

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 9-1-2013 to, 8-31-2014

PERMIT NO.: WQ0004449000

DATE: 3-7-2014

NAME OF PERMITTEE: K-3 Resources, LP

MAILING ADDRESS: PO BOX 2236, ARLING, TX, 77612

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: 55.22 dry tons / quarter
 - Treated Domestic Septage - Land Applied: 0.00 gallons / quarter
 - Method used to treat Domestic Septage: NA
 - 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:- 40.45 acres
- b. Site Vegetation (such as grass type etc) and # of cuttings:- 7,995 Bermudagrass, 8 Tons/acre/year
- c. Does any of the sludge you have generated or received 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: N29°53'57", Longitude: W95°57'28"
- e. Site physical address: West side of SH 362 Near SH 529
Waller Co. 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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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 Uim	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
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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 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 SWHC 1	11001-01 12641-001	7/26/2005 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: WQ0004449000
Site Name: Carl Miller Farms RN103197521
Address: Lat: 29 degrees 53' 56.66"N Lon: 95 degrees 57' 27.75"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
12/02/2013	11:00 AM	150969	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	12:30 PM	150970	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	02:15 PM	150971	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	04:15 PM	150972	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	02:36 PM	151884	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	04:30 PM	151885	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	11:00 AM	151976	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	01:00 PM	151977	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	03:00 PM	151978	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	05:00 PM	151979	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	12:45 PM	152336	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	02:45 PM	152337	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	04:45 PM	152338	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	06:30 PM	152339	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	11:30 AM	152361	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	01:00 PM	152362	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	03:30 PM	152363	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	05:30 PM	152364	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	07:00 PM	152365	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	09:00 AM	152420	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	04:00 PM	152432	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	04:00 PM	152465	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	06:00 PM	152466	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	03:15 PM	152505	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	05:00 PM	152506	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/02/2013	06:00 PM	152507	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/02/2013
12/03/2013	06:45 AM	152366	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/03/2013
12/03/2013	09:15 AM	152497	Williamsburg	6,500		1.60	0.433680	0.393348	1	82.37		12/03/2013
12/04/2013	02:30 PM	151999	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		12/04/2013
12/04/2013	11:00 AM	152370	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		12/04/2013
12/04/2013	12:30 PM	152371	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		12/04/2013
12/04/2013	02:00 PM	152372	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		12/04/2013

Land Application Manifest Summary By Site

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

30

Site Type: Land Application
Permit No: WQ0004449000
Site Name: Carl Miller Farms RN103197521
Address: Lat: 29 degrees 53' 56.66"N Lon: 95 degrees 57' 27.75"W Quality: Class B

Time	Manifest	Generator	Liquid Gallons	Cake Yards	Percent Solids	Dry Tons	Dry Metric Tons	Field #	Acres	Land Use	Appl. Date
12:00 PM	152601	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		12/04/2013
06:30 PM	152359	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
05:00 PM	152558	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
02:45 PM	152620	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
01:45 PM	152624	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
03:45 PM	152625	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
06:45 PM	152626	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
01:30 PM	152657	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
03:30 PM	152658	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
06:45 PM	152659	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
04:30 PM	152693	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
07:30 PM	152694	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
04:15 PM	152722	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
07:00 PM	152723	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
03:45 PM	152744	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
05:30 PM	152764	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
05:45 PM	152841	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
02:00 PM	154571	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
05:15 PM	154572	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/16/2013
08:45 AM	152660	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		12/17/2013
04:30 PM	153734	Fry Road	6,500		0.60	0.162630	0.147505	1	82.37		02/06/2014
04:15 PM	153834	Fry Road	6,500		0.60	0.162630	0.147505	1	82.37		02/06/2014
04:30 PM	154238	Fry Road	6,500		0.60	0.162630	0.147505	1	82.37		02/06/2014
05:00 PM	154352	Fry Road	6,500		0.60	0.162630	0.147505	1	82.37		02/06/2014
04:45 PM	154447	Fry Road	6,500		0.60	0.162630	0.147505	1	82.37		02/06/2014
05:00 PM	155512	Fry Road	6,500		0.60	0.162630	0.147505	1	82.37		02/06/2014
07:45 AM	154239	HC 432	6,500		1.10	0.298155	0.270427	1	82.37		02/07/2014
07:45 AM	154336	HC 432	6,500		1.10	0.298155	0.270427	1	82.37		02/07/2014
09:00 AM	154337	HC 432	6,500		1.10	0.298155	0.270427	1	82.37		02/07/2014
07:45 AM	154353	HC 432	6,500		1.10	0.298155	0.270427	1	82.37		02/07/2014
07:45 AM	155513	HC 432	6,500		1.10	0.298155	0.270427	1	82.37		02/07/2014
09:00 AM	155514	HC 432	6,500		1.10	0.298155	0.270427	1	82.37		02/07/2014





TCEQ # 22

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**Delivery
Date**

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02/07/2014
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: WQ0004449000
Site Name: Carl Miller Farms RN103197521
Address: Lat: 29 degrees 53' 56.66"N Lon: 95 degrees 57' 27.75"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
02/14/2014	01:45 PM	153476	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/14/2014
02/14/2014	08:30 AM	153811	North Forest	6,500		1.30	0.352365	0.319595	1	82.37	02/14/2014
02/14/2014	01:00 PM	156032	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/14/2014
02/14/2014	02:30 PM	156033	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/14/2014
02/14/2014	12:15 PM	156044	North Forest	6,500		1.30	0.352365	0.319595	1	82.37	02/14/2014
02/14/2014	03:30 PM	156045	North Forest	6,500		1.30	0.352365	0.319595	1	82.37	02/14/2014
02/17/2014	04:00 PM	153815	MC 112	6,500		0.50	0.135525	0.122921	1	82.37	02/17/2014
02/18/2014	04:30 PM	156061	High Meadows	6,500		2.00	0.542100	0.491685	1	82.37	02/18/2014
02/19/2014	03:00 PM	155701	Arcola, City of	6,500		1.00	0.271050	0.245842	1	82.37	02/19/2014
02/19/2014	03:00 PM	156243	Arcola, City of	6,500		1.00	0.271050	0.245842	1	82.37	02/19/2014
02/20/2014	06:45 AM	155670	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	08:30 AM	155671	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	10:00 AM	155672	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	11:30 AM	155673	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	01:15 PM	155674	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	02:30 PM	155675	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	04:00 PM	155676	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	08:45 AM	156049	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	08:15 AM	156163	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	10:00 AM	156164	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	11:30 AM	156165	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	01:15 PM	156166	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	05:00 PM	156167	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	05:15 PM	156168	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/20/2014	12:15 PM	156208	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37	02/20/2014
02/21/2014	01:00 PM	155707	HC MUD 104	6,500		2.07	0.561074	0.508894	1	82.37	02/21/2014
02/21/2014	12:30 PM	156054	HC MUD 104	6,500		2.07	0.561074	0.508894	1	82.37	02/21/2014
02/21/2014	09:00 AM	156089	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/21/2014
02/21/2014	10:30 AM	156090	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/21/2014
02/21/2014	12:30 PM	156091	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/21/2014
02/21/2014	10:15 AM	156130	HC MUD 104	6,500		2.07	0.561074	0.508894	1	82.37	02/21/2014
02/21/2014	11:45 AM	156131	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37	02/21/2014



Land Application Manifest Summary By Site

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

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004449000
Site Name: Carl Miller Farms RN103197521
Address: Lat: 29 degrees 53' 56.66"N Lon: 95 degrees 57' 27.75"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
02/21/2014	10:30 AM	156141	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		02/21/2014
02/21/2014	12:00 PM	156142	Brookshire WWTP	6,500		2.60	0.704730	0.639190	1	82.37		02/21/2014
02/25/2014	03:30 PM	155586	Northline	6,500		1.60	0.433680	0.393348	1	82.37		02/25/2014
02/25/2014	02:30 PM	156139	Northline	6,500		1.60	0.433680	0.393348	1	82.37		02/25/2014
02/25/2014	01:45 PM	156266	Northline	6,500		1.60	0.433680	0.393348	1	82.37		02/25/2014
02/25/2014	04:30 PM	156267	Northline	6,500		1.60	0.433680	0.393348	1	82.37		02/25/2014
02/25/2014	04:00 PM	156302	North Park	6,500		1.50	0.406575	0.368764	1	82.37		02/25/2014
02/26/2014	03:30 PM	154281	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	04:30 PM	154282	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	05:30 PM	154283	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	08:45 AM	155715	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	10:30 AM	155716	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	11:30 AM	155717	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	12:30 PM	155718	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	01:30 PM	155719	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	02:30 PM	155720	Waller WWTP	6,500		1.00	0.271050	0.245842	1	82.37		02/26/2014
02/26/2014	08:15 AM	156303	FB MUD 5	6,500		1.50	0.406575	0.368764	1	82.37		02/26/2014
02/26/2014	10:45 AM	156304	FB MUD 5	6,500		1.50	0.406575	0.368764	1	82.37		02/26/2014
02/26/2014	01:00 PM	156305	FB MUD 5	6,500		1.50	0.406575	0.368764	1	82.37		02/26/2014
02/26/2014	03:15 PM	156306	FB MUD 5	6,500		1.50	0.406575	0.368764	1	82.37		02/26/2014
02/27/2014	12:00 PM	154286	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	01:45 PM	154287	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	03:15 PM	154288	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	05:30 PM	154289	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/20/2014	08:45 AM	155593	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	10:15 AM	155594	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	11:45 AM	155595	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	01:15 PM	155596	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	02:45 PM	155597	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	04:15 PM	155598	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	02:45 PM	155754	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	04:45 PM	155755	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014



Land Application Manifest Summary by Site

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

TCEQ # 22430

Site Type: Land Application
Permit No: WQ0004449000
Site Name: Carl Miller Farms RN103197521
Address: Lat: 29 degrees 53' 56.66"N Lon: 95 degrees 57' 27.75"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
02/27/2014	09:00 AM	155769	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	03:30 PM	155771	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	05:30 PM	155772	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	10:15 AM	156273	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	12:00 PM	156274	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	01:30 PM	156275	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	03:00 PM	156276	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	05:00 PM	156277	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	03:45 PM	156310	HC MUD 71	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/27/2014	05:30 PM	156311	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/27/2014
02/28/2014	09:30 AM	154291	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	11:15 AM	154292	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	01:15 PM	154293	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	02:45 PM	154294	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	04:15 PM	154295	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	07:45 PM	155758	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	04:00 PM	155759	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	12:00 PM	156313	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	01:45 PM	156314	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	03:30 PM	156315	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	05:00 PM	156316	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
02/28/2014	01:00 PM	156327	Greentrails	6,500		1.10	0.298155	0.270427	1	82.37		02/28/2014
Site Total				975,000	0	55.215597	50.080579					

Cumulative Pollutants
February 28, 2014

<i>Pollutants</i>	Cumulative Pollutants 11/30/2013 <i>(kg/ha)</i>	Weighted Means <i>(mg/kg)</i>	Application 12/01/13 to 02/28/2013 <i>(kg/ha)</i>	Cumulative to 02/28/2014	
				<i>(kg/ha)</i>	<i>(lb./ac.)</i>
Arsenic	1.82	6.52	0.0081	1.83	1.63
Cadmium	1.10	1.92	0.0024	1.10	0.98
Chromium	19.39	22.61	0.0280	19.42	17.34
Copper	88.49	398.82	0.4936	88.98	79.45
Lead	22.91	34.48	0.0427	22.95	20.49
Mercury	0.57	1.74	0.0022	0.57	0.51
Molybdenum	1.70	11.30	0.0140	1.71	1.53
Nickel	5.09	16.85	0.0209	5.11	4.56
Selenium	2.67	5.36	0.0066	2.68	2.39
Zinc	151.55	974.91	1.2065	152.76	136.39

Biosolids Application (12/01/2013 to 02/28/2014): 1.36 (tons/acre)



Charles E. Pehl, PhD, PG
Compliance Director

Appendix A
Agronomic Rate Calculations

TCEQ 04449

Part 1: Biosolids Application Rate

2/28/2014

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

Nutrients		Percent	Conversion Factor	Pounds per ton
Total Nitrogen	(TKN)	4.34	x 20 =	86.8
Ammonium Nitrogen	(NH4)	0.38	x 20 =	7.6
Nitrate Nitrogen	(NO3)	0.11	x 20 =	2.2
Total Phosphorus	(P)	1.5	x 20 =	30
Total Potassium	(K)	0.47	x 20 =	9.4

Pollutants	<i>(mg/kg x 0.002 = lb./ton)</i>	mg/kg*		lb./ton
Total Arsenic	(As)	6.52	x 0.002 =	0.01304
Total Cadmium	(Cd)	1.92	x 0.002 =	0.00384
Total Chromium	(Cr)	22.61	x 0.002 =	0.04522
Total Copper	(Cu)	398.82	x 0.002 =	0.79764
Total Lead	(Pb)	34.48	x 0.002 =	0.06896
Total Mercury	(Hg)	1.74	x 0.002 =	0.00348
Total Molybdenum	(Mo)	11.3	x 0.002 =	0.0226
Total Nickel	(Ni)	16.85	x 0.002 =	0.0337
Total Selenium	(Se)	5.36	x 0.002 =	0.01072
Total Zinc	(Zn)	974.91	x 0.002 =	1.94982

* Values from sludge tests (dry weight)

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

**Appendix A
Agronomic Rate Calculations**

TCEQ 04449

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): Warm season: Jiggs Bermudagrass and native pasture grasses,
Cool season: Winter Rye

Yield Goal(s): 8 tons/ac (6 tons,warm season + 4 tons,cool season) 3 bales/acre pH: 7.0
in in 4 cuttings, plus grazing stubble between cuttings.

	<u>N lb/ac</u>
A. Crop nutrient need for specific yield goal**	<u>400</u>
B. Nutrients available in soil	<u>27</u>
= 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.)	<u>373</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>3.85</u>	<u>77</u>
B. Ammonium Nitrogen (NH ₄ -N)	<u>0.38</u>	<u>7.6</u>
C. Nitrate Nitrogen (NO ₃ -N)	<u>0.11</u>	<u>2.2</u>
D.Total PAN = (0.3 x 3A) + (0.5 x 3B) + 3C =	<u>1.645</u>	<u>29.1</u>

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

A. Enter amount from Step 2. Nitrogen amount still needed:	<u>373</u>	<i>lb./ac. /yr</i>
B. Enter amount from Step 3D. Total PAN in sludge	<u>29.1</u>	<i>lb./ton</i>
C. Sludge application rate(SARN)	<u>12.82</u>	<i>ton/ac. /yr</i>

**Appendix A
Agronomic Rate Calculations**

TCEQ 04449

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	Appendix C	Appendix C	(Step 1)	C x SARN	B/C	A/C
Arsenic	36	1.8	0.01304	0.167145017	0.167145017	2760.736196
Cadmium	35	1.7	0.00384	0.049220619	0.049220619	9114.583333
Chromium	2677	134	0.04522	0.579624055	0.579624055	59199.46926
Copper	1339	67	0.79764	10.22404536	10.22404536	1678.702171
Lead	268	13	0.06896	0.883920275	0.883920275	3886.310905
Mercury	15	0.76	0.00348	0.044606186	0.044606186	4310.344828
Molybdenum	Monitor	Monitor				
Nickel	375	18.7	0.0337	0.431962199	0.431962199	11127.59644
Selenium	89	4.5	0.01072	0.13740756	0.13740756	8302.238806
Zinc	2500	125	1.94982	24.99253814	24.99253814	1282.169636
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:	1282.17	tons/acre
B. Previous application of biosolids:	6.11	tons/acre
C. Remaining biosolids application rate to reach metal limits:	1276.06	tons/acre
D. Maximum allowable biosolids application rate:	12.82	tons/acre/yr
E. Years remaining to reach the maximum cumulative loading:	100	years

0