

TCEQ

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 2nd Reporting period from 7-1-2013 to, 8-31-2014

PERMIT NO.: WQ0004448000

DATE: 3-7-2014

NAME OF PERMITTEE: K-3 Resources LP

MAILING ADDRESS: PO Box 2236, ALVIN, TX 77512

CONTACT PERSON: Name: Charles E Pehl Telephone No: 281-585-2817

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

- Class B Sewage Sludge Land Applied: 365.15 dry tons / quarter
- Treated Domestic Septage - Land Applied: 0.00 gallons / quarter
- Method used to treat Domestic Septage: N/A
- 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: 73.83 acres
- b. Site Vegetation (such as grass type etc) and # of cuttings: Bermuda/Native 8 tons/acre/year
- 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°54'30", Longitude: W 95°59'07"
- e. Site physical address: West side of Adams Flat Road, Waller County, Texas

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 REPORT TO :

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

**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

**Facilities Approved
by TCEQ for
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 11971-001	3/3/2005 1/12/2005
Plantation Crossing	14490-001	12/2/2011
Ponderosa, Joint Powers	11081-001	2/4/2003
Rayford Road	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: WQ0004448000
Site Name: Carl Miller Farms 4 RN102911864
Address: Lat: 29 degrees 54' 30.29"N Lon: 95 degrees 59' 7.0"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
01/22/2014	05:30 PM	153518	Richmond SW (FB)	6,500		0.88	0.238524	0.216341	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	03:45 PM	153667	HC MUD 71	6,500		2.30	0.623415	0.565437	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	05:45 PM	153668	HC MUD 71	6,500		2.30	0.623415	0.565437	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	02:30 PM	153685	HC MUD 71	6,500		2.30	0.623415	0.565437	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	04:30 PM	153686	HC MUD 71	6,500		2.30	0.623415	0.565437	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	06:00 PM	154013	Richmond SW (FB)	6,500		0.88	0.238524	0.216341	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	04:15 PM	154067	BC MUD 25	6,500		0.53	0.143657	0.130297	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	05:00 PM	154107	Richmond SW (FB)	6,500		0.88	0.238524	0.216341	1	75.00	Hay/Pasture	01/22/2014
01/22/2014	03:45 PM	154186	HC MUD 71	6,500		2.30	0.623415	0.565437	1	75.00	Hay/Pasture	01/22/2014
01/23/2014	12:05 PM	153218	HC 358 Fairfield	6,500		2.30	0.623415	0.565437	1	75.00	Hay/Pasture	01/23/2014
01/23/2014	01:30 PM	153600	BC MUD 25	6,500		0.53	0.143657	0.130297	1	75.00	Hay/Pasture	01/23/2014
01/23/2014	11:00 AM	154069	BC MUD 25	6,500		0.53	0.143657	0.130297	1	75.00	Hay/Pasture	01/23/2014
01/23/2014	12:00 PM	154163	BC MUD 25	6,500		0.53	0.143657	0.130297	1	75.00	Hay/Pasture	01/23/2014
01/27/2014	04:00 PM	153752	Cinco Central		20	14.80	2.516000	2.282012	1	75.00	Hay/Pasture	01/27/2014
01/29/2014	06:45 AM	153754	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	01/29/2014
01/29/2014	04:30 PM	153757	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00	Hay/Pasture	01/29/2014
01/29/2014	12:45 PM	153988	West Memorial		20	12.00	2.040000	1.850280	1	75.00	Hay/Pasture	01/29/2014
01/29/2014	06:15 AM	155033	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00	Hay/Pasture	01/29/2014
01/29/2014	09:30 AM	155034	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	01/29/2014
01/29/2014	11:15 AM	155035	Cinco Central		20	14.80	2.516000	2.282012	1	75.00	Hay/Pasture	01/29/2014
01/29/2014	01:30 PM	155036	FB 106		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	01/29/2014
01/30/2014	08:45 AM	153705	Cinco Central		20	14.80	2.516000	2.282012	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	10:45 AM	153706	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	01:15 PM	153707	Pecan Grove		20	18.40	3.128000	2.837096	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	04:00 PM	153708	FB 112		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	06:00 AM	153758	Meadow Place		20	14.40	2.448000	2.220336	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	08:00 AM	153759	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	09:30 AM	153760	Bellville, City of		20	16.00	2.720000	2.467040	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	12:30 PM	153921	HC WCID 92		20	15.10	2.567000	2.328269	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	02:30 PM	153922	Tomball South		20	15.70	2.669000	2.420783	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	05:45 PM	154493	West Memorial		20	12.00	2.040000	1.850280	1	75.00	Hay/Pasture	01/30/2014
01/30/2014	05:30 AM	155038	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00	Hay/Pasture	01/30/2014



Land Application Manifest Summary By Site

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

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004448000
Site Name: Carl Miller Farms 4 RN102911864
Address: Lat: 29 degrees 54' 30.29"N Lon: 95 degrees 59' 7.0"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
01/30/2014	09:30 AM	155039	FB 30		13	14.60	1.613300	1.463263	1	75.00 Hay/Pasture	01/30/2014
01/30/2014	12:30 PM	155040	HC WCID 109		20	15.10	2.567000	2.328269	1	75.00 Hay/Pasture	01/30/2014
01/31/2014	09:00 AM	153709	Langham Creek		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	03:45 AM	153923	Tomball North		20	10.90	1.853000	1.680671	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	05:30 AM	153924	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	07:00 AM	153925	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	12:45 PM	153927	FB 106		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	09:30 AM	154495	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	04:30 PM	154498	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	09:00 PM	154499	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	06:45 AM	155043	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	08:45 AM	155044	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00 Hay/Pasture	01/31/2014
01/31/2014	02:15 PM	155045	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	01/31/2014
02/01/2014	05:00 AM	153929	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00 Hay/Pasture	02/01/2014
02/01/2014	12:00 PM	153932	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/01/2014
02/01/2014	08:00 AM	155046	FB 30		13	14.60	1.613300	1.463263	1	75.00 Hay/Pasture	02/01/2014
02/01/2014	10:00 AM	155047	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/01/2014
02/03/2014	09:00 AM	153821	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/03/2014
02/03/2014	08:00 PM	153989	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/03/2014
02/03/2014	10:00 PM	153990	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/03/2014
02/03/2014	06:30 AM	154500	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/03/2014
02/04/2014	09:00 AM	153725	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	12:00 PM	153726	FB 112		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	09:00 AM	153938	Langham Creek		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	02:45 PM	153939	Tomball South		20	15.70	2.669000	2.420783	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	09:00 AM	153991	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	04:00 PM	153992	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	09:00 PM	153993	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	05:30 AM	155051	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	08:45 AM	155052	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	11:00 AM	155053	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00 Hay/Pasture	02/04/2014
02/04/2014	03:00 PM	155054	NWHC 21- 23		13	14.00	1.547000	1.403129	1	75.00 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: WQ0004448000
Site Name: Carl Miller Farms 4 RN102911864
Address: Lat: 29 degrees 54' 30.29"N Lon: 95 degrees 59' 7.0"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
02/05/2014	09:00 AM	153729	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	02:00 PM	153730	Pecan Grove		20	18.40	3.128000	2.837096	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	05:00 PM	153731	FB 106		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	09:45 AM	153995	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	11:45 AM	153996	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	05:30 PM	153997	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	04:00 AM	154361	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	05:45 AM	154362	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	07:30 AM	154363	Langham Creek		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	09:45 AM	154364	Rosenberg (1-A)		20	16.50	2.805000	2.544135	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	06:00 PM	155055	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	08:15 AM	155056	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	10:45 AM	155057	HC WCID 92		20	15.10	2.567000	2.328269	1	75.00 Hay/Pasture	02/05/2014
02/05/2014	03:00 PM	155058	NWHC 21- 23		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/05/2014
02/06/2014	09:15 AM	153732	FB 112		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	12:20 PM	153999	West Memorial		20	12.00	2.040000	1.850280	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	03:30 AM	154367	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	05:30 AM	154368	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	12:30 PM	154369	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	02:00 PM	154371	Sealy, City of		20	10.00	1.700000	1.541900	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	04:30 PM	154372	Eagle Lake WWTP		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	06:45 AM	155060	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	09:00 AM	155061	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	11:15 AM	155062	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	01:30 PM	155063	HC WCID 109		20	15.10	2.567000	2.328269	1	75.00 Hay/Pasture	02/06/2014
02/06/2014	03:00 PM	155064	NWHC 21- 23		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/06/2014
02/07/2014	08:45 AM	153735	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	11:15 AM	153736	Pecan Grove		20	18.40	3.128000	2.837096	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	01:45 PM	153737	FB 106		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	05:45 AM	154373	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	07:15 AM	154374	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	09:15 AM	154375	Langham Creek		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/07/2014



Land Application Manifest Summary By Site

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

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004448000
Site Name: Carl Miller Farms 4 RN102911864
Address: Lat: 29 degrees 54' 30.29"N Lon: 95 degrees 59' 7.0"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
02/07/2014	12:00 PM	154376	Meadow Place		20	14.40	2.448000	2.220336	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	07:15 AM	155065	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	10:30 AM	155066	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	12:45 PM	155067	FB 30		13	14.60	1.613300	1.463263	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	11:00 AM	155521	Cinco Southwest		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/07/2014
02/07/2014	01:30 PM	155522	Cinco Southwest		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/07/2014
02/08/2014	04:30 AM	154377	Tomball South		20	15.70	2.669000	2.420783	1	75.00 Hay/Pasture	02/08/2014
02/08/2014	10:00 AM	154378	HC WCID 92		20	15.10	2.567000	2.328269	1	75.00 Hay/Pasture	02/08/2014
02/08/2014	03:00 PM	154380	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00 Hay/Pasture	02/08/2014
02/08/2014	11:00 AM	155069	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00 Hay/Pasture	02/08/2014
02/08/2014	08:30 AM	155070	NWHC 21- 23		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/08/2014
02/08/2014	01:15 PM	155071	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/08/2014
02/08/2014	03:15 PM	155072	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/08/2014
02/12/2014	10:00 AM	1455077	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/12/2014
02/14/2014	10:00 AM	153849	FB 106		13	14.00	1.547000	1.403129	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	12:00 PM	153850	Cinco Central		20	14.80	2.516000	2.282012	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	03:45 AM	155684	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	05:45 AM	155685	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	12:45 PM	155686	Tomball North		20	10.90	1.853000	1.680671	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	10:15 AM	155688	Bellville, City of		20	16.00	2.720000	2.467040	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	08:45 AM	156188	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	03:15 PM	156190	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/14/2014
02/14/2014	06:15 PM	156191	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/14/2014
02/15/2014	03:30 PM	155690	Chelford City		20	14.33	2.436100	2.209543	1	75.00 Hay/Pasture	02/15/2014
02/15/2014	09:00 AM	156192	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/15/2014
02/15/2014	11:15 AM	156193	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/15/2014
02/15/2014	04:15 PM	156194	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/15/2014
02/17/2014	08:45 AM	155692	Sealy, City of		20	10.00	1.700000	1.541900	1	75.00 Hay/Pasture	02/17/2014
02/17/2014	11:00 PM	155694	Tomball South		20	15.70	2.669000	2.420783	1	75.00 Hay/Pasture	02/17/2014
02/17/2014	02:30 PM	155695	Tomball North		20	10.90	1.853000	1.680671	1	75.00 Hay/Pasture	02/17/2014
02/17/2014	08:45 AM	156195	FB MUD 34 (1)		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/17/2014
02/17/2014	07:00 PM	156198	HC MUD 8		20	14.00	2.380000	2.158660	1	75.00 Hay/Pasture	02/17/2014



Land Application Manifest Summary By Site

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

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004448000
Site Name: Carl Miller Farms 4 RN102911864
Address: Lat: 29 degrees 54' 30.29"N Lon: 95 degrees 59' 7.0"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
02/18/2014	03:30 PM	155095	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00	Hay/Pasture	02/18/2014
02/18/2014	04:15 AM	155696	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/18/2014
02/18/2014	06:15 AM	155697	Rosenberg (1-A)		20	16.50	2.805000	2.544135	1	75.00	Hay/Pasture	02/18/2014
02/18/2014	08:15 AM	155698	Cinco Central		20	14.80	2.516000	2.282012	1	75.00	Hay/Pasture	02/18/2014
02/18/2014	01:15 PM	155700	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/18/2014
02/18/2014	04:00 PM	156199	HC MUD 8		20	14.00	2.380000	2.158660	1	75.00	Hay/Pasture	02/18/2014
02/18/2014	10:30 AM	156200	HC MUD 8		20	14.00	2.380000	2.158660	1	75.00	Hay/Pasture	02/18/2014
02/19/2014	05:15 AM	155097	HC WCID 109		20	15.10	2.567000	2.328269	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	08:00 AM	155098	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	10:30 AM	155099	FB 30		20	14.60	2.482000	2.251174	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	06:15 AM	156222	Richmond Regional		20	14.20	2.414000	2.189498	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	08:15 AM	156223	Rosenberg (1-A)		20	16.50	2.805000	2.544135	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	09:45 AM	156224	Cinco Central		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	12:15 PM	156225	FB 106		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	02/19/2014
02/19/2014	04:30 PM	156227	Pecan Grove		20	18.40	3.128000	2.837096	1	75.00	Hay/Pasture	02/19/2014
02/20/2014	09:45 AM	155724	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/20/2014
02/20/2014	04:15 AM	156228	Tomball South		20	15.70	2.669000	2.420783	1	75.00	Hay/Pasture	02/20/2014
02/20/2014	06:00 AM	156229	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/20/2014
02/20/2014	08:15 AM	156230	Sealy, City of		20	10.00	1.700000	1.541900	1	75.00	Hay/Pasture	02/20/2014
02/20/2014	11:30 AM	156231	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00	Hay/Pasture	02/20/2014
02/20/2014	01:30 PM	156232	Cinco Central		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/20/2014
02/20/2014	03:30 PM	156233	Langham Creek		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	02/20/2014
02/21/2014	07:15 AM	155727	Ponderosa JPA		20	14.40	2.448000	2.220336	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	09:00 AM	155728	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	11:00 AM	155729	FB 30		13	14.60	1.613300	1.463263	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	01:00 PM	156101	Cinco Central		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	05:00 AM	156234	Tomball North		20	10.90	1.853000	1.680671	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	06:30 AM	156235	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	08:45 AM	156236	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	11:00 AM	156237	Rosenberg (1-A)		20	16.50	2.805000	2.544135	1	75.00	Hay/Pasture	02/21/2014
02/21/2014	07:30 PM	156239	HC MUD 26		13	12.50	1.381250	1.252794	1	75.00	Hay/Pasture	02/21/2014
02/22/2014	09:30 AM	155601	HC WCID 92		20	15.10	2.567000	2.328269	1	75.00	Hay/Pasture	02/22/2014



Land Application Manifest Summary By Site

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

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004448000
Site Name: Carl Miller Farms 4 RN102911864
Address: Lat: 29 degrees 54' 30.29"N Lon: 95 degrees 59' 7.0"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
02/22/2014	11:00 AM	155603	Cinco Central		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/22/2014
02/22/2014	06:30 AM	155733	Ponderosa JPA		20	14.40	2.448000	2.220336	1	75.00	Hay/Pasture	02/22/2014
02/22/2014	07:30 AM	155734	NWHC 21- 23		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	02/22/2014
02/22/2014	08:15 AM	156104	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/22/2014
02/22/2014	10:15 AM	156105	Chelford City		20	14.33	2.436100	2.209543	1	75.00	Hay/Pasture	02/22/2014
02/22/2014	01:00 PM	156106	Langham Creek		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	02/22/2014
02/24/2014	07:30 AM	156145	Cinco Southwest		20	14.00	2.380000	2.158660	1	75.00	Hay/Pasture	02/24/2014
02/25/2014	12:15 PM	156110	Langham Creek		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	02/25/2014
02/20/2014	07:15 AM	155723	Ponderosa JPA		20	14.90	2.533000	2.297431	1	75.00	Hay/Pasture	02/26/2014
02/27/2014	08:45 AM	156151	West Memorial		20	12.00	2.040000	1.850280	1	75.00	Hay/Pasture	02/27/2014
02/28/2014	06:00 AM	155618	HC FWSD 6		13	14.00	1.547000	1.403129	1	75.00	Hay/Pasture	02/28/2014
02/28/2014	08:15 AM	155619	Tomball North		20	10.90	1.853000	1.680671	1	75.00	Hay/Pasture	02/28/2014
02/28/2014	08:30 PM	156157	West Memorial		20	12.00	2.040000	1.850280	1	75.00	Hay/Pasture	02/28/2014
Site Total				84,500	3,011		365.151040	331.192002				

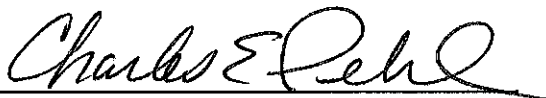
Cumulative Pollutants

November 30, 2013

<i>Pollutants</i>	Soil Pollutant Analysis 11/08/2013	Weighted Means	Application 11/09/2013 to 02/28/2014	Cumulative to 02/28/2014	
	(kg/ha)	(mg/kg)	(kg/ha)	(kg/ha)	(lb./ac.)
Arsenic	3.41	6.05	0.0273	3.44	3.07
Cadmium	2.98	1.43	0.0064	2.99	2.67
Chromium	28.92	20.49	0.0923	29.01	25.90
Copper	91.53	372.69	1.6788	93.21	83.22
Lead	39.97	15.67	0.0706	40.04	35.75
Mercury	0.66	0.68	0.0031	0.66	0.59
Molybdenum	1.28	10.37	0.0467	1.33	1.18
Nickel	11.77	12.05	0.0543	11.82	10.56
Selenium	2.13	9.00	0.0405	2.17	1.94
Zinc	291.86	835.55	3.7637	295.62	263.95

Biosolids Application (11/09/13 to 02/28/14):

4.95 (tons/acre)



Charles E. Pehl, PhD, PG
Compliance Director

**Appendix A
Agronomic Rate Calculations**

TCEQ 04448

Part 1: Biosolids Application Rate

2/28/2014

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

Nutrients	<i>Percent</i>	<i>Conversion Factor</i>	<i>Pounds per ton</i>
Total Nitrogen (TKN)	4.09	x 20 =	81.8
Ammonium Nitrogen (NH4)	0.46	x 20 =	9.2
Nitrate Nitrogen (NO3)	0.07	x 20 =	1.4
Total Phosphorus (P)	1.11	x 20 =	22.2
Total Potassium (K)	0.35	x 20 =	7

Pollutants (mg/kg x 0.002 = lb./ton)	<i>mg/kg*</i>		<i>lb./ton</i>
Total Arsenic (As)	6.05	x 0.002 =	0.0121
Total Cadmium (Cd)	1.43	x 0.002 =	0.00286
Total Chromium (Cr)	20.49	x 0.002 =	0.04098
Total Copper (Cu)	372.69	x 0.002 =	0.74538
Total Lead (Pb)	15.67	x 0.002 =	0.03134
Total Mercury (Hg)	0.68	x 0.002 =	0.00136
Total Molybdenum (Mo)	10.37	x 0.002 =	0.02074
Total Nickel (Ni)	12.05	x 0.002 =	0.0241
Total Selenium (Se)	9	x 0.002 =	0.018
Total Zinc (Zn)	835.55	x 0.002 =	1.6711

* Values from sludge tests (dry weight)

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

**Appendix A
Agronomic Rate Calculations**

TCEQ 04448

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

Yield Goal(s): 8 tons/ac in 4 to 6 cuttings.

pH: 7.0

	<u>N lb/ac</u>
A. Crop nutrient need for specific yield goal**	<u>400</u>
B. Nutrients available in soil	<u>76</u>
= 2 x NO ₃ -N (ppm)(0-6" soil depth)+ 6 x NO ₃ -N(ppm)(6-24" soil depth)	
C. Nutrient amount still needed: (A -B) (enter this amount in step 4A.)	<u>324</u>

** 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)	<u>3.56</u>	<u>71.2</u>
B. Ammonium Nitrogen (NH ₄ -N)	<u>0.46</u>	<u>9.2</u>
C. Nitrate Nitrogen (NO ₃ -N)	<u>0.07</u>	<u>1.4</u>
D.Total PAN = (0.3 x 3A) + (0.5 x 3B) + 3C =	<u>1.598</u>	<u>27.36</u>

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

A. Enter amount from Step 2. Nitrogen amount still needed:	<u>324</u>	<i>lb./ac./yr</i>
B. Enter amount from Step 3D. Total PAN in sludge	<u>27.36</u>	<i>lb./ton</i>
C. Sludge application rate(SARN)	<u>11.84</u>	<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 SARN (lb./ac./yr)	Metals Applied Annually at SARM (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	0.0121	0.143289474	0.143289474	2975.206612
Cadmium	35	1.7	0.00286	0.033868421	0.033868421	12237.76224
Chromium	2677	134	0.04098	0.485289474	0.485289474	65324.54856
Copper	1339	67	0.74538	8.826868421	8.826868421	1796.399152
Lead	268	13	0.03134	0.371131579	0.371131579	8551.372049
Mercury	15	0.76	0.00136	0.016105263	0.016105263	11029.41176
Molybdenum	Monitor	Monitor				
Nickel	375	18.7	0.0241	0.285394737	0.285394737	15560.16598
Selenium	89	4.5	0.018	0.213157895	0.213157895	4944.444444
Zinc	2500	125	1.6711	19.78934211	19.78934211	1496.020585
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:	1496.02	<i>tons/acre</i>
B. Previous application of biosolids:	12.00	<i>tons/acre</i>
C. Remaining biosolids application rate to reach metal limits:	1484.02	<i>tons/acre</i>
D. Maximum allowable biosolids application rate:	11.84	<i>tons/acre/yr</i>
E. Years remaining to reach the maximum cumulative loading:	125	<i>years</i>