

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 09-11

MONTHLY CONTROLLED SOLIDS

DISTRIBUTION REPORT

AUGUST 2008 - REVISED

MARCH 2009

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March 12, 2009

Mr. S. Alan Keller, P.E.
Manager, Permit Section
Illinois Environmental
Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. Keller:

Subject: Metropolitan Water Reclamation District of Greater Chicago – Revised Controlled Solids Distribution Program IEPA Permit No. 2005-SC-3793, August 2008 - Revised

This letter transmits information and data for the Metropolitan Water Reclamation District of Greater Chicago - Controlled Solids Distribution Program for August 2008, as required by Illinois Environmental Protection Agency Permit No. 2005-SC-3793. The data in Tables 3, 4, and 5 of the earlier report submitted on February 20, 2009 have been revised. Please replace the February 20, 2009 report with this revised report.

Sludge flow schematic diagrams for solids processed during August 2008 are shown in Figure 1 - John E. Egan Water Reclamation Plant (WRP), Figure 2 - Calumet WRP, and Figure 3 - Stickney WRP.

Biosolids were distributed to six sites in August. The user information report for these six sites is presented in Table 1, and the analyses of composited biosolids delivered to those sites are presented in Tables 2, 3, 4, 5, 6, 7, and 8.

Very truly yours,

Louis Kollias
Director
Monitoring and Research

LK:KK:kq
Attachments
cc: Aistars (USEPA)
Sulski (IEPA)
Sobanski
Granato/O'Connor/Cox

TABLE 1: CONTROLLED SOLIDS DISTRIBUTION PROGRAM USER INFORMATION REPORT
FOR AGITATION-DRIED ANAEROBICALLY DIGESTED SOLIDS

| No. | Name and Address of User | Source | Dates | Quantity (dry tons) | | Biosolids Use | Application | | Analysis |
|-----|--|---|---|------------------------|--------------------|---|-----------------|---------------------|----------|
| | | | | August 2008 | Cumulative 2008 | | Area (acres) | Rate (tons/acre) | |
| 1. | West Leyden High School 1000 N. Wolf Rd. Northlake, IL 60164 | Calumet WRP – East Drying Area | 13 | 60.2 | 60.2 | Soil amendment for turf growth on athletic fields. | 5 | 12.04 | Table 2 |
| 2. | Blue Island Park District 12804 S. Highland Ave. Blue Island, IL 60406 | Calumet WRP- East Drying Area | 26 | 69.3 | 98.5 | Top dressing as fertilizer for turf growth on soccer fields. | 5 | 13.85 | Table 3 |
| 3. | Cinder Ridge Golf Course 24801 Lakepoint Drive Wilmington, IL 60481 | Stickney WRP - Vulcan Drying Area | 4 | 75 | 75 | Top dressing as fertilizer for turf growth on golf course. | 60 | 1.3 | Table 4 |
| 4. | Proviso Township High School 4701 W. Harrison St. Hillside, IL 60162 | Stickney WRP - Vulcan Drying Area | 11 | 26 | 26 | Soil amendment for reclamation of nutrient deficient land. | 4.6 | 5.7 | Table 5 |
| 5. | Cook County Forest Preserve 536 N. Harlem Ave. River Forest, IL 60305 | Stickney WRP - Marathon & HASMA Drying Areas | 13, 14, 15, 18, 19, 20, 21, 22 | 4,042 | 4,042 | Soil amendment for turf growth. | 12 | 336.8 | Table 6 |
| 6. | Chicago Highlands Club 31st St. and I-294 Westchester, IL 60154 | Calumet WRP - East Drying Area | 16, 23, 25, 27 | 758.4 | | Soil amendment for construction of golf course fairways. | 12 | 63.2 | Table 7 |
| | | Stickney WRP - Marathon, LASMA & HASMA & Vulcan Drying Areas | 7, 8, 11, 16, 25, 27, 28 | 4,205 | 10,215 | Soil amendment for construction of golf course fairways. | 29 | 145.0 | Table 8 |

TABLE 2: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND AT THE WEST LEYDEN HIGH SCHOOL ATHLETIC FIELDS, NORTHLAKE, IL, FROM THE CALUMET EAST DRYING AREA DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 6.8 |
| Total Solids | % | 72.9 |
| Total Volatile Solids | " | 30.3 |
| Volatile Acids as Acetic Acid | mg/dry kg | 29 |
| Total Kjeldahl-N | " | 13,915 |
| NH ₃ -N | " | 19 |
| Total P | " | 18,634 |
| K | " | 6,265 |
| Cd | " | 5.0 |
| Cr | " | 101 |
| Cu | " | 293 |
| Pb | " | 98 |
| Hg | " | 0.84 |
| Mo | " | 11 |
| As | " | 9.3 |
| Mn | " | 862 |
| Ni | " | 37.7 |
| Se | " | <11.4 |
| Zn | " | 708 |

¹Results based on one sample.

TABLE 3: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND AT THE BLUE ISLAND PARK DISTRICT SOCCER FIELDS LOCATED AT 12804 S. HIGHLAND AVE., BLUE ISLAND, IL, FROM THE CALUMET EAST DRYING AREA DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 6.9 |
| Total Solids | % | 86.4 |
| Total Volatile Solids | " | 43.6 |
| Volatile Acids as Acetic Acid | mg/dry kg | 113 |
| Total Kjeldahl-N | " | 26,855 |
| NH ₃ -N | " | 805 |
| Total P | " | 25,019 |
| K | " | 7,969 |
| Cd | " | 0.5 |
| Cr | " | 19 |
| Cu | " | 385 |
| Pb | " | 15 |
| Hg | " | 1.00 |
| Mo | " | 4.0 |
| As | " | <8.6 |
| Mn | " | 540 |
| Ni | " | 12.0 |
| Se | " | <11.4 |
| Zn | " | 404 |

¹Results based on one sample.

TABLE 4: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND AT THE CINDER RIDGE GOLF COURSE LOCATED AT 24801 LAKEPOINT DR., WILMINGTON, IL, FROM THE STICKNEY WATER RECLAMATION PLANT VULCAN DRYING AREA DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 6.3 |
| Total Solids | % | 61.8 |
| Total Volatile Solids | " | 35.6 |
| Volatile Acids as Acetic Acid | mg/dry kg | 380 |
| Total Kjeldahl-N | " | 22,494 |
| NH ₃ -N | " | 2,189 |
| Total P | " | 19,596 |
| K | " | 2,719 |
| Cd | " | 3.6 |
| Cr | " | 169 |
| Cu | " | 416 |
| Pb | " | 135 |
| Hg | " | 0.99 |
| Mo | " | 16.1 |
| As | " | <20.0 |
| Mn | " | 534 |
| Ni | " | 46.9 |
| Se | " | <8.0 |
| Zn | " | 866 |

¹Results based on one sample.

TABLE 5: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND AT THE PROVISO TOWNSHIP HIGH SCHOOL LOCATED AT 4701 W. HARRISON ST., HILLSIDE, IL, FROM THE STICKNEY WATER RECLAMATION PLANT VULCAN DRYING AREA DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 6.5 |
| Total Solids | % | 63.1 |
| Total Volatile Solids | " | 35.3 |
| Volatile Acids as Acetic Acid | mg/dry kg | 579 |
| Total Kjeldahl-N | " | 28,971 |
| NH ₃ -N | " | 3,101 |
| Total P | " | 22,246 |
| K | " | 2,836 |
| Cd | " | 4.0 |
| Cr | " | 178 |
| Cu | " | 427 |
| Pb | " | 137 |
| Hg | " | 0.98 |
| Mo | " | 17.3 |
| As | " | <20.0 |
| Mn | " | 540 |
| Ni | " | 48.3 |
| Se | " | <8.0 |
| Zn | " | 903 |

¹Results based on one samples.

TABLE 6: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND AT THE MILLER MEADOWS FOREST PRESERVE LOCATED AT 2199 S. 1ST AVE., MAYWOOD, IL, FROM THE STICKNEY WATER RECLAMATION PLANT MARATHON AND HASMA DRYING AREAS DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 6.2 |
| Total Solids | % | 71.1 |
| Total Volatile Solids | " | 36.4 |
| Volatile Acids as Acetic Acid | mg/dry kg | 359 |
| Total Kjeldahl-N | " | 22,162 |
| NH ₃ -N | " | 1,820 |
| Total P | " | 21,463 |
| K | " | 2,952 |
| Cd | " | 3.9 |
| Cr | " | 177 |
| Cu | " | 430 |
| Pb | " | 138 |
| Hg | " | 1.03 |
| Mo | " | 16.42 |
| As | " | <20.0 |
| Mn | " | 558 |
| Ni | " | 49.5 |
| Se | " | <8.0 |
| Zn | " | 910 |

¹Results based on four samples.

TABLE 7: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND
 AT THE CHICAGO HIGHLANDS CLUB GOLF COURSE LOCATED AT
 31ST STREET AND I-294, WESTCHESTER, IL, FROM THE CALUMET EAST
 DRYING AREA DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 7.3 |
| Total Solids | % | 77.3 |
| Total Volatile Solids | " | 40.3 |
| Volatile Acids as Acetic Acid | mg/dry kg | 937 |
| Total Kjeldahl-N | " | 20,880 |
| NH ₃ -N | " | 1,606 |
| Total P | " | 23,970 |
| K | " | 4,840 |
| Cd | " | 4.4 |
| Cr | " | 106 |
| Cu | " | 458 |
| Pb | " | 118 |
| Hg | " | 1.05 |
| Mo | " | 17.0 |
| As | " | 10.8 |
| Mn | " | 1,071 |
| Ni | " | 39.2 |
| Se | " | <11.4 |
| Zn | " | 1,090 |

¹Results based on three samples.

TABLE 8: ANALYSIS¹ OF DIGESTED BIOSOLIDS APPLIED TO LAND
 AT THE CHICAGO HIGHLANDS CLUB GOLF COURSE LOCATED AT
 31ST STREET AND I-294, WESTCHESTER, IL, FROM THE STICKNEY WATER
 RECLAMATION PLANT DRYING AREAS DURING AUGUST 2008

| Constituent | Units | Concentration |
|-------------------------------|-----------|---------------|
| pH | | 6.4 |
| Total Solids | % | 71.7 |
| Total Volatile Solids | " | 34.9 |
| Volatile Acids as Acetic Acid | mg/dry kg | 387 |
| Total Kjeldahl-N | " | 20,436 |
| NH ₃ -N | " | 2,172 |
| Total P | " | 18,864 |
| K | " | 2,447 |
| Cd | " | 3.8 |
| Cr | " | 169 |
| Cu | " | 412 |
| Pb | " | 132 |
| Hg | " | 1.03 |
| Mo | " | 15.3 |
| As | " | <20.0 |
| Mn | " | 529 |
| Ni | " | 46.2 |
| Se | " | <8.0 |
| Zn | " | 868 |

¹Results based on five samples.