

# Analytical Summary Report

Analysis Method: 7196A

ANALYST: Indiana

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY: apatel

Run Number: LB96755

pH Meter ID: WC pH Meter-1

| Reagent/Standard                      | Lot/Log # |
|---------------------------------------|-----------|
| Calibration Std. hexchrome 0.1 ppm    | WP66293   |
| Calibration Std. hexchrome 0.05 ppm   | WP66292   |
| 5N sulfuric acid                      | WP65054   |
| Calibratation STD HexaChrome 1 PPM    | WP66295   |
| Calibratation STD Hexa Chrome 0.5 PPM | WP66294   |
| calibration std. hexchrome 0.01 ppm   | WP66290   |
| calibration std. hexchrome 0 ppm      | WP66287   |
| Hexavalent Chromium ICV Std.          | WP66296   |
| Hexavalent Chromium CCV Std           | WP66297   |
| hexavalent chromium color reagent     | WP66139   |
| HNO3 Hex-Chrome, 5M                   | WP65055   |
| Calibration std Hexachrome, 0.025ppm  | WP66291   |

Intercept: 0.0004

Slope: 0.7692

Regression: 0.999993

| Seq | Lab ID | True Value (mg/l) | DF | Initial Vol (ml/gm) | Final Vol (ml) | pH HN03 | pH H2SO4 | Absorb. at 540 |       | Absorbance Difference | Anal Date  | Anal Time |
|-----|--------|-------------------|----|---------------------|----------------|---------|----------|----------------|-------|-----------------------|------------|-----------|
|     |        |                   |    |                     |                |         |          | Backgrnd       | Color |                       |            |           |
| 1   | CAL1   | 0                 | 1  | 100                 | 100            |         | 1.90     | 0.000          | 0.000 | 0.000                 | 07/19/2018 | 14:00     |
| 2   | CAL2   | 0.01              | 1  | 100                 | 100            |         | 2.35     | 0.000          | 0.008 | 0.008                 | 07/19/2018 | 14:00     |
| 3   | CAL3   | 0.025             | 1  | 100                 | 100            |         | 2.21     | 0.000          | 0.018 | 0.018                 | 07/19/2018 | 14:01     |
| 4   | CAL4   | 0.05              | 1  | 100                 | 100            |         | 1.88     | 0.000          | 0.039 | 0.039                 | 07/19/2018 | 14:01     |
| 5   | CAL5   | 0.1               | 1  | 100                 | 100            |         | 1.63     | 0.000          | 0.079 | 0.079                 | 07/19/2018 | 14:02     |
| 6   | CAL6   | 0.5               | 1  | 100                 | 100            |         | 2.07     | 0.000          | 0.386 | 0.386                 | 07/19/2018 | 14:02     |
| 7   | CAL7   | 1                 | 1  | 100                 | 100            |         | 2.14     | 0.000          | 0.769 | 0.769                 | 07/19/2018 | 14:04     |



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| Seq | Lab ID          | True Value (mg/l) | DF | Initial Vol (ml/gm) | Final Vol (ml) | pH HN03 | pH H2SO4 | Absorb. at 540 |       | Absorbance Difference | Result | Anal Date  | Anal Time |
|-----|-----------------|-------------------|----|---------------------|----------------|---------|----------|----------------|-------|-----------------------|--------|------------|-----------|
|     |                 |                   |    |                     |                |         |          | Backgrnd       | Color |                       |        |            |           |
| 1   | ICV             | 0.5               | 1  | 100                 | 100            |         | 1.66     | 0.000          | 0.387 | 0.387                 | 0.503  | 07/19/2018 | 14:04     |
| 2   | ICB             |                   | 1  | 100                 | 100            |         | 2.03     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:05     |
| 3   | CCV1            | 0.5               | 1  | 100                 | 100            |         | 2.33     | 0.000          | 0.387 | 0.387                 | 0.503  | 07/19/2018 | 14:06     |
| 4   | CCB1            |                   | 1  | 100                 | 100            |         | 2.22     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:07     |
| 5   | PB111286BL      |                   | 1  | 2.55                | 100            | 7.36    | 1.69     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:07     |
| 6   | PB111286BS      | 20                | 1  | 2.54                | 100            | 7.22    | 1.87     | 0.000          | 0.371 | 0.371                 | 0.482  | 07/19/2018 | 14:08     |
| 7   | J4057-01        |                   | 1  | 2.51                | 100            | 7.46    | 2.10     | 0.117          | 0.117 | 0.000                 | -0.001 | 07/19/2018 | 14:08     |
| 8   | J4057-05        |                   | 1  | 2.53                | 100            | 7.55    | 2.45     | 0.015          | 0.015 | 0.000                 | -0.001 | 07/19/2018 | 14:09     |
| 9   | J4057-09        |                   | 1  | 2.55                | 100            | 7.23    | 2.31     | 0.019          | 0.019 | 0.000                 | -0.001 | 07/19/2018 | 14:09     |
| 10  | J4057-13        |                   | 1  | 2.52                | 100            | 7.10    | 1.96     | 0.014          | 0.014 | 0.000                 | -0.001 | 07/19/2018 | 14:10     |
| 11  | J4057-17        |                   | 1  | 2.54                | 100            | 7.23    | 1.98     | 0.021          | 0.021 | 0.000                 | -0.001 | 07/19/2018 | 14:10     |
| 12  | J4062-01        |                   | 1  | 2.53                | 100            | 7.93    | 1.55     | 0.014          | 0.014 | 0.000                 | -0.001 | 07/19/2018 | 14:11     |
| 13  | J4062-07        |                   | 1  | 2.50                | 100            | 7.58    | 2.20     | 0.016          | 0.016 | 0.000                 | -0.001 | 07/19/2018 | 14:11     |
| 14  | J4062-13        |                   | 1  | 2.51                | 100            | 7.12    | 1.57     | 0.013          | 0.013 | 0.000                 | -0.001 | 07/19/2018 | 14:12     |
| 15  | CCV2            | 0.5               | 1  | 100                 | 100            |         | 1.81     | 0.000          | 0.386 | 0.386                 | 0.501  | 07/19/2018 | 14:12     |
| 16  | CCB2            |                   | 1  | 100                 | 100            |         | 2.05     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:13     |
| 17  | J4062-19        |                   | 1  | 2.52                | 100            | 7.36    | 2.18     | 0.014          | 0.014 | 0.000                 | -0.001 | 07/19/2018 | 14:13     |
| 18  | J4062-19DUP     |                   | 1  | 2.50                | 100            | 7.57    | 2.27     | 0.015          | 0.015 | 0.000                 | -0.001 | 07/19/2018 | 14:14     |
| 19  | J4062-19MSPre   | 40                | 2  | 2.53                | 100            | 7.21    | 1.74     | 0.016          | 0.356 | 0.340                 | 0.441  | 07/19/2018 | 14:14     |
| 20  | J4062-19MS2Ins  | 1284              | 40 | 2.53                | 100            | 7.63    | 1.83     | 0.012          | 0.617 | 0.605                 | 0.786  | 07/19/2018 | 14:15     |
| 21  | J4062-19MS3Post | 40                | 2  | 2.53                | 100            | 7.89    | 2.21     | 0.017          | 0.359 | 0.342                 | 0.444  | 07/19/2018 | 14:15     |
| 22  | J4062-25        |                   | 1  | 2.52                | 100            | 7.13    | 2.36     | 0.029          | 0.029 | 0.000                 | -0.001 | 07/19/2018 | 14:16     |
| 23  | J4062-31        |                   | 1  | 2.55                | 100            | 7.30    | 2.40     | 0.035          | 0.035 | 0.000                 | -0.001 | 07/19/2018 | 14:16     |
| 24  | J4062-37        |                   | 1  | 2.52                | 100            | 7.21    | 2.45     | 0.028          | 0.028 | 0.000                 | -0.001 | 07/19/2018 | 14:17     |
| 25  | PB111285BL      |                   | 1  | 2.50                | 100            | 7.56    | 2.28     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:17     |
| 26  | PB111285BS      | 20                | 1  | 2.52                | 100            | 7.22    | 2.15     | 0.000          | 0.375 | 0.375                 | 0.487  | 07/19/2018 | 14:18     |
| 27  | CCV3            | 0.5               | 1  | 100                 | 100            |         | 1.79     | 0.000          | 0.387 | 0.387                 | 0.503  | 07/19/2018 | 14:18     |
| 28  | CCB3            |                   | 1  | 100                 | 100            |         | 1.73     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:19     |
| 29  | J3828-07        |                   | 1  | 2.50                | 100            | 7.06    | 1.90     | 0.027          | 0.027 | 0.000                 | -0.001 | 07/19/2018 | 14:19     |
| 30  | J3828-09        |                   | 1  | 2.53                | 100            | 7.48    | 2.14     | 0.020          | 0.020 | 0.000                 | -0.001 | 07/19/2018 | 14:20     |
| 31  | J3828-11        |                   | 1  | 2.54                | 100            | 7.19    | 2.33     | 0.017          | 0.017 | 0.000                 | -0.001 | 07/19/2018 | 14:20     |
| 32  | J4019-01        |                   | 1  | 2.50                | 100            | 7.35    | 1.61     | 0.013          | 0.013 | 0.000                 | -0.001 | 07/19/2018 | 14:21     |
| 33  | J4035-01        |                   | 1  | 2.51                | 100            | 7.44    | 1.80     | 0.016          | 0.016 | 0.000                 | -0.001 | 07/19/2018 | 14:21     |
| 34  | J4035-07        |                   | 1  | 2.52                | 100            | 7.69    | 2.10     | 0.014          | 0.014 | 0.000                 | -0.001 | 07/19/2018 | 14:22     |
| 35  | J4035-13        |                   | 1  | 2.53                | 100            | 7.17    | 2.27     | 0.012          | 0.012 | 0.000                 | -0.001 | 07/19/2018 | 14:22     |
| 36  | J4041-01        |                   | 1  | 2.50                | 100            | 7.21    | 2.13     | 0.089          | 0.089 | 0.000                 | -0.001 | 07/19/2018 | 14:23     |
| 37  | J4051-03        |                   | 1  | 2.53                | 100            | 7.16    | 1.90     | 0.021          | 0.021 | 0.000                 | -0.001 | 07/19/2018 | 14:23     |
| 38  | J4051-03DUP     |                   | 1  | 2.55                | 100            | 7.25    | 1.75     | 0.020          | 0.020 | 0.000                 | -0.001 | 07/19/2018 | 14:24     |
| 39  | CCV4            | 0.5               | 1  | 100                 | 100            |         | 2.02     | 0.000          | 0.387 | 0.387                 | 0.503  | 07/19/2018 | 14:24     |
| 40  | CCB4            |                   | 1  | 100                 | 100            |         | 2.11     | 0.000          | 0.000 | 0.000                 | -0.001 | 07/19/2018 | 14:25     |
| 41  | J4051-03MSPre   | 40                | 2  | 2.51                | 100            | 7.13    | 1.64     | 0.023          | 0.365 | 0.342                 | 0.444  | 07/19/2018 | 14:25     |
| 42  | J4051-03MS2Ins  | 1284              | 40 | 2.51                | 100            | 7.96    | 1.91     | 0.020          | 0.630 | 0.610                 | 0.793  | 07/19/2018 | 14:26     |

|    |                 |     |   |      |     |      |      |       |       |       |        |            |       |
|----|-----------------|-----|---|------|-----|------|------|-------|-------|-------|--------|------------|-------|
| 43 | J4051-03MS3Post | 40  | 2 | 2.51 | 100 | 7.80 | 2.11 | 0.024 | 0.368 | 0.344 | 0.447  | 07/19/2018 | 14:26 |
| 44 | J4054-06        |     | 1 | 2.55 | 100 | 7.45 | 1.66 | 0.024 | 0.024 | 0.000 | -0.001 | 07/19/2018 | 14:27 |
| 45 | CCV5            | 0.5 | 1 | 100  | 100 |      | 2.19 | 0.000 | 0.387 | 0.387 | 0.503  | 07/19/2018 | 14:27 |
| 46 | CCB5            |     | 1 | 100  | 100 |      | 2.25 | 0.000 | 0.000 | 0.000 | -0.001 | 07/19/2018 | 14:28 |