| Profile/Ph       | noto Observatio  | n Report          |                  |                           | RedZon<br>R 0 B 0 T I C S |
|------------------|------------------|-------------------|------------------|---------------------------|---------------------------|
| Date:            | 04/22/2018       | Weather:          |                  | Coding:                   | PACP 6.0                  |
| Pipe Length (ft  | t): <b>200.2</b> | Owner:            | NA               | Pre Clean:                | Not Known                 |
| P.O.#:           |                  | Surveyor:         | Mark Ruby        | PSR:                      | P-805-019-018             |
| Customer:        |                  | Clean Date        | : 01/01/1900     | Shape:                    | С                         |
| Street:          | Capitol          |                   | Flow Control:    | Not Controlle             | d                         |
| City:            | Hobart, IN       |                   | Year Renewed:    |                           |                           |
| Location:        | Alley            |                   | Tape/Media #:    |                           |                           |
| Purpose:         | Maintenance Rel  | ated              | Dia/Height:      | 10"                       |                           |
| Use:             | Sanitary         |                   | Material:        | VCP                       |                           |
| Drain Area:      | NA               |                   | Lining:          | Cured in Place            | 2                         |
| Category:        | NA               |                   |                  |                           |                           |
| Comment:         | 2nd attempt. use | r set max-flow in | correct.         |                           |                           |
| Location Detai   | ils:             |                   | Direction of Sur | vey: Downstream           |                           |
| US MH:           | M-805-018        | DS MH:            | M-805-019        | Total Length Surveyed (fi | t): <b>184.6</b>          |
| O&M Index:       | 1.57             | O&M Quick         | : <b>24</b> 1    | L3 O&M Rating:            | 11.00                     |
| Structural Index | . 0.00           | Structural C      | luick: 000       | 00 Structural Rating      | . 0.00                    |
| Overall Index:   | 1.57             | Overall Quid      | ck: <b>24</b> 1  | L3 Overall Rating:        | 11.00                     |

|                  |           | Position    | Code | Observation             | Video (sec) | Grade |
|------------------|-----------|-------------|------|-------------------------|-------------|-------|
| M(               | 805-0     | 18          |      |                         |             |       |
|                  | ¥1        | .0          | AMH  | Manhole                 | 10          | NA    |
|                  |           | .0          | MWL  | Water Level             | 21          | NA    |
|                  |           | 2.9         | DAZ  | Deposits Attached Other | 38          | M 2   |
|                  | `         | \           | DAZ  | Deposits Attached Other | 82          | M 2   |
|                  | + +       | 32.8        | TFC  | Tap Factory Capped      | 124         | NA    |
|                  |           | 37.9        | RFJ  | Roots Fine Joint        | 146         | M 1   |
|                  |           | <u>38.9</u> | TF   | Tap Factory             | 160         | NA    |
|                  |           | 81.2        | TF   | Tap Factory             | 257         | NA    |
|                  |           | /98.4       | MMC  | Material Change         | 306         | NA    |
| 5                |           | / 102.5     | TF   | Tap Factory             | 330         | NA    |
| Camera Direction | /         | // 104.6    | MMC  | Material Change         | 350         | NA    |
|                  |           | // 109.7    | TFD  | Tap Factory Defective   | 374         | M 2   |
| nera             |           | //109.7     | RFL  | Roots Fine Lateral      | 385         | M 1   |
| Car              | =="       | 122.4       | RFJ  | Roots Fine Joint        | 424         | M 1   |
|                  | <b></b> ' | /136.4      | TFD  | Tap Factory Defective   | 466         | M 2   |
|                  | Ш/        | / 177.8     | MMC  | Material Change         | 563         | NA    |
| <b>1</b>         |           | / 184.6     | MSA  | Abandoned Survey        | 592         | NA    |
|                  |           |             |      |                         |             |       |



| Code:<br>Description: | AMH<br>Manhole |
|-----------------------|----------------|
| Distance (ft):        | .0             |
| Structural Grade:     | 0              |
| O&M Grade:            | 0              |
| Clock Start/From:     |                |
| Clock To:             |                |
| 1st Value:            |                |
| 2nd Value:            |                |
| Value Percent:        |                |
| Continuous Index:     |                |
| Within 8" of Joint:   | NO             |
| Remarks:              | M-805-019      |

M(805-)019



Code: MWL Description: Water Level

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

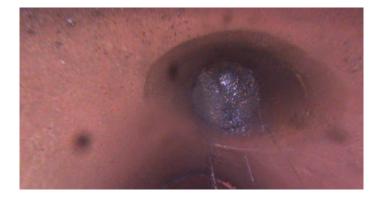


| Code:<br>Description: | DAZ<br>Deposits Attached Other |
|-----------------------|--------------------------------|
| Distance (ft):        | 2.9                            |
| Structural Grade:     | 0                              |
| O&M Grade:            | 2                              |
| Clock Start/From:     | 7                              |
| Clock To:             | 11                             |
| 1st Value:            |                                |
| 2nd Value:            |                                |
| Value Percent:        | 5.000                          |
| Continuous Index:     |                                |
| Within 8" of Joint:   | YES                            |
| Remarks:              |                                |
|                       |                                |

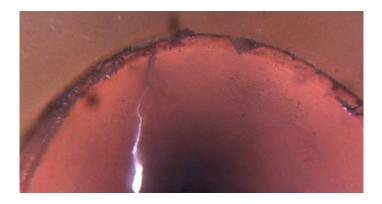


Code:DAZDescription:Deposits Attached Other

| Distance (ft):      | 19.1  |
|---------------------|-------|
| Structural Grade:   | 0     |
| O&M Grade:          | 2     |
| Clock Start/From:   | 7     |
| Clock To:           | 5     |
| 1st Value:          |       |
| 2nd Value:          |       |
| Value Percent:      | 5.000 |
| Continuous Index:   |       |
| Within 8" of Joint: | YES   |
| Remarks:            |       |



| Code:<br>Description:   | TFC<br>Tap Factory Capped     |
|---|-------------------------------|
| Distance (ft):<br>Structural Grade:<br>O&M Grade:<br>Clock Start/From:<br>Clock To:<br>1st Value:<br>2nd Value:<br>Value Percent:<br>Continuous Index:<br>Within 8" of Joint:<br>Remarks: | 32.8<br>0<br>0<br>11<br>4.000 |
| Nemarks.  |                               |



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

| Distance (ft):      | 37.9 |
|---------------------|------|
| Structural Grade:   | 0    |
| O&M Grade:          | 1    |
| Clock Start/From:   | 1    |
| Clock To:           |      |
| 1st Value:          |      |
| 2nd Value:          |      |
| Value Percent:      |      |
| Continuous Index:   |      |
| Within 8" of Joint: | YES  |
| Remarks:            |      |



| Code:<br>Description: | TF<br>Tap Factory |
|-----------------------|-------------------|
| Distance (ft):        | 38.9              |
| Structural Grade:     | 0                 |
| O&M Grade:            | 0                 |
| Clock Start/From:     | 1                 |
| Clock To:             |                   |
| 1st Value:            | 4.000             |
| 2nd Value:            |                   |
| Value Percent:        |                   |
| Continuous Index:     |                   |
| Within 8" of Joint:   |                   |
| Remarks:              |                   |
|                       |                   |



| Code:             | TF          |
|-------------------|-------------|
| Description:      | Tap Factory |
| Distance (ft):    | 81.2        |
| Structural Grade: | 0           |

O&M Grade:OClock Start/From:ICClock To:IC1st Value:4.2nd Value:Value Percent:Value Percent:Continuous Index:Within 8" of Joint:Remarks:



| Code:<br>Description: | MMC<br>Material Change |
|-----------------------|------------------------|
| Distance (ft):        | 98.4                   |
| Structural Grade:     | 0                      |
| O&M Grade:            | 0                      |
| Clock Start/From:     |                        |
| Clock To:             |                        |
| 1st Value:            |                        |
| 2nd Value:            |                        |
| Value Percent:        |                        |
| Continuous Index:     |                        |
| Within 8" of Joint:   | NO                     |
| Remarks:              | PVC                    |
|                       |                        |



| Code:<br>Description: | TF<br>Tap Factory |
|-----------------------|-------------------|
|                       | Tup Tuetory       |
| Distance (ft):        | 102.5             |
| Structural Grade:     | 0                 |
| O&M Grade:            | 0                 |
| Clock Start/From:     | 12                |
| Clock To:             |                   |
| 1st Value:            | 4.000             |
| 2nd Value:            |                   |
| Value Percent:        |                   |
| Continuous Index:     |                   |
| Within 8" of Joint:   |                   |
| Remarks:              |                   |

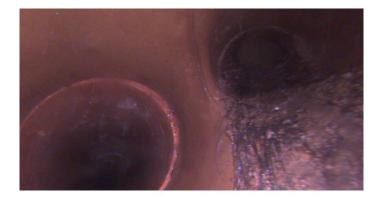


| Code:               | ММС             |
|---------------------|-----------------|
| Description:        | Material Change |
|                     |                 |
|                     | 404.6           |
| Distance (ft):      | 104.6           |
| Structural Grade:   | 0               |
| O&M Grade:          | 0               |
| Clock Start/From:   |                 |
| Clock To:           |                 |
| 1st Value:          |                 |
| 2nd Value:          |                 |
| Value Percent:      |                 |
| Continuous Index:   |                 |
| Within 8" of Joint: | NO              |
| Remarks:            | VCP             |

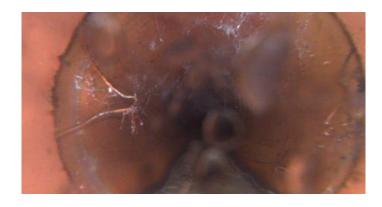


Code:TFDDescription:Tap Factory Defective

| Distance (ft):      | 109.7 |
|---------------------|-------|
| Structural Grade:   | 0     |
| O&M Grade:          | 2     |
| Clock Start/From:   | 10    |
| Clock To:           |       |
| 1st Value:          | 4.000 |
| 2nd Value:          |       |
| Value Percent:      |       |
| Continuous Index:   |       |
| Within 8" of Joint: |       |
| Remarks:            | RFL   |
|                     |       |



| Code:<br>Description: | RFL<br>Roots Fine Lateral |
|-----------------------|---------------------------|
| Distance (ft):        | 109.7                     |
| Structural Grade:     | 0                         |
| O&M Grade:            | 1                         |
| Clock Start/From:     | 10                        |
| Clock To:             |                           |
| 1st Value:            |                           |
| 2nd Value:            |                           |
| Value Percent:        |                           |
| Continuous Index:     |                           |
| Within 8" of Joint:   | NO                        |
| Remarks:              |                           |



| Code:             | RFJ              |
|-------------------|------------------|
| Description:      | Roots Fine Joint |
| Distance (ft):    | 122.4            |
| Structural Grade: | 0                |
|                   |                  |

| O&M Grade:          | 1   |
|---------------------|-----|
| Clock Start/From:   | 7   |
| Clock To:           | 5   |
| 1st Value:          |     |
| 2nd Value:          |     |
| Value Percent:      |     |
| Continuous Index:   |     |
| Within 8" of Joint: | YES |
| Remarks:            |     |



| Code:<br>Description: | TFD<br>Tap Factory Defective |
|-----------------------|------------------------------|
| Distance (ft):        | 136.4                        |
| Structural Grade:     | 0                            |
| O&M Grade:            | 2                            |
| Clock Start/From:     | 1                            |
| Clock To:             |                              |
| 1st Value:            | 4.000                        |
| 2nd Value:            |                              |
| Value Percent:        |                              |
| Continuous Index:     |                              |
| Within 8" of Joint:   |                              |
| Remarks:              | RFL                          |
|                       |                              |



Code: MMC Description: **Material Change** Distance (ft): 177.8 Structural Grade: 0 O&M Grade: 0 Clock Start/From: Clock To: 1st Value: 2nd Value: Value Percent: Continuous Index: Within 8" of Joint: NO Remarks: PVC



| Code:        |  |
|--------------|--|
| Description: |  |

MSA Abandoned Survey

| Distance (ft):      | 184.6       |
|---------------------|-------------|
| Structural Grade:   | 0           |
| O&M Grade:          | 0           |
| Clock Start/From:   |             |
| Clock To:           |             |
| 1st Value:          |             |
| 2nd Value:          |             |
| Value Percent:      |             |
| Continuous Index:   |             |
| Within 8" of Joint: | NO          |
| Remarks:            | No blockage |