

CALUMET W.R.P. SLUDGE LAGOON STORAGE REPORT

DATE: 11/30/11

LAGOON #	EMPTY STORAGE CAPACITY (MIL GAL)	EMPTY STORAGE DEPTH (FT)	AVERAGE STORAGE PER FOOT (MIL GAL)	PRESENT STORAGE DEPTH (FT)	USED STORAGE VOLUME (MIL GAL)	STORAGE DEPTH REMAINING (FT)	STORAGE VOLUME REMAINING (MIL GAL)	PRESENT LAGOON INPUT (DRY-TONS)
1	21.3	16.7	1.275	13.1	16.7	3.6	4.6	4,449
2	22.3	17.0	1.312	14.2	18.6	2.8	3.7	5,032
3	20.3	18.3	1.107	0.0	0.0	18.3	20.3	0
4	20.5	18.5	1.111	0.0	0.0	18.5	20.5	0
5	24.2	15.3	1.584	0.0	0.0	15.3	24.2	0
6	27.8	16.8	1.656	0.6	1.0	16.2	26.8	3,514
7	37.0	17.3	2.139	16.3	34.9	1.0	2.1	9,682
8 O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
14	26.8	19.0	1.412	0.0	0.0	19.0	26.8	0
15	24.5	19.8	1.235	0.0	0.0	19.8	24.5	0
17	41.3	19.3	2.139	10.1	21.5	9.3	19.8	5,297
18	42.4	19.9	2.130	19.9	42.4	0.0	0.0	8,309
19	40.2	19.9	2.022	8.3	16.8	11.6	23.4	4,176
TOTALS	348.66				151.93		197	40,459

Est. days remaining to fill in service lagoons=(Stg Vol Rem in MG (Column 8))/(0.8 mil.gal./day) = 246 DAYS

Lagoons in service: 1, 2, 6, 7, 17, 18 and 19 100 DAYS

Lagoons available if needed: 3, 4, 5, 14, and 15 145 DAYS

Lagoons Out of Service (O/S): Lagoon 8 (O/S - for use by Construction) NA DAYS

Est. number of days remaining to fill all lagoons in service (Previous Month) = 231 DAYS

Note: Assumes entire Calumet Plant sludge production (.8 mil. Gal./day) is pumped to lagoons.

Lagoon 18 is aging to meet 18 month PFRP requirement. Lagoon 18 is available for outloading on June 21, 2012

Daily Lagoon Fill

DATE	DIGESTER DISCHARGE 1000 GAL	LOW SOLIDS LAGOON	LAGOON FEED 1000 GAL	CENT. FEED 1000 GAL
01-Nov-11	853	1	853	0
02-Nov-11	768	1	768	0
03-Nov-11	768	1	768	0
04-Nov-11	768	19	768	0
05-Nov-11	853	19	853	0
06-Nov-11	768	19	768	0
07-Nov-11	768	19	768	0
08-Nov-11	768	19	768	0
09-Nov-11	939	19	939	0
10-Nov-11	939	19	939	0
11-Nov-11	1024	19	1024	0
12-Nov-11	768	19	768	0
13-Nov-11	768	2	768	0
14-Nov-11	768	2	768	0
15-Nov-11	768	2	768	0
16-Nov-11	768	2	768	0
17-Nov-11	768	2	768	0
18-Nov-11	768	2	768	0
19-Nov-11	768	2	768	0
20-Nov-11	768	2	768	0
21-Nov-11	597	2	597	0
22-Nov-11	512	19	512	0
23-Nov-11	512	19	512	0
24-Nov-11	512	19	512	0
25-Nov-11	512	19	512	0
26-Nov-11	512	19	512	0
27-Nov-11	597	19	597	0
28-Nov-11	683	1	683	0
29-Nov-11	768	1	768	0
30-Nov-11	683	1	683	0
Total	22,013		22,013	0

Low Solids to Lagoon 1	462 DT	4,521,960 Gal
Low Solids to Lagoon 2	688 DT	6,740,280 Gal
Low Solids to Lagoon 3	0 DT	0,000 Gal
Low Solids to Lagoon 4	0 DT	0,000 Gal
Low Solids to Lagoon 5	0 DT	0,000 Gal
Low Solids to Lagoon 6	0 DT	0,000 Gal
Low Solids to Lagoon 7	0 DT	0,000 Gal
Low Solids to Lagoon 14	0 DT	0,000 Gal
Low Solids to Lagoon 15	0 DT	0,000 Gal
Low Solids to Lagoon 17	0 DT	0,000 Gal
Low Solids to Lagoon 18	0 DT	0,000 Gal
Low Solids to Lagoon 19	1,097 DT	10,750,320 Gal
Low Solids Total	2,247 DT at	2.45% solids = 22,012,560 Gal

Calculation of %TS: $\frac{2,247 \text{ DTs}}{22,012,560 \text{ Gals}} = 2.448\%$
 Negative values for Lagoon Feed represent digester discharge temporarily stored in holding tanks.

CALUMET LOW SOLIDS LAGOON STATUS

November 30, 2011

LAGOON 1				LAGOON 2				LAGOON 3				LAGOON 4			
ESTIMATED CAPACITY		7,994 DT		ESTIMATED CAPACITY		8,369 DT		ESTIMATED CAPACITY		7,604 DT		ESTIMATED CAPACITY		7,711 DT	
STARTED FILLING July 28, 2011				STARTED FILLING November 18, 2010				LAGOON EMPTY				LAGOON EMPTY			
VOLUME FILLED IN GALLONS				VOLUME FILLED IN GALLONS				VOLUME FILLED IN GALLONS				VOLUME FILLED IN GALLONS			
FILLED QUANTITY IN DRY TONS		4,449		FILLED QUANTITY IN DRY TONS		5,032		FILLED QUANTITY IN DRY TONS		5,032		FILLED QUANTITY IN DRY TONS		5,032	
VOLUME				VOLUME				VOLUME				VOLUME			
DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS
Jul-08	3,537,989	2.10	310	Jul-08	0		0	Jul-08	0		0	Jul-08	0		0
Aug-08	1,574,136	2.60	171	Aug-08	2,241,522	2.60	243	Aug-08	0		0	Aug-08	0		0
Sep-08	0		0	Sep-08	3,331,869	2.62	364	Sep-08	0		0	Sep-08	0		0
Oct-08	2,120,039	2.92	258	Oct-08	1,824,652	2.92	222	Oct-08	0		0	Oct-08	0		0
Nov-08	637,142	2.27	60	Nov-08	0		0	Nov-08	0		0	Nov-08	0		0
Dec-08	0		0	Dec-08	0		0	Dec-08	0		0	Dec-08	0		0
Jan-09	0		0	Jan-09	0		0	Jan-09	0		0	Jan-09	0		0
Feb-09	0		0	Feb-09	0		0	Feb-09	0		0	Feb-09	0		0
Mar-09	0		0	Mar-09	0		0	Mar-09	0		0	Mar-09	0		0
Apr-09	0		0	Apr-09	0		0	Apr-09	0		0	Apr-09	0		0
May-09	0		0	May-09	0		0	May-09	0		0	May-09	0		0
Jun-09	0		0	Jun-09	0		0	Jun-09	0		0	Jun-09	0		0
Jul-09	1,093,426	2.91	133	Jul-09	0		0	Jul-09	0		0	Jul-09	0		0
Aug-09	682,560	2.59	74	Aug-09	0		0	Aug-09	0		0	Aug-09	0		0
Sep-09	5,104,077	2.32	494	Sep-09	0		0	Sep-09	0		0	Sep-09	0		0
Oct-09	2,048,527	2.19	187	Oct-09	0		0	Oct-09	0		0	Oct-09	0		0
Nov-09	7,493,940	2.44	761	Nov-09	0		0	Nov-09	0		0	Nov-09	0		0
Dec-09	0		0	Dec-09	7,508,160	2.34	732	Dec-09	0		0	Dec-09	0		0
Jan-10	4,692,600	2.29	449	Jan-10	3,412,800	2.29	327	Jan-10	0		0	Jan-10	0		0
Feb-10	0		0	Feb-10	4,920,120	2.26	463	Feb-10	0		0	Feb-10	0		0
Mar-10	3,611,880	2.22	334	Mar-10	4,749,480	2.22	439	Mar-10	0		0	Mar-10	0		0
Apr-10	341,280	2.44	35	Apr-10	2,900,880	2.44	295	Apr-10	0		0	Apr-10	0		0
May-10	4,237,560	2.73	482	May-10	2,133,000	2.73	243	May-10	0		0	May-10	0		0
Jun-10	682,560	2.84	81	Jun-10	0		0	Jun-10	0		0	Jun-10	0		0
Jul-10	0		0	Jul-10	0		0	Jul-10	0		0	Jul-10	0		0
Aug-10	0		0	Aug-10	0		0	Aug-10	0		0	Aug-10	0		0
Sep-10	0		0	Sep-10	0		-2342	Sep-10	0		0	Sep-10	0		0
Oct-10	0		0	Oct-10	0		-2389	Oct-10	0		0	Oct-10	0		0
Nov-10	0		-1350	Nov-10	9,328,320	2.06	801	Nov-10	0		0	Nov-10	0		0
Dec-10	0		0	Dec-10	682,560	1.92	55	Dec-10	0		0	Dec-10	0		0
Jan-11	0		0	Jan-11	995,400	2.21	92	Jan-11	0		0	Jan-11	0		0
Feb-11	0		0	Feb-11	0		0	Feb-11	0		0	Feb-11	0		0
Mar-11	0		0	Mar-11	12,278,750	2.58	1320	Mar-11	0		0	Mar-11	0		0
May-11	0		-394	May-11	0		0	May-11	0		0	May-11	0		0
Jun-11	0		-2297	Jun-11	5,261,400	3.08	676	Jun-11	0		0	Jun-11	0		0
Jul-11	3,924,720	3.27	536	Jul-11	6,910,920	3.27	943	Jul-11	0		0	Jul-11	0		0
Aug-11	20,306,160	2.84	2402	Aug-11	0		0	Aug-11	0		0	Aug-11	0		0
Sep-11	0		0	Sep-11	3,811,190	2.87	456	Sep-11	0		0	Sep-11	0		0
Oct-11	9,897,120	2.54	1049	Oct-11	0		0	Oct-11	0		0	Oct-11	0		0
Nov-11	4,521,960	2.45	462	Nov-11	6,740,280	2.45	688	Nov-11	0		0	Nov-11	0		0

CALUMET LOW SOLIDS LAGOON STATUS

November 30, 2011

LAGOON 5				LAGOON 6				LAGOON 7				LAGOON 14			
ESTIMATED CAPACITY		9,096 DT		ESTIMATED CAPACITY		10,439 DT		ESTIMATED CAPACITY		13,890 DT		ESTIMATED CAPACITY		10,069 DT	
LAGOON EMPTY				STARTED FILLING December 9, 2011				STARTED FILLING February 18, 2009				LAGOON EMPTY			
VOLUME FILLED IN GALLONS				80,258,640				88,137,160				VOLUME FILLED IN GALLONS			
FILLED QUANTITY IN DRY TONS				3,514				9,682				FILLED QUANTITY IN DRY TONS			
VOLUME				VOLUME				VOLUME				VOLUME			
DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (GALS)	%TS	DRY TONS
Jul-08	0		0	Jul-08	0		0	Jul-08	0		0	Jul-08	0		0
Aug-08	0		0	Aug-08	0		0	Aug-08	0		0	Aug-08	0		0
Sep-08	0		0	Sep-08	0		0	Sep-08	0		0	Sep-08	0		0
Oct-08	0		0	Oct-08	0		0	Oct-08	0		0	Oct-08	0		0
Nov-08	0		0	Nov-08	0		0	Nov-08	0		0	Nov-08	0		0
Dec-08	0		0	Dec-08	0		0	Dec-08	0		0	Dec-08	0		0
Jan-09	0		0	Jan-09	0		0	Jan-09	0		0	Jan-09	0		0
Feb-09	0		0	Feb-09	0		0	Feb-09	6,625,434	2.70	746	Feb-09	0		0
Mar-09	0		0	Mar-09	0		0	Mar-09	15,887,040	2.81	1861	Mar-09	0		0
Apr-09	0		0	Apr-09	0		0	Apr-09	4,336,751	3.19	577	Apr-09	0		0
May-09	0		0	May-09	0		0	May-09	979,598	3.28	134	May-09	0		0
Jun-09	0		0	Jun-09	0		0	Jun-09	-339,963	4.39	-62	Jun-09	0		0
Jul-09	0		0	Jul-09	0		0	Jul-09	0		0	Jul-09	0		0
Aug-09	0		0	Aug-09	0		0	Aug-09	0		0	Aug-09	0		0
Sep-09	0		0	Sep-09	0		0	Sep-09	0		0	Sep-09	0		0
Oct-09	0		0	Oct-09	0		0	Oct-09	0		0	Oct-09	0		0
Nov-09	0		0	Nov-09	0		0	Nov-09	2,886,660	2.44	293	Nov-09	0		0
Dec-09	0		0	Dec-09	0		0	Dec-09	9,719,370	2.34	947	Dec-09	0		0
Jan-10	0		0	Jan-10	0		0	Jan-10	8,475,120	2.29	811	Jan-10	0		0
Feb-10	0		0	Feb-10	0		0	Feb-10	8,091,180	2.26	761	Feb-10	0		0
Mar-10	0		0	Mar-10	0		0	Mar-10	3,128,400	2.22	289	Mar-10	0		0
Apr-10	0		0	Apr-10	0		0	Apr-10	13,935,600	2.44	1417	Apr-10	0		0
May-10	0		0	May-10	0		0	May-10	0		0	May-10	0		0
Jun-10	0		0	Jun-10	10,977,840	2.84	1299	Jun-10	2,360,520	2.84	279	Jun-10	0		0
Jul-10	0		0	Jul-10	9,420,750	3.18	1249	Jul-10	4,059,810	3.18	538	Jul-10	0		0
Aug-10	0		0	Aug-10	7,906,320	3.17	1045	Aug-10	0		0	Aug-10	0		0
Sep-10	0		0	Sep-10	10,579,680	2.68	1184	Sep-10	0		0	Sep-10	0		0
Oct-10	0		0	Oct-10	7,252,200	2.27	686	Oct-10	0		0	Oct-10	0		0
Nov-10	0		0	Nov-10	5,972,400	2.06	513	Nov-10	0		0	Nov-10	0		0
Dec-10	0		0	Dec-10	0		0	Dec-10	0		0	Dec-10	0		0
Jan-11	0		0	Jan-11	3,612,840	2.21	333	Jan-11	0		0	Jan-11	0		0
Feb-11	0		0	Feb-11	8,404,020	2.22	777	Feb-11	0		0	Feb-11	0		0
Mar-11	0		0	Mar-11	2,154,330	2.58	232	Mar-11	0		0	Mar-11	0		0
May-11	0		0	May-11	7,636,140	2.83	901	May-11	0		0	May-11	0		0
Jun-11	0		0	Jun-11	4,294,440	3.08	552	Jun-11	0		0	Jun-11	0		0
Jul-11	0		0	Jul-11	2,047,680	3.27	279	Jul-11	7,991,640	3.27	1091	Jul-11	0		0
Aug-11	0		0	Aug-11	0		-857	Aug-11	0		0	Aug-11	0		0
Sep-11	0		0	Sep-11	0		-2215	Sep-11	0		0	Sep-11	0		0
Oct-11	0		0	Oct-11	0		-2463	Oct-11	0		0	Oct-11	0		0
Nov-11	0		0	Nov-11	0		0	Nov-11	0		0	Nov-11	0		0

CALUMET LOW SOLIDS LAGOON STATUS

November 30, 2011

LAGOON 15				LAGOON 17				LAGOON 18				LAGOON 19			
ESTIMATED CAPACITY		9,179 DT		ESTIMATED CAPACITY		15,492 DT		ESTIMATED CAPACITY		15,909 DT		ESTIMATED CAPACITY		15,102 DT	
LAGOON EMPTY				STARTED FILLING December 2, 2010				STARTED FILLING March 16, 2010				STARTED FILLING August 31, 2011			
VOLUME FILLED IN GALLONS				VOLUME FILLED IN GALLONS				VOLUME FILLED IN GALLONS				VOLUME FILLED IN GALLONS			
FILLED QUANTITY IN DRY TONS				FILLED QUANTITY IN DRY TONS				FILLED QUANTITY IN DRY TONS				FILLED QUANTITY IN DRY TONS			
				5,297				8,309				4,176			
VOLUME				VOLUME				VOLUME				VOLUME			
DATE	FILLED (GALS)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS	DATE	FILLED (Gals)	%TS	DRY TONS
Jul-08	0		0	Jul-08	4,691,396	2.10	412	Jul-08	0		0	Jul-08	0		-4706
Aug-08	0		0	Aug-08	0		0	Aug-08	0		0	Aug-08	0		-4047
Sep-08	0		0	Sep-08	5,451,439	2.62	595	Sep-08	0		0	Sep-08	0		-1138
Oct-08	0		0	Oct-08	0		0	Oct-08	0		0	Oct-08	0	0.00	-2317
Nov-08	0		0	Nov-08	2,422,695	2.27	229	Nov-08	0		0	Nov-08	4,643,411	2.27	439
Dec-08	0		0	Dec-08	0		0	Dec-08	0		0	Dec-08	16,011,890	2.05	1370
Jan-09	0		0	Jan-09	0		0	Jan-09	0		0	Jan-09	7,094,697	1.76	522
Feb-09	0		0	Feb-09	0		0	Feb-09	0		0	Feb-09	6,462,208	2.70	728
Mar-09	0		0	Mar-09	0		0	Mar-09	0		0	Mar-09	0		0
Apr-09	0		0	Apr-09	0		0	Apr-09	0		0	Apr-09	4,208,168	3.19	560
May-09	0		0	May-09	0		0	May-09	0		0	May-09	6,816,961	3.28	933
Jun-09	0		0	Jun-09	0		0	Jun-09	0		-2053	Jun-09	6,783,665	4.39	1243
Jul-09	0		0	Jul-09	0		0	Jul-09	0		-4492	Jul-09	4,874,066	2.91	591
Aug-09	0		0	Aug-09	0		0	Aug-09	0		-2506	Aug-09	9,825,997	2.59	1061
Sep-09	0		0	Sep-09	0		0	Sep-09	0		-5852	Sep-09	12,584,188	2.32	1219
Oct-09	0		-2896	Oct-09	0		0	Oct-09	0		-118	Oct-09	8,574,405	2.19	782
Nov-09	0		-2229	Nov-09	0		0	Nov-09	0		0	Nov-09	11,816,820	2.44	1200
Dec-09	0		0	Dec-09	0		0	Dec-09	0		0	Dec-09	0		0
Jan-10	0		0	Jan-10	0		0	Jan-10	0		0	Jan-10	0		0
Feb-10	0		0	Feb-10	0		0	Feb-10	0		0	Feb-10	0		0
Mar-10	0		0	Mar-10	0		0	Mar-10	4,052,700	2.22	375	Mar-10	0		0
Apr-10	0		0	Apr-10	0		0	Apr-10	767,880	2.44	78	Apr-10	0		0
May-10	0		0	May-10	0		0	May-10	10,124,640	2.73	1151	May-10	0		0
Jun-10	0		0	Jun-10	0		-503	Jun-10	2,019,240	2.84	239	Jun-10	0		0
Jul-10	0		0	Jul-10	0		-4474	Jul-10	11,688,840	3.18	1550	Jul-10	0		0
Aug-10	0		0	Aug-10	0		-5647	Aug-10	6,967,800	3.17	921	Aug-10	0		0
Sep-10	0		0	Sep-10	0		0	Sep-10	14,248,440	2.68	1594	Sep-10	0		0
Oct-10	0		0	Oct-10	0		0	Oct-10	17,064,000	2.27	1614	Oct-10	0		0
Nov-10	0		0	Nov-10	0		0	Nov-10	7,444,170	2.06	639	Nov-10	0		0
Dec-10	0		0	Dec-10	10,380,600	1.92	830	Dec-10	1,862,820	1.92	149	Dec-10	0		0
Jan-11	0		0	Jan-11	13,160,610	2.21	1212	Jan-11	0		0	Jan-11	0		0
Feb-11	0		0	Feb-11	7,064,496	2.22	653	Feb-11	0		0	Feb-11	0		0
Mar-11	0		0	Mar-11	1,649,600	2.58	177	Mar-11	0		0	Mar-11	0		0
May-11	0		0	May-11	10,465,760	2.83	1234	May-11	0		0	May-11	0		0
Jun-11	0		0	Jun-11	9,413,640	3.08	1210	Jun-11	0		0	Jun-11	0		-1632
Jul-11	0		0	Jul-11	0		0	Jul-11	0		0	Jul-11	0		-3953
Aug-11	0		0	Aug-11	5,275,620	2.84	624	Aug-11	0		0	Aug-11	511,920	2.84	61
Sep-11	0		0	Sep-11	0		0	Sep-11	0		0	Sep-11	13,053,960	2.87	1563
Oct-11	0		0	Oct-11	0		-108	Oct-11	0		0	Oct-11	13,715,310	2.54	1454
Nov-11	0		0	Nov-11	0		-1910	Nov-11	0		0	Nov-11	10,750,320	2.45	1098

FILL SCHEDULE

DIGESTER SLUDGE LAGOONS

LAGOON NUMBER	CAPACITY @9% TS IN DRY TONS	PRESENT INPUT IN DRY TONS	PROD TIME NEEDED (yrs) TO FILL @ 9% TS AND 15000 DT/YR LS FILLING	TIME TO FILL AS OF 11/30/11 IN YEARS	FILL START DATE	DATE FILLED	PFRP AGED	DATE TO START EMPTYING	LAGOON AVAILABLE
1	7,994	4,449	0.53	0.24	7/28/11	-	-	-	In Rotation
2	8,369	5,032	0.56	0.22	11/18/10	-	-	-	In Rotation
3	7,604	0	0.51	0.51	-	-	-	-	Available
4	7,711	0	0.51	0.51	-	-	-	-	Available
5	9,096	0	0.61	0.61	-	-	-	-	Available
6	10,439	3,514	0.70	0.46	-	-	-	-	Available
7	13,890	9,682	0.93	0.28	2/18/09	-	-	-	In Rotation
14	10,069	0	0.67	0.67	-	-	-	-	Available
15	9,179	0	0.61	0.61	-	-	-	-	Available
17	15,492	5,297	1.03	0.68	12/2/10	-	-	10/31/11	Aging
18	15,909	8,309	1.06	0.51	3/16/10	12/22/10	6/21/12	6/21/11	Aging
19	15,102	4,176	1.01	0.73	8/31/11	-	-	-	In Rotation
TOTAL	130,853	40,459	8.72	4.55					