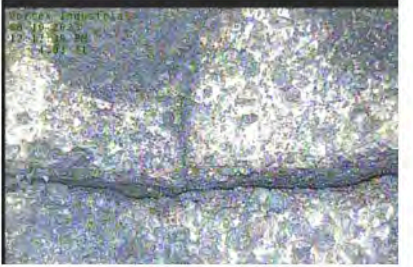


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 172.3 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 172.3 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 178.2 | Structural | 0 | 6-11 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Multiple | Point | 184.5 | Structural | 0 | 8-9 | 2 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Longitudinal | Point | 190.4 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 190.4 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 196.4 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 196.4 | Structural | 0 | 8-10 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Longitudinal | Point | 196.4 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 202.4 | Structural | 0 | 1-2 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Longitudinal | Point | 208.2 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |






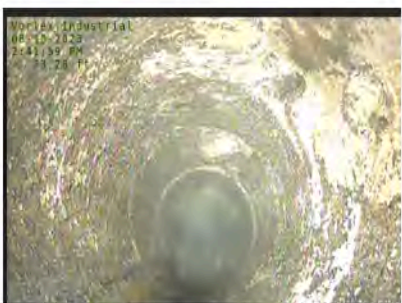
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 214.3 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 220.4 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Manhole | Point | 227.7 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-6.1 |   |







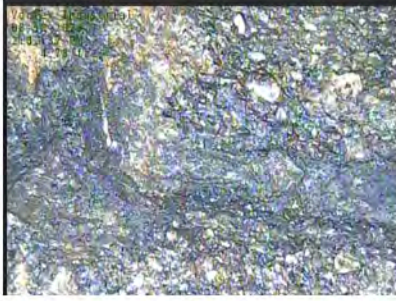




| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-6 | Inspection Date | Aug 10, 2023 | Inspected Length (ft) | 10.5 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Total PR Defects | 3 |
| Segment ID | D-6.1:D-6 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |



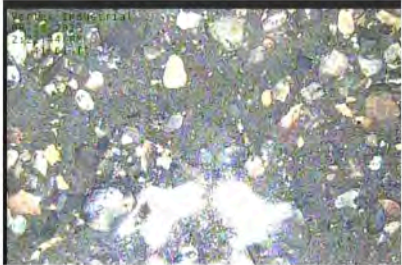

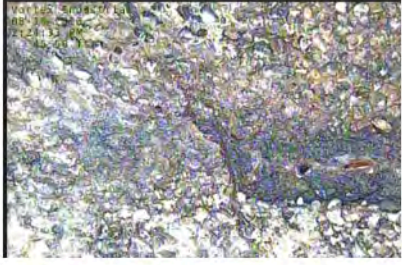




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-6.1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Roughness Increased | Continuous | 0 - 10.5 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |    |

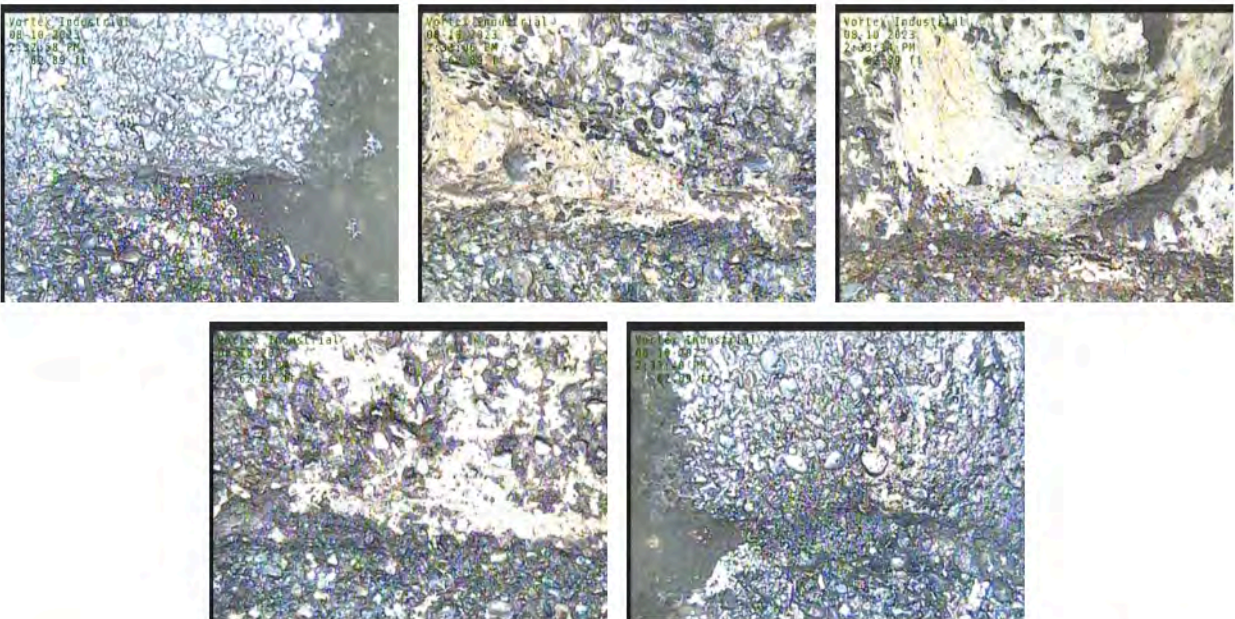


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Fracture Multiple | Point | 0.5 | Structural | 0 | 8-9 | 4 | 0 | 0 | 2 | Fracture Multiple |   |
| Crack Longitudinal | Point | 4 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Manhole | Point | 10.5 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-6 |   |



| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|----|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-7 | Inspection Date | Aug 10, 2023 | Inspected Length (ft) | 82 | Defects Rated ≥3 | 3 | Peak Structural Rating | 3 | Total PR Defects | 9 |
| Segment ID | D-6:D-19 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 2 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-6 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 82 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |     |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------------------------|---|
| Fracture Circumferential | Point | 4.8 | Constructional | 0 | 7-8 | 2 | 0 | 0 | 2 | Fracture Circumferential |    |
| Crack Circumferential | Point | 4.8 | Structural | 0 | 9-7 | 1 | 0 | 0 | 1 | Crack Circumferential |     |
| Miscellaneous Water Level | Point | 7 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Longitudinal | Point | 13 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Obstruction Rocks | Point | 14 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Obstruction Rocks |   |

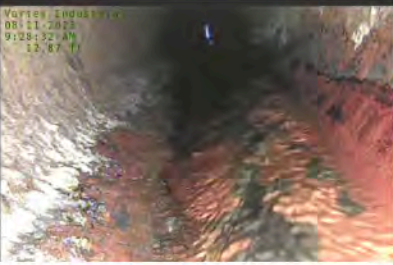
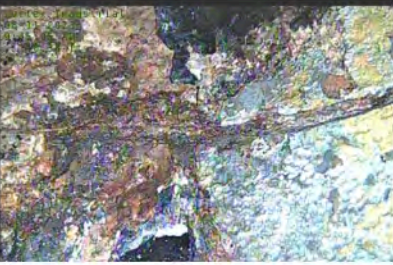


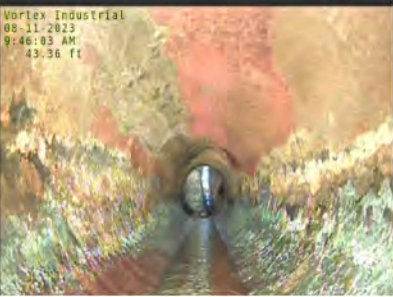





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------------|---|
| Miscellaneous Water Level | Point | 33.4 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Deposits Settled Gravel | Continuous | 37.5 - 52.8 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Gravel |    |
| Crack Longitudinal | Point | 45.5 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Miscellaneous Water Level | Point | 53.6 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Point Repair Patch | Point | 61.9 | Structural | 0 | 12 | 0 | 0 | 0 | 3 | Point Repair Patch |    |




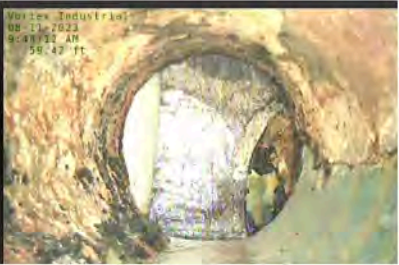

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Circumferential | Point | 62.3 | Structural | 0 | 1-11 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Point Repair Patch | Continuous | 66.1 - 75.1 | Structural | 20 | 12-3 | 0 | 0 | 0 | 3 | Point Repair Patch |  |
| Deposits Attached Encrustation | Point | 78.5 | O&M | 10 | 12 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-----------------------|---|
| Manhole | Point | 82 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-19 |  |
| Fracture Longitudinal | Point | 82 | Structural | 0 | 6 | 3 | 0 | 0 | 3 | Fracture Longitudinal |  |



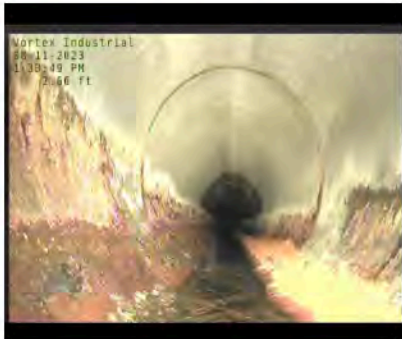





| | | | | | | | | | | | |
|------------|------------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-8 | Inspection Date | Oct 11, 2023 | Inspected Length (ft) | 64.3 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Total PR Defects | 4 |
| Segment ID | D-19:D-20C | Primary Pipe Material | SP | Pipe Diameter (in) | 20 | Peak Prioritization Rating | 1 | Peak C/O&M Rating | 2 | | |
















| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|--|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-19 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |



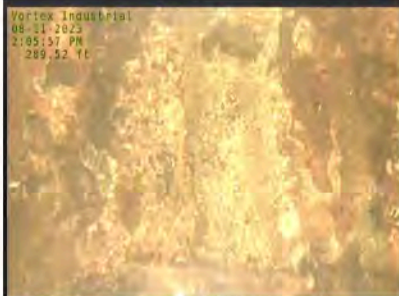
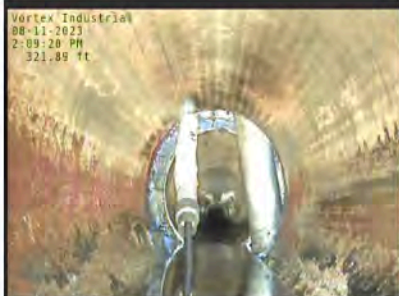




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Surface Spalling | Continuous | 0 - 64.3 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Surface Spalling |        |
| Deposits Settled Gravel | Continuous | 18.2 - 22.2 | O&M | 10 | | 0 | 2 | 0 | 0 | Deposits Settled Gravel |     |
| Crack Longitudinal | Point | 20.2 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |








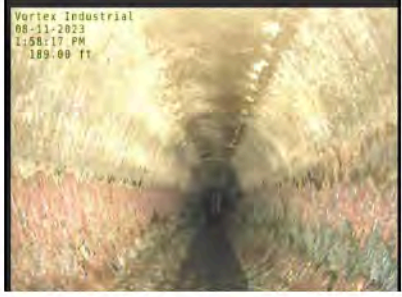

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 40.4 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 59.1 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Manhole | Point | 64.3 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-20C |   |

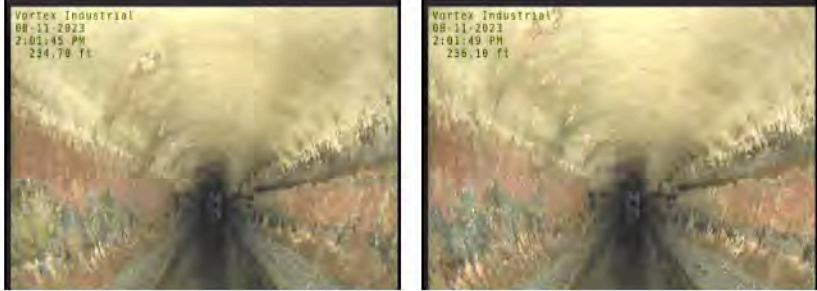
| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|-----|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-9 | Inspection Date | Aug 11, 2023 | Inspected Length (ft) | 332 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 11 |
| Segment ID | D-22:D-23 | Primary Pipe Material | SP | Pipe Diameter (in) | 30 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|--|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-22 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Corrosion | Continuous | 0 - 332 | Structural | 0 | 3-9 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |       |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------|--------------|---------------|------|---------|-------|----|-----|---|----|---------|---|
| | | | | | | | | | | |    |
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| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------------------|---|
| | | | | | | | | | | |     |
| Crack Longitudinal | Point | 10 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Surface Damage Roughness Increase | Point | 47.7 | Structural | 0 | 9 | 1 | 0 | 0 | 2 | Surface Damage Roughness Increase |  |
| Crack Longitudinal | Point | 49.8 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Roughness Increased | Continuous | 55 - 61.3 | Structural | 0 | 11-1 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Crack Longitudinal | Continuous | 110.8 - 127.2 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Continuous | 129.2 - 147 | Structural | 0 | 1 | 2 | 0 | 0 | 2 | Crack Longitudinal |    |
| Surface Damage Roughness Increased | Point | 162 | Structural | 0 | 12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Roughness Increased | Continuous | 189.2 - 208.9 | Structural | 0 | 9-3 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |   |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Roughness Increased | Continuous | 237 - 247 | Structural | 0 | 11 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Crack Longitudinal | Point | 309.6 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Manhole | Point | 332 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-23 |  |

| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-10 | Inspection Date | Aug 11, 2023 | Inspected Length (ft) | 217.3 | Defects Rated ≥3 | 4 | Peak Structural Rating | 3 | Total PR Defects | 14 |
| Segment ID | D-23:D-24 | Primary Pipe Material | SP | Pipe Diameter (in) | 30 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 4 | | |


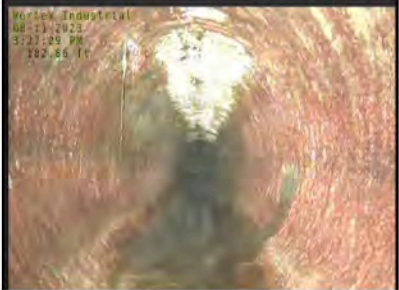



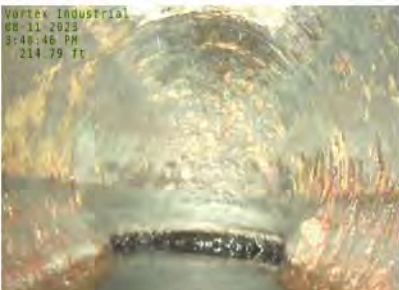
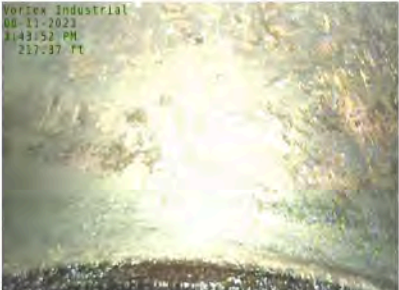


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Surface Damage Corrosion | Continuous | 0 - 8 | Structural | 0 | 4-8 | 3 | 0 | 0 | 3 | Surface Damage Corrosion |   |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-23 |  |
| Surface Damage Corrosion | Continuous | 8 - 17 | Structural | 0 | 4-8 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Surface Damage Corrosion | Point | 17 | Structural | 0 | 4-8 | 3 | 0 | 0 | 3 | Surface Damage Corrosion |   |
| Surface Damage Corrosion | Continuous | 19 - 75 | Structural | 0 | 4-8 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |      |

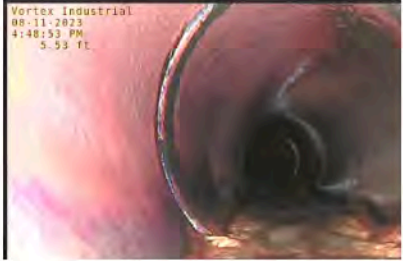

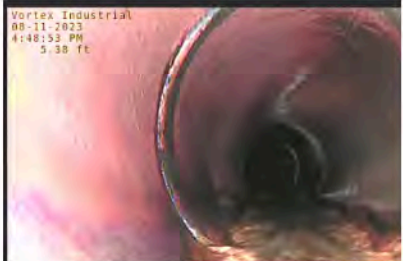


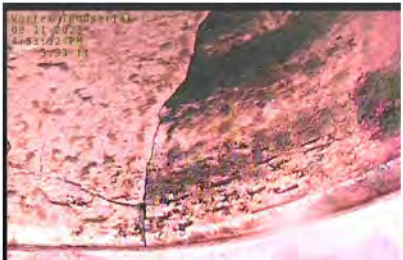
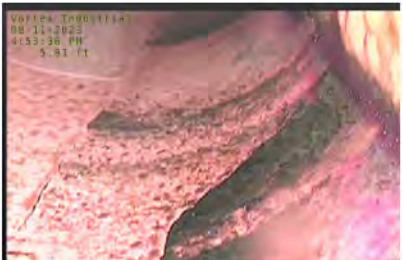
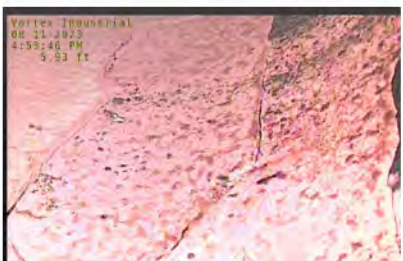
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Corrosion | Continuous | 75 - 88 | Structural | 0 | 4-8 | 3 | 0 | 0 | 3 | Surface Damage Corrosion |    |
| Surface Damage Corrosion | Continuous | 88 - 120 | Structural | 0 | 4-8 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |     |
| Surface Damage Roughness Increased | Continuous | 117 - 125.4 | Structural | 0 | 9-1 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |   |

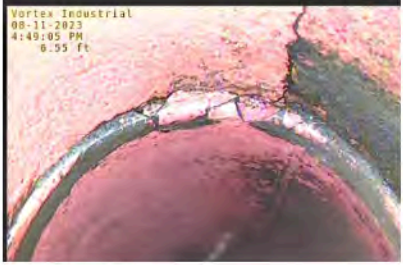
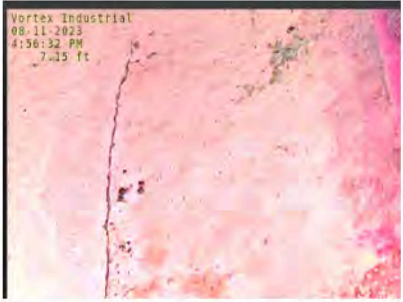
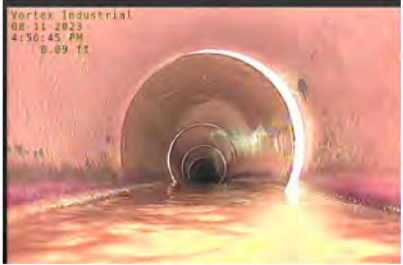
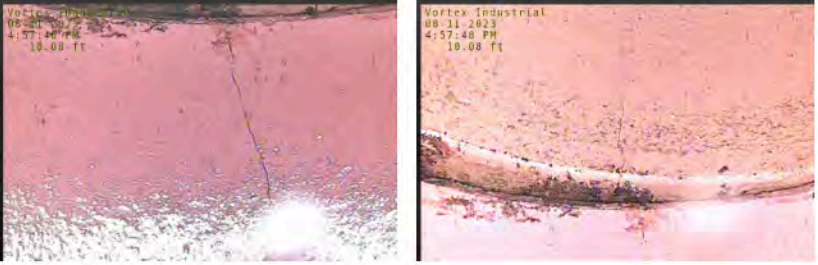
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Corrosion | Continuous | 120 - 150 | Structural | 0 | 4-8 | 3 | 0 | 0 | 3 | Surface Damage Corrosion |      |
| Surface Damage Roughness Increased | Point | 135 | Structural | 0 | 11-1 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Roughness Increased | Continuous | 146 - 158 | Structural | 0 | 10-2 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |   |

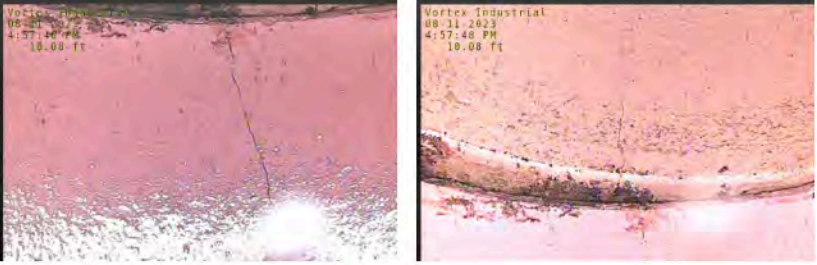
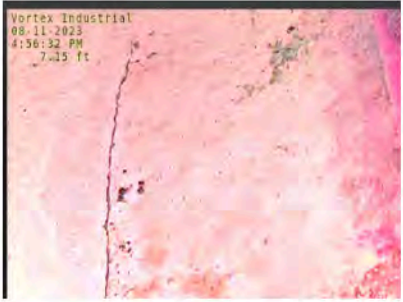
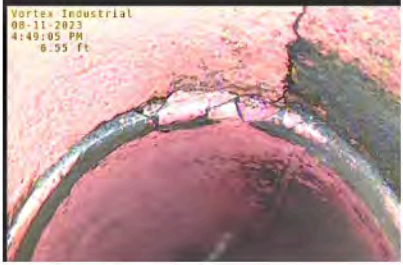
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Corrosion | Continuous | 150 - 176.1 | Structural | 0 | 4-8 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |   |
| Surface Damage Roughness Increased | Continuous | 165 - 171.4 | Structural | 0 | 10-2 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Corrosion | Continuous | 176.2 - 217.3 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |     |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-------------------------|---|
| Surface Damage Spalling | Point | 187.6 | Structural | 5 | 11 | 2 | 0 | 0 | 1 | Surface Damage Spalling |    |
| Miscellaneous General Observation | Point | 206.5 | Miscellaneous | 5 | 10 | 0 | 0 | 0 | 0 | Ring Inserted in Pipe |   |
| Manhole | Point | 217.3 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-24 |   |
| Line Down | Point | 217.3 | Constructional | 100 | | 0 | 4 | 4 | 0 | Line Down |   |

| | | | | | | | | | | | |
|------------|---------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-11 | Inspection Date | Aug 11, 2023 | Inspected Length (ft) | 209.4 | Defects Rated ≥3 | 5 | Peak Structural Rating | 4 | Total PR Defects | 95 |
| Segment ID | B-1:B-3 | Primary Pipe Material | VCP | Pipe Diameter (in) | 10 | Peak Prioritization Rating | 4 | Peak C/O&M Rating | 2 | | |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | B-1 |   |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 20 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |   |
| Fracture Multiple | Point | 5.9 | Structural | 0 | 6-11 | 4 | 0 | 0 | 3 | Fracture Multiple |     |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------|---|
| Crack Multiple | Point | 7 | Structural | 0 | 12-1 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Longitudinal | Point | 7.1 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Joint Offset Medium | Point | 9.8 | Structural | 0 | | 3 | 0 | 0 | 2 | Joint Offset Medium |  |
| Crack Longitudinal | Point | 10 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |



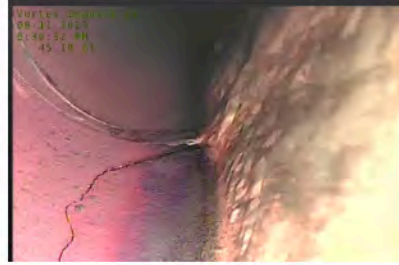
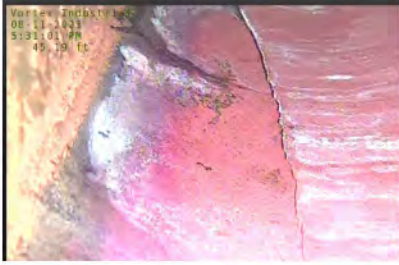

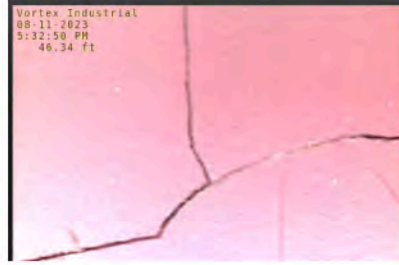


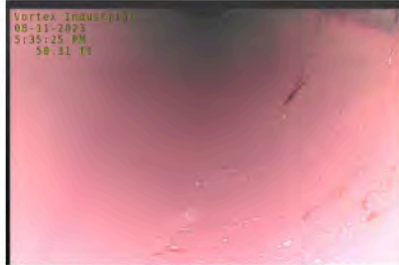

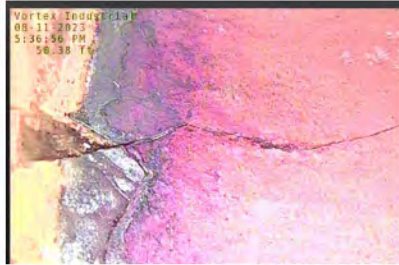




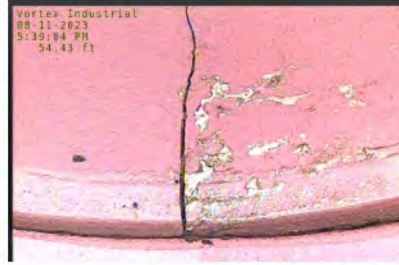
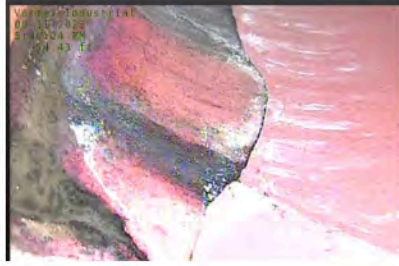

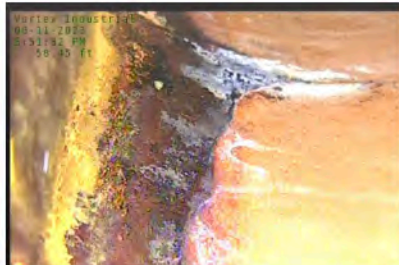

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------|---|
| Fracture Multiple | Point | 14.2 | Structural | 0 | 12-12 | 2 | 0 | 0 | 3 | Fracture Multiple |     |
| Crack Multiple | Point | 18.2 | Structural | 0 | 1-3 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Multiple | Point | 18.2 | Structural | 0 | 5-6 | 3 | 0 | 0 | 2 | Crack Multiple |  |






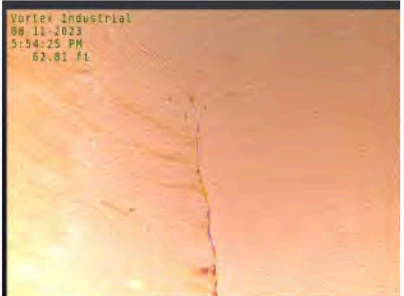

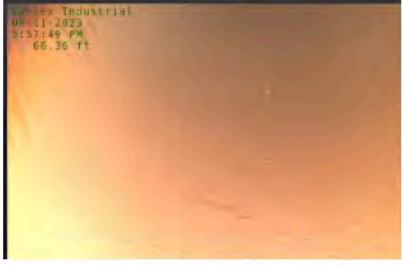


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 22.2 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Crack Spiral | Point | 24.5 | Structural | 0 | 2-6 | 2 | 0 | 0 | 1 | Crack Spiral |     |
| Crack Multiple | Point | 26.5 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 27.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 30.4 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 34.4 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 34.4 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 34.4 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 34.4 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

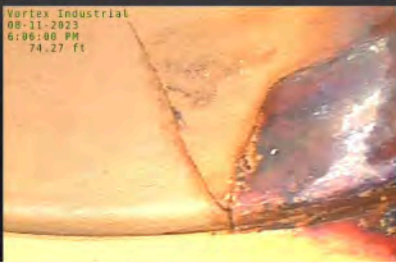

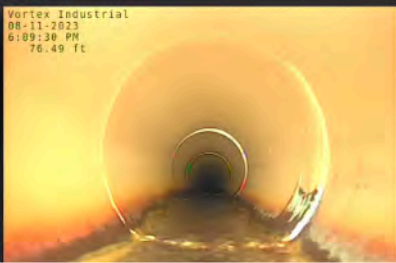
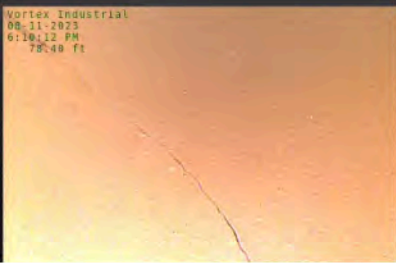
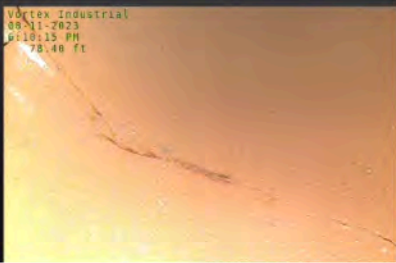



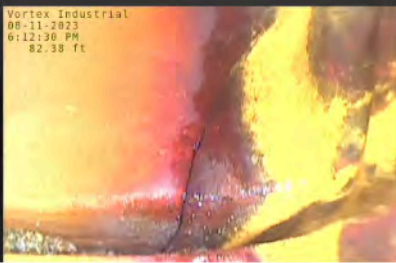

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Fracture Circumferential | Point | 38.4 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Spiral | Point | 38.4 | Structural | 0 | 7-10 | 2 | 0 | 0 | 2 | Crack Spiral |   |
| Crack Spiral | Point | 38.4 | Structural | 0 | 2-5 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Spiral | Point | 42.2 | Structural | 0 | 6-11 | 2 | 0 | 0 | 2 | Crack Spiral |     |
| Crack Longitudinal | Point | 42.2 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |


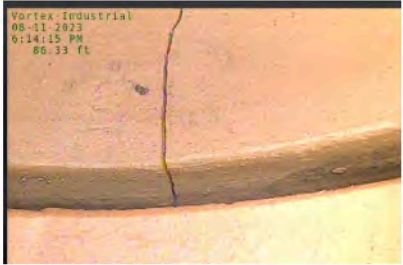

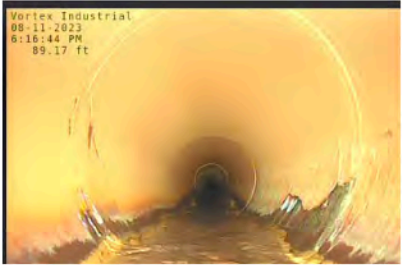


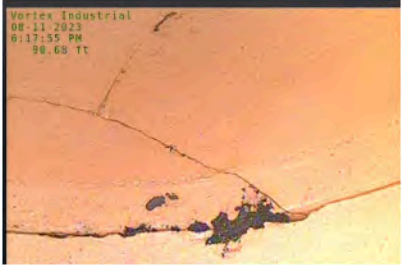
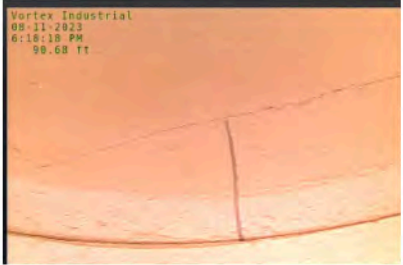


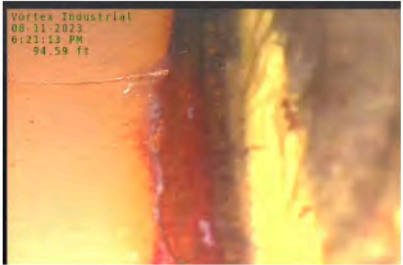
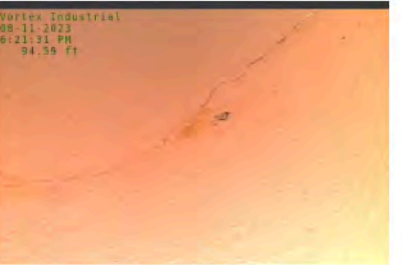


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 46.3 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |        |
| Crack Multiple | Point | 50.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Crack Spiral | Point | 54 | Structural | 0 | 12-5 | 2 | 0 | 0 | 2 | Crack Spiral |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Fracture Multiple | Point | 54.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 3 | Fracture Multiple |        |
| Crack Longitudinal | Point | 58.5 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Spiral | Point | 58.5 | Structural | 0 | 2-6 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Longitudinal | Point | 58.5 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


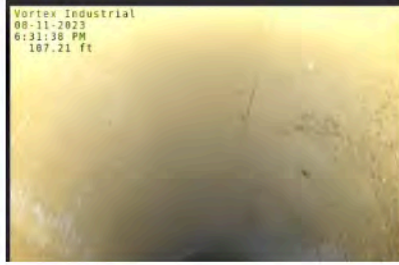

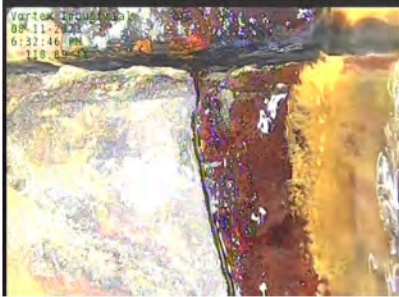
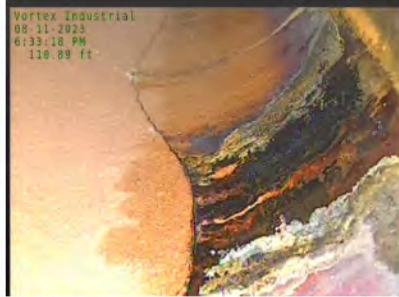

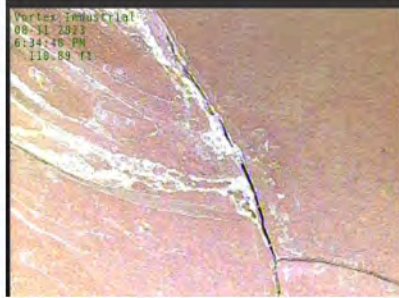




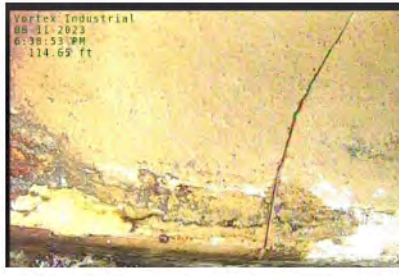
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 62.8 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 62.8 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Spiral | Point | 62.8 | Structural | 0 | 1-6 | 2 | 0 | 0 | 2 | Crack Spiral |     |
| Crack Spiral | Point | 66.4 | Structural | 0 | 11-5 | 2 | 0 | 0 | 2 | Crack Spiral |   |
| Crack Spiral | Point | 66.4 | Structural | 0 | 6-8 | 2 | 0 | 0 | 2 | Crack Spiral |  |

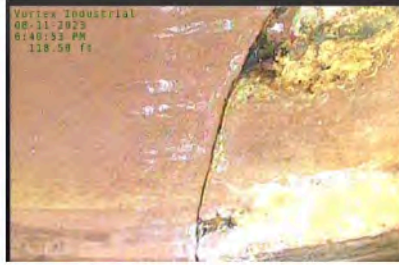








| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|--|
| Joint Offset Medium | Point | 70.3 | Structural | 0 | | 3 | 0 | 0 | 1 | Joint Offset Medium |  |
| Fracture Circumferential | Point | 70.5 | Structural | 0 | 10-11 | 4 | 0 | 0 | 2 | Fracture Circumferential |    |
| Fracture Spiral | Point | 70.5 | Structural | 0 | 7-9 | 3 | 0 | 0 | 2 | Fracture Spiral |    |
| Crack Multiple | Point | 70.5 | Structural | 0 | 3-5 | 3 | 0 | 0 | 2 | Crack Multiple |      |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Spiral | Point | 74.3 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Crack Spiral |      |
| Crack Spiral | Point | 78 | Structural | 0 | 12-8 | 2 | 0 | 0 | 2 | Crack Spiral |     |
| Crack Spiral | Point | 82.4 | Structural | 0 | 2-5 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Longitudinal | Point | 82.4 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 86.3 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 86.3 | Structural | 0 | 9 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Multiple | Point | 90.7 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |       |
| Crack Spiral | Point | 94.6 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Crack Spiral |      |

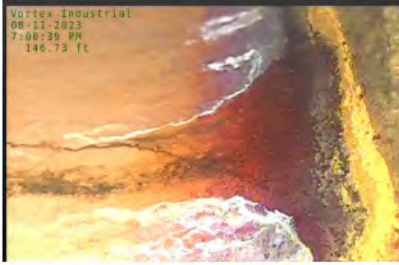



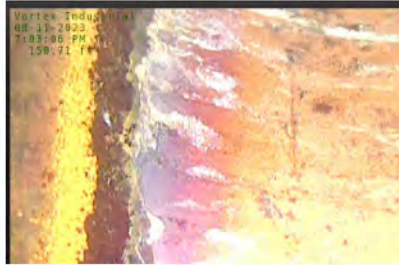
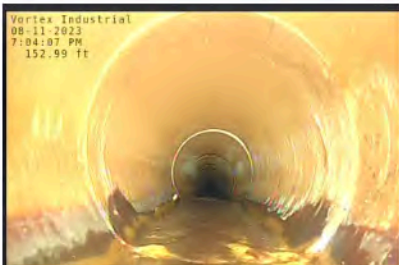
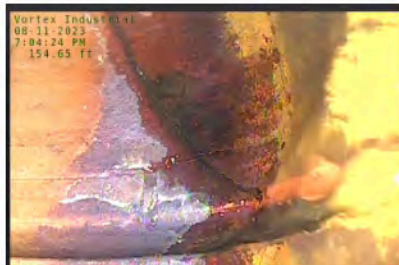


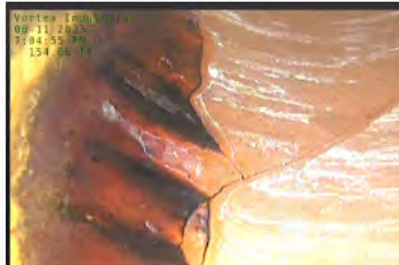



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Spiral | Point | 98.7 | Structural | 0 | 5-1 | 2 | 0 | 0 | 2 | Crack Spiral |      |
| Crack Spiral | Point | 102.5 | Structural | 0 | 6-1 | 2 | 0 | 0 | 2 | Crack Spiral |     |
| Crack Longitudinal | Point | 102.7 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Fracture Longitudinal | Point | 106.7 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Fracture Longitudinal |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Continuous | 107.2 - 110.9 | Structural | 0 | 12 | 2 | 0 | 0 | 2 | Crack Longitudinal |    |
| Fracture Multiple | Point | 111 | Structural | 0 | 12-9 | 3 | 0 | 0 | 3 | Fracture Multiple |     |
| Crack Multiple | Point | 114.7 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Crack Multiple |      |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------|--|
| Crack Multiple | Point | 118.5 | Structural | 0 | 12-9 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Multiple | Point | 122.8 | Structural | 0 | 5-6 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Spiral | Point | 122.8 | Structural | 0 | 7-11 | 2 | 0 | 0 | 2 | Crack Spiral |      |
| Joint Offset Medium | Point | 122.8 | Structural | 0 | | 3 | 0 | 0 | 1 | Joint Offset Medium |  |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------|---|
| Crack Multiple | Point | 126.6 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Obstruction Rocks | Point | 130.8 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Obstruction Rocks |    |
| Crack Multiple | Point | 130.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Spiral | Point | 134 | Structural | 0 | 1-6 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Hinge 2 | Point | 134.7 | Structural | 0 | 6, 9 | 2 | 0 | 0 | 2 | Crack Hinge 2 |   |


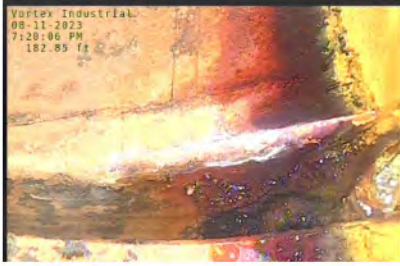




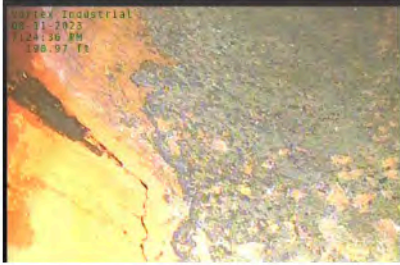




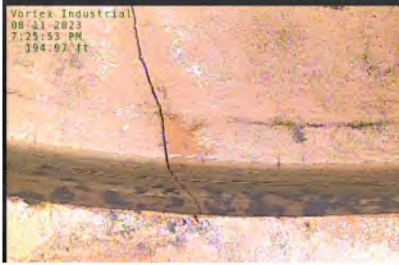

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Spiral | Point | 135.5 | Structural | 0 | 7-10 | 2 | 0 | 0 | 2 | Crack Spiral |  |
| Crack Longitudinal | Point | 138.8 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 138.8 | Structural | 0 | 12-2 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Spiral | Point | 138.8 | Structural | 0 | 7-12 | 2 | 0 | 0 | 2 | Crack Spiral |  |
| Crack Multiple | Point | 142.7 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |  |




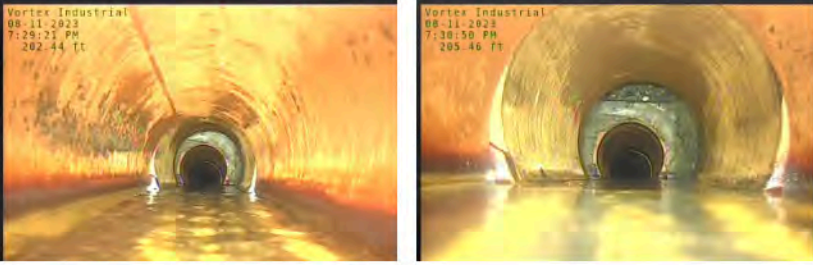

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Spiral | Point | 146.7 | Structural | 0 | 7-9 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Longitudinal | Point | 146.7 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 151 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 154.7 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |       |
| Crack Spiral | Point | 158.8 | Structural | 0 | 4-5 | 2 | 0 | 0 | 2 | Crack Spiral |   |



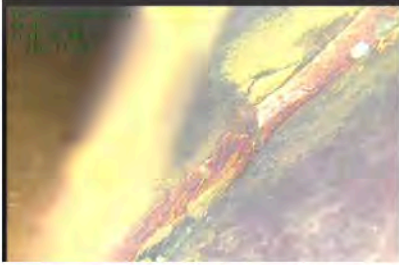



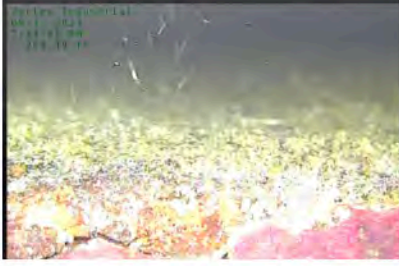
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 158.8 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 158.8 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 162.7 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 162.7 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 162.7 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 166.8 | Structural | 0 | 10-11 | 2 | 0 | 0 | 2 | Fracture Circumferential |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 166.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Crack Spiral | Point | 170.8 | Structural | 0 | 3-5 | 2 | 0 | 0 | 2 | Crack Spiral |   |
| Crack Longitudinal | Point | 170.8 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Multiple | Point | 174.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------------------|---|
| Deposits Settled Hard/Compacted | Point | 174.8 | O&M | 10 | 5-6 | 0 | 2 | 0 | 0 | Deposits Settled Hard/Compacted |   |
| Crack Longitudinal | Point | 174.8 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Fracture Circumferential | Point | 178.8 | Structural | 0 | 3-4 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 178.8 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Multiple | Point | 178.8 | Structural | 0 | 6-9 | 3 | 0 | 0 | 2 | Crack Multiple |    |

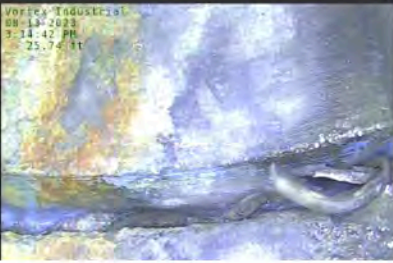
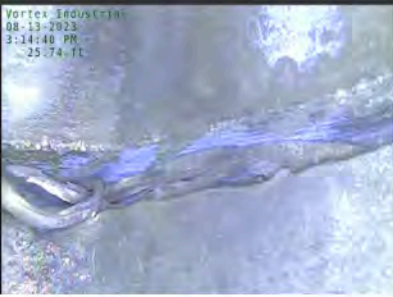
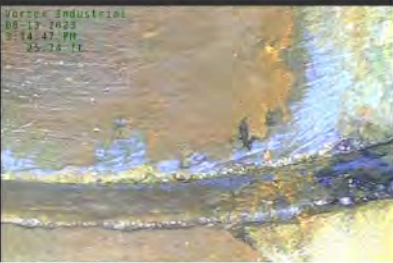
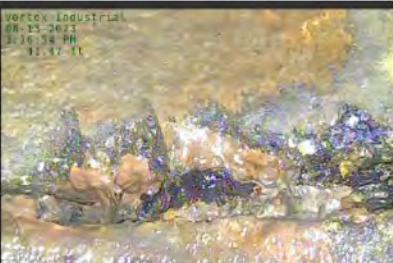






| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 182.9 | Structural | 0 | 12-9 | 3 | 0 | 0 | 2 | Crack Multiple |       |
| Crack Spiral | Point | 190.8 | Structural | 0 | 3-5 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Spiral | Point | 190.8 | Structural | 0 | 6-10 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Spiral | Point | 195 | Structural | 0 | 1-5 | 2 | 0 | 0 | 2 | Crack Spiral |     |


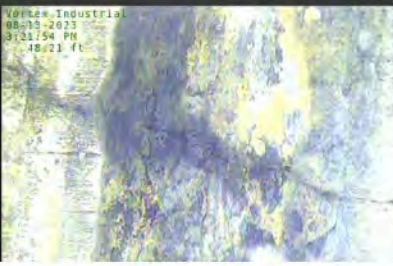
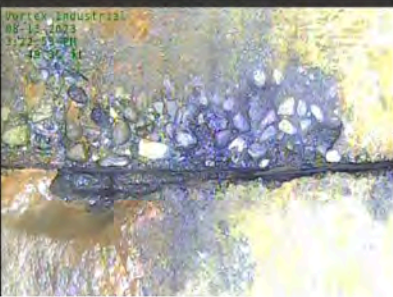
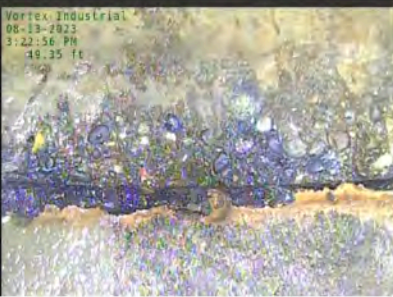
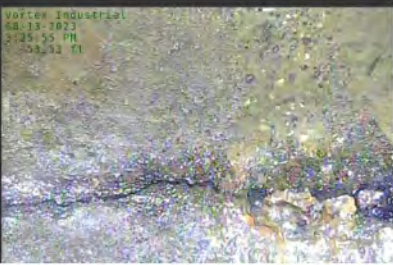





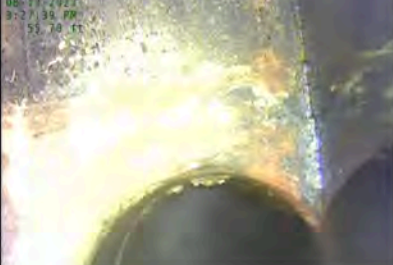
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------------|---|
| Crack Spiral | Point | 198.8 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Crack Spiral |  |
| Crack Longitudinal | Point | 198.8 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Joint Offset Medium | Point | 198.8 | Structural | 0 | | 3 | 0 | 0 | 2 | Joint Offset Medium |  |
| Miscellaneous Water Level | Point | 203 | Miscellaneous | 30 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Multiple | Point | 203 | Structural | 0 | 10-5 | 3 | 0 | 0 | 2 | Crack Multiple |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------------------|---|
| Broken | Point | 206.8 | Structural | 0 | 5-8 | 4 | 0 | 0 | 4 | Broken |     |
| Joint Offset Medium | Point | 206.8 | Structural | 0 | | 3 | 0 | 0 | 2 | Joint Offset Medium |  |
| Manhole | Point | 209.4 | Constructional | 0 | | 0 | 0 | 0 | 0 | B-3 |   |


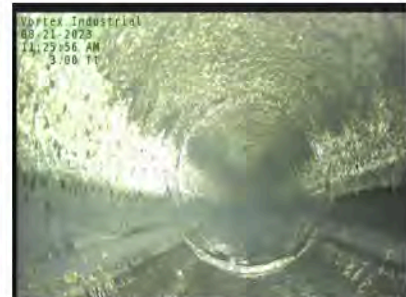

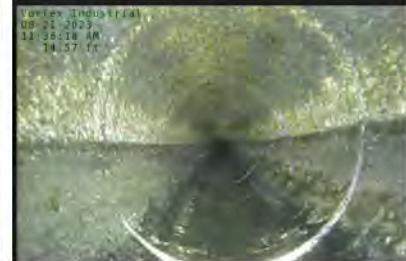



| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-12 | Inspection Date | Aug 13, 2023 | Inspected Length (ft) | 55.7 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Total PR Defects | 7 |
| Segment ID | B-02:5-P | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |

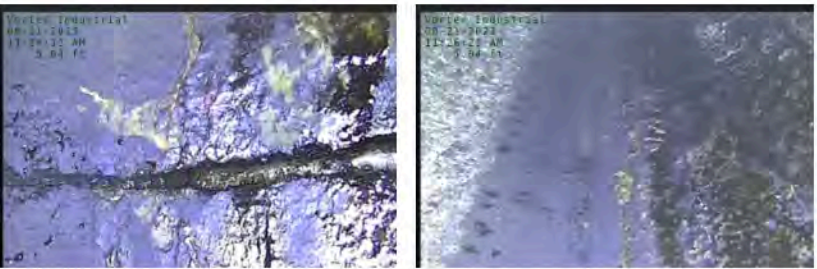




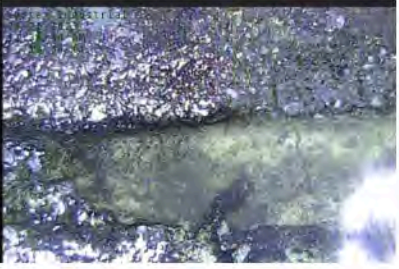
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|------------------|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | B-02 | |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey | |
| Surface Damage Roughness Increased | Continuous | 0 - 55.7 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased | |

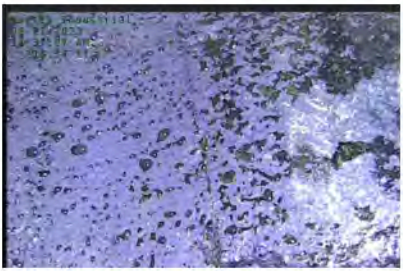
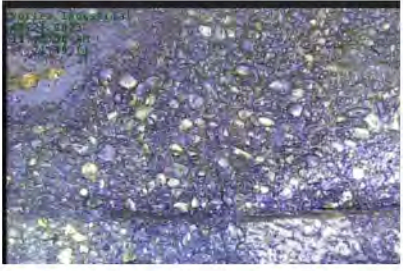
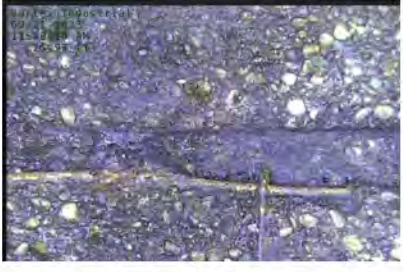

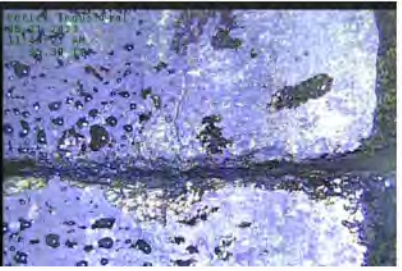

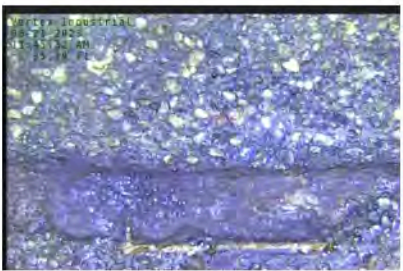
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Intruding Sealing Material Grout | Point | 25.7 | O&M | 10 | 7-8 | 0 | 2 | 0 | 0 | Intruding Sealing Material Grout |   |
| Crack Longitudinal | Point | 25.7 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Aggregate Visible | Point | 41.5 | Structural | 0 | 8-9 | 2 | 0 | 0 | 2 | Surface Aggregate Visible |   |
| Miscellaneous Water Level | Point | 41.7 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Multiple | Continuous | 44 - 47.1 | Structural | 0 | 5-10 | 3 | 0 | 0 | 2 | Crack Multiple |     |


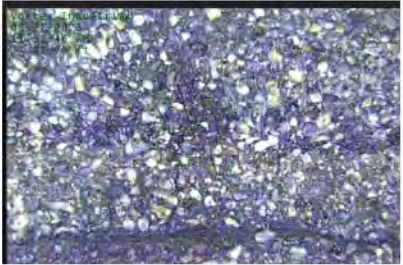
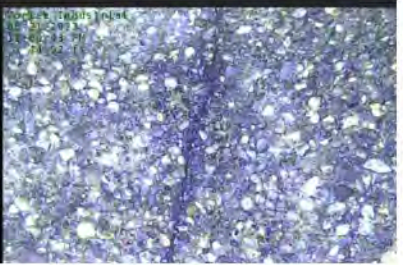
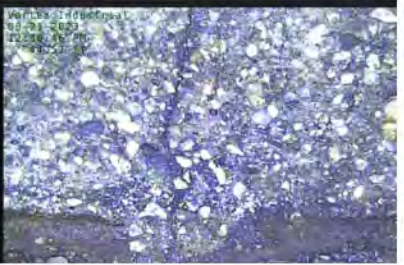
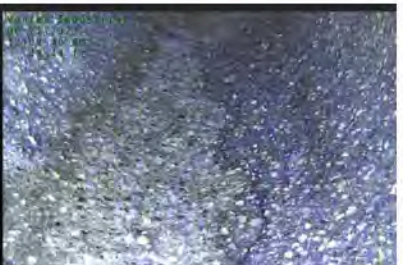
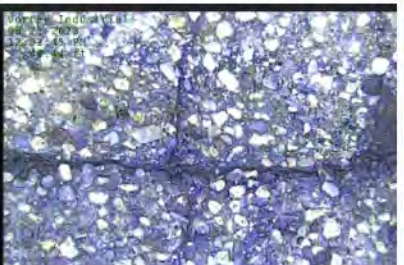
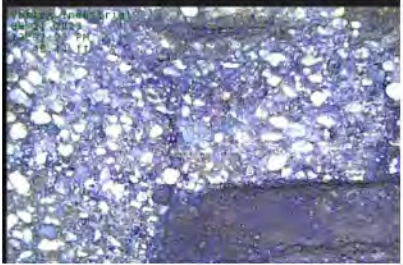
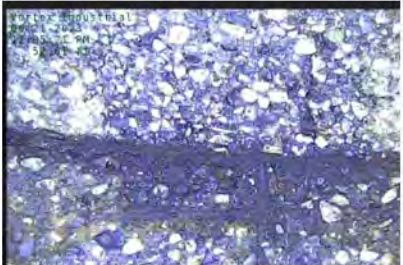
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Crack Circumferential | Point | 48.2 | Structural | 0 | 3-7 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Surface Damage Aggregate Missing | Point | 49.3 | Structural | 0 | 7-9 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |   |
| Crack Circumferential | Point | 53.5 | Structural | 0 | 12-12 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Manhole | Point | 55.7 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-P |    |

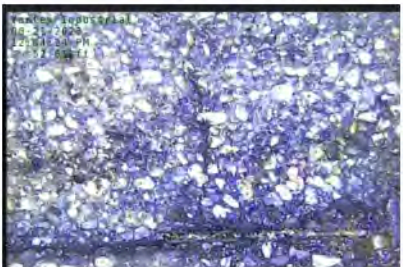
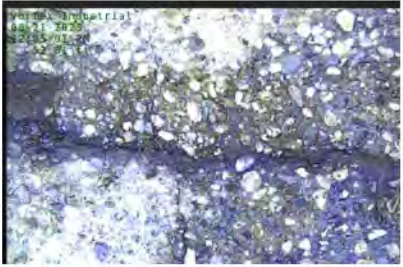

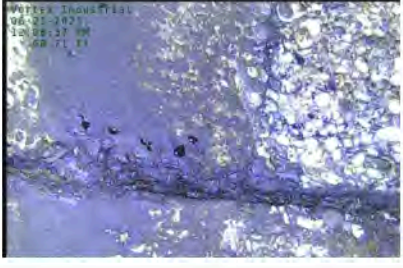
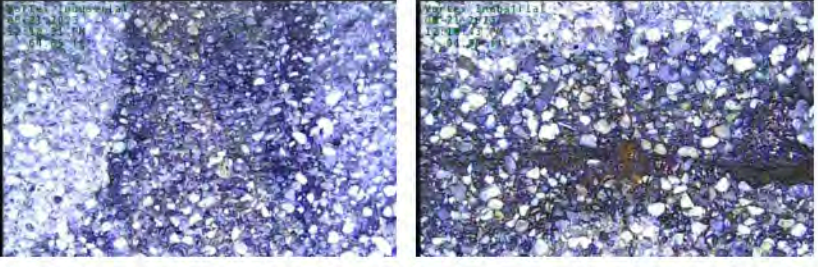
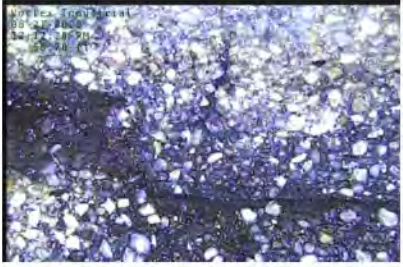
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|------------|---------|-----------------------|--------------|-----------------------|----|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-13 | Inspection Date | Aug 21, 2023 | Inspected Length (ft) | 82 | Defects Rated ≥3 | 1 | Peak Structural Rating | 4 | Total PR Defects | 26 |
| Segment ID | 5-B:5-C | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 0 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-B |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 82 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |      |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 5 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 5 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 9.5 | Structural | 0 | 5-6 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Longitudinal | Point | 10.2 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 14.5 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 18.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |







| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Longitudinal | Point | 18.3 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 21.5 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Damage Reinforcement Visible | Point | 25.9 | Structural | 0 | 12 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Miscellaneous Water Level | Point | 26 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Spiral | Point | 35.3 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Crack Spiral |   |
| Surface Damage Reinforcement Visible | Point | 35.4 | Structural | 0 | 10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |

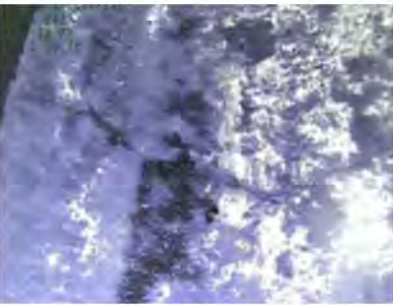





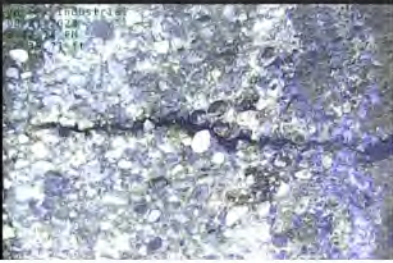
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 41.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 41.8 | Structural | 0 | 12-1 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 45.2 | Structural | 0 | 4 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 48.4 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 48.4 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 52.6 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |





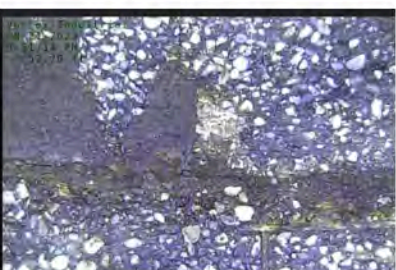
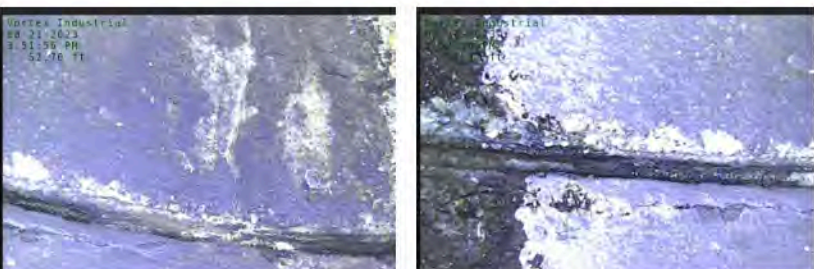
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 52.6 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 52.6 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 60.7 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 60.7 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 64.9 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 68.7 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |



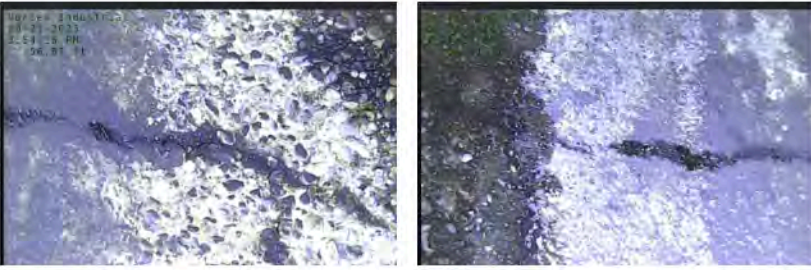



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Longitudinal | Point | 72.8 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Spiral | Point | 80.9 | Structural | 0 | 5-8 | 2 | 0 | 0 | 3 | Fracture Spiral |     |
| Manhole | Point | 82 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-C |   |

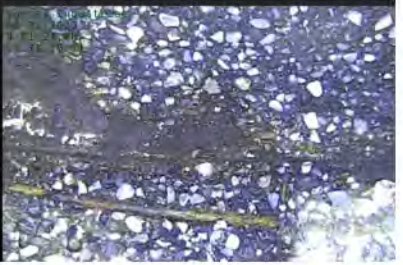



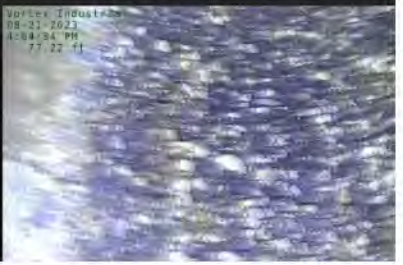


| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-14 | Inspection Date | Aug 21, 2023 | Inspected Length (ft) | 265.3 | Defects Rated ≥3 | 1 | Peak Structural Rating | 4 | Total PR Defects | 69 |
| Segment ID | 5-C: 5-D | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 2 | | |

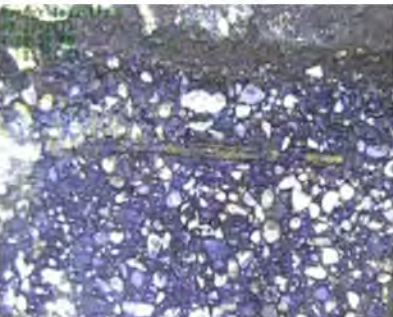


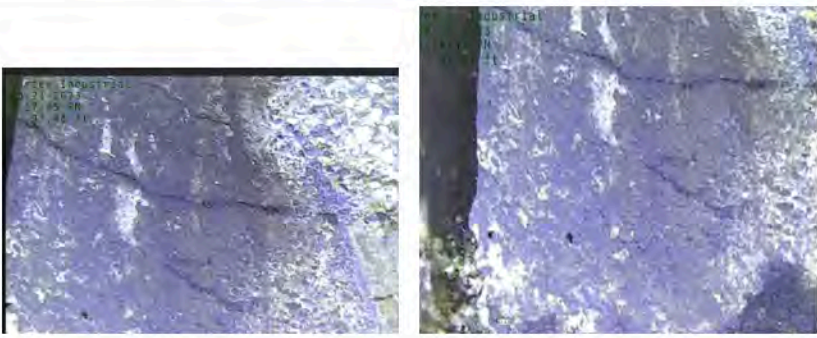
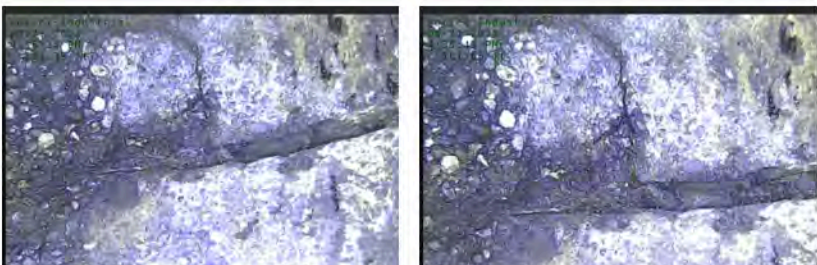
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Continuous | 0 - 265.3 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |     |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-C |  |




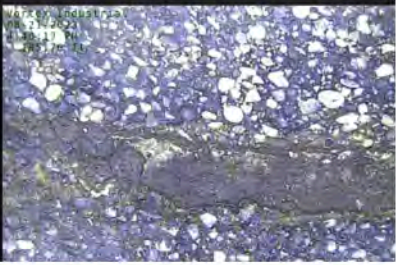
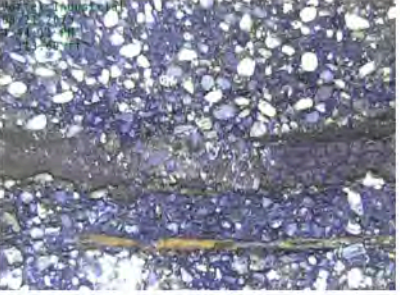
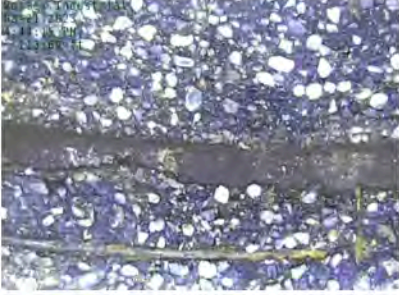

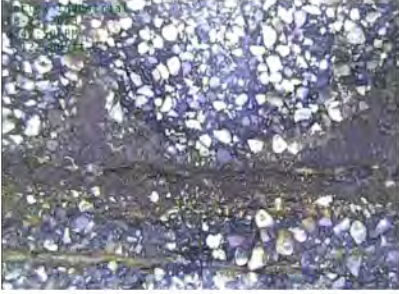
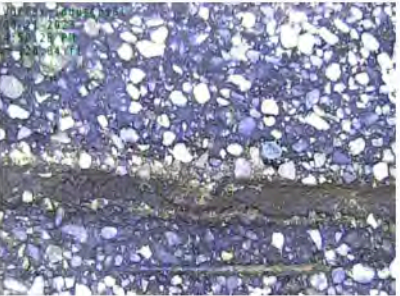
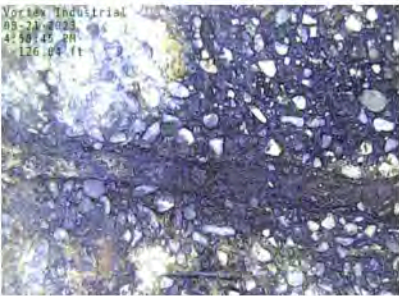
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------------|---|
| Crack Longitudinal | Point | 2 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Deposits Settled Gravel | Point | 2 | O&M | 10 | 6 | 0 | 2 | 0 | 1 | Deposits Settled Gravel |  |
| Crack Longitudinal | Point | 2 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Miscellaneous Water Level | Point | 4.2 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Circumferential | Point | 39.5 | Structural | 0 | 6-8 | 1 | 0 | 0 | 2 | Crack Circumferential |    |

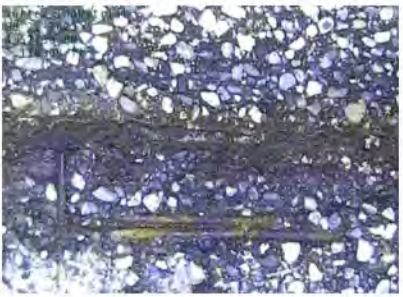
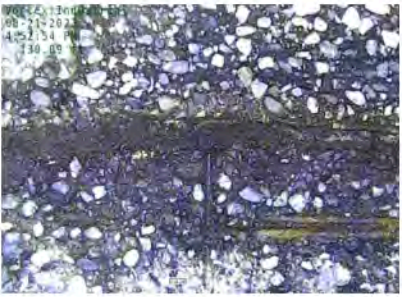
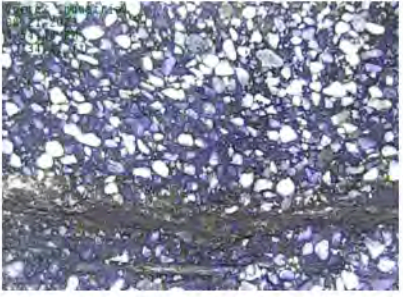
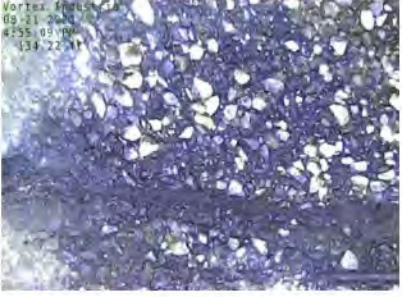
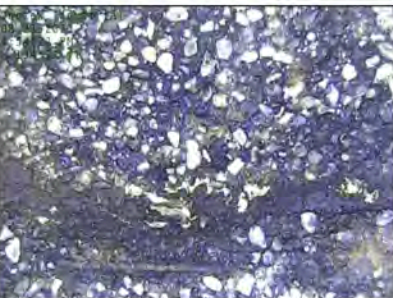

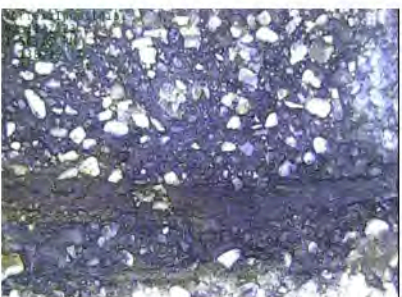
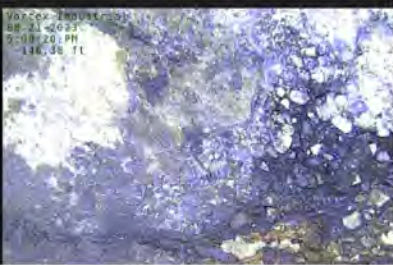
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------------|---|
| Crack Longitudinal | Point | 40.9 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Miscellaneous Water Level | Point | 40.9 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Circumferential | Point | 41.9 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 44.9 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 52.7 | Structural | 0 | 11 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Circumferential | Point | 52.7 | Structural | 0 | 4-5 | 1 | 0 | 0 | 1 | Crack Circumferential |  |

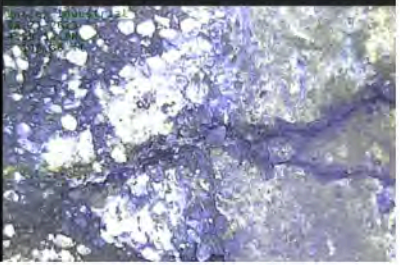
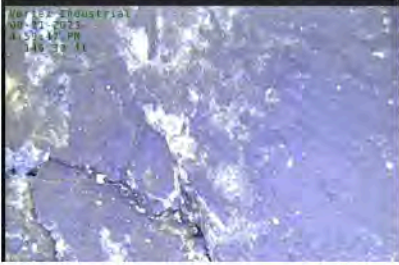
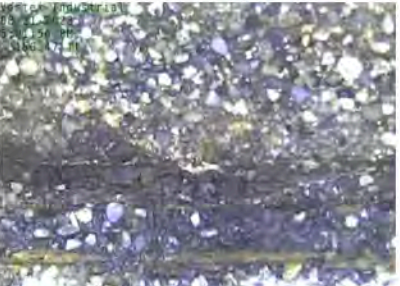

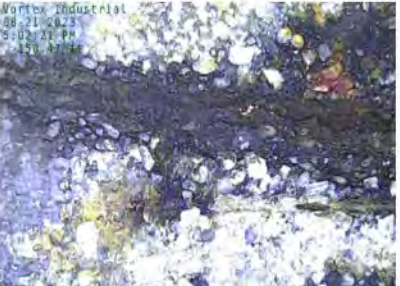




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 52.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 55.1 | Structural | 0 | 6-9 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 56.8 | Structural | 0 | 4-5 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Longitudinal | Point | 65 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 65 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 69.2 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

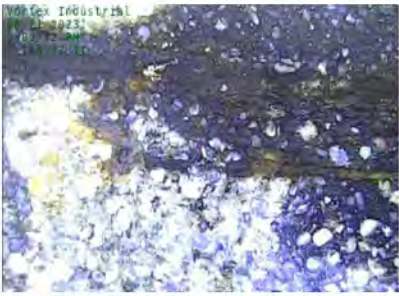
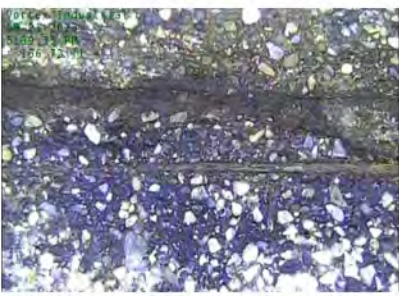
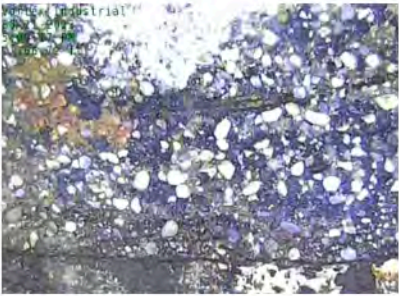


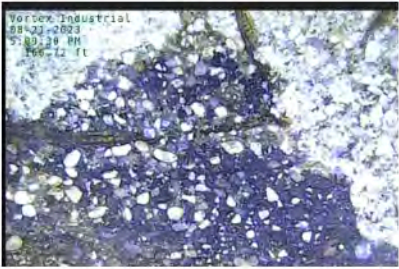



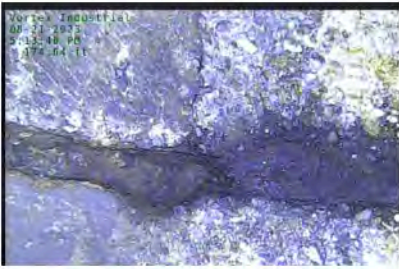
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|--------------------------------------|--|
| Surface Damage Reinforcement Visible | Point | 73.1 | Structural | 0 | 10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Miscellaneous Water Level | Point | 73.1 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Circumferential | Point | 77.3 | Structural | 0 | 5-6 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Longitudinal | Point | 77.3 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 81.3 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

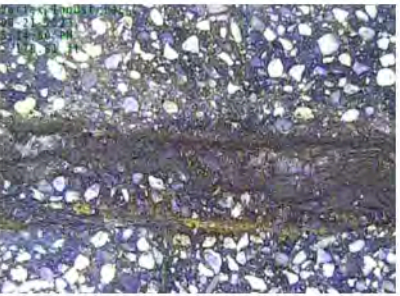
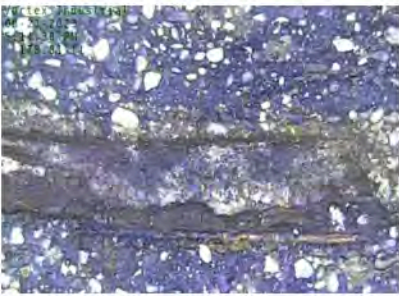
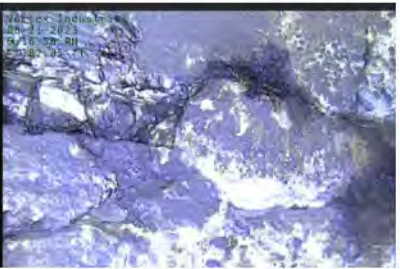

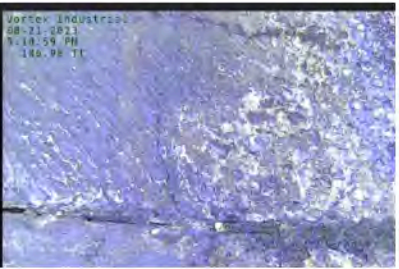

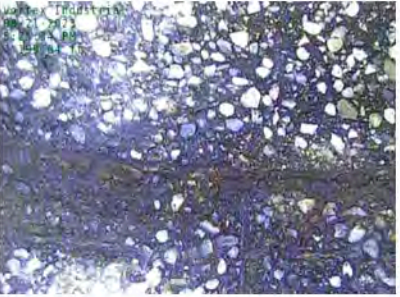
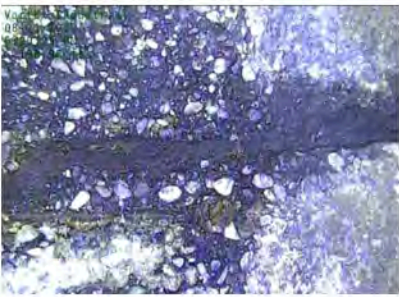
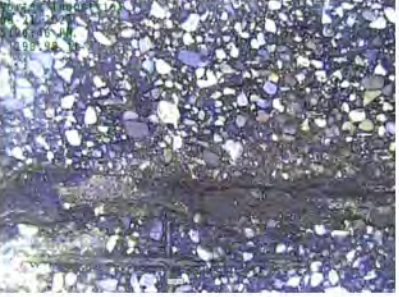
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Surface Damage Reinforcement Visible | Point | 85.5 | Structural | 0 | 4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Crack Multiple | Point | 89.5 | Structural | 0 | 3-4 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Circumferential | Point | 97.4 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 97.4 | Structural | 0 | 4-5 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Longitudinal | Point | 101.7 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |

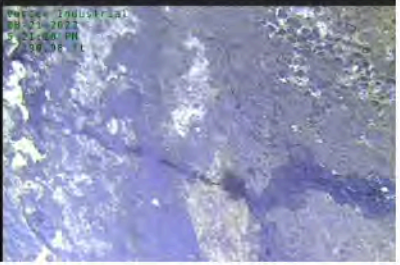
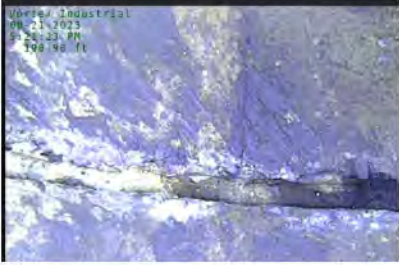
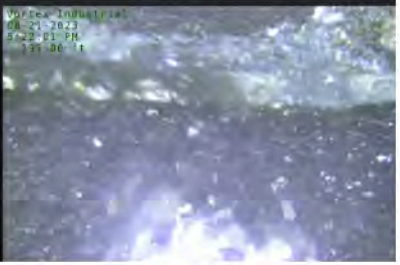



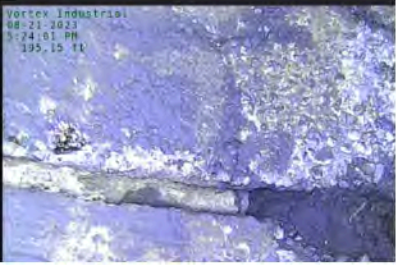
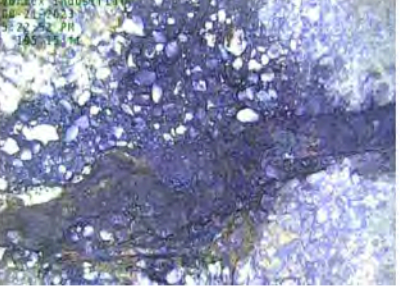
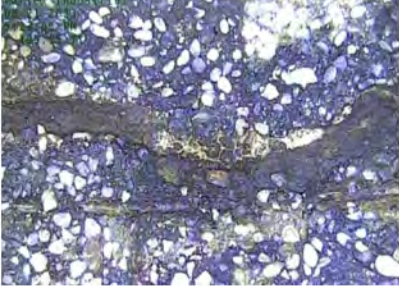
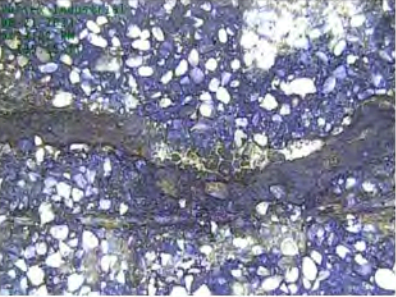
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Multiple | Point | 101.7 | Structural | 0 | 4-6 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Multiple | Point | 105.7 | Structural | 0 | 3-4 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Surface Damage Reinforcement Visible | Point | 113.7 | Structural | 0 | 5-7 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 122.1 | Structural | 0 | 5-7 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 126 | Structural | 0 | 7-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |



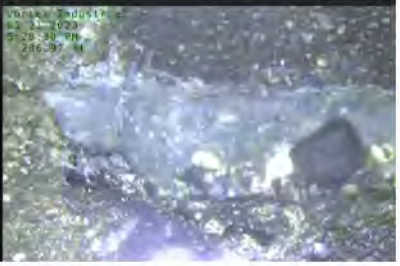

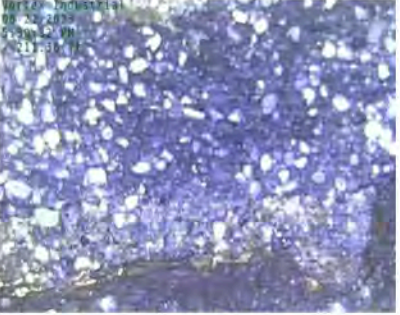

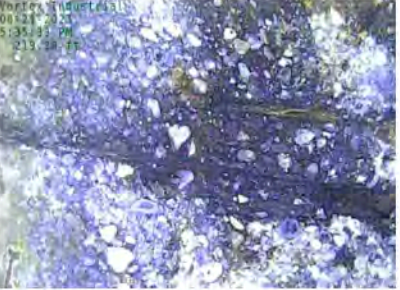
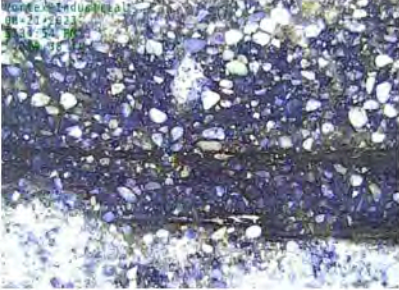
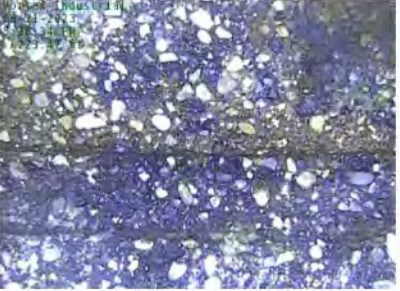
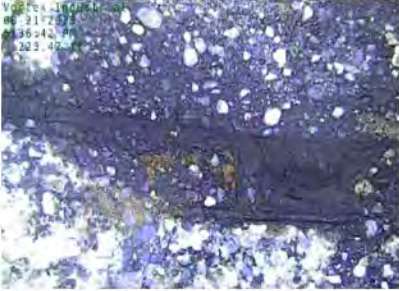
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|--|
| Surface Damage Reinforcement Visible | Point | 130.1 | Structural | 0 | 5-7 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 134.2 | Structural | 0 | 1-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |
| Surface Damage Reinforcement Visible | Point | 138.3 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Crack Longitudinal | Point | 146.4 | Structural | 0 | 2 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |


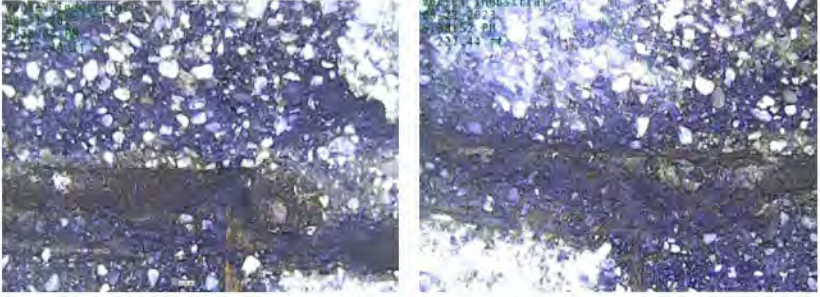
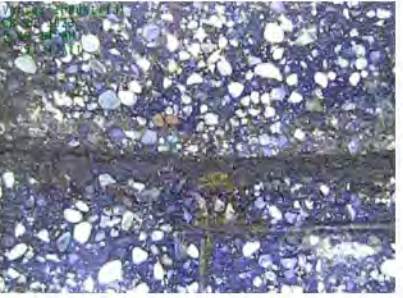
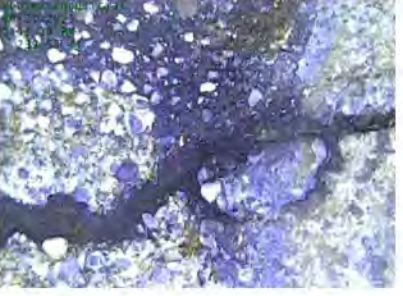
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Multiple | Point | 146.4 | Structural | 0 | 8-9 | 3 | 0 | 0 | 2 | Crack Multiple |   |
| Surface Damage Reinforcement Visible | Point | 150.5 | Structural | 0 | 50-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |     |
| Surface Damage Reinforcement Visible | Point | 158.5 | Structural | 0 | 5-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Crack Longitudinal | Point | 162.4 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

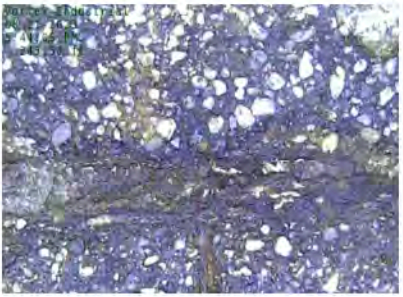

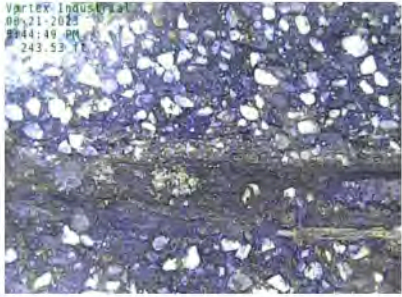
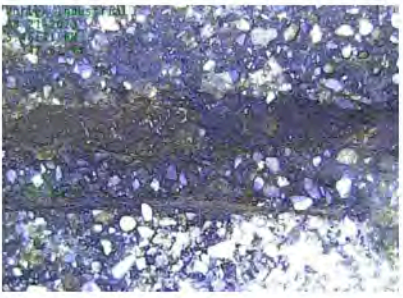

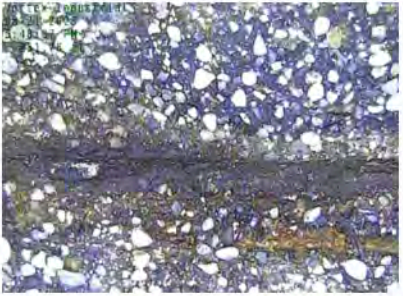

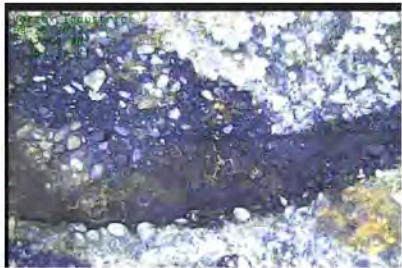
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---|--------------|---------------|------------|---------|-------|----|-----|---|----|---|---|
| Surface Damage Reinforcement Visible | Point | 166.7 | Structural | 0 | 8-1 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |
| Crack Longitudinal | Point | 166.7 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Spiral | Point | 166.7 | Structural | 0 | 9-10 | 2 | 0 | 0 | 2 | Crack Spiral |  |
| Crack Longitudinal | Point | 170.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Multiple | Point | 174.6 | Structural | 0 | 3-5 | 3 | 0 | 0 | 2 | Crack Multiple |   |

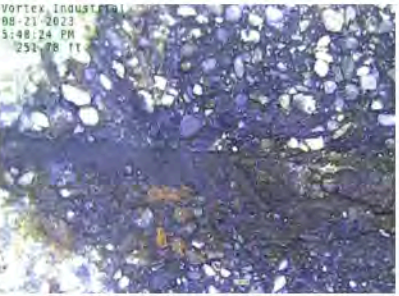
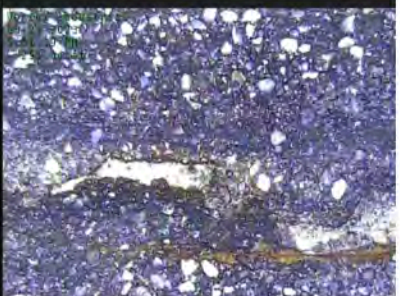
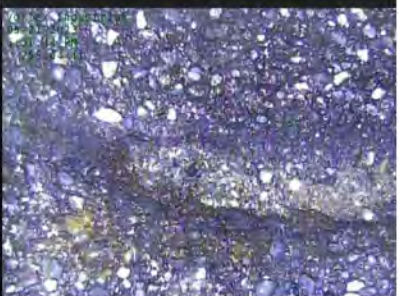
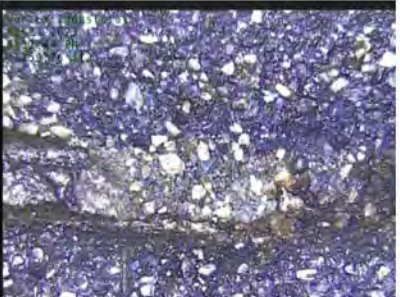
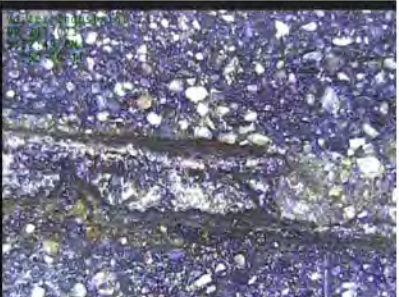
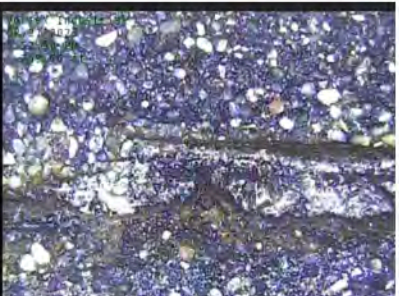

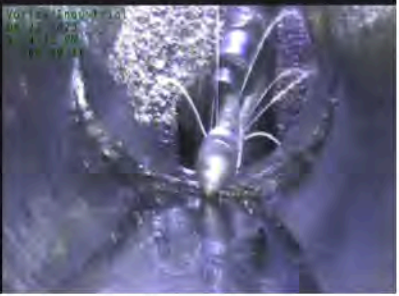
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---|--------------|---------------|------------|---------|-------|----|-----|---|----|---|--|
| Surface Damage Reinforcement Visible | Point | 178.8 | Structural | 0 | 7-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Crack Multiple | Point | 182.9 | Structural | 0 | 4-5 | 3 | 0 | 0 | 2 | Crack Multiple |   |
| Crack Longitudinal | Point | 187 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 187 | Structural | 0 | 3-4 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Surface Damage Reinforcement Visible | Point | 191 | Structural | 0 | 7-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |

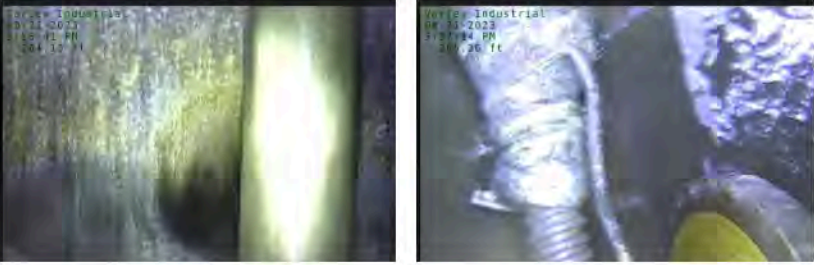
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---|--------------|---------------|------------|---------|-------|----|-----|---|----|---|---|
| Crack Multiple | Point | 191 | Structural | 0 | 3-5 | 3 | 0 | 0 | 2 | Crack Multiple |   |
| Crack Longitudinal | Point | 195.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Multiple | Point | 195.2 | Structural | 0 | 3-5 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Surface Damage Reinforcement Visible | Point | 195.2 | Structural | 0 | 5-9 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Longitudinal | Point | 203 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Fracture Circumferential | Point | 207 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |   |
| Surface Damage Reinforcement Visible | Point | 215.3 | Structural | 0 | 5-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 219.4 | Structural | 0 | 1-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 223.5 | Structural | 0 | 6-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |







| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Longitudinal | Point | 223.5 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Damage Reinforcement Visible | Point | 227.4 | Structural | 0 | 6-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Surface Damage Reinforcement Visible | Point | 231.4 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Crack Circumferential | Point | 239.5 | Structural | 0 | 7-8 | 1 | 0 | 0 | 2 | Crack Circumferential |  |


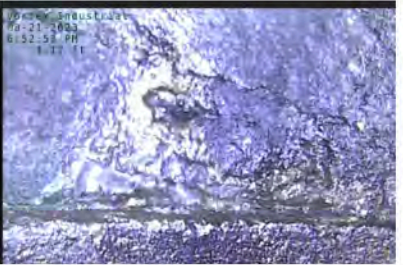
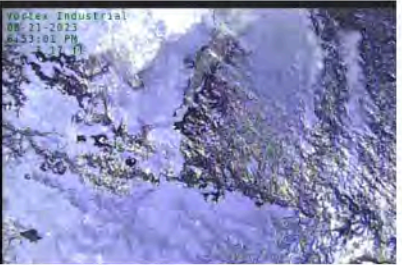
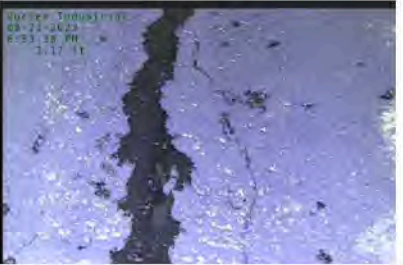
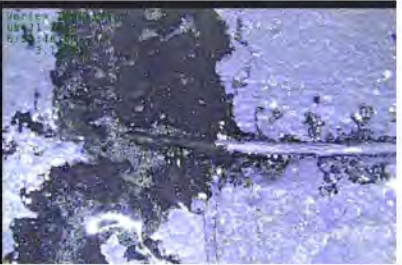


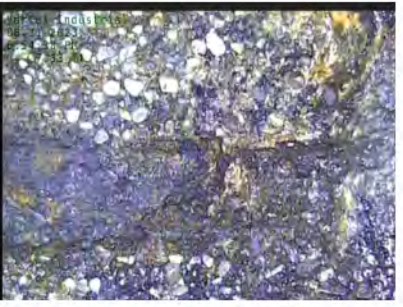

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Surface Damage Reinforcement Visible | Point | 243.5 | Structural | 0 | 12-12 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |
| Surface Damage Reinforcement Visible | Point | 247.8 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 251.8 | Structural | 0 | 6-8 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Fracture Circumferential | Point | 251.8 | Structural | 0 | 10-11 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |

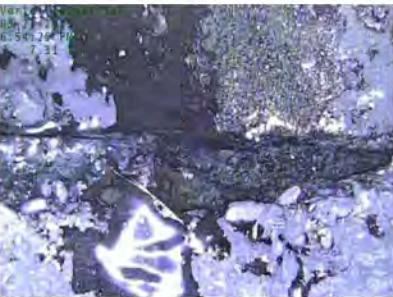
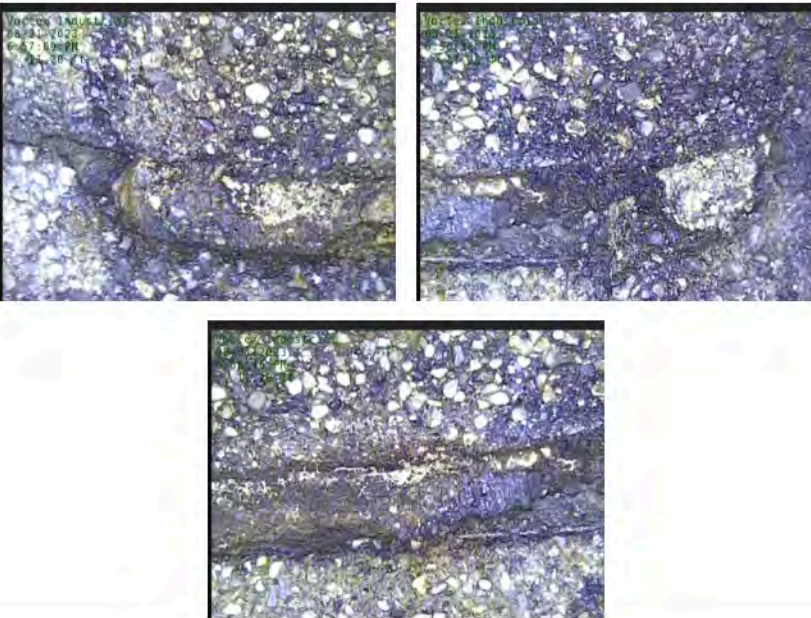

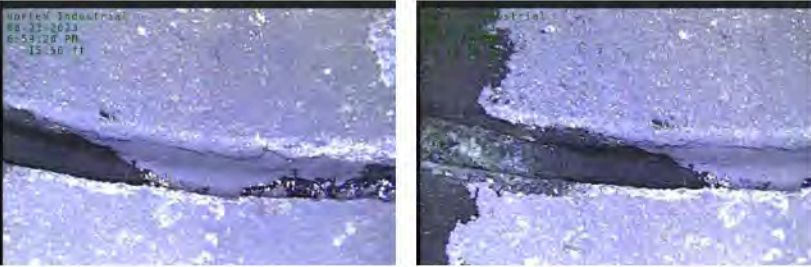
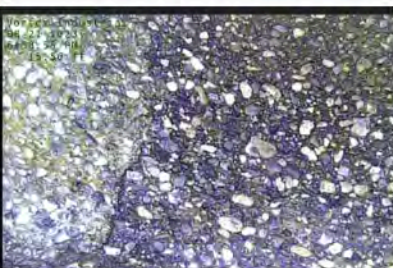
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|--|
| Crack Circumferential | Point | 251.8 | Structural | 0 | 10-11 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Surface Damage Reinforcement Visible | Point | 255.6 | Structural | 0 | 7-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Surface Damage Reinforcement Visible | Point | 259.8 | Structural | 0 | 6-10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |
| Joint Offset Large | Point | 264.1 | Structural | 0 | | 3 | 0 | 0 | 3 | Joint Offset Large |   |

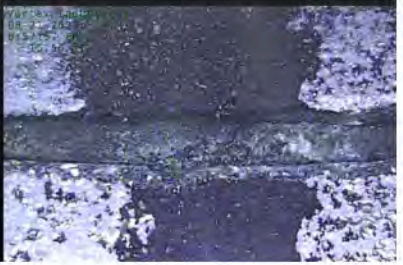

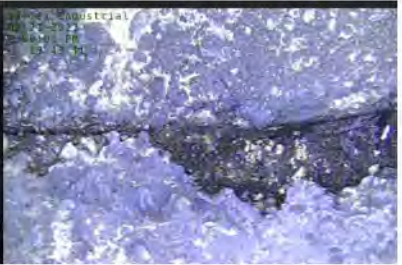
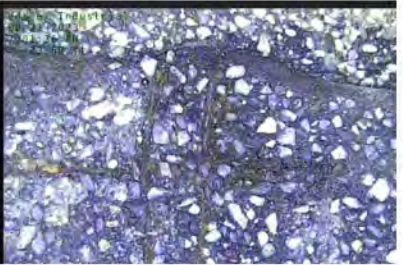
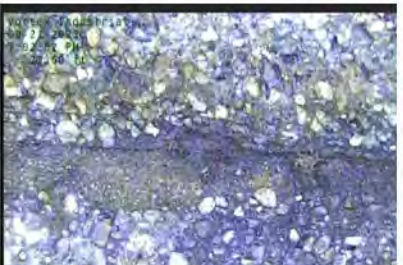

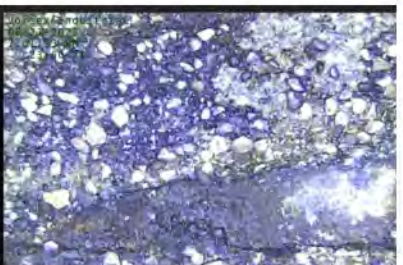

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------|---|
| Manhole | Point | 265.3 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-D |  |


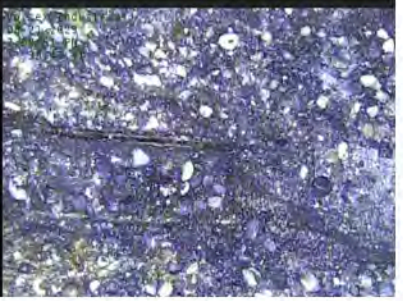



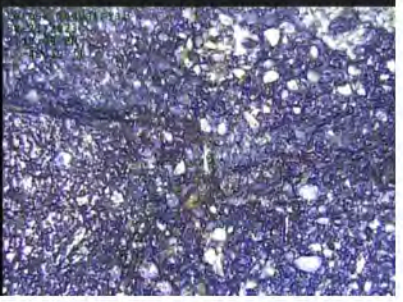


| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-15 | Inspection Date | Aug 21, 2023 | Inspected Length (ft) | 89.5 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Total PR Defects | 31 |
| Segment ID | 5-D: 5-E | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |

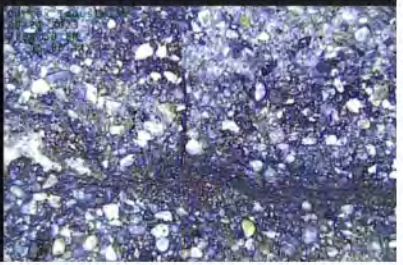


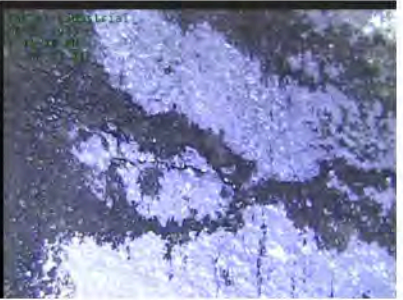
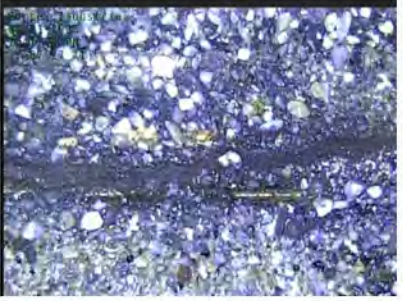
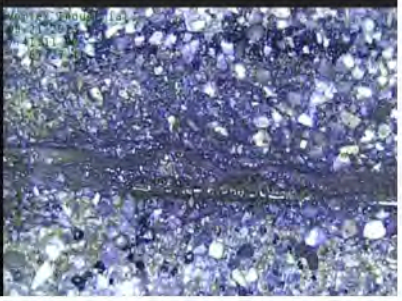

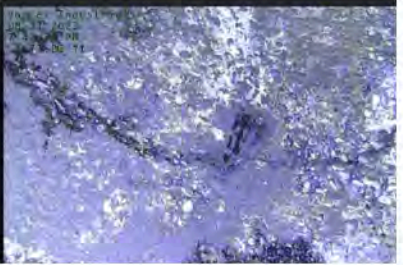
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 2 | 0 | 5-D |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 89.5 | Structural | 0 | 9-4 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |     |

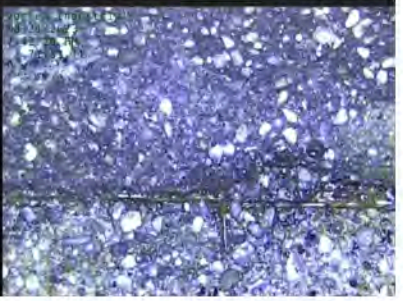
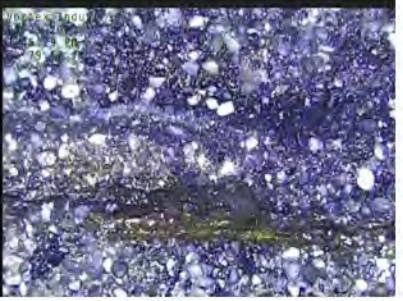
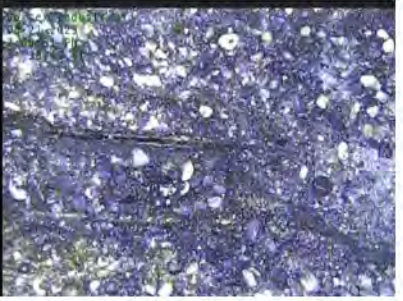
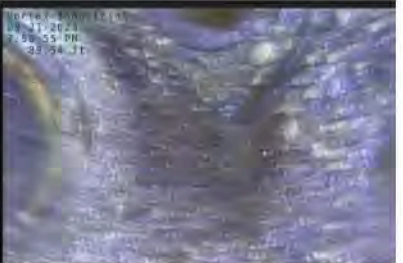

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|--|
| Crack Longitudinal | Point | 3.2 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Spiral | Point | 3.2 | Structural | 0 | 3-4 | 2 | 0 | 0 | 1 | Crack Spiral |   |
| Crack Longitudinal | Point | 3.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Surface Damage Reinforcement Visible | Point | 7.3 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |    |
| Fracture Circumferential | Point | 7.3 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Surface Aggregate Visible | Point | 7.3 | Structural | 0 | 5-6 | 2 | 0 | 0 | 1 | Surface Aggregate Visible |  |
| Surface Damage Reinforcement Visible | Point | 11.2 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Crack Longitudinal | Point | 11.2 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Circumferential | Point | 15.6 | Structural | 0 | 4-5 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 15.6 | Structural | 0 | 2 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |




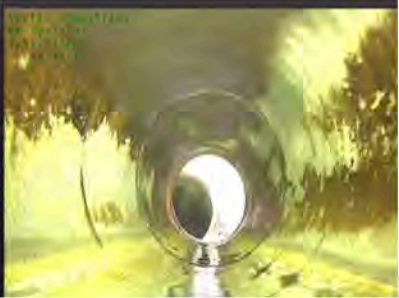
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Longitudinal | Point | 15.6 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 19.4 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Fracture Circumferential |   |
| Surface Aggregate Visible | Point | 23.6 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Aggregate Visible |  |
| Surface Damage Reinforcement Visible | Point | 23.6 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Crack Circumferential | Point | 23.6 | Structural | 0 | 10-11 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 26.2 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

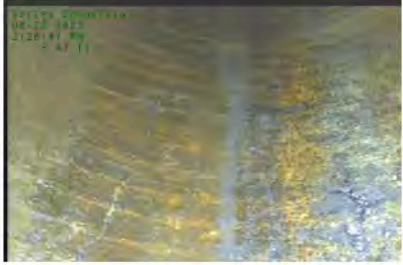

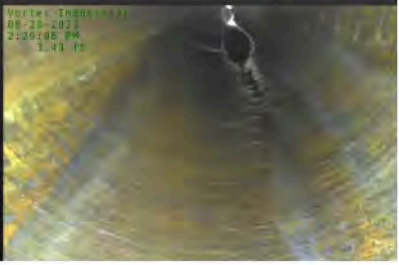

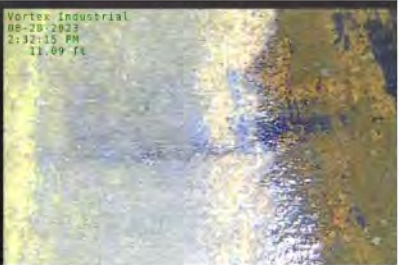


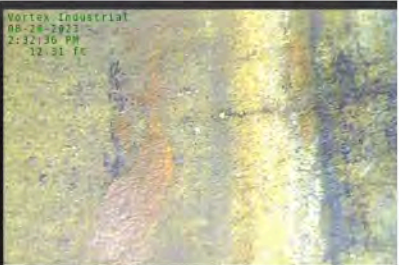
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Fracture Circumferential | Point | 26.2 | Structural | 0 | 2-3 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Surface Damage Reinforcement Visible | Point | 38.4 | Structural | 0 | 8 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Crack Longitudinal | Point | 43.2 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Miscellaneous Water Level | Point | 47.5 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Surface Damage Reinforcement Visible | Point | 48.2 | Structural | 0 | 4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Crack Circumferential | Point | 51.3 | Structural | 0 | 3-5 | 1 | 0 | 0 | 1 | Crack Circumferential |   |


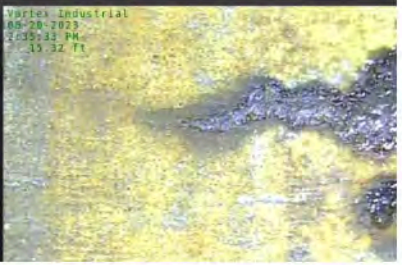






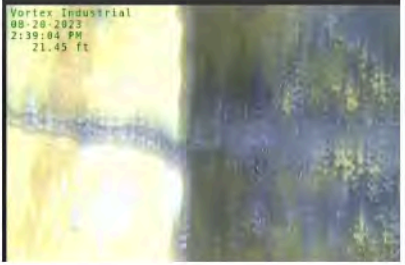


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---|--------------|---------------|------------|---------|-------|----|-----|---|----|---|---|
| Crack Longitudinal | Point | 55.9 | Structural | 0 | 1 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Spiral | Point | 59.5 | Structural | 0 | 6-9 | 2 | 0 | 0 | 2 | Crack Spiral |   |
| Crack Longitudinal | Point | 62.3 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Damage Reinforcement Visible | Point | 67.3 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |   |
| Crack Circumferential | Point | 71.8 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 71.8 | Structural | 0 | 4-5 | 1 | 0 | 0 | 2 | Crack Circumferential |  |



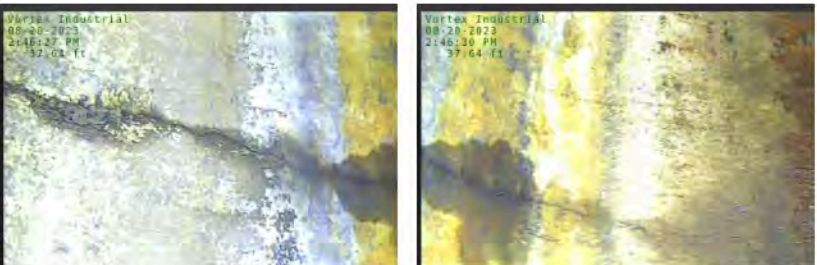

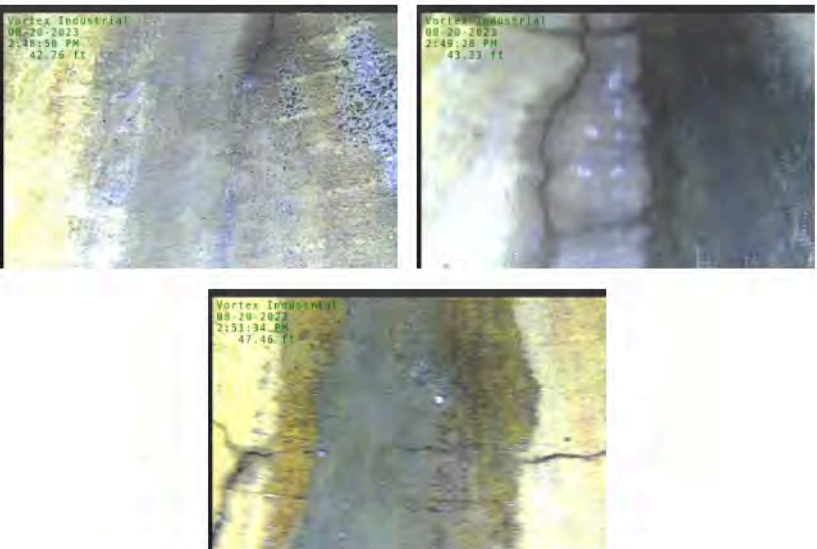
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---|--------------|---------------|----------------|---------|-------|----|-----|---|----|---|---|
| Surface Damage Reinforcement Visible | Point | 71.8 | Structural | 0 | 3 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Surface Damage Reinforcement Visible | Point | 79.5 | Structural | 0 | 2-4 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Surface Damage Reinforcement Visible | Point | 87.9 | Structural | 0 | 10 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Manhole | Point | 89.5 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-E |   |


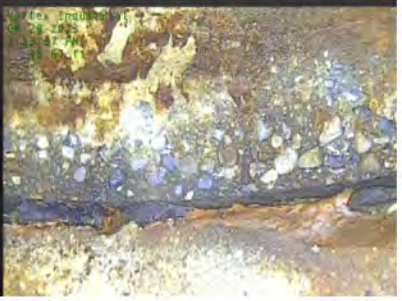


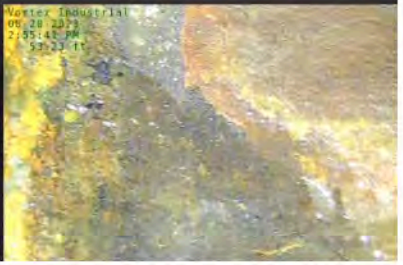

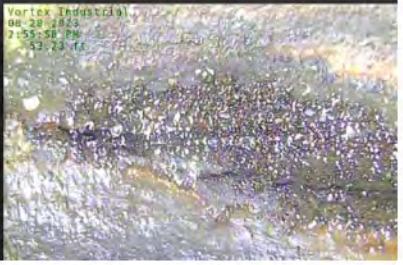

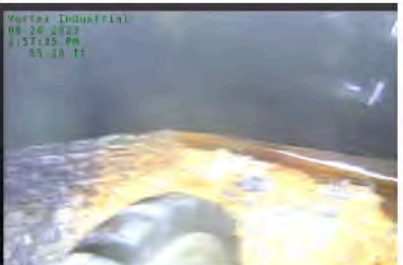

| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-16 | Inspection Date | Aug 20, 2023 | Inspected Length (ft) | 55.2 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Total PR Defects | 16 |
| Segment ID | B-02:5-P | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 2 | 0 | B-02 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Roughness Increased | Continuous | 0 - 55.2 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |   |








| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Spiral | Point | 3.4 | Structural | 0 | 5-7 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Circumferential | Point | 4.8 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 11.1 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 12.3 | Structural | 0 | 6-9 | 1 | 0 | 0 | 2 | Crack Circumferential |    |

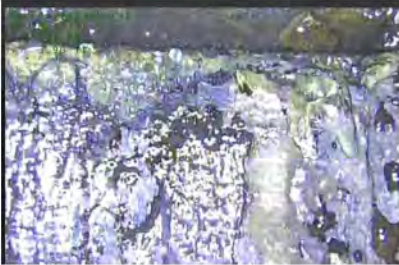
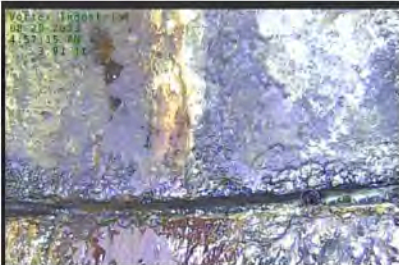

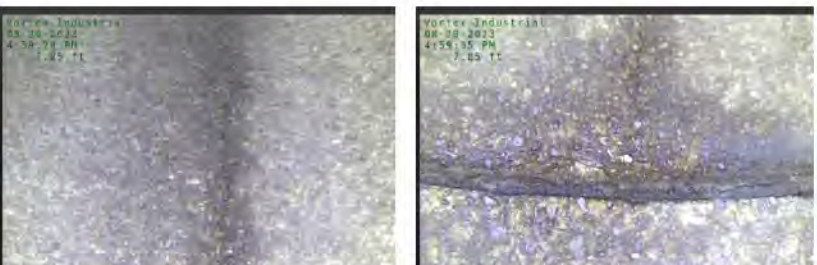
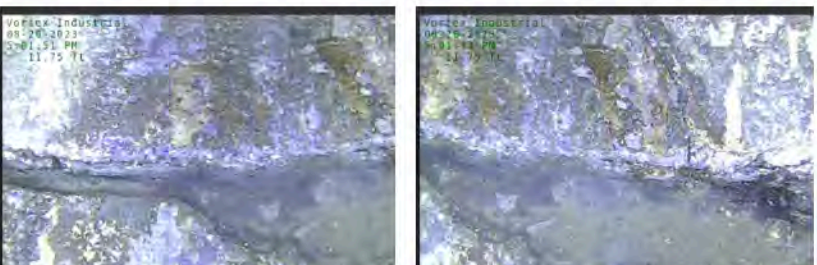
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 15.3 | Structural | 0 | 5-7 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Circumferential | Point | 20.1 | Structural | 0 | 3-9 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Circumferential | Point | 21.5 | Structural | 0 | 5-9 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Circumferential | Point | 22.8 | Structural | 0 | 8-9 | 1 | 0 | 0 | 2 | Crack Circumferential |   |



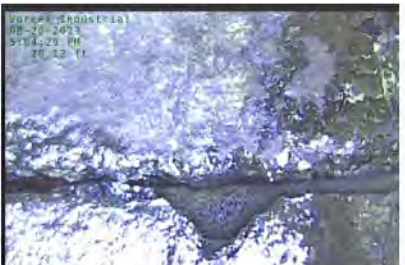


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Intruding Sealing Material Grout | Point | 25.6 | O&M | 10 | 7 | 0 | 2 | 0 | 0 | Intruding Sealing Material Grout |  |
| Crack Circumferential | Point | 29.3 | Structural | 0 | 5-6 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 37.6 | Structural | 0 | 2-6 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Longitudinal | Point | 41.2 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Multiple | Continuous | 43 - 47.3 | Structural | 0 | 5-7 | 3 | 0 | 0 | 2 | Crack Multiple |  |

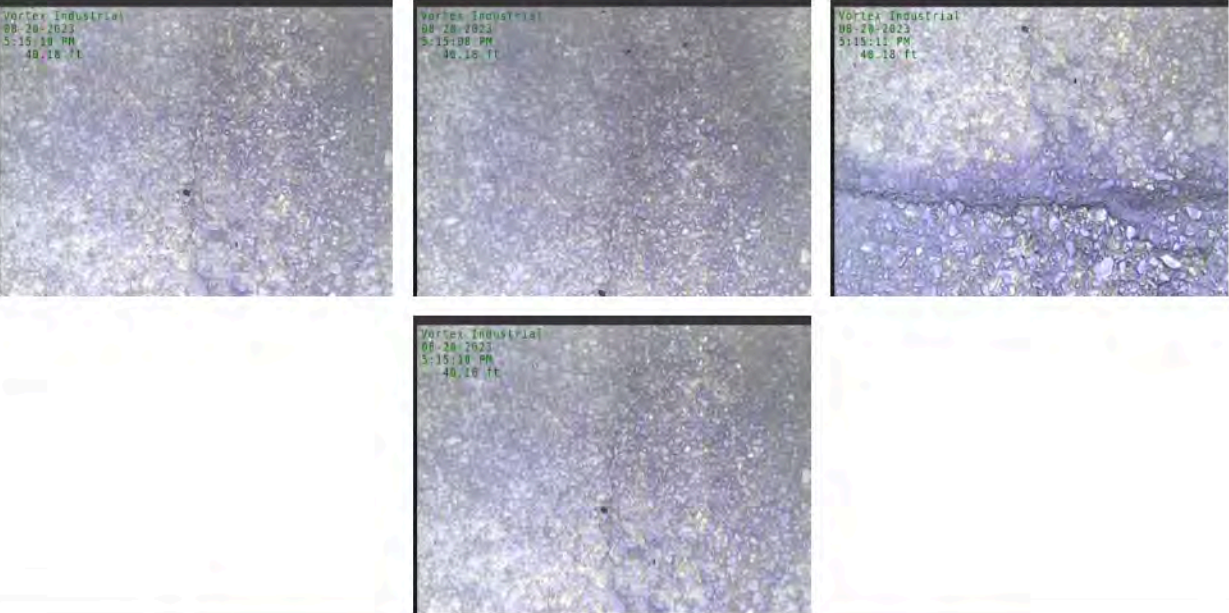
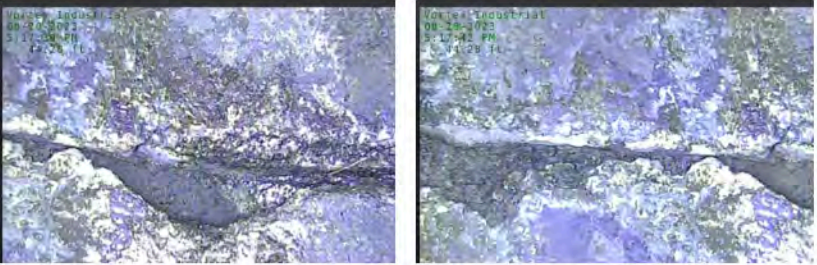
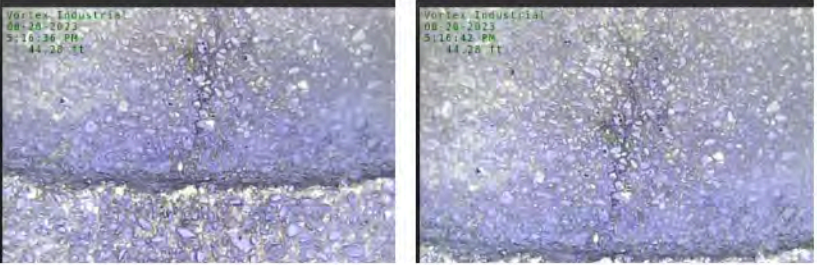

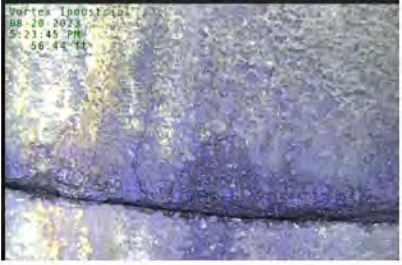
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Missing | Point | 48.7 | Structural | 0 | 12-12 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |   |
| Crack Circumferential | Point | 49.3 | Structural | 0 | 6-8 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Circumferential | Point | 53.2 | Structural | 0 | 8-5 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Manhole | Point | 55.2 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-P |   |

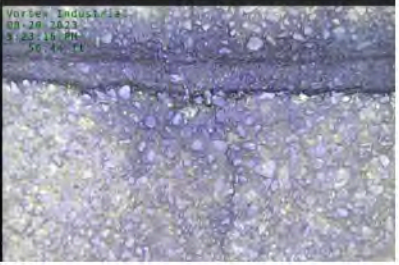

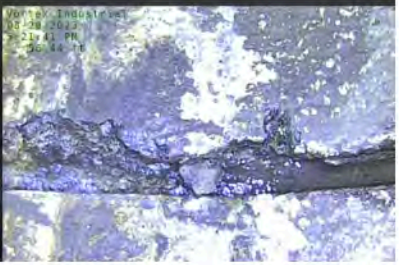




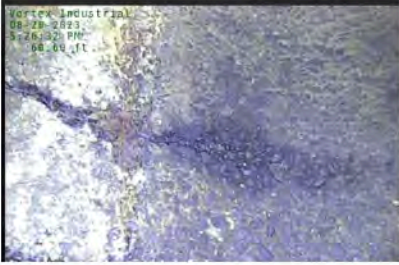


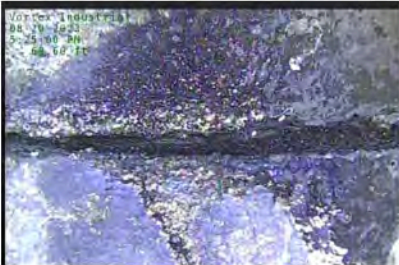
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|------------|-----------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-17 | Inspection Date | Aug 20, 2023 | Inspected Length (ft) | 133.2 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Total PR Defects | 55 |
| Segment ID | 23-4: 5-B | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |




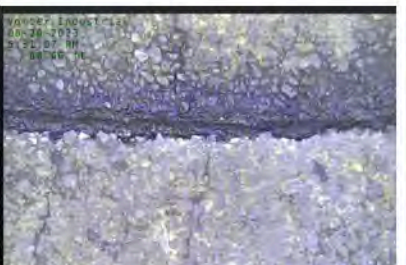
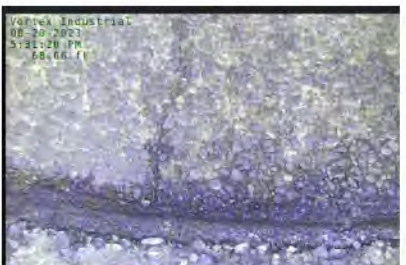

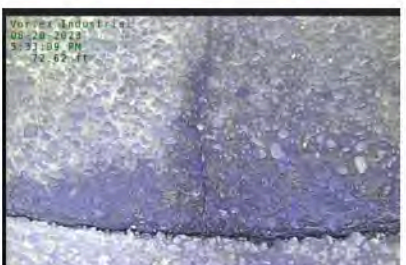
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Aggregate Visible | Continuous | 0 - 133.2 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Aggregate Visible |      |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 23-4 |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Fracture Circumferential | Point | 3.9 | Structural | 0 | 9 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 3.9 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 3.9 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 7.9 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 7.9 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 11.8 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |

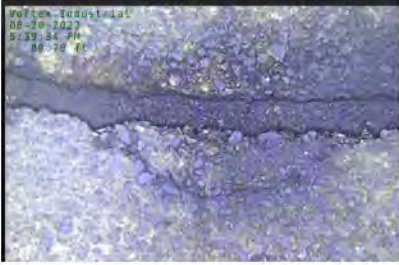






| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 11.8 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 15.5 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 21.1 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 24.4 | Structural | 0 | 3 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 28.1 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |

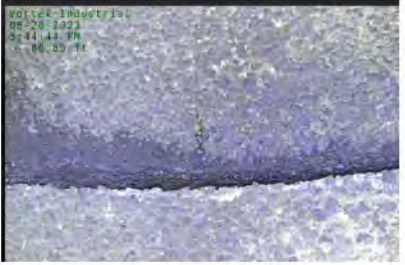
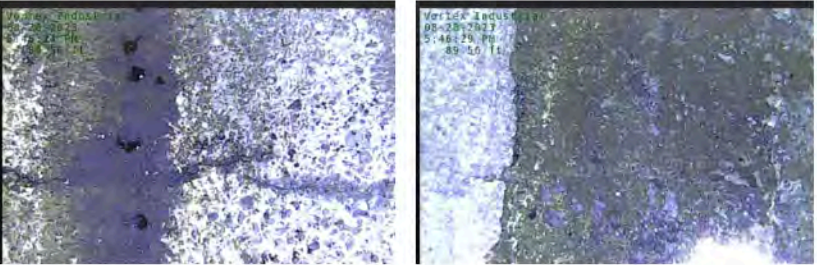
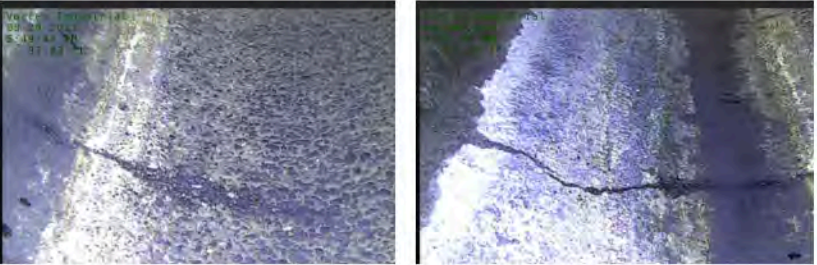
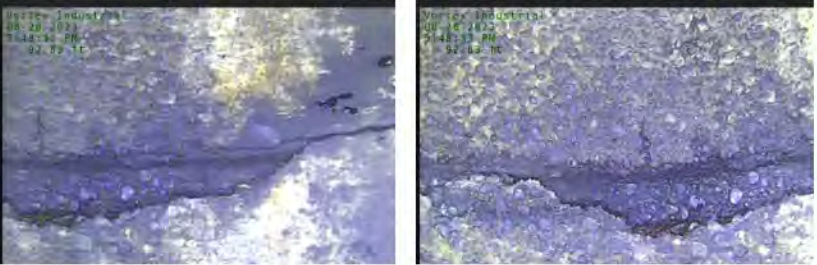
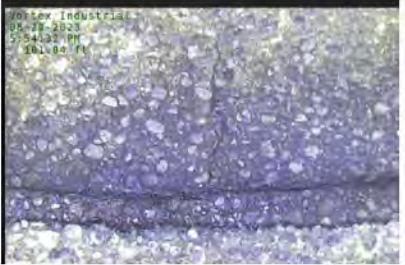
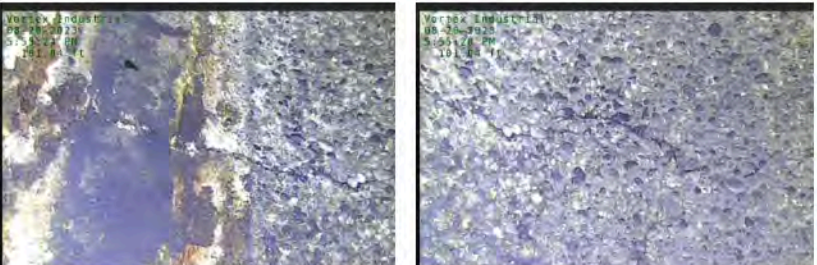
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 40.2 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 44.3 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 44.3 | Structural | 0 | 11 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 48.3 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 56.4 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |



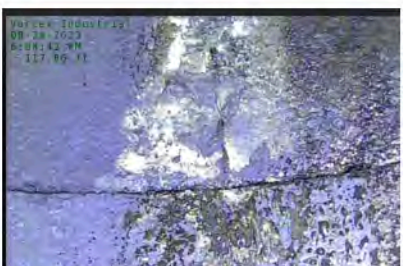
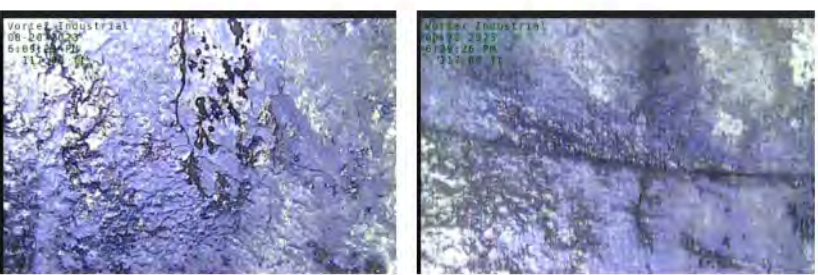
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 56.4 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Fracture Circumferential | Point | 56.4 | Structural | 0 | 7-8 | 2 | 0 | 0 | 2 | Fracture Circumferential |   |
| Crack Longitudinal | Point | 60.6 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 60.6 | Structural | 0 | 2-5 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Longitudinal | Point | 60.6 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |

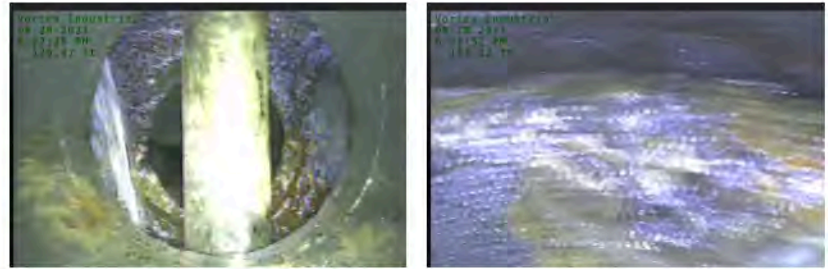
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|--|
| Crack Longitudinal | Point | 60.6 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 64.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 64.7 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 68.7 | Structural | 0 | 12-1 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Fracture Circumferential | Point | 72.6 | Structural | 0 | 8-9 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 72.6 | Structural | 0 | 12 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 72.6 | Structural | 0 | 2 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Circumferential | Point | 73 | Structural | 0 | 3-9 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Longitudinal | Point | 76.7 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 76.7 | Structural | 0 | 6-9 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Fracture Circumferential | Point | 80.7 | Structural | 0 | 4-5 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |



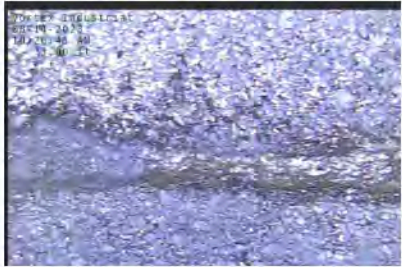
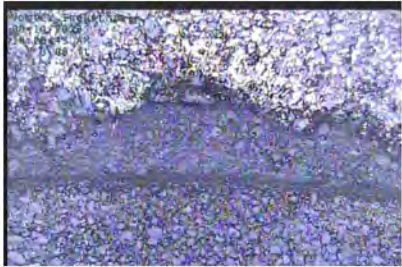
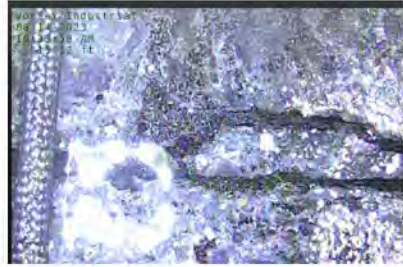
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Crack Circumferential | Point | 80.7 | Structural | 0 | 1-2 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 84.2 | Structural | 0 | 7-9 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 84.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 84.9 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Surface Damage Aggregate Missing | Point | 88.5 | Structural | 0 | 7 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Crack Longitudinal | Point | 88.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |



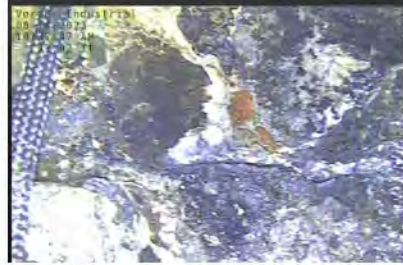
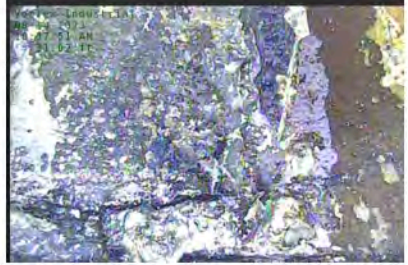

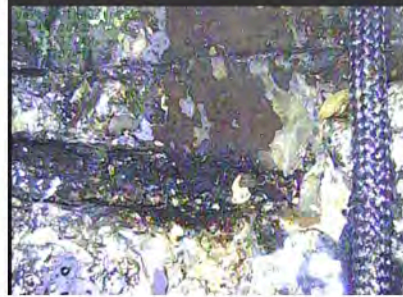
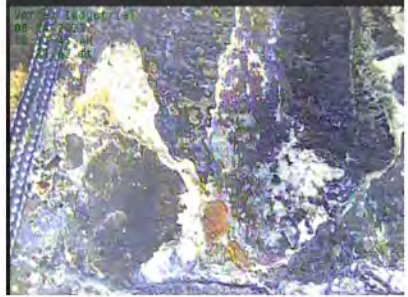
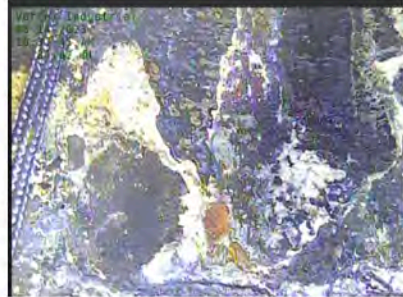
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 88.5 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 89.6 | Structural | 0 | 6-10 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Fracture Circumferential | Point | 92.8 | Structural | 0 | 3-5 | 1 | 0 | 0 | 2 | Fracture Circumferential |  |
| Fracture Circumferential | Point | 92.8 | Structural | 0 | 9-10 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 101 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 101.1 | Structural | 0 | 3-5 | 1 | 0 | 0 | 2 | Crack Circumferential |  |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 105 | Structural | 0 | 4 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 109 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 113.1 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 113.1 | Structural | 0 | 8-9 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 117 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 117 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 120.4 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Circumferential | Point | 121.5 | Structural | 0 | 4-5 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 127.4 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 129 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Manhole | Point | 133.2 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-B |  |





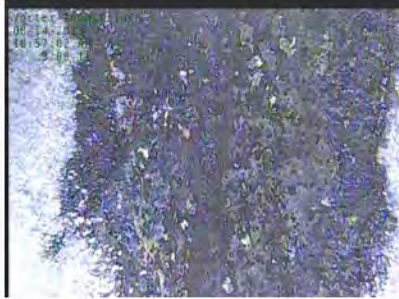

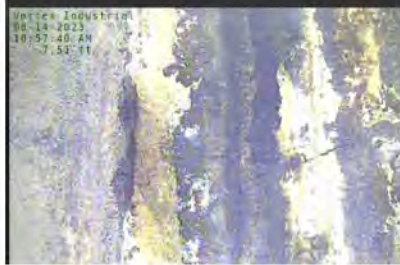

| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-18 | Inspection Date | Aug 14, 2023 | Inspected Length (ft) | 38.7 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 6 |
| Segment ID | 23-1:5-A | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |



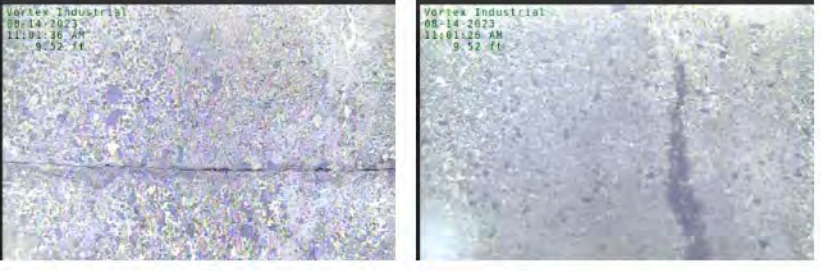

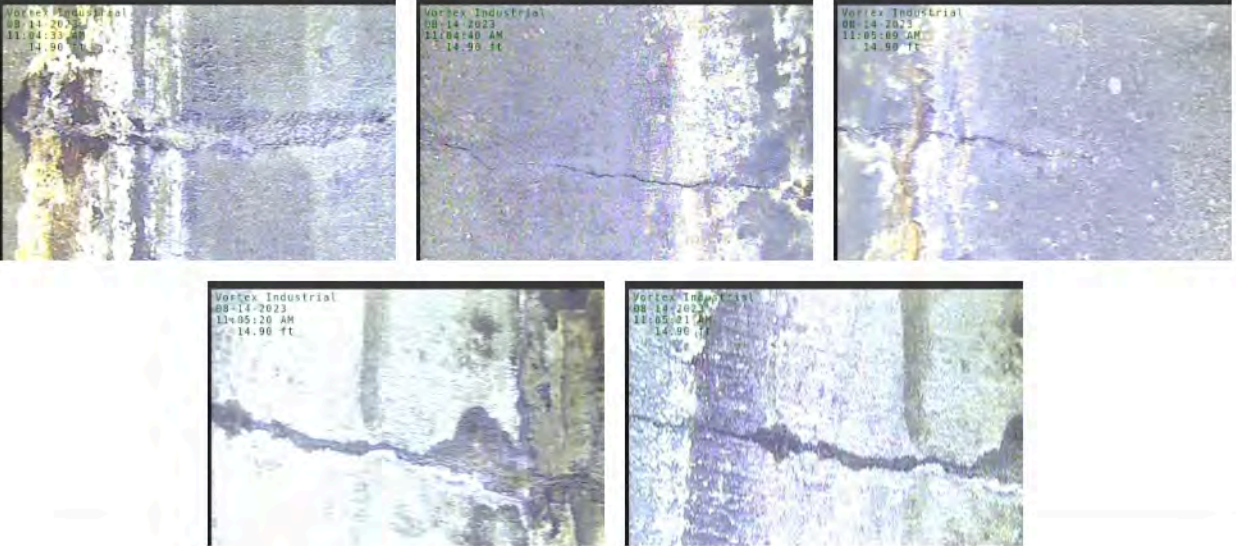
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 23-1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Fracture Circumferential | Point | 3 | Structural | 0 | 10-11 | 2 | 0 | 0 | 2 | Fracture Circumferential |   |
| Crack Circumferential | Point | 15.1 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |

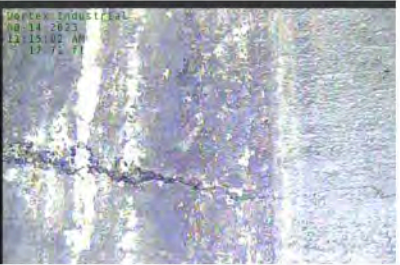
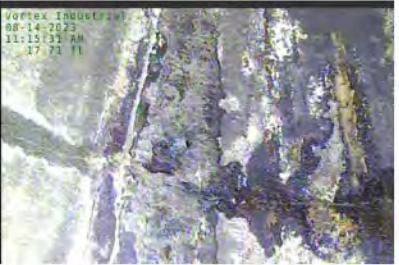
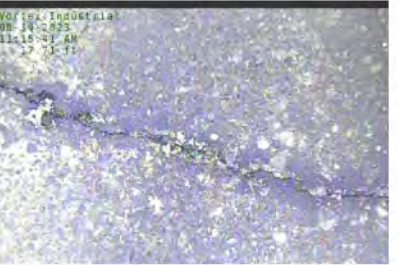
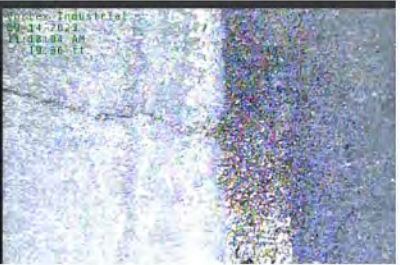
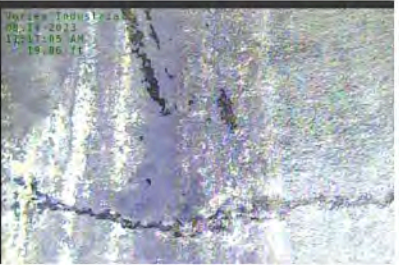

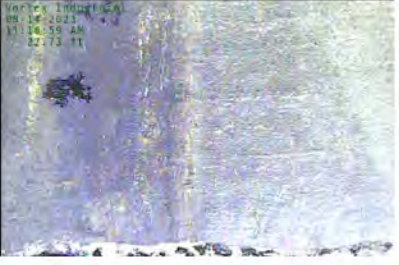
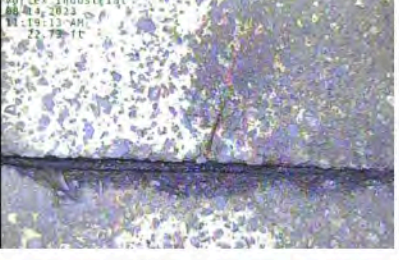
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Longitudinal | Point | 23.1 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 31 | Structural | 0 | 6-8 | 1 | 0 | 0 | 2 | Crack Circumferential |        |




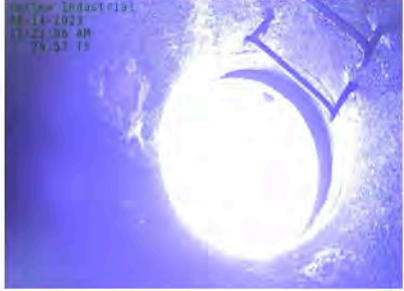
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Multiple | Point | 35.5 | Structural | 0 | 4-6 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Fracture Circumferential | Point | 35.5 | Structural | 0 | 7-8 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Miscellaneous Survey Abandoned | Point | 38.7 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Plugged |  |

| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-19 | Inspection Date | Aug 14, 2023 | Inspected Length (ft) | 26.6 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Total PR Defects | 13 |
| Segment ID | 23-1:23-2 | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Manhole | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | 23-1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Crack Longitudinal | Point | 5.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |
| Crack Circumferential | Point | 7.5 | Structural | 0 | 7-9 | 1 | 0 | 0 | 2 | Crack Circumferential |    |

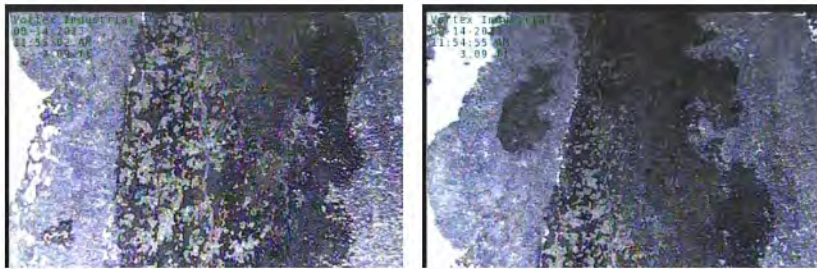
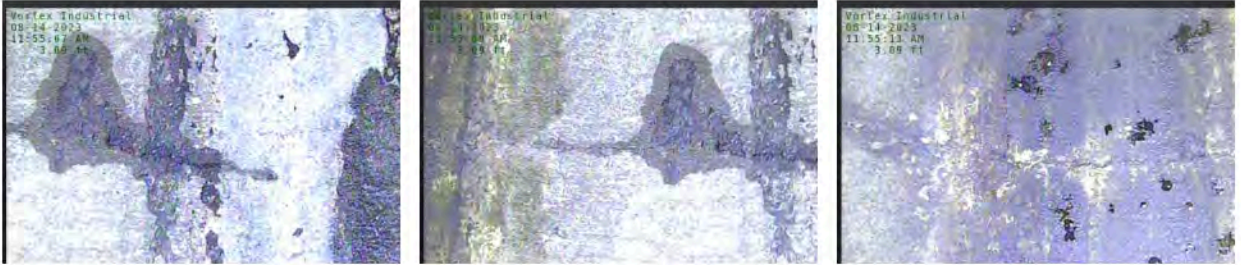
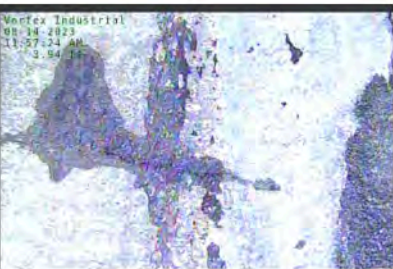
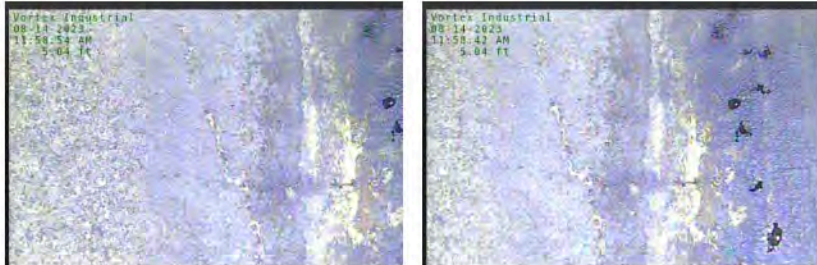

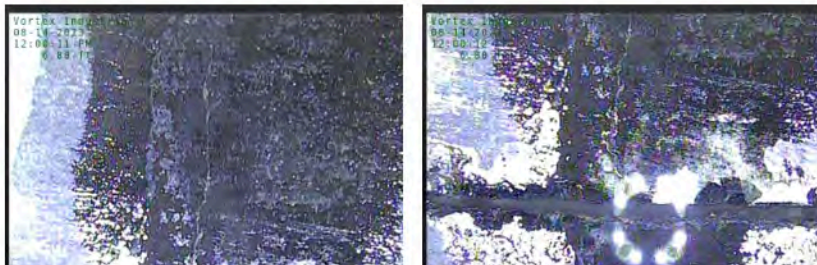
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 8 | Structural | 0 | 8-9 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 9.5 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 9.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 12.2 | Structural | 0 | 6-9 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 14.9 | Structural | 0 | 7-5 | 1 | 0 | 0 | 1 | Crack Circumferential |  |






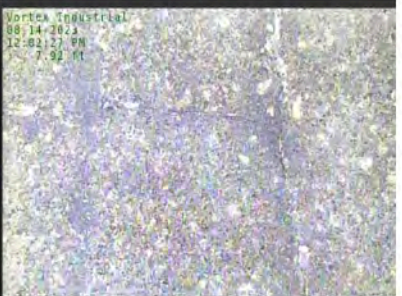
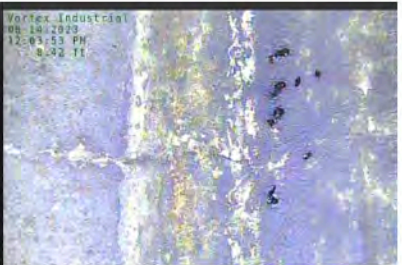



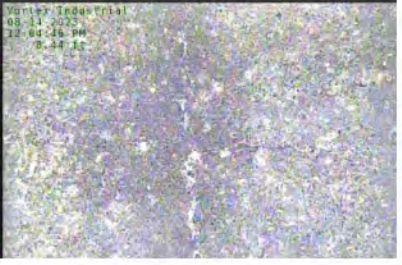
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 14.9 | Structural | 0 | 11 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Circumferential | Point | 17.7 | Structural | 0 | 6-5 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Circumferential | Point | 19.9 | Structural | 0 | 7-11 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Longitudinal | Point | 19.9 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 22.7 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 22.7 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


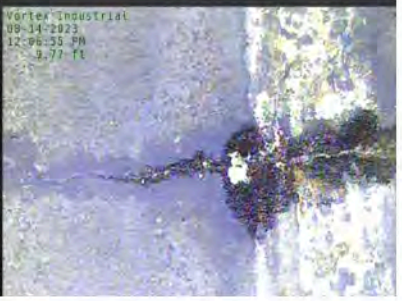
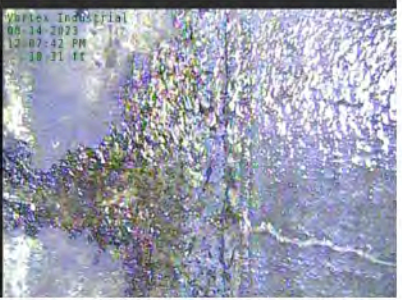


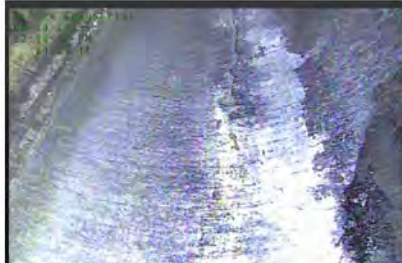

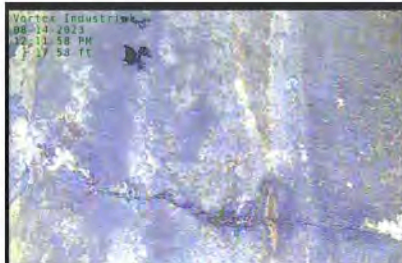
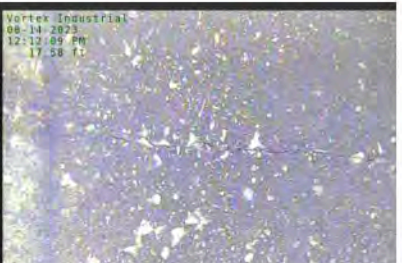

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-----------------|---|
| Miscellaneous General Photograph | Point | 22.7 | Miscellaneous | 0 | 6 | 0 | 0 | 0 | 0 | Object in Joint |   |
| Manhole | Point | 26.6 | Constructional | 0 | | 0 | 0 | 0 | 0 | 23-2 |    |



| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-20 | Inspection Date | Aug 14, 2023 | Inspected Length (ft) | 52.6 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 25 |
| Segment ID | 23-2:23-3 | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |


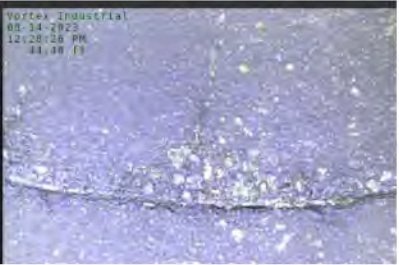
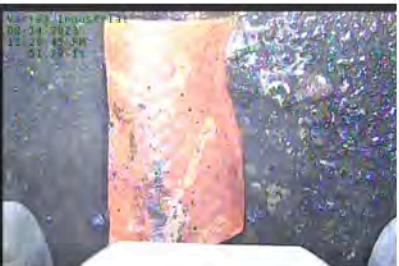

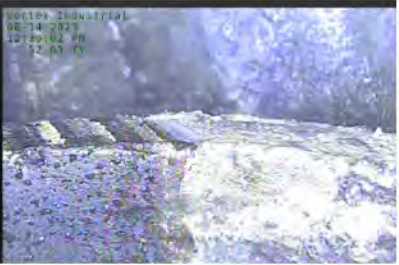
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--------|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 23-2 | |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey | |
| Surface Damage Aggregate Visible | Continuous | 0 - 52.6 | Structural | 0 | 10-2 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 3.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 3.1 | Structural | 0 | 7-9 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 3.9 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Spiral | Point | 5 | Structural | 0 | 6-8 | 2 | 0 | 0 | 1 | Crack Spiral |  |
| Crack Circumferential | Point | 5 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 6.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


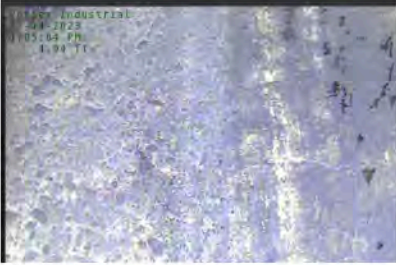

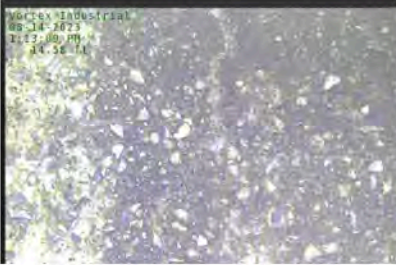

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Longitudinal | Point | 6.8 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 7.9 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Multiple | Point | 7.9 | Structural | 0 | 1-5 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Circumferential | Point | 8.4 | Structural | 0 | 10-5 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Longitudinal | Point | 8.5 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

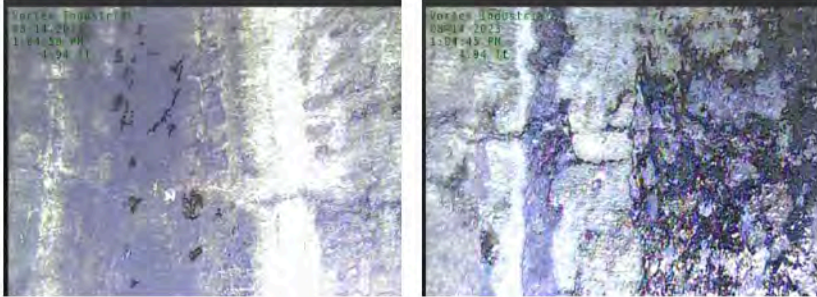
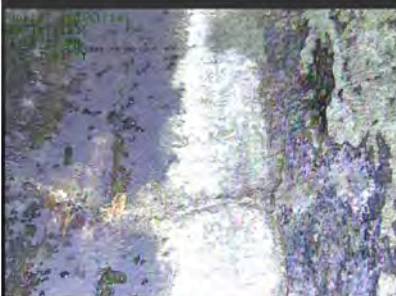
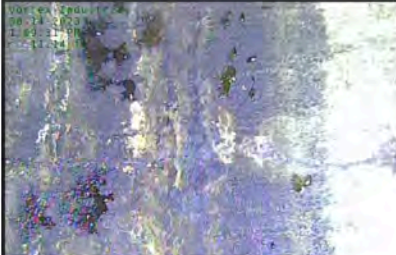
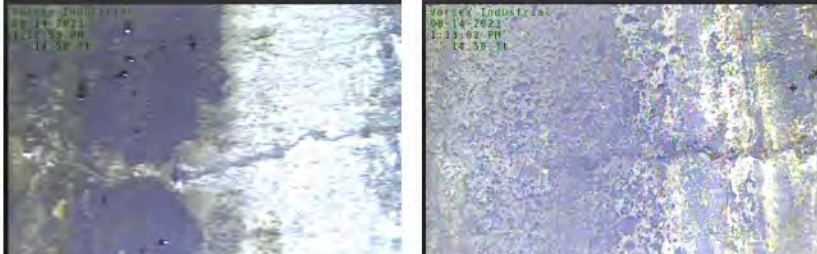
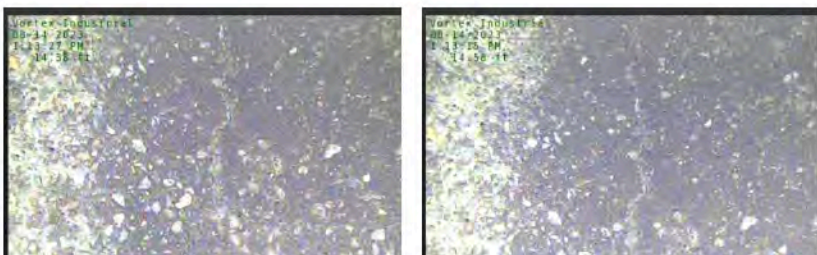
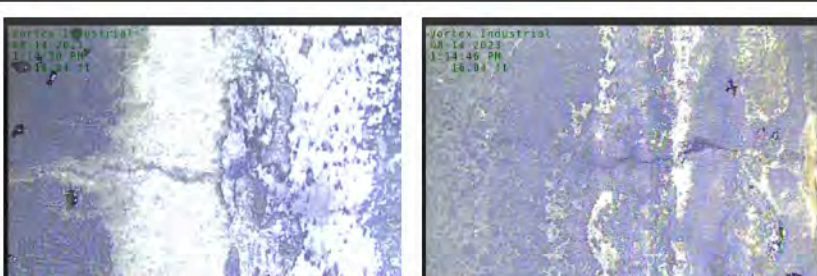
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 9.8 | Structural | 0 | 5-8 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Circumferential | Point | 10.3 | Structural | 0 | 6-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 11.6 | Structural | 0 | 2-5 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Longitudinal | Point | 14.2 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Circumferential | Point | 17.6 | Structural | 0 | 7-4 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Longitudinal | Point | 21.7 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


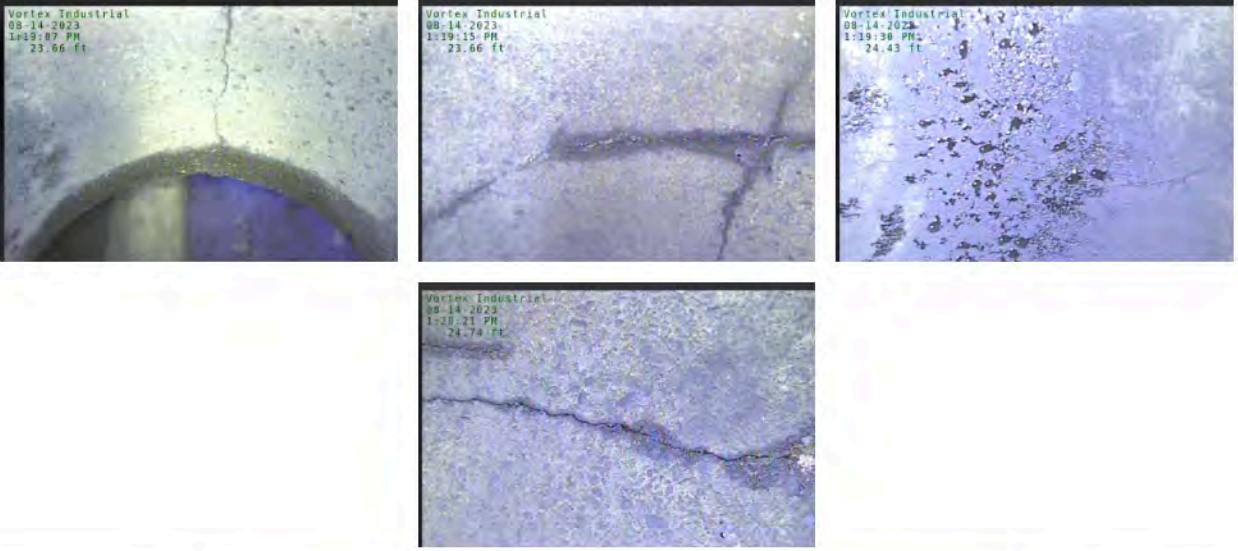

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Multiple | Point | 22 | Structural | 0 | 7-6 | 3 | 0 | 0 | 2 | Crack Multiple |   |
| Crack Circumferential | Point | 25.1 | Structural | 0 | 6-10 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Circumferential | Point | 33.9 | Structural | 0 | 12-5 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Longitudinal | Point | 33.9 | Structural | 0 | 4 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 37 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 39 | Structural | 0 | 3-9 | 1 | 0 | 0 | 2 | Crack Circumferential |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous Water Level | Point | 40.5 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Longitudinal | Point | 44.4 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Miscellaneous General Photograph | Point | 51.7 | Miscellaneous | 0 | 6 | 0 | 0 | 0 | 0 | Miscellaneous General Photograph |  |
| Manhole | Point | 52.6 | Constructional | 0 | | 0 | 0 | 0 | 0 | 23-3 |   |

| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-21 | Inspection Date | Aug 14, 2023 | Inspected Length (ft) | 26.1 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 9 |
| Segment ID | 23-3:23-4 | Primary Pipe Material | RCP | Pipe Diameter (in) | 18 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 26.1 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Aggregate Visible |      |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 23-3 |  |

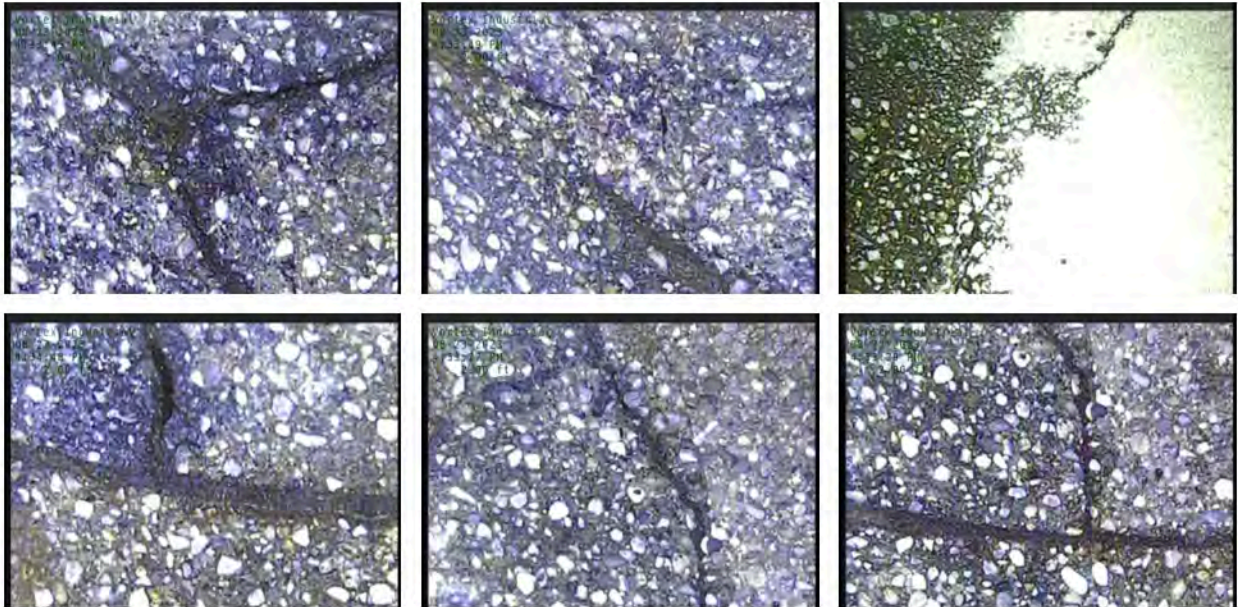

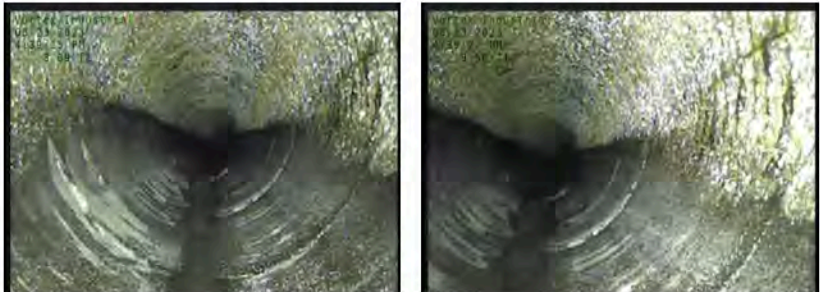

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 4.9 | Structural | 0 | 5-6 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 7.4 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Circumferential | Point | 11.1 | Structural | 0 | 6-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 14.6 | Structural | 0 | 6-9 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Longitudinal | Point | 14.6 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 16 | Structural | 0 | 6-8 | 3 | 0 | 0 | 2 | Crack Multiple |  |

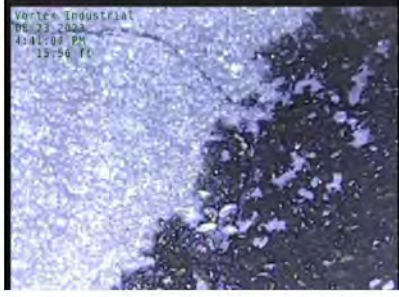

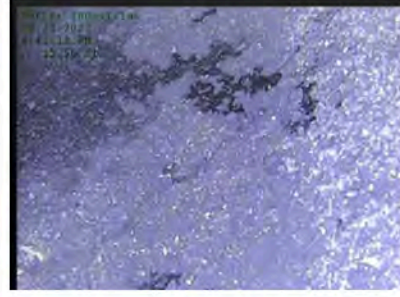


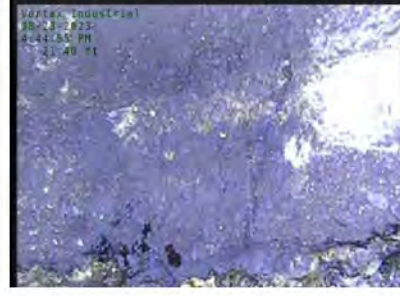
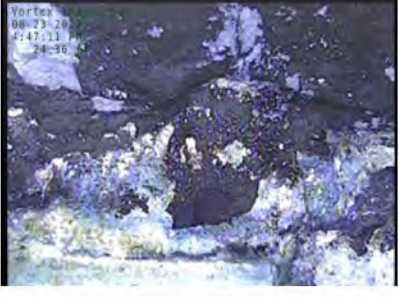

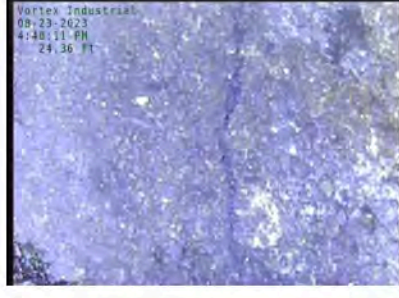


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Longitudinal | Point | 18.2 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 23.7 | Structural | 0 | 10-6 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Manhole | Point | 26.1 | Structural | 0 | | 0 | 0 | 0 | 0 | 23-4 |  |


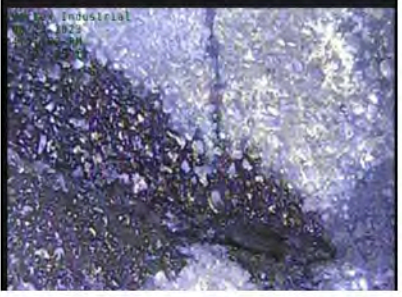
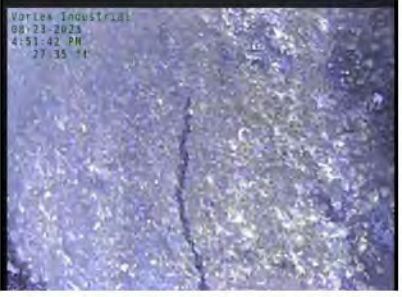

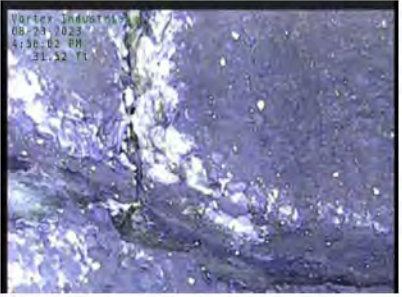
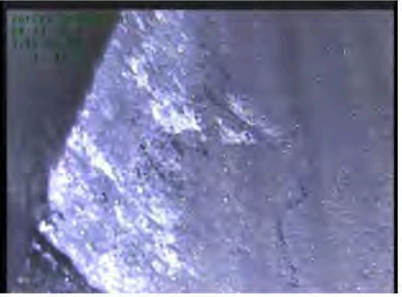
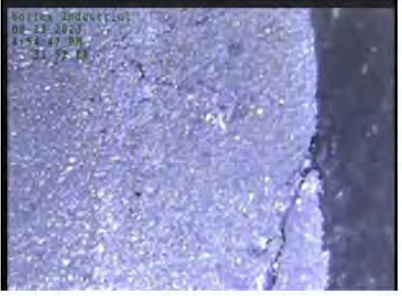
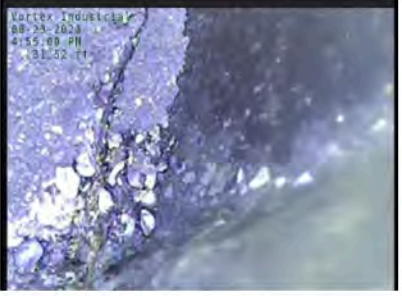
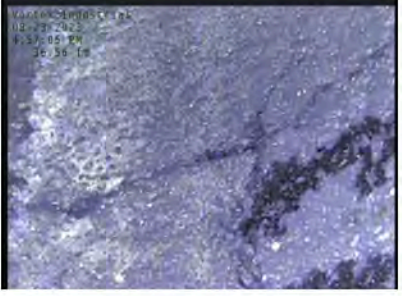

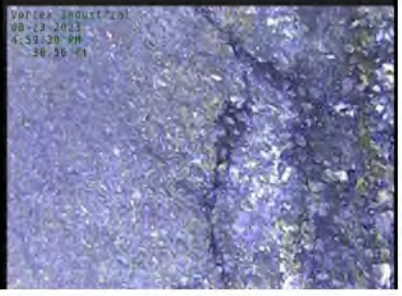
| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-22 | Inspection Date | Aug 23, 2023 | Inspected Length (ft) | 134.5 | Defects Rated ≥3 | 2 | Peak Structural Rating | 4 | Total PR Defects | 41 |
| Segment ID | 5-F:D-12 | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 2 | | |


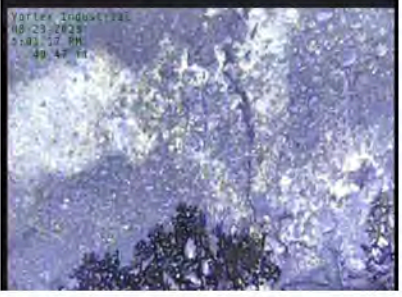

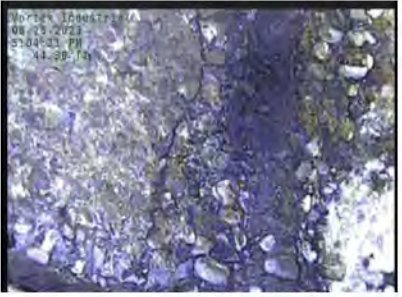

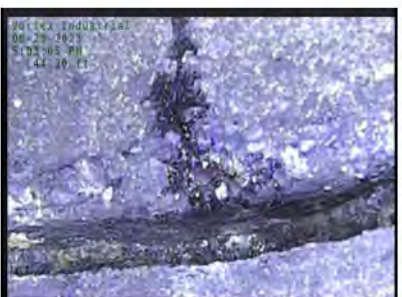

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--------|
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey | |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-F | |
| Surface Damage Aggregate Visible | Point | 0 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible | |


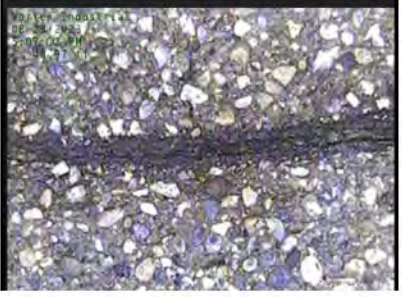
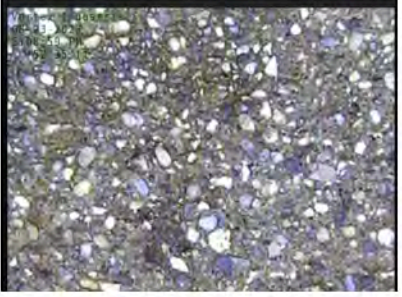
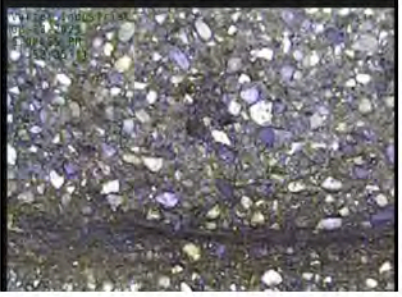


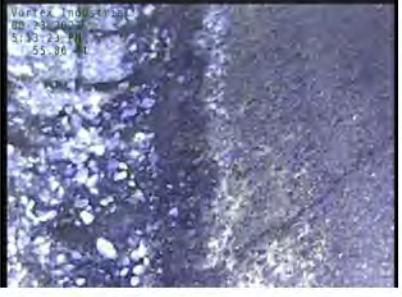
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------------------------|--------|
| Surface Damage Aggregate Projecting | Continuous | 0 - 55.8 | Structural | 0 | 9-3 | 3 | 0 | 0 | 2 | Surface Damage Aggregate Projecting | |
| Crack Multiple | Point | 2 | Structural | 0 | 8-9 | 3 | 0 | 0 | 2 | Crack Multiple | |


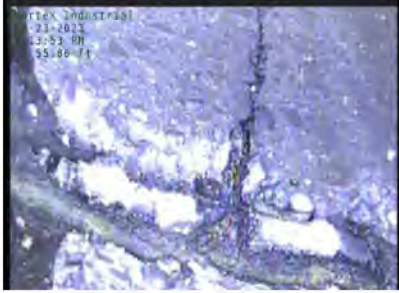

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Fracture Multiple | Point | 2 | Structural | 0 | 1-3 | 4 | 0 | 0 | 2 | Fracture Multiple |  |
| Deposits Attached Encrustation | Point | 8.1 | O&M | 10 | 5-6 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Surface Damage Reinforcement Visible | Point | 9 | Structural | 0 | 2-3 | 4 | 0 | 0 | 3 | Surface Damage Reinforcement Visible |  |
| Fracture Multiple | Point | 12.4 | Structural | 0 | 7-8 | 0 | 0 | 0 | 2 | Fracture Multiple |  |

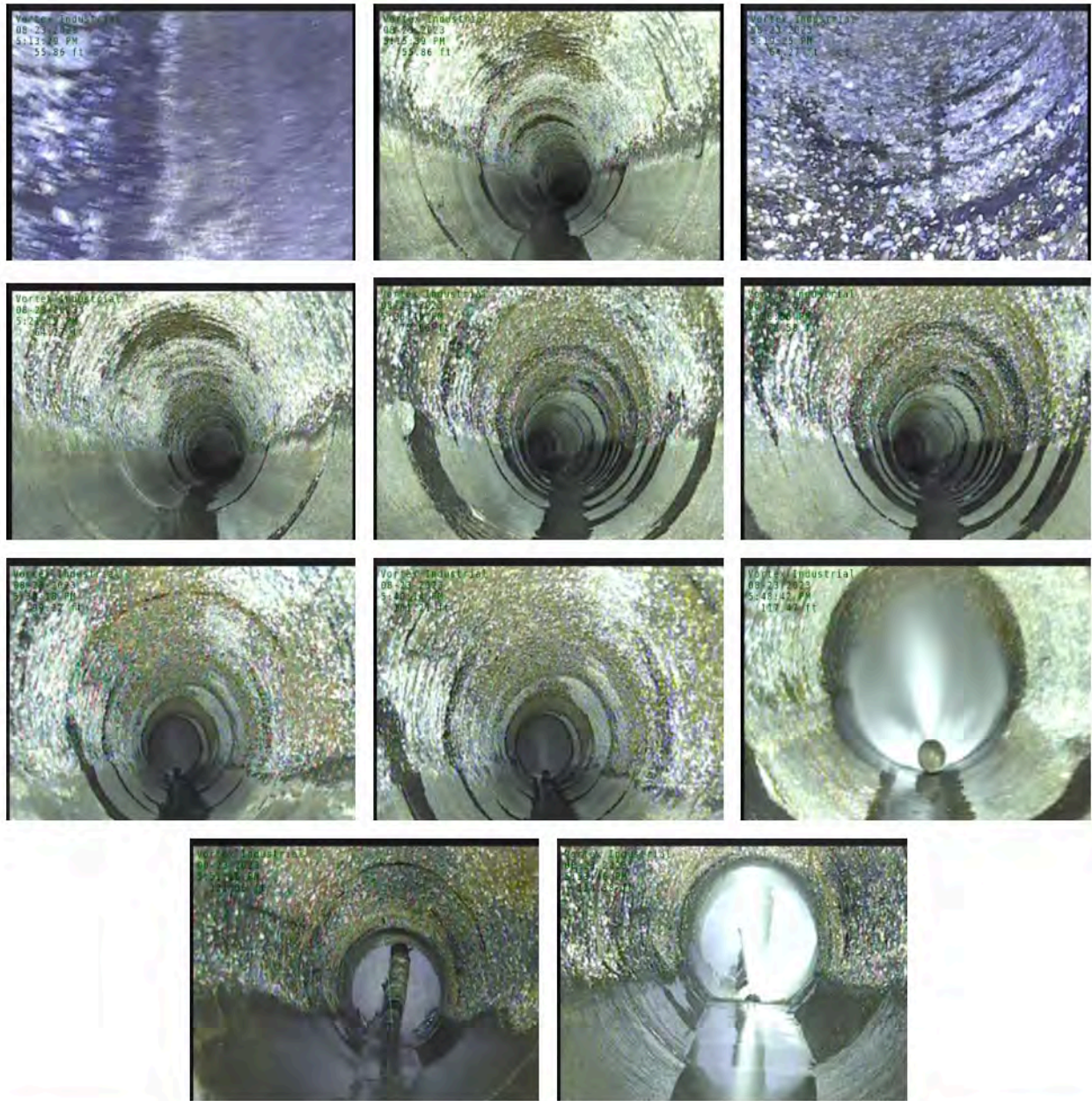
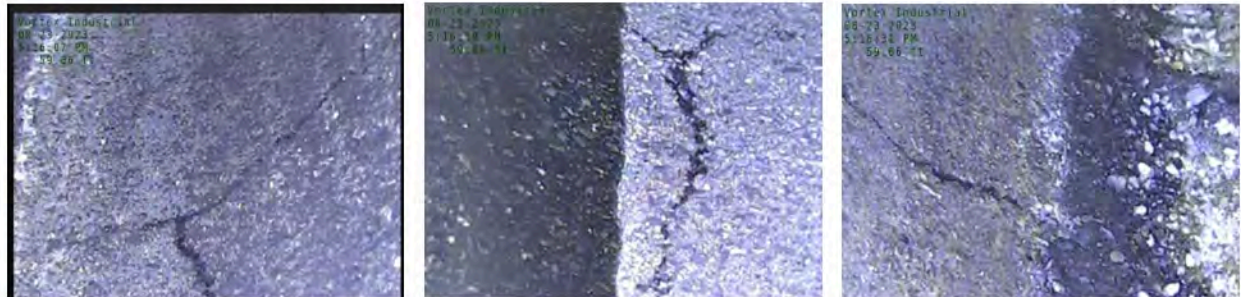
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Multiple | Point | 15.5 | Structural | 0 | 6-7 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Spiral | Point | 21.4 | Structural | 0 | 7-8 | 2 | 0 | 0 | 1 | Crack Spiral |    |
| Crack Multiple | Point | 24.3 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Crack Multiple |   |
| Crack Longitudinal | Point | 24.3 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 25.5 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |   |

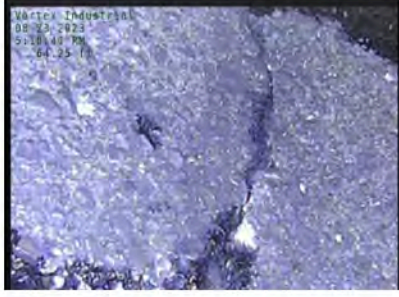
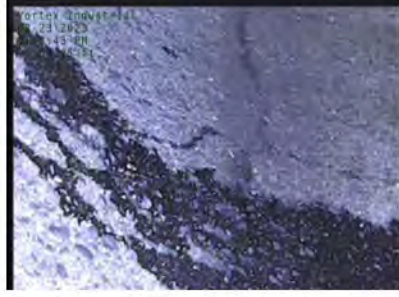
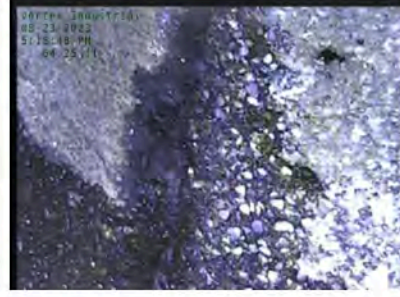
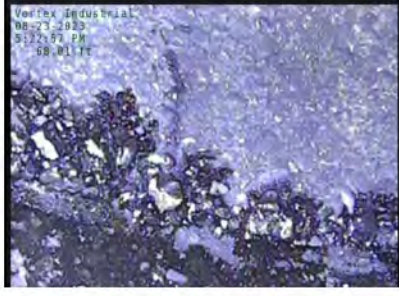
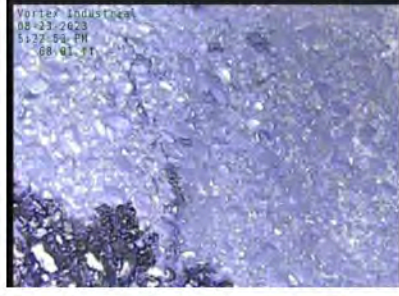
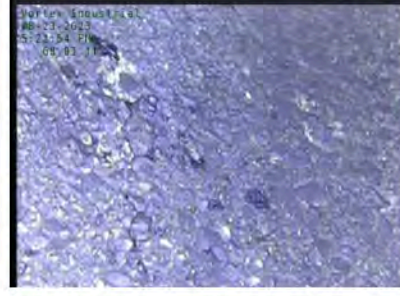
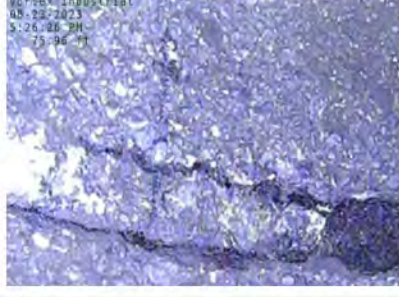
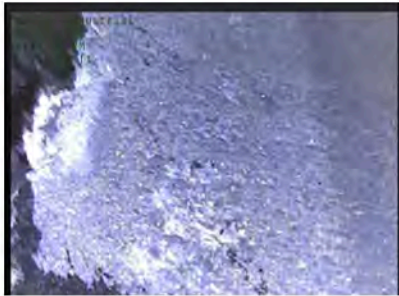

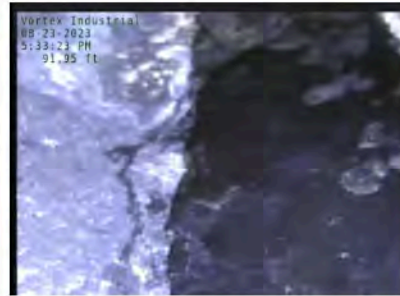
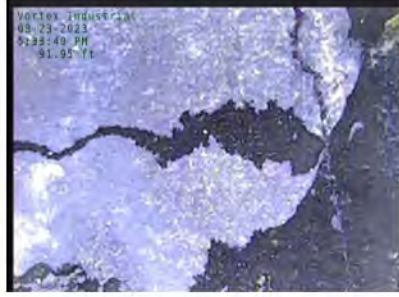
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Spiral | Point | 27.3 | Structural | 0 | 8-9 | 2 | 0 | 0 | 2 | Crack Spiral |  |
| Crack Longitudinal | Point | 27.3 | Structural | 0 | 4 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Fracture Circumferential | Point | 31.5 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |    |
| Crack Longitudinal | Point | 31.5 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Multiple | Point | 36.5 | Structural | 0 | 3-9 | 3 | 0 | 0 | 2 | Crack Multiple |    |


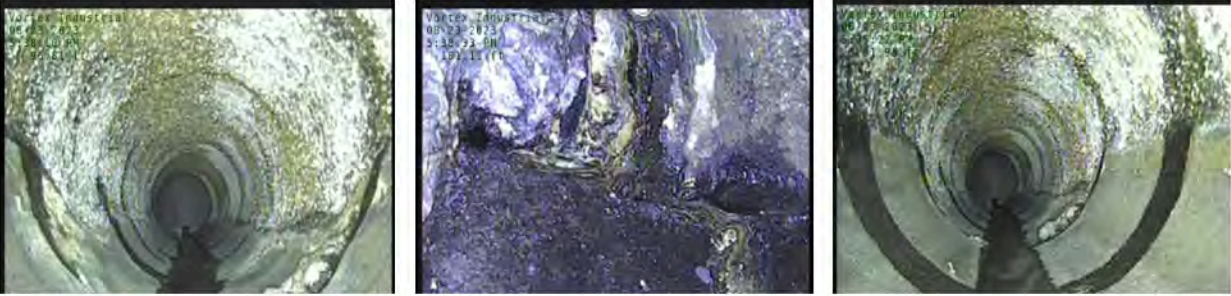
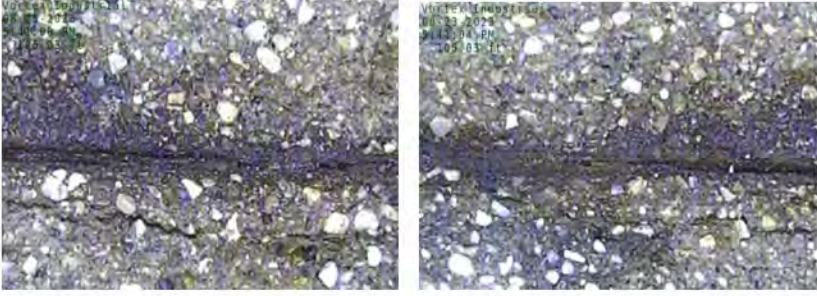
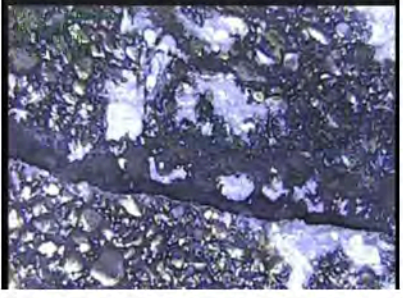
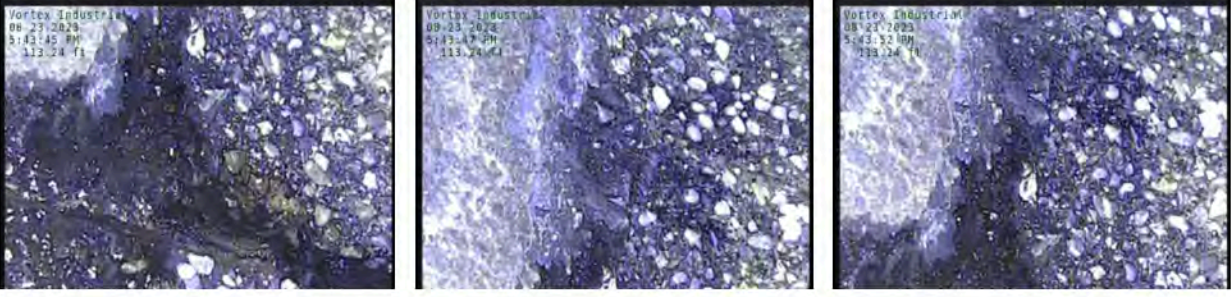
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 40.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 40.4 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 40.5 | Structural | 0 | 1 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Spiral | Point | 44.3 | Structural | 0 | 3-5 | 2 | 0 | 0 | 2 | Crack Spiral |   |
| Crack Spiral | Point | 44.3 | Structural | 0 | 8-9 | 2 | 0 | 0 | 2 | Crack Spiral |   |

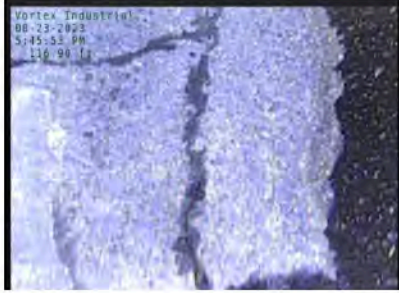

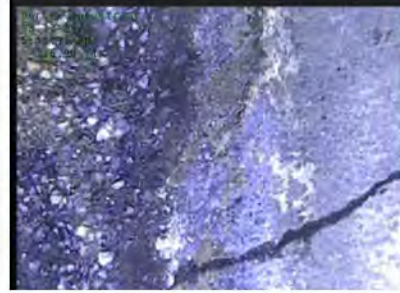
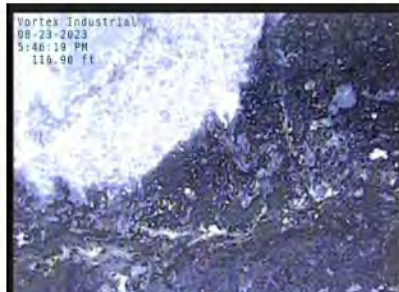
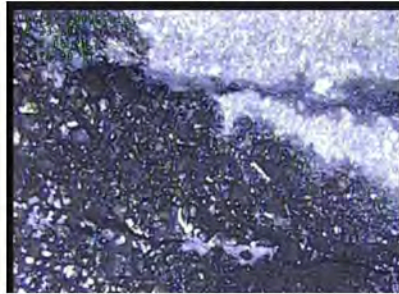
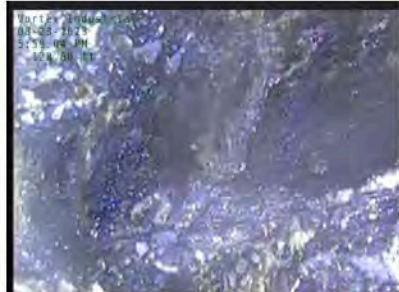


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 48.9 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 48.9 | Structural | 0 | 12 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Multiple | Point | 52.3 | Structural | 0 | 11-12 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Longitudinal | Point | 52.3 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Multiple | Point | 55.8 | Structural | 0 | 7-8 | 3 | 0 | 0 | 2 | Crack Multiple |   |



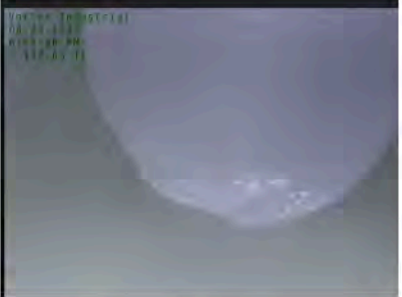


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 55.8 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 55.8 | Structural | 0 | 2 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Surface Damage Reinforcement Visible | Continuous | 55.8 - 134.5 | Structural | 0 | 9-3 | 4 | 0 | 0 | 3 | Surface Damage Reinforcement Visible |  |
| Crack Multiple | Point | 59.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |  |

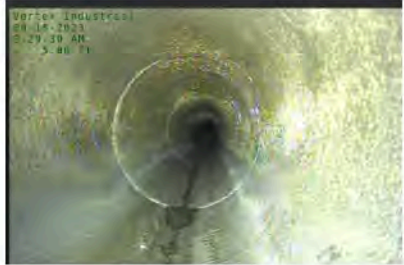
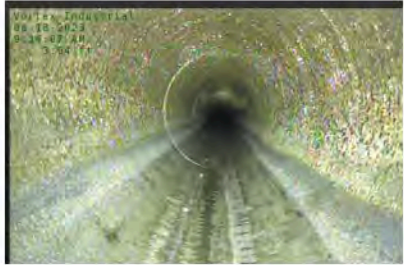
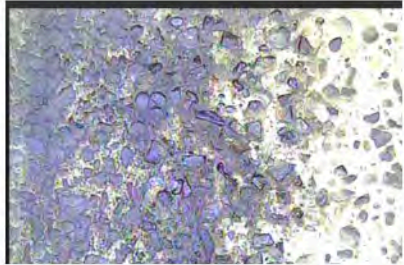





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Multiple | Point | 64.2 | Structural | 0 | 3-5 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Longitudinal | Point | 68 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |
| Crack Circumferential | Point | 75.9 | Structural | 0 | 4-5 | 0 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 91.9 | Structural | 0 | 5-8 | 3 | 0 | 0 | 2 | Crack Multiple |     |

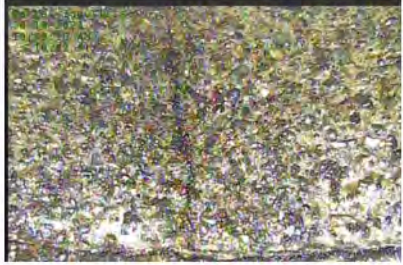
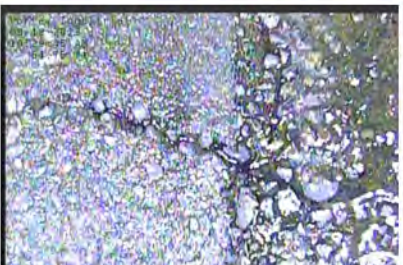
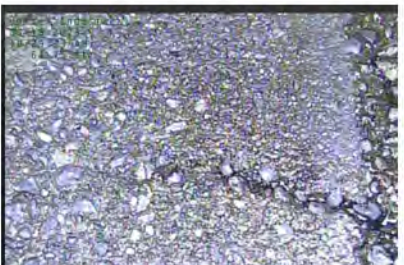
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Multiple | Point | 96.8 | Structural | 0 | 4-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Deposits Attached Encrustation | Point | 99 | O&M | 10 | 4-5 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Crack Circumferential | Point | 105 | Structural | 0 | 10-12 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 113.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 113.2 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Multiple | Point | 116.9 | Structural | 0 | 7-8 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Crack Multiple | Point | 116.9 | Structural | 0 | 5-6 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Longitudinal | Point | 128.6 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Obstruction Rocks | Point | 132.6 | O&M | 10 | 7 | 0 | 0 | 0 | 0 | Obstruction Rocks |   |

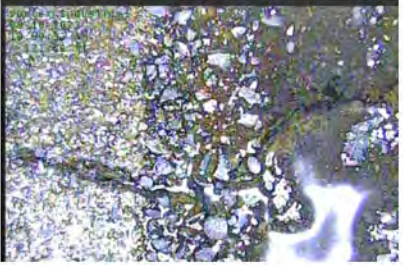

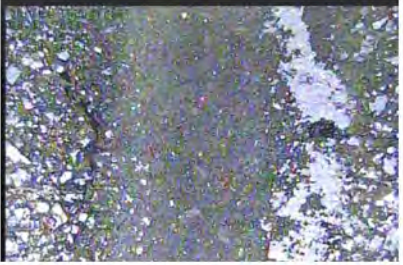
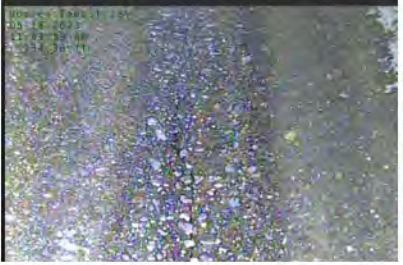
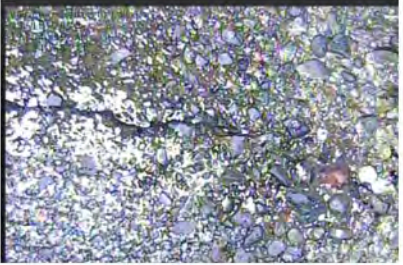
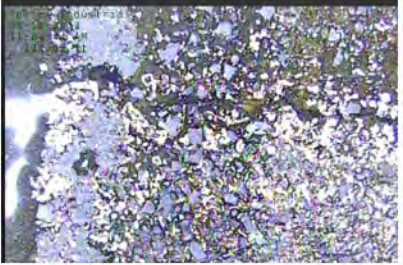





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---|--|
| Miscellaneous Survey Abandoned | Point | 134.5 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Inspection ended due to tap at bottom of pipe |  |
| Tap Factory | Point | 134.5 | Constructional | 0 | 5-7 | 0 | 0 | 0 | 0 | Tap Factory |     |

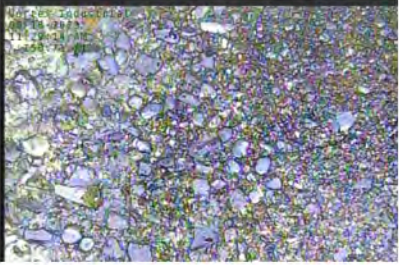

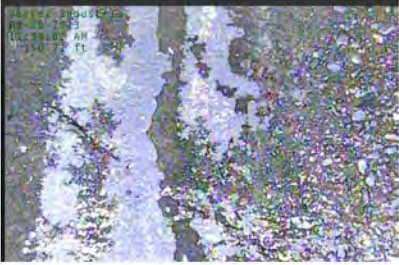
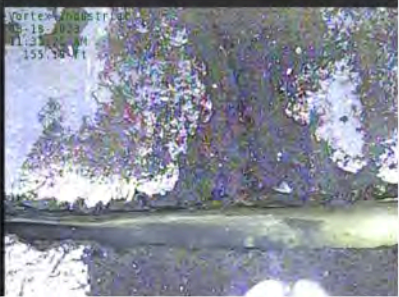
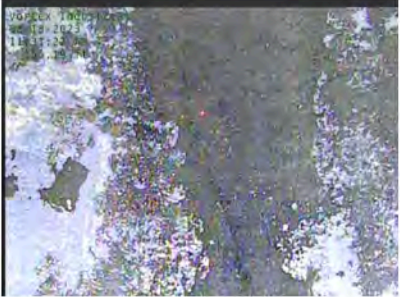

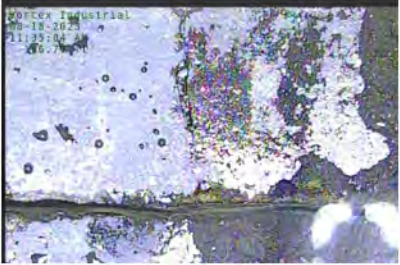


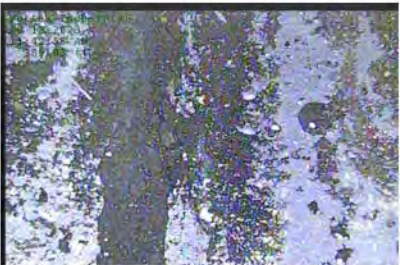


| | | | | | | | | | | | |
|------------|-------------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-23 | Inspection Date | Aug 18, 2023 | Inspected Length (ft) | 253.1 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 29 |
| Segment ID | D-1.1:D-2.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-1.1 |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 253.1 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |       |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 10.2 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 16.7 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 46.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 52 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 64.7 | Constructional | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 64.7 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |




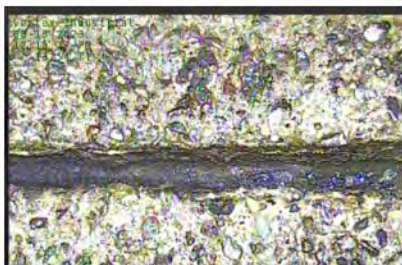
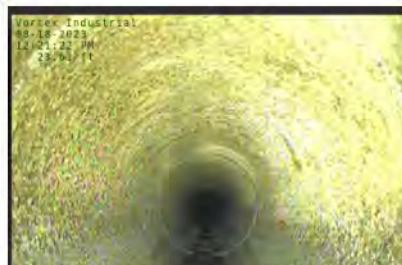


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 70.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 77.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 78.8 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 96.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 102.4 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 113.1 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |


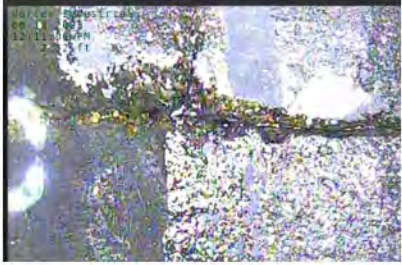




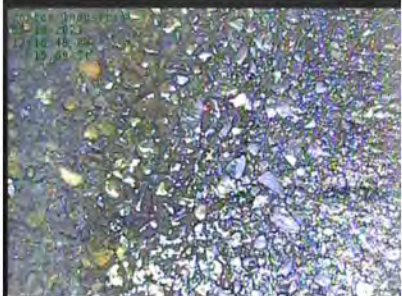
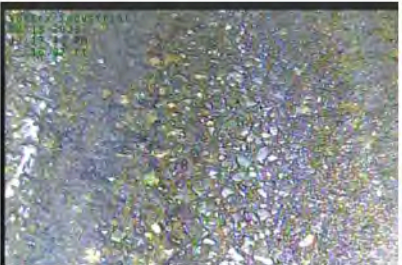
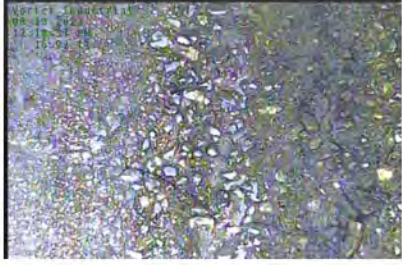


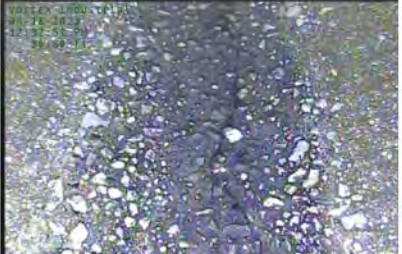
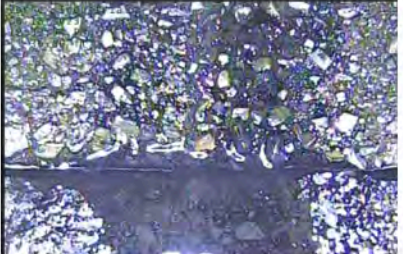
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 121.8 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Longitudinal | Point | 134.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 134.7 | Structural | 0 | 5-6 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Longitudinal | Point | 136.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 136.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 137.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |

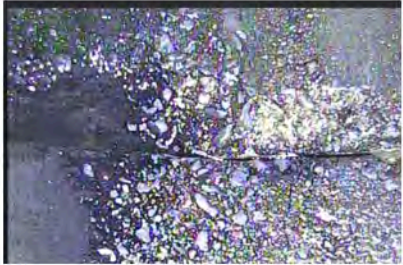

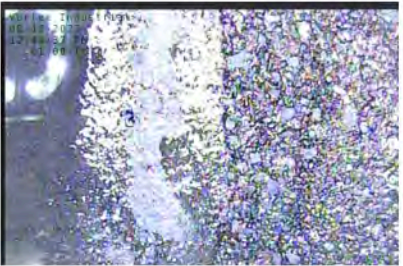
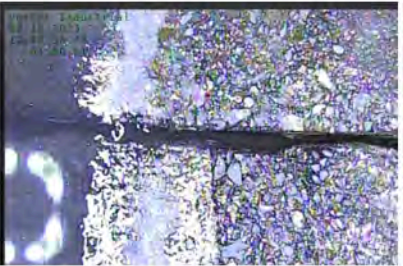
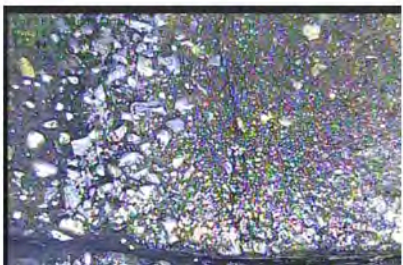
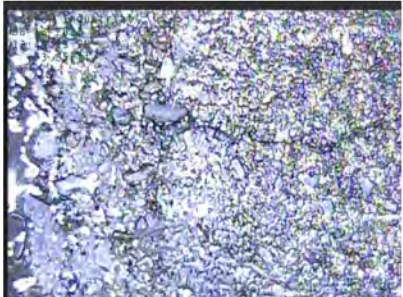


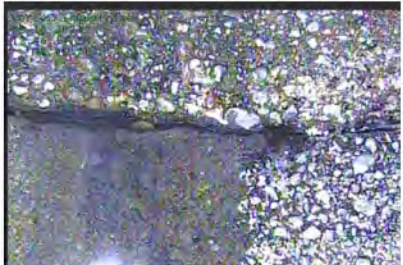
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 150.7 | Structural | 0 | 5-8 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Longitudinal | Point | 155.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |
| Crack Longitudinal | Point | 166.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 179 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 185 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 216 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |




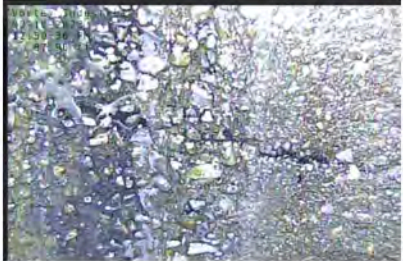
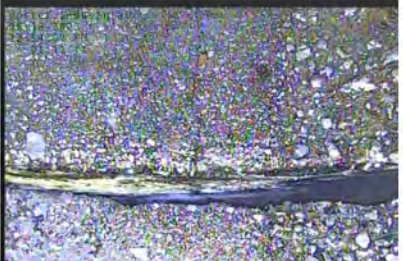

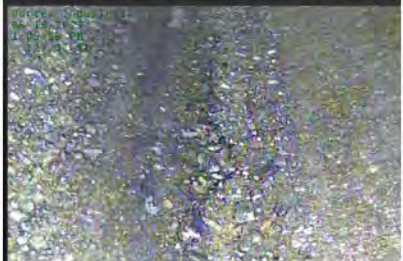

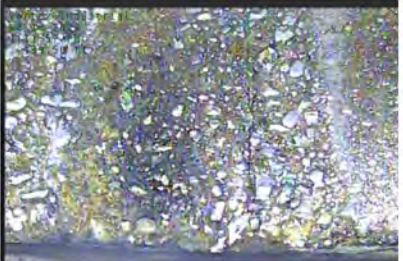
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------|--------|
| Crack Longitudinal | Point | 227.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal | |
| Crack Longitudinal | Point | 245.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal | |
| Fracture Circumferential | Point | 245.6 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential | |
| Crack Circumferential | Point | 250.1 | Structural | 0 | 10-4 | 1 | 0 | 0 | 1 | Crack Circumferential | |
| Manhole | Point | 253.1 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-2.1 | |

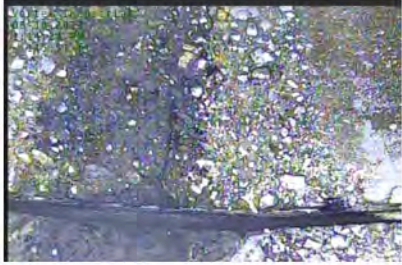



| | | | | | | | | | | | |
|------------|-------------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-24 | Inspection Date | Aug 19, 2023 | Inspected Length (ft) | 253.3 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 31 |
| Segment ID | D-2.1:D-3.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |




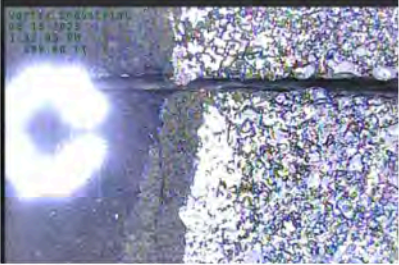

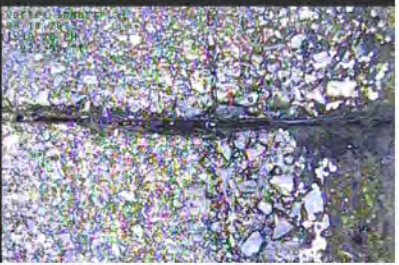
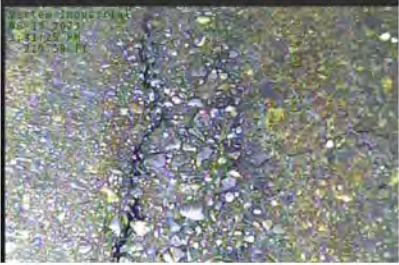
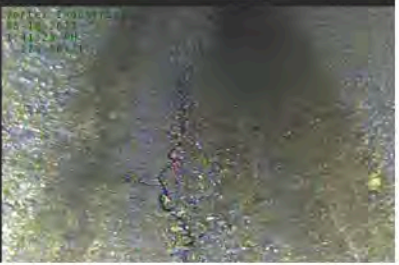
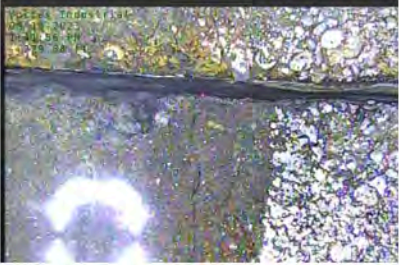
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-2.1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 253.3 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |      |

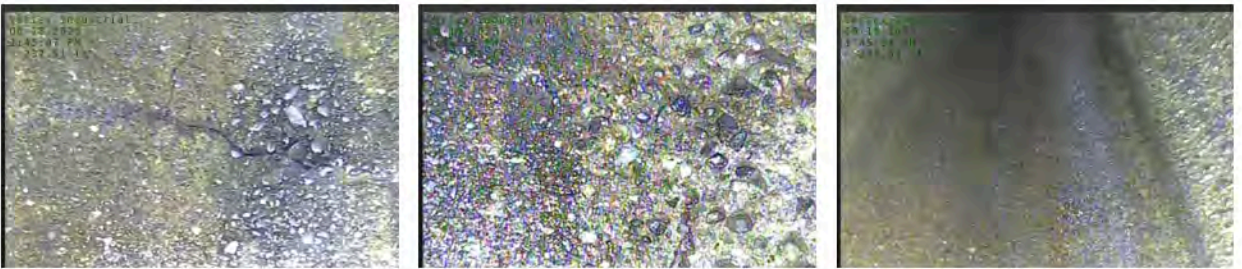
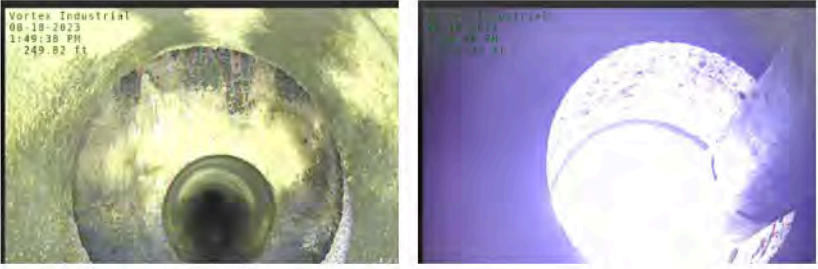
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 2.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 8.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |
| Crack Circumferential | Point | 15.7 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Longitudinal | Point | 16.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 16.9 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Longitudinal | Continuous | 36.8 - 42.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 49 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 54.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 61 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 73 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 73.8 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 79 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |



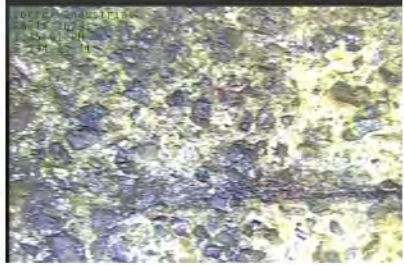





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Multiple | Point | 87.9 | Structural | 0 | 6-8 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Longitudinal | Point | 91.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 127.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 134 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 139.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


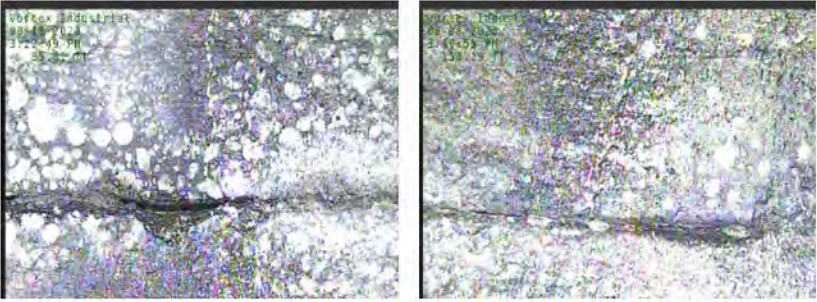

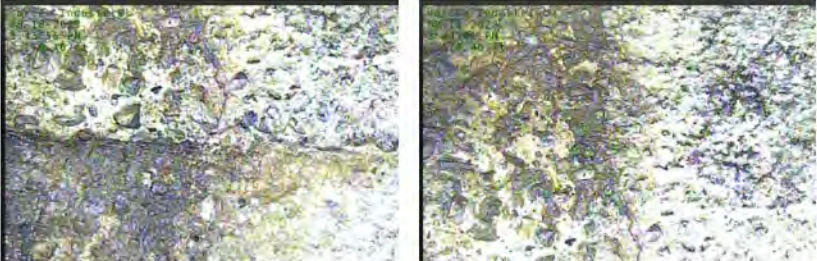


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 145.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 151.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 157.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 163.7 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 169.7 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |
| Crack Longitudinal | Point | 175.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

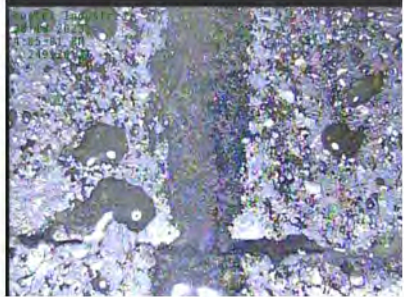

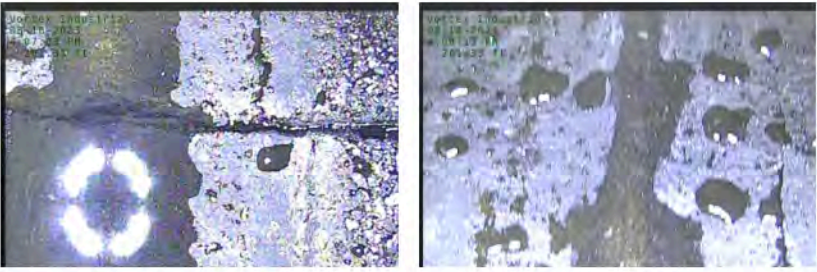
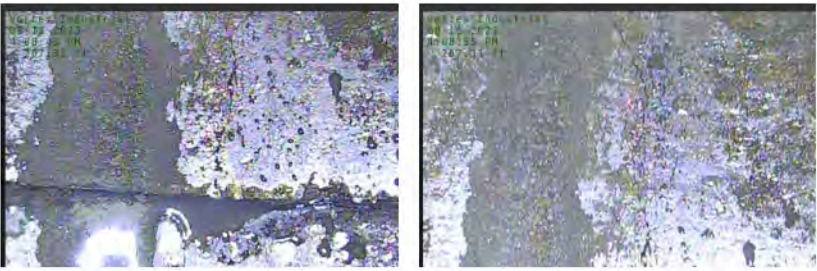


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Fracture Circumferential | Point | 175.6 | Structural | 0 | 6-7 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Circumferential | Point | 188 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Longitudinal | Point | 199.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 224 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Longitudinal | Point | 225.5 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 229.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

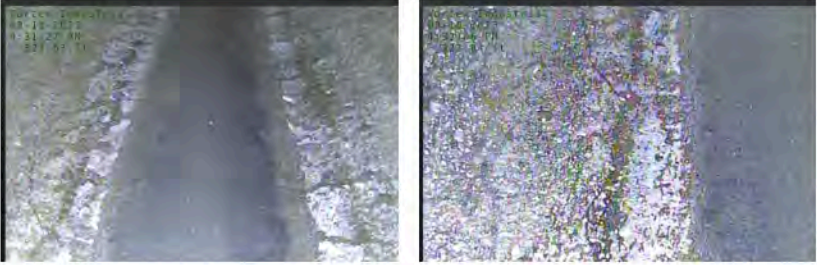
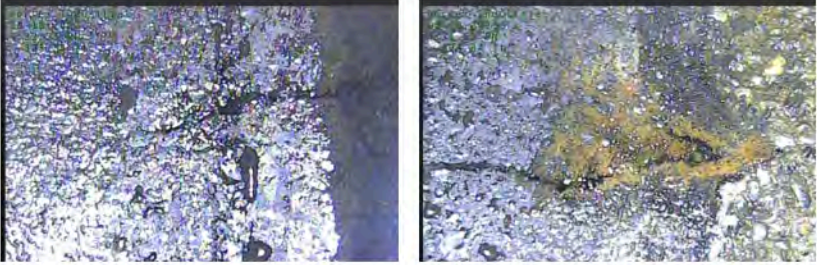
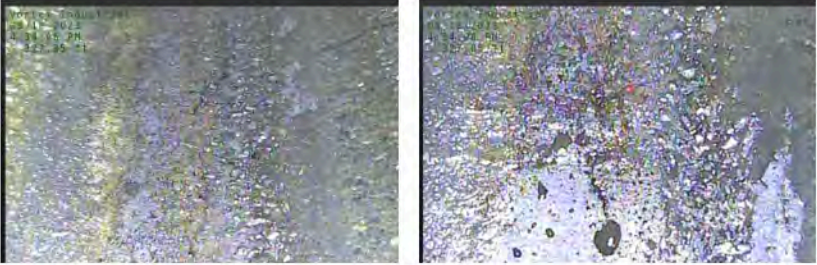
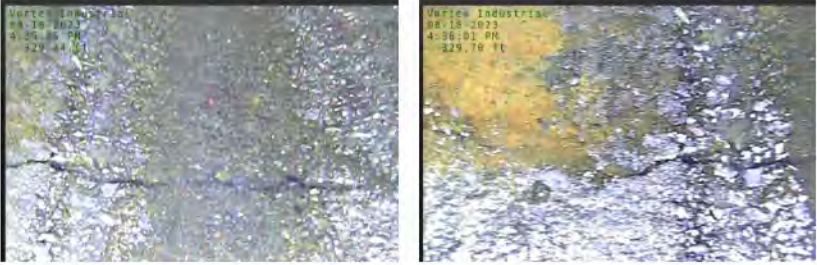

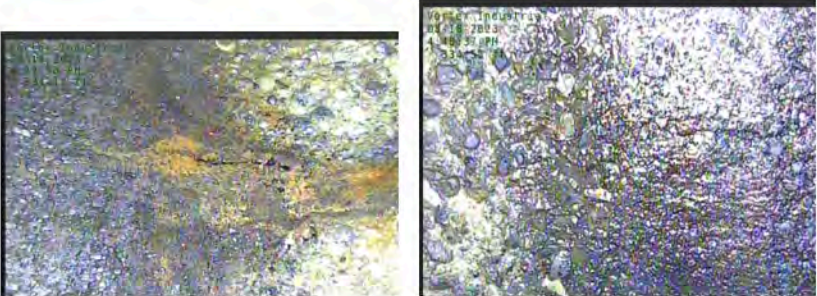
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 237.5 | Structural | 0 | 5-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Manhole | Point | 253.3 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-3.1 |  |


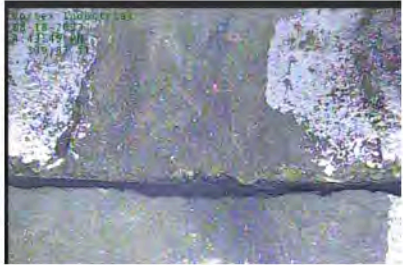

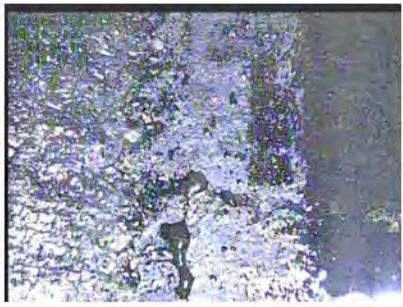
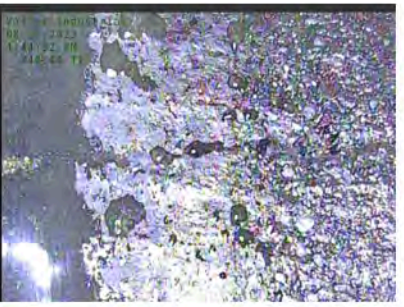




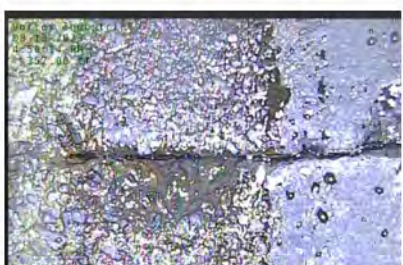
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|------------|-------------|-----------------------|--------------|-----------------------|-----|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-25 | Inspection Date | Aug 19, 2023 | Inspected Length (ft) | 412 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 44 |
| Segment ID | D-3.1:D-4.1 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |

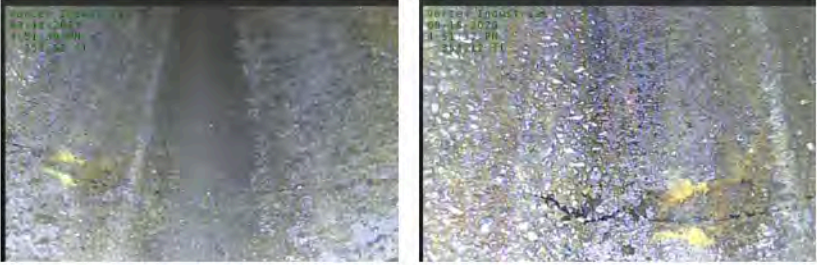
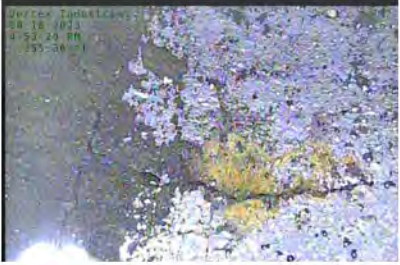
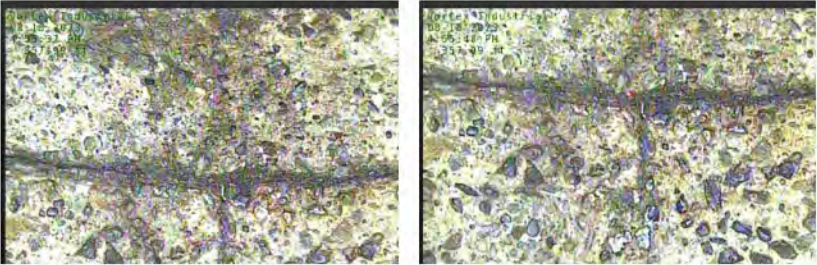
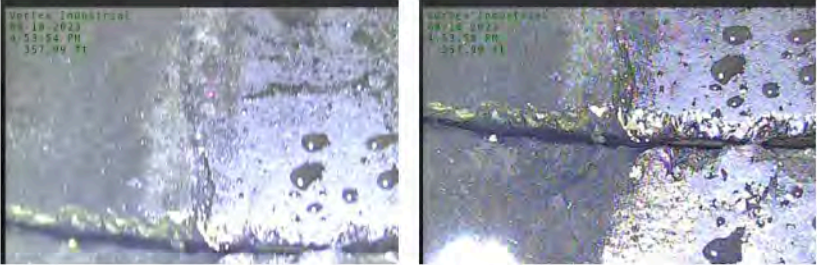

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 412 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |       |
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-3.1 |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 6.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 85.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 158.3 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 170.4 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 176.3 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 245.7 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |



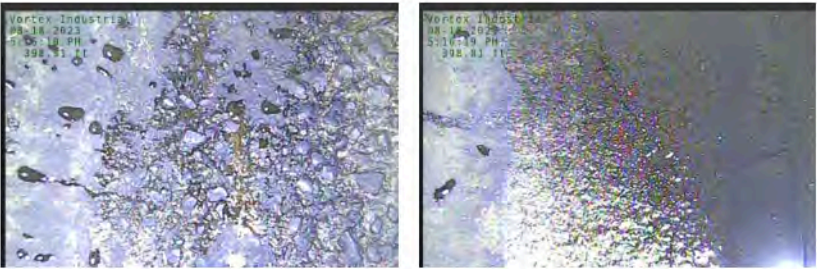
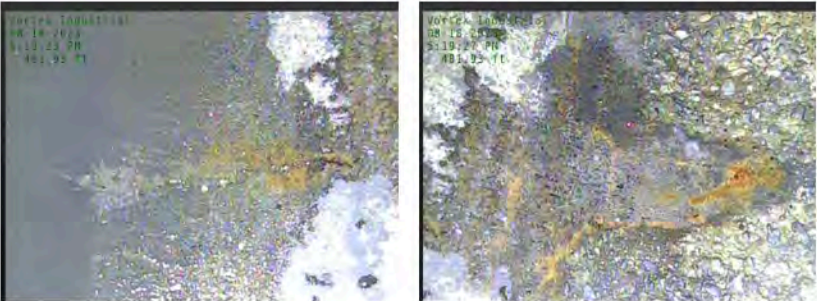
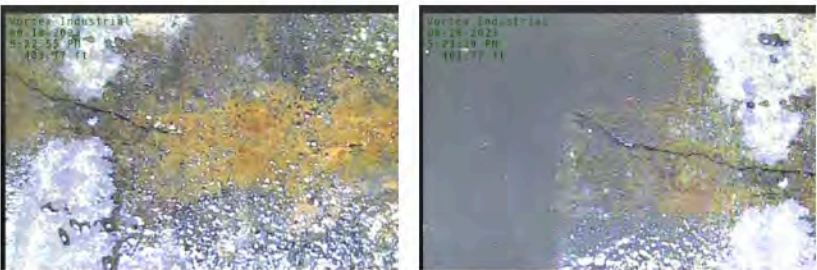
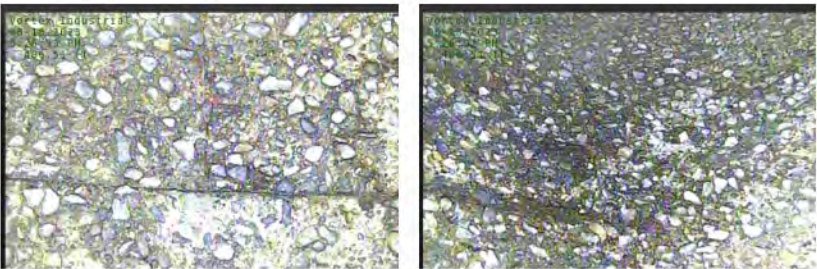
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 249.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 255.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 261.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 267.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 279.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 303.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

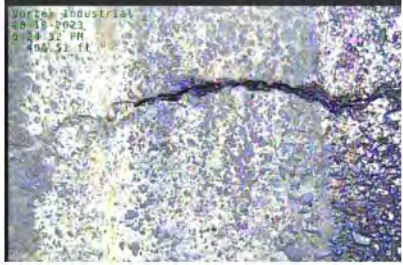


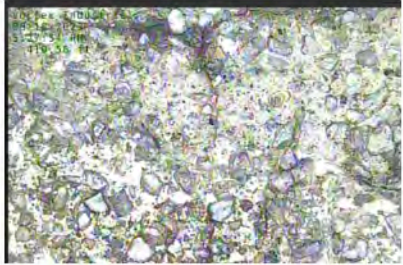



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 323.8 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 323.8 | Structural | 0 | 4-7 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 327.8 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 329.7 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 331.3 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 334.1 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 336.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 339.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 340.4 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Circumferential | Point | 343.5 | Structural | 0 | 5-7 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Longitudinal | Point | 346.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 352.1 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


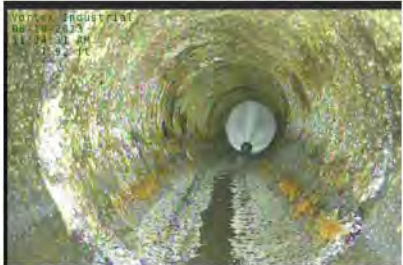




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Multiple | Point | 353.4 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 355.4 | Structural | 0 | 5-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 358 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 358 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 364.2 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Fracture Circumferential | Point | 370.2 | Structural | 0 | 5-6 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |



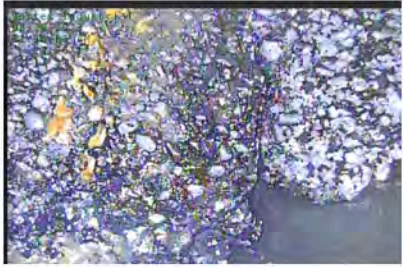
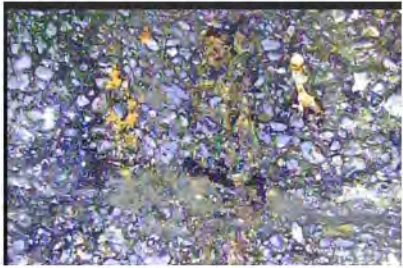
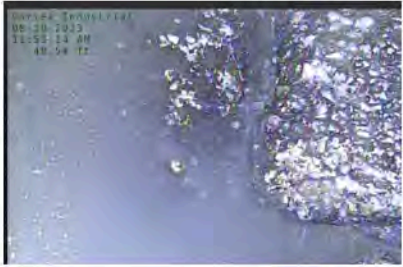
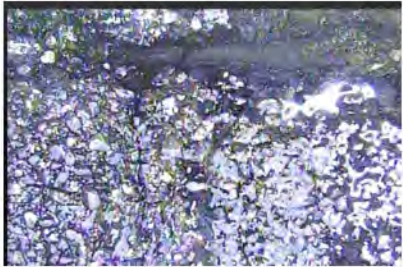
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--------|
| Crack Circumferential | Point | 378.2 | Structural | 0 | 2-10 | 1 | 0 | 0 | 1 | Crack Circumferential | |
| Crack Circumferential | Point | 380.7 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential | |
| Crack Longitudinal | Point | 382.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal | |
| Crack Circumferential | Point | 383.7 | Structural | 0 | 5-7 | 1 | 0 | 0 | 2 | Crack Circumferential | |
| Crack Multiple | Point | 385.5 | Structural | 0 | 5-6 | 3 | 0 | 0 | 2 | Crack Multiple | |

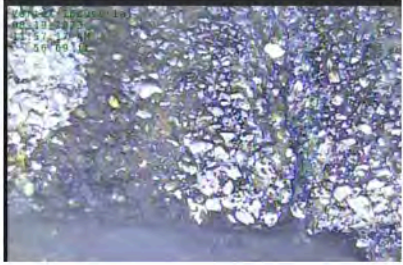







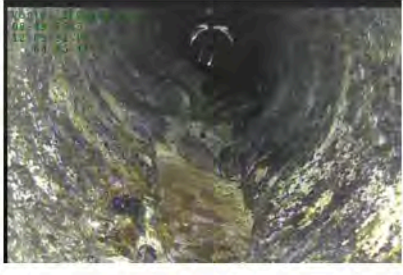
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 394.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 398 | Structural | 0 | 5-7 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Multiple | Point | 398.8 | Structural | 0 | 4-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Circumferential | Point | 401.9 | Structural | 0 | 4-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 403.8 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 406.5 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

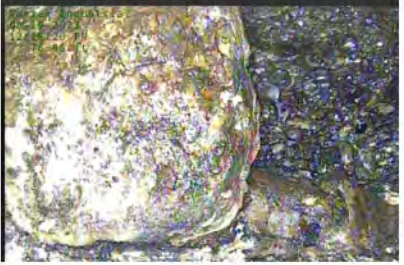
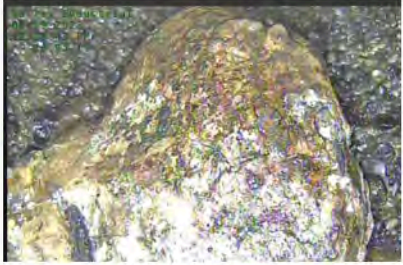




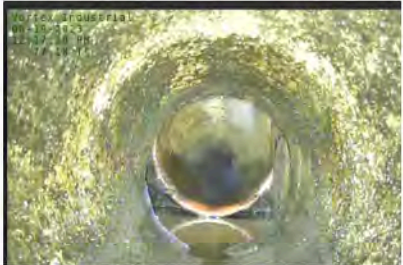
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-------------------------|---|
| Crack Circumferential | Point | 406.5 | Structural | 0 | 6-7 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Deposits Settled Gravel | Point | 407 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Gravel |  |
| Crack Multiple | Point | 410.6 | Structural | 0 | 10-2 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Manhole | Point | 412 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-4.1 |   |

| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-26 | Inspection Date | Aug 19, 2023 | Inspected Length (ft) | 82.3 | Defects Rated ≥3 | 3 | Peak Structural Rating | 4 | Total PR Defects | 12 |
| Segment ID | D-6:D-19 | Primary Pipe Material | RCP | Pipe Diameter (in) | 15 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 2 | | |

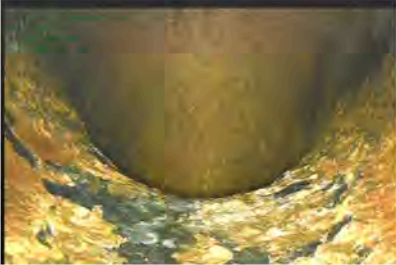
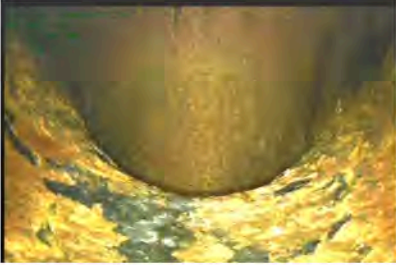

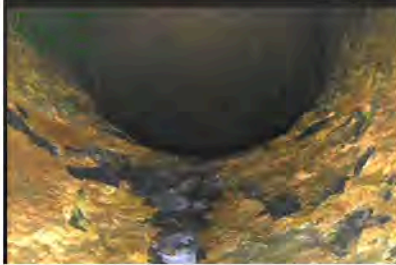
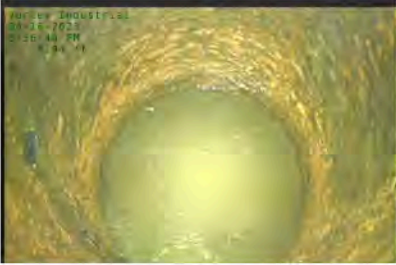
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-6 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 82.3 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |     |

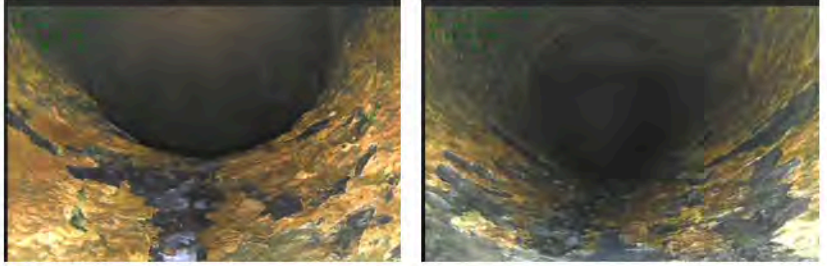
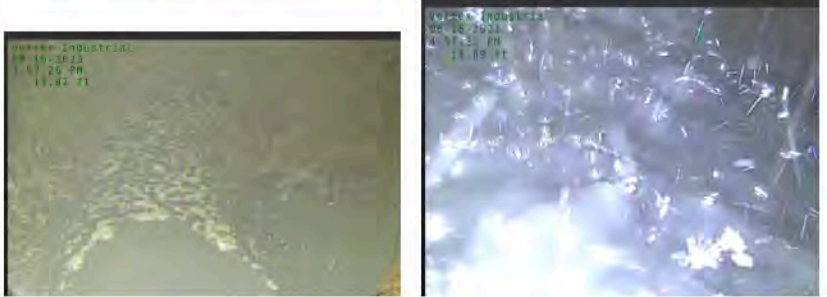

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Fracture Longitudinal | Point | 11.9 | Structural | 0 | 6 | 3 | 0 | 0 | 2 | Fracture Longitudinal |  |
| Crack Spiral | Point | 11.9 | Structural | 0 | 3-5 | 2 | 0 | 0 | 1 | Crack Spiral |  |
| Crack Longitudinal | Point | 24.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 44.5 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Longitudinal | Point | 48.5 | Structural | 0 | 6 | 3 | 0 | 0 | 2 | Fracture Longitudinal |  |
| Crack Longitudinal | Point | 52.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------|--|
| Crack Longitudinal | Point | 56.7 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Point Repair Patch | Point | 60.7 | Structural | 0 | 12 | 0 | 0 | 0 | 3 | Point Repair Patch |    |
| Point Repair Patch Defective | Continuous | 64 - 73.4 | Structural | 10 | 12-1 | 4 | 0 | 0 | 3 | Point Repair Patch Defective |   |
| Crack Longitudinal | Point | 64.9 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |    |


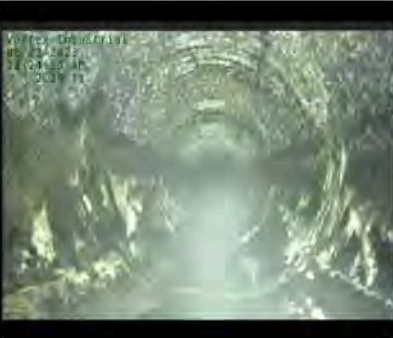

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Deposits Attached Encrustation | Point | 76.9 | O&M | 10 | 12-1 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |    |
| Fracture Longitudinal | Point | 81.2 | Structural | 0 | 6 | 3 | 0 | 0 | 3 | Fracture Longitudinal |   |
| Manhole | Point | 82.3 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-19 |   |






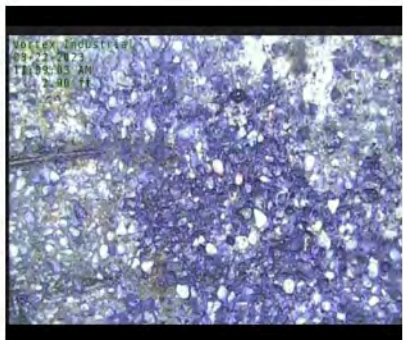
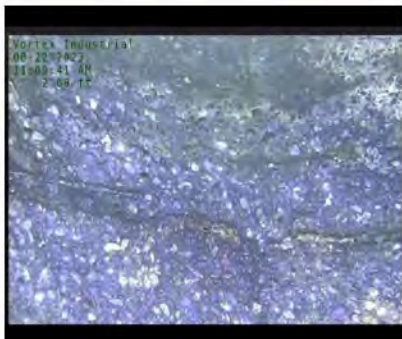
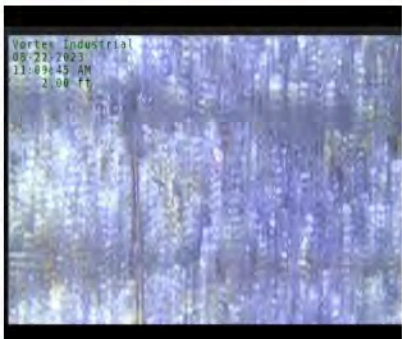
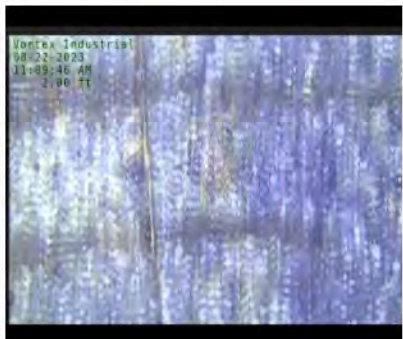
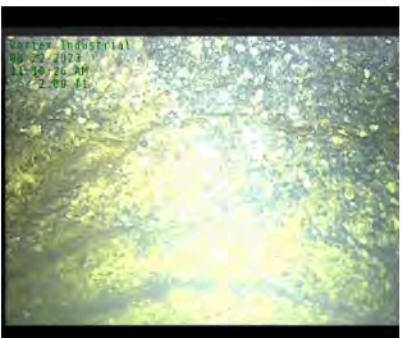

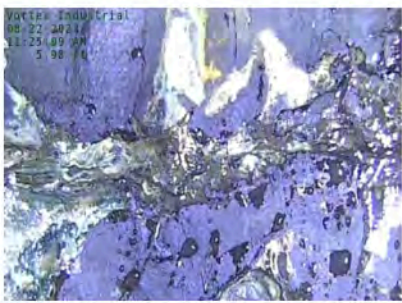
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|------------|-----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-27 | Inspection Date | Aug 16, 2023 | Inspected Length (ft) | 14.9 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 1 |
| Segment ID | D-21:D-22 | Primary Pipe Material | SP | Pipe Diameter (in) | 30 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 4 | | |

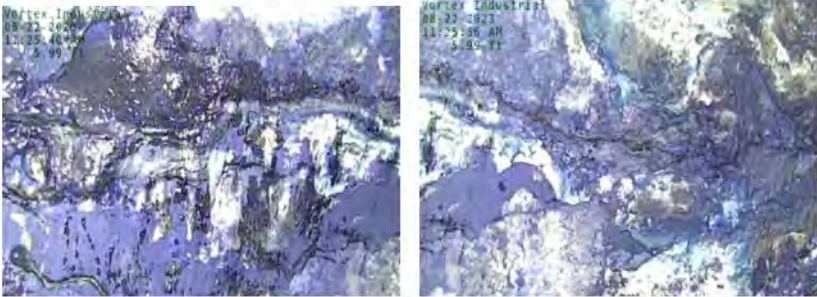
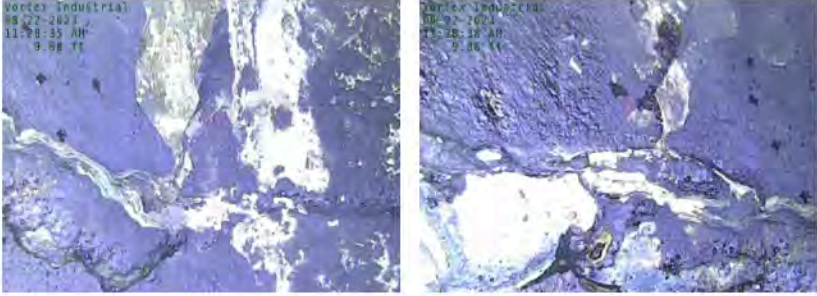
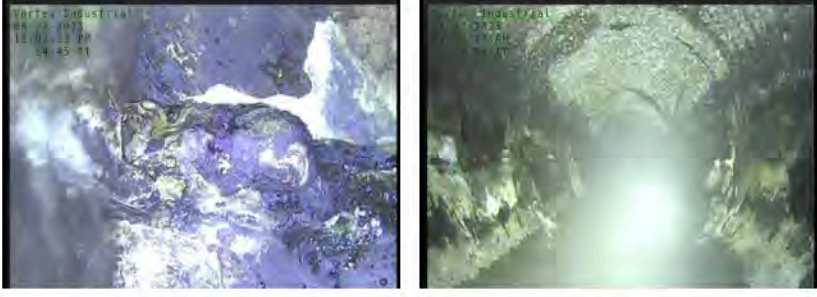
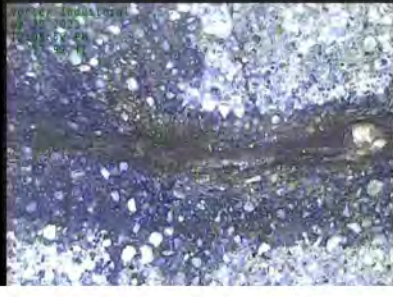

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-21 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Corrosion | Continuous | 0 - 14.9 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Surface Damage Corrosion |    |

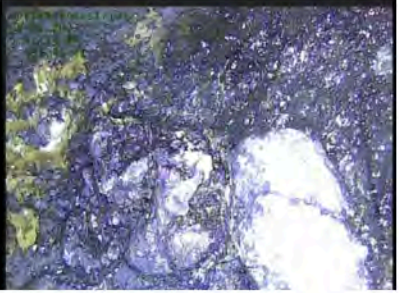


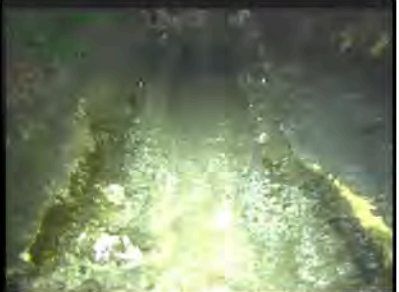


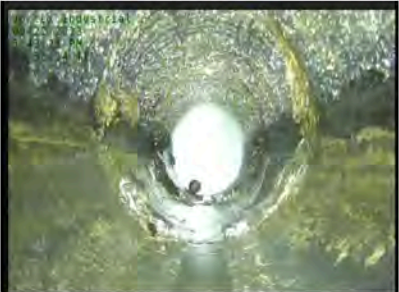
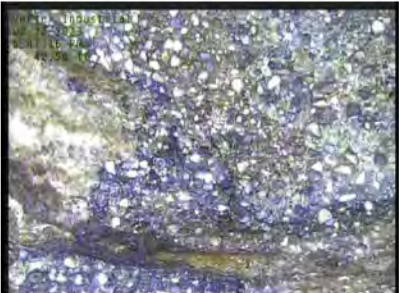
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-----------------------------|--|
| Line Down | Point | 5.7 | Constructional | 100 | | 0 | 4 | 4 | 0 | Line Down |  |
| Miscellaneous Survey Abandoned | Point | 14.9 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Impassable High Water Level |  |
| Miscellaneous Water Level | Point | 14.9 | Miscellaneous | 100 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |


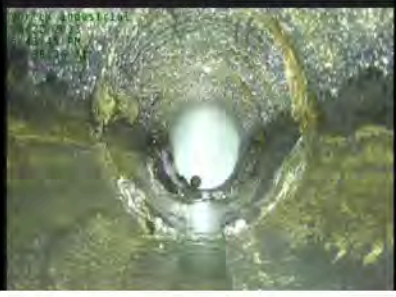




| | | | | | | | | | | | |
|------------|---------|-----------------------|--------------|-----------------------|-----|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-28 | Inspection Date | Aug 22, 2023 | Inspected Length (ft) | 268 | Defects Rated ≥3 | 3 | Peak Structural Rating | 4 | Total PR Defects | 45 |
| Segment ID | 5-E:5-F | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 2 | | |

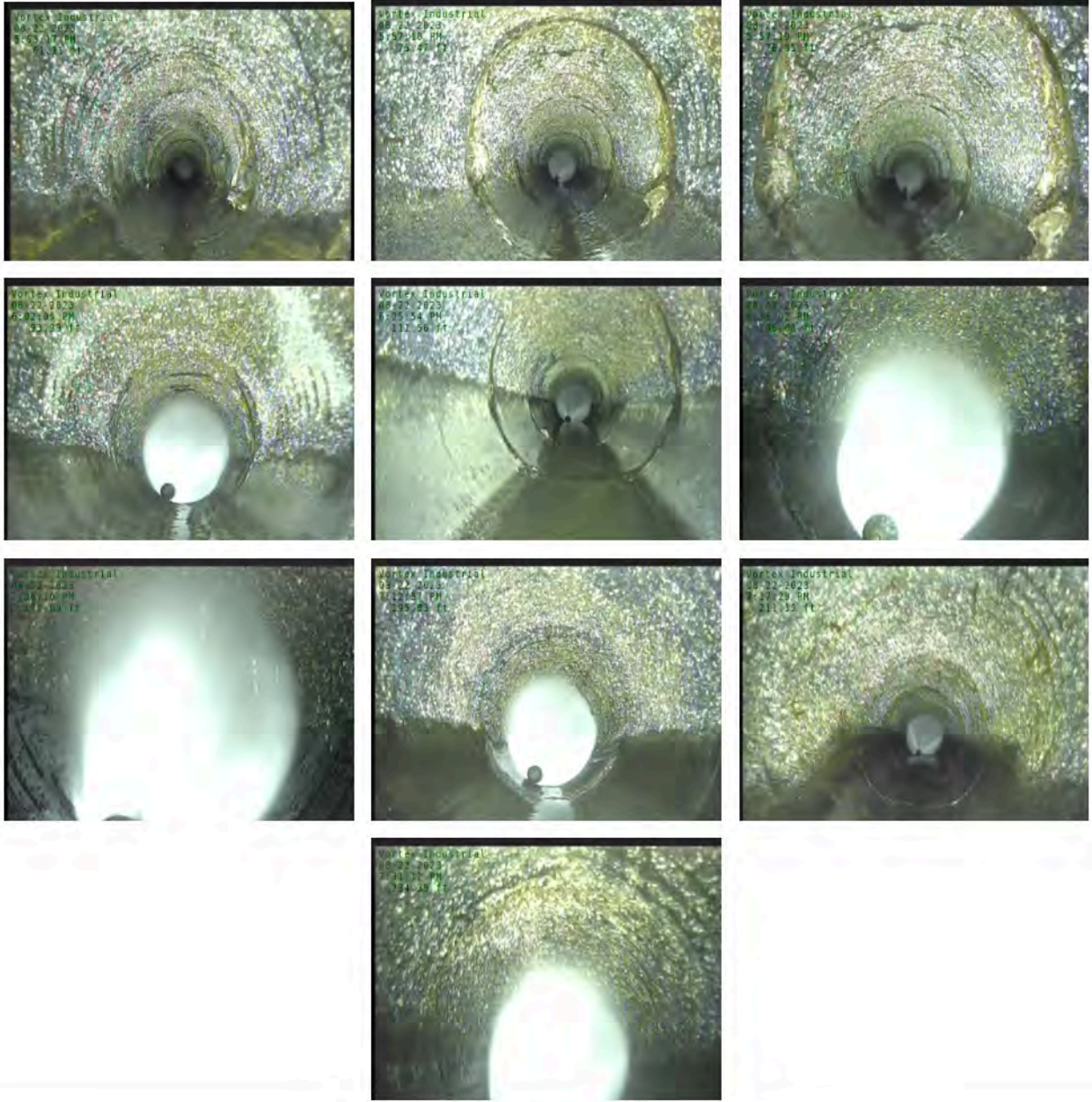

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-E |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |   |





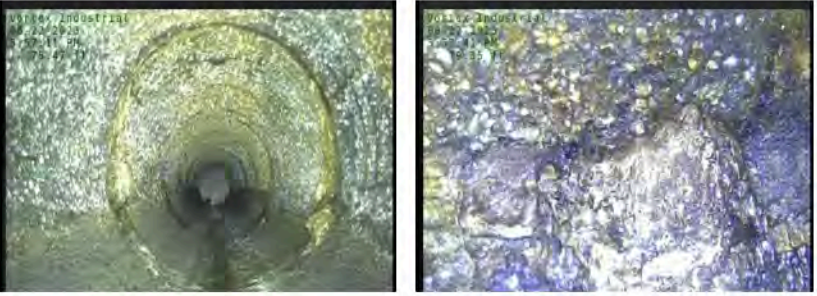
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|--|
| Surface Damage Reinforcement Visible | Continuous | 2 - 61.3 | Structural | 0 | 10-2 | 4 | 0 | 0 | 3 | Surface Damage Reinforcement Visible |            |
| Crack Multiple | Point | 5.9 | Structural | 0 | 6-7 | 0 | 0 | 0 | 2 | Crack Multiple |  |


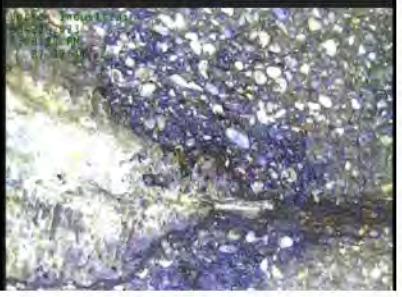
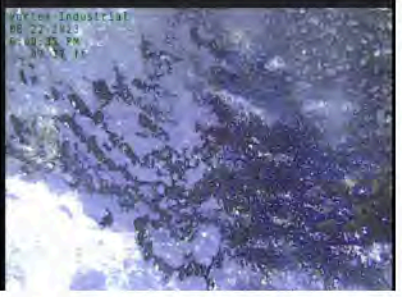

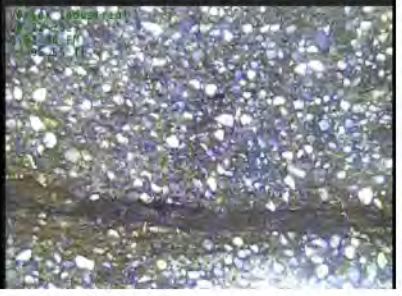

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Multiple | Point | 5.9 | Structural | 0 | 3-6 | 0 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Multiple | Point | 9.8 | Structural | 0 | 4-5 | 0 | 0 | 0 | 2 | Crack Multiple |  |
| Deposits Attached Encrustation | Point | 14.5 | O&M | 10 | 4-5 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Crack Longitudinal | Point | 17.9 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 26.5 | O&M | 10 | 10 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |

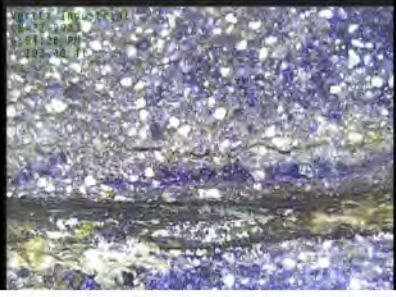

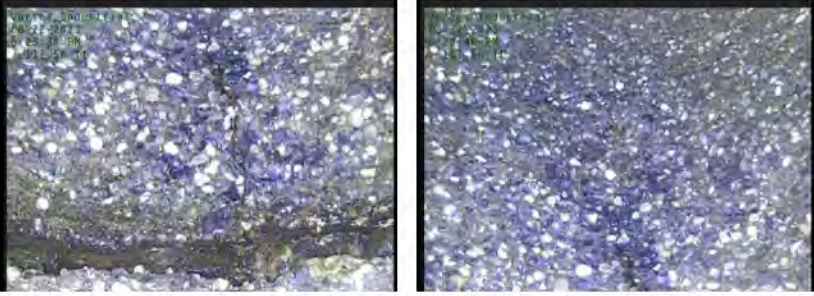
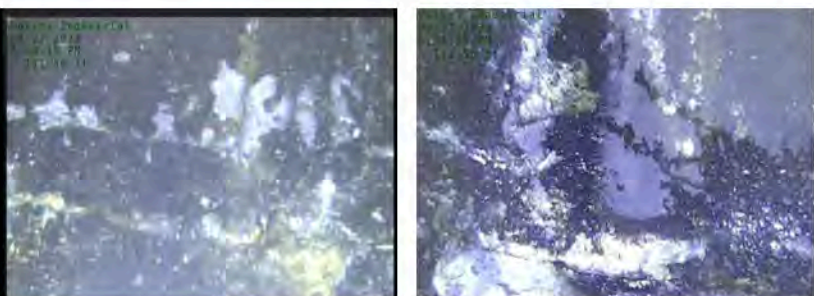

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Deposits Attached Encrustation | Point | 34.4 | O&M | 10 | 7 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |   |
| Crack Longitudinal | Point | 35.5 | Structural | 0 | 8 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 38.3 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal Hinge, 2 | Point | 38.3 | Structural | 0 | 9-3 | 2 | 0 | 0 | 2 | Crack Longitudinal Hinge, 2 |   |
| Crack Longitudinal | Point | 42.5 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |



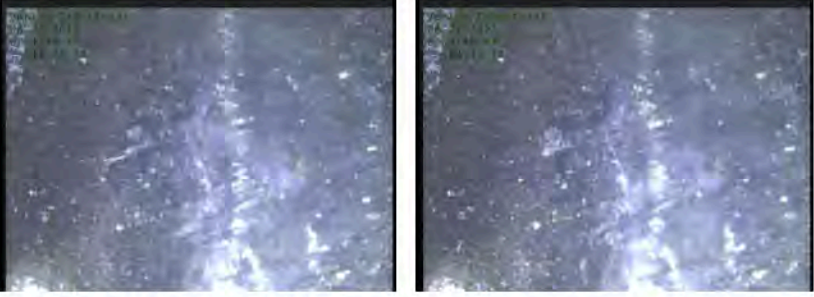
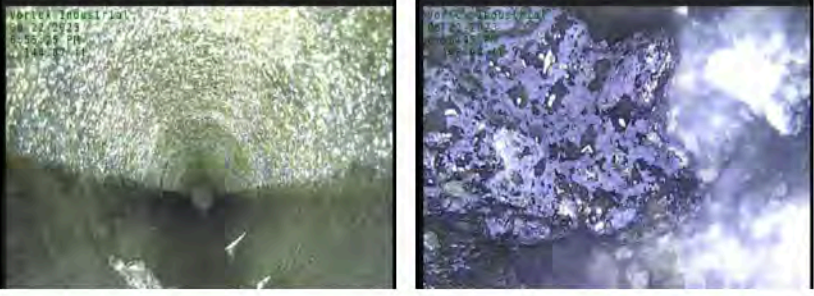

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Longitudinal | Point | 42.5 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 42.5 | O&M | 10 | 12-12 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |   |
| Deposits Attached Encrustation | Point | 46.5 | O&M | 10 | 3-9 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Crack Spiral | Point | 54.6 | Structural | 0 | 5-6 | 2 | 0 | 0 | 1 | Crack Spiral |  |
| Fracture Longitudinal | Point | 58.9 | Structural | 0 | 4 | 3 | 0 | 0 | 3 | Fracture Longitudinal |  |







| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Surface Damage Reinforcement Visible | Continuous | 61.4 - 234 | Structural | 0 | 8-4 | 4 | 0 | 0 | 3 | Surface Damage Reinforcement Visible |  |
| Deposits Attached Encrustation | Point | 67.3 | O&M | 10 | 2-4 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |

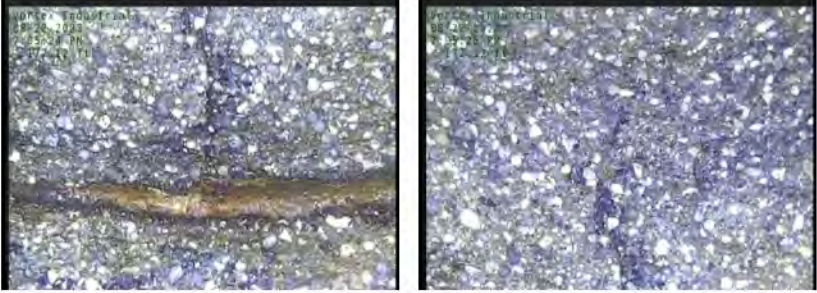
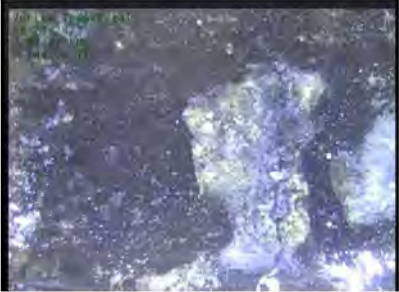

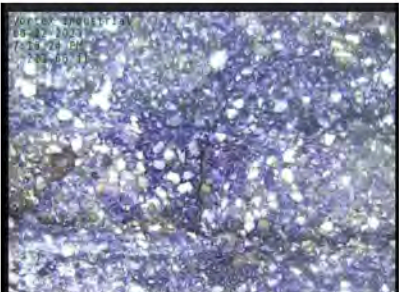

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Longitudinal | Point | 67.3 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 71.7 | O&M | 10 | 3-5 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Deposits Attached Encrustation | Point | 75.4 | O&M | 10 | 8-9 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Deposits Attached Encrustation | Point | 75.4 | O&M | 10 | 3-4 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Deposits Attached Encrustation | Point | 79.3 | O&M | 10 | 8 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |





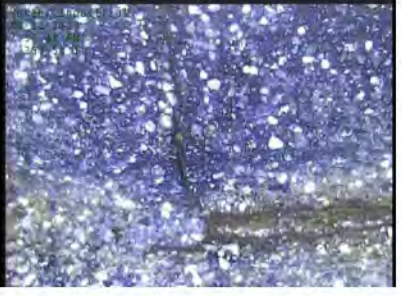
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 79.3 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 87.3 | Structural | 0 | 4-5 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Multiple | Point | 91.8 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 95.5 | Structural | 0 | 10-11 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 99.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

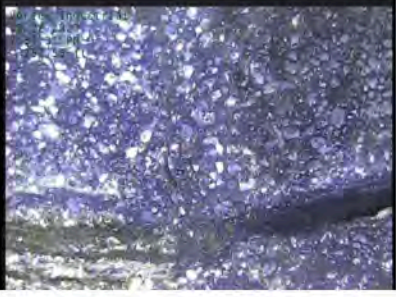
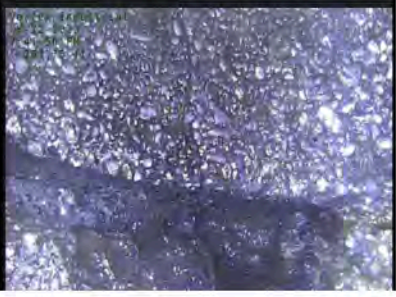


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 103.4 | Structural | 0 | 12-1 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 107.5 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 111.5 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 111.5 | Structural | 0 | 5-7 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Longitudinal | Point | 123.6 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Longitudinal | Point | 132.5 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 139.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 144.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 148.9 | O&M | 10 | 7-8 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Crack Longitudinal | Point | 157.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |









| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 161 | Structural | 0 | 11-12 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 165.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 168.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 168.9 | Structural | 0 | 4-5 | 2 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Multiple | Point | 172.8 | Structural | 0 | 4-5 | 2 | 0 | 0 | 2 | Crack Multiple |  |


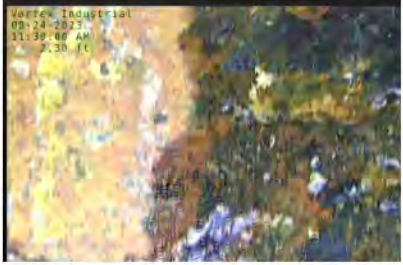



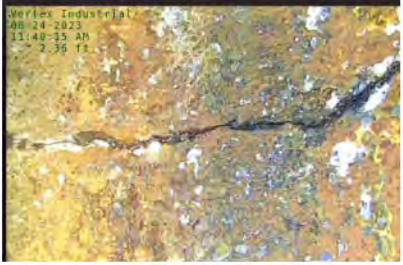

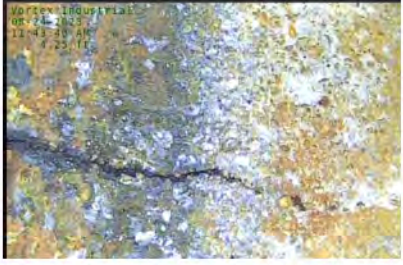




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 177.1 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 184.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 195.5 | Structural | 0 | 3-9 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 213.6 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 213.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |






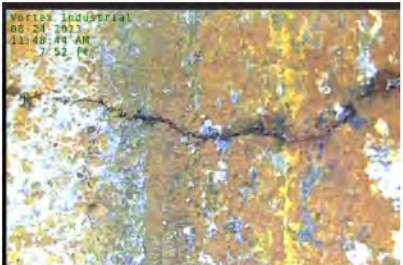
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Longitudinal | Point | 225.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Damage Reinforcement Visible | Continuous | 234.1 - 268 | Structural | 0 | 10-2 | 4 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Crack Circumferential | Point | 245.3 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Longitudinal | Point | 257.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 257.5 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |






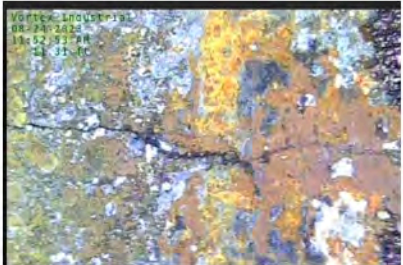






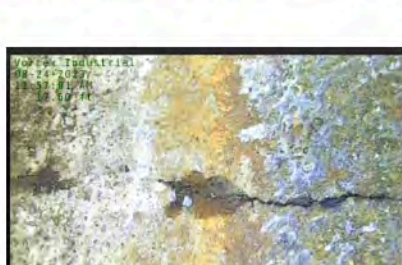

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 257.5 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 263.7 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Manhole | Point | 268 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-F |   |


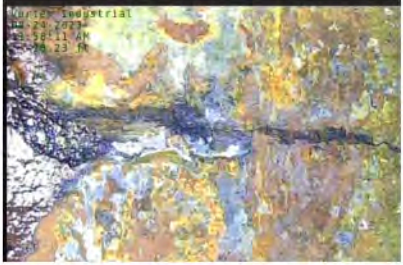
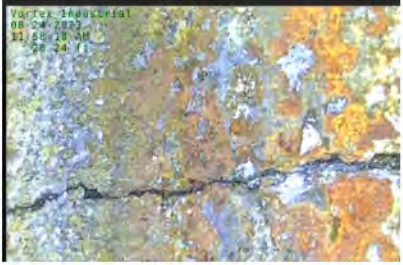


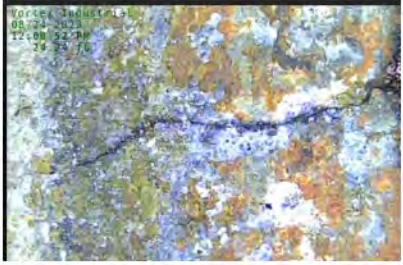
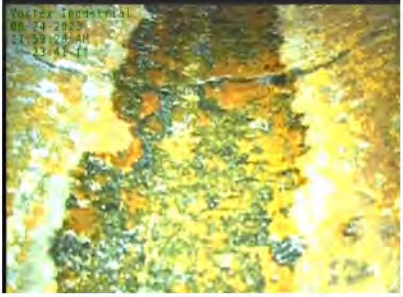

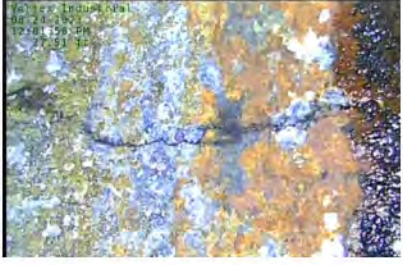


| | | | | | | | | | | | |
|------------|---------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-29 | Inspection Date | Aug 24, 2023 | Inspected Length (ft) | 207.7 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 66 |
| Segment ID | 5-P:5-0 | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 0 | | |

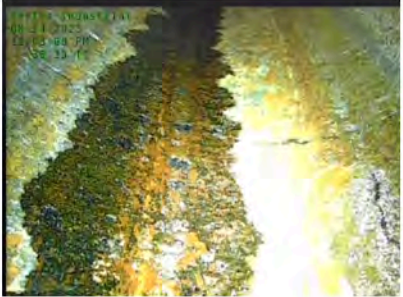

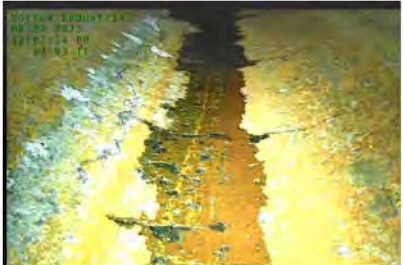
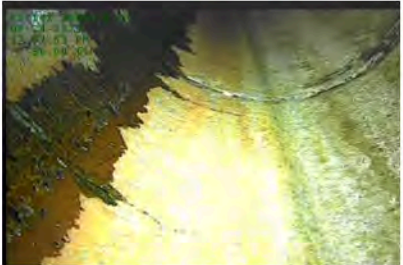
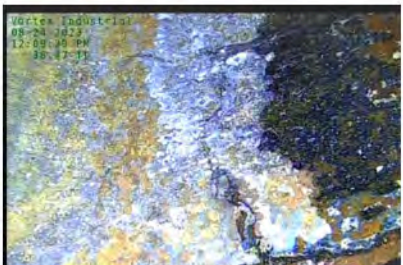
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-P |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Roughness Increased | Continuous | 0 - 207.7 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |       |

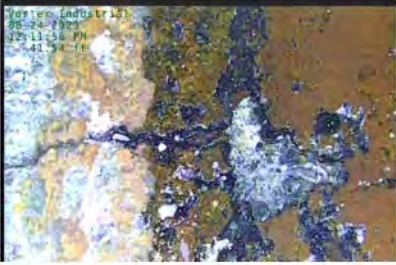
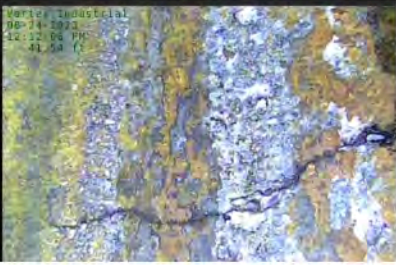


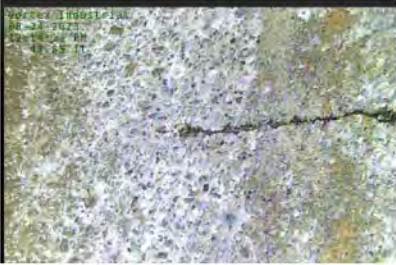

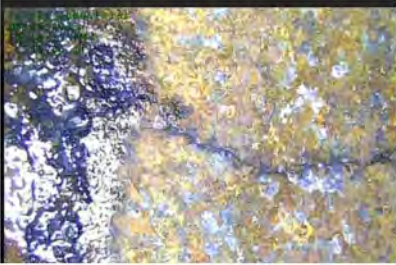
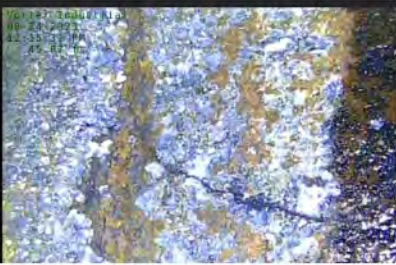
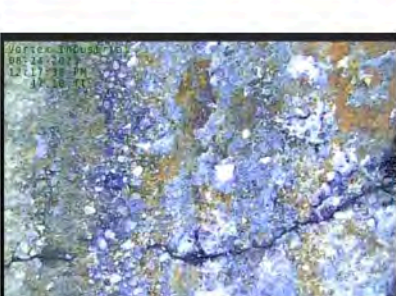
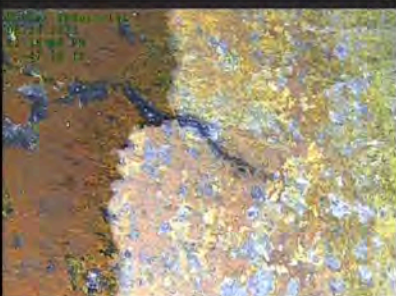


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Circumferential | Point | 2.3 | Structural | 0 | 5-7 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Circumferential | Point | 3.1 | Structural | 0 | 5-7 | 1 | 0 | 0 | 2 | Crack Circumferential |     |
| Crack Circumferential | Point | 4.3 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 5.3 | Structural | 0 | 4-7 | 1 | 0 | 0 | 2 | Crack Circumferential |     |



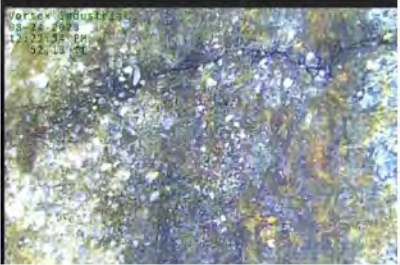








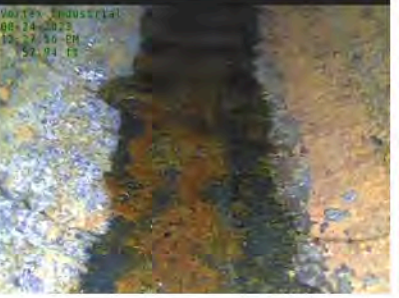
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Circumferential | Point | 6 | Structural | 0 | 4-8 | 1 | 0 | 0 | 1 | Crack Circumferential |     |
| Crack Circumferential | Point | 6.9 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Circumferential | Point | 7.5 | Structural | 0 | 5-8 | 1 | 0 | 0 | 1 | Crack Circumferential |     |





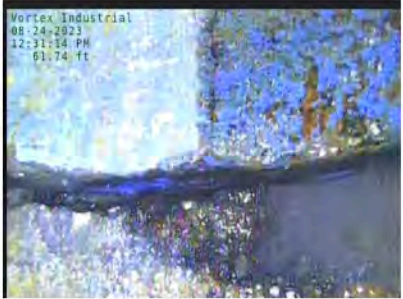
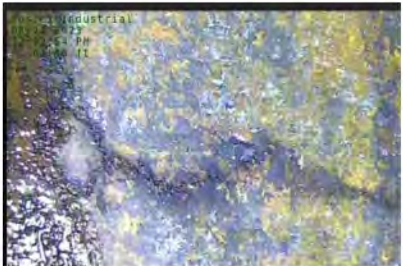
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 9.1 | Structural | 0 | 3-8 | 1 | 0 | 0 | 1 | Crack Circumferential |     |
| Crack Circumferential | Point | 11.3 | Structural | 0 | 5-8 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Circumferential | Point | 12.8 | Structural | 0 | 4-7 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Circumferential | Point | 17.6 | Structural | 0 | 4-8 | 1 | 0 | 0 | 2 | Crack Circumferential |      |

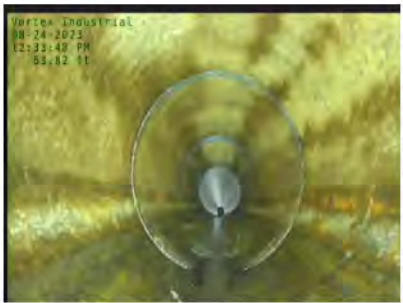

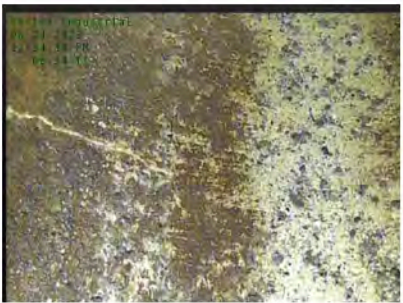





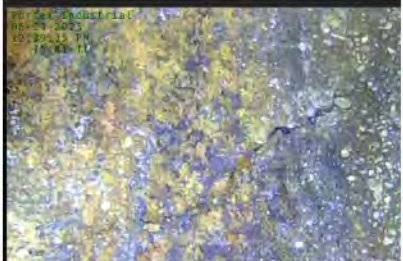
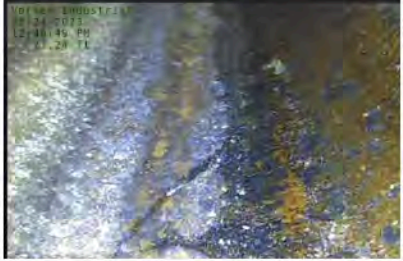
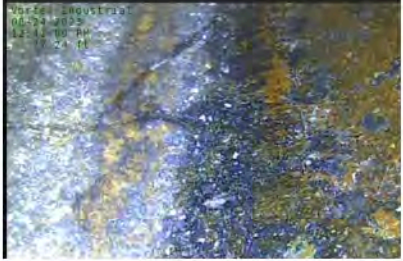
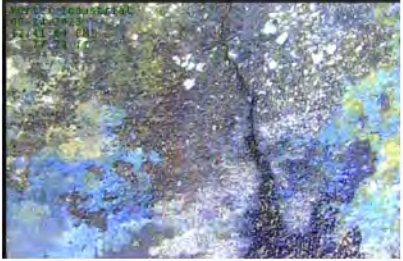
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 20.2 | Structural | 0 | 4-7 | 1 | 0 | 0 | 1 | Crack Circumferential |     |
| Crack Circumferential | Point | 24.2 | Structural | 0 | 5-7 | 1 | 0 | 0 | 2 | Crack Circumferential |    |
| Crack Circumferential | Point | 27.5 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Longitudinal | Point | 30.6 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |



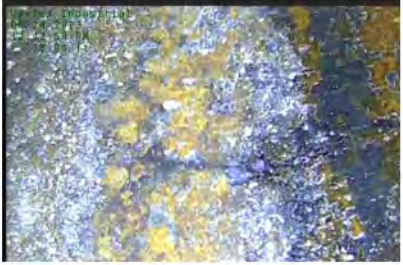

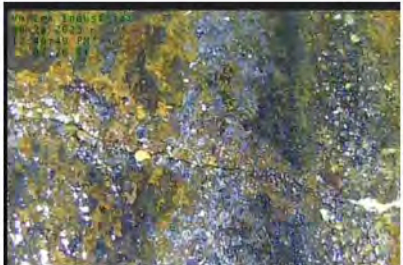




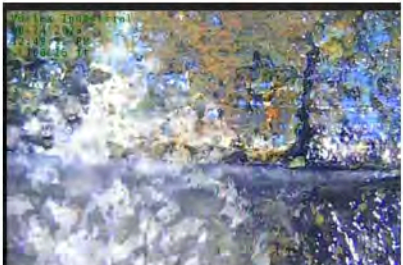
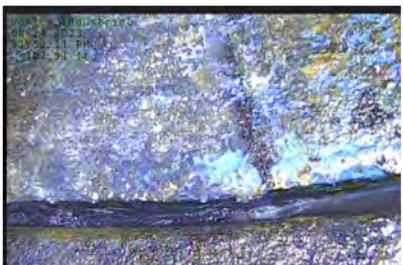
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Multiple | Point | 31.1 | Structural | 0 | 5-7 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Circumferential | Point | 34.9 | Structural | 0 | 4-8 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Multiple | Point | 36.1 | Structural | 0 | 5-8 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Multiple | Point | 38.5 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |

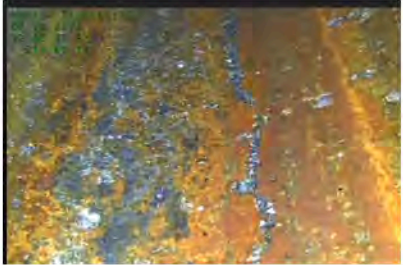







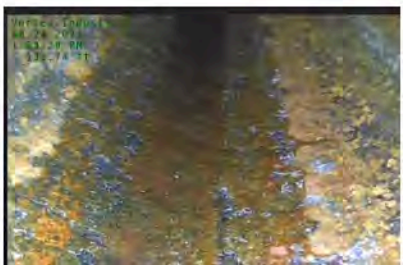


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 41.5 | Structural | 0 | 6-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Circumferential | Point | 42.4 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Circumferential | Point | 43.9 | Structural | 0 | 6-8 | 1 | 0 | 0 | 2 | Crack Circumferential |   |
| Crack Circumferential | Point | 45.1 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Circumferential | Point | 47.1 | Structural | 0 | 6-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Circumferential | Point | 49.6 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |



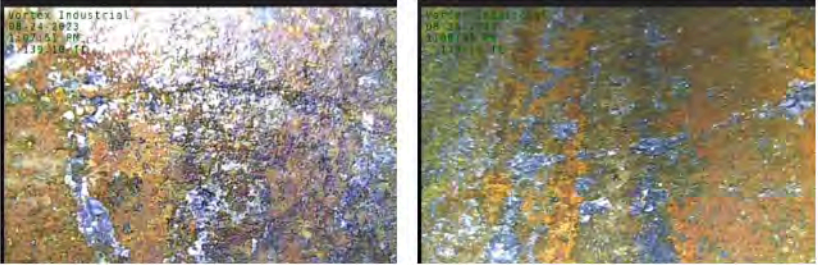
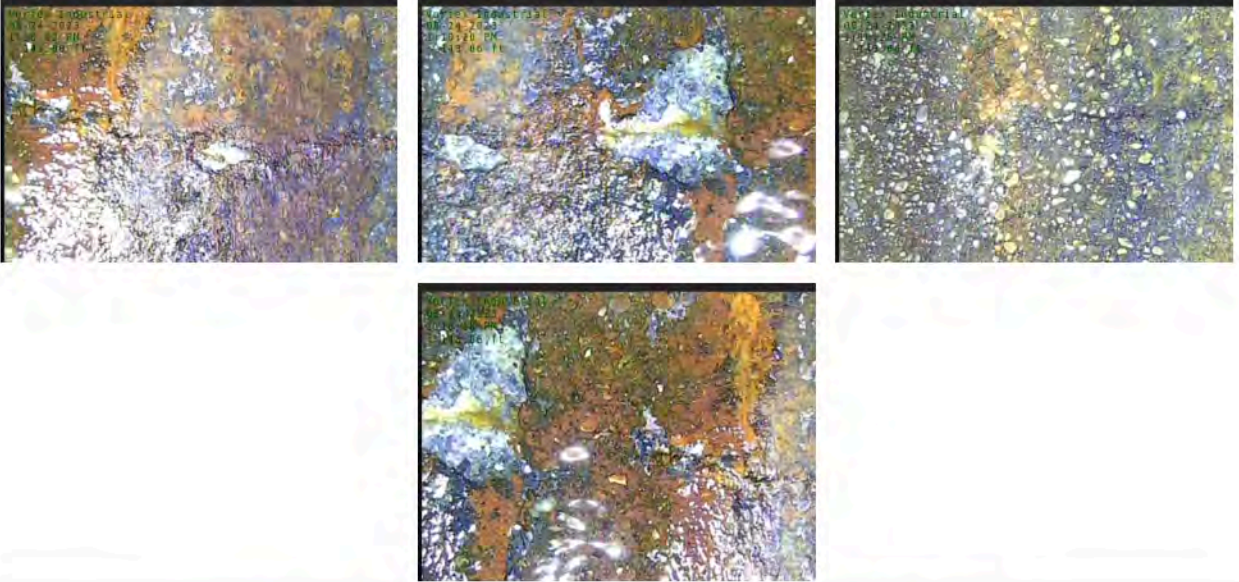
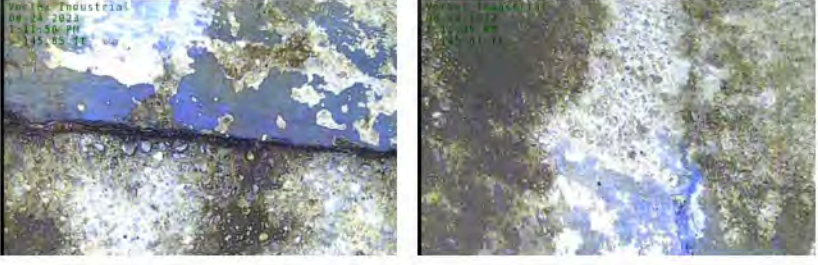
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Circumferential | Point | 51.1 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Crack Multiple | Point | 52.1 | Structural | 0 | 6-7 | 1 | 0 | 0 | 1 | Crack Circumferential |     |
| Crack Longitudinal | Point | 54.2 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 54.6 | Structural | 0 | 5-7 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Multiple | Point | 58.4 | Structural | 0 | 4-9 | 1 | 0 | 0 | 1 | Crack Circumferential |    |

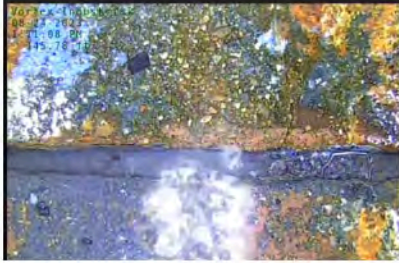



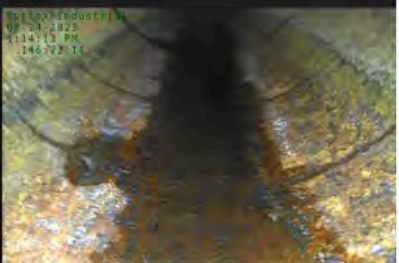
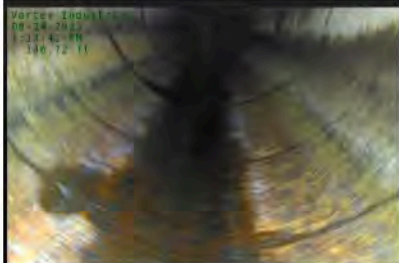


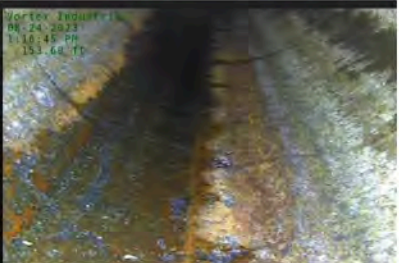

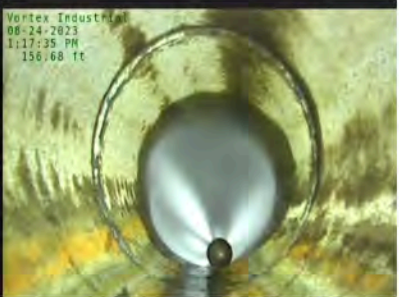
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Spiral | Point | 60 | Structural | 0 | 4-6 | 2 | 0 | 0 | 1 | Crack Spiral |    |
| Crack Longitudinal | Point | 61.8 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 61.8 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 62.5 | Structural | 0 | 5-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |



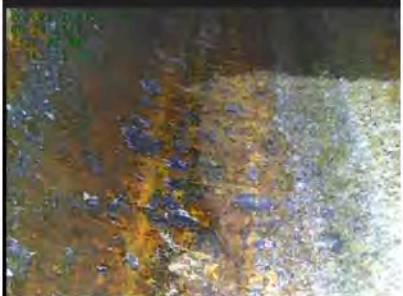



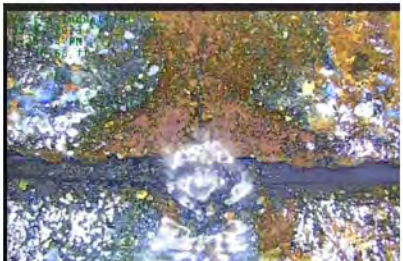
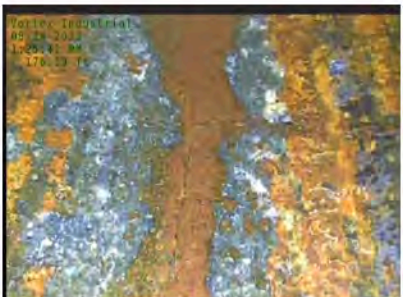
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Multiple | Point | 66.4 | Structural | 0 | 3-7 | 0 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Longitudinal | Point | 69.4 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 69.4 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 75.6 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 77.2 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 79 | Structural | 0 | 5-7 | 1 | 0 | 0 | 1 | Crack Circumferential |     |
| Crack Circumferential | Point | 87.3 | Structural | 0 | 3-9 | 1 | 0 | 0 | 1 | Crack Circumferential |      |
| Crack Longitudinal | Point | 100.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 107.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

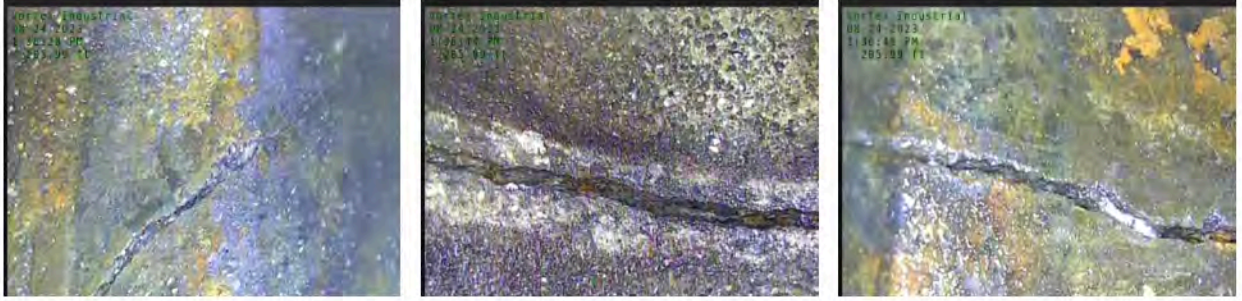

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Multiple | Point | 119.7 | Structural | 0 | 4-6 | 2 | 0 | 0 | 1 | Crack Multiple |      |
| Crack Longitudinal | Point | 123.2 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 126.8 | Structural | 0 | 4-8 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Circumferential | Point | 131.6 | Structural | 0 | 5-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 133.7 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 134.4 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Circumferential | Point | 138.3 | Structural | 0 | 12-12 | 1 | 0 | 0 | 2 | Crack Circumferential |  |
| Crack Multiple | Point | 139.1 | Structural | 0 | 5-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 143 | Structural | 0 | 4-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 145.9 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


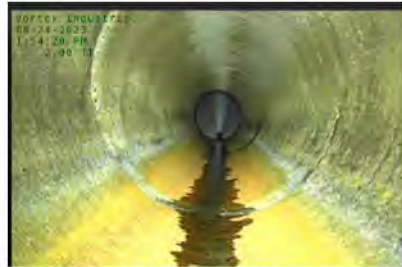


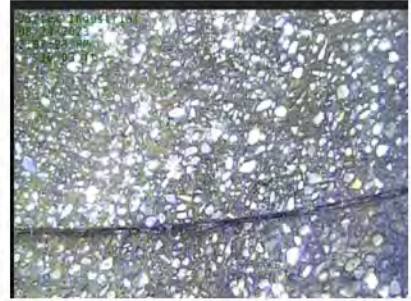
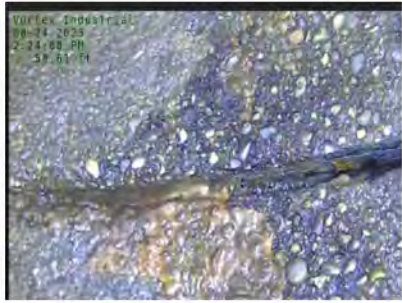

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 145.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Multiple | Continuous | 146.7 - 150 | Structural | 0 | 4-8 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Multiple | Continuous | 153.6 - 158.8 | Structural | 0 | 4-9 | 3 | 0 | 0 | 1 | Crack Multiple |     |



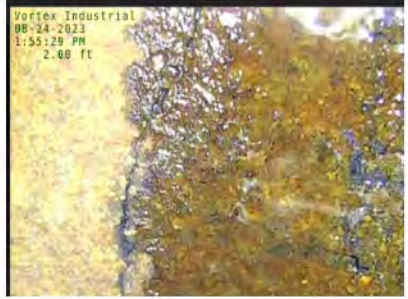

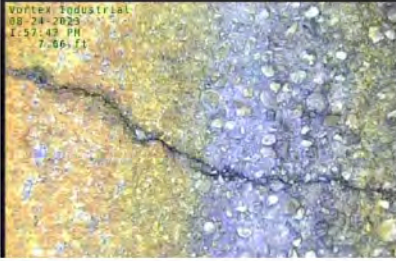
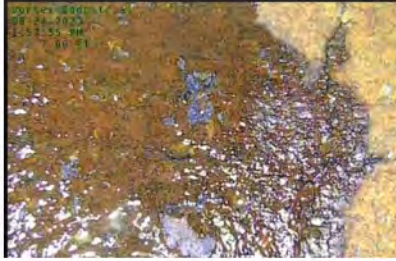
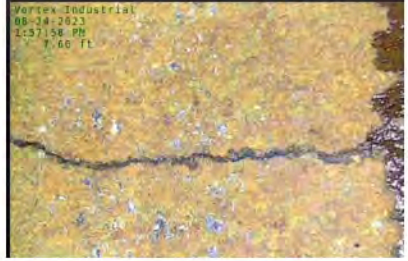


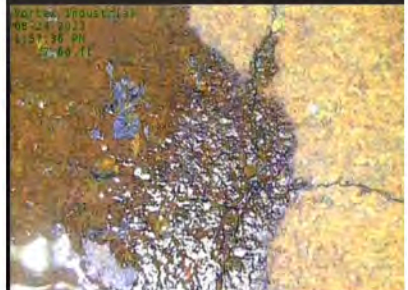



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Spiral | Point | 161.2 | Structural | 0 | 5-7 | 2 | 0 | 0 | 2 | Crack Spiral |      |
| Crack Circumferential | Point | 165.9 | Structural | 0 | 6-8 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Circumferential | Point | 174 | Structural | 0 | 3-9 | 1 | 0 | 0 | 1 | Crack Circumferential |    |
| Crack Longitudinal | Point | 176.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |

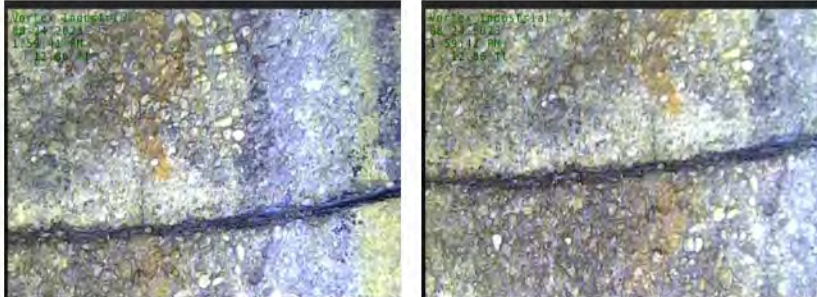

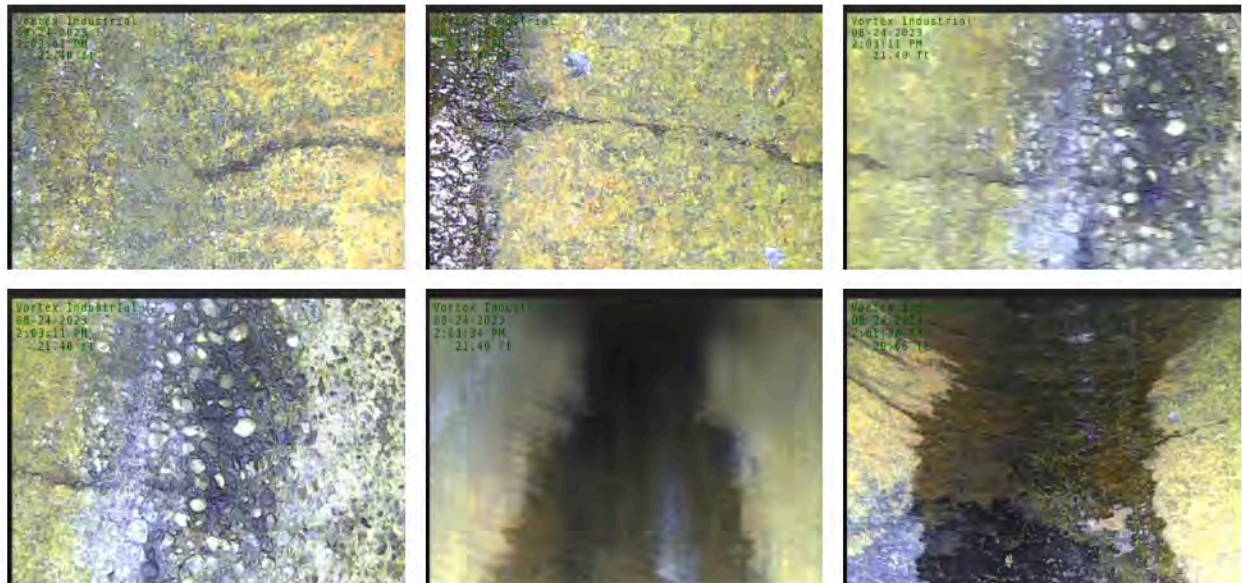

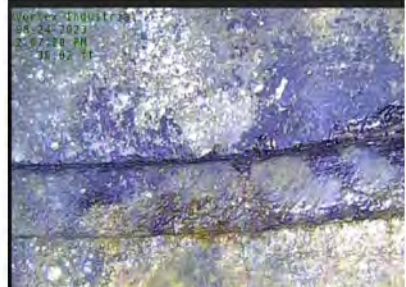
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Longitudinal | Point | 176.7 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 180.8 | Structural | 0 | 5-8 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Longitudinal | Point | 184 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 184 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |






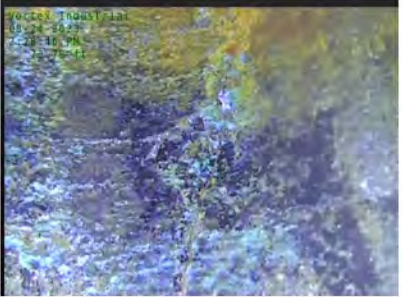

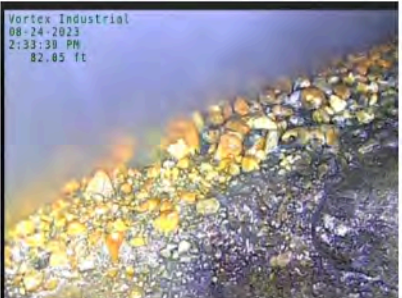


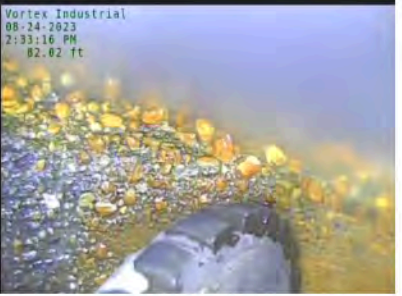
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------|---|
| Fracture Circumferential | Point | 206 | Structural | 0 | 7-5 | 2 | 0 | 0 | 2 | Fracture Circumferential |  |
| Manhole | Point | 207.7 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-0 |  |

| | | | | | | | | | | | |
|------------|---------|-----------------------|--------------|-----------------------|----|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-30 | Inspection Date | Aug 24, 2023 | Inspected Length (ft) | 82 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 14 |
| Segment ID | 5-0:5-M | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 1 | Peak C/O&M Rating | 0 | | |

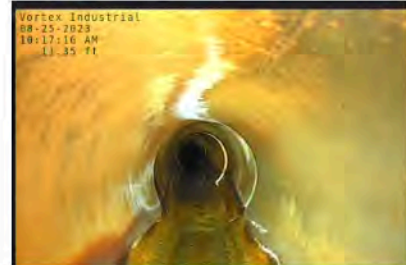


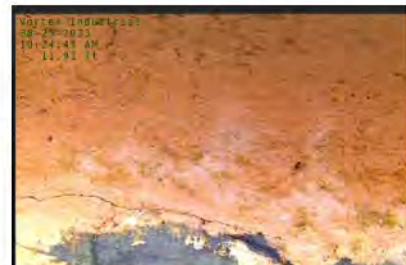
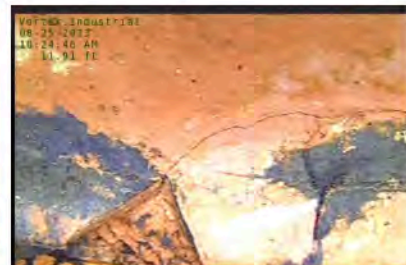
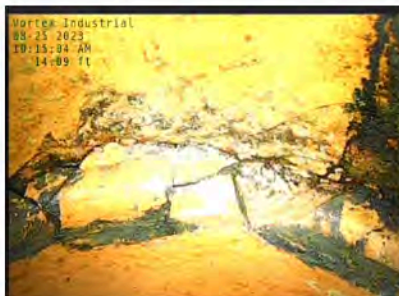

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-0 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Aggregate Visible | Continuous | 0 - 82 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Aggregate Visible |      |





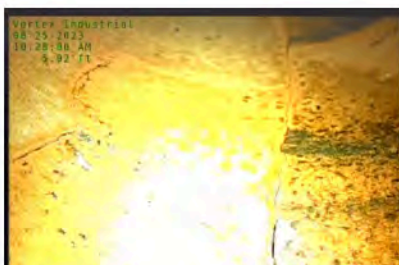
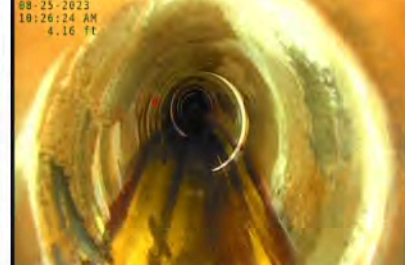





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Longitudinal | Point | 2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |
| Crack Longitudinal | Point | 5.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 7.7 | Structural | 0 | 4-8 | 3 | 0 | 0 | 1 | Crack Multiple |        |
| Crack Longitudinal | Point | 12.7 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |

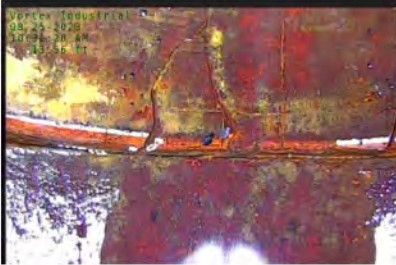
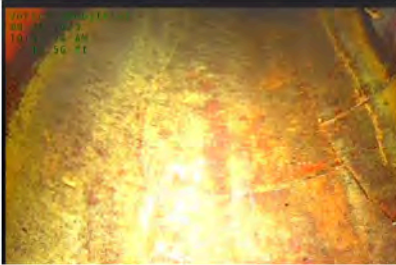
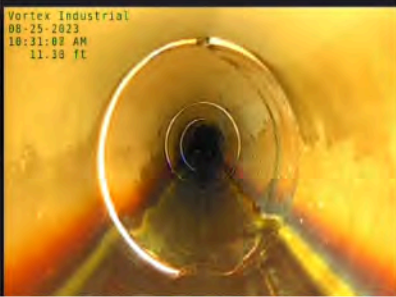

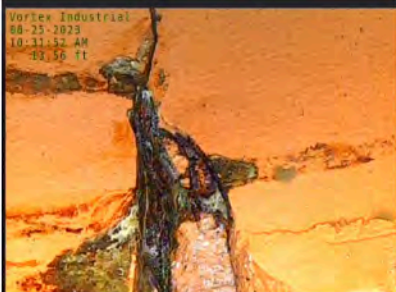
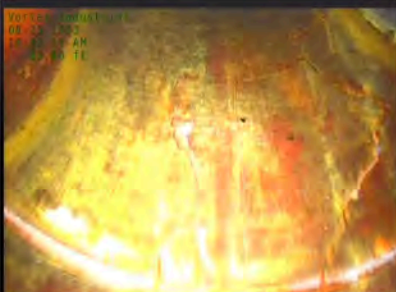


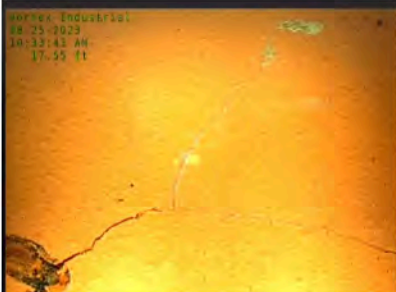


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 12.8 | Constructional | 0 | 9-10 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 20.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 21.4 | Structural | 0 | 4-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Longitudinal | Point | 27.1 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 36 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |






| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 51.5 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 51.5 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 73.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 80.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Manhole | Point | 82 | Constructional | 0 | 0 | 0 | 0 | 0 | 0 | 5-M |    |

| | | | | | | | | | | | |
|------------|---------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-31 | Inspection Date | Aug 25, 2023 | Inspected Length (ft) | 208.7 | Defects Rated ≥3 | 5 | Peak Structural Rating | 4 | Total PR Defects | 96 |
| Segment ID | B-1:B-3 | Primary Pipe Material | VCP | Pipe Diameter (in) | 10 | Peak Prioritization Rating | 4 | Peak C/O&M Rating | 2 | | |




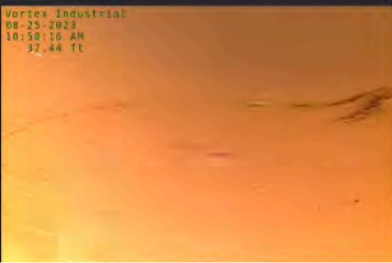








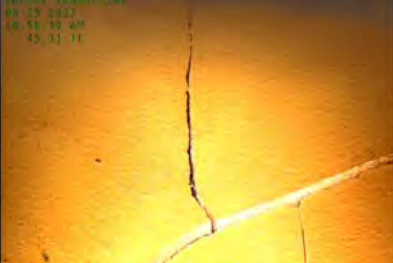

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|--|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | B-1 |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Crack Multiple | Point | 2 | Structural | 0 | 11-1 | 3 | 0 | 0 | 2 | Crack Multiple |      |



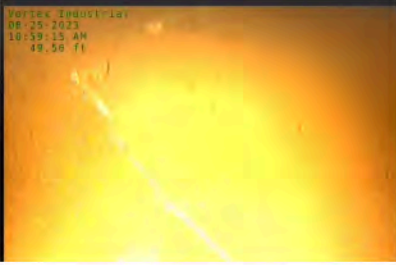
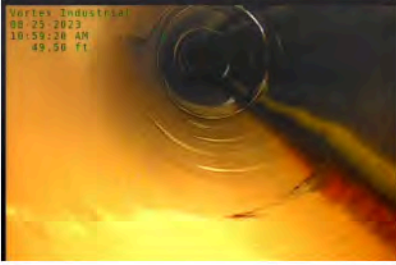


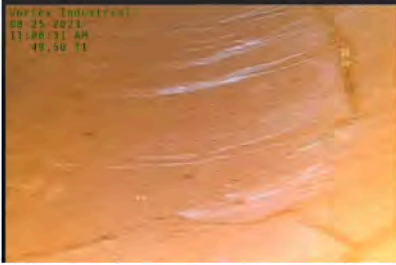

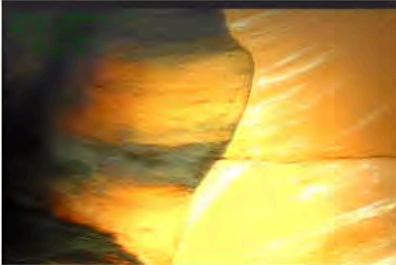
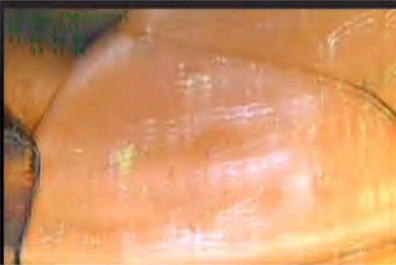

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Longitudinal | Point | 2 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Multiple | Point | 5.7 | Structural | 0 | 6-10 | 3 | 0 | 0 | 3 | Fracture Multiple |        |
| Crack Longitudinal | Point | 9.3 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |    |

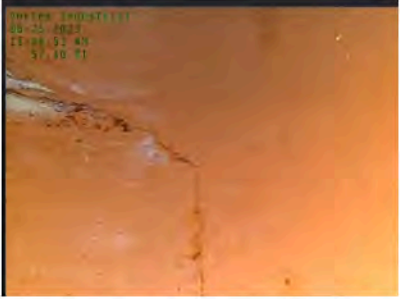
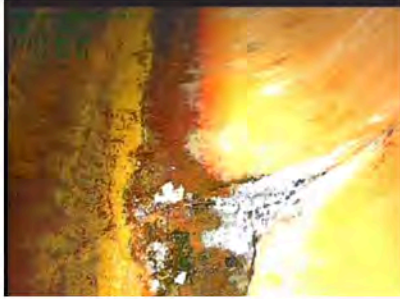
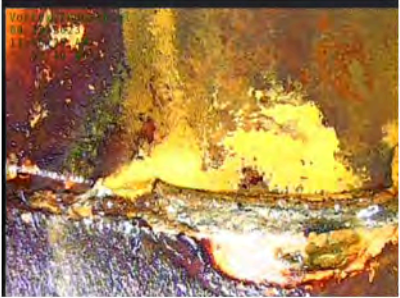


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------|---|
| Fracture Multiple | Point | 13.6 | Structural | 0 | 12-12 | 3 | 0 | 0 | 3 | Fracture Multiple |       |
| Crack Multiple | Point | 17.6 | Structural | 0 | 5-6 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 17.6 | Structural | 0 | 10-1 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Fracture Spiral | Point | 17.6 | Structural | 0 | 6-7 | 3 | 0 | 0 | 2 | Fracture Spiral |  |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Multiple | Continuous | 21.5 - 26 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |           |
| Crack Longitudinal | Point | 29.2 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 29.2 | O&M | 10 | 5-7 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |    |




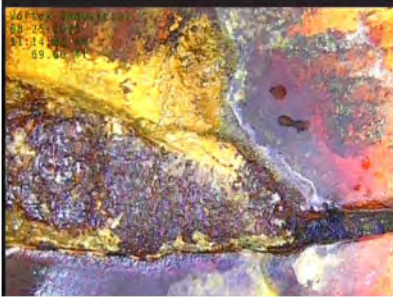


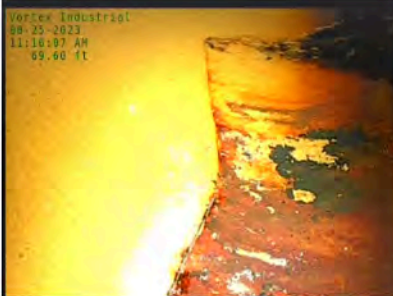





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 29.2 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 33.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 33.5 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Continuous | 33.5 - 36.8 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Spiral | Point | 37.4 | Structural | 0 | 3-5 | 2 | 0 | 0 | 1 | Crack Spiral |  |
| Crack Longitudinal | Point | 37.4 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |




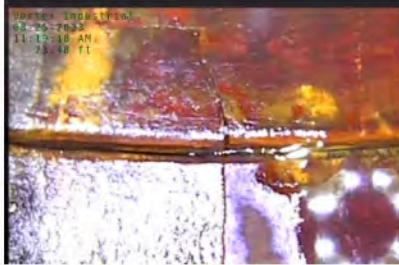





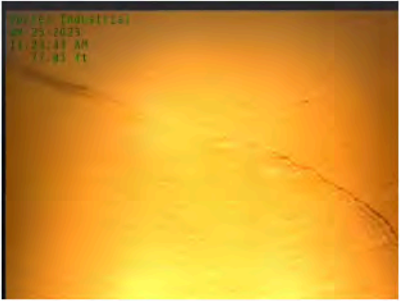
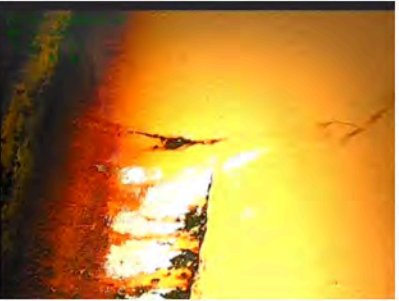
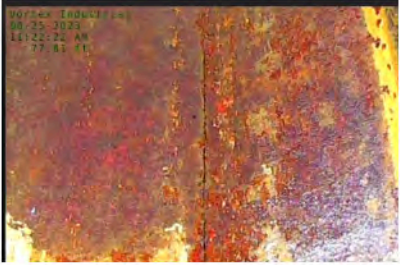

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Fracture Circumferential | Point | 37.4 | Structural | 0 | 7-8 | 2 | 0 | 0 | 1 | Fracture Circumferential |   |
| Crack Spiral | Point | 37.4 | Structural | 0 | 8-10 | 2 | 0 | 0 | 1 | Crack Spiral |   |
| Crack Multiple | Point | 41.7 | Structural | 0 | 5-11 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Fracture Multiple | Point | 45.3 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Fracture Multiple |        |


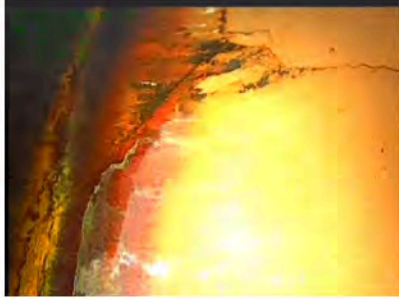

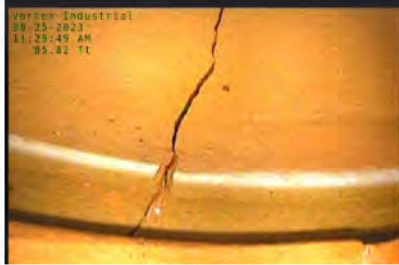



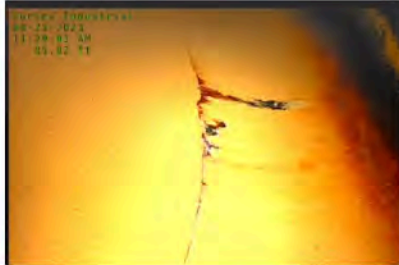
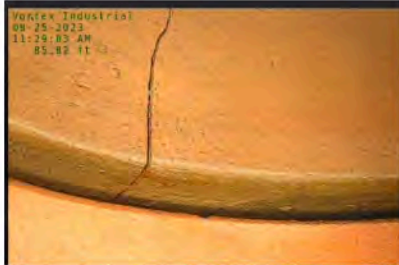

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------|---|
| Crack Multiple | Point | 49.5 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |        |
| Fracture Multiple | Point | 53.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 3 | Fracture Multiple |     |

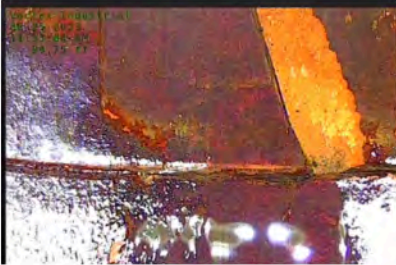





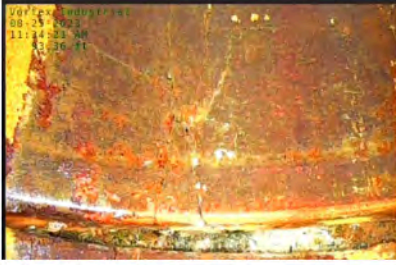

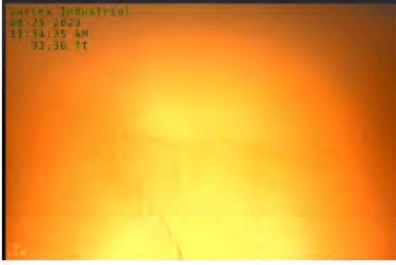



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 57.4 | Structural | 0 | 3-7 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Longitudinal | Point | 57.4 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Spiral | Point | 57.4 | Structural | 0 | 10-11 | 3 | 0 | 0 | 2 | Fracture Spiral |  |
| Crack Longitudinal | Point | 61.7 | Structural | 0 | 10 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

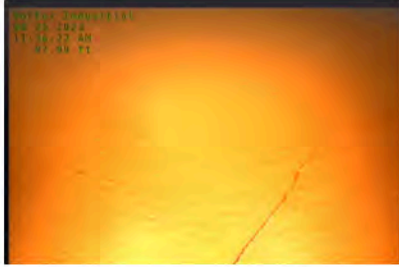

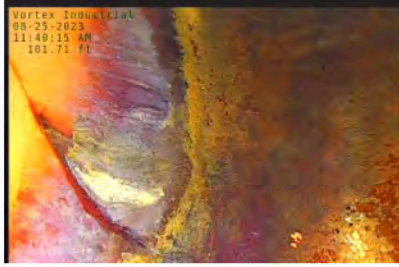
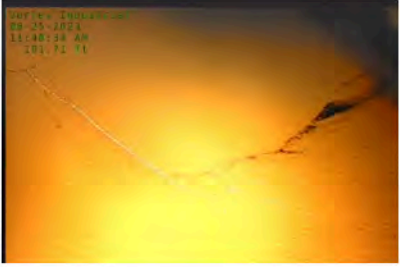



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 61.7 | Structural | 0 | 3-5 | 3 | 0 | 0 | 2 | Crack Longitudinal |     |
| Crack Longitudinal | Point | 61.7 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 61.7 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 65.5 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Fracture Spiral | Point | 65.5 | Structural | 0 | 2-3 | 3 | 0 | 0 | 2 | Fracture Spiral |  |


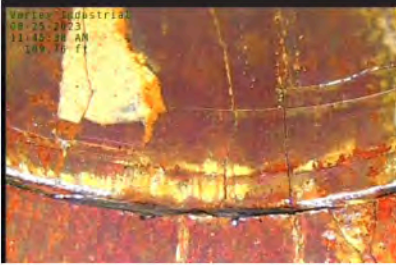
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Spiral | Point | 65.5 | Structural | 0 | 2-5 | 2 | 0 | 0 | 1 | Crack Spiral |   |
| Fracture Multiple | Point | 69.6 | Structural | 0 | 5-6 | 4 | 0 | 0 | 2 | Fracture Multiple |    |
| Fracture Spiral | Point | 69.6 | Structural | 0 | 7-9 | 3 | 0 | 0 | 2 | Fracture Spiral |    |
| Fracture Circumferential | Point | 69.6 | Structural | 0 | 10-11 | 2 | 0 | 0 | 2 | Fracture Circumferential |     |

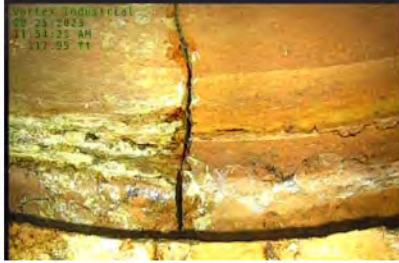
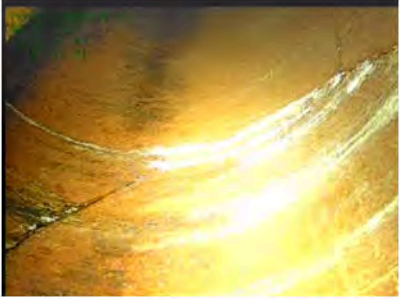


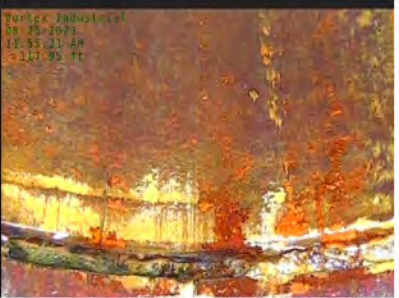


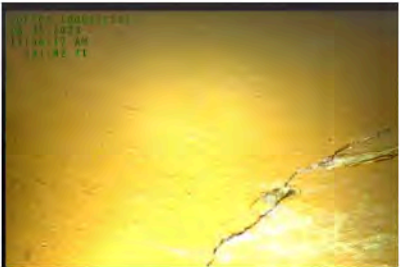



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 69.6 | Structural | 0 | 3-4 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Multiple | Point | 73.5 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Multiple | Point | 77.8 | Structural | 0 | 12-5 | 2 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Longitudinal | Point | 77.8 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 81.6 | Structural | 0 | 6-7 | 3 | 0 | 0 | 1 | Crack Multiple |  |

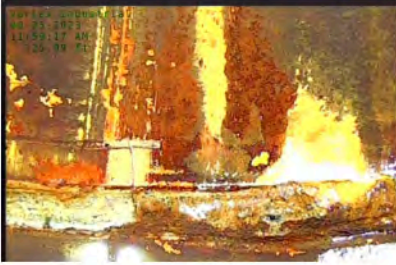
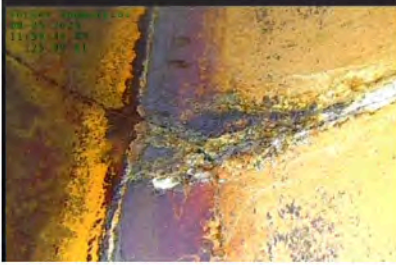

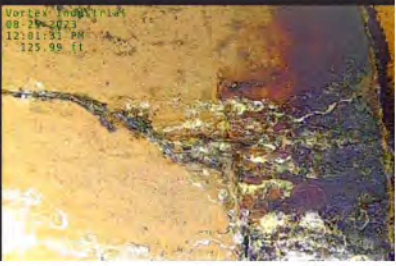

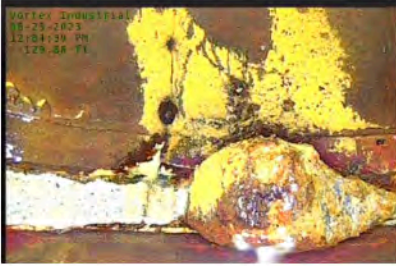
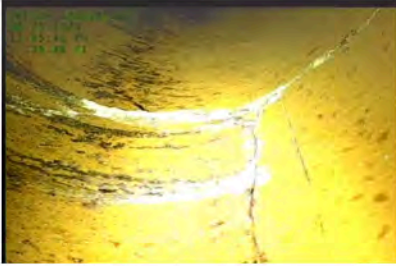
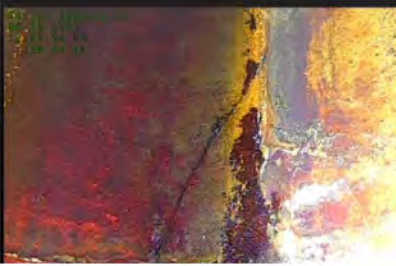

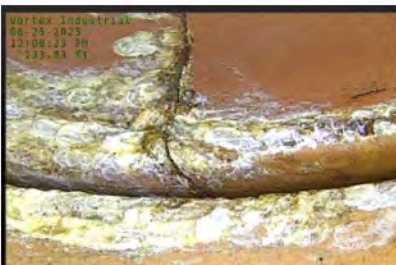


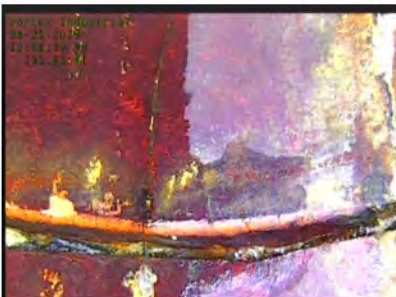
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|--|
| Fracture Multiple | Point | 81.6 | Structural | 0 | 2-5 | 3 | 0 | 0 | 2 | Fracture Multiple |    |
| Crack Longitudinal | Point | 85.8 | Structural | 0 | 1 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 85.8 | O&M | 10 | 5-7 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |    |
| Crack Longitudinal | Point | 85.8 | Structural | 0 | 9 | 2 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Point | 85.8 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

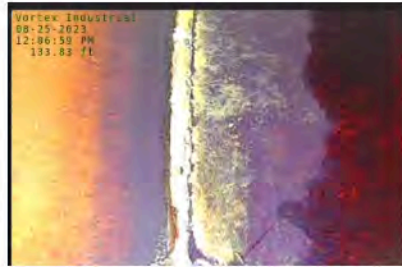




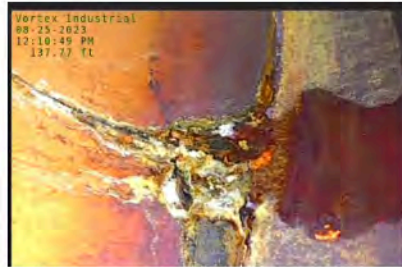

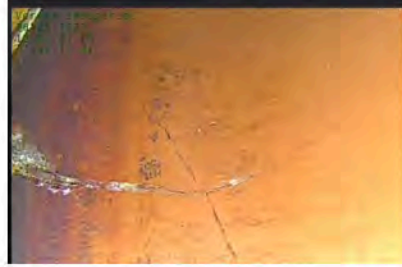
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|--|
| Crack Multiple | Point | 89.6 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Multiple | Point | 93.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |
| Crack Longitudinal | Point | 98 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |

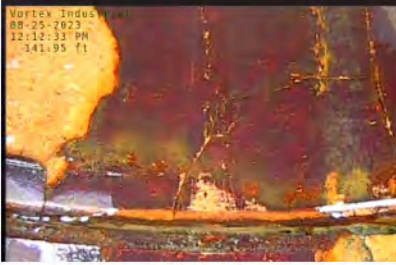


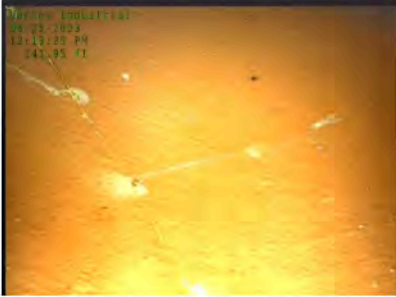


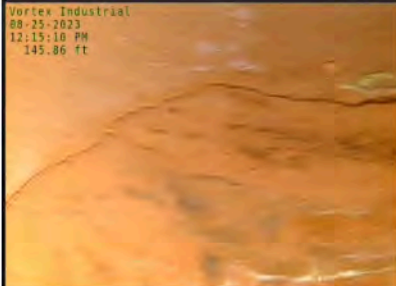



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------------------|---|
| Crack Spiral | Point | 98 | Structural | 0 | 7-11 | 3 | 0 | 0 | 1 | Crack Spiral |     |
| Crack Multiple | Point | 101.7 | Structural | 0 | 6-12 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Deposits Settled Hard/Compacted | Point | 101.7 | O&M | 10 | 6-7 | 0 | 2 | 0 | 0 | Deposits Settled Hard/Compacted |   |



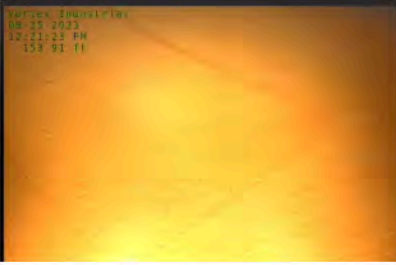
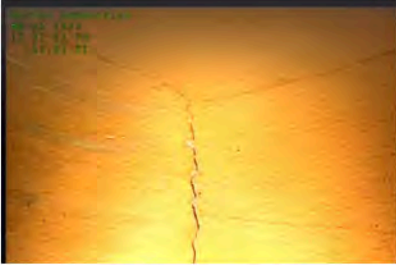



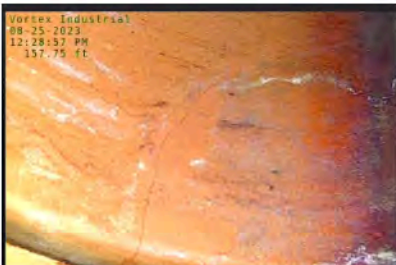


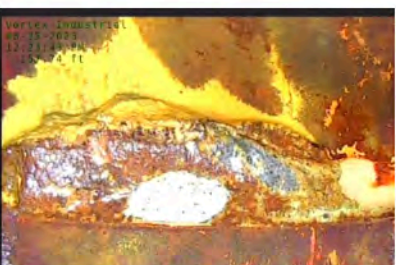
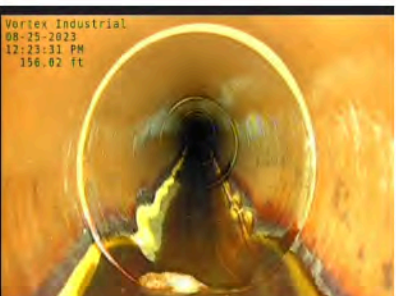
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-------------------|--|
| Crack Multiple | Point | 106.2 | Structural | 0 | 5-7 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Fracture Multiple | Point | 109.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 3 | Fracture Multiple |       |
| Crack Multiple | Point | 113.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------|---|
| Crack Multiple | Point | 118 | Structural | 0 | 12-6 | 3 | 0 | 0 | 2 | Crack Multiple |    |
| Crack Spiral | Point | 118 | Structural | 0 | 6-8 | 2 | 0 | 0 | 1 | Crack Spiral |   |
| Joint Offset Medium | Point | 121.8 | Structural | 0 | | 3 | 0 | 0 | 1 | Joint Offset Medium |  |
| Crack Multiple | Point | 121.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |      |


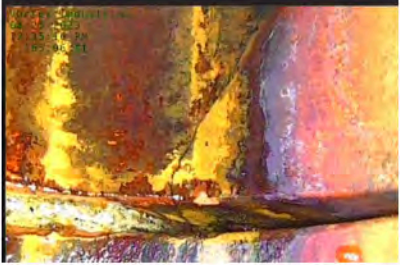

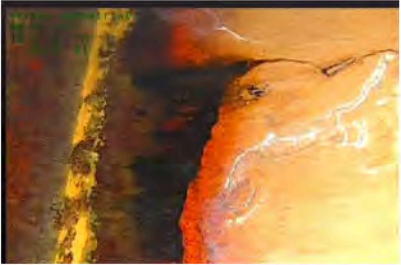
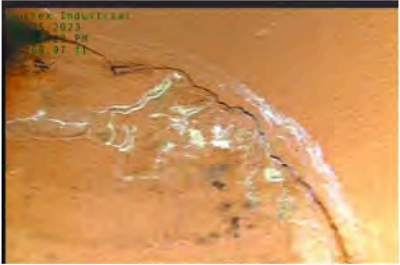


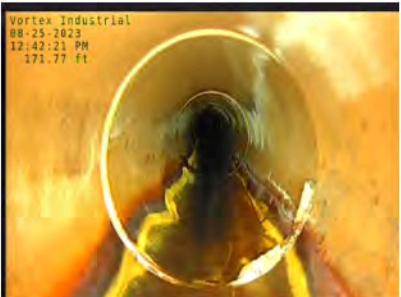


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------|---|
| Crack Multiple | Point | 126 | Structural | 0 | 12-12 | 3 | 0 | 0 | 1 | Crack Multiple |      |
| Crack Multiple | Point | 130.4 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Crack Multiple | Point | 133.8 | Structural | 0 | 2-6 | 2 | 0 | 0 | 2 | Crack Multiple |     |


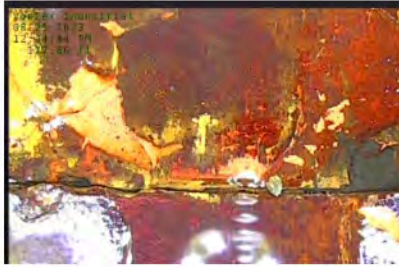

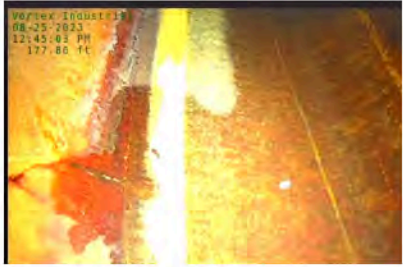

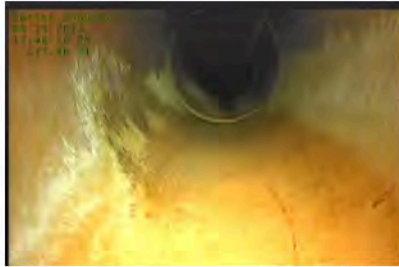

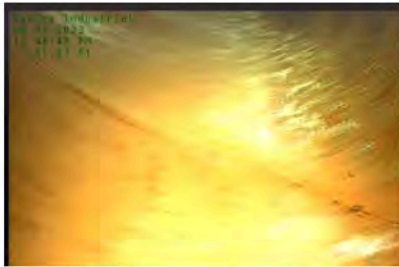




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Longitudinal | Point | 133.8 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 133.8 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 134.4 | Structural | 0 | 7-10 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 137.8 | Structural | 0 | 4-9 | 3 | 0 | 0 | 1 | Crack Multiple |     |

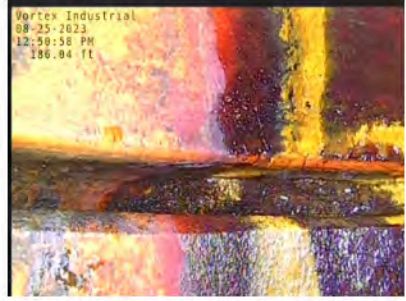
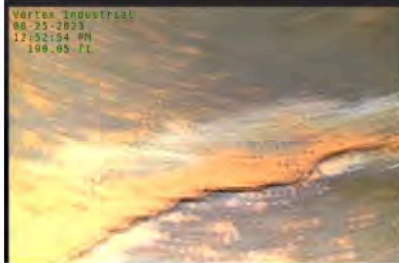




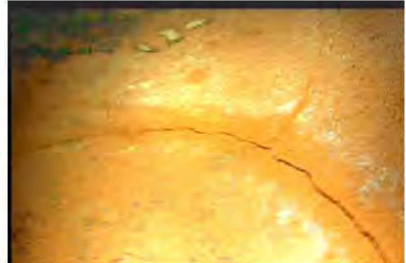


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Multiple | Point | 142 | Structural | 0 | 12-12 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Longitudinal | Point | 145.9 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Spiral | Point | 145.9 | Structural | 0 | 6-9 | 2 | 0 | 0 | 1 | Crack Spiral |    |
| Crack Longitudinal | Point | 149.7 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 149.7 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


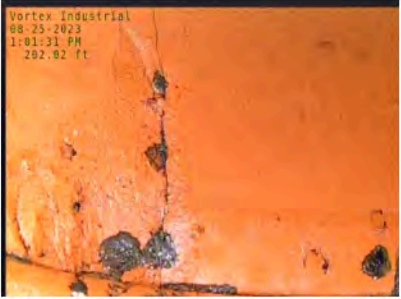




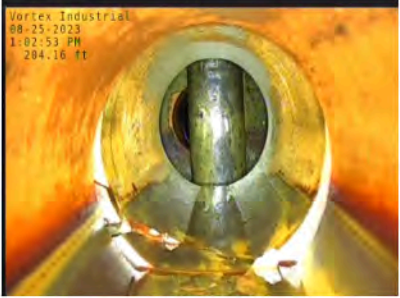
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------------------|---|
| Crack Multiple | Point | 153.9 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Crack Multiple |        |
| Crack Longitudinal | Point | 157.7 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Spiral | Point | 157.7 | Structural | 0 | 4-5 | 2 | 0 | 0 | 1 | Crack Spiral |   |
| Deposits Settled Hard/Compacted | Point | 157.7 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Hard/Compacted |   |

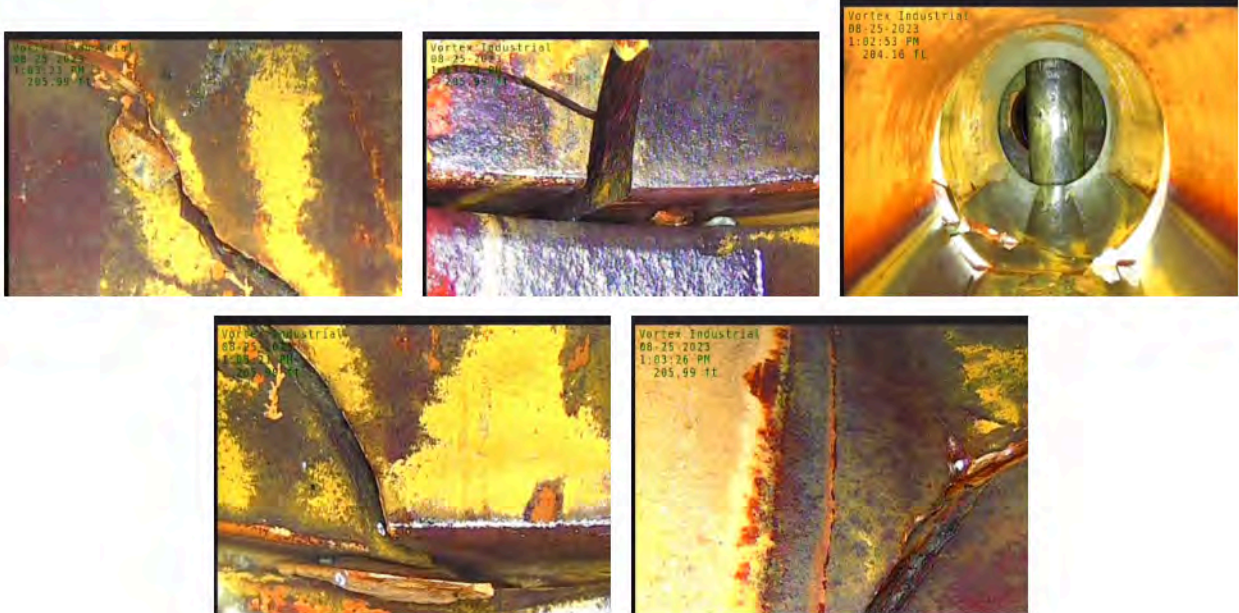


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------|---|
| Crack Longitudinal | Point | 157.7 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 161.9 | Structural | 0 | 12-5 | 3 | 0 | 0 | 1 | Crack Multiple |      |
| Crack Longitudinal | Point | 161.9 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 161.9 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Fracture Circumferential | Point | 166 | Structural | 0 | 10-11 | 2 | 0 | 0 | 2 | Fracture Circumferential |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------|---|
| Crack Multiple | Point | 166 | Structural | 0 | 7-9 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 166 | Structural | 0 | 3-5 | 2 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Multiple | Point | 170 | Structural | 0 | 2-5 | 3 | 0 | 0 | 1 | Crack Multiple |    |
| Crack Longitudinal | Point | 170 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Deposits Attached Encrustation | Point | 173.8 | O&M | 10 | 4-6 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 173.8 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 177.9 | Structural | 0 | 6-9 | 3 | 0 | 0 | 1 | Crack Multiple |     |
| Crack Longitudinal | Point | 177.9 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Spiral | Point | 181.9 | Structural | 0 | 1-6 | 2 | 0 | 0 | 1 | Crack Spiral |    |
| Crack Multiple | Point | 181.9 | Structural | 0 | 7-8 | 3 | 0 | 0 | 1 | Crack Multiple |   |

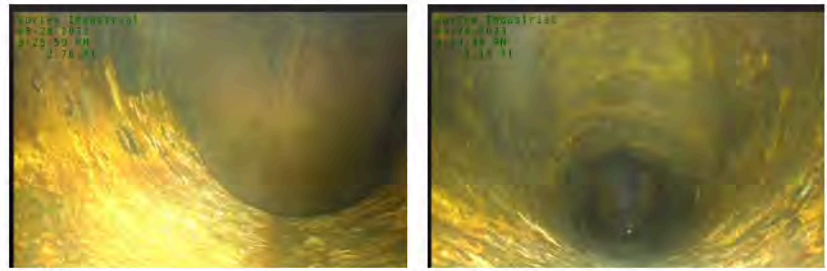

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 186 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Spiral | Point | 190.1 | Structural | 0 | 6-10 | 2 | 0 | 0 | 2 | Crack Spiral |    |
| Crack Spiral | Point | 190.1 | Structural | 0 | 4-5 | 2 | 0 | 0 | 1 | Crack Spiral |   |
| Crack Spiral | Point | 194 | Structural | 0 | 2-5 | 2 | 0 | 0 | 1 | Crack Spiral |    |
| Crack Spiral | Point | 198.1 | Structural | 0 | 6-7 | 1 | 0 | 0 | 1 | Crack Spiral |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------|--|
| Crack Longitudinal | Point | 198.1 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 202 | Structural | 0 | 11-4 | 3 | 0 | 0 | 2 | Crack Multiple |     |
| Crack Longitudinal | Point | 202 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Joint Offset Medium | Point | 206 | Structural | 0 | | 3 | 0 | 0 | 2 | Joint Offset Medium |  |

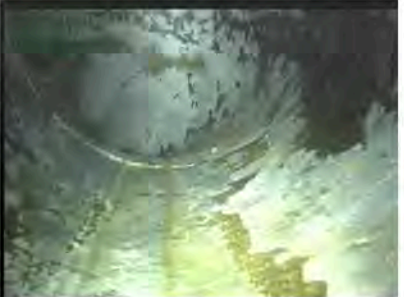

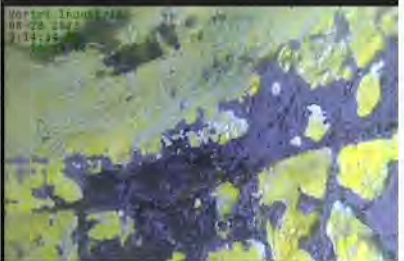

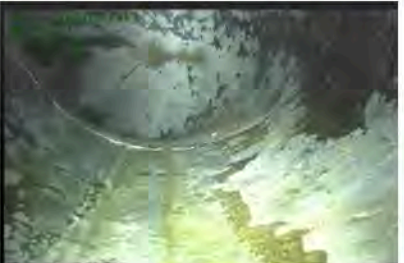
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------|---|
| Broken | Point | 206 | Structural | 0 | 5-8 | 4 | 0 | 0 | 4 | Broken |  |
| Crack Longitudinal | Point | 206 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Manhole | Point | 208.7 | Constructional | 0 | | 0 | 0 | 0 | 0 | B-3 |  |

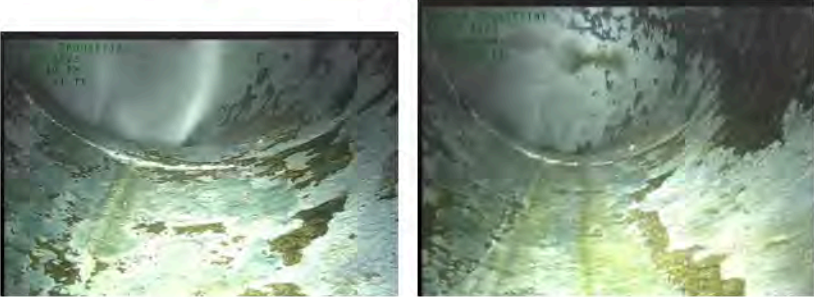
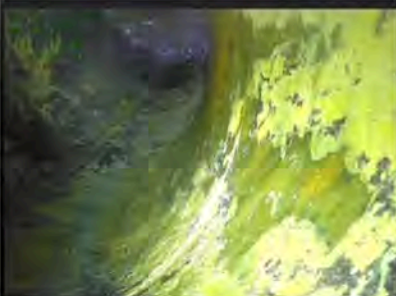

| | | | | | | | | | | | |
|------------|-----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-32 | Inspection Date | Aug 28, 2023 | Inspected Length (ft) | 21.5 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 1 |
| Segment ID | D-21:D-22 | Primary Pipe Material | SP | Pipe Diameter (in) | 30 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 4 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|--------------------------------|--------|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-21 | |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey | |
| Surface Damage Corrosion | Continuous | 0 - 21.5 | Structural | 0 | 12-12 | 3 | 0 | 0 | 2 | Surface Damage Corrosion | |





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|-----------|---|
| Line Down | Point | 5.1 | Constructional | 100 | | 0 | 4 | 4 | 0 | Line Down |  |
| Manhole | Point | 21.5 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-22 |  |




| | | | | | | | | | | | |
|------------|------------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-33 | Inspection Date | Aug 28, 2023 | Inspected Length (ft) | 16.2 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Total PR Defects | 1 |
| Segment ID | D-20C:D-22 | Primary Pipe Material | SP | Pipe Diameter (in) | 30 | Peak Prioritization Rating | 1 | Peak C/O&M Rating | 4 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-20C |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Surface Spalling | Continuous | 0 - 16.2 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Surface Spalling |    |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------|--|
| Line Left Down | Point | 6.2 | Constructional | 50 | | 0 | 4 | 4 | 0 | Line Left Down |  |
| Line Right | Point | 10.2 | Constructional | 15 | | 0 | 4 | 2 | 0 | Line Right |  |
| Manhole | Point | 16.2 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-22 |  |

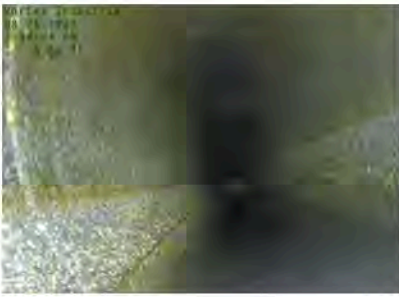


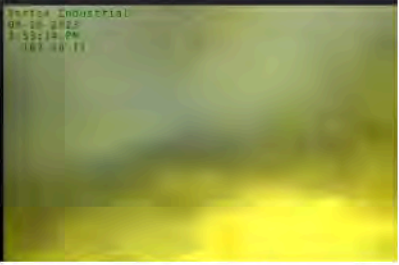


| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-34 | Inspection Date | Aug 24, 2023 | Inspected Length (ft) | 53.4 | Defects Rated ≥3 | 0 | Peak Structural Rating | 1 | Total PR Defects | 1 |
| Segment ID | 5-M:D-12 | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-M |  |
| Miscellaneous Water Level | Point | 52.6 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Roughness Increased | Continuous | 52.6 - 106 | Structural | 10 | 12-12 | 1 | 0 | 0 | 2 | Surface Damage Roughness Increased |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|-------------------------|---|
| Deposits Settled Gravel | Continuous | 52.6 - 106 | O&M | 10 | 6 | 0 | 2 | 0 | 0 | Deposits Settled Gravel |   |
| Miscellaneous Survey Abandoned | Point | 106 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | End of Inspection |  |








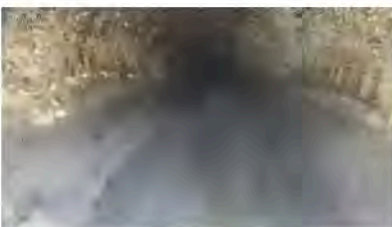
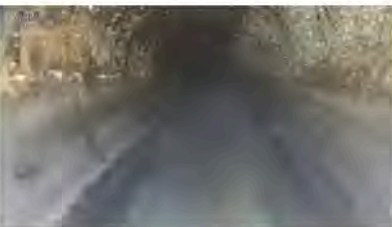

| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-35 | Inspection Date | Aug 26, 2023 | Inspected Length (ft) | 103.4 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Total PR Defects | 1 |
| Segment ID | 5-M:D-12 | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 4 | | |




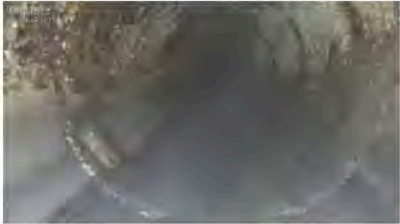


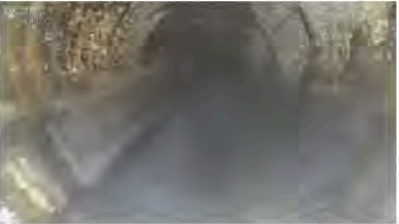



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-M |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 30 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Roughness Increased | Continuous | 0 - 103.4 | O&M | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Roughness Increased |     |

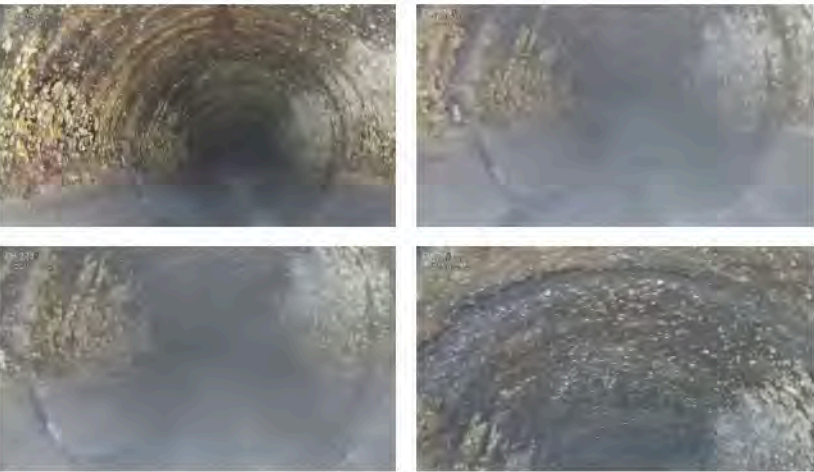



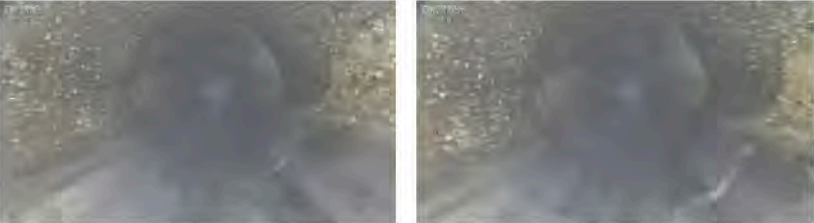
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------------------------------|--|
| Tap Factory | Point | 9 | Constructional | 0 | 6 | 0 | 0 | 0 | 0 | Tap Factory |  |
| Miscellaneous Water Level | Point | 18.1 | Miscellaneous | 40 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Miscellaneous Water Level | Point | 67.7 | Miscellaneous | 50 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Miscellaneous Camera Underwater | Point | 96 | Miscellaneous | 0 | | 0 | 4 | 0 | 0 | Miscellaneous Camera Underwater |   |
| Miscellaneous Survey Abandoned | Point | 103.4 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Impassable water level |  |

| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|-------|----------------------------|---|------------------------|---|------------------|----|
| Setup ID | 2023-36 | Inspection Date | Jan 17, 2024 | Inspected Length (ft) | 136.9 | Defects Rated ≥3 | 2 | Peak Structural Rating | 4 | Total PR Defects | 19 |
| Segment ID | 5-F:D-12 | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 3 | Peak C/O&M Rating | 2 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Manhole | Point | 0 | Structural | 0 | | 0 | 0 | 0 | 0 | 5-F |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |  |
| Surface Damage Aggregate Visible | Continuous | 0 - 136.9 | Structural | 0 | 8-4 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |     |
| Surface Damage Aggregate Missing | Point | 5.6 | Structural | 0 | 8-9 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Deposits Attached Encrustation | Point | 7.3 | O&M | 10 | 5-6 | 0 | 2 | 0 | 0 | Deposits Attached Encrustation |  |
| Crack Multiple | Point | 23 | Structural | 0 | 8-10 | 1 | 0 | 0 | 1 | Crack Multiple |  |
| Intruding Sealing Material Grout | Point | 26.4 | Constructional | 10 | 4-5 | 0 | 2 | 2 | 0 | Intruding Sealing Material Grout |  |
| Crack Circumferential | Point | 28 | Structural | 0 | 3-4 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 34.8 | Structural | 0 | 9-11 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Longitudinal | Point | 38.9 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Crack Circumferential | Point | 40.8 | Structural | 0 | 8-10 | 1 | 0 | 0 | 1 | Crack Circumferential |   |


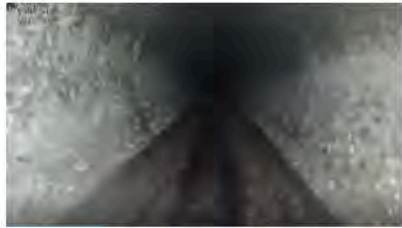





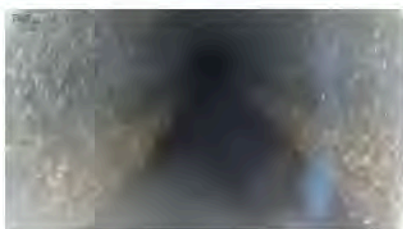
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Crack Circumferential | Point | 53.5 | Structural | 0 | 8-10 | 1 | 0 | 0 | 1 | Crack Circumferential |  |
| Crack Multiple | Point | 59.7 | Structural | 0 | 7-10 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Circumferential | Point | 63.8 | Structural | 0 | 7-8 | 1 | 0 | 0 | 1 | Crack Circumferential |   |
| Surface Damage Aggregate Missing | Point | 63.8 | Structural | 0 | 10 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |   |
| Surface Damage Aggregate Missing | Point | 66.5 | Structural | 0 | 10 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |   |
| Surface Damage Reinforcement Visible | Point | 69.3 | Structural | 0 | 9-3 | 4 | 0 | 0 | 3 | Surface Damage Reinforcement Visible |  |



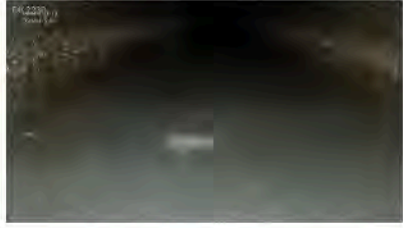
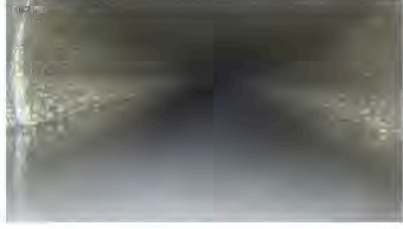
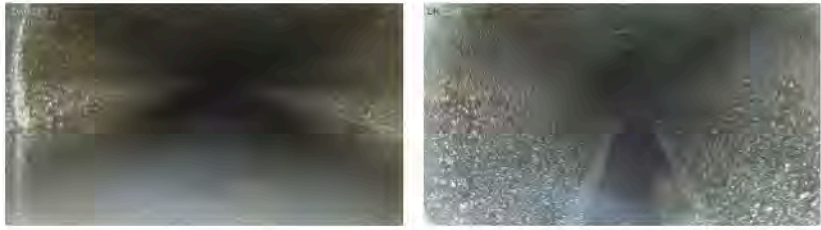
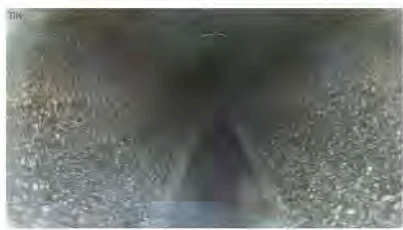

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|---|
| Joint Separated Medium | Point | 72.2 | Structural | 0 | | 3 | 0 | 0 | 1 | Joint Separated Medium |  |
| Intruding Sealing Material Grout | Point | 79 | O&M | 10 | 6-9 | 0 | 2 | 0 | 1 | Intruding Sealing Material Grout |  |
| Deposits Settled Fine | Point | 100.1 | O&M | 10 | 4-6 | 0 | 2 | 0 | 0 | Deposits Settled Fine |  |
| Surface Damage Reinforcement Visible | Point | 111.8 | Structural | 0 | 9-10 | 4 | 0 | 0 | 3 | Surface Damage Reinforcement Visible |  |
| Crack Circumferential | Point | 117 | Structural | 0 | 3-6 | 1 | 0 | 0 | 1 | Crack Circumferential |  |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------------------------|---|
| Crack Spiral | Point | 124.1 | Structural | 0 | 3-6 | 2 | 0 | 0 | 1 | Crack Spiral |  |
| Miscellaneous Water Level | Point | 127.5 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Longitudinal | Point | 134.1 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Tap Factory | Point | 134.1 | Constructional | 0 | 6 | 0 | 0 | 0 | 0 | Tap Factory |  |
| Manhole | Point | 136.9 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | D-12 |  |

| | | | | | | | | | | | |
|------------|----------|-----------------------|--------------|-----------------------|-----|----------------------------|---|------------------------|---|------------------|---|
| Setup ID | 2023-37 | Inspection Date | Jan 17, 2024 | Inspected Length (ft) | 203 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Total PR Defects | 5 |
| Segment ID | 5-M:D-12 | Primary Pipe Material | RCP | Pipe Diameter (in) | 21 | Peak Prioritization Rating | 2 | Peak C/O&M Rating | 2 | | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Manhole | Point | 0 | Constructional | 0 | | 0 | 0 | 0 | 0 | 5-M |  |
| Miscellaneous Water Level | Point | 0 | Miscellaneous | 20 | | 0 | 0 | 0 | 0 | Water Level at Start of Survey |   |
| Surface Damage Roughness Increased | Continuous | 0 - 164.1 | Structural | 0 | 12-12 | 1 | 0 | 0 | 2 | Surface Damage Roughness Increased |      |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|---------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------------|---|
| Miscellaneous Water Level | Point | 15.8 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Crack Longitudinal | Point | 17 | Structural | 0 | 7 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 17 | Structural | 0 | 5 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 22.5 | Structural | 0 | 7 | 3 | 0 | 0 | 2 | Crack Longitudinal |   |
| Crack Longitudinal | Continuous | 27 - 31 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Miscellaneous Water Level | Point | 32.2 | Miscellaneous | 10 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Miscellaneous Water Level | Point | 55.9 | Miscellaneous | 20 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |   |

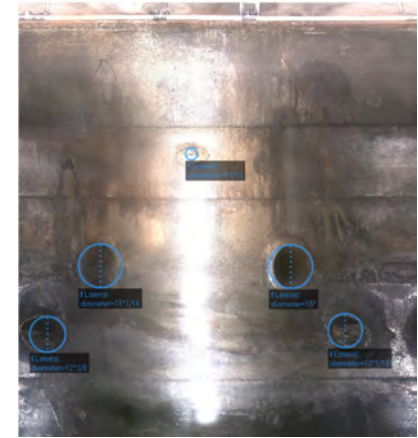
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-----------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---|---|
| Intruding Sealing Ring | Point | 67.4 | O&M | 10 | 5-7 | 0 | 2 | 0 | 0 | Intruding Sealing Ring |  |
| Miscellaneous Water Level | Point | 130.4 | Miscellaneous | 30 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Miscellaneous Water Level | Point | 157.7 | Miscellaneous | 40 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Miscellaneous Water Level | Point | 164.1 | Miscellaneous | 50 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Miscellaneous General Observation | Point | 165 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Video cuts and resumes without distance counter |  |
| Miscellaneous Water Level | Point | 165 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Miscellaneous Water Level |  |
| Tap Factory | Point | 200.6 | Constructional | 0 | 6 | 0 | 0 | 0 | 0 | Tap Factory |  |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | PR | Remarks | Photos |
|-------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|---------|---|
| Manhole | Point | 203 | Constructional | 0 | | 0 | 0 | 0 | 0 | D-12 |  |




Attachment 3: Process Structure Inspection Summary Reports

| | | | | | | | | | |
|--------------|-----------|---------------------------|-------------|-------------------|---|------------------------|------|---|-----|
| Setup ID | 2023-ST-1 | Inspection date | Aug 9, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7.9 |
| Structure ID | D-1.1 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 12.4 | Total ER Defects | 5 |


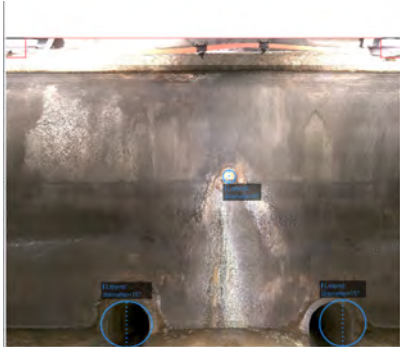


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |

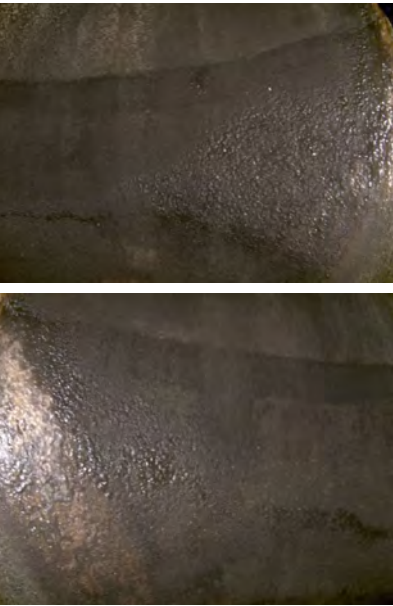



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Surface Damage Aggregate Missing | Point | 4 | Structural | 0 | 3 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Crack Longitudinal | Point | 8.4 | Structural | 0 | 5 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |


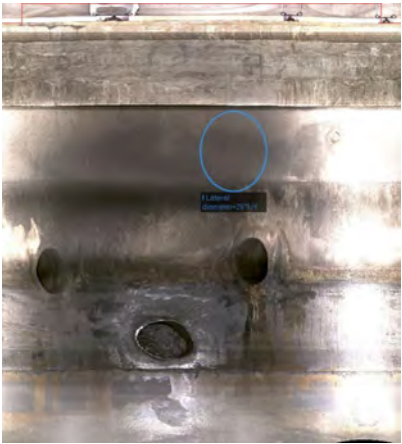
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Aggregate Missing | Point | 11.7 | Structural | 0 | 5 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Surface Damage Aggregate Visible | Point | 12 | Structural | 0 | 8 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Roughness Increased | Point | 12 | Structural | 0 | 7-9 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |





| | | | | | | | | | |
|--------------|-----------|---------------------------|-------------|-------------------|---|------------------------|---|---|---|
| Setup ID | 2023-ST-2 | Inspection date | Aug 9, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 8 |
| Structure ID | D-2.1 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8 | Total ER Defects | 4 |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Aggregate Visible | Point | 3 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Roughness Increased | Point | 4 | Structural | 0 | 12-5 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Roughness Increased | Point | 6.2 | Structural | 0 | 6 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Aggregate Missing | Point | 12 | Structural | 0 | 2 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |  |



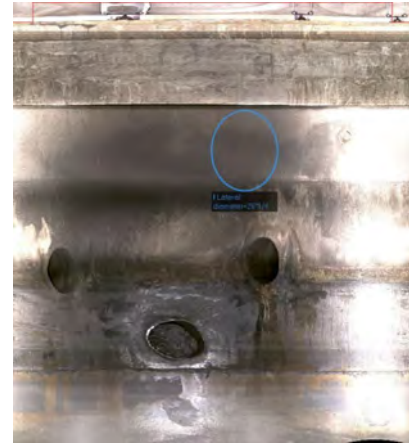


| | | | | | | | | | |
|--------------|-----------|---------------------------|-------------|-------------------|---|------------------------|------|---|-----|
| Setup ID | 2023-ST-3 | Inspection date | Aug 9, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7.8 |
| Structure ID | D-3.1 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 11.6 | Total ER Defects | 6 |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |








| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Fracture Circumferential | Point | 1.8 | Structural | 0 | 12-12 | 3 | 0 | 0 | 1 | Fracture Circumferential |   |
| Fracture Circumferential | Point | 3 | Structural | 0 | 2-3 | 3 | 0 | 0 | 2 | Fracture Circumferential |  |
| Crack Longitudinal | Point | 3.5 | Structural | 0 | 05 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Surface Damage Roughness Increased | Point | 6.7 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|--|
| Crack Circumferential | Point | 8 | Structural | 0 | 4-5 | 2 | 0 | 0 | 2 | Crack Circumferential |  |
| Deposits Other | Point | 10 | O&M | 0 | 5 | 0 | 0 | 0 | 0 | Deposits Other |  |
| Crack Circumferential | Point | 11 | Structural | 0 | 11-03 | 2 | 0 | 0 | 2 | Crack Circumferential |  |



| | | | | | | | | | |
|--------------|-----------|---------------------------|-------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-4 | Inspection date | Aug 9, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Rim to Invert (ft) - Lowest Outgoing Pipe | 5.8 |
| Structure ID | D-4.1 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.7 | Total ER Defects | 7 |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Roughness Increased | Continuous | 0 - 1.1 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Roughness Increased | Point | 2 | Structural | 0 | 9-10 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Crack Longitudinal | Point | 3 | Structural | 0 | 6 | 2 | 0 | 0 | 2 | Crack Longitudinal |  |
| Surface Damage Roughness Increased | Continuous | 3.5 - 5.2 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |

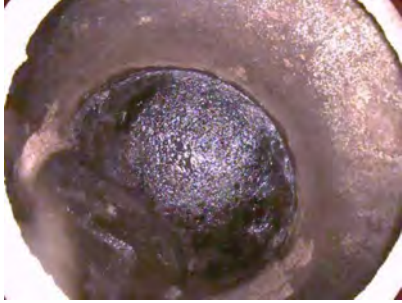



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------|---|
| Crack Multiple | Point | 5.5 | Structural | 0 | 2-3 | 3 | 0 | 0 | 1 | Crack Multiple |   |
| Crack Longitudinal | Point | 5.5 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 6 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |
| Deposits Settled Other | Point | 8 | O&M | 0 | 12-12 | 0 | 0 | 0 | 0 | Deposits Settled Other |   |





| | | | | | | | | | |
|--------------|-----------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-5 | Inspection date | Aug 10, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 4.9 |
| Structure ID | D-20 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 7.6 | Total ER Defects | 2 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Point | 1 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Aggregate Visible | Continuous | 2 - 4.4 | Structural | 0 | 9-2 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Deposits Fine Settled | Point | 7 | O&M | 10 | 12-12 | 0 | 0 | 0 | 0 | Deposits Fine Settled |  |

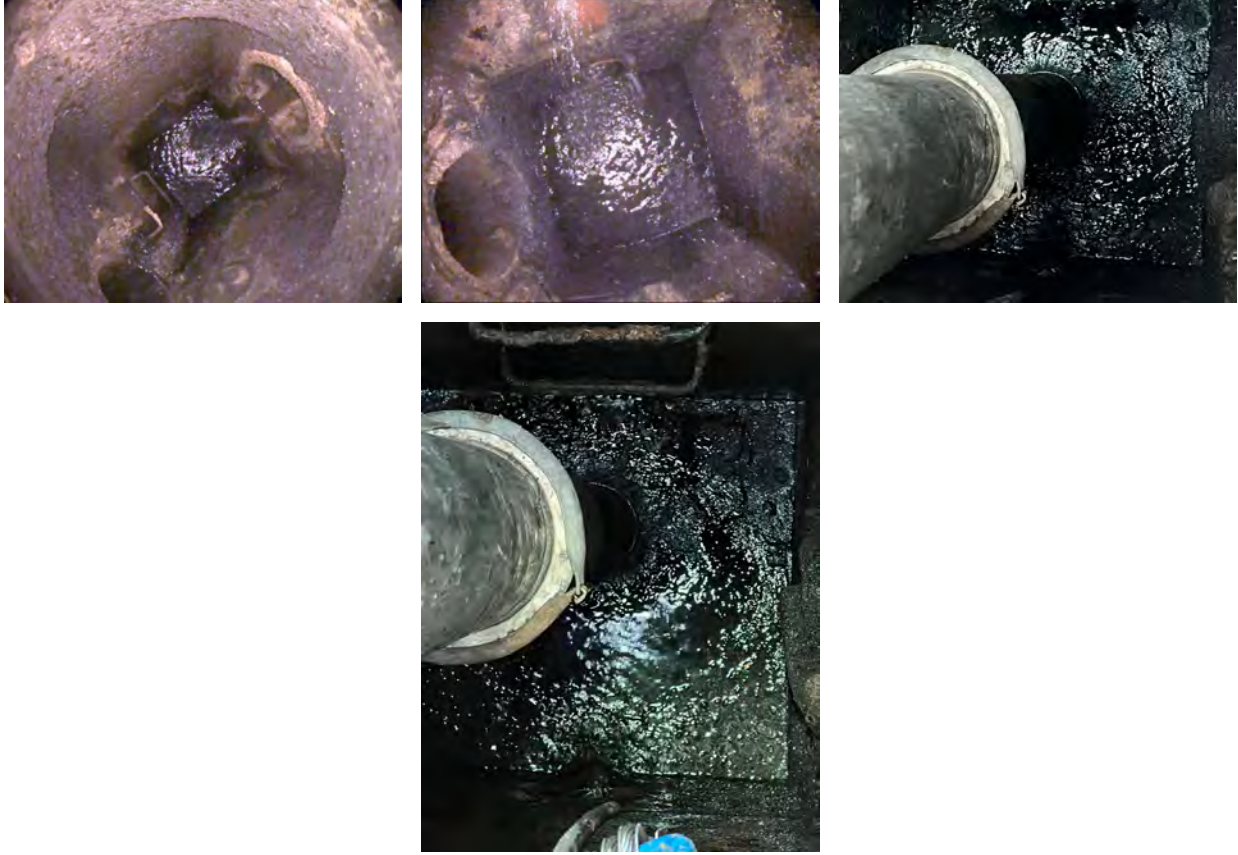

| | | | | | | | | | |
|--------------|-----------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-6 | Inspection date | Aug 10, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 3.8 |
| Structure ID | D-6.1 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 3.8 | Total ER Defects | 6 |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Crack Longitudinal | Point | 1 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Longitudinal | Point | 1 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Missing | Point | 1.3 | Structural | 0 | 2 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Surface Damage Aggregate Visible | Point | 1.7 | O&M | 0 | 12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Crack Multiple | Continuous | 2 - 3 | Structural | 0 | 4-7 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Crack Multiple | Point | 2.5 | Structural | 0 | 9-10 | 3 | 0 | 0 | 2 | Crack Multiple |  |




| | | | | | | | | | |
|--------------|-----------|---------------------------|--------------|-------------------|---|------------------------|------|---|-----|
| Setup ID | 2023-ST-7 | Inspection date | Aug 10, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Rim to Invert (ft) - Lowest Outgoing Pipe | 8.3 |
| Structure ID | D-6 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 10.1 | Total ER Defects | 3 |


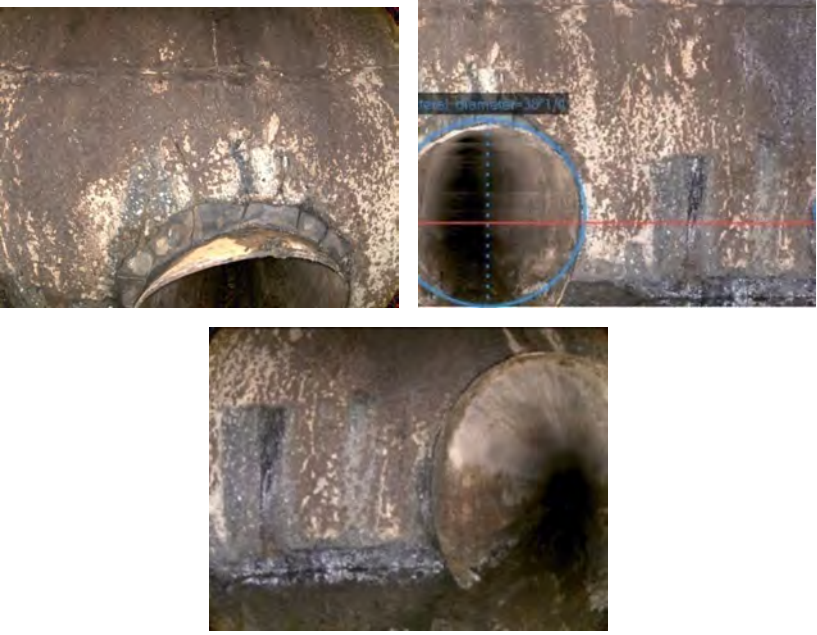


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|--------|
| Surface Damage Aggregate Visible | Continuous | 0 - 9.5 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |

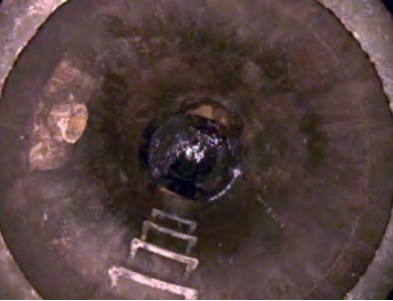


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|---------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|---------------------------------------|--|
| Surface Damage Roughness Increased | Continuous | 1 - 2 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Crack Multiple | Point | 2.5 | Structural | 0 | 6-9 | 3 | 0 | 0 | 1 | Crack Multiple |  |




| | | | | | | | | | |
|--------------|-----------|---------------------------|--------------|-------------------|---|------------------------|------|---|------|
| Setup ID | 2023-ST-8 | Inspection date | Aug 11, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Rim to Invert (ft) - Lowest Outgoing Pipe | 10.7 |
| Structure ID | D-23 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 10.7 | Total ER Defects | 4 |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Roughness Increased | Point | 1 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Crack Longitudinal | Point | 1.5 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Crack Multiple | Point | 2 | Structural | 0 | 5-7 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Surface Damage Roughness Increased | Point | 4 | Structural | 0 | 8 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Deposits Settled Fine | Point | 10 | O&M | 10 | 10 | 0 | 0 | 0 | 0 | Deposits Settled Fine |  |

| | | | | | | | | | |
|--------------|-----------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-9 | Inspection date | Aug 14, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 8.3 |
| Structure ID | 23-1 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.6 | Total ER Defects | 4 |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|----------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Aggregate Visible | Point | 0.5 | Structural | 0 | 9-10 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Roughness Increased | Point | 1 | Structural | 0 | 5-9 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Crack Longitudinal | Point | 3.8 | Constructional | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 3.8 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |



| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|---|
| Setup ID | 2023-ST-10 | Inspection date | Aug 14, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7 |
| Structure ID | 23-2 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.6 | Total ER Defects | 4 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |
| Surface Damage Aggregate Missing | Point | 4 | Structural | 0 | 8 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing | |
| Crack Longitudinal | Point | 6 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Crack Longitudinal | |

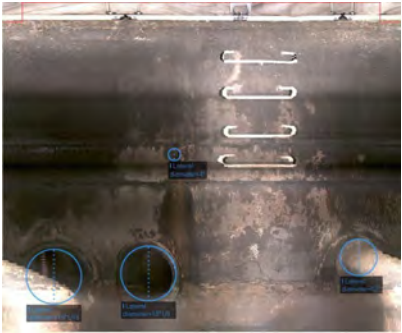


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Point | 6 | Structural | 0 | 1-4 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Crack Longitudinal | Point | 7 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

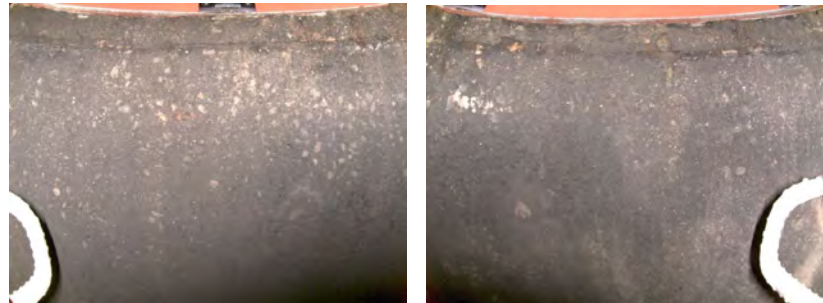




| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-11 | Inspection date | Aug 14, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7.8 |
| Structure ID | 23-3 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.1 | Total ER Defects | 4 |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |
| Surface Damage Aggregate Visible | Continuous | 1.5 - 4 | Structural | 0 | 2-6 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible | |
| Surface Damage Aggregate Visible | Point | 4 | Structural | 0 | 11 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Point | 5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Aggregate Visible | Point | 6.5 | Structural | 0 | 7 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-12 | Inspection date | Aug 14, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 3 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7.9 |
| Structure ID | 23-4 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.6 | Total ER Defects | 5 |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Roughness Increased | Point | 0.2 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |   |
| Surface Damage Aggregate Visible | Point | 5.5 | Structural | 0 | 9 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Crack Multiple | Point | 6 | Structural | 0 | 11-12 | 3 | 0 | 0 | 1 | Crack Multiple |  |
| Crack Multiple | Point | 7 | Structural | 0 | 9-10 | 3 | 0 | 0 | 1 | Crack Multiple |  |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 7.3 | Structural | 0 | 9-10 | 2 | 0 | 0 | 1 | Crack Circumferential |  |





| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-13 | Inspection date | Aug 23, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 9.5 |
| Structure ID | 5-C | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 9.8 | Total ER Defects | 3 |


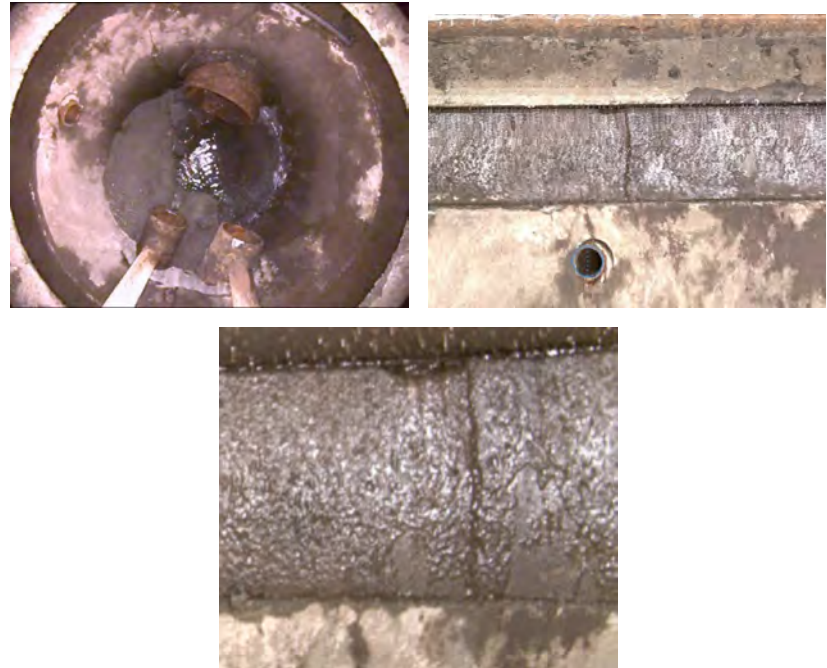
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Surface Damage Aggregate Visible | Continuous | 0 - 9.8 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |   |
| Crack Longitudinal | Point | 4.5 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Multiple |  |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|--------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------|---|
| Crack Longitudinal | Point | 4.5 | Structural | 0 | 1 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-14 | Inspection date | Aug 16, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7.1 |
| Structure ID | D-21 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 7.6 | Total ER Defects | 4 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |

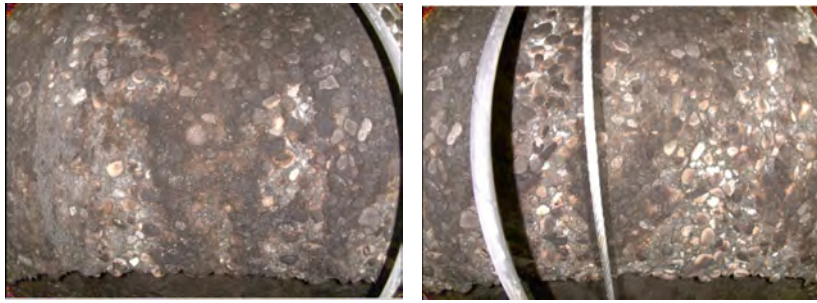





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Roughness Increased | Point | 0.3 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Crack Longitudinal | Point | 1.3 | Structural | 0 | 4 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

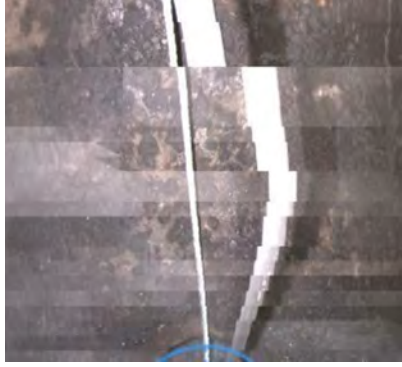


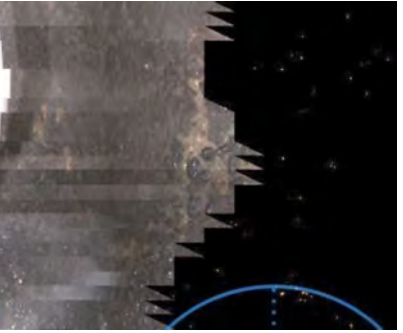



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|-----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous General Observation | Continuous | 4 - 6 | Structural | 0 | 12-5 | 0 | 0 | 0 | 0 | Concrete Shelf |  |
| Crack Longitudinal | Point | 4.7 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Damage Aggregate Missing | Point | 7.6 | Structural | 0 | 12-12 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------|--------------|---------------|------|---------|-------|----|-----|---|----|----------------------------|---|
| Deposits Settled Compacted | Point | 7.6 | O&M | 10 | 12-12 | 0 | 0 | 0 | 0 | Deposits Settled Compacted |   |




| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|------|---|-----|
| Setup ID | 2023-ST-15 | Inspection date | Aug 23, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 8.9 |
| Structure ID | 5-B | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 10.8 | Total ER Defects | 6 |

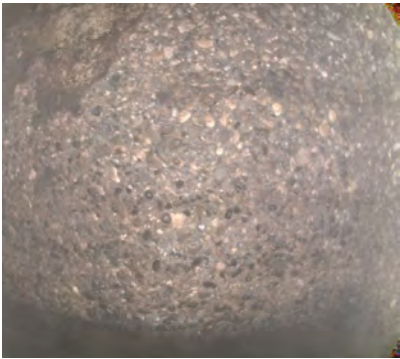

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Surface Damage Aggregate Visible | Continuous | 1 - 2.6 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |   |
| Surface Damage Aggregate Visible | Continuous | 4.5 - 7 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |   |
| Surface Damage Aggregate Missing | Continuous | 4.9 - 6.5 | Structural | 0 | 6 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |   |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|--|
| Surface Damage Aggregate Missing | Point | 5.7 | Structural | 0 | 9 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |   |
| Surface Damage Aggregate Missing | Point | 6.3 | Structural | 0 | 11 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |    |
| Surface Damage Roughness Increased | Continuous | 8 - 10.8 | Structural | 0 | 12-12 | 1 | 0 | 0 | 2 | Surface Damage Roughness Increased |   |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|---|
| Setup ID | 2023-ST-16 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7 |
| Structure ID | 5-D | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 9.2 | Total ER Defects | 2 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Aggregate Visible | Point | 1 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Continuous | 2.5 - 6 | Structural | 0 | 12-6 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |   |


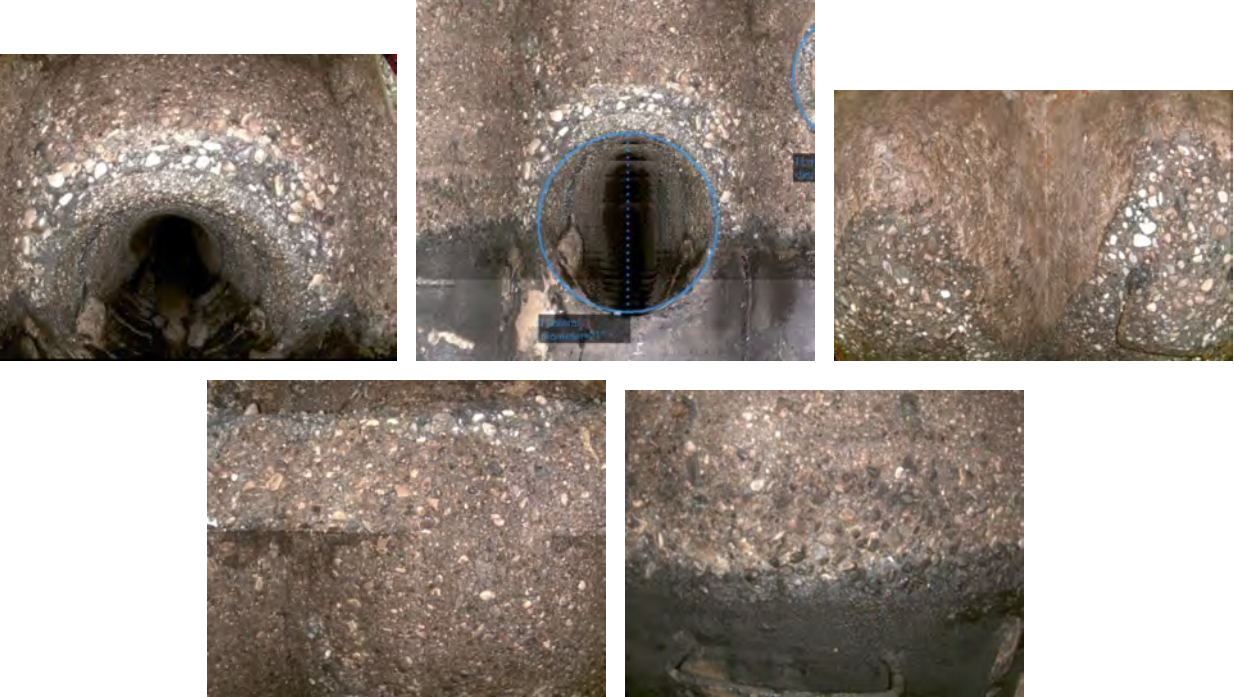
| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|------|---|-----|
| Setup ID | 2023-ST-17 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 5 | Rim to Invert (ft) - Lowest Outgoing Pipe | 8.4 |
| Structure ID | 5-E | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 10.2 | Total ER Defects | 4 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |


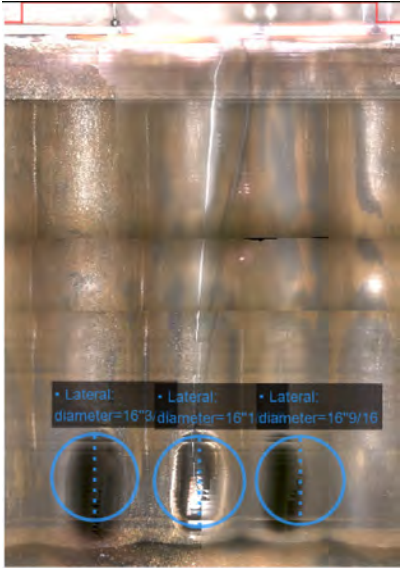
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|---|--------------|---------------|------------|---------|-------|----|-----|---|----|---|---|
| Surface Damage Roughness Increased | Continuous | 1.3 - 3.8 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Aggregate Visible | Continuous | 3.8 - 6.5 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Aggregate Missing | Point | 4.8 | Structural | 0 | 1 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |  |
| Surface Damage Reinforcement Visible | Point | 5 | Structural | 0 | 6 | 5 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |

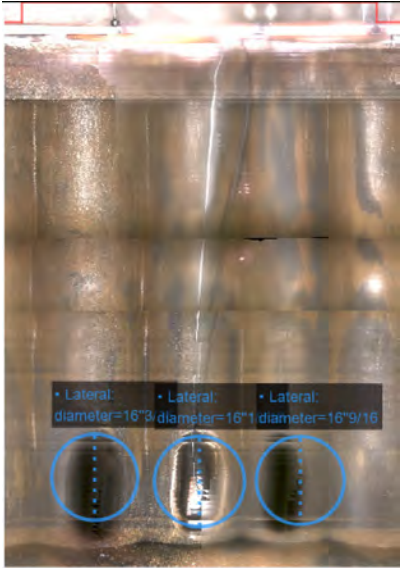
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|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|------|---|-----|
| Setup ID | 2023-ST-18 | Inspection date | Aug 23, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 9.3 |
| Structure ID | 5-F | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 11.6 | Total ER Defects | 2 |


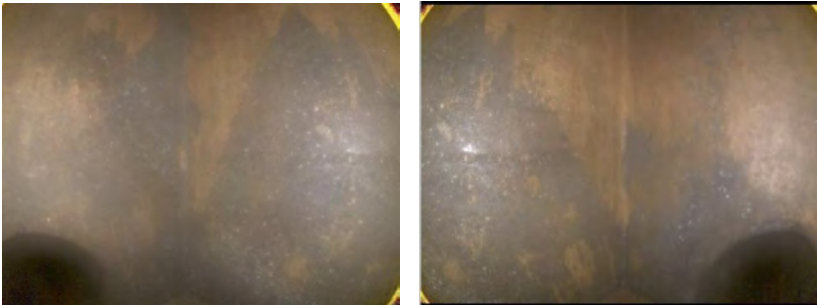
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |

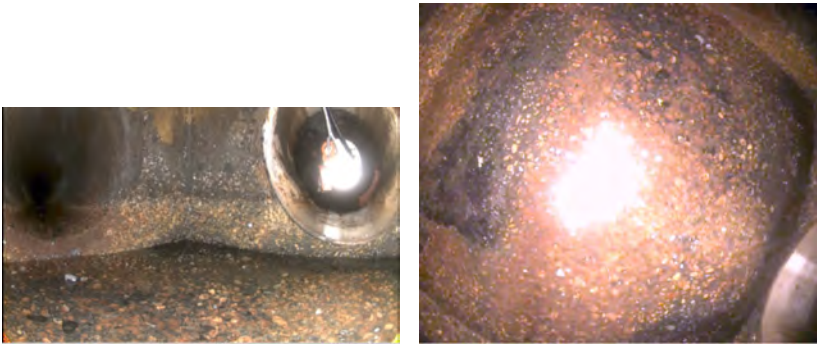
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|--|
| Surface Damage Aggregate Visible | Point | 0.7 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Aggregate Visible | Continuous | 2.3 - 8.5 | Structural | 0 | 12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-19 | Inspection date | Aug 24, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 8.2 |
| Structure ID | 5-M | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.2 | Total ER Defects | 2 |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |

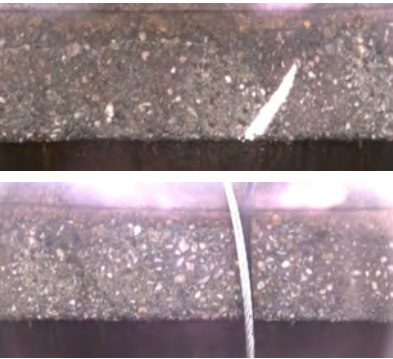





| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Roughness Increased | Continuous | 1 - 7.5 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Roughness Increased | Continuous | 4.8 - 6.8 | Structural | 0 | 2 | 1 | 0 | 0 | 0 | Surface Damage Roughness Increased |  |



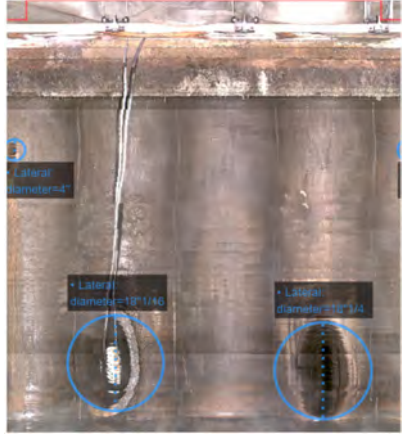

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Point | 7.6 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |  |

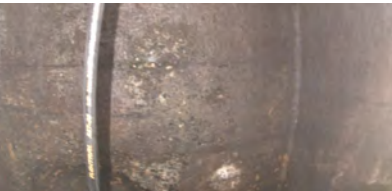



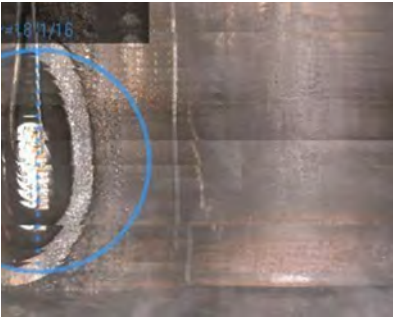

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-20 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 7.9 |
| Structure ID | 5-0 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 9.8 | Total ER Defects | 4 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |



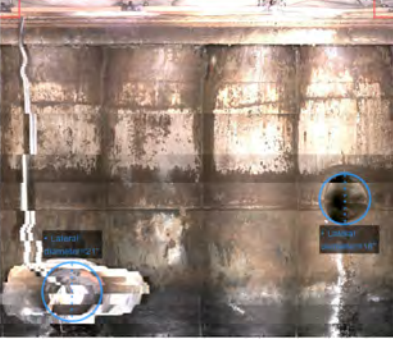
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Aggregate Visible | Point | 0.5 | Structural | 0 | 12-12 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |
| Surface Damage Roughness Increased | Continuous | 0.6 - 6.2 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Aggregate Missing | Point | 2.6 | Structural | 0 | 6 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Crack Spiral | Point | 5.5 | Structural | 0 | 2-4 | 2 | 0 | 0 | 1 | Crack Spiral |  |



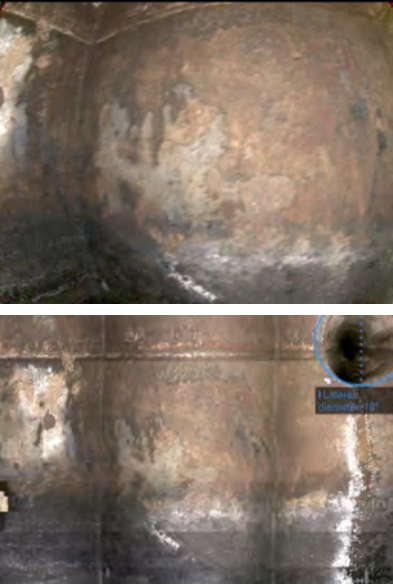

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-21 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 6.9 |
| Structure ID | 5-P | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 7.6 | Total ER Defects | 4 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Aggregate Missing | Point | 2.8 | Structural | 0 | 6-7 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |

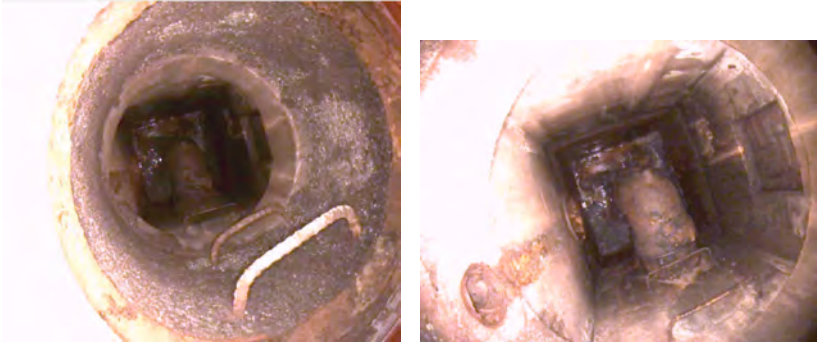

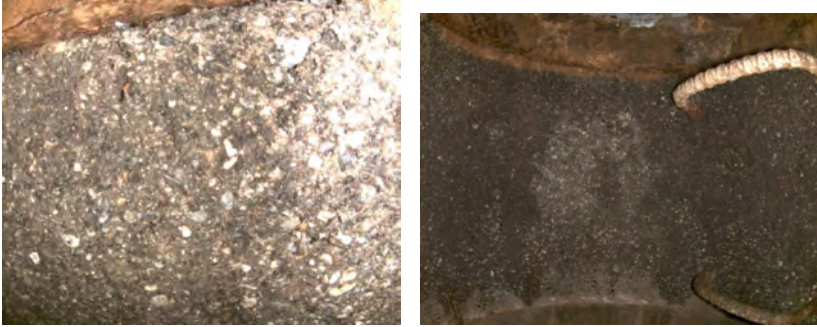
| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Missing | Point | 3 | Structural | 0 | 12 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Surface Damage Aggregate Missing | Point | 4.8 | Structural | 0 | 12 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |     |
| Crack Longitudinal | Point | 5.2 | Structural | 0 | 2 | 2 | 0 | 0 | 1 | Crack Longitudinal |   |




| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|----|---|-----|
| Setup ID | 2023-ST-22 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 6.5 |
| Structure ID | B-02 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 10 | Total ER Defects | 4 |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |   |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Roughness Increased | Point | 5.5 | Structural | 0 | 6 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Surface Spalling | Point | 6.5 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Surface Damage Surface Spalling |  |
| Surface Damage Surface Spalling | Point | 7.2 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Surface Damage Surface Spalling |  |
| Surface Damage Aggregate Missing | Point | 9 | Structural | 0 | 11 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-23 | Inspection date | Aug 25, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 5 | Rim to Invert (ft) - Lowest Outgoing Pipe | 6.9 |
| Structure ID | B-1 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.8 | Total ER Defects | 5 |



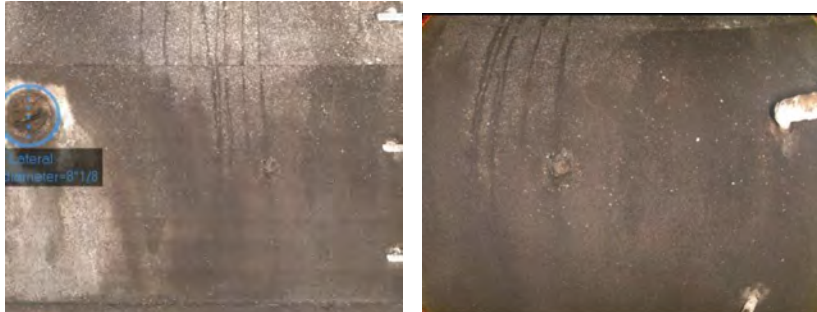


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Roughness Increased | Continuous | 0.6 - 2.5 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|---|--------------|---------------|---------------|---------|-------|----|-----|---|----|---|--|
| Surface Damage Reinforcement Visible | Point | 2.6 | Structural | 0 | 12-12 | 5 | 0 | 0 | 2 | Surface Damage Reinforcement Visible |  |
| Miscellaneous General Photograph | Point | 3.6 | Miscellaneous | 0 | 12 | 0 | 0 | 0 | 0 | Cut Out Wall |  |
| Crack Multiple | Point | 3.8 | Structural | 0 | 3-4 | 3 | 0 | 0 | 2 | Crack Multiple |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Crack Multiple | Point | 5 | Structural | 0 | 5-10 | 3 | 0 | 0 | 2 | Crack Multiple |  |
| Surface Damage Aggregate Missing | Point | 7.5 | Structural | 0 | 3 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Deposits Settled Gravel | Point | 8.7 | O&M | 0 | 12-12 | 0 | 0 | 0 | 0 | Deposits Settled Gravel |  |







| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|------|---|------|
| Setup ID | 2023-ST-24 | Inspection date | Aug 25, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 12.9 |
| Structure ID | B-3 | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 14.9 | Total ER Defects | 6 |



| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |




| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Roughness Increased | Continuous | 0.5 - 3.7 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |
| Surface Damage Aggregate Missing | Point | 4.8 | Structural | 0 | 12 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Surface Damage Aggregate Missing | Point | 4.9 | Structural | 0 | 6 | 4 | 0 | 0 | 1 | Surface Damage Aggregate Missing |  |
| Crack Longitudinal | Point | 10.5 | Structural | 0 | 6 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |
| Surface Damage Aggregate Visible | Point | 10.5 | Structural | 0 | 12-3 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Point | 13 | Structural | 0 | 3 | 2 | 0 | 0 | 1 | Surface Damage Aggregate Visible |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|-----|---|-----|
| Setup ID | 2023-ST-25 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 4.4 |
| Structure ID | D-19 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 8.6 | Total ER Defects | 3 |

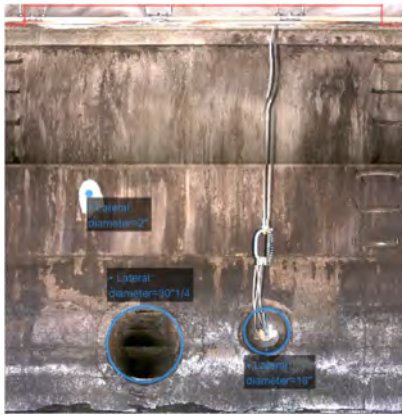

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|---------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--|--|
| Surface Damage Roughness Increased | Continuous | 0 - 8.2 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |        |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure |  |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Surface Damage Aggregate Missing | Continuous | 2.5 - 4.1 | Structural | 0 | 6 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |  |
| Surface Damage Roughness Increased | Point | 2.9 | Structural | 0 | 11 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |  |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|-------------|---|
| Miscellaneous General Photograph | Point | 5 | Miscellaneous | 0 | 12 | 0 | 0 | 0 | 0 | Broken Pipe |    |



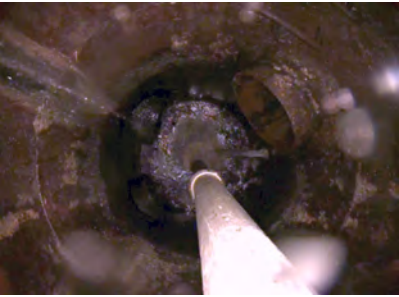




| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|----|---|----|
| Setup ID | 2023-ST-26 | Inspection date | Aug 27, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 2 | Rim to Invert (ft) - Lowest Outgoing Pipe | 12 |
| Structure ID | D-20C | Peak Environmental Rating | 1 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 13 | Total ER Defects | 2 |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|---------------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------------------------|--------|
| Surface Damage Roughness Increased | Continuous | 0 - 10 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased | |
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|------------------------|--|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | Side View of Structure |  |
| Crack Longitudinal | Continuous | 8.7 - 13 | Structural | 0 | 12 | 2 | 0 | 0 | 1 | Crack Longitudinal |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|------|---|------|
| Setup ID | 2023-ST-27 | Inspection date | Aug 28, 2023 | Defects Rated ≥3 | 0 | Peak Structural Rating | 4 | Rim to Invert (ft) - Lowest Outgoing Pipe | 11.4 |
| Structure ID | D-22 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | 16.3 | Total ER Defects | 3 |


| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|---------------|---------|-------|----|-----|---|----|---------------------|--------|
| Miscellaneous General Photograph | Point | 0 | Miscellaneous | 0 | | 0 | 0 | 0 | 0 | View Down Structure | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|------------------------------------|---|
| Surface Damage Roughness Increased | Continuous | 0 - 16.3 | Structural | 0 | 12-12 | 1 | 0 | 0 | 1 | Surface Damage Roughness Increased |     |
| Surface Damage Aggregate Missing | Continuous | 8.6 - 13 | Structural | 0 | 6 | 4 | 0 | 0 | 2 | Surface Damage Aggregate Missing |    |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|-----------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|-----------------------|---|
| Crack Circumferential | Point | 13 | Structural | 0 | 12-2 | 2 | 0 | 0 | 2 | Crack Circumferential |  |

| | | | | | | | | | |
|--------------|------------|---------------------------|--------------|-------------------|---|------------------------|----|---|----|
| Setup ID | 2023-ST-28 | Inspection date | Jan 16, 2024 | Defects Rated ≥3 | 0 | Peak Structural Rating | 5 | Rim to Invert (ft) - Lowest Outgoing Pipe | NM |
| Structure ID | D-12 | Peak Environmental Rating | 2 | Peak C/O&M Rating | 0 | Rim to Bottom (ft) | NM | Total ER Defects | 3 |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|--------------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|--------------------------------------|--------|
| Surface Damage Reinforcement Visible | Continuous | 0 - 2 | Structural | 0 | 12-12 | 5 | 0 | 0 | 2 | Surface Damage Reinforcement Visible | |
| Surface Damage Aggregate Visible | Continuous | 2 - 7.5 | Structural | 0 | 12-12 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible | |

| Description | Spatial Type | Distance (ft) | Type | Percent | Clock | SR | O&M | C | ER | Remarks | Photos |
|----------------------------------|--------------|---------------|------------|---------|-------|----|-----|---|----|----------------------------------|---|
| Surface Damage Aggregate Visible | Point | 8 | Structural | 0 | 12-2 | 2 | 0 | 0 | 2 | Surface Damage Aggregate Visible |  |

**APPENDIX D -
2022 ENVIRONMENTAL EVALUATION RANKING REPORT**



soil • water • air
compliance solutions

December 5, 2022

Ms. Tracey Anderson
HF Sinclair Puget Sound Refining LLC
8505 South Texas Road
Anacortes, WA 98221

RE: Evaluation and NASSCO Rating of Existing Sewer Videos

Ms. Anderson:

Whatcom Environmental Services conducted an evaluation of sewer video at the HF Sinclair Puget Sound Refining LLC (HFSPSR). Video inspections of the major trunk lines of the Oily Water Sewer (OWS) at HFSPSR are required to be conducted under the terms of Agreed Order 16298.

This evaluation was conducted on video which was previously recorded from inspections conducted on the OWS in 2017, 2018, and 2019. The review was performed by personnel certified by the National Association of Sewer Service Compliance (NASSCO) Pipeline Assessment Certification Program (PACP).

The evaluation was also completed to comply with Section 2.1 of the HFSPSR Investigation and Response Plan SWMU 1 – Oily Water Sewer (IRP). The IRP states that video inspections completed on major trunk lines at HFSPRS prior to the issuance of the IRP may be used to comply with Agreed Order 16298 provided that the video inspections are evaluated in accordance with the IRP requirements for video inspection.

The OWS inspection videos were reviewed by Henry Cade (NASSCO certification P0037737-052022). Surveys included video data collected in 2017 and 2018 by HydroChem and 2019 by Clean Harbors. A list and map of the OWS segments reviewed is provided in Table 1 and Figure 1, respectively. Each sewer video was uploaded then reviewed in Pipelogix Pheonix Version 1.2.6 SP 2 software. Additionally, each NASSCO code was given an Environmental Evaluation Ranking (EER) from 1 to 4 in pursuant to the evaluation rankings conducted for the Tulsa Refinery. The EER categories are listed below:

- EER 1: No potential to small potential for process sewer exfiltration. Examples include hairline cracks, joint improperly seated, slight corrosion in pipe, etc. Required actions: document rating in tracking system and long-term monitoring.
- EER 2: Small to moderate potential for process sewer exfiltration. Examples include moderate cracks/fractures; medium offset joint; moderate corrosion in pipe, etc. Required actions: document rating in tracking system and long-term monitoring.
- EER 3: Moderate to high potential for process sewer exfiltration. Examples include substantial fractures at or below the segment flow line, small hole located at pipe crown, large offset joint, etc. Required actions: document rating in tracking system and prioritize defects for repair in order of severity and/or short-term monitoring.
- EER 4: High potential/observed process sewer exfiltration. Examples include large hole located at or below segment flow line, completely separated joints with exposed surrounding soil, etc. Required actions: begin repair planning.

There were a total of 4 NASSCO codes that were rated at an EER of either 3 or 4. A list and description for each is provided in Table 2 and shown on Figure 2.

Attached are Pipe Graphic, Tabular, and Picture List reports generated in Pipelogix that summarize every NASSCO code in each sewer segment provided in Appendix A.

Per the IRP, the defects which were identified as EER 3 or EER 4 (as shown on Table 2) are considered potential releases. Site investigation activities should be initiated in these areas to determine if a release has occurred. In addition, pursuant to the IRP, these areas should be prioritized for sewer repairs as needed.

We appreciate the opportunity to assist HFSPSR with this project. If you have any questions about this report, please contact me at 360-752-9571 or elibolt@whatcom-es.com

Sincerely,



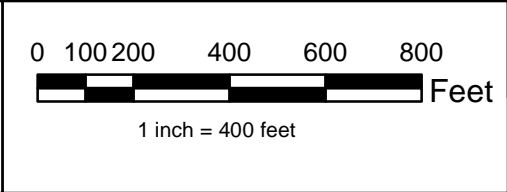
Eric Libolt
Whatcom Environmental Services



- ⊕ Sewer Investigation Manholes
- NASSCO review complete
- Major Trunk Lines
- - - - Oily Water Sewer

HF Sinclair PSR Base Map:
General Sewer Plan (34-ES-1)

All data are approximate and should be used for relative location reference only.



 Puget Sound Refinery
8505 South Texas Road
Anacortes, WA 98221

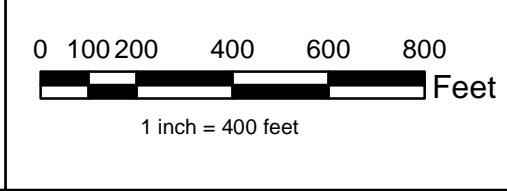
Sewers Inspected and Sewer Status
Prepared on: 12/7/22
Figure 1



- Sewer Investigation Manholes
- Environmental Evaluation Rankings 3 & 4
- Major Trunk Lines
- Oily Water Sewer

HollyFrontier PSR Base Map:
General Sewer Plan (34-ES-1)

All data are approximate and should be used for relative location reference only.



Puget Sound
Refinery

8505 South Texas Road
Anacortes, WA 98221

**Environmental Evaluation
Rankings 3 & 4**

Prepared on:
11/30/22

Figure 2

Table 1. HF Sinclair Puget Sound Refining Reviewed Sewer Segments

| Sewer Trunk Segment (MH to MH) | Pipe Diameter (Inch) | Inspected Footage (Feet) | Prior Company Inspection & Year |
|---|---------------------------------|-------------------------------------|--|
| MH D-1 to MH D-2 | 15 | 252.8 | HydroChem - 2017 |
| MH D-2 to MH D-3 | 15 | 255.8 | HydroChem - 2017 |
| MH D-3 to MH D-4 | 15 | 412 | HydroChem - 2017 |
| MH D-4 to MH D-20 | 15 | 85.5 | HydroChem - 2017 |
| MH D-6 to MH D-19 | 15 | 85 | HydroChem - 2017 |
| MH D-20 to MH D-19 | 15 | 65 | HydroChem - 2017 |
| MH B-3 to MH 3-N | 10 | 243.7 | Clean Harbors - 2019 |
| MH 5-P to MH 5-O | 21 | 210.1 | Clean Harbors - 2018 |
| MH D-6.1 to MH D-20 | 15 | 233.8 | HydroChem - 2017 |
| MH D-6.1 to MH D-6 | 15 | 11.6 | HydroChem - 2017 |
| MH D-22 to MH D-23 | 32 | 333.2 | HydroChem - 2017 |

Table 2. HF Sinclair Puget Sound Refining Environmental Evaluation Ranking 3 and 4

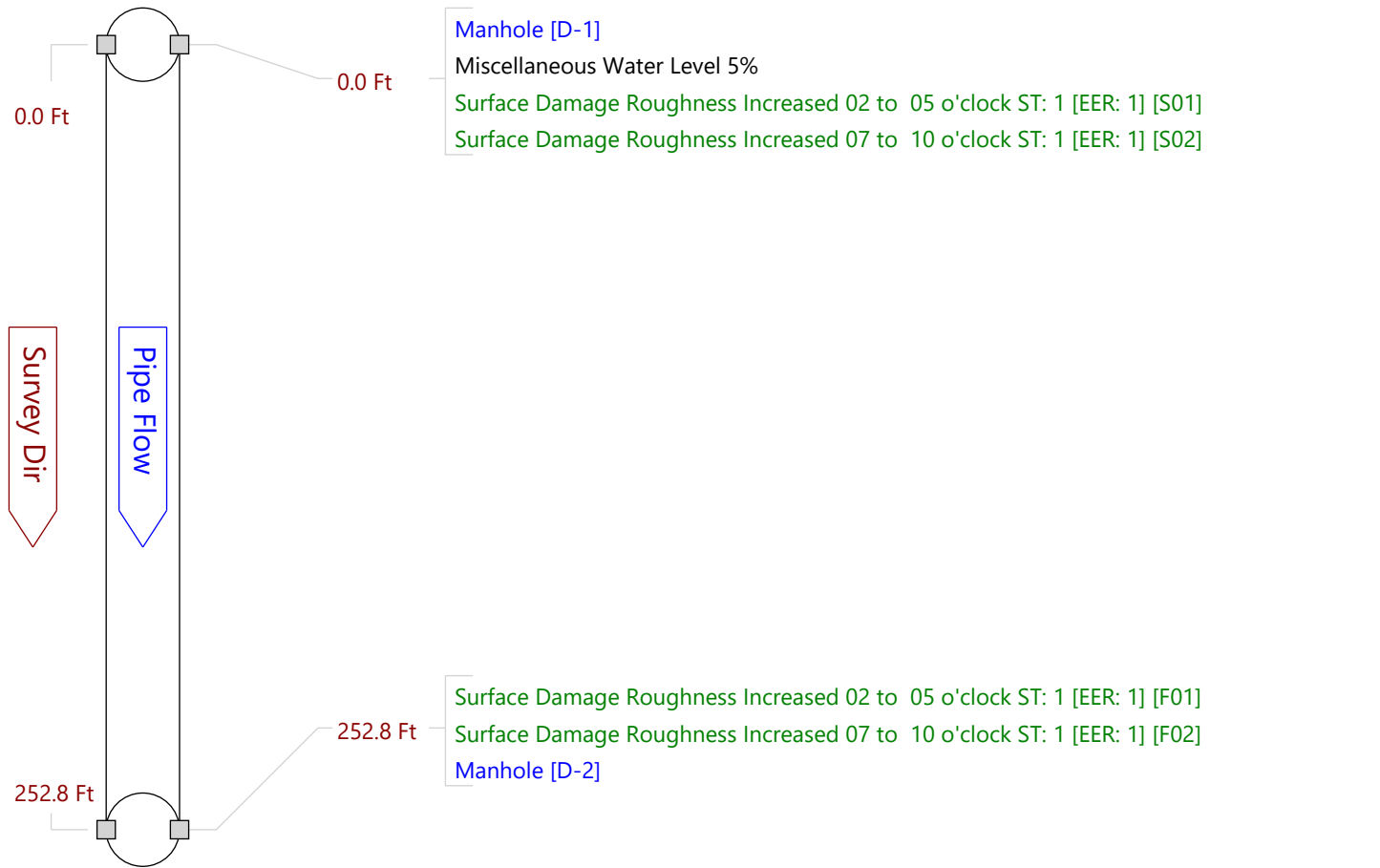
| Sewer Trunk Segment (MH to MH) | NASSCO Code | EER | Location (Length (ft.)/Clock position) | Comments |
|--|---------------------|-----|--|---|
| MH D-4 to MH D-20 & MH D-6.1 to MH D-20 | Hole Soil Visible | 4 | 85.5' / 12 to 5 o'clock & 233.8' / 7 to 12 o'clock | Hole created to access Manhole D-20. Infiltration Runner Connection (IRC) from hole. The same code is in both sewer segments because both inspections end at MH D-20. |
| MH D-6.1 to MH D-20 | Broken Void Visible | 3 | 172.6' / 11 o'clock | Noticeably displaced pieces moved from their original position above the flow line. |
| MH D-6 to MH D-19 | Broken Void Visible | 3 | 69.0' / 12 o'clock | Noticeably displaced pieced moved from their original position above the flow line. |
| MH D-6 to MH D-19 | Hole Soil Visible | 3 | 74.0' / 12 o'clock | 4 inch hole above flow line. |

APPENDIX A

Tabular, Graphic and Image Reports

Note: In the Pipe Graphic Reports there is a current a bug in the software that cuts off longer comments rather than wrapping the text. Pipelogix has been notified and once the issue is resolved Whatcom Environmental will provided updated reports. Please see the corresponding tabular report for the full comment.

| | | | |
|---------------------------------------|---|-----------------------------|-----------------------------|
| Sheet 1 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By WES | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20170619 14:16 | Weather Dry - No precipitation during survey | PreClean Not Known | Date Cleaned |
| Flow Control Not Controlled | Purpose | Direction Downstream | |
| Inspection Status Complete Inspection | Consequence of Failure | Pressure | |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length 252.8 ft | |
| Len. Surveyed 252.8 ft | Year Constructed | Year Rehabilitated | |
| Up D-1 | Rim Invert 8.2 | Grade Invert | Rim Grade 12.7 ft |
| Northing | Easting | Elevation | |
| Down D-2 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additional Info | | Miscellaneous | Structural O&M Construction |



Sheet 1 Surveyor HENRY CADE Certificate P0037737-052022 System Owner

Reviewed By WES Reviewer # Work Order

Customer PO Media Label

Date 20170619 14:16 Weather Dry - No precipitation during survey PreClean Not Known Date Cleaned

Flow Control Not Controlled Purpose Direction Downstream

Inspection Status Complete Inspection Consequence of Failure Pressure

Inspection Technology Used CCTV Laser Sonar Sidewall Zoom Other

Street D Street City Anacortes Drainage Area

Location Pipe Use Process Pipe

Details Height 15 in Width in

Shape Circular Material Reinforced Concrete Pipe Lining

Coating Joint Length ft Total Length 252.8 ft

Len. Surveyed 252.8 ft Year Constructed Year Rehabilitated

Up D-1 Rim Invert 8.2 Grade Invert Rim Grade 12.7 ft

Northing Easting Elevation

Down D-2 Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Coordinate System Vertical Datum

GPS Accuracy

Additionl Info

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|--|-------|-------|-----|-----|----|----|---------|
| 0.0 | | AMH - Manhole | | | | | | | D-1 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 005 | | | | |
| 0.0 | S01 | SRI - Surface Damage Roughness Increased | | | | | 02 | 05 | EER: 1 |
| 0.0 | S02 | SRI - Surface Damage Roughness Increased | | | | | 07 | 10 | EER: 1 |
| 252.8 | F01 | SRI - Surface Damage Roughness Increased | | | | | 02 | 05 | EER: 1 |
| 252.8 | F02 | SRI - Surface Damage Roughness Increased | | | | | 07 | 10 | EER: 1 |
| 252.8 | | AMH - Manhole | | | | | | | D-2 |

252.8 ft Total Length Surveyed

| | | |
|-----------------|--|----------------------|
| Work Order | Date: 4:16 20170619 | Sheet 1 |
| Street D Street | | |
| City Anacortes | Weather Dry - No precipitation during survey | |
| Location | | |
| Up Node D-1 | Down Node D-2 | Direction Downstream |

0.0_SRI_From-02_To-05.jpg

Date: 11/09/2022
Distance: 0 ft
Obs:
SRI - Surface Damage
Roughness Increased
Comments:
EER: 1



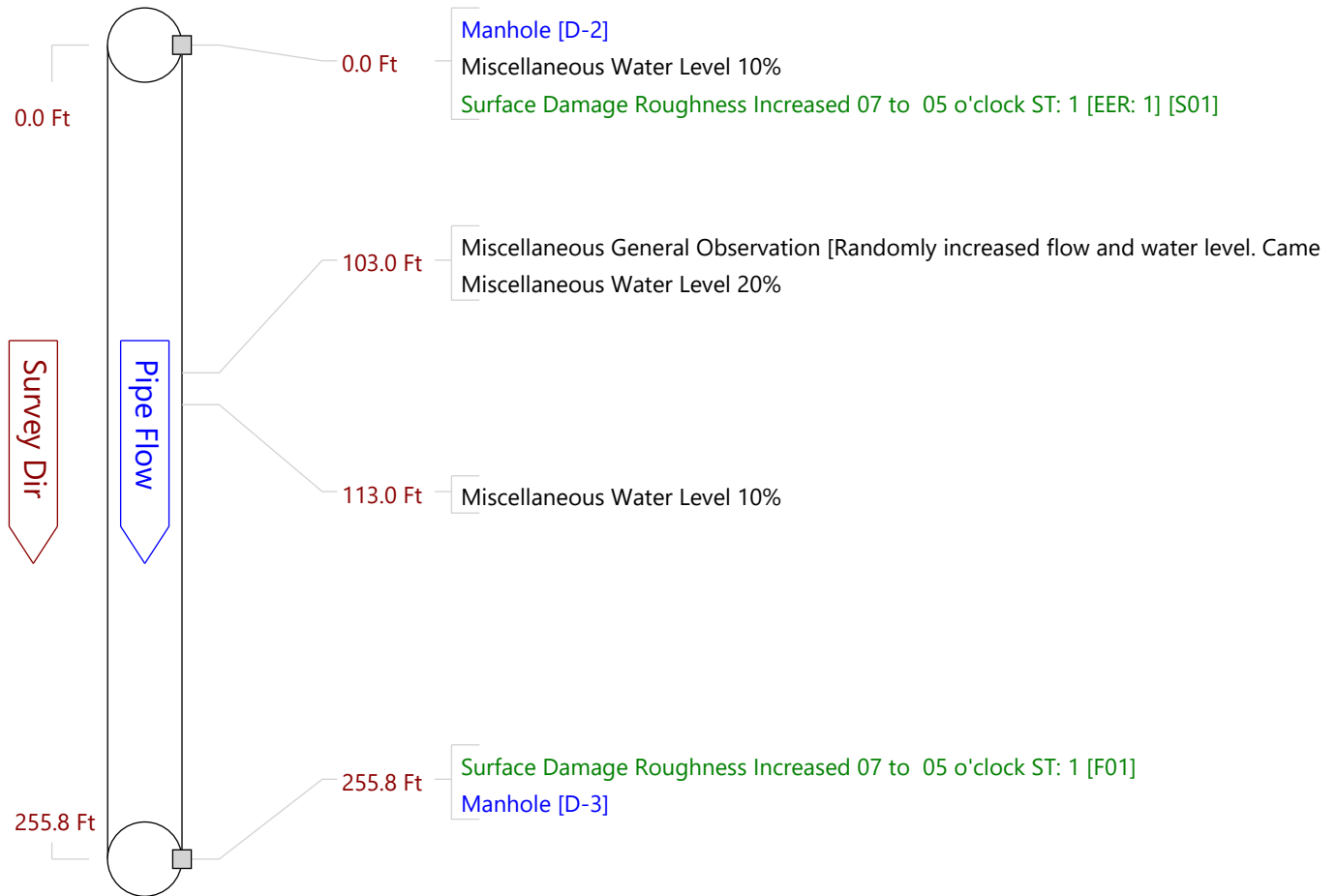
0.0_SRI_From-07_To-10.jpg

Date: 11/09/2022
Distance: 0 ft
Obs:
SRI - Surface Damage
Roughness Increased
Comments:
EER: 1



| | | | | | |
|---------------------------------------|---|-----------------------------|----------------------|--------------|----|
| Sheet 2 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner | | |
| Reviewed By | Reviewer # | Work Order | | | |
| Customer | | PO | Media Label | | |
| Date 20170619 11:39 | Weather | PreClean | Not Known | Date Cleaned | |
| Flow Control Not Controlled | | Purpose | Direction Downstream | | |
| Inspection Status Complete Inspection | | Consequence of Failure | | Pressure | |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | | | |
| Street D Street | City Anacortes | Drainage Area | | | |
| Location | | Pipe Use | Process Pipe | | |
| Details | | Height | 15 in | Width | in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | | | |
| Coating | Joint Length | ft | Total Length | 255.8 ft | |
| Len. Surveyed | 255.8 ft | Year Constructed | Year Rehabilitated | | |
| Up D-2 | Rim Invert 8.1 | Grade Invert | Rim Grade | | ft |
| Northing | Easting | Elevation | | | |
| Down D-3 | Rim Invert | Grade Invert | Rim Grade | | ft |
| Northing | Easting | Elevation | | | |
| Coordinate System | Vertical Datum | | | | |
| GPS Accuracy | | | | | |
| Additional Info | | | | | |

Miscellaneous Structural O&M Constructional



| | | | |
|---------------------------------------|---|-----------------------------|----------------------|
| Sheet 2 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20170619 11:39 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control Not Controlled | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length | 255.8 ft |
| Len. Surveyed 255.8 ft | Year Constructed | Year Rehabilitated | |
| Up D-2 | Rim Invert 8.1 | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-3 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | Vertical Datum | | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|--|-------|-------|-----|-----|----|----|---|
| 0.0 | | AMH - Manhole | | | | | | | D-2 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 0.0 | S01 | SRI - Surface Damage Roughness Increased | | | | | 07 | 05 | EER: 1 |
| 103.0 | | MGO - Miscellaneous General Observation | | | | | | | Randomly increased flow and water level. Camera halted for approx. 10 mins. |
| 103.0 | | MWL - Miscellaneous Water Level | | | 020 | | | | |
| 113.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 255.8 | F01 | SRI - Surface Damage Roughness Increased | | | | | 07 | 05 | |
| 255.8 | | AMH - Manhole | | | | | | | D-3 |

255.8 ft Total Length Surveyed

| | | |
|-----------------|---------------------|----------------------|
| Work Order | Date 11:39 20170619 | Sheet 2 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-2 | Down Node D-3 | Direction Downstream |

Date: 11/09/2022

Distance: 0 ft

Obs:
SRI - Surface Damage
Roughness Increased

Comments:

EER: 1

0.0_SRI_From-07_To-05-D.jpg



Date: 10/06/2022

Distance: 103 ft

Obs:
MWL - Miscellaneous
Water Level

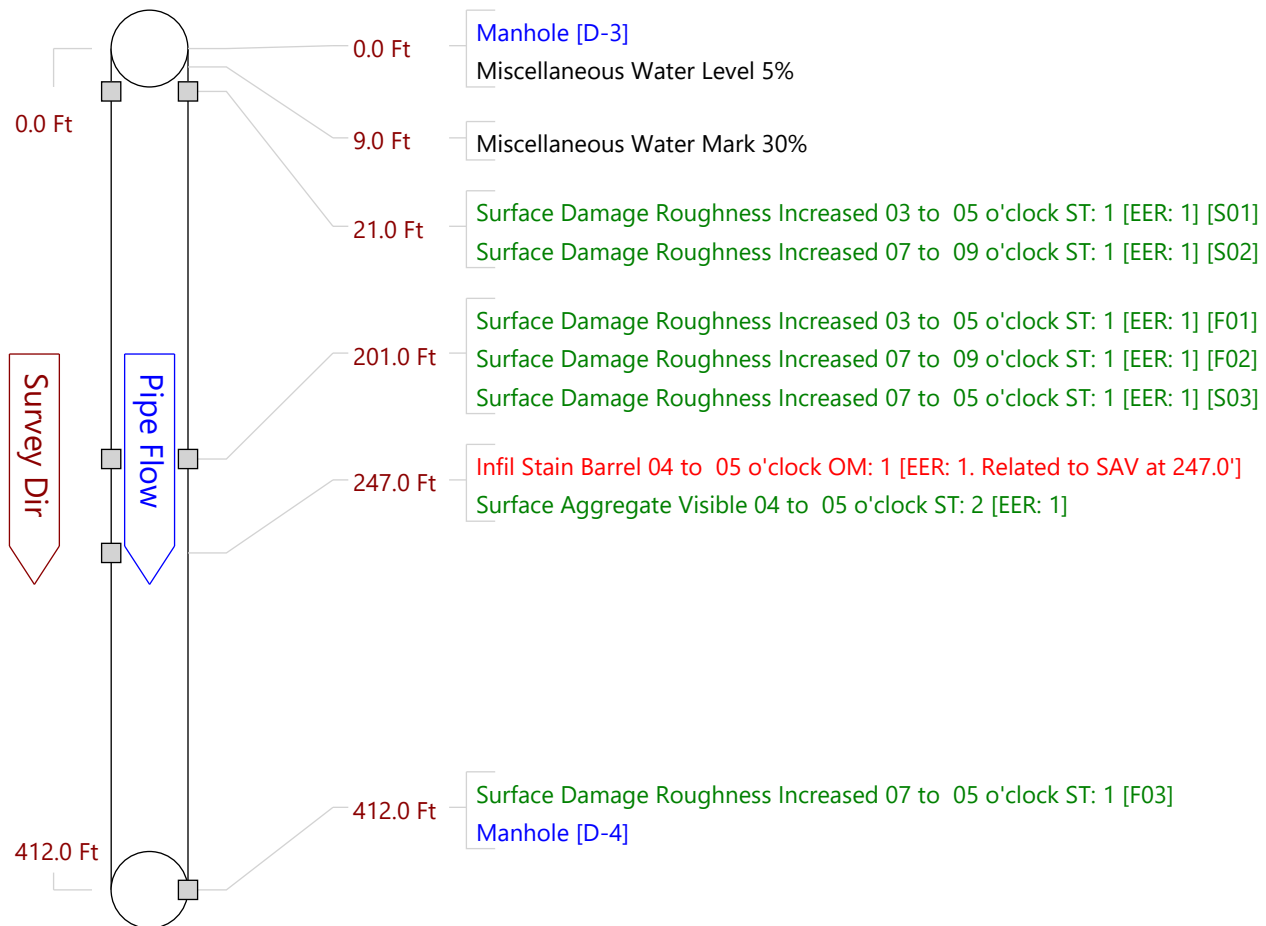
Comments:

103.0_MWL_From-_To-.jpg



| | | | | |
|---------------------------------------|---|-----------------------------|----------------------|--------------|
| Sheet 3 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner | |
| Reviewed By | Reviewer # | Work Order | | |
| Customer | | PO | Media Label | |
| Date 20170621 13:16 | Weather | PreClean | Not Known | Date Cleaned |
| Flow Control Not Controlled | | Purpose | Direction Downstream | |
| Inspection Status Complete Inspection | | Consequence of Failure | | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | | |
| Street D Street | City Anacortes | Drainage Area | | |
| Location | | Pipe Use | Process Pipe | |
| Details | | Height | 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | | |
| Coating | Joint Length ft | Total Length | 412.0 ft | |
| Len. Surveyed 412.0 ft | Year Constructed | Year Rehabilitated | | |
| Up D-3 | Rim Invert 8.6 | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Down D-4 | Rim Invert 8.7 | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Coordinate System | Vertical Datum | | | |
| GPS Accuracy | | | | |
| Additional Info | | | | |

Miscellaneous Structural O&M Constructional



| | | | |
|---------------------------------------|---|-----------------------------|----------------------|
| Sheet 3 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20170621 13:16 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control Not Controlled | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use | Process Pipe |
| Details | | Height | 15 in Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length | 412.0 ft |
| Len. Surveyed 412.0 ft | Year Constructed | Year Rehabilitated | |
| Up D-3 | Rim Invert 8.6 | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-4 | Rim Invert 8.7 | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | Vertical Datum | | |
| GPS Accuracy | | | |
| Additionl Info | | | |

| | | Miscellaneous | Structural | O&M | Constructional | | | | |
|-------|-----|--|------------|-------|----------------|-----|----|----|----------------------------------|
| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
| 0.0 | | AMH - Manhole | | | | | | | D-3 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 005 | | | | |
| 9.0 | | MWM - Miscellaneous Water Mark | | | 030 | | | | |
| 21.0 | S01 | SRI - Surface Damage Roughness Increased | | | | | 03 | 05 | EER: 1 |
| 21.0 | S02 | SRI - Surface Damage Roughness Increased | | | | | 07 | 09 | EER: 1 |
| 201.0 | F01 | SRI - Surface Damage Roughness Increased | | | | | 03 | 05 | EER: 1 |
| 201.0 | F02 | SRI - Surface Damage Roughness Increased | | | | | 07 | 09 | EER: 1 |
| 201.0 | S03 | SRI - Surface Damage Roughness Increased | | | | | 07 | 05 | EER: 1 |
| 247.0 | | ISB - Infil Stain Barrel | | | | | 04 | 05 | EER: 1. Related to SAV at 247.0' |
| 247.0 | | SAV - Surface Aggregate Visible | | | | | 04 | 05 | EER: 1 |
| 412.0 | F03 | SRI - Surface Damage Roughness Increased | | | | | 07 | 05 | |
| 412.0 | | AMH - Manhole | | | | | | | D-4 |

412.0 ft Total Length Surveyed

| | | |
|-----------------|---------------------|----------------------|
| Work Order | Date: 3:16 20170621 | Sheet 3 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-3 | Down Node D-4 | Direction Downstream |

21.0_SRI_From-07_To-09.jpg

Date: 11/09/2022

Distance: 21 ft

Obs:
SRI - Surface Damage
Roughness Increased

Comments:

EER: 1



201.0_SRI_From-07_To-05.jpg

Date: 11/09/2022

Distance: 201 ft

Obs:
SRI - Surface Damage
Roughness Increased

Comments:

EER: 1



247.0_SAV_From-04_To-05.jpg

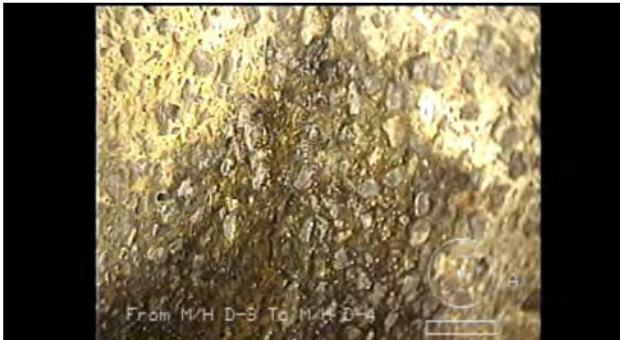
Date: 10/17/2022

Distance: 247 ft

Obs:
SAV - Surface
Aggregate Visible

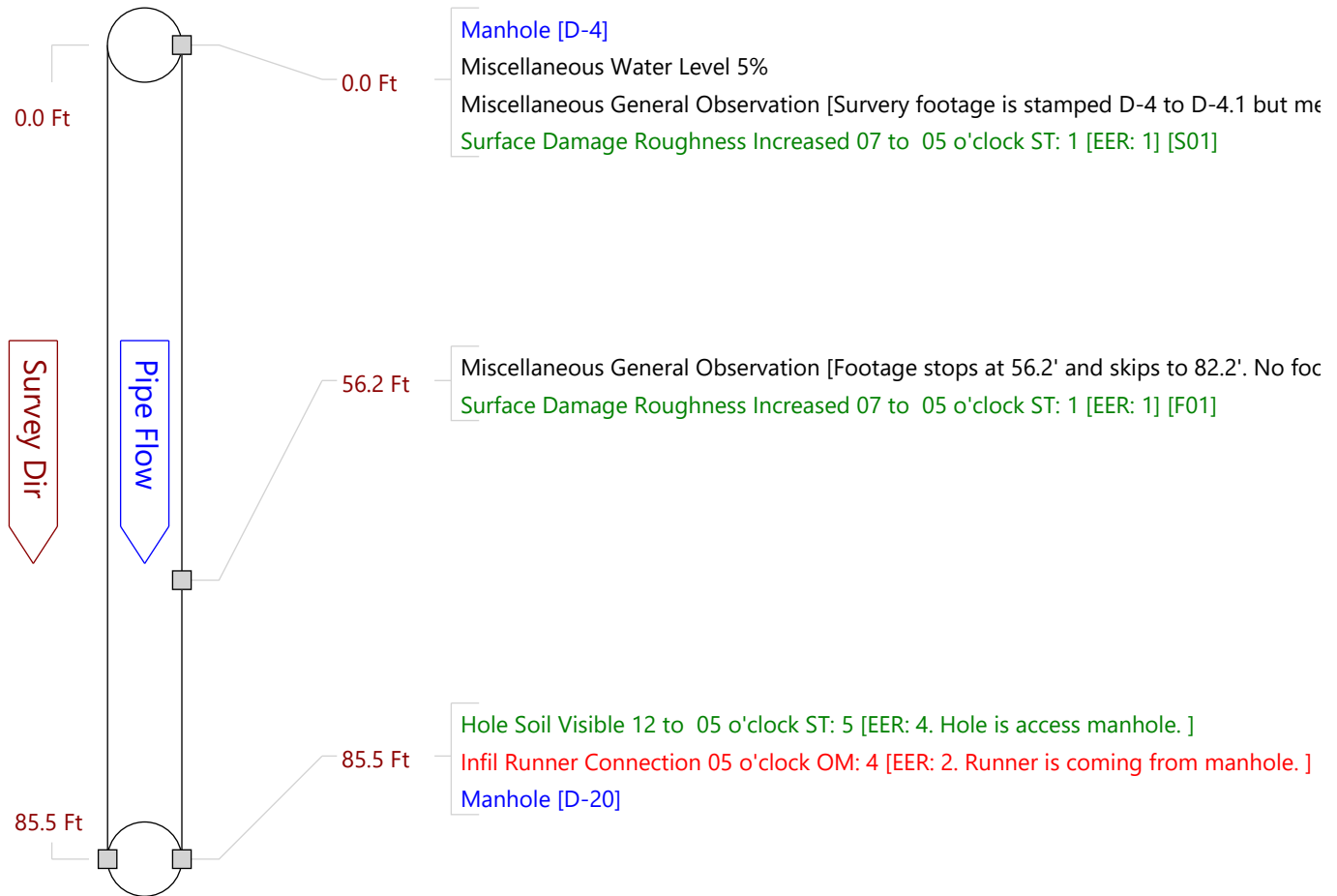
Comments:

EER: 1



| | | | |
|---------------------------------------|---|-----------------------------|--------------|
| Sheet 4 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By WES | Reviewer # WES | Work Order | |
| Customer | PO | Media Label | |
| Date 20170623 10:41 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | Purpose | Direction Downstream | |
| Inspection Status Complete Inspection | Consequence of Failure | Pressure | |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | Pipe Use Process Pipe | | |
| Details | Height 15 in | Width in | |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length 85.5 ft | |
| Len. Surveyed 85.5 ft | Year Constructed | Year Rehabilitated | |
| Up D-4 | Rim Invert 8.5 | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-20 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | Vertical Datum | | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional



Sheet 4 Surveyor HENRY CADE Certificate P0037737-052022 System Owner

Reviewed By WES Reviewer # WES Work Order

Customer PO Media Label

Date 20170623 10:41 Weather PreClean Not Known Date Cleaned

Flow Control Purpose Direction Downstream

Inspection Status Complete Inspection Consequence of Failure Pressure

Inspection Technology Used CCTV Laser Sonar Sidewall Zoom Other

Street D Street City Anacortes Drainage Area

Location Pipe Use Process Pipe

Details Height 15 in Width in

Shape Circular Material Reinforced Concrete Pipe Lining

Coating Joint Length ft Total Length 85.5 ft

Len. Surveyed 85.5 ft Year Constructed Year Rehabilitated

Up D-4 Rim Invert 8.5 Grade Invert Rim Grade ft

Northing Easting Elevation

Down D-20 Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Coordinate System Vertical Datum

GPS Accuracy

Additionl Info

| | | Miscellaneous | | | Structural | | O&M | | Constructional | | |
|---------|-----|--|-------|-------|------------|-----|-----|----|---|--|--|
| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks | | |
| 0.0 | | AMH - Manhole | | | | | | | D-4 | | |
| 0.0 | | MWL - Miscellaneous Water Level | | | 005 | | | | | | |
| 0.0 | | MGO - Miscellaneous General Observation | | | | | | | Survey footage is stamped D-4 to D-4.1 but media file is labeled D-4 to D-20. | | |
| 0.0 | S01 | SRI - Surface Damage Roughness Increased | | | | | 07 | 05 | EER: 1 | | |
| 56.2 | | MGO - Miscellaneous General Observation | | | | | | | Footage stops at 56.2' and skips to 82.2'. No footage from 56.2' to 82.2'. | | |
| 56.2 | F01 | SRI - Surface Damage Roughness Increased | | | | | 07 | 05 | EER: 1 | | |
| 85.5 | | HSV - Hole Soil Visible | | | | | 12 | 05 | EER: 4. Hole is access manhole. | | |
| 85.5 | | IRC - Infil Runner Connection | | | | | 05 | | EER: 2. Runner is coming from manhole. | | |
| 85.5 | | AMH - Manhole | | | | | | | D-20 | | |
| 85.5 ft | | Total Length Surveyed | | | | | | | | | |

| | | |
|-----------------|----------------------|----------------------|
| Work Order | Date: 10:41 20170623 | Sheet 4 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-4 | Down Node D-20 | Direction Downstream |

0.0_SRI_From-07_To-05-E.jpg

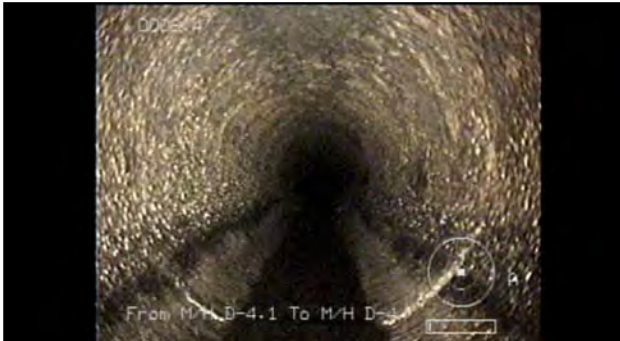
Date: 11/09/2022

Distance: 0 ft

Obs:
SRI - Surface Damage
Roughness Increased

Comments:

EER: 1



85.5_HSV_From-12_To-05.jpg

Date: 11/08/2022

Distance: 85.5 ft

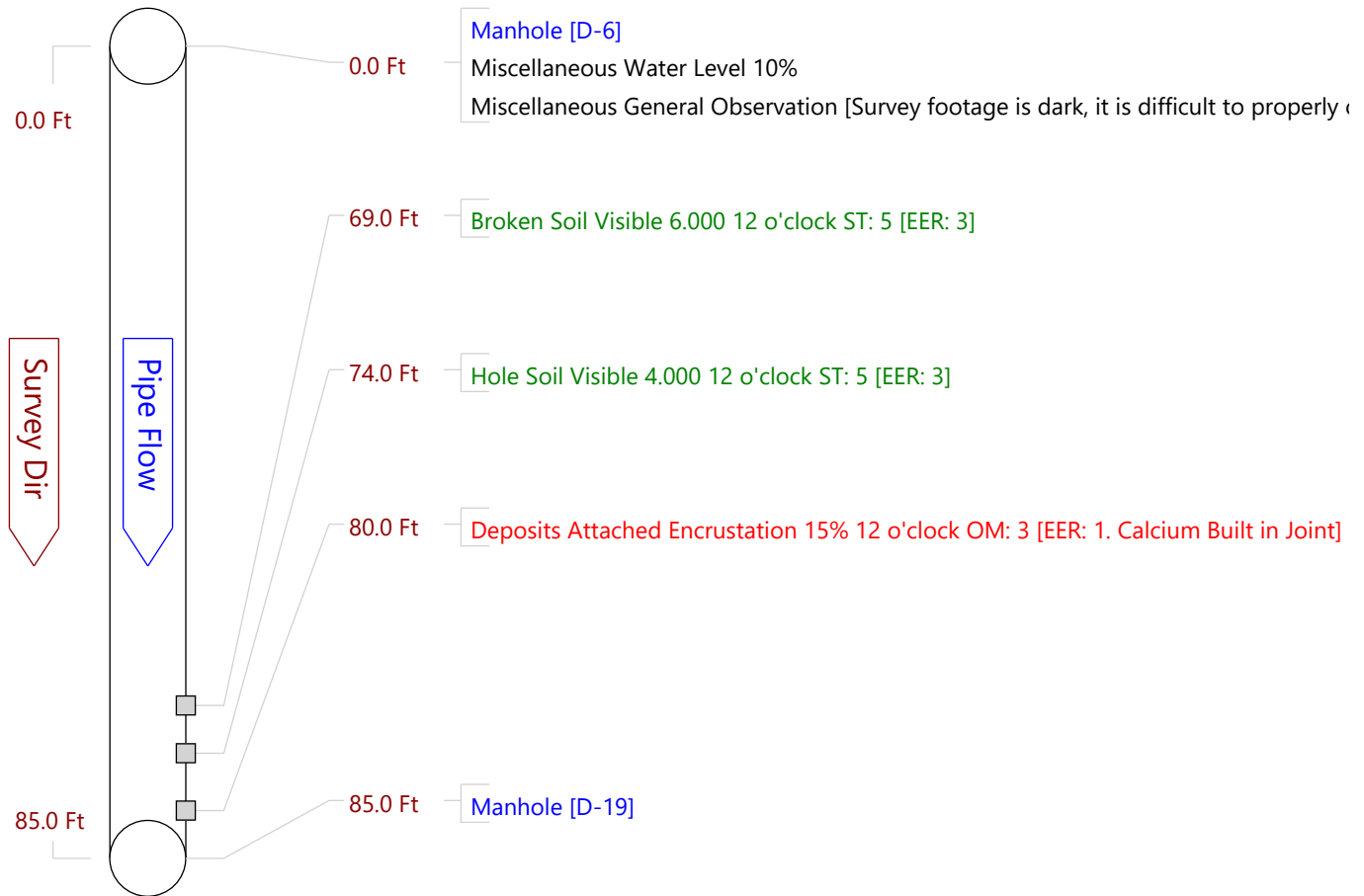
Obs:
HSV - Hole Soil Visible

Comments:

EER: 4. Hole is access
manhole.



| | | | |
|---------------------------------------|---|-----------------------------|-------------------------------|
| Sheet 5 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By HENRY CADE | Reviewer # P0037737-052022 | Work Order | |
| Customer | PO | Media Label | |
| Date 20170710 11:12 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control Not Controlled | Purpose | Direction Downstream | |
| Inspection Status Complete Inspection | Consequence of Failure | Pressure | |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length 85.0 ft | |
| Len. Surveyed 85.0 ft | Year Constructed | Year Rehabilitated | |
| Up D-6 | Rim Invert 8.0 | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-19 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additional Info | | Miscellaneous | Structural O&M Constructional |



Sheet 5 Surveyor HENRY CADE Certificate P0037737-052022 System Owner

Reviewed By HENRY CADE Reviewer # P0037737-052022 Work Order

Customer PO Media Label

Date 20170710 11:12 Weather PreClean Not Known Date Cleaned

Flow Control Not Controlled Purpose Direction Downstream

Inspection Status Complete Inspection Consequence of Failure Pressure

Inspection Technology Used CCTV Laser Sonar Sidewall Zoom Other

Street D Street City Anacortes Drainage Area

Location Pipe Use Process Pipe

Details Height 15 in Width in

Shape Circular Material Reinforced Concrete Pipe Lining

Coating Joint Length ft Total Length 85.0 ft

Len. Surveyed 85.0 ft Year Constructed Year Rehabilitated

Up D-6 Rim Invert 8.0 Grade Invert Rim Grade ft

Northing Easting Elevation

Down D-19 Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Coordinate System Vertical Datum

GPS Accuracy

Additionl Info

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|----|---|-------|-------|-----|-----|----|----|--|
| 0.0 | | AMH - Manhole | | | | | | | D-6 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 0.0 | | MGO - Miscellaneous General Observation | | | | | | | Survey footage is dark, it is difficult to properly code the condition of the sewer walls. |
| 69.0 | | BSV - Broken Soil Visible | 6.0 | | | | 12 | | EER: 3 |
| 74.0 | | HSV - Hole Soil Visible | 4.0 | | | | 12 | | EER: 3 |
| 80.0 | | DAE - Deposits Attached Encrustation | | | 015 | X | 12 | | EER: 1. Calcium Built in Joint |
| 85.0 | | AMH - Manhole | | | | | | | D-19 |

85.0 ft Total Length Surveyed

| | | |
|-----------------|-----------------|----------------------|
| Work Order | Date 10/17/2022 | Sheet 5 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-6 | Down Node D-19 | Direction Downstream |

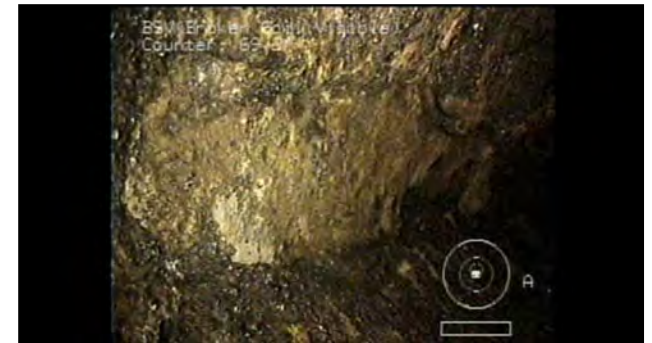
0.0_MWL_From-12_To-.jpg

Date: 10/17/2022
 Distance: 0 ft
 Obs:
 MWL - Miscellaneous
 Water Level
 Comments:



69.0_BSV_From-12_To-.jpg

Date: 10/17/2022
 Distance: 69 ft
 Obs:
 BSV - Broken Soil
 Visible
 Comments:
 EER: 3



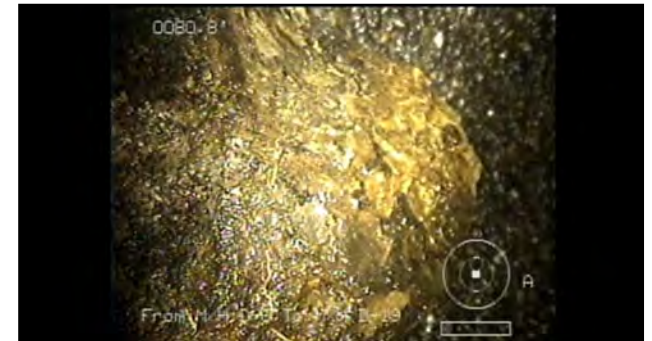
74.0_HSV_From-12_To-.jpg

Date: 10/17/2022
 Distance: 74 ft
 Obs:
 HSV - Hole Soil Visible
 Comments:
 EER: 3

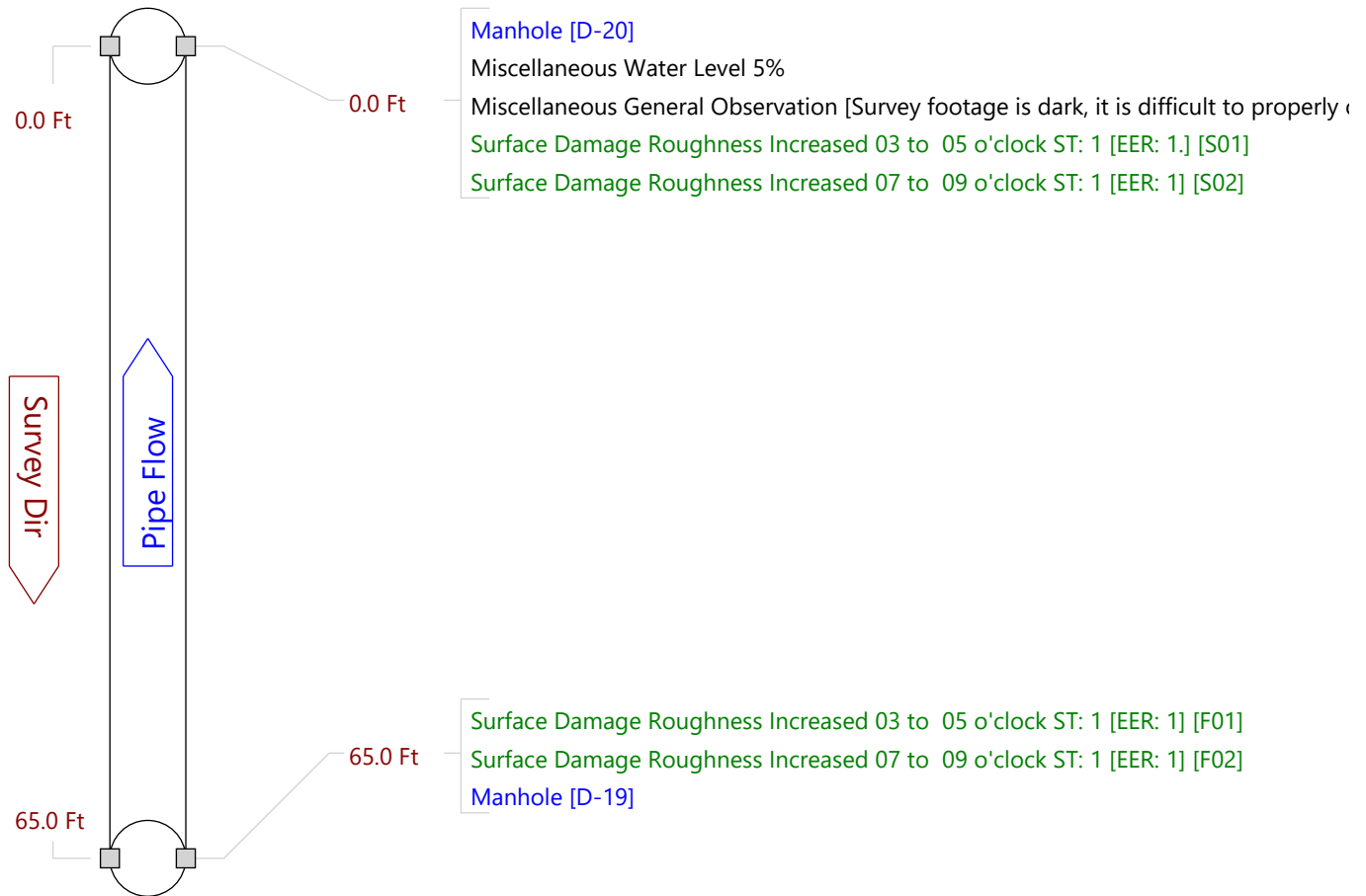


80.0_DAE_From-12_To-.jpg

Date: 10/17/2022
 Distance: 80 ft
 Obs:
 DAE - Deposits Attached
 Encrustation
 Comments:
 EER: 1. Calcium Built
 in Joint



| | | | |
|---------------------------------------|---|-----------------------------|-------------------------------|
| Sheet 6 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By HENRY CADE | Reviewer # P0037737-052022 | Work Order | |
| Customer | PO | Media Label | |
| Date 20170712 12:38 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | Purpose | Direction Upstream | |
| Inspection Status Complete Inspection | Consequence of Failure | Pressure | |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length 65.0 ft | |
| Len. Surveyed 65.0 ft | Year Constructed | Year Rehabilitated | |
| Up D-19 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-20 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additional Info | | Miscellaneous | Structural O&M Constructional |



Sheet 6 Surveyor HENRY CADE Certificate P0037737-052022 System Owner

Reviewed By HENRY CADE Reviewer # P0037737-052022 Work Order

Customer PO Media Label
 Date 20170712 12:38 Weather PreClean Not Known Date Cleaned
 Flow Control Purpose Direction Upstream
 Inspection Status Complete Inspection Consequence of Failure Pressure

Inspection Technology Used CCTV Laser Sonar Sidewall Zoom Other

Street D Street City Anacortes Drainage Area
 Location Pipe Use Process Pipe
 Details Height 15 in Width in
 Shape Circular Material Reinforced Concrete Pipe Lining
 Coating Joint Length ft Total Length 65.0 ft
 Len. Surveyed 65.0 ft Year Constructed Year Rehabilitated

| | | | | |
|-----------|------------|--------------|-----------|----|
| Up D-19 | Rim Invert | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Down D-20 | Rim Invert | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |

Coordinate System Vertical Datum
 GPS Accuracy
 Additionl Info

Miscellaneous Structural O&M Constructional

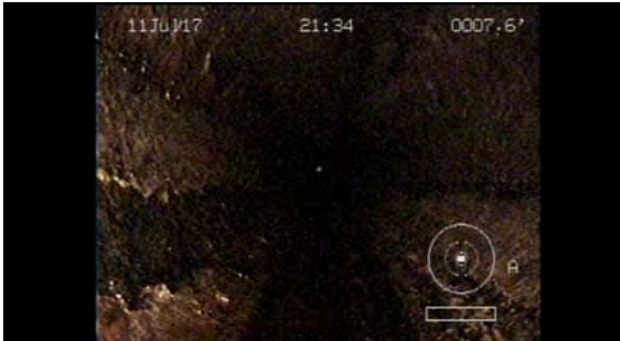
| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|--|-------|-------|-----|-----|----|----|--|
| 0.0 | | AMH - Manhole | | | | | | | D-20 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 005 | | | | |
| 0.0 | | MGO - Miscellaneous General Observation | | | | | | | Survey footage is dark, it is difficult to properly code the condition of the sewer walls. |
| 0.0 | S01 | SRI - Surface Damage Roughness Increased | | | | | 03 | 05 | EER: 1. |
| 0.0 | S02 | SRI - Surface Damage Roughness Increased | | | | | 07 | 09 | EER: 1 |
| 65.0 | F01 | SRI - Surface Damage Roughness Increased | | | | | 03 | 05 | EER: 1 |
| 65.0 | F02 | SRI - Surface Damage Roughness Increased | | | | | 07 | 09 | EER: 1 |
| 65.0 | | AMH - Manhole | | | | | | | D-19 |

65.0 ft Total Length Surveyed

| | | |
|-----------------|---------------------|--------------------|
| Work Order | Date: 2:38 20170712 | Sheet 6 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-19 | Down Node D-20 | Direction Upstream |

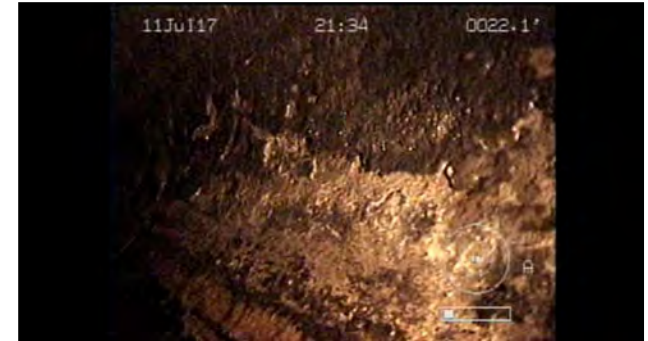
0.0_SRI_From-07_To-09.jpg

Date: 11/08/2022
Distance: 0 ft
Obs:
SRI - Surface Damage
Roughness Increased
Comments:
EER: 1



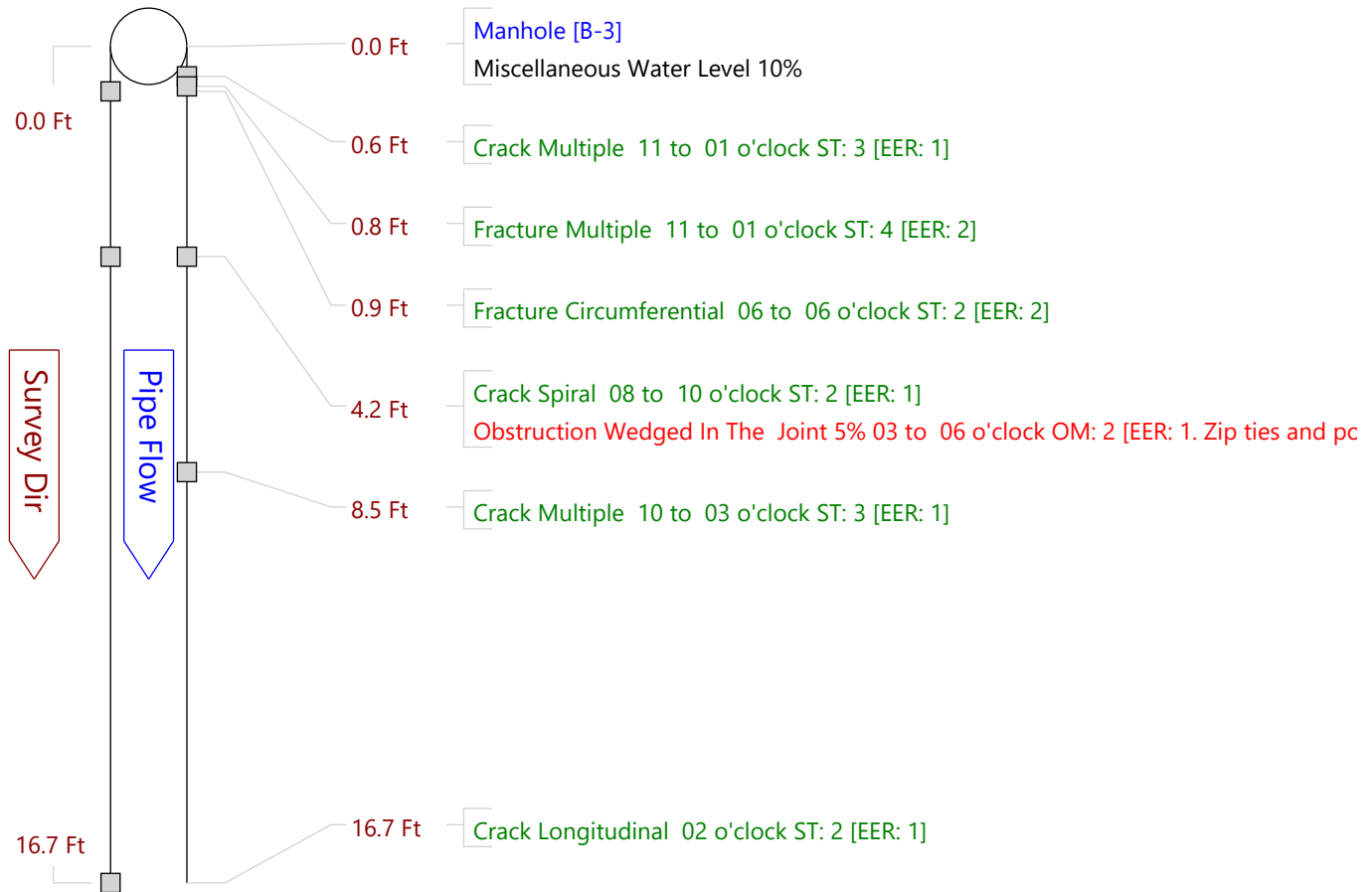
0.0_SRI_From-03_To-05.jpg

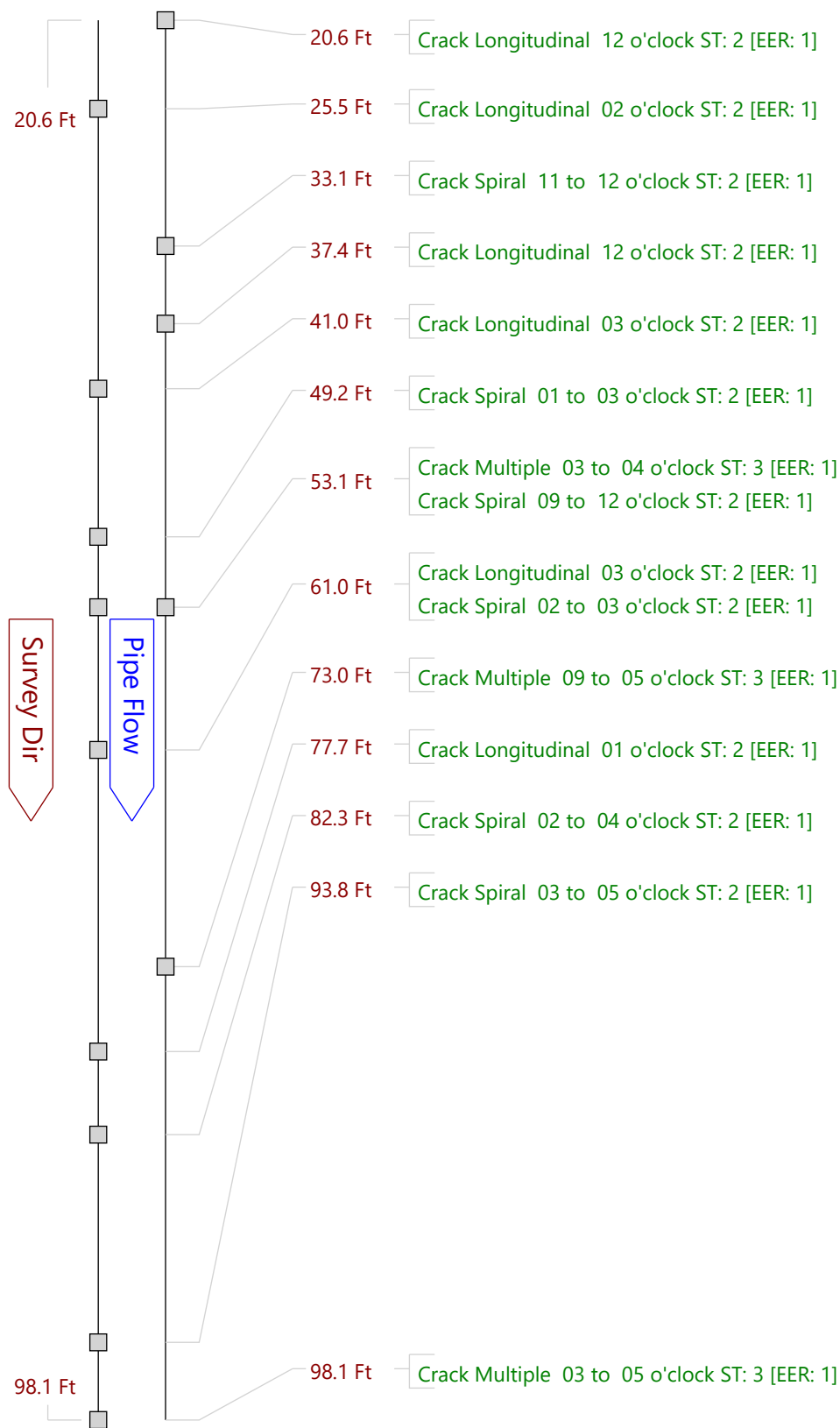
Date: 11/08/2022
Distance: 0 ft
Obs:
SRI - Surface Damage
Roughness Increased
Comments:
EER: 1.

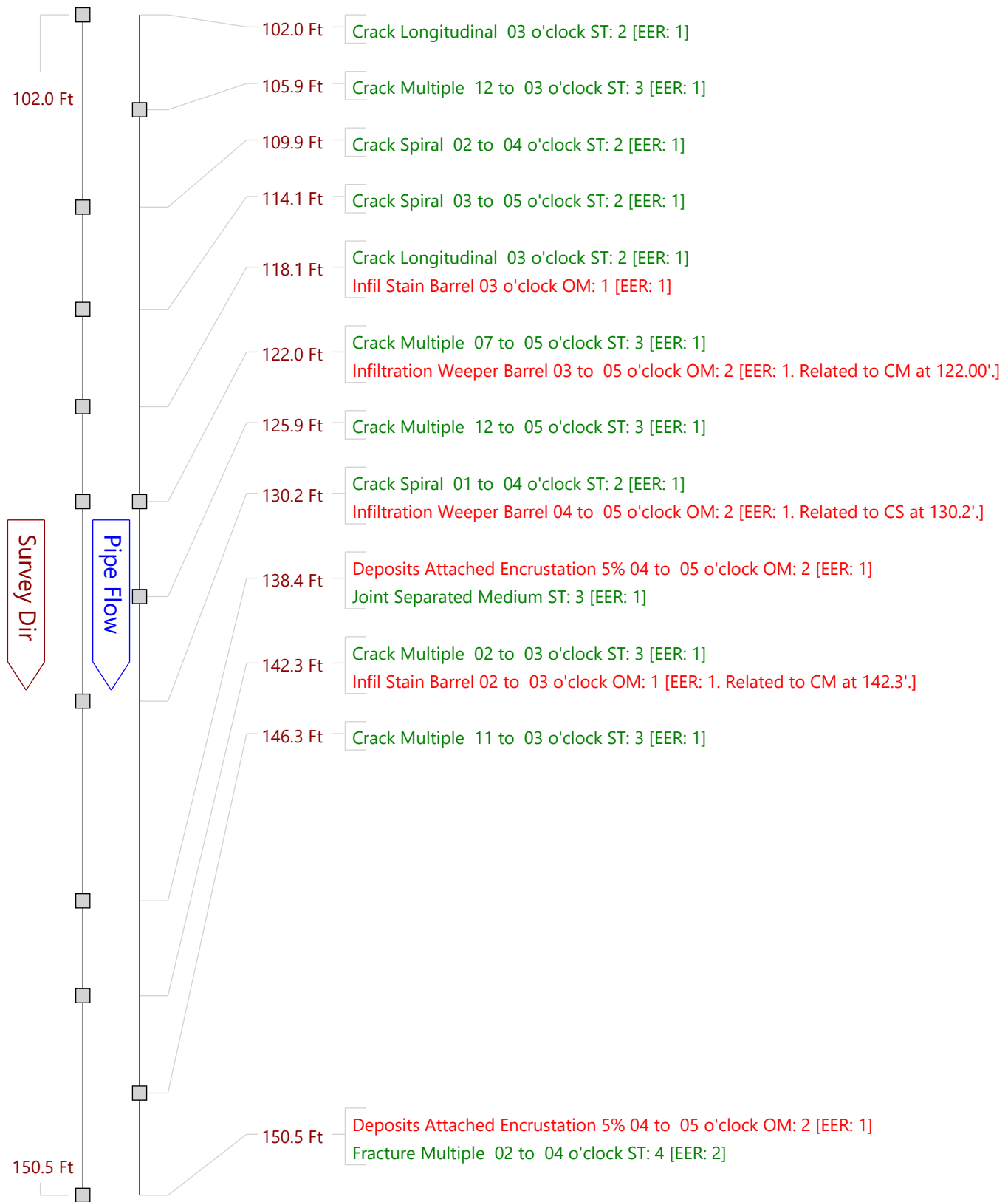


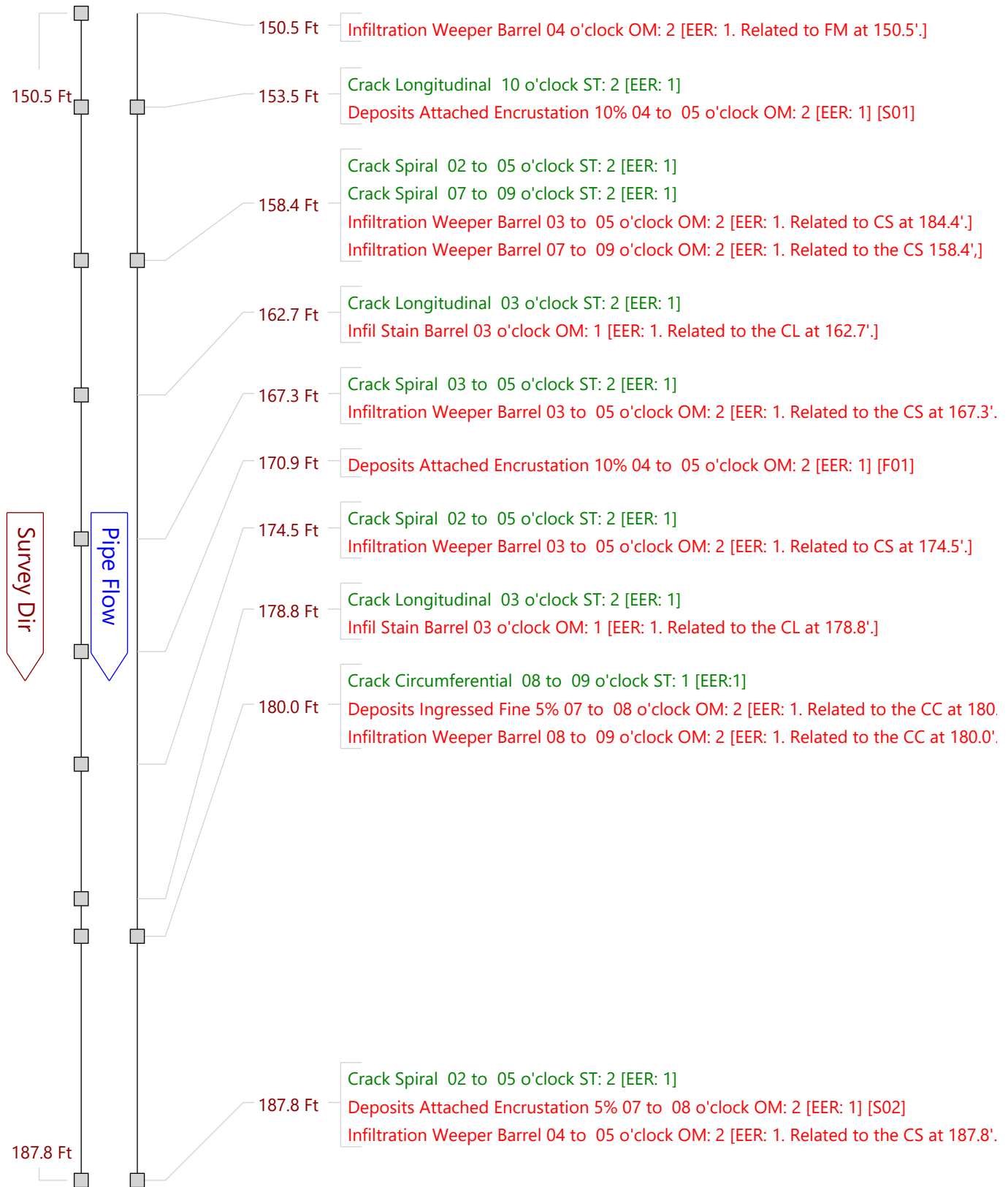
| | | | |
|---------------------------------------|---|-----------------------------|----------------------|
| Sheet 8 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20190709 11:15 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street B Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 10 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length | 243.7 ft |
| Len. Surveyed 243.7 ft | Year Constructed | Year Rehabilitated | |
| Up B-3 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down 3-N | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additionl Info | | | |

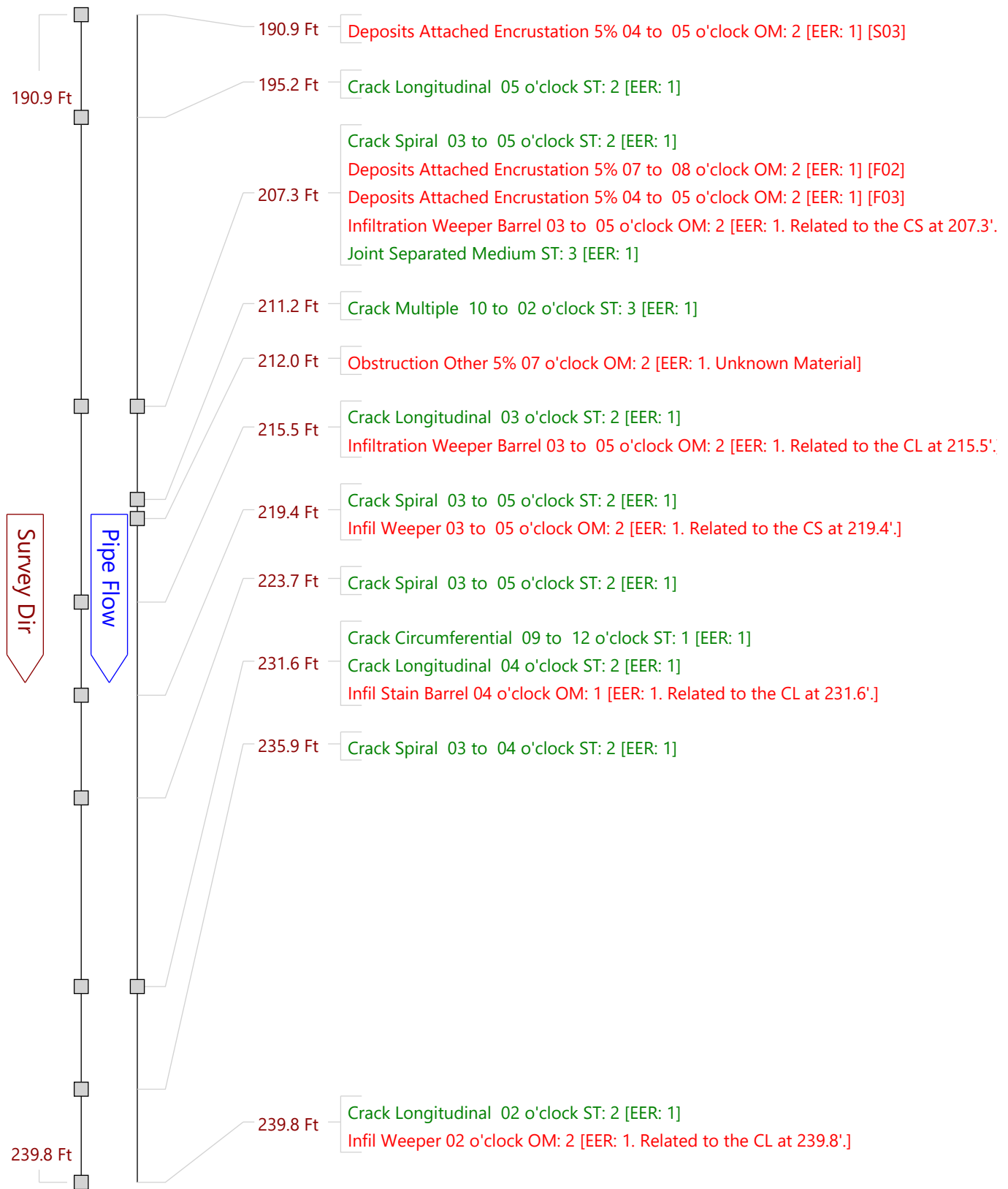
Miscellaneous Structural O&M Constructional

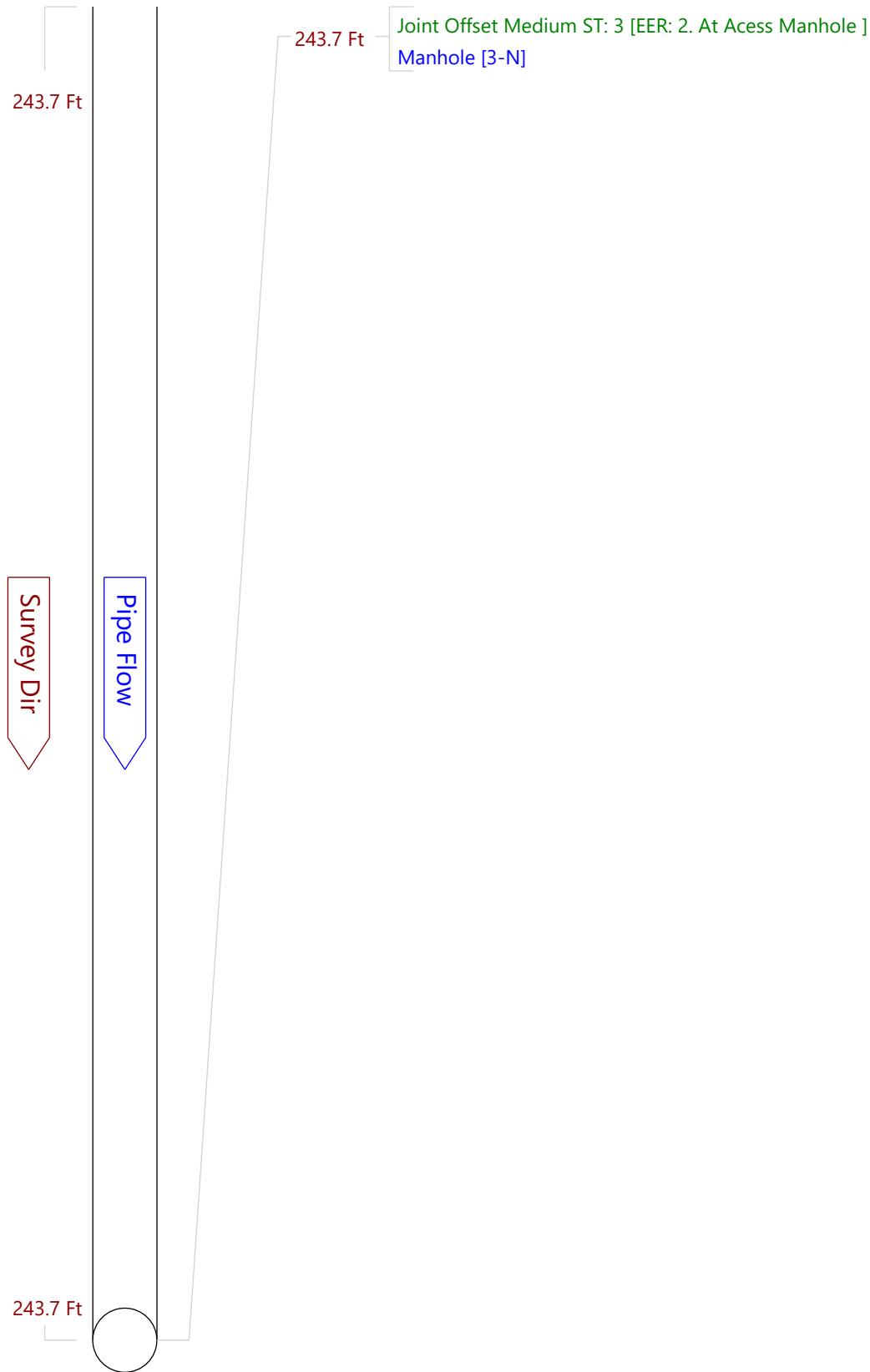












| | | | |
|---------------------------------------|---|-----------------------------|----------------------|
| Sheet 8 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20190709 11:15 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street B Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 10 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length | 243.7 ft |
| Len. Surveyed 243.7 ft | Year Constructed | Year Rehabilitated | |
| Up B-3 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down 3-N | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|----|---------------------------------------|-------|-------|-----|-----|----|----|---|
| 0.0 | | AMH - Manhole | | | | | | | B-3 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 0.6 | | CM - Crack Multiple | | | | X | 11 | 01 | EER: 1 |
| 0.8 | | FM - Fracture Multiple | | | | | 11 | 01 | EER: 2 |
| 0.9 | | FC - Fracture Circumferential | | | | | 06 | 06 | EER: 2 |
| 4.2 | | CS - Crack Spiral | | | | X | 08 | 10 | EER: 1 |
| 4.2 | | OBJ - Obstruction Wedged In The Joint | | | 005 | X | 03 | 06 | EER: 1. Zip ties and possibly a dead vermin. Unclear. |
| 8.5 | | CM - Crack Multiple | | | | X | 10 | 03 | EER: 1 |
| 16.7 | | CL - Crack Longitudinal | | | | X | 02 | | EER: 1 |
| 20.6 | | CL - Crack Longitudinal | | | | X | 12 | | EER: 1 |
| 25.5 | | CL - Crack Longitudinal | | | | X | 02 | | EER: 1 |
| 33.1 | | CS - Crack Spiral | | | | X | 11 | 12 | EER: 1 |
| 37.4 | | CL - Crack Longitudinal | | | | X | 12 | | EER: 1 |
| 41.0 | | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |
| 49.2 | | CS - Crack Spiral | | | | X | 01 | 03 | EER: 1 |
| 53.1 | | CM - Crack Multiple | | | | X | 03 | 04 | EER: 1 |
| 53.1 | | CS - Crack Spiral | | | | X | 09 | 12 | EER: 1 |
| 61.0 | | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |
| 61.0 | | CS - Crack Spiral | | | | X | 02 | 03 | EER: 1 |
| 73.0 | | CM - Crack Multiple | | | | X | 09 | 05 | EER: 1 |
| 77.7 | | CL - Crack Longitudinal | | | | X | 01 | | EER: 1 |
| 82.3 | | CS - Crack Spiral | | | | X | 02 | 04 | EER: 1 |
| 93.8 | | CS - Crack Spiral | | | | X | 03 | 05 | EER: 1 |
| 98.1 | | CM - Crack Multiple | | | | X | 03 | 05 | EER: 1 |
| 102.0 | | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |

| Work Order | | Date 1:15 20190709 | | | | Sheet 8 | | |
|-----------------|--|--------------------|----------------------|--|---|---------|----|--------------------------------------|
| Street B Street | | Weather | | | | | | |
| City Anacortes | | | | | | | | |
| Location | | | | | | | | |
| Up Node B-3 | Down Node | 3-N | Direction Downstream | | | | | |
| 105.9 | CM - Crack Multiple | | | | X | 12 | 03 | EER: 1 |
| 109.9 | CS - Crack Spiral | | | | X | 02 | 04 | EER: 1 |
| 114.1 | CS - Crack Spiral | | | | X | 03 | 05 | EER: 1 |
| 118.1 | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |
| 118.1 | ISB - Infil Stain Barrel | | | | X | 03 | | EER: 1 |
| 122.0 | CM - Crack Multiple | | | | X | 07 | 05 | EER: 1 |
| 122.0 | IWB - Infiltration Weeper Barrel | | | | X | 03 | 05 | EER: 1. Related to CM at 122.00'. |
| 125.9 | CM - Crack Multiple | | | | X | 12 | 05 | EER: 1 |
| 130.2 | CS - Crack Spiral | | | | X | 01 | 04 | EER: 1 |
| 130.2 | IWB - Infiltration Weeper Barrel | | | | X | 04 | 05 | EER: 1. Related to CS at 130.2'. |
| 138.4 | DAE - Deposits Attached Encrustation | | 005 | | X | 04 | 05 | EER: 1 |
| 138.4 | JSM - Joint Separated Medium | | | | | | | EER: 1 |
| 142.3 | CM - Crack Multiple | | | | X | 02 | 03 | EER: 1 |
| 142.3 | ISB - Infil Stain Barrel | | | | X | 02 | 03 | EER: 1. Related to CM at 142.3'. |
| 146.3 | CM - Crack Multiple | | | | X | 11 | 03 | EER: 1 |
| 150.5 | DAE - Deposits Attached Encrustation | | 005 | | X | 04 | 05 | EER: 1 |
| 150.5 | FM - Fracture Multiple | | | | X | 02 | 04 | EER: 2 |
| 150.5 | IWB - Infiltration Weeper Barrel | | | | X | 04 | | EER: 1. Related to FM at 150.5'. |
| 153.5 | CL - Crack Longitudinal | | | | X | 10 | | EER: 1 |
| 153.5 | S01 DAE - Deposits Attached Encrustation | | 010 | | X | 04 | 05 | EER: 1 |
| 158.4 | CS - Crack Spiral | | | | X | 02 | 05 | EER: 1 |
| 158.4 | CS - Crack Spiral | | | | X | 07 | 09 | EER: 1 |
| 158.4 | IWB - Infiltration Weeper Barrel | | | | X | 03 | 05 | EER: 1. Related to CS at 184.4'. |
| 158.4 | IWB - Infiltration Weeper Barrel | | | | X | 07 | 09 | EER: 1. Related to the CS 158.4', |
| 162.7 | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |
| 162.7 | ISB - Infil Stain Barrel | | | | | 03 | | EER: 1. Related to the CL at 162.7'. |
| 167.3 | CS - Crack Spiral | | | | X | 03 | 05 | EER: 1 |
| 167.3 | IWB - Infiltration Weeper Barrel | | | | | 03 | 05 | EER: 1. Related to the CS at 167.3'. |
| 170.9 | F01 DAE - Deposits Attached Encrustation | | 010 | | X | 04 | 05 | EER: 1 |
| 174.5 | CS - Crack Spiral | | | | X | 02 | 05 | EER: 1 |
| 174.5 | IWB - Infiltration Weeper Barrel | | | | X | 03 | 05 | EER: 1. Related to CS at 174.5'. |
| 178.8 | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |
| 178.8 | ISB - Infil Stain Barrel | | | | X | 03 | | EER: 1. Related to the CL at 178.8'. |
| 180.0 | CC - Crack Circumferential | | | | | 08 | 09 | EER: 1 |
| 180.0 | DNF - Deposits Ingressed Fine | | 005 | | | 07 | 08 | EER: 1. Related to the CC at 180.0'. |
| 180.0 | IWB - Infiltration Weeper Barrel | | | | | 08 | 09 | EER: 1. Related to the CC at 180.0'. |
| 187.8 | CS - Crack Spiral | | | | X | 02 | 05 | EER: 1 |
| 187.8 | S02 DAE - Deposits Attached Encrustation | | 005 | | X | 07 | 08 | EER: 1 |
| 187.8 | IWB - Infiltration Weeper Barrel | | | | X | 04 | 05 | EER: 1. Related to the CS at 187.8'. |
| 190.9 | S03 DAE - Deposits Attached Encrustation | | 005 | | X | 04 | 05 | EER: 1 |
| 195.2 | CL - Crack Longitudinal | | | | X | 05 | | EER: 1 |

| Work Order | | Date 1:15 20190709 | | | | Sheet 8 | | | |
|-----------------|-----|--------------------------------------|--|----------------------|-----|---------|----|----|--------------------------------------|
| Street B Street | | Weather | | | | | | | |
| City Anacortes | | Location | | | | | | | |
| Up Node B-3 | | Down Node 3-N | | Direction Downstream | | | | | |
| 207.3 | | CS - Crack Spiral | | | | X | 03 | 05 | EER: 1 |
| 207.3 | F02 | DAE - Deposits Attached Encrustation | | | 005 | X | 07 | 08 | EER: 1 |
| 207.3 | F03 | DAE - Deposits Attached Encrustation | | | 005 | X | 04 | 05 | EER: 1 |
| 207.3 | | IWB - Infiltration Weeper Barrel | | | | X | 03 | 05 | EER: 1. Related to the CS at 207.3'. |
| 207.3 | | JSM - Joint Separated Medium | | | | | | | EER: 1 |
| 211.2 | | CM - Crack Multiple | | | | X | 10 | 02 | EER: 1 |
| 212.0 | | OBZ - Obstruction Other | | | 005 | | 07 | | EER: 1. Unknown Material |
| 215.5 | | CL - Crack Longitudinal | | | | X | 03 | | EER: 1 |
| 215.5 | | IWB - Infiltration Weeper Barrel | | | | X | 03 | 05 | EER: 1. Related to the CL at 215.5'. |
| 219.4 | | CS - Crack Spiral | | | | | 03 | 05 | EER: 1 |
| 219.4 | | IW - Infil Weeper | | | | X | 03 | 05 | EER: 1. Related to the CS at 219.4'. |
| 223.7 | | CS - Crack Spiral | | | | X | 03 | 05 | EER: 1 |
| 231.6 | | CC - Crack Circumferential | | | | | 09 | 12 | EER: 1 |
| 231.6 | | CL - Crack Longitudinal | | | | | 04 | | EER: 1 |
| 231.6 | | ISB - Infil Stain Barrel | | | | | 04 | | EER: 1. Related to the CL at 231.6'. |
| 235.9 | | CS - Crack Spiral | | | | X | 03 | 04 | EER: 1 |
| 239.8 | | CL - Crack Longitudinal | | | | X | 02 | | EER: 1 |
| 239.8 | | IW - Infil Weeper | | | | X | 02 | | EER: 1. Related to the CL at 239.8'. |
| 243.7 | | JOM - Joint Offset Medium | | | | | | | EER: 2. At Access Manhole |
| 243.7 | | AMH - Manhole | | | | | | | 3-N |

243.7 ft Total Length Surveyed

| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

0.6_CM_From-11_To-01.jpg

Date: 10/18/2022
 Distance: 0.6 ft
 Obs:
 CM - Crack Multiple
 Comments:
 EER: 1



0.8_FM_From-11_To-01.jpg

Date: 10/18/2022
 Distance: 0.8 ft
 Obs:
 FM - Fracture Multiple
 Comments:
 EER: 2



0.6_FC_From-06_To-06.jpg

Date: 10/18/2022
 Distance: 0.9 ft
 Obs:
 FC - Fracture Circumferential
 Comments:
 EER: 2



4.2_CS_From-08_To-10.jpg

Date: 10/18/2022
 Distance: 4.2 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

4.2_OBJ_From-03_To-06.jpg

Date: 10/18/2022

Distance: 4.2 ft

Obs:
OBJ - Obstruction
Wedged In The Joint

Comments:

EER: 1. Zip ties and possibly a dead vermin. Unclear.



8.5_CM_From-10_To-03.jpg

Date: 10/18/2022

Distance: 8.5 ft

Obs:
CM - Crack Multiple

Comments:

EER: 1



16.7_CL_From-02_To-.jpg

Date: 10/18/2022

Distance: 16.7 ft

Obs:
CL - Crack Longitudinal

Comments:

EER: 1



20.6_CL_From-12_To-.jpg

Date: 10/18/2022

Distance: 20.6 ft

Obs:
CL - Crack Longitudinal

Comments:

EER: 1



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

25.5_CL_From-02_To-.jpg

Date: 10/18/2022
 Distance: 25.5 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



33.1_CS_From-11_To-12.jpg

Date: 10/18/2022
 Distance: 33.1 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



37.4_CL_From-12_To-.jpg

Date: 10/18/2022
 Distance: 37.4 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



41.0_CL_From-03_To--A.jpg

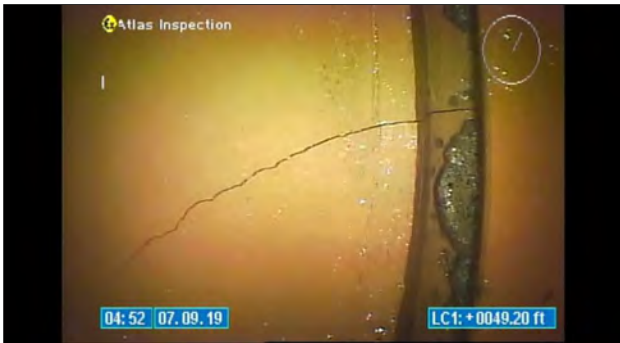
Date: 11/08/2022
 Distance: 41 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

49.2_CS_From-01_To-03.jpg

Date: 10/18/2022
 Distance: 49.2 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



53.1_CM_From-03_To-04.jpg

Date: 10/18/2022
 Distance: 53.1 ft
 Obs:
 CM - Crack Multiple
 Comments:
 EER: 1



53.1_CS_From-09_To-12.jpg

Date: 11/08/2022
 Distance: 53.1 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



61.0_CL_From-03_To-.jpg

Date: 10/18/2022
 Distance: 61 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

61.0_CS_From-02_To-03.jpg

Date: 10/18/2022
Distance: 61 ft
Obs:
CS - Crack Spiral
Comments:
EER: 1



73.0_CM_From-09_To-05.jpg

Date: 10/18/2022
Distance: 73 ft
Obs:
CM - Crack Multiple
Comments:
EER: 1



77.7_CL_From-01_To-.jpg

Date: 10/18/2022
Distance: 77.7 ft
Obs:
CL - Crack Longitudinal
Comments:
EER: 1



82.3_CS_From-02_To-04.jpg

Date: 10/18/2022
Distance: 82.3 ft
Obs:
CS - Crack Spiral
Comments:
EER: 1



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | City Anacortes | Weather |
| Location | Up Node B-3 | Down Node 3-N |
| | | Direction Downstream |

82.3_CS_From-03_To-05.jpg

Date: 10/18/2022
 Distance: 93.8 ft
 Obs: CS - Crack Spiral
 Comments:
 EER: 1



98.1_CM_From-03_To-05.jpg

Date: 10/18/2022
 Distance: 98.1 ft
 Obs: CM - Crack Multiple
 Comments:
 EER: 1



102.0_CL_From-03_To-.jpg

Date: 10/18/2022
 Distance: 102 ft
 Obs: CL - Crack Longitudinal
 Comments:
 EER: 1



105.9_CM_From-12_To-03.jpg

Date: 10/18/2022
 Distance: 105.9 ft
 Obs: CM - Crack Multiple
 Comments:
 EER: 1



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

109.9_CS_From-02_To-04.jpg

Date: 10/18/2022
 Distance: 109.9 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



114.1_CS_From-03_To-05.jpg

Date: 10/18/2022
 Distance: 114.1 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



118.1_CL_From-03_To-.jpg

Date: 10/18/2022
 Distance: 118.1 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



118.1_ISB_From-03_To-.jpg

Date: 10/18/2022
 Distance: 118.1 ft
 Obs:
 ISB - Infil Stain Barrel
 Comments:
 EER: 1



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

122.0_CM_From-07_To-05.jpg

Date: 10/18/2022
 Distance: 122 ft
 Obs:
 CM - Crack Multiple
 Comments:
 EER: 1



122.0_IWB_From-03_To-05.jpg

Date: 10/18/2022
 Distance: 122 ft
 Obs:
 IWB - Infiltration Weeper Barrel
 Comments:
 EER: 1. Related to CM at 122.00'.



125.9_CM_From-12_To-05.jpg

Date: 10/18/2022
 Distance: 125.9 ft
 Obs:
 CM - Crack Multiple
 Comments:
 EER: 1



130.2_CS_From-01_To-04.jpg

Date: 10/18/2022
 Distance: 130.2 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



| | | |
|-----------------|---------------------|----------------------|
| Work Order | Date 11/15/20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

138.4_DAE_From-04_To-05.jpg

Date: 11/08/2022
 Distance: 138.4 ft
 Obs:
 DAE - Deposits Attached Encrustation
 Comments:
 EER: 1



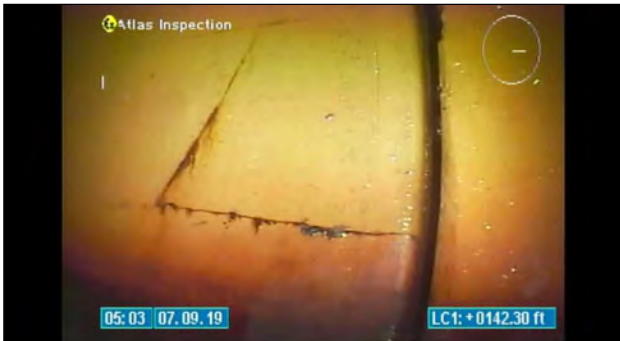
138.4_JSM_From-_To-.jpg

Date: 10/18/2022
 Distance: 138.4 ft
 Obs:
 JSM - Joint Separated Medium
 Comments:
 EER: 1



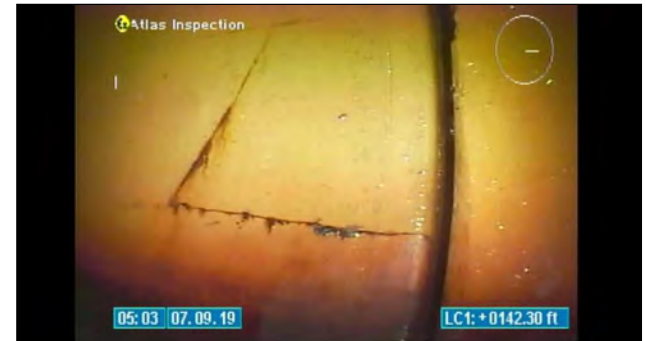
142.3_CM_From-02_To-03.jpg

Date: 11/08/2022
 Distance: 142.3 ft
 Obs:
 CM - Crack Multiple
 Comments:
 EER: 1



142.3_ISB_From-02_To-03.jpg

Date: 11/08/2022
 Distance: 142.3 ft
 Obs:
 ISB - Infil Stain Barrel
 Comments:
 EER: 1. Related to CM at 142.3'.



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | City Anacortes | Weather |
| Location | Up Node B-3 | Down Node 3-N |
| | | Direction Downstream |

146.3_CM_From-11_To-03.jpg

Date: 10/18/2022
 Distance: 146.3 ft
 Obs: CM - Crack Multiple
 Comments:
 EER: 1



149.9_DAE_From-04_To-05.jpg

Date: 10/18/2022
 Distance: 150.5 ft
 Obs: DAE - Deposits Attached Encrustation
 Comments:
 EER: 1



150.5_FM_From-02_To-04.jpg

Date: 11/08/2022
 Distance: 150.5 ft
 Obs: FM - Fracture Multiple
 Comments:
 EER: 2



150.5_IWB_From-04_To-.jpg

Date: 10/18/2022
 Distance: 150.5 ft
 Obs: IWB - Infiltration Weeper Barrel
 Comments:
 EER: 1. Related to FM at 150.5'.



| | | |
|-----------------|----------------------|----------------------|
| Work Order | Date: 10/15/20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

153.5_CL_From-10_To-.jpg

Date: 10/18/2022
 Distance: 153.5 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



153.5_DAE_From-04_To-05.jpg

Date: 10/18/2022
 Distance: 153.5 ft
 Obs:
 DAE - Deposits Attached Encrustation
 Comments:
 EER: 1



158.4_CS_From-02_To-05.jpg

Date: 10/18/2022
 Distance: 158.4 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



158.4_CS_From-07_To-09.jpg

Date: 10/18/2022
 Distance: 158.4 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



| | | |
|-----------------|----------------------|----------------------|
| Work Order | Date: 10/15/20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

158.4_IWB_From-07_To-09.jpg

Date: 10/18/2022
 Distance: 158.4 ft
 Obs:
 IWB - Infiltration Weeper Barrel
 Comments:
 EER: 1. Related to the CS 158.4',



162.7_CL_From-03_To-.jpg

Date: 10/18/2022
 Distance: 162.7 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



167.3_CS_From-03_To-05.jpg

Date: 11/08/2022
 Distance: 167.3 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



174.5_CS_From-02_To-05.jpg

Date: 10/18/2022
 Distance: 174.5 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

174.5_IWB_From-03_To-05.jpg

Date: 10/18/2022
 Distance: 174.5 ft
 Obs:
 IWB - Infiltration Weeper Barrel
 Comments:
 EER: 1. Related to CS at 174.5'.



178.8_CL_From-03_To-.jpg

Date: 10/18/2022
 Distance: 178.8 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



178.8_IS_From-03_To-.jpg

Date: 10/18/2022
 Distance: 178.8 ft
 Obs:
 ISB - Infil Stain Barrel
 Comments:
 EER: 1. Related to the CL at 178.8'.



180.0_CC_From-08_To-09.jpg

Date: 11/08/2022
 Distance: 180 ft
 Obs:
 CC - Crack Circumferential
 Comments:
 EER: 1



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 11/15/2019 07:09 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

180.0_DNF_From-07_To-08.jpg

Date: 10/18/2022
 Distance: 180 ft
 Obs:
 DNF - Deposits Ingressed Fine
 Comments:
 EER: 1. Related to the CC at 180.0'



187.8_CS_From-02_To-05.jpg

Date: 11/08/2022
 Distance: 187.8 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



187.8_DAE_From-07_To-08.jpg

Date: 10/18/2022
 Distance: 187.8 ft
 Obs:
 DAE - Deposits Attached Encrustation
 Comments:
 EER: 1



190.9_DAE_From-04_To-05.jpg

Date: 11/08/2022
 Distance: 190.9 ft
 Obs:
 DAE - Deposits Attached Encrustation
 Comments:
 EER: 1



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

195.2_CL_From-05_To-.jpg

Date: 10/18/2022
 Distance: 195.2 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



207.3_CS_From-03_To-05.jpg

Date: 10/18/2022
 Distance: 207.3 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



207.3_JSM_From-_To-.jpg

Date: 10/18/2022
 Distance: 207.3 ft
 Obs:
 JSM - Joint Separated Medium
 Comments:
 EER: 1



211.2_CM_From-10_To-02.jpg

Date: 10/18/2022
 Distance: 211.2 ft
 Obs:
 CM - Crack Multiple
 Comments:
 EER: 1



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/15/2019 07:09 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

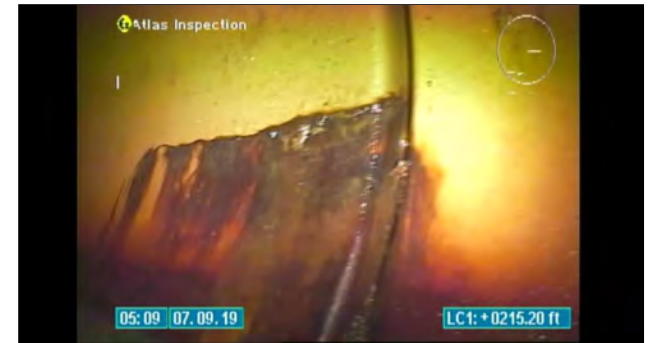
212.0_OBZ_From-07_To-.jpg

Date: 10/18/2022
 Distance: 212 ft
 Obs: OBZ - Obstruction Other
 Comments:
 EER: 1. Unknown Material



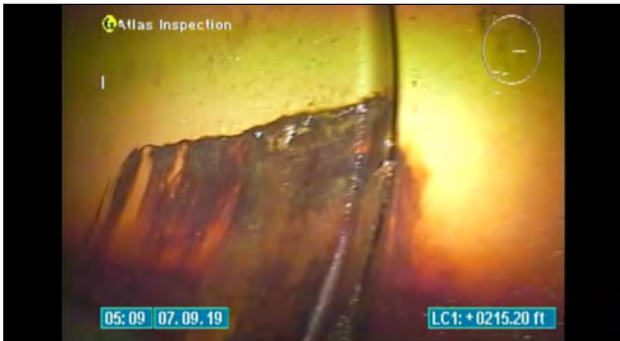
215.5_CL_From-03_To-.jpg

Date: 10/19/2022
 Distance: 215.5 ft
 Obs: CL - Crack Longitudinal
 Comments:
 EER: 1



215.5_IW_From-03_To-05.jpg

Date: 10/19/2022
 Distance: 215.5 ft
 Obs: IWB - Infiltration Weeper Barrel
 Comments:
 EER: 1. Related to the CL at 215.5'.



219.4_CS_From-03_To-05.jpg

Date: 10/19/2022
 Distance: 219.4 ft
 Obs: CS - Crack Spiral
 Comments:
 EER: 1



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

223.7_CS_From-03_To-05.jpg

Date: 10/19/2022
 Distance: 223.7 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



231.6_CC_From-09_To-12.jpg

Date: 10/19/2022
 Distance: 231.6 ft
 Obs:
 CC - Crack Circumferential
 Comments:
 EER: 1



231.6_CL_From-04_To-.jpg

Date: 10/19/2022
 Distance: 231.6 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



231.6_IS_From-04_To-.jpg

Date: 10/19/2022
 Distance: 231.6 ft
 Obs:
 ISB - Infil Stain Barrel
 Comments:
 EER: 1. Related to the CL at 231.6'.



| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 1:15 20190709 | Sheet 8 |
| Street B Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node B-3 | Down Node 3-N | Direction Downstream |

235.9_CS_From-03_To-04.jpg

Date: 10/19/2022
 Distance: 235.9 ft
 Obs:
 CS - Crack Spiral
 Comments:
 EER: 1



239.8_CL_From-02_To-.jpg

Date: 10/19/2022
 Distance: 239.8 ft
 Obs:
 CL - Crack Longitudinal
 Comments:
 EER: 1



239.8_IW_From-02_To-.jpg

Date: 10/19/2022
 Distance: 239.8 ft
 Obs:
 IW - Infil Weeper
 Comments:
 EER: 1. Related to the CL at 239.8'.



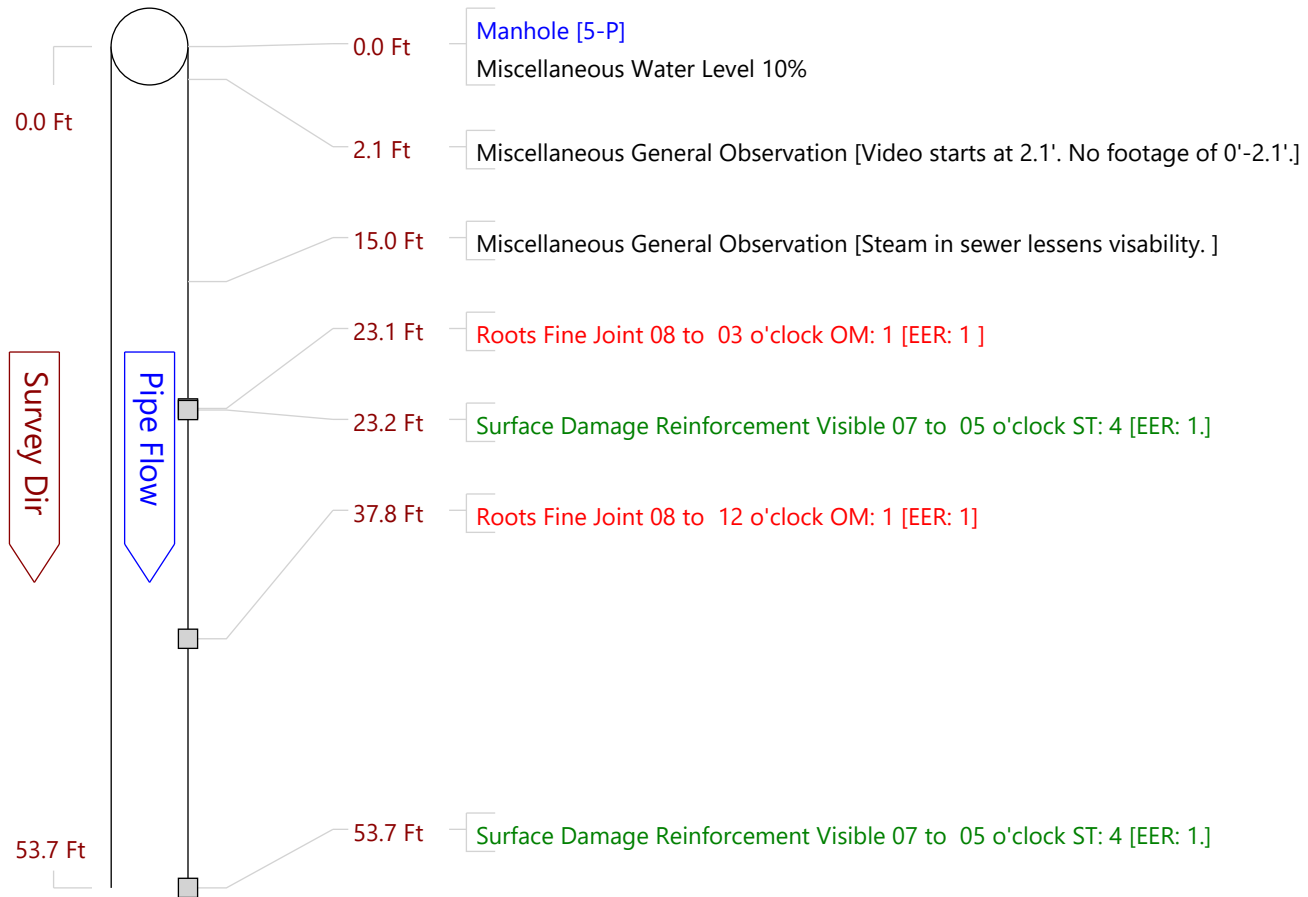
243.7_JOM_From-_To-.jpg

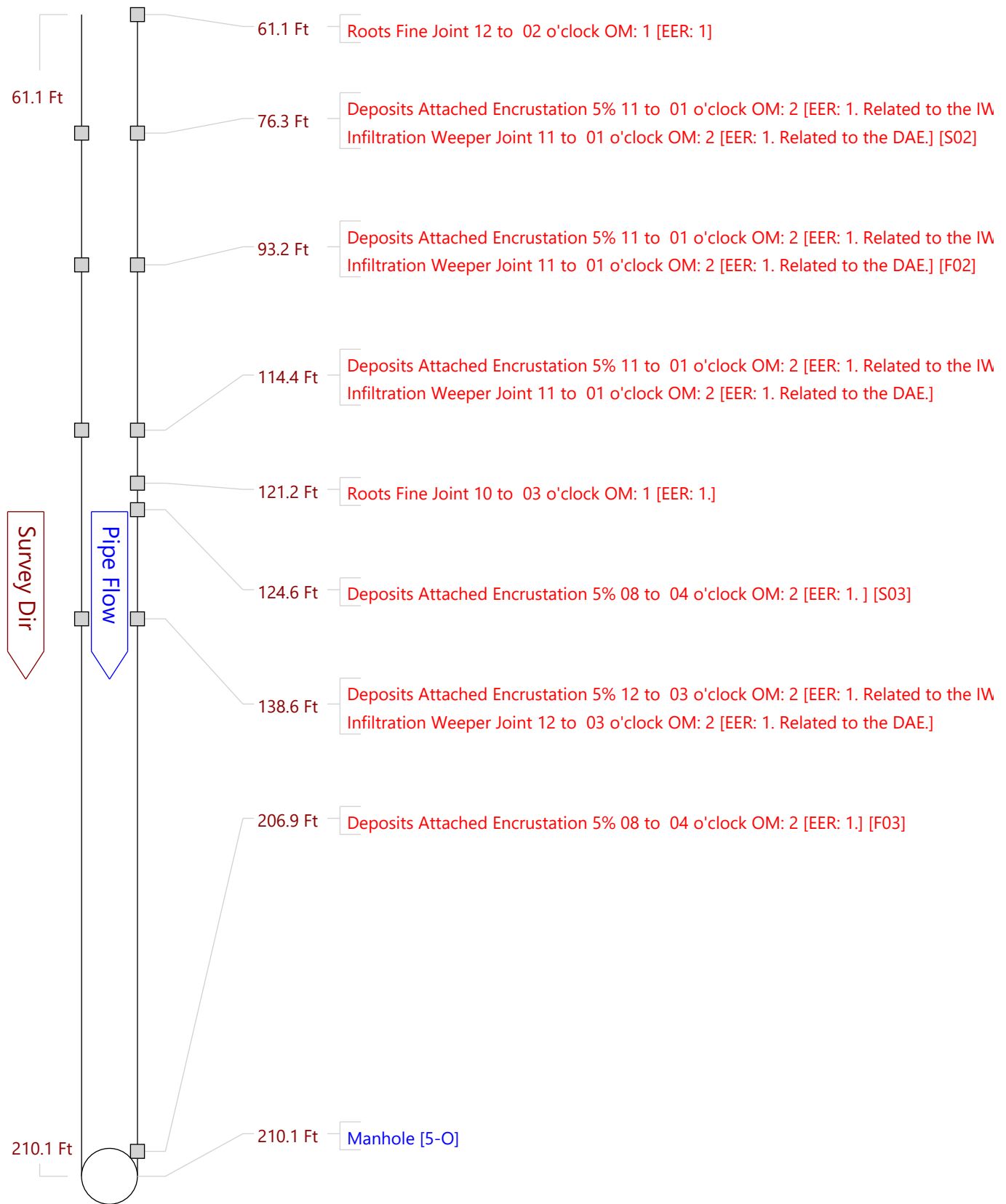
Date: 10/19/2022
 Distance: 243.7 ft
 Obs:
 JOM - Joint Offset Medium
 Comments:
 EER: 2. At Acess Manhole



| | | | |
|---------------------------------------|---|-----------------------------|----------------------|
| Sheet 20 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20180809 13:52 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street 5th Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 21 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length 210.1 ft | |
| Len. Surveyed 210.1 ft | Year Constructed | Year Rehabilitated | |
| Up 5-P | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down 5-O | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional





Sheet 20 Surveyor HENRY CADE Certificate P0037737-052022 System Owner

Reviewed By Reviewer # Work Order

Customer PO Media Label

Date 20180809 13:52 Weather PreClean Not Known Date Cleaned

Flow Control Purpose Direction Downstream

Inspection Status Complete Inspection Consequence of Failure Pressure

Inspection Technology Used CCTV Laser Sonar Sidewall Zoom Other

Street 5th Street City Anacortes Drainage Area

Location Pipe Use Process Pipe

Details Height 21 in Width in

Shape Circular Material Reinforced Concrete Pipe Lining

Coating Joint Length ft Total Length 210.1 ft

Len. Surveyed 210.1 ft Year Constructed Year Rehabilitated

Up 5-P Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Down 5-O Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Coordinate System Vertical Datum

GPS Accuracy

Additionl Info

Miscellaneous Structural O&M Constructional

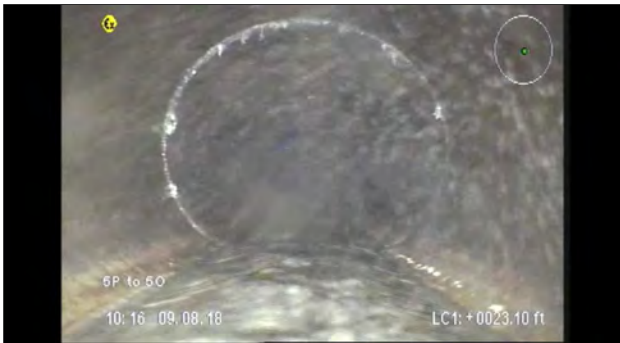
| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|--|-------|-------|-----|-----|----|----|--|
| 0.0 | | AMH - Manhole | | | | | | | 5-P |
| 0.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 2.1 | | MGO - Miscellaneous General Observation | | | | | | | Video starts at 2.1'. No footage of 0'-2.1'. |
| 15.0 | | MGO - Miscellaneous General Observation | | | | | | | Steam in sewer lessens visibility. |
| 23.1 | | RFJ - Roots Fine Joint | | | | X | 08 | 03 | EER: 1 |
| 23.2 | | SRV - Surface Damage Reinforcement Visible | | | | X | 07 | 05 | EER: 1. |
| 37.8 | | RFJ - Roots Fine Joint | | | | X | 08 | 12 | EER: 1 |
| 53.7 | | SRV - Surface Damage Reinforcement Visible | | | | | 07 | 05 | EER: 1. |
| 61.1 | | RFJ - Roots Fine Joint | | | | X | 12 | 02 | EER: 1 |
| 76.3 | S01 | DAE - Deposits Attached Encrustation | | | 005 | X | 11 | 01 | EER: 1. Related to the IWJ. |
| 76.3 | S02 | IWJ - Infiltration Weeper Joint | | | | X | 11 | 01 | EER: 1. Related to the DAE. |
| 93.2 | F01 | DAE - Deposits Attached Encrustation | | | 005 | X | 11 | 01 | EER: 1. Related to the IWJ. |
| 93.2 | F02 | IWJ - Infiltration Weeper Joint | | | | X | 11 | 01 | EER: 1. Related to the DAE. |
| 114.4 | | DAE - Deposits Attached Encrustation | | | 005 | X | 11 | 01 | EER: 1. Related to the IWJ. |
| 114.4 | | IWJ - Infiltration Weeper Joint | | | | X | 11 | 01 | EER: 1. Related to the DAE. |
| 121.2 | | RFJ - Roots Fine Joint | | | | X | 10 | 03 | EER: 1. |
| 124.6 | S03 | DAE - Deposits Attached Encrustation | | | 005 | | 08 | 04 | EER: 1. |
| 138.6 | | DAE - Deposits Attached Encrustation | | | 005 | X | 12 | 03 | EER: 1. Related to the IWJ. |
| 138.6 | | IWJ - Infiltration Weeper Joint | | | | X | 12 | 03 | EER: 1. Related to the DAE. |
| 206.9 | F03 | DAE - Deposits Attached Encrustation | | | 005 | | 08 | 04 | EER: 1. |
| 210.1 | | AMH - Manhole | | | | | | | 5-O |

210.1 ft Total Length Surveyed

| | | |
|-------------------|---------------------|----------------------|
| Work Order | Date: 3:52 20180809 | Sheet 20 |
| Street 5th Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node 5-P | Down Node 5-O | Direction Downstream |

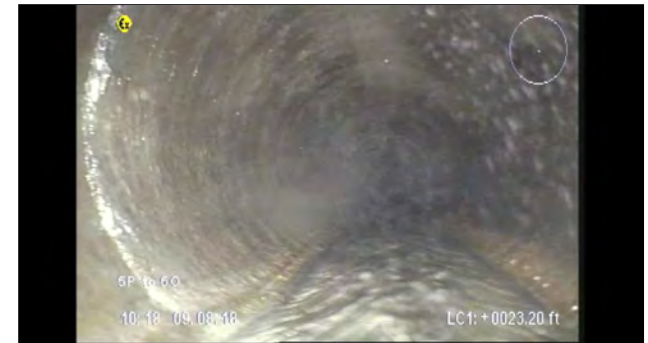
23.1_RFJ_From-08_To-03.jpg

Date: 11/07/2022
Distance: 23.1 ft
Obs:
RFJ - Roots Fine Joint
Comments:
EER: 1



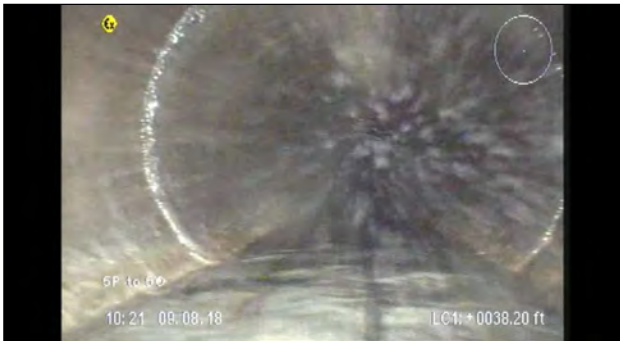
23.2_SRV_From-07_To-05.jpg

Date: 11/03/2022
Distance: 23.2 ft
Obs:
SRV - Surface Damage Reinforcement Visible
Comments:
EER: 1



37.8_RFJ_From-08_To-12.jpg

Date: 11/07/2022
Distance: 37.8 ft
Obs:
RFJ - Roots Fine Joint
Comments:
EER: 1



53.7_SRV_From-07_To-05.jpg

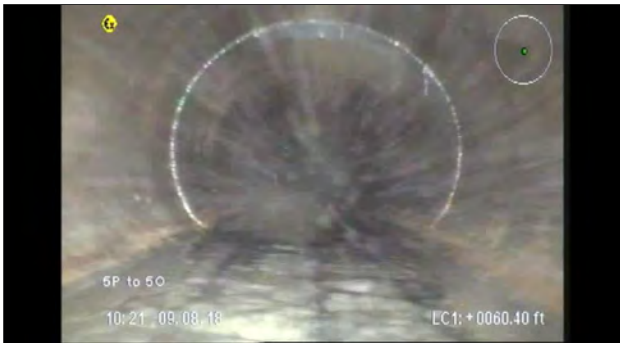
Date: 11/09/2022
Distance: 53.7 ft
Obs:
SRV - Surface Damage Reinforcement Visible
Comments:
EER: 1



| | | |
|-------------------|---------------------|----------------------|
| Work Order | Date: 3:52 20180809 | Sheet 20 |
| Street 5th Street | City Anacortes | Weather |
| Location | Up Node 5-P | Down Node 5-O |
| | | Direction Downstream |

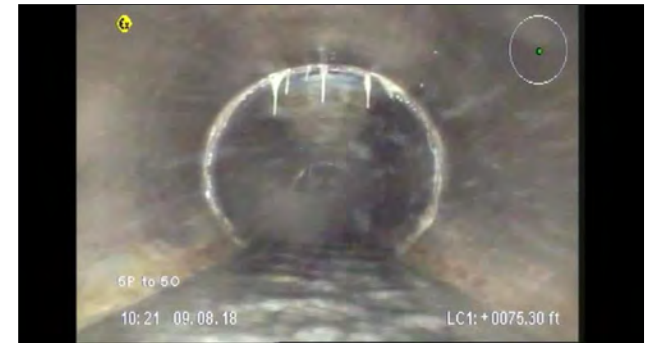
61.1_RFJ_From-12_To-02.jpg

Date: 11/09/2022
 Distance: 61.1 ft
 Obs: RFJ - Roots Fine Joint
 Comments:
 EER: 1



76.3_DAE_From-11_To-01.jpg

Date: 11/07/2022
 Distance: 76.3 ft
 Obs: DAE - Deposits Attached Encrustation
 Comments:
 EER: 1. Related to the IWJ.



114.4_DAE_From-11_To-01.jpg

Date: 11/07/2022
 Distance: 114.4 ft
 Obs: DAE - Deposits Attached Encrustation
 Comments:
 EER: 1. Related to the IWJ.



121.2_RFJ_From-10_To-03.jpg

Date: 11/07/2022
 Distance: 121.2 ft
 Obs: RFJ - Roots Fine Joint
 Comments:
 EER: 1.



| | | |
|-------------------|--------------------|----------------------|
| Work Order | Date 3:52 20180809 | Sheet 20 |
| Street 5th Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node 5-P | Down Node 5-O | Direction Downstream |

138.6_DAE_From-12_To-03.jpg

Date: 11/09/2022

Distance: 138.6 ft

Obs:
DAE - Deposits Attached
Encrustation

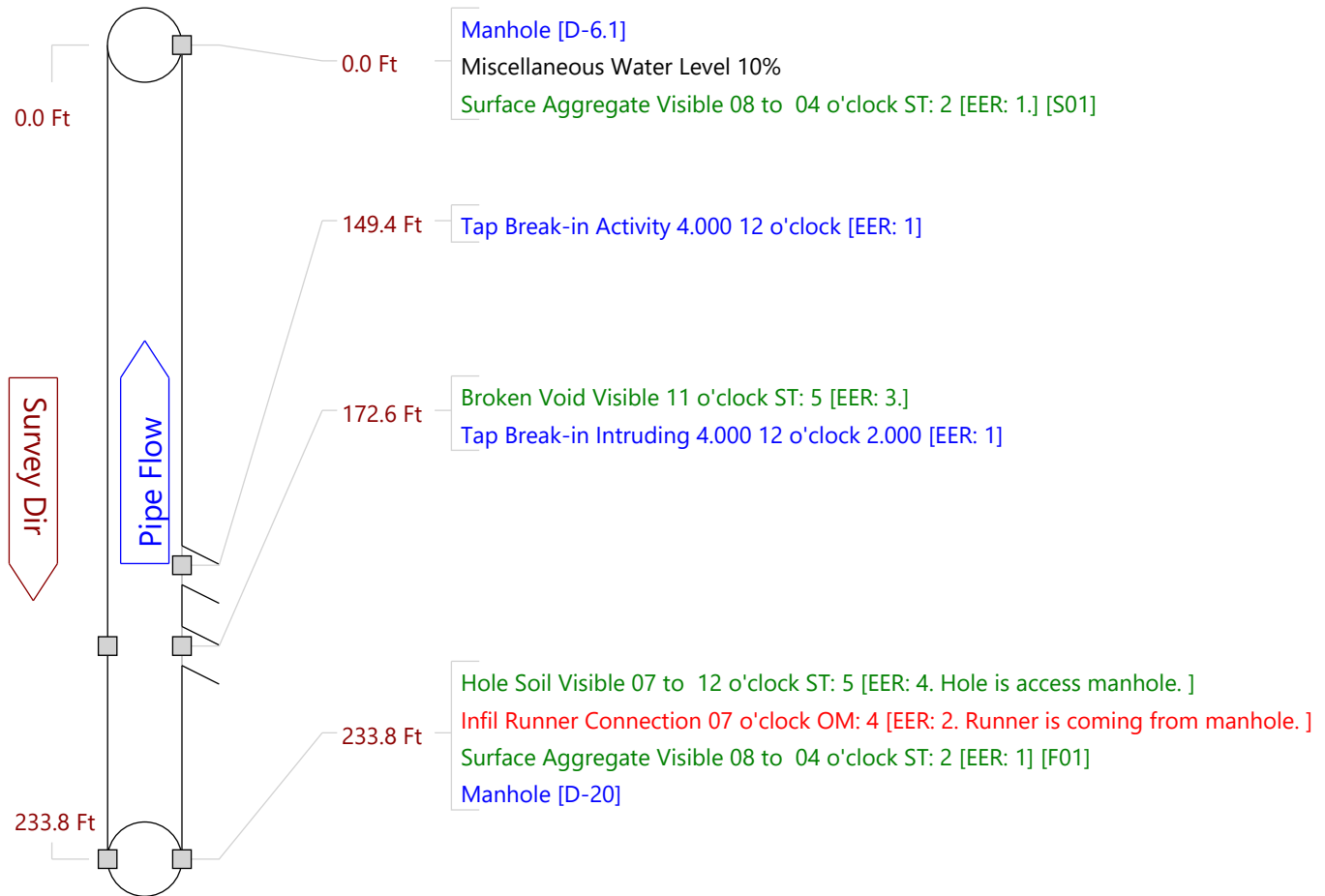
Comments:

EER: 1. Related to the
IWJ.



| | | | | |
|---------------------------------------|---|-----------------------------|--------------------|--------------|
| Sheet 21 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner | |
| Reviewed By | Reviewer # | Work Order | | |
| Customer | | PO | Media Label | |
| Date 20170629 12:52 | Weather | PreClean | Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Upstream | |
| Inspection Status Complete Inspection | | Consequence of Failure | | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | | |
| Street D Street | City Anacortes | Drainage Area | | |
| Location | | Pipe Use | Process Pipe | |
| Details | | Height | 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | | |
| Coating | Joint Length ft | Total Length | 233.8 ft | |
| Len. Surveyed 233.8 ft | Year Constructed | Year Rehabilitated | | |
| Up D-20 | Rim Invert | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Down D-6.1 | Rim Invert | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Coordinate System | Vertical Datum | | | |
| GPS Accuracy | | | | |
| Additional Info | | | | |

Miscellaneous Structural O&M Constructional



| | | | |
|---------------------------------------|---|-----------------------------|--------------------|
| Sheet 21 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20170629 12:52 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Upstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length | 233.8 ft |
| Len. Surveyed 233.8 ft | Year Constructed | Year Rehabilitated | |
| Up D-20 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-6.1 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|---------------------------------|-------|-------|-----|-----|----|----|--|
| 0.0 | | AMH - Manhole | | | | | | | D-6.1 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 0.0 | S01 | SAV - Surface Aggregate Visible | | | | | 08 | 04 | EER: 1. |
| 149.4 | | TBA - Tap Break-in Activity | 4.0 | | | | 12 | | EER: 1 |
| 172.6 | | BVV - Broken Void Visible | | | | | 11 | | EER: 3. |
| 172.6 | | TBI - Tap Break-in Intruding | 4.0 | 2.0 | | | 12 | | EER: 1 |
| 233.8 | | HSV - Hole Soil Visible | | | | | 07 | 12 | EER: 4. Hole is access manhole. |
| 233.8 | | IRC - Infil Runner Connection | | | | | 07 | | EER: 2. Runner is coming from manhole. |
| 233.8 | F01 | SAV - Surface Aggregate Visible | | | | | 08 | 04 | EER: 1 |
| 233.8 | | AMH - Manhole | | | | | | | D-20 |

233.8 ft Total Length Surveyed

| | | |
|-----------------|---------------------|--------------------|
| Work Order | Date: 2:52 20170629 | Sheet 21 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-20 | Down Node D-6.1 | Direction Upstream |

0.0_SAV_From-08_To-04.jpg

Date: 11/09/2022
 Distance: 0 ft
 Obs:
 SAV - Surface Aggregate Visible
 Comments:
 EER: 1.



149.4_TBA_From-12_To-.jpg

Date: 11/07/2022
 Distance: 149.4 ft
 Obs:
 TBA - Tap Break-in Activity
 Comments:
 EER: 1



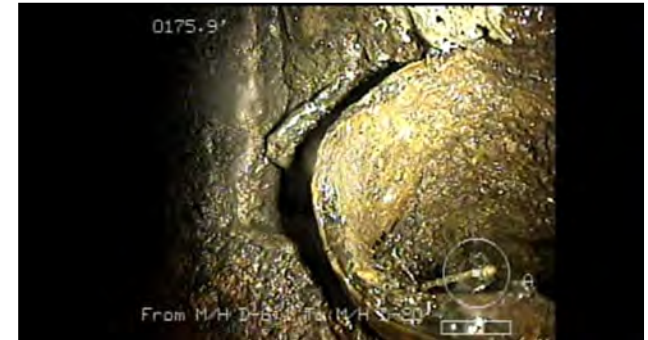
149.4_BVV_From-09_To-.jpg

Date: 11/07/2022
 Distance: 172.6 ft
 Obs:
 BVV - Broken Void Visible
 Comments:
 EER: 3.



172.6_TBI_From-12_To-.jpg

Date: 11/07/2022
 Distance: 172.6 ft
 Obs:
 TBI - Tap Break-in Intruding
 Comments:
 EER: 1



| | | |
|-----------------|---------------------|--------------------|
| Work Order | Date: 2:52 20170629 | Sheet 21 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-20 | Down Node D-6.1 | Direction Upstream |

233.8_IRC_From-07_To-.jpg

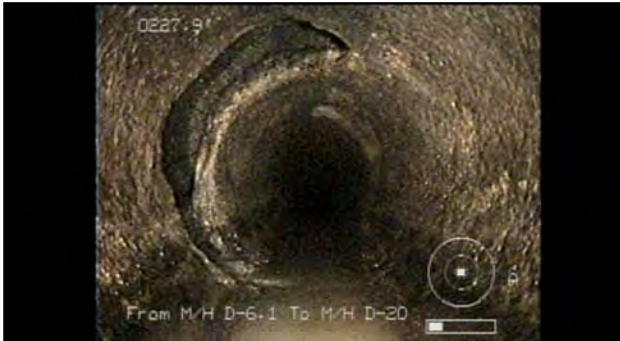
Date: 11/07/2022

Distance: 233.8 ft

Obs:
IRC - Infil Runner
Connection

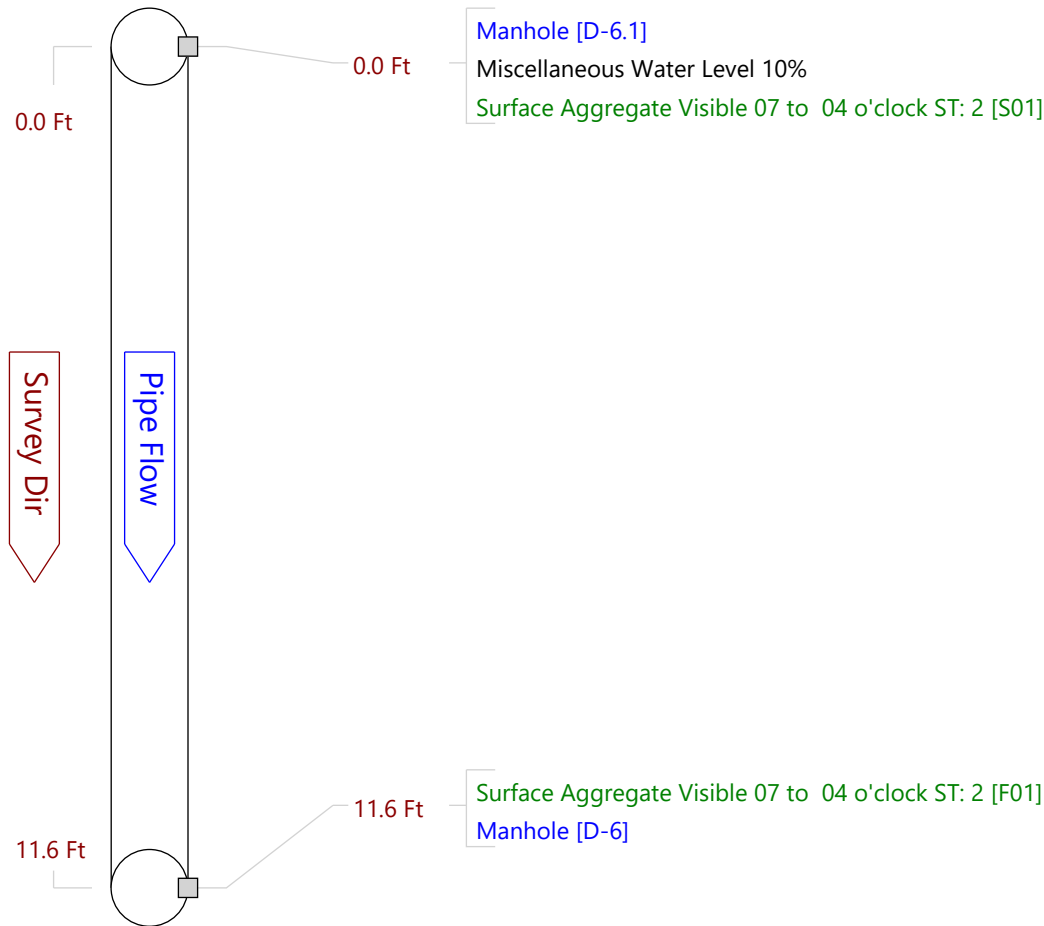
Comments:

EER: 2. Runner is
coming from manhole.



| | | | | |
|---------------------------------------|--|-----------------------------|----------------------|--------------|
| Sheet 22 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner | |
| Reviewed By | Reviewer # | Work Order | | |
| Customer | | PO | Media Label | |
| Date 20170629 13:33 | Weather | PreClean | Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Downstream | |
| Inspection Status Complete Inspection | | Consequence of Failure | | Pressure |
| Inspection Technology Used | <input type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | | |
| Street D Street | City Anacortes | Drainage Area | | |
| Location | | Pipe Use | Process Pipe | |
| Details | | Height | 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | | |
| Coating | Joint Length ft | Total Length | 11.6 ft | |
| Len. Surveyed 11.6 ft | Year Constructed | Year Rehabilitated | | |
| Up D-6.1 | Rim Invert 4.0 | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Down D-6 | Rim Invert | Grade Invert | Rim Grade | ft |
| Northing | Easting | Elevation | | |
| Coordinate System | Vertical Datum | | | |
| GPS Accuracy | | | | |
| Additional Info | | | | |

Miscellaneous Structural O&M Constructional



| | | | |
|---------------------------------------|--|-----------------------------|----------------------|
| Sheet 22 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20170629 13:33 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 15 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length | 11.6 ft |
| Len. Surveyed 11.6 ft | Year Constructed | Year Rehabilitated | |
| Up D-6.1 | Rim Invert 4.0 | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-6 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | Vertical Datum | | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|---------------------------------|-------|-------|-----|-----|----|----|---------|
| 0.0 | | AMH - Manhole | | | | | | | D-6.1 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 010 | | | | |
| 0.0 | S01 | SAV - Surface Aggregate Visible | | | | | 07 | 04 | |
| 11.6 | F01 | SAV - Surface Aggregate Visible | | | | | 07 | 04 | |
| 11.6 | | AMH - Manhole | | | | | | | D-6 |

11.6 ft Total Length Surveyed

| | | |
|-----------------|--------------------|----------------------|
| Work Order | Date 3:33 20170629 | Sheet 22 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-6.1 | Down Node D-6 | Direction Downstream |

0.0_SAV_From-07_To-04.jpg

Date: 11/09/2022

Distance: 0 ft

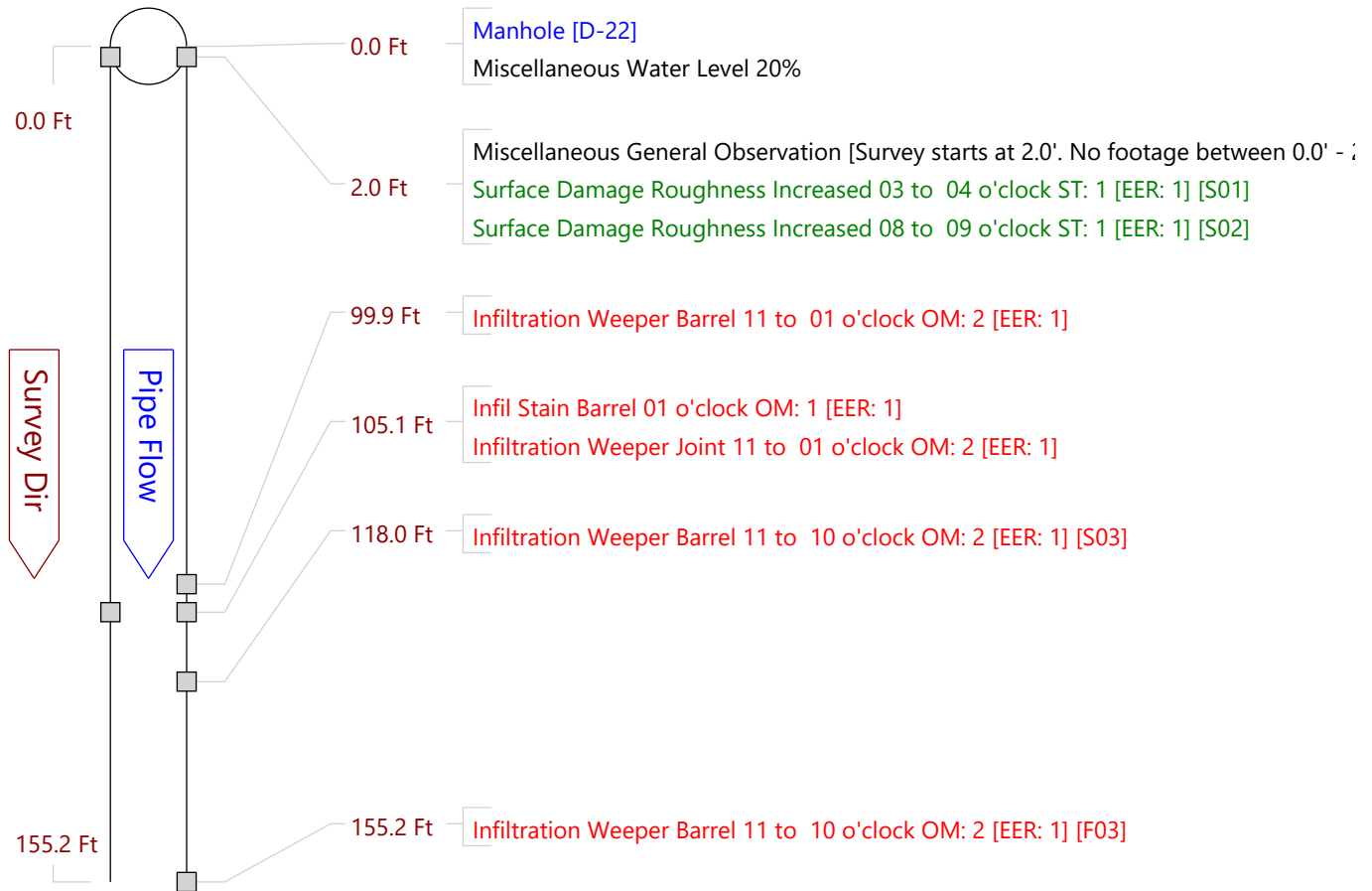
Obs:
SAV - Surface
Aggregate Visible

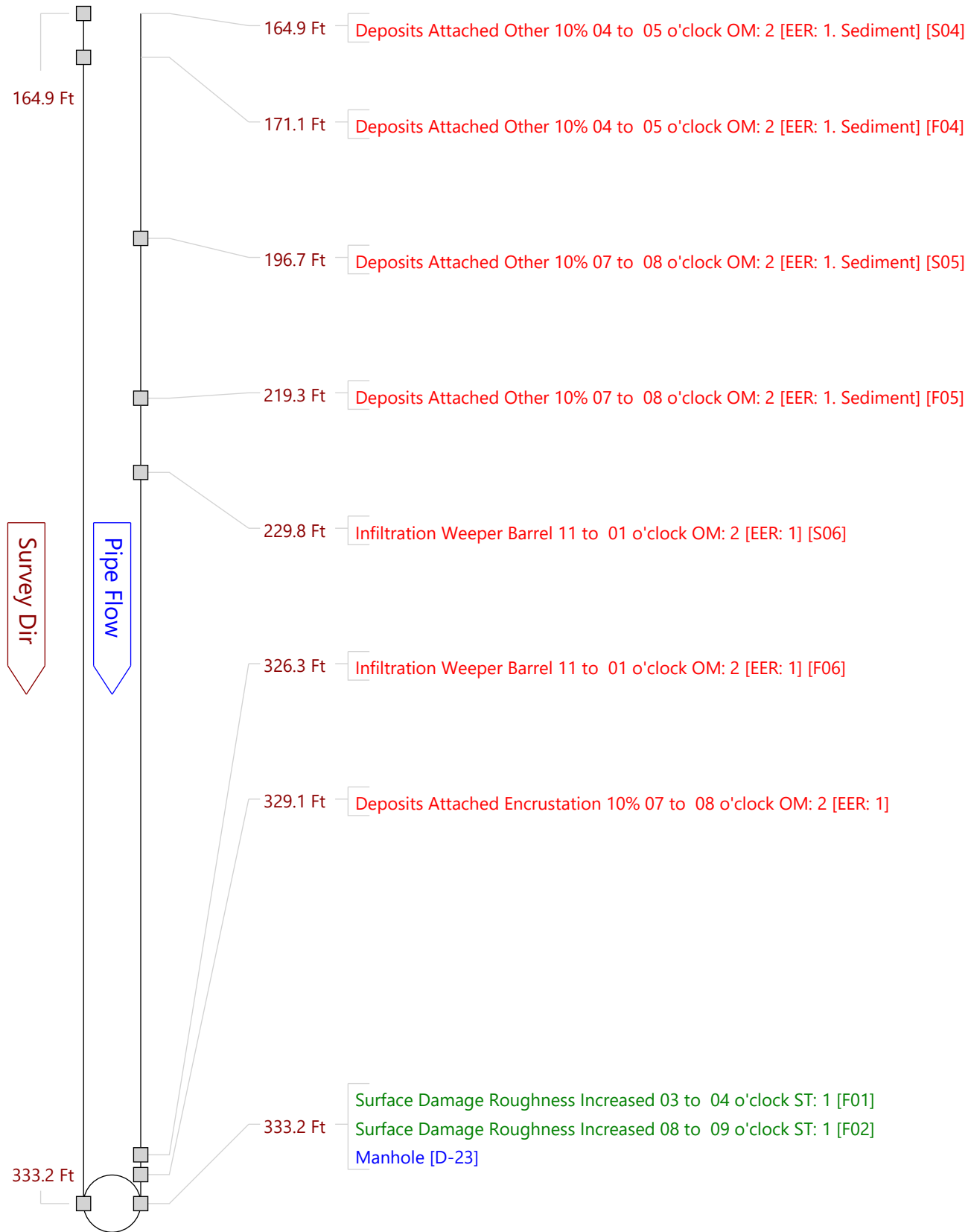
Comments:



| | | | |
|---------------------------------------|---|-----------------------------|----------------------|
| Sheet 23 | Surveyor HENRY CADE | Certificate P0037737-052022 | System Owner |
| Reviewed By | Reviewer # | Work Order | |
| Customer | | PO | Media Label |
| Date 20180808 10:25 | Weather | PreClean Not Known | Date Cleaned |
| Flow Control | | Purpose | Direction Downstream |
| Inspection Status Complete Inspection | | Consequence of Failure | Pressure |
| Inspection Technology Used | <input checked="" type="checkbox"/> CCTV <input type="checkbox"/> Laser <input type="checkbox"/> Sonar <input type="checkbox"/> Sidewall <input type="checkbox"/> Zoom <input type="checkbox"/> Other | | |
| Street D Street | City Anacortes | Drainage Area | |
| Location | | Pipe Use Process Pipe | |
| Details | | Height 32 in | Width in |
| Shape Circular | Material Reinforced Concrete Pipe | Lining | |
| Coating | Joint Length ft | Total Length 333.2 ft | |
| Len. Surveyed 333.2 ft | Year Constructed | Year Rehabilitated | |
| Up D-22 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Down D-23 | Rim Invert | Grade Invert | Rim Grade ft |
| Northing | Easting | Elevation | |
| Coordinate System | | Vertical Datum | |
| GPS Accuracy | | | |
| Additionl Info | | | |

Miscellaneous Structural O&M Constructional





Sheet 23 Surveyor HENRY CADE Certificate P0037737-052022 System Owner

Reviewed By Reviewer # Work Order

Customer PO Media Label

Date 20180808 10:25 Weather PreClean Not Known Date Cleaned

Flow Control Purpose Direction Downstream

Inspection Status Complete Inspection Consequence of Failure Pressure

Inspection Technology Used CCTV Laser Sonar Sidewall Zoom Other

Street D Street City Anacortes Drainage Area

Location Pipe Use Process Pipe

Details Height 32 in Width in

Shape Circular Material Reinforced Concrete Pipe Lining

Coating Joint Length ft Total Length 333.2 ft

Len. Surveyed 333.2 ft Year Constructed Year Rehabilitated

Up D-22 Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Down D-23 Rim Invert Grade Invert Rim Grade ft

Northing Easting Elevation

Coordinate System Vertical Datum

GPS Accuracy

Additionl Info

Miscellaneous Structural O&M Constructional

| Count | CD | Code | Val 1 | Val 2 | % | Jnt | Fr | To | Remarks |
|-------|-----|--|-------|-------|-----|-----|----|----|--|
| 0.0 | | AMH - Manhole | | | | | | | D-22 |
| 0.0 | | MWL - Miscellaneous Water Level | | | 020 | | | | |
| 2.0 | | MGO - Miscellaneous General Observation | | | | | | | Survey starts at 2.0'. No footage between 0.0' - 2.0'. |
| 2.0 | S01 | SRI - Surface Damage Roughness Increased | | | | | 03 | 04 | EER: 1 |
| 2.0 | S02 | SRI - Surface Damage Roughness Increased | | | | | 08 | 09 | EER: 1 |
| 99.9 | | IWB - Infiltration Weeper Barrel | | | | | 11 | 01 | EER: 1 |
| 105.1 | | ISB - Infil Stain Barrel | | | | | 01 | | EER: 1 |
| 105.1 | | IWJ - Infiltration Weeper Joint | | | | X | 11 | 01 | EER: 1 |
| 118.0 | S03 | IWB - Infiltration Weeper Barrel | | | | | 11 | 10 | EER: 1 |
| 155.2 | F03 | IWB - Infiltration Weeper Barrel | | | | | 11 | 10 | EER: 1 |
| 164.9 | S04 | DAZ - Deposits Attached Other | | | 010 | | 04 | 05 | EER: 1. Sediment |
| 171.1 | F04 | DAZ - Deposits Attached Other | | | 010 | | 04 | 05 | EER: 1. Sediment |
| 196.7 | S05 | DAZ - Deposits Attached Other | | | 010 | | 07 | 08 | EER: 1. Sediment |
| 219.3 | F05 | DAZ - Deposits Attached Other | | | 010 | | 07 | 08 | EER: 1. Sediment |
| 229.8 | S06 | IWB - Infiltration Weeper Barrel | | | | | 11 | 01 | EER: 1 |
| 326.3 | F06 | IWB - Infiltration Weeper Barrel | | | | | 11 | 01 | EER: 1 |
| 329.1 | | DAE - Deposits Attached Encrustation | | | 010 | | 07 | 08 | EER: 1 |
| 333.2 | F01 | SRI - Surface Damage Roughness Increased | | | | | 03 | 04 | |
| 333.2 | F02 | SRI - Surface Damage Roughness Increased | | | | | 08 | 09 | |
| 333.2 | | AMH - Manhole | | | | | | | D-23 |

333.2 ft Total Length Surveyed

| | | |
|-----------------|----------------------|----------------------|
| Work Order | Date: 10/25/20180808 | Sheet 23 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-22 | Down Node D-23 | Direction Downstream |

2.0_SRI_From-08_To-09.jpg

Date: 11/09/2022
 Distance: 2 ft
 Obs:
 SRI - Surface Damage
 Roughness Increased
 Comments:
 EER: 1



2.0_SRI_From-03_To-04.jpg

Date: 11/09/2022
 Distance: 2 ft
 Obs:
 SRI - Surface Damage
 Roughness Increased
 Comments:
 EER: 1



99.9_IWB_From-11_To-01.jpg

Date: 11/07/2022
 Distance: 99.9 ft
 Obs:
 IWB - Infiltration
 Weeper Barrel
 Comments:
 EER: 1



105.1_ISB_From-01_To-.jpg

Date: 11/07/2022
 Distance: 105.1 ft
 Obs:
 ISB - Infil Stain Barrel
 Comments:
 EER: 1



| | | |
|-----------------|----------------------|----------------------|
| Work Order | Date: 10/25/20180808 | Sheet 23 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-22 | Down Node D-23 | Direction Downstream |

105.0_IWJ_From-11_To-01.jpg

Date: 11/07/2022

Distance: 105.1 ft

Obs:
IWJ - Infiltration Weeper Joint

Comments:

EER: 1



118.0_IWB_From-12_To-.jpg

Date: 11/07/2022

Distance: 118 ft

Obs:
IWB - Infiltration Weeper Barrel

Comments:

EER: 1



164.9_DAZ_From-04_To-05.jpg

Date: 11/07/2022

Distance: 164.9 ft

Obs:
DAZ - Deposits Attached Other

Comments:

EER: 1. Sediment



196.7_DAZ_From-07_To-08.jpg

Date: 11/07/2022

Distance: 196.7 ft

Obs:
DAZ - Deposits Attached Other

Comments:

EER: 1. Sediment



| | | |
|-----------------|------------------------|----------------------|
| Work Order | Date: 10/25/2018 08:08 | Sheet 23 |
| Street D Street | | |
| City Anacortes | Weather | |
| Location | | |
| Up Node D-22 | Down Node D-23 | Direction Downstream |

219.3_IWB_From-11_To-01.jpg

Date: 11/07/2022

Distance: 229.8 ft

Obs:
IWB - Infiltration
Weeper Barrel

Comments:

EER: 1



329.1_DAE_From-07_To-08.jpg

Date: 11/09/2022

Distance: 329.1 ft

Obs:
DAE - Deposits Attached
Encrustation

Comments:

EER: 1



**APPENDIX E -
ORIGINAL LABORATORY ANALYTICAL REPORT**



April 26, 2023

Mr. Eric Libolt
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Libolt,

On April 11th, 2 samples were received by our laboratory and assigned our laboratory project number EV23040065. The project was identified as your HF Sinclair OWS D St. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rob Greer
Laboratory Director



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-01 |
| CLIENT SAMPLE ID | B-1-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 10:45:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|--------------------------|----------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| C5-C6 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWEPH | U | 23 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | 23 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| Dichlorodifluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Benzene | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-01 |
| CLIENT SAMPLE ID | B-1-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 10:45:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|-----------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| Dibromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Toluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| o-Xylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromoform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | 50 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Naphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-01 |
| CLIENT SAMPLE ID | B-1-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 10:45:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|------------------|-----------------|-------|---------------|-------------|
| Chrysene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chromium (VI) | EPA-7196 | U | 5.0 | 1 | MG/KG | 04/13/2023 | EBS |
| Mercury | EPA-7471 | 0.025 | 0.020 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium (III) | Calc-Cr3 | 26 | 0.50 | 1 | MG/KG | 04/26/2023 | CCN |
| Arsenic | EPA-6020 | 2.6 | 0.20 | 1 | MG/KG | 04/14/2023 | RAL |
| Cadmium | EPA-6020 | 0.11 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium | EPA-6020 | 26 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Lead | EPA-6020 | 6.8 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Nickel | EPA-6020 | 38 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Zinc | EPA-6020 | 41 | 0.50 | 1 | MG/KG | 04/14/2023 | RAL |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|-----------------------|--------------|------|---------------|-------------|
| TFT - Aliphatic | NWVPH | 88.0 | 04/13/2023 | OSE |
| C25 | NWEPH | 72.6 | 04/24/2023 | FAL |
| p-Terphenyl | NWEPH | 91.0 | 04/24/2023 | FAL |
| 1,2-Dichloroethane-d4 | EPA-8260 | 96.1 | 04/12/2023 | DLC |
| Toluene-d8 | EPA-8260 | 101 | 04/12/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 106 | 04/12/2023 | DLC |
| Terphenyl-d14 | EPA-8270 SIM | 63.3 | 04/18/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-02 |
| CLIENT SAMPLE ID | B-2-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 12:00:00 PM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|----------|---------|------------------|-----------------|-------|---------------|-------------|
| C5-C6 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWEPH | U | 21 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | 56 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | 190 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | 210 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | 21 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | 100 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | 1000 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| Dichlorodifluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Benzene | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-02 |
| CLIENT SAMPLE ID | B-2-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 12:00:00 PM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|-----------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| Bromodichloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Toluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| o-Xylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromoform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | 50 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Naphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | 27 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Anthracene | EPA-8270 SIM | 91 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | 68 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Pyrene | EPA-8270 SIM | 47 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | 76 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chrysene | EPA-8270 SIM | 110 | 20 | 1 | UG/KG | 04/18/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-02 |
| CLIENT SAMPLE ID | B-2-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 12:00:00 PM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|------------------|-----------------|-------|---------------|-------------|
| Benzo[B]Fluoranthene | EPA-8270 SIM | 170 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | 350 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | 100 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | 120 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | 510 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chromium (VI) | EPA-7196 | U | 5.0 | 1 | MG/KG | 04/13/2023 | EBS |
| Mercury | EPA-7471 | 0.044 | 0.020 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium (III) | Calc-Cr3 | 40 | 0.50 | 1 | MG/KG | 04/26/2023 | CCN |
| Arsenic | EPA-6020 | 3.2 | 0.20 | 1 | MG/KG | 04/14/2023 | RAL |
| Cadmium | EPA-6020 | 0.12 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium | EPA-6020 | 40 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Lead | EPA-6020 | 6.7 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Nickel | EPA-6020 | 52 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Zinc | EPA-6020 | 49 | 0.50 | 1 | MG/KG | 04/14/2023 | RAL |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|-----------------------|--------------|------|---------------|-------------|
| TFT - Aliphatic | NWVPH | 85.0 | 04/13/2023 | OSE |
| C25 | NWEPH | 55.7 | 04/24/2023 | FAL |
| p-Terphenyl | NWEPH | 95.0 | 04/24/2023 | FAL |
| 1,2-Dichloroethane-d4 | EPA-8260 | 99.2 | 04/12/2023 | DLC |
| Toluene-d8 | EPA-8260 | 101 | 04/12/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 108 | 04/12/2023 | DLC |
| Terphenyl-d14 | EPA-8270 SIM | 67.9 | 04/18/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/26/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MBLK-R433667 - Batch R433667 - Soil by NWVPH

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------|---------|-------|------------------|---------------|-------------|
| C5-C6 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R433669 - Batch R433669 - Soil by NWEPH

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------|---------|-------|------------------|---------------|-------------|
| >C8-C10 Aliphatics | NWEPH | U | MG/KG | 21 | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | MG/KG | 21 | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041223S - Batch 192316 - Soil by EPA-8260

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|----------|---------|-------|------------------|---------------|-------------|
| Dichlorodifluoromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Chloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromomethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Chloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | UG/KG | 20 | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|------------------------|---|----------------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY BLANK RESULTS

MB-041223S - Batch 192316 - Soil by EPA-8260

| | | | | | | |
|-----------------------------|----------|---|-------|-----|------------|-----|
| Cis-1,2-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Chloroform | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Benzene | EPA-8260 | U | UG/KG | 5.0 | 04/12/2023 | DLC |
| Trichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Dibromomethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Toluene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | UG/KG | 5.0 | 04/12/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | UG/KG | 20 | 04/12/2023 | DLC |
| o-Xylene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromoform | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | UG/KG | 50 | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/26/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041423S - Batch 192538 - Soil by EPA-8270 SIM

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|-------|------------------|---------------|-------------|
| Naphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Chrysene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R432732 - Batch R432732 - Soil by EPA-7196

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------|----------|---------|-------|------------------|---------------|-------------|
| Chromium (VI) | EPA-7196 | U | MG/KG | 5.0 | 04/13/2023 | EBS |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R432991 - Batch R432991 - Soil by EPA-7471

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------|----------|---------|-------|------------------|---------------|-------------|
| Mercury | EPA-7471 | U | MG/KG | 0.020 | 04/14/2023 | RAL |

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041423S - Batch 192444 - Soil by EPA-6020

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|----------|----------|---------|-------|------------------|---------------|-------------|
| Arsenic | EPA-6020 | U | MG/KG | 0.20 | 04/14/2023 | RAL |
| Cadmium | EPA-6020 | U | MG/KG | 0.10 | 04/14/2023 | RAL |
| Chromium | EPA-6020 | U | MG/KG | 0.10 | 04/14/2023 | RAL |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 4/26/2023
228 E. Champion St., Suite 101 ALS SDG#: EV23040065
Bellingham, WA 98225 WDOE ACCREDITATION: C601
CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041423S - Batch 192444 - Soil by EPA-6020

Table with 7 columns: Analyte, Method, Result, Unit, Concentration, Date, and Analyst. Rows include Lead, Nickel, and Zinc, all with 'U' results.

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

| | | | |
|-----------------|---|---------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R433669 - Soil by NWEPH

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|--------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| >C8-C10 Aliphatics - BS | NWEPH | 35.7 | | | 15.9 | 130 | 04/24/2023 | FAL |
| >C10-C12 Aliphatics - BS | NWEPH | 52.3 | | | 30.4 | 115 | 04/24/2023 | FAL |
| >C12-C16 Aliphatics - BS | NWEPH | 59.7 | | | 39.8 | 130 | 04/24/2023 | FAL |
| >C16-C21 Aliphatics - BS | NWEPH | 62.7 | | | 50.3 | 123 | 04/24/2023 | FAL |
| >C21-C34 Aliphatics - BS | NWEPH | 60.8 | | | 36.6 | 144 | 04/24/2023 | FAL |
| >C8-C10 Aromatics - BS | NWEPH | 63.6 | | | 18.6 | 130 | 04/24/2023 | FAL |
| >C10-C12 Aromatics - BS | NWEPH | 84.8 | | | 42.7 | 105 | 04/24/2023 | FAL |
| >C12-C16 Aromatics - BS | NWEPH | 87.2 | | | 43.6 | 124 | 04/24/2023 | FAL |
| >C16-C21 Aromatics - BS | NWEPH | 80.8 | | | 49.5 | 124 | 04/24/2023 | FAL |
| >C21-C34 Aromatics - BS | NWEPH | 89.6 | | | 54.8 | 124 | 04/24/2023 | FAL |

ALS Test Batch ID: 192316 - Soil by EPA-8260

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|--------------------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Dichlorodifluoromethane - BS | EPA-8260 | 93.2 | | | 50 | 150 | 04/12/2023 | DLC |
| Dichlorodifluoromethane - BSD | EPA-8260 | 92.7 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Chloromethane - BS | EPA-8260 | 91.7 | | | 50 | 150 | 04/12/2023 | DLC |
| Chloromethane - BSD | EPA-8260 | 88.7 | 3 | | 50 | 150 | 04/12/2023 | DLC |
| Vinyl Chloride - BS | EPA-8260 | 101 | | | 50 | 150 | 04/12/2023 | DLC |
| Vinyl Chloride - BSD | EPA-8260 | 100 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Bromomethane - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromomethane - BSD | EPA-8260 | 96.8 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Chloroethane - BS | EPA-8260 | 94.5 | | | 50 | 150 | 04/12/2023 | DLC |
| Chloroethane - BSD | EPA-8260 | 93.9 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Carbon Tetrachloride - BS | EPA-8260 | 107 | | | 50 | 150 | 04/12/2023 | DLC |
| Carbon Tetrachloride - BSD | EPA-8260 | 107 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Trichlorofluoromethane - BS | EPA-8260 | 102 | | | 50 | 150 | 04/12/2023 | DLC |
| Trichlorofluoromethane - BSD | EPA-8260 | 101 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloroethene - BS | EPA-8260 | 102 | | | 70 | 130 | 04/12/2023 | DLC |
| 1,1-Dichloroethene - BSD | EPA-8260 | 102 | 1 | | 70 | 130 | 04/12/2023 | DLC |
| Methylene Chloride - BS | EPA-8260 | 192 | | SQ1 | 50 | 150 | 04/12/2023 | DLC |
| Methylene Chloride - BSD | EPA-8260 | 202 | 5 | SQ1 | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene - BS | EPA-8260 | 101 | | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene - BSD | EPA-8260 | 99.1 | 2 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloroethane - BS | EPA-8260 | 99.8 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloroethane - BSD | EPA-8260 | 99.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene - BS | EPA-8260 | 101 | | | 50 | 150 | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene - BSD | EPA-8260 | 101 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 2,2-Dichloropropane - BS | EPA-8260 | 104 | | | 50 | 150 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 4/26/2023
ALS SDG#: EV23040065
WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------------------|----------|------|-----|------|--------|-------|---------------|-------------|
| | | | | | MIN | MAX | | |
| 2,2-Dichloropropane - BSD | EPA-8260 | 103 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Bromochloromethane - BS | EPA-8260 | 106 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromochloromethane - BSD | EPA-8260 | 106 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Chloroform - BS | EPA-8260 | 96.2 | | | 50 | 150 | 04/12/2023 | DLC |
| Chloroform - BSD | EPA-8260 | 95.9 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane - BS | EPA-8260 | 100 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane - BSD | EPA-8260 | 98.5 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloropropene - BS | EPA-8260 | 99.6 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloropropene - BSD | EPA-8260 | 99.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichloroethane - BS | EPA-8260 | 91.5 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichloroethane - BSD | EPA-8260 | 91.9 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Benzene - BS | EPA-8260 | 93.2 | | | 75 | 138 | 04/12/2023 | DLC |
| Benzene - BSD | EPA-8260 | 93.1 | 0 | | 75 | 138 | 04/12/2023 | DLC |
| Trichloroethene - BS | EPA-8260 | 93.9 | | | 75 | 136 | 04/12/2023 | DLC |
| Trichloroethene - BSD | EPA-8260 | 93.3 | 1 | | 75 | 136 | 04/12/2023 | DLC |
| 1,2-Dichloropropane - BS | EPA-8260 | 93.5 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichloropropane - BSD | EPA-8260 | 93.3 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Dibromomethane - BS | EPA-8260 | 97.8 | | | 50 | 150 | 04/12/2023 | DLC |
| Dibromomethane - BSD | EPA-8260 | 97.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Bromodichloromethane - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromodichloromethane - BSD | EPA-8260 | 96.5 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene - BS | EPA-8260 | 108 | | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene - BSD | EPA-8260 | 108 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Toluene - BS | EPA-8260 | 92.7 | | | 71.6 | 122.1 | 04/12/2023 | DLC |
| Toluene - BSD | EPA-8260 | 92.1 | 1 | | 71.6 | 122.1 | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene - BS | EPA-8260 | 102 | | | 50 | 150 | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene - BSD | EPA-8260 | 102 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane - BS | EPA-8260 | 99.9 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane - BSD | EPA-8260 | 100 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichloropropane - BS | EPA-8260 | 98.5 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichloropropane - BSD | EPA-8260 | 99.6 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Tetrachloroethylene - BS | EPA-8260 | 102 | | | 50 | 150 | 04/12/2023 | DLC |
| Tetrachloroethylene - BSD | EPA-8260 | 102 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Dibromochloromethane - BS | EPA-8260 | 104 | | | 50 | 150 | 04/12/2023 | DLC |
| Dibromochloromethane - BSD | EPA-8260 | 104 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromoethane - BS | EPA-8260 | 104 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromoethane - BSD | EPA-8260 | 104 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Chlorobenzene - BS | EPA-8260 | 97.6 | | | 79 | 128 | 04/12/2023 | DLC |
| Chlorobenzene - BSD | EPA-8260 | 96.8 | 1 | | 79 | 128 | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane - BS | EPA-8260 | 103 | | | 50 | 150 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|------------------------|---|----------------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| 1,1,1,2-Tetrachloroethane - BSD | EPA-8260 | 104 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Ethylbenzene - BS | EPA-8260 | 98.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Ethylbenzene - BSD | EPA-8260 | 97.9 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| m,p-Xylene - BS | EPA-8260 | 99.0 | | | 50 | 150 | 04/12/2023 | DLC |
| m,p-Xylene - BSD | EPA-8260 | 98.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| o-Xylene - BS | EPA-8260 | 95.0 | | | 50 | 150 | 04/12/2023 | DLC |
| o-Xylene - BSD | EPA-8260 | 94.8 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Bromoform - BS | EPA-8260 | 95.5 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromoform - BSD | EPA-8260 | 95.2 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane - BS | EPA-8260 | 97.1 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane - BSD | EPA-8260 | 96.3 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane - BS | EPA-8260 | 98.0 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane - BSD | EPA-8260 | 97.1 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Bromobenzene - BS | EPA-8260 | 97.7 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromobenzene - BSD | EPA-8260 | 97.3 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 2-Chlorotoluene - BS | EPA-8260 | 94.3 | | | 50 | 150 | 04/12/2023 | DLC |
| 2-Chlorotoluene - BSD | EPA-8260 | 93.2 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 4-Chlorotoluene - BS | EPA-8260 | 94.1 | | | 50 | 150 | 04/12/2023 | DLC |
| 4-Chlorotoluene - BSD | EPA-8260 | 93.6 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene - BS | EPA-8260 | 95.9 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene - BSD | EPA-8260 | 96.5 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene - BSD | EPA-8260 | 97.5 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene - BS | EPA-8260 | 96.8 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene - BSD | EPA-8260 | 97.9 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane - BS | EPA-8260 | 95.8 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane - BSD | EPA-8260 | 96.2 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene - BS | EPA-8260 | 99.2 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene - BSD | EPA-8260 | 108 | 9 | | 50 | 150 | 04/12/2023 | DLC |
| Hexachlorobutadiene - BS | EPA-8260 | 105 | | | 50 | 150 | 04/12/2023 | DLC |
| Hexachlorobutadiene - BSD | EPA-8260 | 109 | 4 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene - BS | EPA-8260 | 94.3 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene - BSD | EPA-8260 | 111 | 16 | | 50 | 150 | 04/12/2023 | DLC |

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.

ALS Test Batch ID: 192538 - Soil by EPA-8270 SIM

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-------------------|--------------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Naphthalene - BS | EPA-8270 SIM | 72.0 | | | 20 | 150 | 04/18/2023 | DBA |
| Naphthalene - BSD | EPA-8270 SIM | 61.4 | 16 | | 20 | 150 | 04/18/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|------------------------|---|----------------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|------------------------------|--------------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| 2-Methylnaphthalene - BS | EPA-8270 SIM | 64.7 | | | 20 | 150 | 04/18/2023 | DBA |
| 2-Methylnaphthalene - BSD | EPA-8270 SIM | 54.6 | 17 | | 20 | 150 | 04/18/2023 | DBA |
| 1-Methylnaphthalene - BS | EPA-8270 SIM | 63.8 | | | 20 | 150 | 04/18/2023 | DBA |
| 1-Methylnaphthalene - BSD | EPA-8270 SIM | 55.1 | 15 | | 20 | 150 | 04/18/2023 | DBA |
| Acenaphthylene - BS | EPA-8270 SIM | 72.9 | | | 20 | 150 | 04/18/2023 | DBA |
| Acenaphthylene - BSD | EPA-8270 SIM | 63.2 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Acenaphthene - BS | EPA-8270 SIM | 74.1 | | | 41 | 107 | 04/18/2023 | DBA |
| Acenaphthene - BSD | EPA-8270 SIM | 63.8 | 15 | SR1 | 41 | 107 | 04/18/2023 | DBA |
| Fluorene - BS | EPA-8270 SIM | 71.1 | | | 20 | 150 | 04/18/2023 | DBA |
| Fluorene - BSD | EPA-8270 SIM | 60.0 | 17 | | 20 | 150 | 04/18/2023 | DBA |
| Phenanthrene - BS | EPA-8270 SIM | 83.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Phenanthrene - BSD | EPA-8270 SIM | 70.4 | 17 | | 20 | 150 | 04/18/2023 | DBA |
| Anthracene - BS | EPA-8270 SIM | 66.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Anthracene - BSD | EPA-8270 SIM | 57.8 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Fluoranthene - BS | EPA-8270 SIM | 70.3 | | | 20 | 150 | 04/18/2023 | DBA |
| Fluoranthene - BSD | EPA-8270 SIM | 61.2 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Pyrene - BS | EPA-8270 SIM | 70.6 | | | 18 | 136 | 04/18/2023 | DBA |
| Pyrene - BSD | EPA-8270 SIM | 63.5 | 11 | | 18 | 136 | 04/18/2023 | DBA |
| Benzo[A]Anthracene - BS | EPA-8270 SIM | 75.3 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[A]Anthracene - BSD | EPA-8270 SIM | 61.9 | 20 | | 20 | 150 | 04/18/2023 | DBA |
| Chrysene - BS | EPA-8270 SIM | 77.0 | | | 20 | 150 | 04/18/2023 | DBA |
| Chrysene - BSD | EPA-8270 SIM | 66.8 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene - BS | EPA-8270 SIM | 78.2 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene - BSD | EPA-8270 SIM | 66.4 | 16 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene - BS | EPA-8270 SIM | 65.5 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene - BSD | EPA-8270 SIM | 58.9 | 11 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[A]Pyrene - BS | EPA-8270 SIM | 79.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[A]Pyrene - BSD | EPA-8270 SIM | 70.5 | 12 | | 20 | 150 | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene - BS | EPA-8270 SIM | 87.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene - BSD | EPA-8270 SIM | 74.4 | 16 | | 20 | 150 | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene - BS | EPA-8270 SIM | 87.8 | | | 20 | 150 | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene - BSD | EPA-8270 SIM | 75.8 | 15 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene - BS | EPA-8270 SIM | 86.8 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene - BSD | EPA-8270 SIM | 72.3 | 18 | | 20 | 150 | 04/18/2023 | DBA |

| SURROGATE | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Terphenyl-d14 - BSD | EPA-8270 SIM | 54.9 | | BS1 | 58 | 132 | 04/18/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|-----------------|---|---------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/26/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

BS1 - Surrogate for BS/BSD recovered outside of control limits. Based on spike recoveries this did not impact the associated spike compounds. No corrective action taken.
 SR1 - RPD outside of control limits.

ALS Test Batch ID: R432732 - Soil by EPA-7196

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Chromium (VI) - BS | EPA-7196 | 101 | | | 91 | 114 | 04/13/2023 | EBS |
| Chromium (VI) - BSD | EPA-7196 | 102 | 1 | | 91 | 114 | 04/13/2023 | EBS |

ALS Test Batch ID: R432991 - Soil by EPA-7471

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Mercury - BS | EPA-7471 | 107 | | | 81.8 | 117 | 04/14/2023 | RAL |
| Mercury - BSD | EPA-7471 | 107 | 1 | | 81.8 | 117 | 04/14/2023 | RAL |

ALS Test Batch ID: 192444 - Soil by EPA-6020

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Arsenic - BS | EPA-6020 | 94.5 | | | 80 | 120 | 04/14/2023 | RAL |
| Arsenic - BSD | EPA-6020 | 97.9 | 3 | | 80 | 120 | 04/14/2023 | RAL |
| Cadmium - BS | EPA-6020 | 100 | | | 80 | 120 | 04/14/2023 | RAL |
| Cadmium - BSD | EPA-6020 | 104 | 3 | | 80 | 120 | 04/14/2023 | RAL |
| Chromium - BS | EPA-6020 | 94.3 | | | 80 | 120 | 04/14/2023 | RAL |
| Chromium - BSD | EPA-6020 | 98.1 | 4 | | 80 | 120 | 04/14/2023 | RAL |
| Lead - BS | EPA-6020 | 94.5 | | | 80 | 120 | 04/14/2023 | RAL |
| Lead - BSD | EPA-6020 | 99.5 | 5 | | 80 | 120 | 04/14/2023 | RAL |
| Nickel - BS | EPA-6020 | 96.3 | | | 80 | 120 | 04/14/2023 | RAL |
| Nickel - BSD | EPA-6020 | 100 | 4 | | 80 | 120 | 04/14/2023 | RAL |
| Zinc - BS | EPA-6020 | 109 | | | 80 | 119 | 04/14/2023 | RAL |
| Zinc - BSD | EPA-6020 | 113 | 4 | | 80 | 119 | 04/14/2023 | RAL |

APPROVED BY

Rob Greer
Laboratory Director



April 27, 2023

Mr. Eric Libolt
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Libolt,

On April 11th, 2 samples were received by our laboratory and assigned our laboratory project number EV23040065. The project was identified as your HF Sinclair OWS D St. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rob Greer
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St
 CLIENT SAMPLE ID: B-1-23 6'

DATE: 4/27/2023
 ALS JOB#: EV23040065
 ALS SAMPLE#: EV23040065-01
 DATE RECEIVED: 04/11/2023
 COLLECTION DATE: 4/10/2023 10:45:00 AM
 WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|--------------------------|----------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| C5-C6 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWEPH | U | 23 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | 23 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| Dichlorodifluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| Methyl T-Butyl Ether | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Hexane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Benzene | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/27/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-01 |
| CLIENT SAMPLE ID | B-1-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 10:45:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|-----------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| Trichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Toluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| o-Xylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromoform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | 50 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Naphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|------------------|---|---------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/27/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-01 |
| CLIENT SAMPLE ID | B-1-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 10:45:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chrysene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chromium (VI) | EPA-7196 | U | 5.0 | 1 | MG/KG | 04/13/2023 | EBS |
| Mercury | EPA-7471 | 0.025 | 0.020 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium (III) | Calc-Cr3 | 26 | 0.50 | 1 | MG/KG | 04/26/2023 | CCN |
| Arsenic | EPA-6020 | 2.6 | 0.20 | 1 | MG/KG | 04/14/2023 | RAL |
| Cadmium | EPA-6020 | 0.11 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium | EPA-6020 | 26 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Lead | EPA-6020 | 6.8 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Nickel | EPA-6020 | 38 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Zinc | EPA-6020 | 41 | 0.50 | 1 | MG/KG | 04/14/2023 | RAL |

| SURROGATE | METHOD | %REC | ANALYSIS | ANALYSIS |
|-----------------------|--------------|------|------------|----------|
| | | | DATE | BY |
| TFT - Aliphatic | NWVPH | 88.0 | 04/13/2023 | OSE |
| C25 | NWEPH | 72.6 | 04/24/2023 | FAL |
| p-Terphenyl | NWEPH | 91.0 | 04/24/2023 | FAL |
| 1,2-Dichloroethane-d4 | EPA-8260 | 96.1 | 04/12/2023 | DLC |
| Toluene-d8 | EPA-8260 | 101 | 04/12/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 106 | 04/12/2023 | DLC |
| Terphenyl-d14 | EPA-8270 SIM | 63.3 | 04/18/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

| | | | |
|------------------|---|---------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/27/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-02 |
| CLIENT SAMPLE ID | B-2-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 12:00:00 PM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|--------------------------|----------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| C5-C6 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWEPH | U | 21 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | 56 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | 190 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | 210 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | 21 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | 100 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | 1000 | 10 | 1 | MG/KG | 04/24/2023 | FAL |
| Dichlorodifluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| Methyl T-Butyl Ether | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Hexane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Chloroform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Benzene | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Trichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/27/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-02 |
| CLIENT SAMPLE ID | B-2-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 12:00:00 PM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|-----------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| 1,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Toluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/12/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | 20 | 1 | UG/KG | 04/12/2023 | DLC |
| o-Xylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromoform | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Bromobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | 50 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/12/2023 | DLC |
| Naphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | 27 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Anthracene | EPA-8270 SIM | 91 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | 68 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Pyrene | EPA-8270 SIM | 47 | 20 | 1 | UG/KG | 04/18/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/27/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040065-02 |
| CLIENT SAMPLE ID | B-2-23 6' | DATE RECEIVED: | 04/11/2023 |
| | | COLLECTION DATE: | 4/10/2023 12:00:00 PM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| Benzo[A]Anthracene | EPA-8270 SIM | 76 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chrysene | EPA-8270 SIM | 110 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | 170 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | 350 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | 100 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | 120 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | 510 | 20 | 1 | UG/KG | 04/18/2023 | DBA |
| Chromium (VI) | EPA-7196 | U | 5.0 | 1 | MG/KG | 04/13/2023 | EBS |
| Mercury | EPA-7471 | 0.044 | 0.020 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium (III) | Calc-Cr3 | 40 | 0.50 | 1 | MG/KG | 04/26/2023 | CCN |
| Arsenic | EPA-6020 | 3.2 | 0.20 | 1 | MG/KG | 04/14/2023 | RAL |
| Cadmium | EPA-6020 | 0.12 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Chromium | EPA-6020 | 40 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Lead | EPA-6020 | 6.7 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Nickel | EPA-6020 | 52 | 0.10 | 1 | MG/KG | 04/14/2023 | RAL |
| Zinc | EPA-6020 | 49 | 0.50 | 1 | MG/KG | 04/14/2023 | RAL |

| SURROGATE | METHOD | %REC | ANALYSIS | ANALYSIS |
|-----------------------|--------------|------|------------|----------|
| | | | DATE | BY |
| TFT - Aliphatic | NWVPH | 85.0 | 04/13/2023 | OSE |
| C25 | NWEPH | 55.7 | 04/24/2023 | FAL |
| p-Terphenyl | NWEPH | 95.0 | 04/24/2023 | FAL |
| 1,2-Dichloroethane-d4 | EPA-8260 | 99.2 | 04/12/2023 | DLC |
| Toluene-d8 | EPA-8260 | 101 | 04/12/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 108 | 04/12/2023 | DLC |
| Terphenyl-d14 | EPA-8270 SIM | 67.9 | 04/18/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/27/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MBLK-R433667 - Batch R433667 - Soil by NWVPH

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------|---------|-------|------------------|---------------|-------------|
| C5-C6 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/13/2023 | OSE |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R433669 - Batch R433669 - Soil by NWEPH

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------|---------|-------|------------------|---------------|-------------|
| >C8-C10 Aliphatics | NWEPH | U | MG/KG | 21 | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | MG/KG | 21 | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | MG/KG | 10 | 04/24/2023 | FAL |

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041223S - Batch 192316 - Soil by EPA-8260

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|----------|---------|-------|------------------|---------------|-------------|
| Dichlorodifluoromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Chloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromomethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Chloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | UG/KG | 20 | 04/12/2023 | DLC |
| Methyl T-Butyl Ether | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/27/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041223S - Batch 192316 - Soil by EPA-8260

| | | | | | | |
|-----------------------------|----------|---|-------|-----|------------|-----|
| 1,1-Dichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Hexane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Chloroform | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Benzene | EPA-8260 | U | UG/KG | 5.0 | 04/12/2023 | DLC |
| Trichloroethene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Dibromomethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Toluene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | UG/KG | 5.0 | 04/12/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | UG/KG | 20 | 04/12/2023 | DLC |
| o-Xylene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromoform | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Bromobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | UG/KG | 50 | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

DATE: 4/27/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-041223S - Batch 192316 - Soil by EPA-8260

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041423S - Batch 192538 - Soil by EPA-8270 SIM

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|-------|------------------|---------------|-------------|
| Naphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Chrysene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | UG/KG | 20 | 04/18/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R432732 - Batch R432732 - Soil by EPA-7196

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------|----------|---------|-------|------------------|---------------|-------------|
| Chromium (VI) | EPA-7196 | U | MG/KG | 5.0 | 04/13/2023 | EBS |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R432991 - Batch R432991 - Soil by EPA-7471

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------|----------|---------|-------|------------------|---------------|-------------|
| Mercury | EPA-7471 | U | MG/KG | 0.020 | 04/14/2023 | RAL |

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041423S - Batch 192444 - Soil by EPA-6020

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------|----------|---------|-------|------------------|---------------|-------------|
| Arsenic | EPA-6020 | U | MG/KG | 0.20 | 04/14/2023 | RAL |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 4/27/2023
ALS SDG#: EV23040065
WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041423S - Batch 192444 - Soil by EPA-6020

Table with 7 columns: Analyte, Method, Result, Unit, Concentration, Date, and Reference. Rows include Cadmium, Chromium, Lead, Nickel, and Zinc, all with 'U' results and '0.10' or '0.88' concentrations.

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

DATE: 4/27/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R433669 - Soil by NWEPH

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|--------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| >C8-C10 Aliphatics - BS | NWEPH | 35.7 | | | 15.9 | 130 | 04/24/2023 | FAL |
| >C10-C12 Aliphatics - BS | NWEPH | 52.3 | | | 30.4 | 115 | 04/24/2023 | FAL |
| >C12-C16 Aliphatics - BS | NWEPH | 59.7 | | | 39.8 | 130 | 04/24/2023 | FAL |
| >C16-C21 Aliphatics - BS | NWEPH | 62.7 | | | 50.3 | 123 | 04/24/2023 | FAL |
| >C21-C34 Aliphatics - BS | NWEPH | 60.8 | | | 36.6 | 144 | 04/24/2023 | FAL |
| >C8-C10 Aromatics - BS | NWEPH | 63.6 | | | 18.6 | 130 | 04/24/2023 | FAL |
| >C10-C12 Aromatics - BS | NWEPH | 84.8 | | | 42.7 | 105 | 04/24/2023 | FAL |
| >C12-C16 Aromatics - BS | NWEPH | 87.2 | | | 43.6 | 124 | 04/24/2023 | FAL |
| >C16-C21 Aromatics - BS | NWEPH | 80.8 | | | 49.5 | 124 | 04/24/2023 | FAL |
| >C21-C34 Aromatics - BS | NWEPH | 89.6 | | | 54.8 | 124 | 04/24/2023 | FAL |

ALS Test Batch ID: 192316 - Soil by EPA-8260

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|--------------------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Dichlorodifluoromethane - BS | EPA-8260 | 93.2 | | | 50 | 150 | 04/12/2023 | DLC |
| Dichlorodifluoromethane - BSD | EPA-8260 | 92.7 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Chloromethane - BS | EPA-8260 | 91.7 | | | 50 | 150 | 04/12/2023 | DLC |
| Chloromethane - BSD | EPA-8260 | 88.7 | 3 | | 50 | 150 | 04/12/2023 | DLC |
| Vinyl Chloride - BS | EPA-8260 | 101 | | | 50 | 150 | 04/12/2023 | DLC |
| Vinyl Chloride - BSD | EPA-8260 | 100 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Bromomethane - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromomethane - BSD | EPA-8260 | 96.8 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Chloroethane - BS | EPA-8260 | 94.5 | | | 50 | 150 | 04/12/2023 | DLC |
| Chloroethane - BSD | EPA-8260 | 93.9 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Carbon Tetrachloride - BS | EPA-8260 | 107 | | | 50 | 150 | 04/12/2023 | DLC |
| Carbon Tetrachloride - BSD | EPA-8260 | 107 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Trichlorofluoromethane - BS | EPA-8260 | 102 | | | 50 | 150 | 04/12/2023 | DLC |
| Trichlorofluoromethane - BSD | EPA-8260 | 101 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloroethene - BS | EPA-8260 | 102 | | | 70 | 130 | 04/12/2023 | DLC |
| 1,1-Dichloroethene - BSD | EPA-8260 | 102 | 1 | | 70 | 130 | 04/12/2023 | DLC |
| Methylene Chloride - BS | EPA-8260 | 192 | | SQ1 | 50 | 150 | 04/12/2023 | DLC |
| Methylene Chloride - BSD | EPA-8260 | 202 | 5 | SQ1 | 50 | 150 | 04/12/2023 | DLC |
| Methyl T-Butyl Ether - BS | EPA-8260 | 103 | | | 50 | 150 | 04/12/2023 | DLC |
| Methyl T-Butyl Ether - BSD | EPA-8260 | 104 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene - BS | EPA-8260 | 101 | | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,2-Dichloroethene - BSD | EPA-8260 | 99.1 | 2 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloroethane - BS | EPA-8260 | 99.8 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloroethane - BSD | EPA-8260 | 99.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Cis-1,2-Dichloroethene - BS | EPA-8260 | 101 | | | 50 | 150 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

DATE: 4/27/2023
ALS SDG#: EV23040065
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------------------|----------|------|-----|------|--------|-------|---------------|-------------|
| | | | | | MIN | MAX | | |
| Cis-1,2-Dichloroethene - BSD | EPA-8260 | 101 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Hexane - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Hexane - BSD | EPA-8260 | 96.7 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 2,2-Dichloropropane - BS | EPA-8260 | 104 | | | 50 | 150 | 04/12/2023 | DLC |
| 2,2-Dichloropropane - BSD | EPA-8260 | 103 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Bromochloromethane - BS | EPA-8260 | 106 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromochloromethane - BSD | EPA-8260 | 106 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Chloroform - BS | EPA-8260 | 96.2 | | | 50 | 150 | 04/12/2023 | DLC |
| Chloroform - BSD | EPA-8260 | 95.9 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane - BS | EPA-8260 | 100 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,1-Trichloroethane - BSD | EPA-8260 | 98.5 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloropropene - BS | EPA-8260 | 99.6 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1-Dichloropropene - BSD | EPA-8260 | 99.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichloroethane - BS | EPA-8260 | 91.5 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichloroethane - BSD | EPA-8260 | 91.9 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Benzene - BS | EPA-8260 | 93.2 | | | 75 | 138 | 04/12/2023 | DLC |
| Benzene - BSD | EPA-8260 | 93.1 | 0 | | 75 | 138 | 04/12/2023 | DLC |
| Trichloroethene - BS | EPA-8260 | 93.9 | | | 75 | 136 | 04/12/2023 | DLC |
| Trichloroethene - BSD | EPA-8260 | 93.3 | 1 | | 75 | 136 | 04/12/2023 | DLC |
| 1,2-Dichloropropane - BS | EPA-8260 | 93.5 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichloropropane - BSD | EPA-8260 | 93.3 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Dibromomethane - BS | EPA-8260 | 97.8 | | | 50 | 150 | 04/12/2023 | DLC |
| Dibromomethane - BSD | EPA-8260 | 97.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Bromodichloromethane - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromodichloromethane - BSD | EPA-8260 | 96.5 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene - BS | EPA-8260 | 108 | | | 50 | 150 | 04/12/2023 | DLC |
| Trans-1,3-Dichloropropene - BSD | EPA-8260 | 108 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Toluene - BS | EPA-8260 | 92.7 | | | 71.6 | 122.1 | 04/12/2023 | DLC |
| Toluene - BSD | EPA-8260 | 92.1 | 1 | | 71.6 | 122.1 | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene - BS | EPA-8260 | 102 | | | 50 | 150 | 04/12/2023 | DLC |
| Cis-1,3-Dichloropropene - BSD | EPA-8260 | 102 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane - BS | EPA-8260 | 99.9 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2-Trichloroethane - BSD | EPA-8260 | 100 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichloropropane - BS | EPA-8260 | 98.5 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichloropropane - BSD | EPA-8260 | 99.6 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Tetrachloroethylene - BS | EPA-8260 | 102 | | | 50 | 150 | 04/12/2023 | DLC |
| Tetrachloroethylene - BSD | EPA-8260 | 102 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Dibromochloromethane - BS | EPA-8260 | 104 | | | 50 | 150 | 04/12/2023 | DLC |
| Dibromochloromethane - BSD | EPA-8260 | 104 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromoethane - BS | EPA-8260 | 104 | | | 50 | 150 | 04/12/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/27/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| 1,2-Dibromoethane - BSD | EPA-8260 | 104 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Chlorobenzene - BS | EPA-8260 | 97.6 | | | 79 | 128 | 04/12/2023 | DLC |
| Chlorobenzene - BSD | EPA-8260 | 96.8 | 1 | | 79 | 128 | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane - BS | EPA-8260 | 103 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,1,2-Tetrachloroethane - BSD | EPA-8260 | 104 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Ethylbenzene - BS | EPA-8260 | 98.6 | | | 50 | 150 | 04/12/2023 | DLC |
| Ethylbenzene - BSD | EPA-8260 | 97.9 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| m,p-Xylene - BS | EPA-8260 | 99.0 | | | 50 | 150 | 04/12/2023 | DLC |
| m,p-Xylene - BSD | EPA-8260 | 98.7 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| o-Xylene - BS | EPA-8260 | 95.0 | | | 50 | 150 | 04/12/2023 | DLC |
| o-Xylene - BSD | EPA-8260 | 94.8 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| Bromoform - BS | EPA-8260 | 95.5 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromoform - BSD | EPA-8260 | 95.2 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane - BS | EPA-8260 | 97.1 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,1,2,2-Tetrachloroethane - BSD | EPA-8260 | 96.3 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane - BS | EPA-8260 | 98.0 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichloropropane - BSD | EPA-8260 | 97.1 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| Bromobenzene - BS | EPA-8260 | 97.7 | | | 50 | 150 | 04/12/2023 | DLC |
| Bromobenzene - BSD | EPA-8260 | 97.3 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 2-Chlorotoluene - BS | EPA-8260 | 94.3 | | | 50 | 150 | 04/12/2023 | DLC |
| 2-Chlorotoluene - BSD | EPA-8260 | 93.2 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 4-Chlorotoluene - BS | EPA-8260 | 94.1 | | | 50 | 150 | 04/12/2023 | DLC |
| 4-Chlorotoluene - BSD | EPA-8260 | 93.6 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene - BS | EPA-8260 | 95.9 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,3-Dichlorobenzene - BSD | EPA-8260 | 96.5 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene - BS | EPA-8260 | 97.6 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,4-Dichlorobenzene - BSD | EPA-8260 | 97.5 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene - BS | EPA-8260 | 96.8 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dichlorobenzene - BSD | EPA-8260 | 97.9 | 1 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane - BS | EPA-8260 | 95.8 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane - BSD | EPA-8260 | 96.2 | 0 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene - BS | EPA-8260 | 99.2 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,4-Trichlorobenzene - BSD | EPA-8260 | 108 | 9 | | 50 | 150 | 04/12/2023 | DLC |
| Hexachlorobutadiene - BS | EPA-8260 | 105 | | | 50 | 150 | 04/12/2023 | DLC |
| Hexachlorobutadiene - BSD | EPA-8260 | 109 | 4 | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene - BS | EPA-8260 | 94.3 | | | 50 | 150 | 04/12/2023 | DLC |
| 1,2,3-Trichlorobenzene - BSD | EPA-8260 | 111 | 16 | | 50 | 150 | 04/12/2023 | DLC |

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

DATE: 4/27/2023
 ALS SDG#: EV23040065
 WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 192538 - Soil by EPA-8270 SIM

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|------------------------------|--------------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Naphthalene - BS | EPA-8270 SIM | 72.0 | | | 20 | 150 | 04/18/2023 | DBA |
| Naphthalene - BSD | EPA-8270 SIM | 61.4 | 16 | | 20 | 150 | 04/18/2023 | DBA |
| 2-Methylnaphthalene - BS | EPA-8270 SIM | 64.7 | | | 20 | 150 | 04/18/2023 | DBA |
| 2-Methylnaphthalene - BSD | EPA-8270 SIM | 54.6 | 17 | | 20 | 150 | 04/18/2023 | DBA |
| 1-Methylnaphthalene - BS | EPA-8270 SIM | 63.8 | | | 20 | 150 | 04/18/2023 | DBA |
| 1-Methylnaphthalene - BSD | EPA-8270 SIM | 55.1 | 15 | | 20 | 150 | 04/18/2023 | DBA |
| Acenaphthylene - BS | EPA-8270 SIM | 72.9 | | | 20 | 150 | 04/18/2023 | DBA |
| Acenaphthylene - BSD | EPA-8270 SIM | 63.2 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Acenaphthene - BS | EPA-8270 SIM | 74.1 | | | 41 | 107 | 04/18/2023 | DBA |
| Acenaphthene - BSD | EPA-8270 SIM | 63.8 | 15 | SR1 | 41 | 107 | 04/18/2023 | DBA |
| Fluorene - BS | EPA-8270 SIM | 71.1 | | | 20 | 150 | 04/18/2023 | DBA |
| Fluorene - BSD | EPA-8270 SIM | 60.0 | 17 | | 20 | 150 | 04/18/2023 | DBA |
| Phenanthrene - BS | EPA-8270 SIM | 83.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Phenanthrene - BSD | EPA-8270 SIM | 70.4 | 17 | | 20 | 150 | 04/18/2023 | DBA |
| Anthracene - BS | EPA-8270 SIM | 66.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Anthracene - BSD | EPA-8270 SIM | 57.8 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Fluoranthene - BS | EPA-8270 SIM | 70.3 | | | 20 | 150 | 04/18/2023 | DBA |
| Fluoranthene - BSD | EPA-8270 SIM | 61.2 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Pyrene - BS | EPA-8270 SIM | 70.6 | | | 18 | 136 | 04/18/2023 | DBA |
| Pyrene - BSD | EPA-8270 SIM | 63.5 | 11 | | 18 | 136 | 04/18/2023 | DBA |
| Benzo[A]Anthracene - BS | EPA-8270 SIM | 75.3 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[A]Anthracene - BSD | EPA-8270 SIM | 61.9 | 20 | | 20 | 150 | 04/18/2023 | DBA |
| Chrysene - BS | EPA-8270 SIM | 77.0 | | | 20 | 150 | 04/18/2023 | DBA |
| Chrysene - BSD | EPA-8270 SIM | 66.8 | 14 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene - BS | EPA-8270 SIM | 78.2 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[B]Fluoranthene - BSD | EPA-8270 SIM | 66.4 | 16 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene - BS | EPA-8270 SIM | 65.5 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[K]Fluoranthene - BSD | EPA-8270 SIM | 58.9 | 11 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[A]Pyrene - BS | EPA-8270 SIM | 79.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[A]Pyrene - BSD | EPA-8270 SIM | 70.5 | 12 | | 20 | 150 | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene - BS | EPA-8270 SIM | 87.6 | | | 20 | 150 | 04/18/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene - BSD | EPA-8270 SIM | 74.4 | 16 | | 20 | 150 | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene - BS | EPA-8270 SIM | 87.8 | | | 20 | 150 | 04/18/2023 | DBA |
| Dibenz[A,H]Anthracene - BSD | EPA-8270 SIM | 75.8 | 15 | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene - BS | EPA-8270 SIM | 86.8 | | | 20 | 150 | 04/18/2023 | DBA |
| Benzo[G,H,I]Perylene - BSD | EPA-8270 SIM | 72.3 | 18 | | 20 | 150 | 04/18/2023 | DBA |

| SURROGATE | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------|--------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |



CERTIFICATE OF ANALYSIS

| | | | |
|-----------------|---|---------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/27/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040065 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

| SURROGATE | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Terphenyl-d14 - BSD | EPA-8270 SIM | 54.9 | | BS1 | 58 | 132 | 04/18/2023 | DBA |

BS1 - Surrogate for BS/BSD recovered outside of control limits. Based on spike recoveries this did not impact the associated spike compounds. No corrective action taken.
 SR1 - RPD outside of control limits.

ALS Test Batch ID: R432732 - Soil by EPA-7196

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Chromium (VI) - BS | EPA-7196 | 101 | | | 91 | 114 | 04/13/2023 | EBS |
| Chromium (VI) - BSD | EPA-7196 | 102 | 1 | | 91 | 114 | 04/13/2023 | EBS |

ALS Test Batch ID: R432991 - Soil by EPA-7471

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Mercury - BS | EPA-7471 | 107 | | | 81.8 | 117 | 04/14/2023 | RAL |
| Mercury - BSD | EPA-7471 | 107 | 1 | | 81.8 | 117 | 04/14/2023 | RAL |

ALS Test Batch ID: 192444 - Soil by EPA-6020

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Arsenic - BS | EPA-6020 | 94.5 | | | 80 | 120 | 04/14/2023 | RAL |
| Arsenic - BSD | EPA-6020 | 97.9 | 3 | | 80 | 120 | 04/14/2023 | RAL |
| Cadmium - BS | EPA-6020 | 100 | | | 80 | 120 | 04/14/2023 | RAL |
| Cadmium - BSD | EPA-6020 | 104 | 3 | | 80 | 120 | 04/14/2023 | RAL |
| Chromium - BS | EPA-6020 | 94.3 | | | 80 | 120 | 04/14/2023 | RAL |
| Chromium - BSD | EPA-6020 | 98.1 | 4 | | 80 | 120 | 04/14/2023 | RAL |
| Lead - BS | EPA-6020 | 94.5 | | | 80 | 120 | 04/14/2023 | RAL |
| Lead - BSD | EPA-6020 | 99.5 | 5 | | 80 | 120 | 04/14/2023 | RAL |
| Nickel - BS | EPA-6020 | 96.3 | | | 80 | 120 | 04/14/2023 | RAL |
| Nickel - BSD | EPA-6020 | 100 | 4 | | 80 | 120 | 04/14/2023 | RAL |
| Zinc - BS | EPA-6020 | 109 | | | 80 | 119 | 04/14/2023 | RAL |
| Zinc - BSD | EPA-6020 | 113 | 4 | | 80 | 119 | 04/14/2023 | RAL |

APPROVED BY

Rob Greer
Laboratory Director



April 28, 2023

Mr. Eric Libolt
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Libolt,

On April 14th, 2 samples were received by our laboratory and assigned our laboratory project number EV23040085. The project was identified as your HF Sinclair OWS D St. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rob Greer
Laboratory Director



CERTIFICATE OF ANALYSIS

| | | | |
|------------------|---|---------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| | | ALS JOB#: | EV23040085 |
| CLIENT CONTACT: | Eric Libolt | ALS SAMPLE#: | EV23040085-01 |
| CLIENT PROJECT: | HF Sinclair OWS D St | DATE RECEIVED: | 04/14/2023 |
| CLIENT SAMPLE ID | B-3-23 5' | COLLECTION DATE: | 4/13/2023 11:40:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|--------------------------|----------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| C5-C6 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | 10 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | 9.4 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | 12 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | 18 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | 8.3 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C8-C10 Aliphatics | NWEPH | U | 25 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | 14 | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | 25 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | 12 | 1 | MG/KG | 04/24/2023 | FAL |
| Dichlorodifluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Chloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Chloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | 20 | 1 | UG/KG | 04/19/2023 | DLC |
| Methyl T-Butyl Ether | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Hexane | EPA-8260 | 350 | 210 | 1 | UG/KG | 04/20/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Chloroform | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Benzene | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/19/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040085-01 |
| CLIENT SAMPLE ID | B-3-23 5' | DATE RECEIVED: | 04/14/2023 |
| | | COLLECTION DATE: | 4/13/2023 11:40:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS | ANALYSIS |
|-----------------------------|--------------|---------|------------------|-----------------|-------|------------|----------|
| | | | | | | DATE | BY |
| Trichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Dibromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Toluene | EPA-8260 | 14 | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/19/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Ethylbenzene | EPA-8260 | 18 | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| m,p-Xylene | EPA-8260 | 49 | 20 | 1 | UG/KG | 04/19/2023 | DLC |
| o-Xylene | EPA-8260 | 17 | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromoform | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | 50 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Naphthalene | EPA-8270 SIM | 480 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | 2700 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | 2500 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | 120 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | 530 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Fluorene | EPA-8270 SIM | 650 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | 3000 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040085-01 |
| CLIENT SAMPLE ID | B-3-23 5' | DATE RECEIVED: | 04/14/2023 |
| | | COLLECTION DATE: | 4/13/2023 11:40:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|------------------|-----------------|-------|---------------|-------------|
| Pyrene | EPA-8270 SIM | 400 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Chrysene | EPA-8270 SIM | 110 | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 100 | 5 | UG/KG | 04/28/2023 | DBA |
| Chromium (VI) | EPA-7196 | U | 5.0 | 1 | MG/KG | 04/25/2023 | EBS |
| Mercury | EPA-7471 | 0.026 | 0.020 | 1 | MG/KG | 04/19/2023 | RAL |
| Chromium (III) | Calc-Cr3 | 37 | 0.50 | 1 | MG/KG | 04/28/2023 | CCN |
| Arsenic | EPA-6020 | 4.0 | 0.20 | 1 | MG/KG | 04/19/2023 | EBS |
| Cadmium | EPA-6020 | U | 0.10 | 1 | MG/KG | 04/19/2023 | EBS |
| Chromium | EPA-6020 | 37 | 0.10 | 1 | MG/KG | 04/19/2023 | EBS |
| Lead | EPA-6020 | 4.0 | 0.10 | 1 | MG/KG | 04/19/2023 | EBS |
| Nickel | EPA-6020 | 64 | 0.50 | 1 | MG/KG | 04/19/2023 | EBS |
| Zinc | EPA-6020 | 52 | 2.0 | 1 | MG/KG | 04/19/2023 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---------------------------|--------------|---------|---------------|-------------|
| TFT - Aliphatic | NWVPH | 110 | 04/21/2023 | OSE |
| C25 | NWEPH | 69.1 | 04/24/2023 | FAL |
| p-Terphenyl | NWEPH | 96.1 | 04/24/2023 | FAL |
| 1,2-Dichloroethane-d4 | EPA-8260 | 131 | 04/19/2023 | DLC |
| 1,2-Dichloroethane-d4 | EPA-8260 | 101 | 04/20/2023 | DLC |
| Toluene-d8 | EPA-8260 | 114 | 04/19/2023 | DLC |
| Toluene-d8 | EPA-8260 | 93.6 | 04/20/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 157 GS1 | 04/19/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 101 | 04/20/2023 | DLC |
| Terphenyl-d14 5X Dilution | EPA-8270 SIM | 103 | 04/28/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.
 GS1 - Surrogate outside of control limits due to matrix effect.



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040085-02 |
| CLIENT SAMPLE ID | B-4-23 5.5' | DATE RECEIVED: | 04/14/2023 |
| | | COLLECTION DATE: | 4/13/2023 10:30:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|----------|---------|------------------|-----------------|-------|---------------|-------------|
| C5-C6 Aliphatics | NWVPH | U | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | 11 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | 14 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | 7.3 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | 15 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | 18 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | 25 | 5.0 | 1 | MG/KG | 04/21/2023 | OSE |
| >C8-C10 Aliphatics | NWEPH | U | 26 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | 16 | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | 23 | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | 15 | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | 26 | 1 | MG/KG | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | 13 | 1 | MG/KG | 04/24/2023 | FAL |
| Dichlorodifluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Chloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Chloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | 20 | 1 | UG/KG | 04/19/2023 | DLC |
| Methyl T-Butyl Ether | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Hexane | EPA-8260 | 18 | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Chloroform | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Benzene | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/19/2023 | DLC |
| Trichloroethene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040085-02 |
| CLIENT SAMPLE ID | B-4-23 5.5' | DATE RECEIVED: | 04/14/2023 |
| | | COLLECTION DATE: | 4/13/2023 10:30:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|-----------------------------|--------------|---------|------------------|-----------------|-------|---------------|-------------|
| 1,2-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Dibromomethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Toluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | 5.0 | 1 | UG/KG | 04/19/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | 20 | 1 | UG/KG | 04/19/2023 | DLC |
| o-Xylene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromoform | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Bromobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | 50 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | 10 | 1 | UG/KG | 04/19/2023 | DLC |
| Naphthalene | EPA-8270 SIM | 58 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | 310 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | 530 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | 36 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | 180 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Fluorene | EPA-8270 SIM | 170 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | 860 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | 110 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Pyrene | EPA-8270 SIM | 320 | 20 | 1 | UG/KG | 04/27/2023 | DBA |



CERTIFICATE OF ANALYSIS

| | | | |
|-------------------------|---|----------------------------|-----------------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS JOB#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | ALS SAMPLE#: | EV23040085-02 |
| CLIENT SAMPLE ID | B-4-23 5.5' | DATE RECEIVED: | 04/14/2023 |
| | | COLLECTION DATE: | 4/13/2023 10:30:00 AM |
| | | WDOE ACCREDITATION: | C601 |

SAMPLE DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|------------------|-----------------|-------|---------------|-------------|
| Benzo[A]Anthracene | EPA-8270 SIM | 96 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Chrysene | EPA-8270 SIM | 170 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | 67 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | 70 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | 33 | 20 | 1 | UG/KG | 04/27/2023 | DBA |
| Chromium (VI) | EPA-7196 | U | 5.0 | 1 | MG/KG | 04/25/2023 | EBS |
| Mercury | EPA-7471 | 0.038 | 0.020 | 1 | MG/KG | 04/19/2023 | RAL |
| Chromium (III) | Calc-Cr3 | 33 | 0.50 | 1 | MG/KG | 04/28/2023 | CCN |
| Arsenic | EPA-6020 | 2.8 | 0.20 | 1 | MG/KG | 04/19/2023 | EBS |
| Cadmium | EPA-6020 | U | 0.10 | 1 | MG/KG | 04/19/2023 | EBS |
| Chromium | EPA-6020 | 33 | 0.10 | 1 | MG/KG | 04/19/2023 | EBS |
| Lead | EPA-6020 | 3.0 | 0.10 | 1 | MG/KG | 04/19/2023 | EBS |
| Nickel | EPA-6020 | 61 | 0.50 | 1 | MG/KG | 04/19/2023 | EBS |
| Zinc | EPA-6020 | 41 | 2.0 | 1 | MG/KG | 04/19/2023 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|-----------------------|--------------|------|---------------|-------------|
| TFT - Aliphatic | NWVPH | 100 | 04/21/2023 | OSE |
| C25 | NWEPH | 63.6 | 04/24/2023 | FAL |
| p-Terphenyl | NWEPH | 94.5 | 04/24/2023 | FAL |
| 1,2-Dichloroethane-d4 | EPA-8260 | 125 | 04/19/2023 | DLC |
| Toluene-d8 | EPA-8260 | 89.0 | 04/19/2023 | DLC |
| 4-Bromofluorobenzene | EPA-8260 | 110 | 04/19/2023 | DLC |
| Terphenyl-d14 | EPA-8270 SIM | 75.9 | 04/27/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 4/28/2023
ALS SDG#: EV23040085
WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MBLK-R433901 - Batch R433901 - Soil by NWVPH

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------|---------|-------|------------------|---------------|-------------|
| C5-C6 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |
| >C6-C8 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |
| >C8-C10 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |
| >C10-C12 Aliphatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |
| >C8-C10 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |
| >C10-C12 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |
| >C12-C13 Aromatics | NWVPH | U | MG/KG | 5.0 | 04/21/2023 | OSE |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R433907 - Batch R433907 - Soil by NWEPH

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------------|--------|---------|-------|------------------|---------------|-------------|
| >C8-C10 Aliphatics | NWEPH | U | MG/KG | 25 | 04/24/2023 | FAL |
| >C10-C12 Aliphatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C12-C16 Aliphatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C16-C21 Aliphatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C21-C34 Aliphatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C8-C10 Aromatics | NWEPH | U | MG/KG | 25 | 04/24/2023 | FAL |
| >C10-C12 Aromatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C12-C16 Aromatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C16-C21 Aromatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |
| >C21-C34 Aromatics | NWEPH | U | MG/KG | 12 | 04/24/2023 | FAL |

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041923S - Batch 192825 - Soil by EPA-8260

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|----------|---------|-------|------------------|---------------|-------------|
| Dichlorodifluoromethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Chloromethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Vinyl Chloride | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Bromomethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Chloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Carbon Tetrachloride | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Trichlorofluoromethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,1-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Methylene Chloride | EPA-8260 | U | UG/KG | 20 | 04/19/2023 | DLC |
| Methyl T-Butyl Ether | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Trans-1,2-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/28/2023
 ALS SDG#: EV23040085
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041923S - Batch 192825 - Soil by EPA-8260

| | | | | | | |
|-----------------------------|----------|---|-------|-----|------------|-----|
| 1,1-Dichloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Cis-1,2-Dichloroethene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Hexane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 2,2-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Bromochloromethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Chloroform | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,1,1-Trichloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,1-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2-Dichloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Benzene | EPA-8260 | U | UG/KG | 5.0 | 04/19/2023 | DLC |
| Trichloroethene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Dibromomethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Bromodichloromethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Trans-1,3-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Toluene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Cis-1,3-Dichloropropene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,1,2-Trichloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,3-Dichloropropane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Tetrachloroethylene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Dibromochloromethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2-Dibromoethane | EPA-8260 | U | UG/KG | 5.0 | 04/19/2023 | DLC |
| Chlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,1,1,2-Tetrachloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Ethylbenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| m,p-Xylene | EPA-8260 | U | UG/KG | 20 | 04/19/2023 | DLC |
| o-Xylene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Bromoform | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,1,2,2-Tetrachloroethane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2,3-Trichloropropane | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Bromobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 2-Chlorotoluene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 4-Chlorotoluene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,3-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,4-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2-Dichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane | EPA-8260 | U | UG/KG | 50 | 04/19/2023 | DLC |
| 1,2,4-Trichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| Hexachlorobutadiene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |
| 1,2,3-Trichlorobenzene | EPA-8260 | U | UG/KG | 10 | 04/19/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 4/28/2023
 ALS SDG#: EV23040085
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041923S - Batch 192825 - Soil by EPA-8260

U - Analyte analyzed for but not detected at level above reporting limit.

MB-042723S - Batch 193112 - Soil by EPA-8270 SIM

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|------------------------|--------------|---------|-------|------------------|---------------|-------------|
| Naphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| 2-Methylnaphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| 1-Methylnaphthalene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Acenaphthylene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Acenaphthene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Fluorene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Phenanthrene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Benzo[A]Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Chrysene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Benzo[A]Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | UG/KG | 20 | 04/27/2023 | DBA |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R433896 - Batch R433896 - Soil by EPA-7196

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------------|----------|---------|-------|------------------|---------------|-------------|
| Chromium (VI) | EPA-7196 | U | MG/KG | 5.0 | 04/25/2023 | EBS |

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R433215 - Batch R433215 - Soil by EPA-7471

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------|----------|---------|-------|------------------|---------------|-------------|
| Mercury | EPA-7471 | U | MG/KG | 0.020 | 04/19/2023 | RAL |

U - Analyte analyzed for but not detected at level above reporting limit.

MB-041923S - Batch 192616 - Soil by EPA-6020

| ANALYTE | METHOD | RESULTS | UNITS | REPORTING LIMITS | ANALYSIS DATE | ANALYSIS BY |
|---------|----------|---------|-------|------------------|---------------|-------------|
| Arsenic | EPA-6020 | U | MG/KG | 0.20 | 04/19/2023 | EBS |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 4/28/2023
228 E. Champion St., Suite 101 ALS SDG#: EV23040085
Bellingham, WA 98225 WDOE ACCREDITATION: C601
CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY BLANK RESULTS

MB-041923S - Batch 192616 - Soil by EPA-6020

Table with 7 columns: Analyte, Method, Result, Unit, Concentration, Date, and Lab. Rows include Cadmium, Chromium, Lead, Nickel, and Zinc, all with 'U' results.

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

| | | | |
|------------------------|---|----------------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R433907 - Soil by NWEPH

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|--------------------------|--------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| >C8-C10 Aliphatics - BS | NWEPH | 35.7 | | | 15.9 | 130 | 04/24/2023 | FAL |
| >C10-C12 Aliphatics - BS | NWEPH | 52.3 | | | 30.4 | 115 | 04/24/2023 | FAL |
| >C12-C16 Aliphatics - BS | NWEPH | 59.7 | | | 39.8 | 130 | 04/24/2023 | FAL |
| >C16-C21 Aliphatics - BS | NWEPH | 62.7 | | | 50.3 | 123 | 04/24/2023 | FAL |
| >C21-C34 Aliphatics - BS | NWEPH | 60.8 | | | 36.6 | 144 | 04/24/2023 | FAL |
| >C8-C10 Aromatics - BS | NWEPH | 63.6 | | | 18.6 | 130 | 04/24/2023 | FAL |
| >C10-C12 Aromatics - BS | NWEPH | 84.8 | | | 42.7 | 105 | 04/24/2023 | FAL |
| >C12-C16 Aromatics - BS | NWEPH | 87.2 | | | 43.6 | 124 | 04/24/2023 | FAL |
| >C16-C21 Aromatics - BS | NWEPH | 80.8 | | | 49.5 | 124 | 04/24/2023 | FAL |
| >C21-C34 Aromatics - BS | NWEPH | 89.6 | | | 54.8 | 124 | 04/24/2023 | FAL |

ALS Test Batch ID: 192825 - Soil by EPA-8260

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|--------------------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Dichlorodifluoromethane - BS | EPA-8260 | 108 | | | 50 | 150 | 04/19/2023 | DLC |
| Dichlorodifluoromethane - BSD | EPA-8260 | 107 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Chloromethane - BS | EPA-8260 | 105 | | | 50 | 150 | 04/19/2023 | DLC |
| Chloromethane - BSD | EPA-8260 | 103 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Vinyl Chloride - BS | EPA-8260 | 113 | | | 50 | 150 | 04/19/2023 | DLC |
| Vinyl Chloride - BSD | EPA-8260 | 111 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Bromomethane - BS | EPA-8260 | 109 | | | 50 | 150 | 04/19/2023 | DLC |
| Bromomethane - BSD | EPA-8260 | 108 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Chloroethane - BS | EPA-8260 | 105 | | | 50 | 150 | 04/19/2023 | DLC |
| Chloroethane - BSD | EPA-8260 | 104 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Carbon Tetrachloride - BS | EPA-8260 | 96.7 | | | 50 | 150 | 04/19/2023 | DLC |
| Carbon Tetrachloride - BSD | EPA-8260 | 96.0 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Trichlorofluoromethane - BS | EPA-8260 | 109 | | | 50 | 150 | 04/19/2023 | DLC |
| Trichlorofluoromethane - BSD | EPA-8260 | 108 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| 1,1-Dichloroethene - BS | EPA-8260 | 113 | | | 70 | 130 | 04/19/2023 | DLC |
| 1,1-Dichloroethene - BSD | EPA-8260 | 111 | 1 | | 70 | 130 | 04/19/2023 | DLC |
| Methylene Chloride - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| Methylene Chloride - BSD | EPA-8260 | 107 | 3 | | 50 | 150 | 04/19/2023 | DLC |
| Methyl T-Butyl Ether - BS | EPA-8260 | 111 | | | 50 | 150 | 04/19/2023 | DLC |
| Methyl T-Butyl Ether - BSD | EPA-8260 | 109 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| Trans-1,2-Dichloroethene - BS | EPA-8260 | 109 | | | 50 | 150 | 04/19/2023 | DLC |
| Trans-1,2-Dichloroethene - BSD | EPA-8260 | 106 | 3 | | 50 | 150 | 04/19/2023 | DLC |
| 1,1-Dichloroethane - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,1-Dichloroethane - BSD | EPA-8260 | 110 | 0 | | 50 | 150 | 04/19/2023 | DLC |
| Cis-1,2-Dichloroethene - BS | EPA-8260 | 111 | | | 50 | 150 | 04/19/2023 | DLC |



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 4/28/2023
ALS SDG#: EV23040085
WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------------------|----------|------|-----|------|--------|-------|---------------|-------------|
| | | | | | MIN | MAX | | |
| Cis-1,2-Dichloroethene - BSD | EPA-8260 | 111 | 0 | | 50 | 150 | 04/19/2023 | DLC |
| Hexane - BS | EPA-8260 | 100 | | | 50 | 150 | 04/19/2023 | DLC |
| Hexane - BSD | EPA-8260 | 96.9 | 4 | | 50 | 150 | 04/19/2023 | DLC |
| 2,2-Dichloropropane - BS | EPA-8260 | 107 | | | 50 | 150 | 04/19/2023 | DLC |
| 2,2-Dichloropropane - BSD | EPA-8260 | 104 | 3 | | 50 | 150 | 04/19/2023 | DLC |
| Bromochloromethane - BS | EPA-8260 | 105 | | | 50 | 150 | 04/19/2023 | DLC |
| Bromochloromethane - BSD | EPA-8260 | 103 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| Chloroform - BS | EPA-8260 | 103 | | | 50 | 150 | 04/19/2023 | DLC |
| Chloroform - BSD | EPA-8260 | 102 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,1-Trichloroethane - BS | EPA-8260 | 111 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,1-Trichloroethane - BSD | EPA-8260 | 110 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| 1,1-Dichloropropene - BS | EPA-8260 | 111 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,1-Dichloropropene - BSD | EPA-8260 | 108 | 3 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dichloroethane - BS | EPA-8260 | 101 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dichloroethane - BSD | EPA-8260 | 98.8 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| Benzene - BS | EPA-8260 | 104 | | | 75 | 138 | 04/19/2023 | DLC |
| Benzene - BSD | EPA-8260 | 104 | 0 | | 75 | 138 | 04/19/2023 | DLC |
| Trichloroethene - BS | EPA-8260 | 104 | | | 75 | 136 | 04/19/2023 | DLC |
| Trichloroethene - BSD | EPA-8260 | 103 | 1 | | 75 | 136 | 04/19/2023 | DLC |
| 1,2-Dichloropropane - BS | EPA-8260 | 107 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dichloropropane - BSD | EPA-8260 | 107 | 0 | | 50 | 150 | 04/19/2023 | DLC |
| Dibromomethane - BS | EPA-8260 | 111 | | | 50 | 150 | 04/19/2023 | DLC |
| Dibromomethane - BSD | EPA-8260 | 106 | 5 | | 50 | 150 | 04/19/2023 | DLC |
| Bromodichloromethane - BS | EPA-8260 | 109 | | | 50 | 150 | 04/19/2023 | DLC |
| Bromodichloromethane - BSD | EPA-8260 | 107 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Trans-1,3-Dichloropropene - BS | EPA-8260 | 96.1 | | | 50 | 150 | 04/19/2023 | DLC |
| Trans-1,3-Dichloropropene - BSD | EPA-8260 | 93.6 | 3 | | 50 | 150 | 04/19/2023 | DLC |
| Toluene - BS | EPA-8260 | 104 | | | 71.6 | 122.1 | 04/19/2023 | DLC |
| Toluene - BSD | EPA-8260 | 103 | 0 | | 71.6 | 122.1 | 04/19/2023 | DLC |
| Cis-1,3-Dichloropropene - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| Cis-1,3-Dichloropropene - BSD | EPA-8260 | 109 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,2-Trichloroethane - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,2-Trichloroethane - BSD | EPA-8260 | 106 | 4 | | 50 | 150 | 04/19/2023 | DLC |
| 1,3-Dichloropropane - BS | EPA-8260 | 111 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,3-Dichloropropane - BSD | EPA-8260 | 109 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| Tetrachloroethylene - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| Tetrachloroethylene - BSD | EPA-8260 | 112 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| Dibromochloromethane - BS | EPA-8260 | 115 | | | 50 | 150 | 04/19/2023 | DLC |
| Dibromochloromethane - BSD | EPA-8260 | 113 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dibromoethane - BS | EPA-8260 | 115 | | | 50 | 150 | 04/19/2023 | DLC |



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228 E. Champion St., Suite 101
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WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY CONTROL SAMPLE RESULTS

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| 1,2-Dibromoethane - BSD | EPA-8260 | 110 | 4 | | 50 | 150 | 04/19/2023 | DLC |
| Chlorobenzene - BS | EPA-8260 | 105 | | | 79 | 128 | 04/19/2023 | DLC |
| Chlorobenzene - BSD | EPA-8260 | 104 | 1 | | 79 | 128 | 04/19/2023 | DLC |
| 1,1,1,2-Tetrachloroethane - BS | EPA-8260 | 93.7 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,1,2-Tetrachloroethane - BSD | EPA-8260 | 93.2 | 0 | | 50 | 150 | 04/19/2023 | DLC |
| Ethylbenzene - BS | EPA-8260 | 104 | | | 50 | 150 | 04/19/2023 | DLC |
| Ethylbenzene - BSD | EPA-8260 | 103 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| m,p-Xylene - BS | EPA-8260 | 108 | | | 50 | 150 | 04/19/2023 | DLC |
| m,p-Xylene - BSD | EPA-8260 | 106 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| o-Xylene - BS | EPA-8260 | 91.9 | | | 50 | 150 | 04/19/2023 | DLC |
| o-Xylene - BSD | EPA-8260 | 90.3 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| Bromoform - BS | EPA-8260 | 107 | | | 50 | 150 | 04/19/2023 | DLC |
| Bromoform - BSD | EPA-8260 | 103 | 4 | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,2,2-Tetrachloroethane - BS | EPA-8260 | 108 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,1,2,2-Tetrachloroethane - BSD | EPA-8260 | 102 | 5 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2,3-Trichloropropane - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2,3-Trichloropropane - BSD | EPA-8260 | 104 | 5 | | 50 | 150 | 04/19/2023 | DLC |
| Bromobenzene - BS | EPA-8260 | 108 | | | 50 | 150 | 04/19/2023 | DLC |
| Bromobenzene - BSD | EPA-8260 | 109 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| 2-Chlorotoluene - BS | EPA-8260 | 104 | | | 50 | 150 | 04/19/2023 | DLC |
| 2-Chlorotoluene - BSD | EPA-8260 | 103 | 1 | | 50 | 150 | 04/19/2023 | DLC |
| 4-Chlorotoluene - BS | EPA-8260 | 104 | | | 50 | 150 | 04/19/2023 | DLC |
| 4-Chlorotoluene - BSD | EPA-8260 | 101 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| 1,3-Dichlorobenzene - BS | EPA-8260 | 106 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,3-Dichlorobenzene - BSD | EPA-8260 | 103 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| 1,4-Dichlorobenzene - BS | EPA-8260 | 105 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,4-Dichlorobenzene - BSD | EPA-8260 | 102 | 3 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dichlorobenzene - BS | EPA-8260 | 105 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dichlorobenzene - BSD | EPA-8260 | 102 | 2 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane - BS | EPA-8260 | 110 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2-Dibromo 3-Chloropropane - BSD | EPA-8260 | 101 | 8 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2,4-Trichlorobenzene - BS | EPA-8260 | 114 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2,4-Trichlorobenzene - BSD | EPA-8260 | 103 | 11 | | 50 | 150 | 04/19/2023 | DLC |
| Hexachlorobutadiene - BS | EPA-8260 | 115 | | | 50 | 150 | 04/19/2023 | DLC |
| Hexachlorobutadiene - BSD | EPA-8260 | 104 | 10 | | 50 | 150 | 04/19/2023 | DLC |
| 1,2,3-Trichlorobenzene - BS | EPA-8260 | 122 | | | 50 | 150 | 04/19/2023 | DLC |
| 1,2,3-Trichlorobenzene - BSD | EPA-8260 | 101 | 19 | | 50 | 150 | 04/19/2023 | DLC |



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DATE: 4/28/2023
 ALS SDG#: EV23040085
 WDOE ACCREDITATION: C601

CLIENT CONTACT: Eric Libolt
 CLIENT PROJECT: HF Sinclair OWS D St

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 193112 - Soil by EPA-8270 SIM

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|------------------------------|--------------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Naphthalene - BS | EPA-8270 SIM | 93.3 | | | 20 | 150 | 04/27/2023 | DBA |
| Naphthalene - BSD | EPA-8270 SIM | 74.6 | 22 | | 20 | 150 | 04/27/2023 | DBA |
| 2-Methylnaphthalene - BS | EPA-8270 SIM | 88.3 | | | 20 | 150 | 04/27/2023 | DBA |
| 2-Methylnaphthalene - BSD | EPA-8270 SIM | 66.4 | 28 | | 20 | 150 | 04/27/2023 | DBA |
| 1-Methylnaphthalene - BS | EPA-8270 SIM | 104 | | | 20 | 150 | 04/27/2023 | DBA |
| 1-Methylnaphthalene - BSD | EPA-8270 SIM | 84.2 | 21 | | 20 | 150 | 04/27/2023 | DBA |
| Acenaphthylene - BS | EPA-8270 SIM | 97.5 | | | 20 | 150 | 04/27/2023 | DBA |
| Acenaphthylene - BSD | EPA-8270 SIM | 79.4 | 20 | | 20 | 150 | 04/27/2023 | DBA |
| Acenaphthene - BS | EPA-8270 SIM | 103 | | | 41 | 107 | 04/27/2023 | DBA |
| Acenaphthene - BSD | EPA-8270 SIM | 83.2 | 22 | SR1 | 41 | 107 | 04/27/2023 | DBA |
| Fluorene - BS | EPA-8270 SIM | 101 | | | 20 | 150 | 04/27/2023 | DBA |
| Fluorene - BSD | EPA-8270 SIM | 80.8 | 22 | | 20 | 150 | 04/27/2023 | DBA |
| Phenanthrene - BS | EPA-8270 SIM | 115 | | | 20 | 150 | 04/27/2023 | DBA |
| Phenanthrene - BSD | EPA-8270 SIM | 85.5 | 29 | | 20 | 150 | 04/27/2023 | DBA |
| Anthracene - BS | EPA-8270 SIM | 97.1 | | | 20 | 150 | 04/27/2023 | DBA |
| Anthracene - BSD | EPA-8270 SIM | 78.9 | 21 | | 20 | 150 | 04/27/2023 | DBA |
| Fluoranthene - BS | EPA-8270 SIM | 121 | | | 20 | 150 | 04/27/2023 | DBA |
| Fluoranthene - BSD | EPA-8270 SIM | 93.7 | 26 | | 20 | 150 | 04/27/2023 | DBA |
| Pyrene - BS | EPA-8270 SIM | 91.0 | | | 18 | 136 | 04/27/2023 | DBA |
| Pyrene - BSD | EPA-8270 SIM | 71.3 | 24 | SR1 | 18 | 136 | 04/27/2023 | DBA |
| Benzo[A]Anthracene - BS | EPA-8270 SIM | 86.0 | | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[A]Anthracene - BSD | EPA-8270 SIM | 59.8 | 36 | SR1 | 20 | 150 | 04/27/2023 | DBA |
| Chrysene - BS | EPA-8270 SIM | 108 | | | 20 | 150 | 04/27/2023 | DBA |
| Chrysene - BSD | EPA-8270 SIM | 86.6 | 22 | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[B]Fluoranthene - BS | EPA-8270 SIM | 92.7 | | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[B]Fluoranthene - BSD | EPA-8270 SIM | 70.2 | 28 | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[K]Fluoranthene - BS | EPA-8270 SIM | 111 | | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[K]Fluoranthene - BSD | EPA-8270 SIM | 50.4 | 75 | SR1 | 20 | 150 | 04/27/2023 | DBA |
| Benzo[A]Pyrene - BS | EPA-8270 SIM | 101 | | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[A]Pyrene - BSD | EPA-8270 SIM | 80.5 | 22 | | 20 | 150 | 04/27/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene - BS | EPA-8270 SIM | 97.2 | | | 20 | 150 | 04/27/2023 | DBA |
| Indeno[1,2,3-Cd]Pyrene - BSD | EPA-8270 SIM | 78.7 | 21 | | 20 | 150 | 04/27/2023 | DBA |
| Dibenz[A,H]Anthracene - BS | EPA-8270 SIM | 90.3 | | | 20 | 150 | 04/27/2023 | DBA |
| Dibenz[A,H]Anthracene - BSD | EPA-8270 SIM | 73.5 | 21 | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[G,H,I]Perylene - BS | EPA-8270 SIM | 88.8 | | | 20 | 150 | 04/27/2023 | DBA |
| Benzo[G,H,I]Perylene - BSD | EPA-8270 SIM | 70.9 | 22 | | 20 | 150 | 04/27/2023 | DBA |

SR1 - RPD outside of control limits.



CERTIFICATE OF ANALYSIS

| | | | |
|-----------------|---|---------------------|------------|
| CLIENT: | Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225 | DATE: | 4/28/2023 |
| CLIENT CONTACT: | Eric Libolt | ALS SDG#: | EV23040085 |
| CLIENT PROJECT: | HF Sinclair OWS D St | WDOE ACCREDITATION: | C601 |

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R433896 - Soil by EPA-7196

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|---------------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Chromium (VI) - BS | EPA-7196 | 96.0 | | | 91 | 114 | 04/25/2023 | EBS |
| Chromium (VI) - BSD | EPA-7196 | 98.0 | 2 | | 91 | 114 | 04/25/2023 | EBS |

ALS Test Batch ID: R433215 - Soil by EPA-7471

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Mercury - BS | EPA-7471 | 108 | | | 81.8 | 117 | 04/19/2023 | RAL |
| Mercury - BSD | EPA-7471 | 108 | 0 | | 81.8 | 117 | 04/19/2023 | RAL |

ALS Test Batch ID: 192616 - Soil by EPA-6020

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | LIMITS | | ANALYSIS DATE | ANALYSIS BY |
|-----------------|----------|------|-----|------|--------|-----|---------------|-------------|
| | | | | | MIN | MAX | | |
| Arsenic - BS | EPA-6020 | 99.7 | | | 80 | 120 | 04/19/2023 | EBS |
| Arsenic - BSD | EPA-6020 | 99.5 | 0 | | 80 | 120 | 04/19/2023 | EBS |
| Cadmium - BS | EPA-6020 | 105 | | | 80 | 120 | 04/19/2023 | EBS |
| Cadmium - BSD | EPA-6020 | 105 | 0 | | 80 | 120 | 04/19/2023 | EBS |
| Chromium - BS | EPA-6020 | 102 | | | 80 | 120 | 04/19/2023 | EBS |
| Chromium - BSD | EPA-6020 | 102 | 0 | | 80 | 120 | 04/19/2023 | EBS |
| Lead - BS | EPA-6020 | 98.4 | | | 80 | 120 | 04/19/2023 | EBS |
| Lead - BSD | EPA-6020 | 100 | 2 | | 80 | 120 | 04/19/2023 | EBS |
| Nickel - BS | EPA-6020 | 105 | | | 80 | 120 | 04/19/2023 | EBS |
| Nickel - BSD | EPA-6020 | 105 | 1 | | 80 | 120 | 04/19/2023 | EBS |
| Zinc - BS | EPA-6020 | 103 | | | 80 | 119 | 04/19/2023 | EBS |
| Zinc - BSD | EPA-6020 | 104 | 0 | | 80 | 119 | 04/19/2023 | EBS |

APPROVED BY

Rob Greer
Laboratory Director

**APPENDIX F -
METHOD C WORKSHEETS**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 04/10/23

Site Name: HF Sinclair OWS D St

Sample Name: B-1-23 6'

2. Enter Soil Concentration Measured

| Chemical of Concern or Equivalent Carbon Group | Measured Soil Conc dry basis mg/kg | Composition Ratio % |
|---|--|---------------------------|
| <u>Petroleum EC Fraction</u> | | |
| AL_EC >5-6 | 2.495 | 4.89% |
| AL_EC >6-8 | 2.5 | 4.90% |
| AL_EC >8-10 | 2.5 | 4.90% |
| AL_EC >10-12 | 2.5 | 4.90% |
| AL_EC >12-16 | 6 | 11.76% |
| AL_EC >16-21 | 6 | 11.76% |
| AL_EC >21-34 | 6 | 11.76% |
| AR_EC >8-10 | 2.48 | 4.86% |
| AR_EC >10-12 | 2.49 | 4.88% |
| AR_EC >12-16 | 5.98 | 11.72% |
| AR_EC >16-21 | 6 | 11.76% |
| AR_EC >21-34 | 5.93 | 11.63% |
| Benzene | 0.0025 | 0.00% |
| Toluene | 0.005 | 0.01% |
| Ethylbenzene | 0.005 | 0.01% |
| Total Xylenes | 0.015 | 0.03% |
| Naphthalene | 0.01 | 0.02% |
| 1-Methyl Naphthalene | 0.01 | 0.02% |
| 2-Methyl Naphthalene | 0.01 | 0.02% |
| n-Hexane | 0.005 | 0.01% |
| MTBE | 0 | 0.00% |
| Ethylene Dibromide (EDB) | 0 | 0.00% |
| 1,2 Dichloroethane (EDC) | 0 | 0.00% |
| Benzo(a)anthracene | 0.01 | 0.02% |
| Benzo(b)fluoranthene | 0.01 | 0.02% |
| Benzo(k)fluoranthene | 0.01 | 0.02% |
| Benzo(a)pyrene | 0.01 | 0.02% |
| Chrysene | 0.01 | 0.02% |
| Dibenz(a,h)anthracene | 0.01 | 0.02% |
| Indeno(1,2,3-cd)pyrene | 0.01 | 0.02% |
| Sum | 51.0075 | 100.00% |

Notes for Data Entry

Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:

Enter site-specific information here.....

3. Enter Site-Specific Hydrogeological Data

| | | |
|-----------------------------|-------|----------|
| Total soil porosity: | 0.43 | Unitless |
| Volumetric water content: | 0.3 | Unitless |
| Volumetric air content: | 0.13 | Unitless |
| Soil bulk density measured: | 1.5 | kg/L |
| Fraction Organic Carbon: | 0.001 | Unitless |
| Dilution Factor: | 20 | Unitless |

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water

concentration, enter adjusted value here: ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 4/10/2023

Site Name: HF Sinclair OWS D St

Sample Name: B-1-23 6'

Measured Soil TPH Concentration, mg/kg: **51.008**

1. Summary of Calculation Results

| Exposure Pathway | Method/Goal | Protective Soil TPH Conc, mg/kg | With Measured Soil Conc | | Does Measured Soil Conc Pass or Fail? |
|--|-------------------------------------|---------------------------------|-------------------------|----------|---------------------------------------|
| | | | RISK @ | HI @ | |
| Protection of Soil Direct Contact: Human Health | Method B | 2,120 | 2.05E-08 | 2.41E-02 | Pass |
| | Method C | 35,261 | 5.07E-09 | 1.45E-03 | Pass |
| Protection of Method B Ground Water Quality (Leaching) | Potable GW: Human Health Protection | 1,112 | 6.50E-07 | 3.55E-01 | Pass |
| | Target TPH GW Conc. @ 500 ug/L | 770 | NA | NA | Pass |

2. Results for Protection of Soil Direct Contact Pathway: Human Health

| | Method B: Unrestricted Land Use | Method C: Industrial Land Use |
|--|---------------------------------|-------------------------------|
| Protective Soil Concentration, TPH mg/kg | 2,120.18 | 35,260.63 |
| Most Stringent Criterion | HI =1 | HI =1 |

| Soil Criteria | Protective Soil Concentration @Method B | | | | Protective Soil Concentration @Method C | | | |
|-----------------------------|---|-----------------|----------|----------|---|-----------------|----------|----------|
| | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ |
| HI =1 | YES | 2.12E+03 | 8.51E-07 | 1.00E+00 | YES | 3.53E+04 | 3.50E-06 | 1.00E+00 |
| Total Risk=1E-5 | NO | 2.49E+04 | 1.00E-05 | 1.18E+01 | NO | 1.01E+05 | 1.00E-05 | 2.86E+00 |
| Risk of Benzene= 1E-6 | NO | 3.71E+05 | 1.49E-04 | 1.75E+02 | NA | | | |
| Risk of cPAHs mixture= 1E-6 | NO | 2.56E+03 | 1.03E-06 | 1.21E+00 | | | | |
| EDB | NA | NA | NA | NA | | | | |
| EDC | NA | NA | NA | NA | | | | |

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

| Most Stringent Criterion | Benzene MCL = 5 ug/L |
|---|----------------------|
| Protective Ground Water Concentration, ug/L | 522.90 |
| Protective Soil Concentration, mg/kg | 1112.13 |

| Ground Water Criteria | Protective Potable Ground Water Concentration @Method B | | | | Protective Soil Conc, mg/kg |
|-----------------------------|---|----------------|----------|----------|-----------------------------|
| | Most Stringent? | TPH Conc, ug/L | RISK @ | HI @ | |
| HI=1 | NO | 5.35E+02 | 7.27E-06 | 1.00E+00 | 1.45E+03 |
| Total Risk = 1E-5 | NO | 5.68E+02 | 1.00E-05 | 1.09E+00 | 4.52E+03 |
| Total Risk = 1E-6 | YES | 2.34E+02 | 1.00E-06 | 4.71E-01 | 8.21E+01 |
| Risk of cPAHs mixture= 1E-5 | NO | 5.84E+02 | 1.20E-05 | 1.15E+00 | 100% NAPL |
| Benzene MCL = 5 ug/L | YES | 5.23E+02 | 6.48E-06 | 9.71E-01 | 1.11E+03 |
| MTBE = 20 ug/L | NA | NA | NA | NA | NA |

Note: 100% NAPL is 75000 mg/kg TPH.

3.2. Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

| Ground Water Criteria | Protective Ground Water Concentration | | | Protective Soil Conc, mg/kg |
|-------------------------------|---------------------------------------|----------|----------|-----------------------------|
| | TPH Conc, ug/L | Risk @ | HI @ | |
| Target TPH GW Conc = 500 ug/L | 5.00E+02 | 5.38E-06 | 9.25E-01 | 7.70E+02 |

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 04/10/23

Site Name: HF Sinclair OWS D St

Sample Name: B-2-23 6'

2. Enter Soil Concentration Measured

| Chemical of Concern or Equivalent Carbon Group | Measured Soil Conc dry basis mg/kg | Composition Ratio % |
|---|--|---------------------------|
| <u>Petroleum EC Fraction</u> | | |
| AL_EC >5-6 | 2.495 | 0.16% |
| AL_EC >6-8 | 2.5 | 0.16% |
| AL_EC >8-10 | 2.5 | 0.16% |
| AL_EC >10-12 | 2.5 | 0.16% |
| AL_EC >12-16 | 56 | 3.55% |
| AL_EC >16-21 | 190 | 12.06% |
| AL_EC >21-34 | 210 | 13.32% |
| AR_EC >8-10 | 2.48 | 0.16% |
| AR_EC >10-12 | 2.49 | 0.16% |
| AR_EC >12-16 | 4.98 | 0.32% |
| AR_EC >16-21 | 100 | 6.35% |
| AR_EC >21-34 | 999.064 | 63.39% |
| Benzene | 0.0025 | 0.00% |
| Toluene | 0.005 | 0.00% |
| Ethylbenzene | 0.005 | 0.00% |
| Total Xylenes | 0.015 | 0.00% |
| Naphthalene | 0.01 | 0.00% |
| 1-Methyl Naphthalene | 0.01 | 0.00% |
| 2-Methyl Naphthalene | 0.01 | 0.00% |
| n-Hexane | 0.005 | 0.00% |
| MTBE | 0 | 0.00% |
| Ethylene Dibromide (EDB) | 0 | 0.00% |
| 1,2 Dichloroethane (EDC) | 0 | 0.00% |
| Benzo(a)anthracene | 0.076 | 0.00% |
| Benzo(b)fluoranthene | 0.17 | 0.01% |
| Benzo(k)fluoranthene | 0.01 | 0.00% |
| Benzo(a)pyrene | 0.35 | 0.02% |
| Chrysene | 0.11 | 0.01% |
| Dibenz(a,h)anthracene | 0.12 | 0.01% |
| Indeno(1,2,3-cd)pyrene | 0.1 | 0.01% |
| Sum | 1576.0075 | 100.00% |

Notes for Data Entry

Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:

Enter site-specific information here.....

3. Enter Site-Specific Hydrogeological Data

| | | |
|-----------------------------|-------|----------|
| Total soil porosity: | 0.43 | Unitless |
| Volumetric water content: | 0.3 | Unitless |
| Volumetric air content: | 0.13 | Unitless |
| Soil bulk density measured: | 1.5 | kg/L |
| Fraction Organic Carbon: | 0.001 | Unitless |
| Dilution Factor: | 20 | Unitless |

4. Target TPH Ground Water Concentration (if adjusted)

| | | |
|---|-----|------|
| If you adjusted the target TPH ground water concentration, enter adjusted value here: | 500 | ug/L |
|---|-----|------|

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 4/10/2023

Site Name: HF Sinclair OWS D St

Sample Name: B-2-23 6'

Measured Soil TPH Concentration, mg/kg: **1,576.008**

1. Summary of Calculation Results

| Exposure Pathway | Method/Goal | Protective Soil TPH Conc, mg/kg | With Measured Soil Conc | | Does Measured Soil Conc Pass or Fail? |
|--|-------------------------------------|---------------------------------|-------------------------|----------|---------------------------------------|
| | | | RISK @ | HI @ | |
| Protection of Soil Direct Contact: Human Health | Method B | 2,561 | 5.27E-07 | 6.15E-01 | Pass |
| | Method C | 32,628 | 1.31E-07 | 4.83E-02 | Pass |
| Protection of Method B Ground Water Quality (Leaching) | Potable GW: Human Health Protection | 100% NAPL | 2.92E-07 | 5.16E-02 | Pass |
| | Target TPH GW Conc. @ 500 ug/L | 100% NAPL | NA | NA | Pass |

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

| | Method B: Unrestricted Land Use | Method C: Industrial Land Use |
|--|---------------------------------|-------------------------------|
| Protective Soil Concentration, TPH mg/kg | 2,560.86 | 32,627.71 |
| Most Stringent Criterion | HI =1 | HI =1 |

| Soil Criteria | Protective Soil Concentration @Method B | | | | Protective Soil Concentration @Method C | | | |
|-----------------------------|---|-----------------|----------|----------|---|-----------------|----------|----------|
| | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ |
| HI =1 | YES | 2.56E+03 | 8.57E-07 | 1.00E+00 | YES | 3.26E+04 | 2.71E-06 | 1.00E+00 |
| Total Risk=1E-5 | NO | 2.99E+04 | 1.00E-05 | 1.17E+01 | NO | 1.20E+05 | 1.00E-05 | 3.69E+00 |
| Risk of Benzene= 1E-6 | NO | 1.14E+07 | 3.83E-03 | 4.47E+03 | NA | | | |
| Risk of cPAHs mixture= 1E-6 | NO | 2.99E+03 | 1.00E-06 | 1.17E+00 | | | | |
| EDB | NA | NA | NA | NA | | | | |
| EDC | NA | NA | NA | NA | | | | |

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

| | |
|---|--|
| Most Stringent Criterion | NA |
| Protective Ground Water Concentration, ug/L | NA |
| Protective Soil Concentration, mg/kg | Soil-to-Ground Water is not a critical pathway! |

| Ground Water Criteria | Protective Potable Ground Water Concentration @Method B | | | | Protective Soil Conc, mg/kg |
|-----------------------------|---|----------------|----------|----------|-----------------------------|
| | Most Stringent? | TPH Conc, ug/L | RISK @ | HI @ | |
| HI=1 | YES | 2.89E+01 | 5.55E-07 | 6.17E-02 | 100% NAPL |
| Total Risk = 1E-5 | YES | 2.89E+01 | 5.55E-07 | 6.17E-02 | 100% NAPL |
| Total Risk = 1E-6 | YES | 2.89E+01 | 5.55E-07 | 6.17E-02 | 100% NAPL |
| Risk of cPAHs mixture= 1E-5 | YES | 2.89E+01 | 5.55E-07 | 6.17E-02 | 100% NAPL |
| Benzene MCL = 5 ug/L | YES | 2.89E+01 | 5.55E-07 | 6.17E-02 | 100% NAPL |
| MTBE = 20 ug/L | NA | NA | NA | NA | NA |

Note: 100% NAPL is 93000 mg/kg TPH.

3.2. Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

| Ground Water Criteria | Protective Ground Water Concentration | | | Protective Soil Conc, mg/kg |
|-------------------------------|---------------------------------------|----------|----------|-----------------------------|
| | TPH Conc, ug/L | Risk @ | HI @ | |
| Target TPH GW Conc = 500 ug/L | 2.89E+01 | 5.55E-07 | 6.17E-02 | 100% NAPL |

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 04/13/23

Site Name: HF Sinclair OWS D St

Sample Name: B-3-23 5'

2. Enter Soil Concentration Measured

| Chemical of Concern or Equivalent Carbon Group | Measured Soil Conc dry basis mg/kg | Composition Ratio % |
|---|--|---------------------------|
| <u>Petroleum EC Fraction</u> | | |
| AL_EC >5-6 | 2.15 | 2.13% |
| AL_EC >6-8 | 10 | 9.93% |
| AL_EC >8-10 | 9.4 | 9.33% |
| AL_EC >10-12 | 2.5 | 2.48% |
| AL_EC >12-16 | 14 | 13.90% |
| AL_EC >16-21 | 6 | 5.96% |
| AL_EC >21-34 | 6 | 5.96% |
| AR_EC >8-10 | 11.916 | 11.83% |
| AR_EC >10-12 | 17.52 | 17.40% |
| AR_EC >12-16 | 3.1 | 3.08% |
| AR_EC >16-21 | 6 | 5.96% |
| AR_EC >21-34 | 5.59 | 5.55% |
| Benzene | 0.0025 | 0.00% |
| Toluene | 0.014 | 0.01% |
| Ethylbenzene | 0.018 | 0.02% |
| Total Xylenes | 0.066 | 0.07% |
| Naphthalene | 0.48 | 0.48% |
| 1-Methyl Naphthalene | 2.5 | 2.48% |
| 2-Methyl Naphthalene | 2.7 | 2.68% |
| n-Hexane | 0.35 | 0.35% |
| MTBE | 0 | 0.00% |
| Ethylene Dibromide (EDB) | 0 | 0.00% |
| 1,2 Dichloroethane (EDC) | 0 | 0.00% |
| Benzo(a)anthracene | 0.05 | 0.05% |
| Benzo(b)fluoranthene | 0.05 | 0.05% |
| Benzo(k)fluoranthene | 0.05 | 0.05% |
| Benzo(a)pyrene | 0.05 | 0.05% |
| Chrysene | 0.11 | 0.11% |
| Dibenz(a,h)anthracene | 0.05 | 0.05% |
| Indeno(1,2,3-cd)pyrene | 0.05 | 0.05% |
| Sum | 100.7165 | 100.00% |

Notes for Data Entry

Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:

Enter site-specific information here.....

3. Enter Site-Specific Hydrogeological Data

| | | |
|-----------------------------|-------|----------|
| Total soil porosity: | 0.43 | Unitless |
| Volumetric water content: | 0.3 | Unitless |
| Volumetric air content: | 0.13 | Unitless |
| Soil bulk density measured: | 1.5 | kg/L |
| Fraction Organic Carbon: | 0.001 | Unitless |
| Dilution Factor: | 20 | Unitless |

4. Target TPH Ground Water Concentration (if adjusted)

| | | |
|---|-----|------|
| If you adjusted the target TPH ground water concentration, enter adjusted value here: | 500 | ug/L |
|---|-----|------|

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 4/13/2023

Site Name: HF Sinclair OWS D St

Sample Name: B-3-23 5'

Measured Soil TPH Concentration, mg/kg: **100.717**

1. Summary of Calculation Results

| Exposure Pathway | Method/Goal | Protective Soil TPH Conc, mg/kg | With Measured Soil Conc | | Does Measured Soil Conc Pass or Fail? |
|--|-------------------------------------|---------------------------------|-------------------------|----------|---------------------------------------|
| | | | RISK @ | HI @ | |
| Protection of Soil Direct Contact: Human Health | Method B | 1,002 | 1.96E-07 | 6.98E-02 | Pass |
| | Method C | 20,650 | 4.88E-08 | 4.10E-03 | Pass |
| Protection of Method B Ground Water Quality (Leaching) | Potable GW: Human Health Protection | 25 | 1.74E-05 | 2.45E+00 | Fail |
| | Target TPH GW Conc. @ 500 ug/L | 81 | NA | NA | Fail |

2. Results for Protection of Soil Direct Contact Pathway: Human Health

| | Method B: Unrestricted Land Use | Method C: Industrial Land Use |
|--|------------------------------------|-------------------------------|
| Protective Soil Concentration, TPH mg/kg | 1,001.61 | 20,650.23 |
| Most Stringent Criterion | Risk of cPAHs mixture= 1E-6 | Total Risk=1E-5 |

| Soil Criteria | Protective Soil Concentration @Method B | | | | Protective Soil Concentration @Method C | | | |
|-----------------------------|---|-----------------|----------|----------|---|-----------------|----------|----------|
| | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ |
| HI =1 | NO | 1.44E+03 | 2.82E-06 | 1.00E+00 | NO | 2.46E+04 | 1.19E-05 | 1.00E+00 |
| Total Risk=1E-5 | NO | 5.13E+03 | 1.00E-05 | 3.55E+00 | YES | 2.07E+04 | 1.00E-05 | 8.40E-01 |
| Risk of Benzene= 1E-6 | NO | 7.32E+05 | 1.43E-03 | 5.07E+02 | NA | | | |
| Risk of cPAHs mixture= 1E-6 | YES | 1.00E+03 | 1.95E-06 | 6.94E-01 | | | | |
| EDB | NA | NA | NA | NA | | | | |
| EDC | NA | NA | NA | NA | | | | |

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

| | |
|---|---------------|
| Most Stringent Criterion | HI=1 |
| Protective Ground Water Concentration, ug/L | 210.19 |
| Protective Soil Concentration, mg/kg | 24.67 |

| Ground Water Criteria | Protective Potable Ground Water Concentration @Method B | | | | Protective Soil Conc, mg/kg |
|-----------------------------|---|----------------|----------|----------|-----------------------------|
| | Most Stringent? | TPH Conc, ug/L | RISK @ | HI @ | |
| HI=1 | YES | 2.10E+02 | 7.02E-06 | 1.00E+00 | 2.47E+01 |
| Total Risk = 1E-5 | NO | 3.02E+02 | 1.00E-05 | 1.42E+00 | 3.81E+01 |
| Total Risk = 1E-6 | YES | 2.99E+01 | 1.00E-06 | 1.44E-01 | 3.26E+00 |
| Risk of cPAHs mixture= 1E-5 | NO | 9.45E+02 | 2.73E-05 | 3.52E+00 | 100% NAPL |
| Benzene MCL = 5 ug/L | NO | 9.45E+02 | 2.73E-05 | 3.52E+00 | 100% NAPL |
| MTBE = 20 ug/L | NA | NA | NA | NA | NA |

Note: 100% NAPL is 73000 mg/kg TPH.

3.2. Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

| Ground Water Criteria | Protective Ground Water Concentration | | | Protective Soil Conc, mg/kg |
|-------------------------------|---------------------------------------|----------|----------|-----------------------------|
| | TPH Conc, ug/L | Risk @ | HI @ | |
| Target TPH GW Conc = 500 ug/L | 5.00E+02 | 1.59E-05 | 2.24E+00 | 8.13E+01 |

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 04/13/23

Site Name: HF Sinclair OWS D St

Sample Name: B-4-23 5.5'

2. Enter Soil Concentration Measured

| Chemical of Concern or Equivalent Carbon Group | Measured Soil Conc dry basis mg/kg | Composition Ratio % |
|---|--|---------------------------|
| <u>Petroleum EC Fraction</u> | | |
| AL_EC >5-6 | 2.482 | 1.56% |
| AL_EC >6-8 | 11 | 6.92% |
| AL_EC >8-10 | 14 | 8.80% |
| AL_EC >10-12 | 16 | 10.06% |
| AL_EC >12-16 | 23 | 14.46% |
| AL_EC >16-21 | 15 | 9.43% |
| AL_EC >21-34 | 6.5 | 4.09% |
| AR_EC >8-10 | 14.98 | 9.42% |
| AR_EC >10-12 | 17.942 | 11.28% |
| AR_EC >12-16 | 24.16 | 15.19% |
| AR_EC >16-21 | 6.5 | 4.09% |
| AR_EC >21-34 | 6.067 | 3.82% |
| Benzene | 0.0025 | 0.00% |
| Toluene | 0.005 | 0.00% |
| Ethylbenzene | 0.005 | 0.00% |
| Total Xylenes | 0.015 | 0.01% |
| Naphthalene | 0.058 | 0.04% |
| 1-Methyl Naphthalene | 0.53 | 0.33% |
| 2-Methyl Naphthalene | 0.31 | 0.19% |
| n-Hexane | 0.018 | 0.01% |
| MTBE | 0 | 0.00% |
| Ethylene Dibromide (EDB) | 0 | 0.00% |
| 1,2 Dichloroethane (EDC) | 0 | 0.00% |
| Benzo(a)anthracene | 0.096 | 0.06% |
| Benzo(b)fluoranthene | 0.067 | 0.04% |
| Benzo(k)fluoranthene | 0.01 | 0.01% |
| Benzo(a)pyrene | 0.07 | 0.04% |
| Chrysene | 0.17 | 0.11% |
| Dibenz(a,h)anthracene | 0.01 | 0.01% |
| Indeno(1,2,3-cd)pyrene | 0.01 | 0.01% |
| Sum | 159.0075 | 100.00% |

Notes for Data Entry

Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:

Enter site-specific information here.....

3. Enter Site-Specific Hydrogeological Data

| | | |
|-----------------------------|-------|----------|
| Total soil porosity: | 0.43 | Unitless |
| Volumetric water content: | 0.3 | Unitless |
| Volumetric air content: | 0.13 | Unitless |
| Soil bulk density measured: | 1.5 | kg/L |
| Fraction Organic Carbon: | 0.001 | Unitless |
| Dilution Factor: | 20 | Unitless |

4. Target TPH Ground Water Concentration (if adjusted)

| | | |
|---|-----|------|
| If you adjusted the target TPH ground water concentration, enter adjusted value here: | 500 | ug/L |
|---|-----|------|

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

| |
|--|
| Date: 4/13/2023 |
| Site Name: HF Sinclair OWS D St |
| Sample Name: B-4-23 5.5' |
| Measured Soil TPH Concentration, mg/kg: 159.008 |

1. Summary of Calculation Results

| Exposure Pathway | Method/Goal | Protective Soil TPH Conc, mg/kg | With Measured Soil Conc | | Does Measured Soil Conc Pass or Fail? |
|--|-------------------------------------|---------------------------------|-------------------------|----------|---------------------------------------|
| | | | RISK @ | HI @ | |
| Protection of Soil Direct Contact: Human Health | Method B | 1,322 | 1.41E-07 | 9.88E-02 | Pass |
| | Method C | 29,490 | 3.49E-08 | 5.39E-03 | Pass |
| Protection of Method B Ground Water Quality (Leaching) | Potable GW: Human Health Protection | 86 | 3.02E-06 | 1.26E+00 | Fail |
| | Target TPH GW Conc. @ 500 ug/L | 193 | NA | NA | Pass |

2. Results for Protection of Soil Direct Contact Pathway: Human Health

| | Method B: Unrestricted Land Use | Method C: Industrial Land Use |
|--|------------------------------------|-------------------------------|
| Protective Soil Concentration, TPH mg/kg | 1,322.39 | 29,490.48 |
| Most Stringent Criterion | Risk of cPAHs mixture= 1E-6 | HI =1 |

| Soil Criteria | Protective Soil Concentration @Method B | | | | Protective Soil Concentration @Method C | | | |
|-----------------------------|---|-----------------|----------|----------|---|-----------------|----------|----------|
| | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ | Most Stringent? | TPH Conc, mg/kg | RISK @ | HI @ |
| HI =1 | NO | 1.61E+03 | 1.42E-06 | 1.00E+00 | YES | 2.95E+04 | 6.48E-06 | 1.00E+00 |
| Total Risk=1E-5 | NO | 1.13E+04 | 1.00E-05 | 7.02E+00 | NO | 4.55E+04 | 1.00E-05 | 1.54E+00 |
| Risk of Benzene= 1E-6 | NO | 1.16E+06 | 1.02E-03 | 7.18E+02 | NA | | | |
| Risk of cPAHs mixture= 1E-6 | YES | 1.32E+03 | 1.17E-06 | 8.22E-01 | | | | |
| EDB | NA | NA | NA | NA | | | | |
| EDC | NA | NA | NA | NA | | | | |

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

| | |
|---|---------------|
| Most Stringent Criterion | HI=1 |
| Protective Ground Water Concentration, ug/L | 362.71 |
| Protective Soil Concentration, mg/kg | 85.88 |

| Ground Water Criteria | Protective Potable Ground Water Concentration @Method B | | | | Protective Soil Conc, mg/kg |
|-----------------------------|---|----------------|----------|----------|-----------------------------|
| | Most Stringent? | TPH Conc, ug/L | RISK @ | HI @ | |
| HI=1 | YES | 3.63E+02 | 2.34E-06 | 1.00E+00 | 8.59E+01 |
| Total Risk = 1E-5 | NO | 7.07E+02 | 6.49E-06 | 1.77E+00 | 100% NAPL |
| Total Risk = 1E-6 | YES | 1.58E+02 | 1.00E-06 | 4.44E-01 | 2.46E+01 |
| Risk of cPAHs mixture= 1E-5 | NO | 7.07E+02 | 6.49E-06 | 1.77E+00 | 100% NAPL |
| Benzene MCL = 5 ug/L | NO | 7.07E+02 | 6.49E-06 | 1.77E+00 | 100% NAPL |
| MTBE = 20 ug/L | NA | NA | NA | NA | NA |

Note: 100% NAPL is 72000 mg/kg TPH.

3.2. Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

| Ground Water Criteria | Protective Ground Water Concentration | | | Protective Soil Conc, mg/kg |
|-------------------------------|---------------------------------------|----------|----------|-----------------------------|
| | TPH Conc, ug/L | Risk @ | HI @ | |
| Target TPH GW Conc = 500 ug/L | 5.00E+02 | 3.22E-06 | 1.33E+00 | 1.93E+02 |

**APPENDIX G -
SOIL BORELOG B1-02**

Project: Shell Oil Products Puget Sound Refinery

Project Location: Anacortes, Washington

Project Number: 53-03000548.00

Log of Boring B1-02

Sheet 1 of 2

| | | | | | |
|----------------------|-------------------|---------------------|-----------------------------|-------------------------|------------------------------|
| Date(s) Drilled | 5/15/02 | Logged By | G. Landau | Checked By | C. Buchan |
| Drilling Method | Hollow Stem Auger | Drill Bit Size/Type | 4-1/4 Inch I.D. Hollow Stem | Total Depth of Borehole | 50.25 feet |
| Drill Rig Type | Speedstar SS15 | Drilling Contractor | Hayes Drilling | Surface Elevation | 82 feet |
| Borehole Backfill | Cuttings | Sampling Method(s) | SPT | Hammer Data | 140 lbs/30 Inch, Auto Hammer |
| Borehole Coordinates | Northing Easting | Location | | | |

| Elevation feet | Depth, feet | SAMPLES | | | Graphic Log | USCS | MATERIAL DESCRIPTION | Fines Content (% <#200 Sieve) | Dry Unit Weight, pcf | Moisture Content, % | REMARKS AND OTHER TESTS |
|----------------|-------------|---------|--------|----------------------|-------------|------|---|-------------------------------|----------------------|---------------------|-------------------------|
| | | Type | Number | Blows/6in. | | | | | | | |
| 0 | | | | | | ML | Gray slightly gravelly sandy SILT. Fine to coarse sand. Fine subrounded to subangular gravel. (Moist)(Stiff). | | | | |
| 80 | | | 1 | 5 4 6 N=10 | 65 | | Grades to brown SILT with trace fine sand. (Moist)(Stiff). | 61.5 | | 17 | |
| 5 | | | 2 | 2 3 3 N=6 | 65 | CL | Brown silty CLAY with trace fine to coarse sand. (Moist)(Medium Stiff to Hard). | | | 21 | PP = 8000 PSF |
| 75 | | | | | | | | | | | |
| 10 | | | 3 | 6 9 12 N=21 | 100 | | | | | 23 | PP = 10000+ PSF |
| 70 | | | | | | | | | | | |
| 15 | | | 4 | 5 7 8 N=15 | 35 | | | | | 26 | |
| 65 | | | | | | | | | | | |
| 20 | | | 5 | 6 5 7 N=12 | 100 | | Grades to gray in color. | | | 27 | PP = 7500 PSF |
| 60 | | | | | | | | | | | |
| 25 | | | 6 | 5 8 8 N=14 | 100 | | Water encountered at 24 feet bgs during drilling. | | | 32 | PP = 1500 PSF |
| 55 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |

GEO_SEA3 K:11631GALLSHELLR-11SHELL.GPJ_URSSSEA3.GLB_URSSSEA3.GDT_6/4/02 Seattle, WA_98121



Figure A-1.1

Project: Shell Oil Products Puget Sound Refinery
 Project Location: Anacortes, Washington
 Project Number: 53-03000548.00

Log of Boring B1-02

Sheet 2 of 2

| Elevation feet | Depth, feet | SAMPLES | | | | Graphic Log | USCS | MATERIAL DESCRIPTION | Fines Content (% < #200 Sieve) | Dry Unit Weight, pcf | Moisture Content, % | REMARKS AND OTHER TESTS |
|-------------------|----------------|---------|---------------------|----------------|-------------|-------------|--|----------------------|-----------------------------------|-------------------------|---|----------------------------|
| | | Type | Number | Blows/ 6in. | Recovery, % | | | | | | | |
| 30 | 30 | 7 | 3 2 3 N=5 | 5 | | | | | | 32 | | |
| 50 | 35 | 8 | 2 2 3 N=5 | 100 | | | | | | 26 | PP = 2000 PSF | |
| 45 | 40 | 9 | 4 2 3 N=5 | 100 | | | | 100.0 | | 26 | PP = 1500 PSF | |
| 40 | 45 | 10 | 2 5 6 N=11 | 100 | | | Grades to slightly sandy, slightly silty CLAY with trace fine subrounded to subangular gravel. | | | 19 | PP = 2500 PSF | |
| 35 | 50 | 11 | N=50/3" | 100 | | | Fractured rock in shoe. End hole at 50.25 feet below the ground surface (bgs). Water encountered during drilling at a depth of approximately 24 feet bgs. | | | 12 | Hit rock at 50 feet below ground surface (bgs), likely pushing rock ahead of auger. | |
| 50 | 55 | | | | | | | | | | | |
| 30 | 60 | | | | | | | | | | | |
| 65 | 65 | | | | | | | | | | | |

GEO_SEA3 K1163GALLISHELLR-11SHELL.GPJ_URSSSEA3.GLB_URSSSEA3.GDT 6/4/02 Seattle, WA, 98121

Figure A-1.2