VPA PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPA permit listed below. This permit is for **the land application of industrial residuals on agricultural or silvicultural land in the Piedmont Region.**

1.	Permit Name and Address	Legal Name of Owner and Address
	Synagro Central, LLC - Industrial Land Application 10647 Tidewater Trail Champlain, VA 22438	Synagro Central, LLC 10647 Tidewater Trail Champlain, VA 22438
2.	VPA Permit No.:	VPA00584
3.	SIC Code(s):	0711 – Soil Preparation Services
4.	Facility Contact	
	Steve McMahon Synagro Central, LLC 10647 Tidewater Trail Champlain, VA 22438 804-443-2170	
5.	Permit Application Information	
	Application submitted by:	Steve McMahon
	Address (if different than owner's address):	
	Application receipt date:	May 20, 2013
	Additional information requested:	June 17, June 27, July 10 and July 11, 2013
	Additional information received:	August 16, 2013
	Application complete date	August 16, 2013

.	Permit Modification Application Information	
	Application submitted by:	Steve McMahon
	Address (if different than owner's address):	
	Application receipt date:	January 12, 2016
	Additional information requested:	March 24, 2016
	Additional information received:	March 28, 2016
	Application complete date	March 28, 2016

6. Permit Processing Information:

DEQ Regional Office:		Piedmont
Site Inspection performed by:		Seth Mullins
Date of site inspection :		June 14, 2013
Date of public meeting for permit application*:		
Permit drafted by:		Seth Mullins
Date permit drafted:		December 10, 2013
Draft permit reviewed by:		OLAP, Kyle Winter
Date draft permit reviewed:		December 10, 2013
Dates of draft permit public comment period	From:	December 23, 2013
	To:	January 31, 2014
Permit Modification drafted by:		Anita Tuttle
Draft Permit reviewed by:		Christina M. Wood
Date draft permit reviewed:		3/29/2016
Dates of draft permit public comment period	From:	
	To:	

***** A public meeting is only required for certain applications to authorize land application of industrial residuals, treated municipal wastewater and stabilized septage.

7. Permit Characterization [**Note:** Check all that apply.]

Permit Action	**Facility**	**Permit Type**
☐ Issuance	☐ Existing facility	☐ Biosolids distribution, marketing, storage, and land application
☐ Reissuance	☐ Proposed facility	☐ Frequent
☐ Revocation and reissuance	☐ Treatment Works	☐ Infrequent
☒ Owner modification	☒ N/A	☐ Land application/storage of animal waste
☐ Board initiated modification	**Type of Facility/Permit**	☐ Land treatment of wastewater
☐ Interim authorization	☐ Municipal	☐ Industrial
☐ Enforcement action	☒ Industrial	☐ Municipal
	Ownership	☒ Land application of industrial residuals
	☐ Public	☒ Land application of water plant residuals
	☒ Private	☐ Land application of septage
	☐ Federal	☐ Water reclamation and reuse
	☐ State	☐ Pump and haul*
	☐ Animal feeding operation/poultry waste management	☐ Other:_____
		☐ Other:_____

	☐ Reclamation system or satellite reclamation system	
	☐ Reclaimed water distribution system	
	☐ Other	

* Pump and haul of wastewater other than sewage. Pump and haul of sewage is regulated by the Virginia Department of Health in accordance with the Sewage Handling and Disposal Regulations (12VAC5-610).

8. Annual permit maintenance fee: $1231

9. Licensed Operator Requirements: Certified Land Appliers required onsite during land application activities

10. Reliability Class: N/A

11. Pollution Management Activity Description. Land application of industrial residuals to agricultural and silvicultural sites within the Piedmont Region, including 322 fields, totaling 16,173.70 acres, as identified in the permit application. Application rates shall be in accordance with site specific nutrient management plans.

12. Location Description. Agricultural and Silvicultural sites located within Goochland, King & Queen, King William, New Kent, Prince George, and Surry Counties. The sites are located in the Bacons Castle, Church View, Disputanta North, King William, New Kent, Perkinsville, Runnymede, Shacklefords, Tunstall, Westover, and West Point Topographic quadrangle(s). Detailed maps are provided in the site books submitted with the permit application; maps identifying general site locations and a listing of sites are provided in Appendix A.

13. Bases for Limits and Monitoring Requirements and Special Conditions. DEQ has determined that industrial residuals shall be land applied in accordance with standards that are no less stringent than those required for the land application of industrial residuals, or determined necessary by the agency to protect the environment and public health based on unique characteristics of the residuals and application site conditions. Therefore, all residuals applied to the land shall meet the same minimum criteria, no matter the source. All industrial residuals that are land applied shall comply with pollutant concentrations, ceiling limits and cumulative pollutant loading rates developed to protect water, soil and crops at or adjacent to the application sites. Pathogen reduction and vector attractions reduction will be required for industrial residuals where the wastewater from which the residuals are derived: (i) contains domestic sewage, (ii) results from the processing and/or packaging of raw meat or poultry, or (iii) contains human pathogens that are not exclusively associated with sewage, requiring disinfection of the final effluent or reclaimed water prior to discharge, land treatment or water reuse. Land application of industrial residuals shall be managed in the field in accordance with the VPA Permit Regulation and conditions contained in the permit.

    A. **Part I.A. Limits and Monitoring Requirements:** The Bases for Monitoring Requirements are provided in Table I.

    B. **Parts I.B through I.J. Special Conditions:** Bases for Special Conditions are provided in Table II.

14. Compliance Schedules None

15. Changes to the Permit: Permit modification was requested to include reclamation of mined land at the Aylett Sand and Gravel Mines in King William County. The request included a Reclamation Plan developed for the proposed sites in consultation with the Department of Crop and Soil Sciences at Virginia

Tech. Under this plan the sites to be reclaimed will receive a one-time application of industrial residuals from the WestRock pulp mill in West Point, VA at rates exceeding the agronomic rate. The higher rates are used for soil reconstruction in order to reduce the time needed to establish a crop that meets the Virginia Department of Mines, Minerals and Energy Permit yield requirements, thereby minimizing the erosion risk. Requirements for reclamation of mined and disturbed land were added to the permit in Part I.D.3.

16. Public Notice Information per 9 VAC 25-32-120.B: All pertinent information regarding the draft permit and application is on file, and may be reviewed and copied by contacting Anita Tuttle at (540) 574-7833 or (804) 840-0681 or anita.tuttle@deq.virginia.gov.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

17. Attachments. List any attachments associated with this permit.

Attachment A	Listing of Land Application Sites
Attachment B	Reclamation Plan
Attachment C	Listing of Industrial Residual Sources

.

APPENDIX A
Site Location Maps and Site Listings

SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION
Goochland County Land Application Sites

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SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION
King & Queen County Land Application Sites

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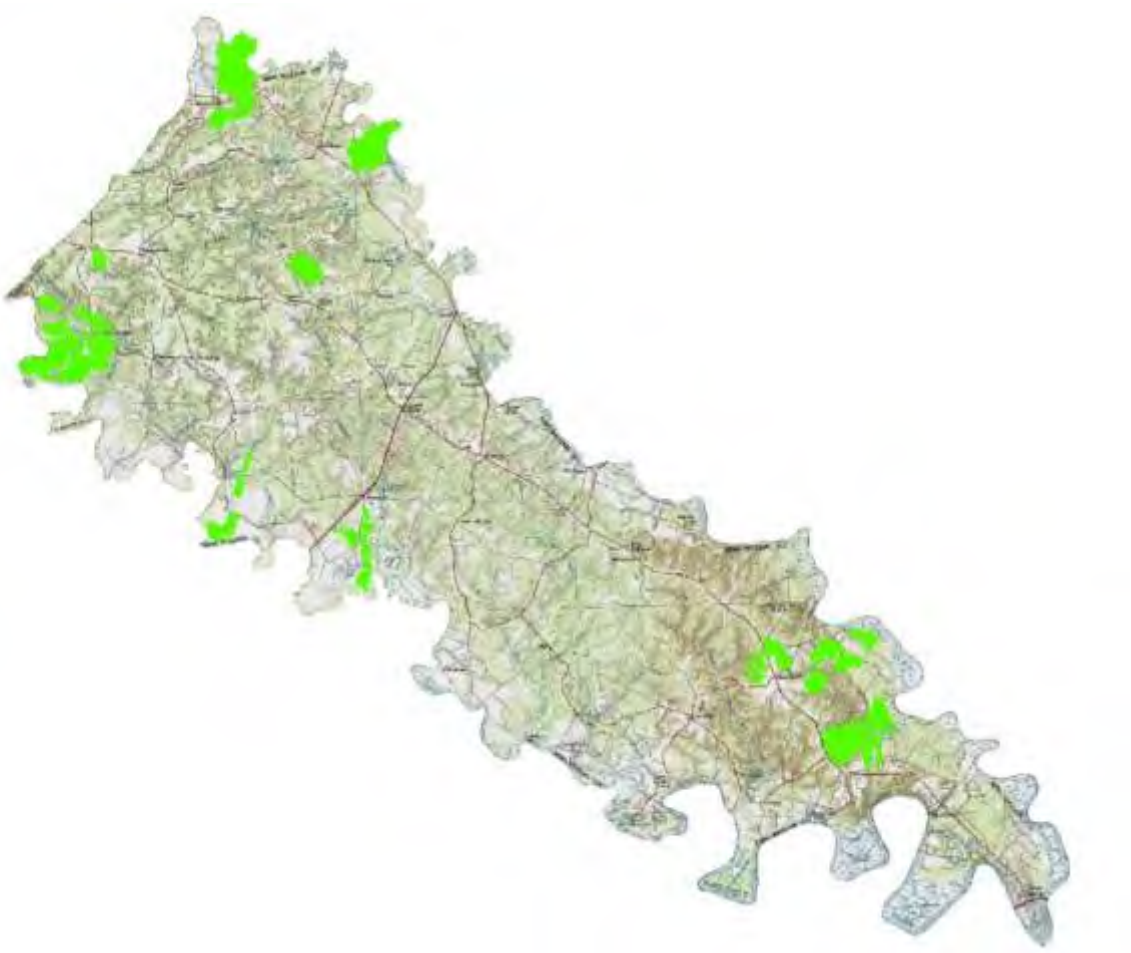
SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION
King William County Land Application Sites



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SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION
New Kent County Land Application Sites

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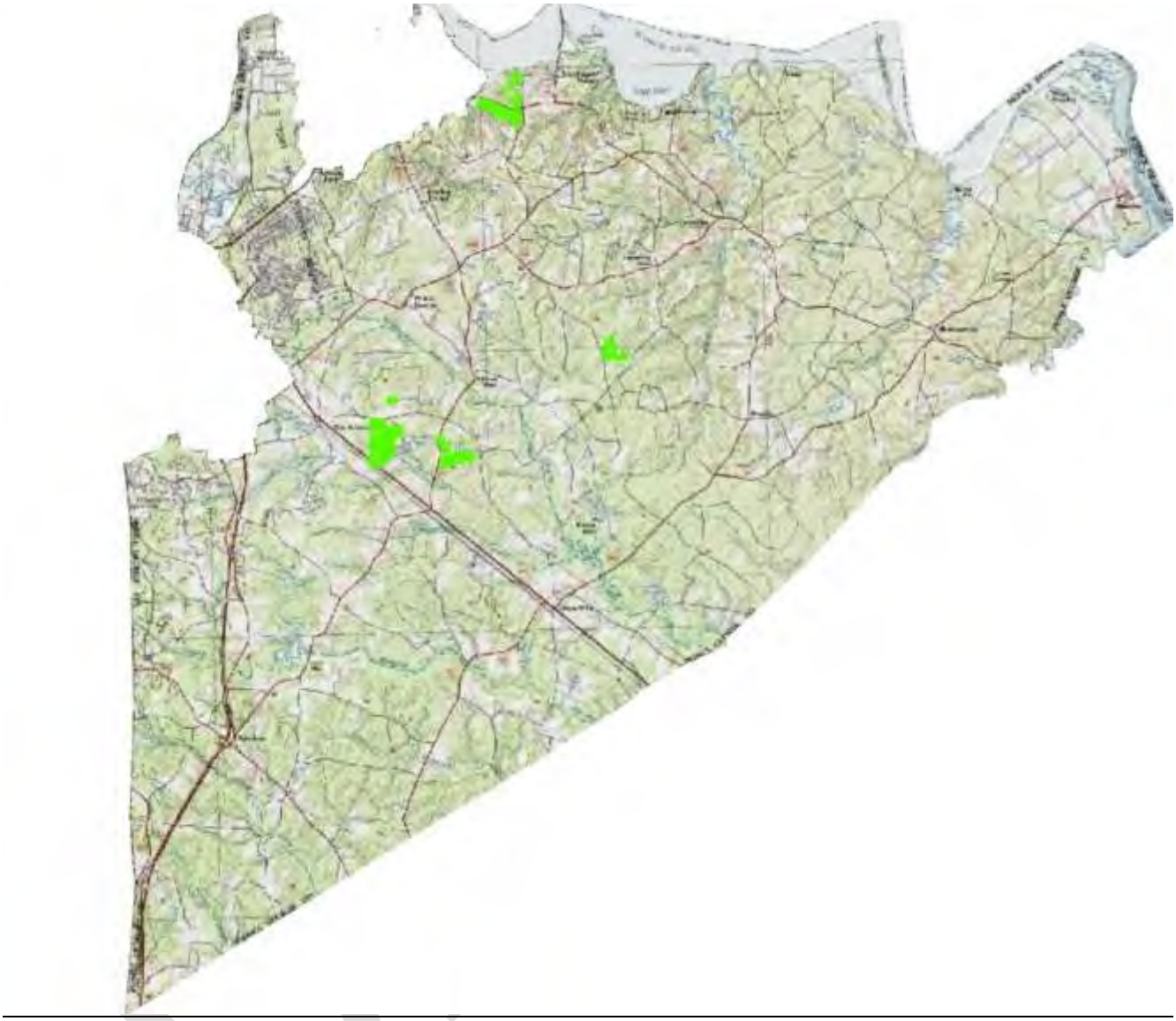
SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION
Prince George County Land Application Sites



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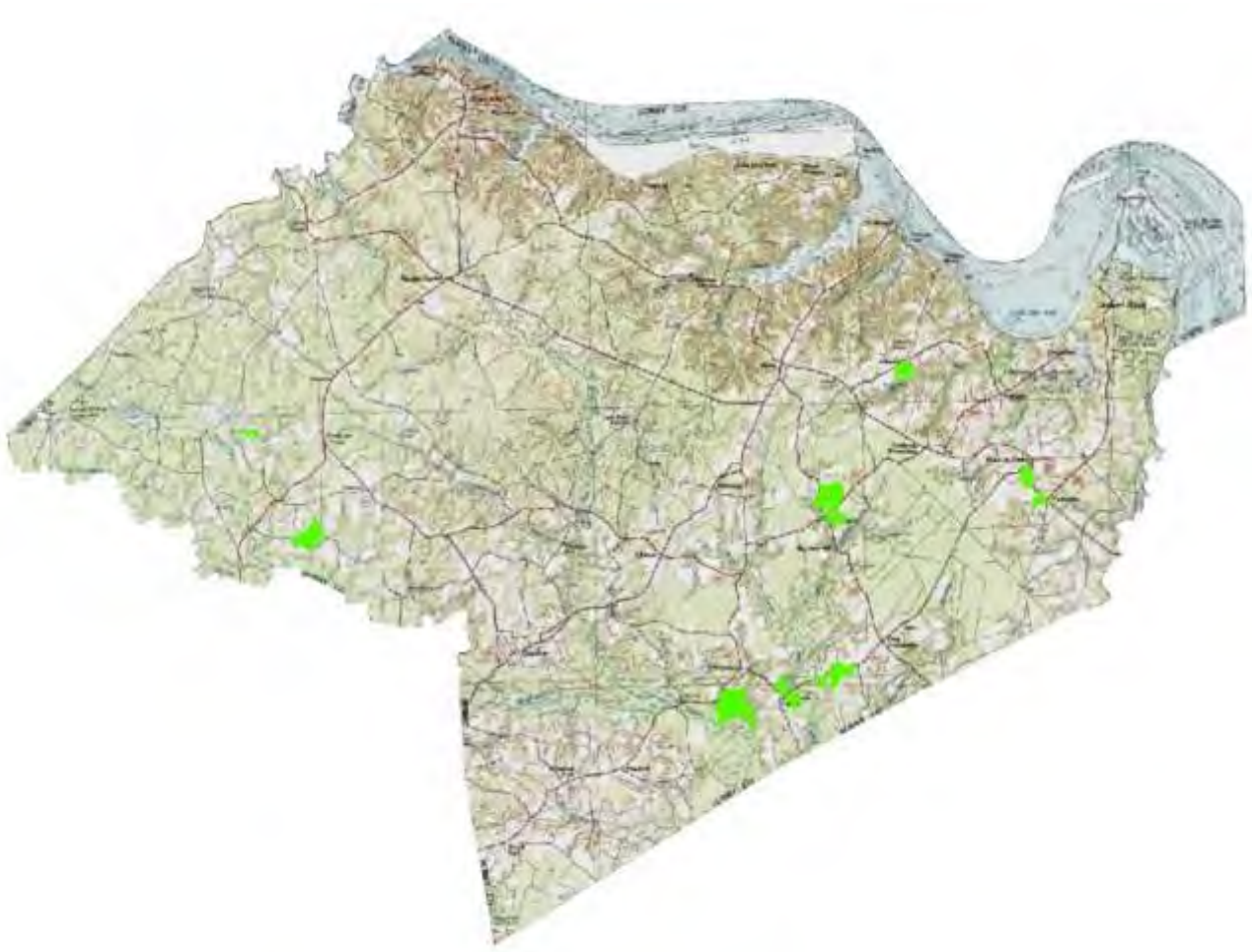
SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION
Surry County Land Application Sites



APPENDIX A
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SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION

DEQ Control Number	Site Book Name	Field ID	Gross Acres
51097-00047-0000	David Carlton	KQ 14-01	57.2
51097-00048-0000	David Carlton	KQ 14-02	124.5
51097-00049-0000	David Carlton	KQ 14-03	54.1
51097-00050-0000	David Carlton	KQ 14-04	166.4
51097-00051-0000	David Carlton	KQ 14-05	22.8
51097-00053-0000	R.W. Carlton	KQ 29, 01	78.8
51097-00054-0000	R.W. Carlton	KQ 29, 02	47.5
51097-00055-0000	R.W. Carlton	KQ 29, 03	37.8
51097-00056-0000	R.W. Carlton	KQ 29, 04	66.5
51097-00055-0000	R.W. Carlton	KQ 29, 05	16.0
51097-00058-0000	R.W. Carlton	KQ 29, 06	32.0
51097-00059-0000	R.W. Carlton	KQ 29, 07	15.4
51097-00059-0000	R.W. Carlton	KQ 29, 08	16.2
51097-00054-0000	R.W. Carlton	KQ 29, 09	9.0
51097-00062-0000	R.W. Carlton	KQ 29, 10	32.2
51097-00090-0000	William Davis Carlton	KQ 31, 01	117.6
51097-00091-0000	William Davis Carlton	KQ 31, 02	38.0
51097-00092-0000	William Davis Carlton	KQ 31, 03	39.5
51097-00063-0000	William Davis Carlton	KQ 31, 05	48.3
51097-00063-0000	William Davis Carlton	KQ 31, 06	4.0
51097-00065-0000	William Davis Carlton	KQ 31, 07	22.9
51097-00066-0000	William Davis Carlton	KQ 31, 08	12.5
51097-00093-0000	David Carlton	KQ 32, 01	37.6
51097-00093-0000	David Carlton	KQ 32, 02	20.8
51097-00095-0000	David Carlton	KQ 32, 03	9.8
51097-00096-0000	David Carlton	KQ 32, 04	68.6
51097-00097-0000	David Carlton	KQ 32, 05	117.2
51097-00098-0000	David Carlton	KQ 32, 06	6.4
51097-00099-0000	David Carlton	KQ 32, 07	22.5
51097-00100-0000	David Carlton	KQ 32, 08	23.7
51097-00101-0000	David Carlton	KQ 32, 09	40.8
51097-00102-0000	David Carlton	KQ 32, 10	33.0
51097-00103-0000	David Carlton	KQ 32, 11	212.5
51097-00095-0000	David Carlton	KQ 32, 12	26.4
51097-00105-0000	David Carlton	KQ 32, 13	10.2
51097-00091-0000	David Carlton	KQ 32, 14	43.2
51097-00091-0000	David Carlton	KQ 32, 15	29.8
51097-00091-0000	David Carlton	KQ 32, 16	54.9
51097-00091-0000	David Carlton	KQ 32, 17	258.5
51097-00067-0000	William Duane Carlton	KQ 33, 01	127.0
51097-00068-0000	William Duane Carlton	KQ 33, 02	27.5

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51097-00069-0000	William Duane Carlton	KQ 33, 03	12.5
51097-00070-0000	William Duane Carlton	KQ 33, 04	21.8
51097-00070-0000	William Duane Carlton	KQ 33, 05	42.7
51097-00072-0000	William Duane Carlton	KQ 38, 01	61.3
51097-00073-0000	H.B. Richardson	KQ 38, 02	51.0
51097-00074-0000	H.B. Richardson	KQ 38, 03	57.8
51097-00075-0000	H.B. Richardson	KQ 38, 04	35.9
51097-00076-0000	H.B. Richardson	KQ 38, 05	29.6
51097-00077-0000	H.B. Richardson	KQ 38, 06	65.2
51097-00078-0000	H.B. Richardson	KQ 38, 07	34.5
51097-00078-0000	H.B. Richardson	KQ 38, 07a	85.9
51097-00080-0000	H.B. Richardson	KQ 38, 08	21.8
51097-00081-0000	H.B. Richardson	KQ 38, 08a	80.6
51097-00082-0000	H.B. Richardson	KQ 38, 09	7.5
51097-00083-0000	H.B. Richardson	KQ 38, 14	29.7
51097-00084-0000	H.B. Richardson	KQ 38, 15	110.0
51097-00085-0000	H.B. Richardson	KQ 38, 16	830.1
51097-00086-0000	H.B. Richardson	KQ 38, 17	20.4
51097-00087-0000	H.B. Richardson	KQ 38, 18	27.4
51097-00088-0000	H.B. Richardson	KQ 38, 19	111.9
51097-00089-0000	H.B. Richardson	KQ 38, 20	38.2
51097-00030-0000	Philip Minor	KQ 58, 01	96.3
51097-00024-0000	Philip Minor	KQ 58, 02	108.4
51097-00027-0000	Philip Minor	KQ 58, 03	62.1
51097-00027-0000	Philip Minor	KQ 58, 04	56.1
51097-00027-0000	Philip Minor	KQ 58, 05	32.9
51097-00027-0000	Philip Minor	KQ 58, 06	11.2
51097-00027-0000	Philip Minor	KQ 58, 07	26.9
51097-00028-0000	Philip Minor	KQ 58, 08	33.4
51097-00028-0000	Philip Minor	KQ 58, 09	41.3
51097-00028-0000	Philip Minor	KQ 58, 10	60.6
51097-00028-0000	Philip Minor	KQ 58, 11	37.9
51097-00028-0000	Philip Minor	KQ 58, 12	18.8
51097-00028-0000	Philip Minor	KQ 58, 13	19.3
51097-00028-0000	Philip Minor	KQ 58, 14	145.6
51097-00028-0000	Philip Minor	KQ 58, 15	7.8
51097-00028-0000	Philip Minor	KQ 58, 16	4.1
51097-00028-0000	Philip Minor	KQ 58, 17	21.1
51097-00028-0000	Philip Minor	KQ 58, 18	15.8
51097-00028-0000	Philip Minor	KQ 58, 19	7.6
51097-00028-0000	Philip Minor	KQ 58, 20	7.2
51101-00230-0000	Joe Watkins	KW 13 - 1	33.5
51101-00231-0000	Joe Watkins	KW 13 - 2	24.7

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51101-00231-0000	Joe Watkins	KW 13 - 3	30.1
51101-00233-0000	Joe Watkins	KW 13 - 4	32.8
51101-00235-0000	Joe Watkins	KW 13 - 5	55.0
51101-00236-0000	Joe Watkins	KW 13 - 6	29.5
51101-00239-0000	Joe Watkins	KW 13 - 7	33.0
51101-00240-0000	Cooke Brothers LLC	KW 14 - 10	137.1
51101-00240-0000	Cooke Brothers LLC	KW 14 - 11	87.0
51101-00240-0000	Cooke Brothers LLC	KW 14 - 12	78.6
51101-00240-0000	Cooke Brothers LLC	KW 14 - 13	8.4
51101-00240-0000	Cooke Brothers LLC	KW 14 - 14	95.2
51101-00240-0000	Cooke Brothers LLC	KW 14 - 15	117.9
51101-00240-0000	Cooke Brothers LLC	KW 14 - 16	22.2
51101-00240-0000	Cooke Brothers LLC	KW 14 - 17	113.7
51101-00371-0000	Lee Johnson	KW 19 - 20	62.4
51101-00242-0000	Lee Johnson	KW 19, 01	10.4
51101-00246-0000	Lee Johnson	KW 19, 02	16.9
51101-00248-0000	Lee Johnson	KW 19, 03	27.4
51101-00249-0000	Lee Johnson	KW 19, 04	26.3
51101-00250-0000	Lee Johnson	KW 19, 05	26.8
51101-00251-0000	Lee Johnson	KW 19, 06	15.0
51101-00030-0000	Edgewood Farms	KW 19, 07	75.2
51101-00030-0000	Edgewood Farms	KW 19, 08	15.9
51101-00030-0000	Edgewood Farms	KW 19, 09	56.8
51101-00030-0000	Edgewood Farms	KW 19, 10	105.5
51101-00030-0000	Edgewood Farms	KW 19, 11	48.2
51101-00030-0000	Edgewood Farms	KW 19, 12	316.9
51101-00245-0000	Edgewood Farms	KW 19, 13	348.1
51101-00030-0000	Edgewood Farms	KW 19, 14	78.9
51101-00038-0000	Edgewood Farms	KW 19, 15	56.2
51101-00247-0000	Lee Johnson	KW 19, 21	18.5
51101-00267-0000	Monquin Creek Farms LLC	KW 25 - 01	16.7
51101-00268-0000	Monquin Creek Farms LLC	KW 25 - 02	41.3
51101-00269-0000	Monquin Creek Farms LLC	KW 25 - 03	17.8
51101-00270-0000	Monquin Creek Farms LLC	KW 25 - 04	13.4
51101-00271-0000	Monquin Creek Farms LLC	KW 25 - 05	51.8
51101-00271-0000	Monquin Creek Farms LLC	KW 25 - 06	31.4
51101-00273-0000	Monquin Creek Farms LLC	KW 25 - 07	6.9
51101-00276-0000	J.N. Mills & Sons	KW 3 - 1	103.3
51101-00277-0000	J.N. Mills & Sons	KW 3 - 10	44.5
51101-00278-0000	J.N. Mills & Sons	KW 3 - 11	27.9
51101-00279-0000	J.N. Mills & Sons	KW 3 - 12	353.6
51101-00281-0000	J.N. Mills & Sons	KW 3 - 13	43.1
51101-00282-0000	J.N. Mills & Sons	KW 3 - 14	10.0

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SYNAGRO CENTRAL LLC – INDUSTRIAL LAND APPLICATION

51101-00283-0000	J.N. Mills & Sons	KW 3 - 15	31.5
51101-00284-0000	J.N. Mills & Sons	KW 3 - 17	57.2
51101-00285-0000	J.N. Mills & Sons	KW 3 - 18	15.1
51101-00282-0000	J.N. Mills & Sons	KW 3 - 19	92.4
51101-00287-0000	J.N. Mills & Sons	KW 3 - 2	19.4
51101-00288-0000	J.N. Mills & Sons	KW 3 - 3	64.4
51101-00289-0000	J.N. Mills & Sons	KW 3 - 4A	24.7
51101-00290-0000	J.N. Mills & Sons	KW 3 - 4B	15.3
51101-00291-0000	J.N. Mills & Sons	KW 3 - 5	14.3
51101-00292-0000	J.N. Mills & Sons	KW 3 - 6	7.8
51101-00293-0000	J.N. Mills & Sons	KW 3 - 7	15.7
51101-00294-0000	J.N. Mills & Sons	KW 3 - 8	17.7
51101-00295-0000	J.N. Mills & Sons	KW 3 - 9	33.7
51101-00305-0000	William Latane	KW 34 - 1	948.5
51101-00306-0000	William Latane	KW 34 - 2	494.9
51101-00308-0000	William Latane	KW 34 - 3	16.4
51101-00309-0000	William Latane	KW 34 - 4	6.8
51101-00310-0000	William Latane	KW 34 - 5	20.8
51101-00311-0000	William Latane	KW 34 - 6	12.6
51101-00312-0000	William Latane	KW 34 - 7	55.0
51101-00313-0000	William Latane	KW 34 - 8	7.3
51101-00314-0000	William Latane	KW 34 - 9	4.8
51101-00315-0000	Carter Ball	KW 35 - 1	67.3
51101-00315-0000	Carter Ball	KW 35 - 2	90.1
51101-00317-0000	Carter Ball	KW 35 - 3	109.9
51101-00125-0000	Carter Ball	KW 35 - 4	78.4
51101-00347-0000	J.N. Mills & Sons	KW 5 - 1	85.8
51101-00348-0000	J.N. Mills & Sons	KW 5 - 2	70.3
51101-00348-0000	J.N. Mills & Sons	KW 5 - 3	97.4
51101-00337-0000	J.N. Mills & Sons	KW 5 - 4	78.8
51101-00351-0000	J.N. Mills & Sons	KW 5 - 5	50.4
51101-00252-0000	J.N. Mills & Sons	KW2 - 10	61.5
51101-00253-0000	J.N. Mills & Sons	KW2 - 11	62.1
51101-00254-0000	J.N. Mills & Sons	KW2 - 12	44.5
51101-00255-0000	J.N. Mills & Sons	KW2 - 13	85.3
51101-00256-0000	J.N. Mills & Sons	KW2 - 14A	95.0
51101-00257-0000	J.N. Mills & Sons	KW2 - 14B	25.1
51101-00258-0000	J.N. Mills & Sons	KW2 - 15	50.5
51101-00259-0000	J.N. Mills & Sons	KW2 - 2	130.5
51101-00260-0000	J.N. Mills & Sons	KW2 - 3	159.5
51101-00261-0000	J.N. Mills & Sons	KW2 - 4	75.0
51101-00262-0000	J.N. Mills & Sons	KW2 - 5	50.2
51101-00263-0000	J.N. Mills & Sons	KW2 - 6	55.0

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51101-00264-0000	J.N. Mills & Sons	KW2 - 7	86.0
51101-00265-0000	J.N. Mills & Sons	KW2 - 8	37.0
51101-00266-0000	J.N. Mills & Sons	KW2 - 9	20.2
51075-00162-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00001	44.5
51075-00163-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00002	38.9
51075-00164-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00003	20.9
51075-00165-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00004	24.0
51075-00166-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00005	20.7
51075-00167-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00006	112.7
51075-00168-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00007	16.7
51075-00169-0000	Richard Reynolds GO30 (Fields 1 - 8)	VA-GO-00030-0-00008	29.5
51101-00155-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00001	20.0
51101-00168-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00002	21.3
51101-00319-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00003	22.2
51101-00320-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00004	224.2
51101-00321-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00005	198.2
51101-00322-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00006	169.4
51101-00323-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00007	223.9
51101-00324-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00008	35.3
51101-00325-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00009	210.5
51101-00327-0000	Everett Pickett Upshaw (KW36 (Fields 1 - 10)	VA-KW-00036-0-00010	204.5
51101-00328-0000	Elsie M Farmer KW37 (Fields 1 - 3)	VA-KW-00037-0-00001	71.0
51101-00328-0000	Elsie M Farmer KW37 (Fields 1 - 3)	VA-KW-00037-0-00002	38.1
51101-00328-0000	Elsie M Farmer KW37 (Fields 1 - 3)	VA-KW-00037-0-00003	10.6
51127-00051-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00001	38.7
51127-00051-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00002	43.8
51127-00051-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00003	51.9
51127-00054-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00004	2.5
51127-00054-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00005	18.6

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51127-00062-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00006	20.9
51127-00055-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00007	10.1
51127-00061-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00008	65.7
51127-00075-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00010	22.5
51127-00074-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00011	18.0
51127-00074-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00012	6.0
51127-00073-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00015	16.9
51127-00057-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00016	15.7
51127-00057-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00017	22.6
51127-00056-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00018	20.3
51127-00058-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00019	50.4
51127-00068-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00020	82.7
51127-00065-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00023	37.9
51127-00066-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00024	61.1
51127-00067-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00025	22.7
51127-00068-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00026	70.7
51127-00016-0000	Jamie Crowder NK13(Fields1-8,10-12,15-20,23-27)	VA-NK-00013-0-00027	12.9
51149-00137-0000	Ben Nicely PG29 (Fields 1-6)	VA-PG-00029-0-0001	16.4
51149-00138-0000	Ben Nicely PG29 (Fields 1-6)	VA-PG-00029-0-0002	14.8
51149-00139-0000	Ben Nicely PG29 (Fields 1-6)	VA-PG-00029-0-0003	22.0
51149-00140-0000	Ben Nicely PG29 (Fields 1-6)	VA-PG-00029-0-0004	38.1
51149-00140-0000	Ben Nicely PG29 (Fields 1-6)	VA-PG-00029-0-0005	6.4
51149-00140-0000	Ben Nicely PG29 (Fields 1-6)	VA-PG-00029-0-0006	15.2
51149-00145-0000	Tanju Sonuparlak PG37 (Fields 3, 4, 6, 9-11)	VA-PG-00037-0-0003	7.0
51149-00146-0000	Tanju Sonuparlak PG37 (Fields 3, 4, 6, 9-11)	VA-PG-00037-0-0004	27.6
51149-00147-0000	Tanju Sonuparlak PG37 (Fields 3, 4, 6, 9-11)	VA-PG-00037-0-0006	9.8
51149-00148-0000	Tanju Sonuparlak PG37 (Fields 3, 4, 6, 9-11)	VA-PG-00037-0-0009	3.0
51149-00143-0000	Tanju Sonuparlak PG37 (Fields 3, 4, 6, 9-11)	VA-PG-00037-0-0010	29.5
51149-00144-0000	Tanju Sonuparlak PG37 (Fields 3, 4, 6, 9-11)	VA-PG-00037-0-0011	159.4

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51149-00149-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0001	3.8
51149-00149-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0002	6.4
51149-00151-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0003	7.4
51149-00152-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0004	1.8
51149-00153-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0005	6.7
51149-00154-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0006	7.2
51149-00155-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0007	4.6
51149-00156-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0008	6.5
51149-00157-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0009	44.8
51149-00158-0000	Charles Skalsky PG38 (Fields 1-22)	**VA-PG-00038-0-0010**	**17.8**
51149-00159-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0011	12.6
51149-00160-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0012	30.2
51149-00161-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0013	18.3
51149-00162-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0014	6.1
51149-00162-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0015	33.4
51149-00164-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0016	5.4
51149-00165-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0017	9.3
51149-00166-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0018	10.0
51149-00167-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0019	6.0
51149-00168-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0020	45.7
51149-00169-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0021	60.4
51149-00170-0000	Charles Skalsky PG38 (Fields 1-22)	VA-PG-00038-0-0022	16.0
51149-00171-0000	Manning E Dubberly PG39(Fields 1-6)	VA-PG-00039-0-0001	9.3
51149-00172-0000	Manning E Dubberly PG39(Fields 1-6)	VA-PG-00039-0-0002	37.7
51149-00173-0000	Manning E Dubberly PG39(Fields 1-6)	VA-PG-00039-0-0003	26.9
51149-00174-0000	Manning E Dubberly PG39(Fields 1-6)	VA-PG-00039-0-0004	6.3
51149-00175-0000	Manning E Dubberly PG39(Fields 1-6)	VA-PG-00039-0-0005	9.8
51149-00176-0000	Manning E Dubberly PG39(Fields 1-6)	VA-PG-00039-0-0006	16.5
51149-00177-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0001	2.4
51149-00178-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0002	21.4
51149-00179-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0003	4.6
51149-00180-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0004	2.9
51149-00181-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0005	6.8
51149-00182-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0006	3.2
51149-00183-0000	Barbara Togger PG40 (Fields 1-7)	VA-PG-00040-0-0007	6.2
51181-00006-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00001	2.5
51181-00007-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00002	5.3
51181-00008-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00003	13.7
51181-00009-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00004	25.0
51181-00010-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00005	15.4
51181-00011-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00006	30.0
51181-00012-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00007	7.3
51181-00013-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00008	11.8

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51181-00013-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00009	33.9
51181-00015-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00010	11.7
51181-00016-0000	Mack Berryman SU01 (Fields 1 - 11)	VA-SU-00001-0-00011	95.0
51181-00017-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00001	61.1
51181-00018-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00002	27.8
51181-00019-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00003	3.8
51181-00020-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00004	5.4
51181-00021-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00005	35.3
51181-00022-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00006	6.8
51181-00023-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00007	13.6
51181-00024-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00008	2.3
51181-00025-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00009	4.2
51181-00026-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00010	2.3
51181-00027-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00011	12.2
51181-00028-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00012	4.5
51181-00029-0000	Roger Collier SU03 (Fields 1 - 13)	VA-SU-00003-0-00013	8.0
51181-00030-0000	R. D. Pittman (Fields 1 - 4)	VA-SU-00004-0-00001	44.7
51181-00031-0000	R. D. Pittman (Fields 1 - 4)	VA-SU-00004-0-00002	29.2
51181-00032-0000	R. D. Pittman (Fields 1 - 4)	VA-SU-00004-0-00003	36.4
51181-00033-0000	R. D. Pittman (Fields 1 - 4)	VA-SU-00004-0-00004	3.9
51181-00034-0000	R. D. Pittman (Fields 1 - 4)	VA-SU-00004-0-00005	20.2
51181-00035-0000	R. D. Pittman (Fields 1 - 4)	VA-SU-00004-0-00006	56.0
51181-00036-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00001	13.2
51181-00036-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00002	7.4
51181-00036-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00003	5.1
51181-00036-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00004	12.9
51181-00040-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00005	7.9
51181-00040-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00006	12.5
51181-00040-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00007	26.2
51181-00043-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00008	9.5
51181-00044-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00009	14.3
51181-00045-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00010	13.2
51181-00046-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00011	9.1
51181-00047-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00012	26.4
51181-00048-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00013	26.2
51181-00049-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00014	16.3
51181-00049-0000	Itata Farms SU05 (Fields 1 - 15)	VA-SU-00005-0-00015	30.0
51181-00051-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00001	36.5
51181-00052-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00002	4.9
51181-00053-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00003	4.5
51181-00054-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00004	5.5
51181-00055-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00005	14.8
51181-00056-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00006	33.5

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51181-00056-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00007	65.4
51181-00056-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00008	10.5
51181-00056-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00009	21.5
51181-00060-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00010	47.5
51181-00061-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00011	69.5
51181-00062-0000	Chris King SU06 (Fields 1 - 12)	VA-SU-00006-0-00012	7.8

TABLE I
BASES FOR LIMITATIONS AND MONITORING REQUIREMENTS IN PART I.A.

Monitoring Type: Industrial/Water Treatment Plant (WTP) Residuals Monitoring –
Monitoring Location: Final Industrial or WTP residuals product after all treatment, prior to land application

Part I.A.1.a. Metals Limitations

PARAMETER	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Maximum	Frequency	Sample Type
Total Arsenic (mg/kg)	1,2,3,4,5	41	75	Part I.A.3	Composite
Total Cadmium (mg/kg)	1,2,3,4,5	39	85	Part I.A.3	Composite
Total Copper (mg/kg)	1,2,3,4,5	1,500	4,300	Part I.A.3	Composite
Total Lead (mg/kg)	1,2,3,4,5	300	840	Part I.A.3	Composite
Total Mercury (mg/kg)	1,2,3,4,5	17	57	Part I.A.3	Composite
Total Molybdenum (mg/kg)	1,2,3,4,5	NA	75	Part I.A.3	Composite
Total Nickel (mg/kg)	1,2,3,4,5	420	420	Part I.A.3	Composite
Total Selenium (mg/kg)	1,2,3,4,5	100	100	Part I.A.3	Composite
Total Zinc (mg/kg)	1,2,3,4,5	2,800	7,500	Part I.A.3	Composite
Total Aluminum	6	NL	NA	1/Year	Composite

NL = No Limitation, monitor and report

(1) All constituents are subject to cumulative pollutant loading rates (CPLR), pollutant concentrations (PC), and ceiling limits. PC residuals contain the constituents identified above at concentrations below the monthly average specified in Part I.A.1. CPLR residuals contain the constituents identified above at concentrations above the monthly average and each sample must be below the maximum concentration specified in Part I.A.1. If the concentration of any of these constituents in residuals from any source exceeds the monthly average concentration, then the residuals from the source are subject to CPLR rules (Part I.A.1.b., Part I.C.3., and Part I.I.16.) [Bases 1 &7]

(2) All limits and criteria are expressed on a dry weight basis. [Basis 1]

(3) The monthly average concentration for molybdenum is currently under study by USEPA. Research suggests that a monthly average Molybdenum concentration below 40 mg/kg may be appropriate to reduce the risk of copper deficiency in grazing animals. [Basis 4]

(4) Aluminum monitoring is required for WTP residuals only. All water treatment plant residuals generated at a WTP that uses any aluminum based coagulant are subject to Aluminum monitoring and the tracking of the aluminum loading at each field on which WTP residuals are applied. [Basis 6]

Bases for Residuals Limitations

1. 9VAC25-32-356
2. 9VAC25-32-356, Table 1
3. 9VAC25-32-356, Table 2
4. 9VAC25-32-356, Table 4
5. 9VAC25-32-358, Table 1
6. Guidance Memorandum (GM) No. 95-002
7. 9VAC25-32-313.C. & F.

Monitoring Type: Industrial & WTP Residuals Monitoring (only applicable to industrial residuals subject to Cumulative Pollutant Loading Rates (CPLRs))
Monitoring Location: Calculated for each land application field where industrial residuals subject to CPLRs or WTP residuals are land applied

Part I.A.1.b Site Specific Metals Loading Limitations

PARAMETER	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		CPLR*		Frequency	Sample Type
		(kg/ha)	(lb/A)		
Total Arsenic	1	41	36	Each Application	Calculated
Total Cadmium	1	39	35	Each Application	Calculated
Total Copper	1	1,500	1,340	Each Application	Calculated
Total Lead	1	300	270	Each Application	Calculated
Total Mercury	1	17	16	Each Application	Calculated
Total Molybdenum	1	NL	NL	Each Application	Calculated
Total Nickel	1	420	375	Each Application	Calculated
Total Selenium	1	100	89	Each Application	Calculated
Total Zinc	1	2,800	2,500	Each Application	Calculated
Total Aluminum (1)	2	4,570	4,113	Each Application	Calculated

NL = No Limitations, monitor and report.

(1) The CPLR is the maximum cumulative application of trace elements that can be applied to soils used for crop production. The maximum cumulative application rate is limited for all ranges of cation exchange capacity due to soil background pH in Virginia of less than 6.5 S.U. and lack of regulatory controls of soil pH adjustment after application of industrial residuals ceases. [Bases 4 & 5]
(2) All limits and criteria are expressed on a dry weight basis. [Basis 6]
(3) No person shall apply bulk residuals subject to the CPLRs identified above to agricultural land, forest, a public contact site, or a reclamation site if any of the CPLRs identified above has been reached. [Basis 5]
(4) The maximum cumulative application for molybdenum is currently under study by USEPA. Research suggests that for Molybdenum a cumulative pollutant loading rate below 40 kg/hectare may be appropriate to reduce the risk of copper deficiency in grazing animals. [Basis 1]
(5) All sites that receive WTP residuals containing aluminum are subject to the tracking of aluminum loading, regardless of concentration of aluminum in the residuals. [Basis 3]

Bases for Residuals Limitations
1. 9VAC25-32-356, Table 3
2. EPA Process Design Manual - Land Treatment of Municipal Wastewater (EPA 625/1-81-013)
3. GM No. 95-002
4. 9VAC25-32-313.C. & F.
5. 9VAC25-32-356.B.
6. 9VAC25-32-356.A.

Monitoring Type: Industrial Residuals Monitoring
Monitoring Location: Final Industrial residuals product after all treatment, prior to land application

Pathogen Reduction Requirements – Pathogen reduction requirements shall be met for all residuals land applied under this permit that are produced at an industrial facility where:

- Domestic sewage is comingled with the industrial wastewater in the industrial wastewater treatment facility;
- Meat or any other raw animal based product is processed;
- The process wastewater is required to be chlorinated prior to discharge; or
- Any activities occur which may contribute pathogens to the residuals.

These residuals shall be treated to meet at least one Pathogen Reduction Alternative as identified in the table below prior to delivery to the land application site. The industrial residuals shall be monitored and limited in accordance with the treatment options selected and used by the generator. The permittee will have a system in place to verify that all industrial residuals land applied under this permit meet these pathogen reduction standards and treatment requirements.

Part I.A.1.c. Pathogen Reduction Requirements

BASIS FOR LIMITS	PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION	CLASS B PATHOGEN REDUCTION TREATMENT STANDARDS	MONITORING REQUIREMENTS
1,2,3,4,5	1	NA	Fecal coliform monitoring: <2,000,000 MPN/gm or <2,000,000 CFU/gm, geometric mean of 7 samples. (9VAC25-32-675.B.2.)	Part I.A.3.(1)
1,2,3,4,5	2	1	PSRP: Aerobic Digestion: Sludge mean cell residence time from 40 days at 20˚C to 60 days at 15˚C. (9VAC25-32-675.D.1.)	(2)
1,2,3,4,5	2	2	PSRP: Air dry in a drying bed for three months. Ambient average daily temperature must be above 0˚C for 2 of the 3 months. (9VAC25-32-675.D.2.)	(2)
1,2,3,4,5	2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35˚C - 55˚C up to 60 days at 20˚C. (9VAC25-32-675.D.3.)	(2)
1,2,3,4,5	2	4	PSRP: Composting at 40˚C or above for 5 or more days, maintaining > 55˚C for 4 consecutive hours during the 5 days. (9VAC25-32-675.D.4.)	(2)
1,2,3,4,5	2	5	PSRP: Sufficient lime is added to the sewage sludge to raise the pH of the sewage sludge to 12 after two hours of contact. (9VAC25-32-675.D.5.)	(2)
1,2,3,4,5	3	PROCESS AS APPROVED	Process equivalent to PSRP: PROCESS AS APPROVED (9VAC25-32-675 B.4.)	(2)

NA = Not applicable

(1) Between sampling events, operating records must demonstrate that the Wastewater Treatment Plant (WWTP) is operating at a performance level known to meet pathogen reduction standards. [Bases 1. & 5.]
(2) Process monitoring must be sufficient to demonstrate compliance with PSRP treatment requirements. [Bases 1,2,3,5]

Bases for Residuals Limitations
1. 9VAC25-32-357.A - B
2. 9VAC25-32-675.B
3. 9VAC25-32-675 D.
4. 9VAC25-32-358.A.1, Table 1
5. Environmental Regulations and Technology - Control of Pathogens and Vector Attraction Reduction in Sewage Sludge (EPA/625/R-92/013)

Monitoring Type: Industrial Residuals Monitoring
Monitoring Location: Final industrial residuals product after all treatment, prior to land application

VAR requirements shall be met for all residuals land applied under this permit that are produced at an industrial facility where:

- Domestic sewage is comingled with the industrial wastewater in the industrial wastewater treatment facility;
- Meat or any other raw animal based product is processed; or
- The process wastewater is required to be chlorinated prior to discharge.

These residuals shall be treated to meet at least one VAR Option 1 - 8 as identified in the table below prior to delivery to the land application site or VAR Options 9 or 10 must be performed at the land application site. The industrial residuals shall be monitored and limited in accordance with the treatment options selected and used by the generator. The permittee will have a system in place to verify that all industrial residuals land applied under this permit meet these vector attraction reduction standards and treatment requirements.

Part I.A.1.d. Vector Attraction Reduction Requirements

BASIS FOR LIMITS	VAR OPTION	VECTOR ATTRACTION REDUCTION TREATMENT STANDARD	MONITORING REQUIREMENTS
1,2,3,4	1	38% Reduction of volatile solids by digestion (9VAC25-32-685.B.1.)	Part I.A.3.(1)
1,2,3,4	2	When 38% reduction is not achieved by anaerobic digestion, 40 day bench study at temperatures between 30°C and 37°C to demonstrate further reduction of volatile solids <17%. (9VAC25-32-685.B.2.)	Part I.A.3. (1)
1,2,3,4	3	When 38% reduction is not achieved by aerobic digestion, 30 day bench study at 20°C to demonstrate further reduction of volatile solids <15%. (9VAC25-32-685.B.3.)	Part I.A.3. (1)
1,2,3,4	4	Specific Oxygen Uptake Rate of <= 1.5 mg O_2/hour/gram total solids at 20°C (aerobically processes sludge)	Part I.A.3.(1)
1,2,3,4	5	14 day aerobic process, temperatures above 40°C with an average temperature of >45°C. (9VAC25-32-685.B.5.)	(2)
1,2,3,4	6	Sufficient lime is added to the sewage sludge to raise the pH of the sewage sludge to 12 after two hours of contact and maintain a pH of 11.5 s.u. or higher for an additional 22 hours. (9VAC25-32-685.B.6.)	(2)
1,2,3,4	7	Where industrial residuals do not contain unstabilized solids from primary wastewater treatment, the percent solids of the industrial residuals shall be >= 75% (9VAC25-32-685.B.7.)	Part I.A.3.(1)
1,2,3,4	8	Where industrial residuals contain unstabilized solids from primary wastewater treatment, the percent solids of the industrial residuals shall be >= 90% (9VAC25-32-685.B.8.)	Part I.A.3.(1)
1,2,3,4	9	Sewage Sludge shall be injected below the surface of the land. (9VAC25-32-685.B.9.)	NA
1,2,3,4	10	Sewage sludge land applied shall be incorporated into the soil within 6 hours after application. (9VAC25-32-	NA

NA = Not applicable

(1) Between sampling events, operating records must demonstrate that the WWTP is operating at a performance level known to meet the VAR standards. [Bases 1, 2, 3, 4]
(2) Process monitoring must be sufficient to demonstrate compliance with VAR treatment requirements. [Bases 1, 2, 3, 4]

Bases for Residuals Limitations

1. 9VAC25-32-357.A & D
2. 9VAC25-32-685
3. 9VAC25-32-358.A.1, Table 1
4. Environmental Regulations and Technology - Control of Pathogens and Vector Attraction Reduction in Sewage Sludge (EPA/625/R-92/013)

Monitoring Type: Industrial Residuals/WTP Residuals Monitoring
Monitoring Location: Final industrial residuals and WTP residuals product after all treatment, prior to land application

Part I.A.1.e. Industrial Residuals Characteristics

PARAMETERS	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Minimum and Maximum	Frequency	Sample Type
Percent Solids (%)	1,2	NL	NA	Part I.A.3.	Composite
Volatile Solids (%)	1,2	NL	NA	Part I.A.3.	Composite
Total Kjeldahl Nitrogen	1,2	NL	NA	Part I.A.3.	Composite
Ammonium Nitrogen (mg/kg) (1)	1,2	NL	NA	Part I.A.3.	Composite
Nitrate Nitrogen (mg/kg) (1)	1,2	NL	NA	Part I.A.3.	Composite
Total Phosphorus (mg/kg) (1)	1,2	NL	NA	Part I.A.3.	Composite
Total Potassium (mg/kg) (1)	1,2	NL	NA	Part I.A.3.	Composite
Total Chloride (mg/kg) (1)	3	NL	NA	Part I.A.3.	Composite
Total Sodium (mg/kg) (1)	39VAC25-	NL	NA	Part I.A.3.	Composite
pH (S.U.)	1,2	NA	NL	Part I.A.3.	Composite
Alkalinity as $CaCO_3$ (mg/kg) (If lime by weight is less than 10%)	1,2	NL	NA	Part I.A.3.	Composite
CCE as $CaCO_3$ (%) (If lime by weight is 10% or	1,2	NL	NA	Part I.A.3.	Composite

NL = No Limit, monitor and report
NA = Not applicable

(1) Expressed on a dry weight basis. [Basis 1.]

Bases for Residuals Limitations
1. 9VAC25-32-356.A
2. 9VAC25-32-358.A.1, Table 1
3. 9VAC25-32-400

Monitoring Type: Industrial residuals & WTP Residuals Monitoring
Monitoring Location: Nutrient loading rates shall be calculated for each source of industrial residuals/WTP residuals land applied and each application of industrial residuals/WTP residuals to an application

Part I.A.1.f. Nutrient Loading Rates

PARAMETERS	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Lbs/Dry Ton	Lbs/Ac	Frequency	Sample Type
Plant Available	1,2	NL	(1)	Each application	Calculated
Phosphate (P_2O_5)	1,2	NL	(1)	Each application	Calculated

NL = No Limit, monitor and report

(1) The site application loading rate shall not exceed the loading rate specified in the nutrient management plan (NMP). [Basis 3.

Bases for Residuals Limitations
1. 9VAC25-32-560.B.3.a.
2. 9VAC25-32-100.B.3.a
3. 9VAC25-32-410

Monitoring Type: Soils Monitoring
Monitoring Location: All land application sites before sludge is applied.

Part I.A.2.a. Soil - Where the residuals to be applied have a sodium concentration ≤0.5%, the soil at each site of application shall be monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	LIMITATIONS	MONITORING REQUIREMENTS	
			Frequency	Sample Type
Soil pH (S.U.)	1	NL	Prior to Application ***	Composite
Cation Exchange Capacity (meq/100 g)	2	NL	Prior to Application	Composite
Available Phosphorus (Mehlich I - P)[(2)] (ppm)	1,4	NL	Prior to Application	Composite
Extractable Potassium (Mehlich I – K) [(3)](ppm)	1,5	NL	Prior to Application	Composite
Zinc (mg/kg)	1	NL	Prior to Application	Composite
Manganese (mg/kg)	1	NL	Prior to Application	Composite
Exchangeable Calcium (mg/kg)	1	NL	Prior to Application	Composite
Exchangeable Magnesium (mg/kg)	1	NL	Prior to Application	Composite
Exchangeable Sodium (mg/kg)	1	NL	Prior to Application	Composite

NL = No Limitation, monitoring required

(1) For industrial residuals with a cadmium concentration greater than or equal to 21 mg/kg the soil pH sample must be less than 1 year old. [Basis 3]
(2) Available Phosphorus shall be analyzed using Mehlich I or Mehlich III analytical procedure. If sample is analyzed using Mehlich III, results shall be converted to Mehlich I for reporting purposes. [Basis 4]
(3) Extractable Potassium shall be analyzed using Mehlich I analytical procedure or equivalent. If sample is analyzed using an equivalent procedure, results shall be converted to Mehlich I for reporting purposes. [Basis 5]

(a) All parameters except for pH shall be monitored on a dry weight basis. [Basis 1]
(b) Results of the soil monitoring specified above shall be used to develop the NMP in accordance with Part I.D.2. [Basis 1]
(c) No sample analysis used to determine application rates shall be more than 3 years old at the time of the industrial residuals land application. [Basis 1 (A.)]
(d) Soil samples shall be collected and analyzed in accordance with regulations promulgated under § 10.1-104.2 of the Code of Virginia and as outlined in the Industrial Residuals Management Plan. [Basis 1 (C.)]

Bases for Effluent Limitations
1. 9VAC25-32-460. A – C, and Table 1
2. Standard parameter analyzed with soil test
3. 9VAC25-32-560.B.2.c.
4. 4VAC5-15-150.A.2.f. requires phosphorus results by method other than Mehlich I be correlated to Mehlich I to be used in developing the NMP. Report Mehlich I to provide data consistency.
5. 9VAC25-32-560.B.2.e.

Monitoring Type: Soils Monitoring, continued
Monitoring Location: All land application sites before sludge is applied.

Part I.A.2.b. Soil - Where soils other than sands or loamy sands are present and the residuals to be applied have a sodium concentration >0.5%, the soil at each site of application shall be monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	LIMITATIONS	MONITORING REQUIREMENTS	
			Frequency	Sample Type
Soil pH (S.U.)	1	NL	Prior to Application ***	Composite
Cation Exchange Capacity (meq/100 g)	2	NL	Prior to Application	Composite
Available Phosphorus (Mehlich I - P)[(2)] (ppm)	1,4	NL	Prior to Application	Composite
Extractable Potassium (Mehlich I – K) [(3)](ppm)	1,5	NL	Prior to Application	Composite
Zinc (mg/kg)	1	NL	Prior to Application	Composite
Manganese (mg/kg)	1	NL	Prior to Application	Composite
Exchangeable Calcium (meq/l)[(4)]	1,6	NL	Prior to and after industrial residuals application[(5)]	Composite
Exchangeable Magnesium (meq/l)[(4)]	1,6	NL	Prior to and after industrial residuals application[(5)]	Composite
Exchangeable Sodium (meq/l)[(4)]	1,6	NL	Prior to and after industrial residuals application[(5)]	Composite
Electrical conductivity (dS/m)[(4)]	6		Prior to and after industrial residuals application[(5)]	
Sodium Adsorption Ratio (SAR)	6		Prior to and after industrial residuals application[(5)]	

NL = No Limitation, monitoring required

(1) For industrial residuals with a cadmium concentration greater than or equal to 21 mg/kg the soil pH sample must be less than 1 year old. [Basis 3]
(2) Available Phosphorus shall be analyzed using Mehlich I or Mehlich III analytical procedure. If sample is analyzed using Mehlich III, results shall be converted to Mehlich I for reporting purposes. [Basis 4]
(3) Extractable Potassium shall be analyzed using Mehlich I analytical procedure or equivalent. If sample is analyzed using an equivalent procedure, results shall be converted to Mehlich I for reporting purposes. [Basis 5]
(4) Methods of analysis for electrical conductivity and exchangeable calcium, magnesium and sodium shall be those contained in the latest edition of Methods of Soil Analysis published by the Soil Science Society of America. [Basis 6]
(5) Monitoring shall be conducted prior to land application and within 4 weeks after land application. [Basis 7]
(6) SAR shall be calculated as follows: [Basis 7]

$SAR = \frac{[Na^+]}{\sqrt{\frac{1}{2}([Ca^{2+}]+[Mg^{2+}])}}$	Where: SAR = sodium adsorption ratio [Na+] = measured exchangeable sodium in soil (meq/l) [Ca2+] = measured exchangeable calcium in soil (meq/l) [Mg2+] = measured exchangeable magnesium in soil (meq/l)

(a) All parameters except for pH shall be monitored on a dry weight basis. [Basis 1 – A.]
(b) Results of the soil monitoring specified above shall be used to develop the NMP in accordance with Part I.D.2. [Basis 1]
(c) No sample analysis used to determine application rates shall be more than 3 years old at the time of the industrial residuals land application. [Basis 1 – A.]
(d) Soil samples shall be collected and analyzed in accordance with regulations promulgated under § 10.1-104.2 of the Code of Virginia and as outlined in the Industrial Residuals Management Plan. [Basis 1 – C.]

Part I.A.2.b. Soil continued
Where soils other than sands or loamy sands are present and the residuals to be applied have a sodium concentration >0.5%

Bases for Effluent Limitations
1. 9VAC25-32-460. A – C, and Table 1
2. Standard parameter analyzed with soil test
3. 9VAC25-32-560.B.2.c.
4. 4VAC5-15-150.A.2.f. requires phosphorus results by method other than Mehlich I be correlated to Mehlich I to be used in developing the NMP. Report Mehlich I to provide data consistency.
5. 9VAC25-32-560.B.2.e.
6. Recommendations of Virginia Tech University.
7. Best profession judgment of agency staff independent of or in consultation with Virginia Tech University

Monitoring Type: Frequency of Monitoring - Industrial Residuals
Monitoring Location:.

3. Frequency of Monitoring
Frequency of sampling industrial residuals from each generator is based on the amount of industrial residuals produced by that generator that is land applied.

Amount of industrial residuals[(1)] (dry tons per 365-day period)	Frequency
Greater than zero but less than 320	Once per year
Equal to or greater than 320 but less than 1,653	Once per quarter (four times per year)
Equal to or greater than 1,653 but less than 16,535	Once per 60 days (six times per year)
Equal to or greater than 16,535	Per month (12 times per year)
Note:[(1)] Either the amount of bulk industrial residuals applied to the land or the amount of sewage sludge received by a person who prepares industrial residuals that is sold or given away in a bag or other container for application to the land (dry weight basis).	

WTP residuals shall be monitored once per year.

Bases for Effluent Limitations
1. 9VAC25-32-358.A., B., Table 1.
2. GM 95-02

TABLE II

BASES FOR SPECIAL CONDITIONS

Tabulated below are the special condition sections of the permit, with the bases for each of the permit special conditions.

Special Condition	Description and Basis for Special Condition
Part I.B.1	**Monthly Reporting:** 9VAC25-32-360-A and Fee Regulation 9VAC25-20-147.B requires submittal of a report by the 15th of the month following the month in which land application occurred. 9VAC25-32-100.B.2 provides for DEQ to establish the reporting frequency based on the pollutant management activity.
Part I.B.1a	**Industrial residuals/WTP Residuals Monitoring Data:** 9VAC25-32-80.I states that monitoring results shall be reported at the intervals specified in the applicable VPA permit in a format acceptable to the board. 9VAC25-32-100.B.1. – 2. provides for the VPA permit to require monitoring at a frequency sufficient to yield data representative of the activity and report at a frequency based on the pollutant management activity.
Part I.B.1.b.	**Generator NANI:** 9VAC25-32-313.G requires the generator of biosolids who provides biosolids to a land applier, to give notice and necessary information to the land applier.
Part I.B.1.c.	**Monthly Activity Report:** 9VAC25-32-360-A and Fee Regulation 9VAC25-20-147.B requires submittal of a report by the 15th of the month following the month in which land application occurred. Specific information to be provided is identified in 9VAC25-20-147.A. and B.
Part I.B.1.d.	**Electronic Submittal Attestation Statement:** § 59.1-479 – 498, the Uniform Electronic Transactions Act provides for submission of paperwork electronically and the use of electronic signatures. No laws or regulations require hard copy submittal of original signatures in the VPA program.
Part I.B.2.	**Land Application Fee**: § 62.1-44.16.E of the Code of Virginia requires that a fee be charged to the generator of biosolids to be land applied in localities that have adopted ordinances in accordance with § 62.1-44.16.D. The fee of $5.00/dry ton of biosolids applied in localities with ordinances for monitoring and testing of land applied residuals is established by the Fee Regulation 9VAC25-20-146 and 9VAC25-20-40.A.3. Exemptions to the fee are provided in 9VAC25-20-50.C. 9VAC 20-60.D. establishes the due date.
Part I.B.2	**Annual Report:** 9VAC25-32-360-B requires the submittal of an annual report postmarked by February 19 for the previous year. 9VAC25-32-100.B.3. provides for the VPA permit to require monitoring the volume of biosolids and other measurements as appropriate. 9VAC25-32-360.C requires reports be maintained verifying that sludge treatment for pathogen and vector attraction reduction be maintained by the generator and owner (of the permit). 9VAC25-32-80.G. requires the permittee to submit information requested by the board, within a reasonable time, to determine compliance with the permit.
Part I.C.1.	**Records Retention:** 9VAC25-32-80.H.2 specifies that all records of biosolids activities, monitoring and reporting shall be maintained for at least 5 years.
Part I.C.2.	**PC Industrial Residuals Record Keeping:** 9VAC25-32-359 provides specific recordkeeping requirements for PC and CPLR biosolids.

Part I.C.3.	**CPLR Industrial Residuals Record Keeping:** 9VAC25-32-359 provides specific recordkeeping requirements for PC and CPLR biosolids.
Part I.D.1	**Industrial Residuals Management Plan (IRMP):** 9VAC25-32-410 requires the permit holder to maintain and implement a Biosolids Management Plan (IRMP) consisting of permit application, NMPs and O&M manual and states that the IRMP is an enforceable part of the permit.
Part I.D.2.	**Nutrient Management Plan (NMP) Requirement:** § 62.1-44.19.3.C.8. requires that a NMP be developed by a person certified in accordance with § 10.1-104.2 for each biosolids land application site, prior to application of biosolids at the site. The statute also establishes conditions where the NMP must be approved by the Department of Conservation and Recreation prior to submittal at the time of permit application. 9VAC25-32-410.C.2 states that if conditions at the site change so that it meets one or more special conditions, the NMP will be approved prior to application at the site. 9VAC25-32-410.C.2, with which all biosolids operations must comply, requires that the NMP be submitted to the farmer/operator of the site, the Department of Conservation and Recreation, and the local government, unless requested in writing to not receive the NMP. 9VAC25-32-410.C.5, Table 1 requires the NMP to be approved by DCR prior to application based on soil phosphorus levels (Mehlich I).
Part I.D.3	**Reclamation of Mined and Disturbed Land:** 9VAC25-32.560.D. requires a reclamation plan developed in coordination with VA Tech Department of Crop and Soil Sciences and an NMP approved by DCR for the reclamation of mined and disturbed soils using residuals at greater than agronomic rates.
Part I.D.4	**Operation and Maintenance (O&M) Manual Requirement:** 9VAC25-32-410.D. and 9VAC25-790-260 – 300 identify minimum requirements to be included in an O&M Manual. Additional requirements are included in the IRMP 9VAC25-32-60.F.3.
Part I.D.5	**Odor Control Plan (OCP) Requirement:** 9VAC25-32.60.F.1. requires Generator's OCP and minimum content. 9VAC25-32.60.F.5.c requires Land Applier's OCP and minimum content.
Part I.D.6.	**Permittee Industrial Residuals Source List:** 9VAC25-32-305.D states no person shall land apply, market, or distribute biosolids in Virginia unless the biosolids source has been approved by the board. 9VAC25-32-60.F.1. requires that a list of sources that the permittee proposes to land apply in the permit application, which is part of the IRMP. Water Control Law and the VPA Permit Regulation do not require a permit modification to add a new source; therefore a source that is approved may be added to the Permittee Source List with administrative authorization. A source not previously or currently approved, must obtain approval before it can be land applied under a VPA permit.
Part I.E.1.	**100 Day Notification:** 9VAC25-32-515.A.1. requires written notification to the chief executive officer (CEO) or designee for the locality 100 days prior to the initial land application at a specific site and clarifies that the notice may be satisfied by DEQ's notice of the permit application, if necessary site information was provided in that notification.
Part I.E.2.	**14 Day Notification:** § 62.1-44.19.3.L. and 9VAC25-32-515.A.2. requires written notification to the department and the CEO or designee for the locality at least 14 days prior to land application at a specific site.

Part I.E.3.	**Signage Requirements:** 9VAC25-32-515.B.1. requires a sign be posted at a land application site at least 5 business days prior to delivery of biosolids at the site and maintained on site until 5 business days after application is complete; the sign will not be removed until 30 days after land application is complete. 9VAC25-32-515.B.1.a. – b. addresses placement of the signs. 9VAC25-32-515.B.3. – 4. specifies construction, content, and maintenance of the sign.
Part I.E.4.	**Notification of Sign Posting:** 9VAC25-32-515.B.2. requires written notification to DEQ and the CEO or designee for the locality within 24 hours of posting, identifying where the signs have been posted, and identifies information required in the notice.
Part I.E.5.	**24 Hour Notification:** 9VAC25-32-515.A.3. requires written notice to DEQ and the CEO or designee for the locality no more than 24 hours prior to commencing activity at a site, including delivery. Include the source of material and only sites where land application activities or staging will commence within 24 hours.
Part I.E.6.	**Site Operator Notification and Information:** 9VAC25-32-313.I. states The person who applies bulk biosolids to the land shall provide the owner or lease holder of the land on which the bulk biosolids is applied notice and necessary information to comply with the requirements in this article.
Part I.E.7.	**Handling of Complaints:** 9VAC25-32-515.C provides specific requirements for the permittee upon receiving a complaint, including investigation of said complaint and notification to DEQ, the local government and the owner of the wastewater treatment facility from which the biosolids originated within 24 hrs of receiving a substantive complaint. The section goes on to define substantive complaint as any complaint alleging a violation of these regulations, state law, or local ordinance; a release of biosolids to state waters or to a public right-of-way or to any location not authorized in the permit; or failure to comply with the nutrient management plan for the land application site.
Part I.F.1. – 5.	**Transport requirements:** 9VAC25-32-540.A. – E. identifies requirements for transport routes, vehicles, prevention of drag-out and track-out, clean-up of such drag-out and track-out and clean-up and reporting of spills.
Part I.G.1.	**Industrial residuals shall not be staged overnight:** Best professional judgment.
Part I.G.2. a. – b.	**Land application of high sodium residuals:** Scientific and trade literature regarding the management of sodium in soils for crop and turf production.
Part I.G.3.	**Infrequent Application:** 9VAC25-32-560.B.3.c. establishes infrequent application based on total crop needs for nitrogen.
Part I.G.4.	**Depth to Bedrock or Restrictive Layers:** 9VAC25-32-560.B.2.a. states depth to bedrock or restrictive layers shall be a minimum of 18 inches.
Part I.G.5.	**Depth to Groundwater:** 9VAC25-32-560.B.2.b. prohibits land application when seasonal high water table is within 18" of ground surface and requires use of USDA-NRCS soil survey maps and soil borings to verify groundwater depth.

Part I.G.6.a. – b.	**pH Management:** 9VAC25-32-560.B.2.c. requires the biosolids soil mixture have a pH of 6.0 S.U. or higher where cadmium in the biosolids is >= 21 mg/kg. 9VAC25-32-560.B.2.c.d. requires the addition of lime or use of lime amended biosolids if soil pH is < 5.5 S.U..
Part I.G.7.	**Soil Potassium < 38 ppm:** 9VAC25-32-560.B.2.e. requires addition of potash prior to or concurrently with the biosolids if the soil potassium (Mehlich I) is < 38 ppm.
Part I.G.8.	**Equipment Calibration:** 9VAC25-32-560.B.3.d.(1) requires routine measurement of the field application rate of application equipment.
Part I.G.9.	**Liquid Industrial Residuals/WTP Residuals:** 9VAC25-32-560.B.3.d.(1) limits application of liquid biosolids to 14,000 gallons per acre, per application with drying time between applications.
Part I.G.10.	**Grass Height:** 9VAC25-32-560.B.3.d.(1) requires hay and pasture to be grazed or clipped to approximately 6 inches prior to biosolids application.
Part I.G.11.	**Uniform Application:** 9VAC25-32-560.B.3.d.(1) requires a uniform application of biosolids on a field. If application is not uniform additional operational methods are required followed by clipping.
Part I.G.12.	**Odor Control by Incorporation:** 9VAC25-32-560.B.3.d.(2) allows DEQ to require incorporation, when practical or compatible with a soil conservation plan, to mitigate malodor.
Part I.G.13.	**Slope Restrictions:** 9VAC25-32-560.B.3.d.(3) prohibits application on slopes >15%, but allows the restriction to be waived by DEQ for the establishment and maintenance of perennial vegetation or based on BMPs.
Part I.G.14.	**Snow Covered Ground:** 9VAC25-32-560.B.3.d.(5) allows land application of biosolids on snow cover that is 1 inch or less in depth and the snow and biosolids are incorporated within 24 hours. If the snow melts with application, incorporation is not required.
Part I.G.15.	**Setbacks:** 9VAC25-32-560.B.3.e.(1) – (4) establishes setback distances and procedures for extending or waiving residential and property line setbacks.
Part I.G.16.	**Site Access Restrictions:** 9VAC25-32-675.B.5. establishes access restrictions for sites where Class B biosolids have been land applied. Access restrictions are based on potential health risks due to pathogens contained in biosolids; therefore residuals originate from a source that does not contain pathogens are not subject to site restrictions.
Part I.G.17.	**Forestland (Silviculture):** 9VAC25-32-560.C. establishes requirements for land application on silvicultural sites.
Part I.G.18.	**CPLR Industrial residuals:** 9VAC25-32-313.F establishes criteria for determining the need to track the metals loadings on individual sites where metals subject to the cumulative pollutant loading rates have been applied.
Part I.H.1.	**Industrial Residuals Sources**: 9VAC25-32-305.D. states that no person shall land apply, market or distribute biosolids in Virginia unless the biosolids source has been approved by the board.

Part I.H.2.	**Land Application Sites**: 9VAC25-32-305.C. states that no person shall land apply biosolids on any land in Virginia unless that land has been identified in an application to issue, reissue or modify a permit and approved by the board.
Part I.H.3	**Alternate Vector Attraction Reduction for Industrial Residuals that do not require VAR in Part I.A.1.d.:** 9VAC25-32-685 requires VAR for biosolids. VAR is based on the potential for the residuals to further decay and attract vectors. Based on previous permitting experience, industrial residuals that do not require VAR in Part I.A.1.d. are not required to meet the treatments required in Part I.A.1.d. because these residuals do not contain raw animal products. However if found to cause a vector or odor problem, VAR treatment will be required.
Part I.H.4.	**Site Specific Application Rates**: 9VAC25-32-560 states site specific application rates shall not exceed the rates established in the nutrient management plan nor result in exceedance of the cumulative trace element loading rates specified in 9VAC25-32-356 Table 3.
Part I.H.5.	**Land Owner Consent Requirement**: 9VAC25-32-60.D.4. requires the submission of landowner consent forms with the permit application 9VAC25-32-530.B.2.requires the written agreement between the permittee and the landowner, specifies required information and use of the most current form approved by the board. 9VAC25-32-530.A. requires the permittee to maintain the agreement.
Part I.H.6.	**Threatened and Endangered Species Protection:** 9VAC25-32-313.B states no one shall apply bulk biosolids to the land if it is likely to adversely affect a threatened or endangered species listed in 9VAC25-260-320 or § 4 of the Endangered Species Act (16 USC § 1533) or if the land application is likely to adversely affect its designated critical habitat.
Part I.H.7	**Certified Land Applicator Requirement**: § 62.1-44.19.3.1.B. states that biosolids shall not be land applied unless a certified land applicator is onsite at all times during the application. 9VAC25-32-690 requires the land applier to maintain a field log and identifies minimum requirements and sign monthly reports, attesting that they were onsite at al times reported.
Part I.H.8.	**Reopener:** 9VAC25-32-220 allows a permit to be opened when a change is made in the promulgated standards or regulations on which the VPA permit was based.
Part I.H.9.	**Storm Water Discharge Exception:** 9VAC25-32-30.A States that all pollutant management activities covered under a VPA permit shall maintain no point source discharge of pollutants to surface waters except in the case of a storm event greater than the 25-year, 24-hour storm.
Part I.H.10.	**Materials Handling/Storage:** 9VAC25-32-30.B states that except in compliance with the VPA or another permit issued by the board that it is unlawful to discharge into, or adjacent to, state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances.
Part II.	**CONDITIONS APPLICABLE TO ALL VPA PERMITS:** VPA Permit Regulation 9VAC25-32-80 requires all VPA permits to contain or specifically cite the conditions listed.