





| City of Cedar Rapids WWTP 7525 Bertram Road SE Cedar Rapids, IA 52403 | a. | Project: Beneficial Reuse Project Number: Cedar Rapids Lime Sludge Project Manager: Accounts Payable | | | | | e Repor 10/22/14 | | |
|---|-----------------|--|-----------------|-----------|---------|-----------|---------------------|-----------|-------|
| | | East | Well Fiel | d | | | | | |
| 87 - 18 1. ac. | | 1J4060 |)9-04 (Slud | lge) | | | | | |
| | D | ate Sampled: | 9/23/2014 | 12:00:00A | м | | | | |
| 2 | | | | | 81 | | | | |
| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
| | K | eystone Labo | ratories, Ir | nc Newt | on | | | | |
| Determination of Conventional Chemis | stry Parameters | | | | | | | | 2 |
| % Solids | 52.3 | 0.1 | % | 1 | 1XJ0348 | 10/09/14 | 10/09/14 11:01 | SM 2540 G | I-05 |
| Determination of Total Metals | | | | | | - 0 | | | |
| Silver, total | ND | 0.3 | mg/kg dry | 1 | 1XJ0578 | 10/15/14 | 10/16/14 23:27 | EPA 6010B | |
| Arsenic, total | 3.55 | 0.34 | u. | 10 | " | п | 10/20/14 18:50 | EPA 6020A | |
| Barium, total | 257 | 0.34 | н | 1 | п | 'n | 10/16/14 23:27 | EPA 6010B | |
| Beryllium, total | ND | 0.3 | н., | 10 | n | н | 10/20/14 18:50 | EPA 6020A | |
| Boron, total | 8.5 | 3.4 | п | 1 | п | n | 10/16/14 23:27 | EPA 6010B | |
| Cadmium, total | ND | 0.3 | п | | п | | 1.03 | 3003 | |
| Chromium, total | 2.5 | 1.0 | н | | н | и | н | | |
| Copper, total | 3.3 | 1.0 | n _{ar} | н | н | н | n | | |
| Mercury, total | ND | 0.12 | 11 e · | n | 1XJ0383 | 10/10/14 | 10/10/14 14:31 | EPA 7471A | |
| Manganese, total | 1100 | 0.3 | н | л | 1XJ0578 | 10/15/14 | 10/16/14 23:27 | EPA 6010B | |
| Molybdenum, total | ND | 0.3 | п | н | | | u | | |
| Nickel, total | 2.3 | 1.7 | н | л | п | п | | | |
| Lead, total | ND | 1.7 | н | н | " | " | | | |
| Antimony, total | ND | 0.34 | н | 10 | " | н | 10/20/14 18:50 | EPA 6020A | |
| Selenium, total | ND | 1.0 | ü | 1 | n | | 10/16/14 23:27 | EPA 6010B | |
| Thallium, total | ND | 0.3 | ш | 10 | n | п | 10/20/14 18:50 | EPA 6020A | |
| Vanadium, total | 4.55 | 1.70 | ш | 1 | " | <u>10</u> | 10/16/14 23:27 | EPA 6010B | |
| Zinc, total | 24.5 | 1.0 | н | n | | п | п | ü | |
| Determination of TCLP Metals | 12 | | | | | | | | |
| Silver (TCLP) | ND | 0.010 | mg/L | 1 | 1XJ0745 | 10/21/14 | 10/21/14 20:13 | EPA 6010B | |
| Barium (TCLP) | 1.23 | 0.500 | | n | п | .11 | | 9 | |
| Cadmium (TCLP) | ND | 0.005 | ũ. | | n. | ü | | n | |
| Chromium (TCLP) | ND | 0.030 | U. | | п | .0. | а н . | n | |
| Mercury (TCLP) | ND | 0.00050 | ŭ | n | 1XJ0734 | 10/20/14 | 10/21/14 15:05 | EPA 7470A | |
| Lead (TCLP) | 0.010 | 0.010 | ίΪ. | | 1XJ0745 | 10/21/14 | 10/21/14 20:13 | EPA 6010B | |
| 2 4 | | 1 | | | | | | | |

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Phone 641-792-8451







| City of Cedar Rapids WWTP 7525 Bertram Road SE Cedar Rapids, IA 52403 | | Project: Beneficial Reuse Project Number: Cedar Rapids Lime Sludge Project Manager: Accounts Payable | | | | Reported 10/22/14 16 | | | |
|---|--------|--|----------------------------------|-----------|---------|-------------------------|----------------|-----------|-------|
| 5 | | East | Well Fie | ld | | | | | |
| | | 1 J 4060 | 9-04 (Slu | lge) | | | | | |
| | | Date Sampled:9 | /23/2014 | 12:00:00A | M | | | | |
| | | | | | * | | | | |
| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzęd | Method | Notes |
| | | Keystone Labor | atories, I | nc Newt | on | | | | |
| TCLP Extraction | | | 097 (C.) <u>—</u> (C. 44 | | | | | | 1 |
| TCLP pH, Final | 6.3 | 0.1 | pН | 1 | 1XJ0698 | 10/20/14 | 10/20/14 07:36 | EPA 1311 | |
| TCLP pH, Initial | 2.9 | 0.1 | н | | | п 💍 | n | н | |
| Determination of SPLP Metals | | | | | | | | | |
| Arsenic (SPLP) | ND | 0.0040 | mg/L | 4 | 1XJ0661 | 10/17/14 | 10/20/14 17:06 | EPA 6020A | |
| Barium (SPLP) | 0.102 | 0.0040 | н | п | " | n | п | n | |
| Beryllium (SPLP) | ND | 0.0040 | Ш., | | 8 | | u. | .0 | |
| Cadmium (SPLP) | ND | 0.0020 | н | 11 | n | | n | | |
| Chromium (SPLP) | ND | 0,0080 | π. | n | n | | | u | |
| Copper (SPLP) | ND | 0.0040 | <u>R</u> | | n | " | n | п | |
| Mercury (SPLP) | ND | 0.00050 | n. | 1 | 1XJ0733 | 10/20/14 | 10/21/14 15:05 | EPA 7470A | |
| Lead (SPLP) | ND | 0.0040 | н е - | 4 | 1XJ0661 | 10/17/14 | 10/20/14 17:06 | EPA 6020A | |
| Antimony (SPLP) | ND | 0.0040 | н | п | | п | н | u | |
| Selenium (SPLP) | ND | 0.0040 | u | ñ | | ŭ | u. | и | |
| Thallium (SPLP) | ND | 0.0040 | u. | 5 | " | л | 11. | n | |
| SPLP Extraction | | | | 2 | | | | | |
| SPLP pH, Initial | 5.0 | | pH | 1 | 1XJ0610 | 10/16/14 | 10/16/14 08:56 | EPA 1312 | |
| SPLP pH, Final | 9.9 | | u | n | n | п | a n s | n | |

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|---|--|------------------------------------|------------|----------|--------------|----------|----------------|----------------|----------------------------|--|--|
| | а, Т | East 1J40609- Date Sampled:9 | | ludge) | м | | | | | | |
| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes | | |
| | ŀ | Keystone Labor | atories, l | nc Newto | on | | | | | | |
| Determination of TCLP Metals | | | | | | | | | | | |
| Arsenic (TCLP) Selenium (TCLP) | ND ND | 0.500 0.250 | mg/L " | 5 " | 1XJ0745 " | 10/21/14 | 10/22/14 15:18 | EPA 6010B " | R-01 R-01 | | |

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600 East 17th Street South Newton, IA 50208