

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 13-1

CONTROLLED SOLIDS DISTRIBUTION REPORT

FOR FOURTH QUARTER 2012

FEBRUARY 2013

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

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February 13, 2013

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 – Controlled Solids Distribution Program Illinois Environmental Protection Agency Permit No. 2010-SC-0200, Fourth Quarter (October – December 2012)

This letter transmits information and data for the Metropolitan Water Reclamation District of Greater Chicago - Controlled Solids Distribution Program for the fourth quarter (October – December 2012), as required by Illinois Environmental Protection Agency Permit Nos. 2010-SC-0200 and 2010-SC-0200-2.

Estimated sludge mass flow schematic diagrams for solids processed during October - December 2012 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 38 sites during the fourth quarter of 2012. The user information report for these sites is presented in Tables 1 and 2, and the analysis of biosolids delivered to these sites is presented in Tables 3 and 4.

Very truly yours,

Thomas C. Granato, Ph.D.
Director
Monitoring and Research

TCG:OO:cm

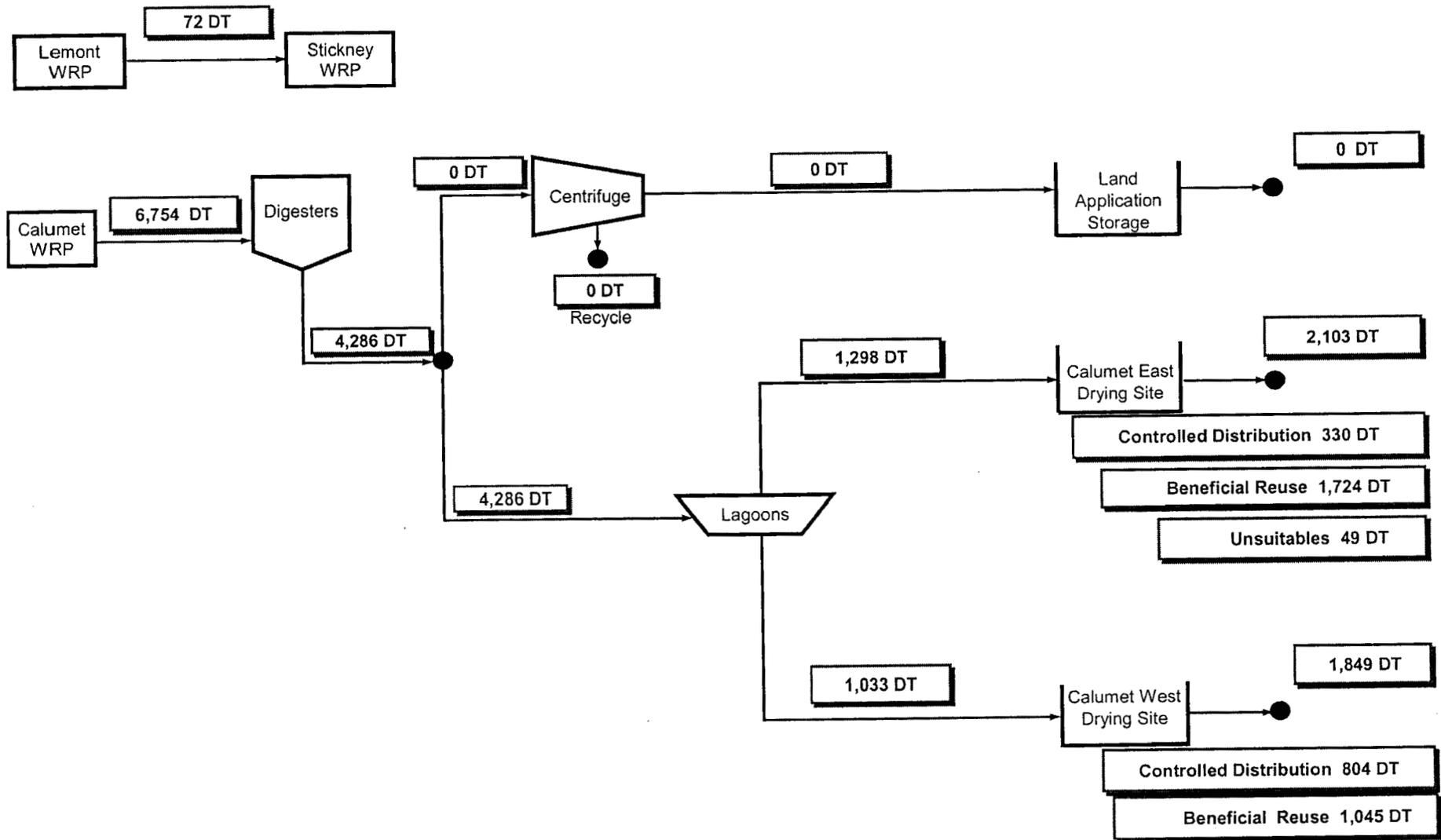
Attachments

cc: Mr. V. Aistars (USEPA)

Mr. J. Patel (IEPA)

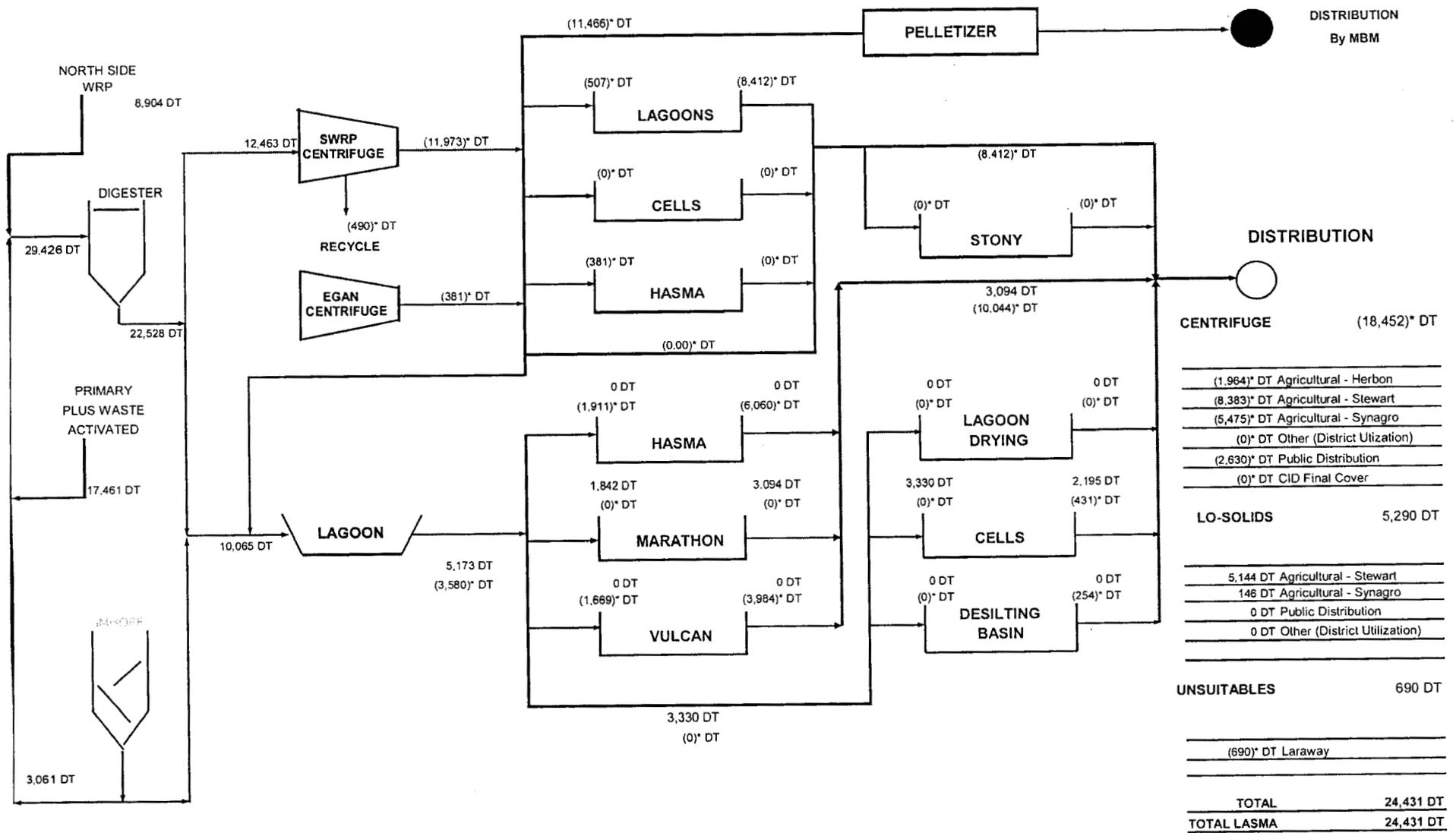
CALUMET WRP SOLIDS DISTRIBUTION - 4TH QUARTER 2012

Figure 2



STICKNEY WATER RECLAMATION PLANT SOLIDS DISTRIBUTION FOR 4th QUARTER 2012

FIGURE 3



(CENTRIFUGE CAKE)*

TABLE 1: USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			Fourth Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre) ¹
1	Chicago Park District Smith Park 2526 W. Grand Ave. Chicago, IL 60612	10/1	67.7	67.7	Topdressing fertilizer for turf growth	3	22.6
2	Hinsdale Park District Peirce Park 700 E. Walnut Dr. Hinsdale, IL 60521	10/2, 10/3	100.0	100.0	Topdressing fertilizer for turf growth	4	25.0
3	Twin Orchard Golf Club 22353 Old McHenry Rd. Long Grove, IL 60047	10/2, 10/9	186.5	498.9	Topdressing fertilizer for turf growth	9	20.7
4	Hinsdale Park District Veeck Park 701 E. Chicago Ave. Hinsdale, IL 60521	10/3, 10/4, 10/5	201.0	201.0	Topdressing fertilizer for turf growth	10	20.1
5	Hinsdale Park District KLM Park 5901 S. County Line Rd. Hinsdale, IL 60521	10/8, 10/9, 10/10	611.0	611.0	Topdressing fertilizer for turf growth	30	20.4
6	Lombard Park District Sunset Knoll Park 227 W. Parkside Ave. Lombard, IL 60148	10/10, 10/12, 11/1	59.4	59.4	Topdressing fertilizer for turf growth	3	19.8

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			Fourth Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre) ¹
7	Downers Grove H.S. 4436 Main St. Downers Grove, IL 60515	10/11, 10/12	760.8	760.8	Soil amendment for turf establishment	10	76.1
8	Hanover Park Park District Harbors Park East 4001 Woodlake Rd. Hanover Park, IL 60133	10/11, 10/12	94.1	94.1	Topdressing fertilizer for turf growth	4	23.5
9	Midlothian Park District Memorial Park 14500 S. Kostner Ave. Midlothian, IL 60445	10/12	97.1	267.7	Topdressing fertilizer for turf growth	4	24.3
10	Coyote Run Golf Course 3301 Flossmoor Rd. Flossmoor, IL 60422	10/17	120.4	120.4	Topdressing fertilizer for turf growth	5	24.1
11	York Center Park District Lake Yelenich Park 1609 S. Luther Ave. Lombard, IL 60148	11/1	24.3	24.3	Topdressing fertilizer for turf growth	1	24.3
12	Oak Lawn Park District Memorial Park 102 nd St. and Major Ave. Oak Lawn, IL 60453	11/2	56.3	56.3	Topdressing fertilizer for turf growth	2	28.1

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			Fourth Quarter	Cumulative		Area (acre)	Rate (ton/acre) ¹
13	Franklin Park Park District Birch Park 2952 Birch St. Franklin Park, IL 60131	11/9	16.2	16.2	Topdressing fertilizer for turf growth	1	16.2
14	Franklin Park Park District Chestnut Park 10105 Chestnut Ave. Franklin Park, IL 60131	11/9	15.6	15.6	Topdressing fertilizer for turf growth	1	15.6
15	Franklin Park Park District North Park 10040 Addison St. Franklin Park, IL 60131	11/9	15.1	15.1	Topdressing fertilizer for turf growth	1	15.1
16	Chicago Park District West Lawn Park 4233 W. 65 th St. Chicago, IL 60629	11/9	28.5	28.5	Topdressing fertilizer for turf growth	1	28.5
17	Tinley Park Park District Bristol Park 7645 W. 175 th St. Tinley Park, IL 60477	11/15	13.8	13.8	Topdressing fertilizer for turf growth	1	13.8
18	Tinley Park Park District Centennial Park 7220 W. 167 th St. Tinley Park, IL 60477	11/15	40.7	40.7	Topdressing fertilizer for turf growth	2	20.3

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			Fourth Quarter	Cumulative		Area (acre)	Rate (ton/acre) ¹
19	Lemont Park District Covington Knolls Park 1003 Covington Dr. Lemont, IL 60439	11/15	40.9	40.9	Topdressing fertilizer for turf growth	2	20.5
20	Tinley Park Park District Vogt Wood Park 7645 W. 175 th St. Tinley Park, IL 60477	11/16, 11/20	54.7	54.7	Topdressing fertilizer for turf growth	2	27.4
21	Waukegan Park District Waukegan Park 3391 W. Beach Rd. Waukegan, IL 60082	11/28	25.8	25.8	Topdressing fertilizer for turf growth	1	25.8

¹Application rate is based on quantity of biosolids distributed in fourth quarter.

TABLE 2: USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			Fourth Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre) ¹
1	McNulty Field 13410 McCarthy Rd. Lemont, IL 60439	10/12	165.7	165.7	Soil amendment for reclamation of poor quality soil	8	20.7
2	Downers Grove South H.S. 4436 Main St. Downers Grove, IL 60515	10/16	90.3	851.1 ²	Soil amendment for turf establishment	1.5	60.2
3	Hinsdale Park District Robbins Park 7 th and Vine St. Hinsdale, IL 60521	10/17	62.9	62.9	Topdressing fertilizer for turf growth	3	21.0
4	Chicago Park District Warren Park 6601 N. Western Ave. Chicago, IL 60645	10/29, 10/30, 10/31	259.9	259.9	Topdressing fertilizer for turf growth	10	26.0
5	Oak Lawn Park District Central Park 9400 S. Kenton Ave. Oak Lawn, IL 60453	11/2	12.9	12.9	Topdressing fertilizer for turf growth	1	12.9
6	Oak Lawn Park District Lawn Manor Park 108 th St. and Kostner Ave. Oak Lawn, IL 60453	11/2	12.8	12.8	Topdressing fertilizer for turf growth	1	12.8

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			Fourth Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre) ¹
7	Oak Lawn Park District Oak View Center 4625 W. 110 th St. Oak Lawn, IL 60453	11/2	14.0	14.0	Topdressing fertilizer for turf growth	1	14.0
8	Oak Lawn Park District Pacetti Field 9400 Oak Park Ave. Oak Lawn, IL 60453	11/2	14.1	14.1	Topdressing fertilizer for turf growth	1	14.1
9	Oak Lawn Park District Stony Creek Golf Complex 5850 W. 103 rd St. Oak Lawn, IL 60453	11/2	13.7	13.7	Topdressing fertilizer for turf growth	1	13.7
10	Oak Lawn Park District Sullivan Park 99 th St. and Kostner Ave. Oak Lawn, IL 60453	11/2	13.6	13.6	Topdressing fertilizer for turf growth	1	13.6
11	Thornton Fractional North H.S. 755 Pulaski Rd. Calumet City, IL 60409	11/2	59.4	59.4	Topdressing fertilizer for turf growth	3	19.8
12	Oak Lawn Park District Worthbrook Park 89 th Pl. and Ridgeland Ave. Oak Lawn, IL 60453	11/2	15.3	15.3	Topdressing fertilizer for turf growth	1	15.3

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			Fourth Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre) ¹
13	Chicago Park District Hayes Park 2936 W. 85 th St. Chicago IL 60652	11/2	49.3	49.3	Topdressing fertilizer for turf growth	2	24.7
14	Tinley Park Park District Bristol Park 7645 W. 175 th St. Tinley Park, IL 60477	11/5	27.1	40.9 ²	Topdressing fertilizer for turf growth	1	27.1
15	Oak Lawn Park District Centennial Park 93 rd and Oak Park Ave. Oak Lawn, IL 60453	11/5	41.5	41.5	Topdressing fertilizer for turf growth	2	20.8
16	Chicago Park District Durkin Park 8445 S. Kolin Ave. Chicago, IL 60652	11/5	61.0	61.0	Topdressing fertilizer for turf growth	3	20.3
17	Lemont Park District Bambrick Park 1330 Smith Rd. Lemont, IL 60439	11/8	57.1	57.1	Topdressing fertilizer for turf growth	3	19.0

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2012

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			Fourth Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre) ¹
18	Chicago Park District Grand Crossing 7655 S. Ingleside Ave. Chicago IL 60619	11/8	57.8	57.8	Topdressing fertilizer for turf growth	3	19.3
19	Chicago Park District West Lawn Park 4233 W. 65 th St. Chicago, IL 60621	11/20	61.2	89.7 ²	Topdressing fertilizer for turf growth	3	20.4
20	Chicago Park District Minuteman Park 5940 S. Central Ave. Chicago, IL 60638	11/21	44.5	44.5	Topdressing fertilizer for turf growth	2	22.3

¹Application rate is based on quantity of biosolids distributed in fourth quarter.

²Sum of biosolids received from Calumet and Stickney Water Reclamation Plants.

TABLE 3: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2012

Sampling Date		1-Oct	3-Oct	8-Oct	10-Oct	17-Oct	1-Nov	9-Nov	13-Nov	20-Nov	28-Nov
Site No. ¹		1, 2	3	4, 5	6, 7, 8, 9	10	11, 12	13, 14, 15, 16	17, 18, 19, 20	20	21
Constituent	Unit										
pH		6.2	6.8	6.6	6.7	7.4	6.7	7.3	6.5	6.2	6.5
Total Solids	%	82.3	71.5	74.4	73.7	71.9	68.1	59.9	61.3	55.7	59.5
Total Volatile Solids	%	40.9	46.1	42.3	42.0	39.8	41.7	38.9	43.3	43.1	40.9
Volatile Acids as Acetic Acid	mg/kg	52	89	64	53	42	201	230	191	174	11
Total Kjeldahl-N	"	23,316	34,070	27,798	26,576	22,911	23,463	20,897	22,854	27,274	29,646
NH ₃ -N	"	NRR ²	5,083	3,452	3,479	2,530	3,194	2,987	2,753	3,456	3,345
Total P	"	25,351	27,884	23,409	25,323	24,920	22,081	17,730	20,084	25,052	24,690
As	"	8.0	8.0	10.0	11.0	8.0	7.0	7.0	8.0	8.0	10.0
Cd	"	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Cr	"	156	143	151	144	162	149	149	149	149	148
Cu	"	441	434	443	421	456	415	414	414	423	414
Hg	"	0.7	0.8	1.3	1.1	1.1	1.1	1.0	0.9	0.8	1.1
K	"	2,136	2,921	2,593	2,725	3,283	3,131	4,291	2,855	2789	3176
Mn	"	615	578	582	544	588	599	562	593	586	573

TABLE 3 (Continued): ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2012

Sampling Date	1-Oct	3-Oct	8-Oct	10-Oct	17-Oct	1-Nov	9-Nov	13-Nov	20-Nov	28-Nov	
Site No. ¹	1, 2	3	4, 5	6, 7, 8, 9	10	11, 12	13, 14, 15, 16	17, 18, 19, 20	20	21	
Constituent	Unit										
Mo	"	10.0	12.0	9.0	8.0	11.0	9.0	10.0	10.0	11.0	11.0
Ni	"	41.0	41.0	43.0	39.0	44.0	39.0	40.0	39.0	40.0	39.0
Pb	"	125	115	124	124	133	121	128	125	119	117
Se	"	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Zn	"	892	846	876	826	942	812	831	820	835	814

¹Sites listed in Table 1.

²No reportable result.

TABLE 4: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE CALUMET WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2012

Sampling Date		17-Oct	2-Nov	8-Nov
Site No. ¹		1, 2, 3	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	16, 17, 18, 19, 20
Constituent	Unit			
pH		6.8	6.6	6.9
Total Solids	%	74.0	68.9	71.9
Total Volatile Solids	%	42.0	37.1	41.6
Volatile Acids as Acetic Acid	mg/kg	69	42	224
Total Kjeldahl-N	"	19,075	26,591	19,871
NH ₃ -N	"	3,040	2,997	3,171
Total P	"	23,626	33,265	30,526
As	"	9	<5.0	<5.0
Cd	"	2.0	2.0	2.0
Cr	"	52.0	52.0	49.0
Cu	"	432	407	437
Hg	"	1.1	0.9	0.9
K	"	3,951	4,391	3,227
Mn	"	968	967	989
Mo	"	4.0	9.0	10.0
Ni	"	28.0	28.0	28.0
Pb	"	77.0	76.0	79.0
Se	"	<5.0	<5.0	<5.0
Zn	"	1,127	1,060	1,103

¹Sites listed in [Table 2](#).