

Attachment D

Quarterly Sludge Summary Report Form

- Note 1: If your site has more than one land application field, please submit a separate form for each field.
 Note 2: Please place this sheet at the top of your Quarterly Sludge Report.
 Note 3: If you have more than one permitted site, then fill-out this form for each one of those sites.
 Note 4: Please send a copy of this sheet and all attachments to the local TCEQ regional office.

For TCEQ Quarter:	<u>2nd</u>	Reporting period:	1,	From September	<u>2013</u>	to August 31,	<u>2014</u>
Registration No:	<u>WQ 000 444 5 000</u>		Date	<u>3-7-2014</u>			
Name of Registrant:	<u>K-3 Resources, LP</u>						
Mailing Address:	<u>PO BOX 2236, ALVIN, TX 77512</u>						
Contact Person	Name	<u>Charles E. Pehl, PhD, PG</u>				Telephone No:	<u>281-585-2817</u>

Field No. (if any): _____ (Submit separate form for each field, if site has two or more fields).

Class B Sewage Sludge Land Applied: 223.71 dry tons /quarter
 Treated Domestic Septage - Land Applied: 0.00 gallons / quarter
 Method used to treat Domestic Septage:
 Water Treatment Plant Sludge - Land Applied: 0.00 dry tons /quarter
 Class A sludge land applied: 0.00 dry tons /quarter

a. Acreage used for Sludge Application/disposal at this site

b. Site Vegetation (such as grass type etc) and # of cuttings Bermuda and native pasture grass, 9-tons/AC in 4-to 6 cuttings.

c. Does any of the sludge you have generated or received DOES NOT MEET concentration limits for any of the metals listed in Table 3 of "30 TAC §312.43 (b)? Yes No

d. Site location Latitude: N 29°55'02" Longitude: W 95°58'06"

e. Site physical address: SH 529, Waller Co. TX

Please attach the information regarding the following items (Sewage Sludge only):

- * Please note the following information shall be provided in computer generated report format:
- * Please place check mark before each item below to indicate you have attached that item with this report.

- 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
- 2. Provide a list containing the name and permit number of each source of sludge.
- 3. Date of delivery of each load of sludge land applied.
- 4. Date of land application of each load of sludge.
- 5. The cumulative metal loading rates for any metals as listed in Table 2 of "30 TAC §312.43 (b)"?
- 6. The suggested agronomic rate for the class B sludge.

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO:

Texas Commission on Environmental Quality
 Municipal Permits Team (MC 148)
 Wastewater Permitting Section
 P.O. Box 13087
 Austin, TX 78711-3087

RECEIVED
 MAR 13 2014
 WATER QUALITY DIVISION
 TCEQ

**Facilities Approved
by TCEQ for
Land Application**

Date: 02/28/2014

Facility Name	Permit Number	Approval Date
BMI Lime Stabilization Facility	4364	3/3/2004
BMI Lime Stabilization Facility	4538	7/26/2004
Addicks	11696-002	2/4/2003
Aldine Jr High	12072-001	2/4/2003
Arcola, City of	13362-001	1/26/2006
Bacliff	10627-001	2/4/2003
Bay View, City of	10770-001	8/22/2012
Bellville, City of	10385-002	3/3/2004
BC1	12332-001	2/4/2003
BC 31	14546-001	12/2/2011
Bernard Timbers WSC	12097-001	7/26/2004
Bilma	12025-001	1/26/2006
Blue Ridge	11553-001	2/4/2003
Carby MHP	14217-001	1/12/2005
Castlewood	11883-001	2/4/2003
Chelford City	14418-001	7/24/2013
Cinco Central	13558-001	2/4/2003
Cinco South	13172-002	2/4/2003
Cinco Southwest	14343-001	12/2/2011
Copperfield	11947-001	2/4/2003
Crosby	11388-001	2/4/2003
Cy-Klein	11366-001	3/3/2004
Durkee Manor	10419-001	3/3/2004
Dynamics Products	11841-001	10/21/2005
Emerson EST	14285-001	12/10/2004
Fairgreen	11791-001	2/4/2003
Fondren (HC WCID) Road	10570-001	2/4/2003
Fort Bend 25	12003-001	4/29/2003
Fort Bend 26	12073-001	3/3/2004
Fort Bend 30	12068-001	3/08/2012
Fort Bend 37	12370-001	2/4/2003
Fort Bend 81	13051-002	2/4/2003
Fort Bend 106	12356-001	2/4/2003
Fort Bend 116	13976-001	2/4/2003
Fort Bend 142	14408-001	3/29/2007
Fry Road	11989-001	10/21/2005
Grantham	12070-002	2/4/2003
Greentrails	12289-001	2/4/2003
Harris County Detention Center (HCDC)	13561-001	11/7/2006
Harris County Juvenile Boot Camp (HCBC)	13921-001	12/10/2004
HC/FB 1	12805-001	2/4/2003
HC 8	11727-001	4/29/2013
HCFWSD 6	10184-001	3/3/2004
HC FWSD 58	11941-001	2/4/2003
HC WCID 109	11026-002	2/4/2003
HC 24	11988-001	2/4/2003
HC 26	11406-001	2/4/2003
HC 58	11941-001	3/3/2004
HC 70	11486-001	1/12/2005
HC 71	11947-001	5/15/2013
HC 82	11799-001	3/3/2004

**Facilities Approved
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Land Application**

Facility Name	Permit Number	Approval Date
HC 89	12939-001	4/29/2003
HC WCID 92	10908-001	5/15/2013
HC 104	11925-001	9/5/2012
HC 105	11792-002	4/29/2003
HC 122	12250-001	4/26/2004
HC 130	12574-001	11/14/2013
HC 155	12726-001	2/4/2003
HC 185	12124-001	12/2/2011
HC 196	12447-001	2/4/2003
HC 200	12294-001	3/3/2004
HC 238	12802-001	2/4/2003
HC 249	13765-001	2/4/2003
HC 284	12949-001	2/4/2003
HC 345	12356-001	12/2/2011
HC 358	13290-002	5/15/2013
HC 365	13881-001	4/18/2013
HC 368	12044-001	3/3/2004
HC 374	14354-001	4/10/2013
HC 391	14327-001	12/2/2011
HC 405	14448-001	6/6/2013
HC 432	14589-001	11/14/2013
HC 408	14606-001	6/6/2013
Heather Glen	11231-001	2/4/2003
High Meadow	10812-001	2/4/2003
Hillman Schrimp	03719-001	2/4/2003
Holiday Inn Airport	14066-001	2/4/2003
Horsebend Bayou	12128-001	3/15/2011
Hunter's Glen	11618-001	2/4/2003
Inverness Forest	10783-001	2/4/2003
Katy, City of	10706-001	4/29/2003
Langham Creek	11682-001	12/13/2005
Manford Williams Elementary 8	13007-001	4/29/2003
Mayde Creek	11969-001	3/3/2004
Meadow Hill	11215-001	3/3/2004
Meadow Place	11039-001	10/15/2012
MC UD 2	11271-001	5/3/2013
MC 15	11395-001	2/4/2003
MC 24	14116-001	11/14/2013
MC 56	13760-001	12/2/2011
MC 112	14671001	3/15/2011
MC-Woodland Oaks	14166-001	5/3/2013
Missouri City	13873-001	2/4/2003
New Ulm	13655-001	2/7/2007
Northforest	10905-001	2/4/2003
Northampton	10910-001	12/10/2004
Northline	10518-001	2/4/2003
North Mission Glen	12379-001	1/15/2013
North Park	11855-001	2/4/2003
NWHC 9	14030-001	2/4/2003
NWHC 10	11912-002	2/4/2003
NWHC 15	11939-001	3/3/2004
NWHC 20	13625-001	3/3/2004

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Land Application**

Facility Name	Permit Number	Approval Date
NWHC 21-23	12144-001	3/3/2004
NWHC 24	13760-001	11/14/2013
NWHC 36	13573-001	12/2/2011
Oakwilde	10236-001	3/3/2004
Orange Grove	12070-004	2/4/2003
Palmer Plantation	12937-001	3/3/2004
Pearland, City of	21484-001	3/3/2004
Pecan Grove Plantation	11655-001	3/3/2005
Plantation Crossing	11971-001	1/12/2005
Ponderosa, Joint Powers	14490-001	12/2/2011
Rayford Road	11081-001	2/4/2003
Remington	12030-001	2/4/2003
Remington	11328-001	4/29/2005
Richmond, City of	10258-003	3/15/2011
River Oaks MHP	12692-001	12/10/2004
Riverside MHP(Glen Oaks)	12296-001	11/7/2006
Rosenberg, City of	10607-003	3/20/2013
Sealy, City of	10276-001	3/15/2011
Sienna Plantation	14100-001	3/15/2011
Southern Montgomery County	11001-01	7/26/2005
SWHC 1	12641-001	2/4/2003
Spring Creek	11574-001	2/4/2003
Spring Cypress	13711-001	2/4/2003
Sugarland, City of	12833-001	4/29/2005
Tiki Island	10879-001	2/4/2003
Timbercrest	13487-001	3/3/2004
Timberlake	11267-001	3/8/2012
Timberlane	11142-002	1/26/2006
City of Tomball, North	101616-001	2/26/2013
City of Tomball, South	101616-002	2/26/2013
Varco Shaffer	3994	12/10/2004
Waller, City of	10310-001	9/13/2012
WHC 7	12140-001	12/2/2011
WHC 11	13689-001	2/4/2003
WHC 15	12233-001	12/10/2004
Westlake	11284-001	11/14/2013
West Memorial	11152-001	2/4/2003
Westmont MHP	12761-001	12/10/2004
West Park	12346-001	7/26/2004
Ann Louise Ed Complex (Alief ISD)Wilson	13609-001	2/4/2003
WHC 10 (Winchester)	10472-001	2/4/2003
Wild Peach Elementary (CBISD)	12103-001	Pending (7/25/13)
Williamsburg	11598-001	3/3/2004
Willow River Farms	13466-001	7/26/2004
Woodcreek	11933-001	2/4/2003
Woodland Oaks	11670-001	3/3/2004



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres	Land Use	Appl. Date
12/27/2013	01:30 PM	152954	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	03:15 PM	152955	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	05:30 PM	152956	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	07:15 PM	152957	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	04:15 PM	153007	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	11:30 AM	153103	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	01:15 PM	153104	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	03:00 PM	153105	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	04:45 PM	153106	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	06:45 PM	153107	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	10:00 AM	153121	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	12:00 PM	153122	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	01:30 PM	153123	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	03:15 PM	153124	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	04:15 PM	153125	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	12:00 PM	154594	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	02:00 PM	154595	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/27/2013	03:45 PM	154596	West Park	6,500		1.70	0.460785	0.417932	1	55.75	Hay/Pasture	12/27/2013
12/31/2013	10:00 AM	153026	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	12:00 PM	153027	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	01:30 PM	153028	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	08:30 AM	154603	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	10:15 AM	154604	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	12:15 PM	154605	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	02:00 PM	154606	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
12/31/2013	04:30 PM	154607	Cinco Southwest	6,500		1.50	0.406575	0.368764	1	55.75	Hay/Pasture	12/31/2013
01/27/2014	04:40 PM	153786	HC 358 Fairfield	6,500		2.30	0.623415	0.565437	1	55.75	Hay/Pasture	01/27/2014
01/27/2014	04:30 PM	154057	HC 358 Fairfield	6,500		2.30	0.623415	0.565437	1	55.75	Hay/Pasture	01/27/2014
01/27/2014	04:00 PM	154079	MC MUD 56	6,500		1.25	0.338813	0.307303	1	55.75	Hay/Pasture	01/27/2014
01/29/2014	06:00 PM	154256	HC 345	6,500		1.80	0.487890	0.442516	1	55.75	Hay/Pasture	01/29/2014
01/29/2014	05:15 PM	153703	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75	Hay/Pasture	01/29/2014
01/29/2014	07:45 PM	153704	HC 345	6,500		1.80	0.487890	0.442516	1	55.75	Hay/Pasture	01/29/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres Land Use	Appl. Date
01/29/2014	11:30 AM	153901	High Meadows	6,500		2.00	0.542100	0.491685	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	05:00 PM	153903	HC MUD 58	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	07:15 PM	153904	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	10:30 AM	154080	High Meadows	6,500		2.00	0.542100	0.491685	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	11:30 AM	154216	High Meadows	6,500		2.00	0.542100	0.491685	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	04:45 PM	154218	HC MUD 58	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	06:45 PM	154219	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	11:00 AM	154252	High Meadows	6,500		2.00	0.542100	0.491685	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	02:30 PM	154254	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	04:15 PM	154255	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	04:45 PM	154277	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	04:15 PM	154408	HC MUD 58	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	12:00 PM	154421	High Meadows	6,500		2.00	0.542100	0.491685	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	04:45 PM	154423	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/29/2014
01/29/2014	04:30 PM	154428	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/29/2014
01/30/2014	05:30 PM	153910	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	07:15 PM	153911	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	05:15 PM	153942	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	09:00 AM	154180	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	12:30 PM	154221	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	04:45 PM	154258	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	06:30 PM	154259	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	07:30 AM	154278	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	09:30 AM	154279	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	08:15 AM	154409	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	10:15 AM	154410	HC 345	6,500		1.80	0.487890	0.442516	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	04:45 PM	154412	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	07:00 PM	154413	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/30/2014	05:00 PM	154828	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/30/2014
01/31/2014	03:00 PM	153711	North Park	6,500		1.50	0.406575	0.368764	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	04:45 PM	153712	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	06:15 PM	153713	Northwest Freeway	6,500		2.50	0.677625	0.614606	1	55.75 Hay/Pasture	01/31/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres Land Use	Appl. Date
01/31/2014	07:45 PM	153714	Northwest Freeway	6,500		2.50	0.677625	0.614606	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	09:15 PM	153715	Northwest Freeway	6,500		2.50	0.677625	0.614606	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	01:30 PM	153787	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	03:00 PM	153788	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	04:15 PM	153789	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	10:30 AM	153881	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	06:00 PM	153884	Northwest Freeway	6,500		2.50	0.677625	0.614606	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	07:00 AM	153912	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	11:15 AM	153914	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	01:45 PM	153945	North Park	6,500		1.50	0.406575	0.368764	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	05:45 PM	153946	HC MUD 104	6,500		2.07	0.561074	0.508894	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	09:15 AM	153961	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	12:15 PM	153962	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	02:15 PM	153963	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	04:15 PM	153964	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	04:30 PM	154416	HC MUD 104	6,500		2.07	0.561074	0.508894	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	07:30 AM	154429	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	09:45 AM	154430	HC 391 (Cypress	6,500		0.92	0.249366	0.226175	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	05:00 PM	154432	HC MUD 104	6,500		2.07	0.561074	0.508894	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	04:00 PM	154465	HC MUD 104	6,500		2.07	0.561074	0.508894	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	12:00 PM	154496	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
01/31/2014	02:30 PM	154497	HC MUD 71	6,500		2.28	0.617994	0.560521	1	55.75 Hay/Pasture	01/31/2014
02/01/2014	12:45 PM	153719	Northwest Freeway	6,500		2.50	0.677625	0.614606	1	55.75 Hay/Pasture	02/01/2014
02/03/2014	05:30 PM	153723	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	07:00 PM	153724	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	10:00 AM	153888	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	11:20 AM	153889	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	01:00 PM	153890	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	02:30 PM	153891	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	04:00 PM	153892	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	05:30 PM	153893	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	06:00 PM	153958	MC MUD 99	6,500		0.80	0.216840	0.196674	1	55.75 Hay/Pasture	02/03/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres Land Use	Appl. Date
02/03/2014	05:30 PM	153969	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	05:00 PM	154419	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	06:30 PM	154420	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	06:00 PM	154472	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	08:00 AM	154474	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	01:45 PM	154836	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	03:30 PM	154837	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/03/2014	05:00 PM	154838	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/03/2014
02/04/2014	06:00 PM	153728	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	11:00 AM	153823	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	12:30 PM	153824	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	02:00 PM	153825	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	04:30 PM	153826	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	05:45 PM	153827	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	08:45 AM	153895	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	10:30 AM	153896	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	11:45 AM	153897	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	01:15 PM	153898	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	02:30 PM	153899	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	04:00 PM	153900	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	08:45 AM	153960	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	06:00 PM	154229	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	10:15 AM	154321	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	11:30 AM	154322	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	01:00 PM	154323	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	02:30 PM	154324	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	04:00 PM	154325	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	05:15 PM	154326	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	05:30 PM	154341	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	12:00 PM	154437	North Park	6,500		1.50	0.406575	0.368764	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	09:30 AM	154475	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	11:00 AM	154476	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres Land Use	Appl. Date
02/04/2014	12:30 PM	154477	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	02:00 PM	154478	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	03:30 PM	154479	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/04/2014	05:00 PM	154480	Williamsburg	6,500		1.60	0.433680	0.393348	1	55.75 Hay/Pasture	02/04/2014
02/05/2014	03:00 PM	153974	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	05:00 PM	153975	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	10:40 AM	154343	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	12:15 PM	154344	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	01:45 PM	154345	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	03:30 PM	154346	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	05:15 PM	154347	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	02:15 PM	154441	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	04:15 PM	154442	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/05/2014	05:15 PM	155505	West Park	6,500		1.70	0.460785	0.417932	1	55.75 Hay/Pasture	02/05/2014
02/06/2014	02:30 PM	153733	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	09:45 AM	153831	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	11:30 AM	153832	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	02:15 PM	153833	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	09:45 AM	153870	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	11:45 AM	153871	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	01:15 PM	153872	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	04:00 PM	153873	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	11:00 AM	153976	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	01:00 PM	153977	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	03:45 PM	153978	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	09:30 AM	154235	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	11:00 AM	154236	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	12:45 PM	154237	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	08:00 AM	154304	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	10:00 AM	154305	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	03:30 PM	154307	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014
02/06/2014	11:30 AM	154333	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75 Hay/Pasture	02/06/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres	Land Use	Appl. Date
02/06/2014	01:15 PM	154334	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	04:00 PM	154335	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	10:00 AM	154348	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	11:45 AM	154349	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	01:15 PM	154350	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	03:00 PM	154351	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	08:15 AM	154443	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	10:00 AM	154444	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	11:45 AM	154445	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	02:30 PM	154446	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	08:30 AM	154845	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	10:15 AM	154846	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	11:45 AM	154847	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	01:30 PM	154848	HC MUD 71	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	03:30 PM	154849	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	07:30 AM	155507	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	09:00 AM	155508	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	10:45 AM	155509	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	12:45 PM	155510	W H C 7	6,500		1.38	0.374049	0.339262	1	55.75	Hay/Pasture	02/06/2014
02/06/2014	02:45 PM	155511	Fry Road	6,500		0.60	0.162630	0.147505	1	55.75	Hay/Pasture	02/06/2014
02/10/2014	09:00 AM	156003	Langham Creek		13	14.00	1.547000	1.403129	1	55.75	Hay/Pasture	02/10/2014
02/11/2014	10:15 AM	153843	Cinco Central		20	14.80	2.516000	2.282012	1	55.75	Hay/Pasture	02/11/2014
02/11/2014	04:00 PM	153846	Bellville, City of		20	16.00	2.720000	2.467040	1	55.75	Hay/Pasture	02/11/2014
02/11/2014	01:15 PM	155073	HC WCID 109		20	15.10	2.567000	2.328269	1	55.75	Hay/Pasture	02/11/2014
02/11/2014	03:30 PM	155074	FB 30		13	14.60	1.613300	1.463263	1	55.75	Hay/Pasture	02/11/2014
02/11/2014	12:00 PM	156009	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/11/2014
02/11/2014	03:15 PM	156010	HC MUD 26		13	12.50	1.381250	1.252794	1	55.75	Hay/Pasture	02/11/2014
02/12/2014	06:15 AM	155076	Ponderosa JPA		20	18.40	3.128000	2.837096	1	55.75	Hay/Pasture	02/12/2014
02/12/2014	10:00 AM	155077	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/12/2014
02/12/2014	08:15 AM	156014	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/12/2014
02/12/2014	09:45 AM	156015	Cinco Central		20	14.80	2.516000	2.282012	1	55.75	Hay/Pasture	02/12/2014
02/12/2014	12:00 PM	156016	Tomball South		20	15.70	2.669000	2.420783	1	55.75	Hay/Pasture	02/12/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
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Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres Land Use	Appl. Date
02/12/2014	03:00 PM	156017	FB 106		13	14.00	1.547000	1.403129	1	55.75 Hay/Pasture	02/12/2014
02/12/2014	05:00 PM	156018	Pecan Grove		20	18.40	3.128000	2.837096	1	55.75 Hay/Pasture	02/12/2014
02/13/2014	09:15 AM	153847	Cinco Central		20	14.80	2.516000	2.282012	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	05:30 AM	155080	Ponderosa JPA		20	18.40	3.128000	2.837096	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	07:45 AM	155081	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	10:15 AM	155082	Meadow Place		13	14.40	1.591200	1.443218	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	09:15 AM	155681	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	03:00 PM	155683	HC MUD 26		13	12.50	1.381250	1.252794	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	04:30 AM	156019	Langham Creek		13	14.00	1.547000	1.403129	1	55.75 Hay/Pasture	02/13/2014
02/13/2014	06:45 AM	156020	Richmond Regional		20	14.20	2.414000	2.189498	1	55.75 Hay/Pasture	02/13/2014
02/14/2014	03:15 PM	153851	HC MUD 200		20	12.50	2.125000	1.927375	1	55.75 Hay/Pasture	02/14/2014
02/14/2014	05:00 AM	155086	Ponderosa JPA		20	18.40	3.128000	2.837096	1	55.75 Hay/Pasture	02/14/2014
02/14/2014	10:30 AM	155087	NWHC 21- 23		13	14.00	1.547000	1.403129	1	55.75 Hay/Pasture	02/14/2014
02/14/2014	07:15 AM	155088	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/14/2014
02/14/2014	02:00 PM	155089	FB 30		13	14.60	1.613300	1.463263	1	55.75 Hay/Pasture	02/14/2014
02/15/2014	08:15 AM	155090	Ponderosa JPA		20	18.40	3.128000	2.837096	1	55.75 Hay/Pasture	02/15/2014
02/15/2014	10:30 AM	155091	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/15/2014
02/13/2014	01:30 PM	155083	HC WCID 92		20	15.10	2.567000	2.328269	1	55.75 Hay/Pasture	02/18/2014
02/18/2014	12:00 PM	155094	Ponderosa JPA		20	18.40	3.128000	2.837096	1	55.75 Hay/Pasture	02/18/2014
02/24/2014	07:30 AM	155606	Bellville, City of		20	16.00	2.720000	2.467040	1	55.75 Hay/Pasture	02/24/2014
02/25/2014	10:15 AM	155002	Ponderosa JPA		20	14.40	2.448000	2.220336	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	06:15 AM	155607	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	04:30 PM	155611	Tomball South		20	15.70	2.669000	2.420783	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	07:30 AM	156108	Cinco Central		20	14.80	2.516000	2.282012	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	09:45 AM	156109	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	02:15 PM	156111	Cinco Central		20	14.80	2.516000	2.282012	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	09:15 AM	156146	Cinco Southwest		20	14.00	2.380000	2.158660	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	12:45 PM	156147	Cinco Southwest		20	14.00	2.380000	2.158660	1	55.75 Hay/Pasture	02/25/2014
02/25/2014	07:15 PM	156148	Cinco Southwest		20	14.00	2.380000	2.158660	1	55.75 Hay/Pasture	02/25/2014
02/26/2014	08:45 AM	155006	Ponderosa JPA		20	14.40	2.448000	2.220336	1	55.75 Hay/Pasture	02/26/2014
02/26/2014	11:00 AM	155007	Chelford City		20	14.33	2.436100	2.209543	1	55.75 Hay/Pasture	02/26/2014
02/26/2014	01:30 PM	155008	FB 30		13	14.60	1.613300	1.463263	1	55.75 Hay/Pasture	02/26/2014



Land Application Manifest Summary By Site

<Application Date Range: 12/01/2013 - 02/28/2014>

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004445000
Site Name: Carl Miller Farms 1 RN102913431
Address: Lat: 29 degrees 55' 1.94"N Long: 95 degrees 58' 5.66"W Quality: Class B

Delivery Date	Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres	Land Use	Appl. Date
02/26/2014	05:45 AM	155612	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/26/2014
02/26/2014	09:45 AM	155613	HC MUD 26		13	12.50	1.381250	1.252794	1	55.75	Hay/Pasture	02/26/2014
02/26/2014	12:30 PM	155614	Meadow Place		20	14.40	2.448000	2.220336	1	55.75	Hay/Pasture	02/26/2014
02/26/2014	06:15 PM	156112	Cinco Central		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/26/2014
02/27/2014	08:30 AM	155010	Ponderosa JPA		20	14.40	2.448000	2.220336	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	10:45 AM	155617	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	07:45 AM	156113	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	11:00 AM	156114	FB 106		13	14.00	1.547000	1.403129	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	01:15 PM	156115	Cinco Central		20	14.80	2.516000	2.282012	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	01:30 PM	156152	West Memorial		20	12.00	2.040000	1.850280	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	06:00 PM	156153	West Memorial		20	12.00	2.040000	1.850280	1	55.75	Hay/Pasture	02/27/2014
02/27/2014	10:15 PM	156154	West Memorial		20	12.00	2.040000	1.850280	1	55.75	Hay/Pasture	02/27/2014
02/28/2014	12:00 PM	155011	HC WCID 109		20	15.10	2.567000	2.328269	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	08:15 AM	155013	Ponderosa JPA		20	14.40	2.448000	2.220336	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	10:45 AM	155014	FB 30		13	14.60	1.613300	1.463263	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	08:00 AM	155773	West Memorial		20	12.00	2.040000	1.850280	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	07:15 AM	156116	Chelford City		20	14.33	2.436100	2.209543	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	10:15 AM	156117	FB 106		20	14.00	2.380000	2.158660	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	11:00 AM	156155	West Memorial		20	12.00	2.040000	1.850280	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	03:00 PM	156156	West Memorial		20	12.00	2.040000	1.850280	1	55.75	Hay/Pasture	02/28/2014
02/28/2014	07:00 PM	156381	HC MUD 26		13	12.50	1.381250	1.252794	1	55.75	Hay/Pasture	02/28/2014
Site Total				1,170,000	1,202		223.708464	202.903583				

Cumulative Pollutants
February 28, 2014

<i>Pollutants</i>	Soil Pollutant Analysis 10/04/2014	Weighted Means	Application 10/05/13 to 02 /28/2014	Cumulative to 02/28/2014	
	(kg/ha)	(mg/kg)	(kg/ha)	(kg/ha)	(lb./ac.)
Arsenic	0.93	5.96	0.0172	0.95	0.85
Cadmium	0.75	1.72	0.0050	0.75	0.67
Chromium	12.34	20.00	0.0577	12.40	11.07
Copper	59.95	348.96	1.0066	60.96	54.43
Lead	14.21	16.38	0.0473	14.26	12.73
Mercury	0.27	0.68	0.0020	0.27	0.24
Molybdenum	0.51	10.84	0.0313	0.54	0.48
Nickel	4.30	11.76	0.0339	4.33	3.87
Selenium	8.09	9.02	0.0260	8.12	7.25
Zinc	126.00	857.50	2.4736	128.47	114.71

Biosolids Application (10/05/13 to 02/28/2014):

3.17 (tons/acre)



Charles E. Pehl, PhD, PG.

Compliance Director

Appendix A
Agronomic Rate Calculations

TCEQ 04445

Part 1: Biosolids Application Rate

2/28/2014

Step 1- CALCULATE QUANTITY OF NUTRIENTS & METALS IN POUNDS PER TON.

Nutrients	Percent	Conversion Factor	Pounds per ton
Total Nitrogen (TKN)	3.98	x 20 =	79.6
Ammonium Nitrogen (NH4)	0.47	x 20 =	9.4
Nitrate Nitrogen (NO3)	0.08	x 20 =	1.6
Total Phosphorus (P)	1.18	x 20 =	23.6
Total Potassium (K)	0.35	x 20 =	7

Pollutants (mg/kg x 0.002 = lb./ton)	mg/kg*	lb./ton
Total Arsenic (As)	5.96	x 0.002 = 0.01192
Total Cadmium (Cd)	1.72	x 0.002 = 0.00344
Total Chromium (Cr)	20	x 0.002 = 0.04
Total Copper (Cu)	348.96	x 0.002 = 0.69792
Total Lead (Pb)	16.38	x 0.002 = 0.03276
Total Mercury (Hg)	0.68	x 0.002 = 0.00136
Total Molybdenum (Mo)	10.84	x 0.002 = 0.02168
Total Nickel (Ni)	11.76	x 0.002 = 0.02352
Total Selenium (Se)	9.02	x 0.002 = 0.01804
Total Zinc (Zn)	857.5	x 0.002 = 1.715

* Values from sludge tests (dry weight)

(Conversion: mg/kg x 0.0001 = %; PPM = mg/kg)

Appendix A
Agronomic Rate Calculations

TCEQ 04445

Step 2.- SOIL TEST ANALYSIS AND FERTILIZER RECOMMENDATIONS

Note: Please include fertilizer recommendation from the local County Extension Service or equivalent source for determining the nitrogen need for the specific crop(s)

Intended Crop(s): Bermudagrass and native pasture grasses
Winter Rye

Yield Goal(s): 7 tons/ac in 4 to 6 cuttings.

pH: 7.0

	<u>N lb/ac</u>
A. Crop nutrient need for specific yield goal**	350
B. Nutrients available in soil	10.32
= 2 x NO3-N (ppm)(0-6" soil depth)+ 6 x NO3-N(ppm)(6-24" soil depth)	
C. Nutrient amount still needed: (A -B) (enter this amount in step 4A.)	339.68

** Crop nutrient need is based on 50 lb.N/ton of forage, Texas Agriculture Extension Service, Fertilizing Summer Perennial Pastures, Publication I-2210.

Step 3 - CALCULATE THE PLANT AVAILABLE NITROGEN (PAN) PROVIDED BY THE SLUDGE.

(Use the values for Total N, NH4-N and NO3-N from Step 1)

	<u>%</u>	<u>lb./ton</u>
A. Organic-N = Total N-(NH ₄ -N+NO ₃ -N)	3.43	68.6
B. Ammonium Nitrogen (NH ₄ -N)	0.47	9.4
C. Nitrate Nitrogen (NO ₃ -N)	0.08	1.6
D. Total PAN = (0.3 x 3A) + (0.5 x 3B) + 3C =	1.579	26.88

Step 4. CALCULATE MAXIMUM SLUDGE APPLICATION RATE FROM CROP NITROGEN NEED (BARN):

A. Enter amount from Step 2. Nitrogen amount still needed:	339.68	<i>lb./ac.yr</i>
B. Enter amount from Step 3D. Total PAN in sludge	26.88	<i>lb./ton</i>
C. Sludge application rate(SARN)	12.64	<i>ton/ac.yr</i>

Appendix A Agronomic Rate Calculations

Step 5 - CALCULATE MAXIMUM SLUDGE APPLICATION RATE BASED ON METALS (SARM).

	A	B	C	D	E	F
	Cumulative Metal Limits (lb./ac.)	Max Metal Loading/yr (lb./ac./yr)	Metals in Sludge (lb./ton)	Metals Applied Annually at <u>SARN</u> (lb./ac./yr)	Metals Applied Annually at <u>SARM</u> (lb./ac./yr)	Max Sludge Loading Rate (ton/ac.)
Pollutants	<i>Appendix C</i>	<i>Appendix C</i>	<i>(Step 1)</i>	<i>C x SARN</i>	<i>B/C</i>	<i>A/C</i>
Arsenic	36	1.8	0.01192	0.150631905	0.150631905	3020.134228
Cadmium	35	1.7	0.00344	0.043470952	0.043470952	10174.4186
Chromium	2677	134	0.04	0.50547619	0.50547619	66925
Copper	1339	67	0.69792	8.819548571	8.819548571	1918.558001
Lead	268	13	0.03276	0.413985	0.413985	8180.708181
Mercury	15	0.76	0.00136	0.01718619	0.01718619	11029.41176
Molybdenum	Monitor	Monitor				
Nickel	375	18.7	0.02352	0.29722	0.29722	15943.87755
Selenium	89	4.5	0.01804	0.227969762	0.227969762	4933.481153
Zinc	2500	125	1.715	21.67229167	21.67229167	1457.725948
Other						

If value in column B > D use nitrogen for biosolids application rate.

If value in column B < D use pollutant for biosolids application rate.

Step 6. CALCULATE SITE LIFE AND MAXIMUM APPLICATION RATE BASED ON CUMULATIVE LOADING OF NITROGEN OR LIMITING METAL(S).

A. Maximum allowable cumulative biosolids loading rate:	1457.73	<i>tons/acre</i>
B. Previous application of biosolids:	4.71	<i>tons/acre</i>
C. Remaining biosolids application rate to reach metal limits:	1453.02	<i>tons/acre</i>
D. Maximum allowable biosolids application rate:	12.64	<i>tons/acre/yr</i>
E. Years remaining to reach the maximum cumulative loading:	115	<i>years</i>