

Responses to Survey for Identifying Leachate Sampling Protocol Information																			
Requested Information	Kelly W.	Charley B.	Dean W.	Mike S.	Charley B.	Sam S.	Charley B.	Dean W.	Stacey B.	Stacey B.	Charley B.	Mike S.	Dean W.	Kelly W.	Dean W.	Stacey B.	Charley B.	Kelly W.	
<b>General Items:</b>																			
Landfill Name	Butler Cty.	Allen Cty.	Barton	Seward Cty.	Salina	Wheatland	Johnson Cty.	Chanute	Coffey Cty.	Shawnee Cty.	Hamm	Resource Rec.	Clay Cty.	Ford Cty.	Reno Cty.	Finney Cty.	Forest View	Oak Grove	Plumb Thicket
Landfill Number	100	101	103	140	144	179	263	274	342	394	505	577	718	723	809	817	819	819	842
Contact Person	Wayne B.	Eula H.	Mark W.	Mike T.	Ron R.	Cassidy L.	Mick C.	Don M.	Wayne B.	Bill U.	Charlie S.	Darrin K.	Debbie C.	Brian H.	Steve G.	Chris G.	Cassidy L.	Matt S.	Randy B.
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Cellphone No.			620-786-9485					620-212-0395	620-364-6592										
E-mail address																			
<b>Person Doing Sampling:</b>																			
Contact Person	Mike B.	Daniel E.	Steve W.	Mike R.	David P.	Mark R.	Mick C.	Steve K.	Mike K.	Anne O.	Brad J.	Mark R.	Bradley J.	Brian H.	Kelly H.	John R.	Anne O.	Ethan S.	Shane T.
Affiliation	B&M	B&M	AES	Seward Cty.	CAS			Chanute	Blackstone	AES	AES	Aquaterra ES	AE	Ford Cty.	AES	H&Assoc.	AES	WCA Region1	H&Assoc.
Telephone No.			913-681-0030					620-431-5200	913-495-9990										
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<b>Laboratory Conducting Analyses:</b>																			
Name	ESC	ESC	ESC	CAS	CAS	FEL	ESC	Pace	TA	TA	PA	FEL	PA	CAS	ESC	TAL	FEL	PDC	TAL
Contact Person	Tom M.	Tom M.	Jeff C.	Petra C.	Greg G.	Stan Z.	Tom M.	Connie S.	Heather B.	Betsy S.	Angie B.	Stan Z.	Anna C.	Clifford B.	Jeff C.	Ryan V.	Stan Z.	Gail S.	Eve B.
Telephone No.			615-758-5858					913-563-1403	800-765-0980										
Cellphone No.																			
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Year(s) Samples Collected and/or Tested							2000 to present	2006 to 2012	2011 to 2012										6
<b>Previously Used Laboratory(ies): (add rows as needed and provide names of other labs and years used)</b>	NA	NA		NA	Heritage E.	QAS & Pace	SDK	ESC			NA	Heritage Envir.	Various labs.	Blank	CAS (08-10)	TAL	HES, 2004-09	NA	
<b>Sampling Frequency:</b>																			
Normal Sampling Frequency	Semi-Annual	Quarterly	Annual	Annual	Annual	Annual	Quarterly & Annually	Semi-annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Biannually	Annual	Quarterly & Annual	Biannual
Reason(s) for Selecting Frequency	KDHE SAP	Unknown	Reqs.	Reqs.	Reqs.	Reqs.	RD&D & Reqs. resp.	Matches Industrials	Reqs	Reqs	SAP Plan	Reqs	Reqs	Reqs	Reqs	NA	Reqs.	Permit Requirements	Reqs.
<b>Sample Collection Point(s): (Identify point(s) and what phases are collected at the point(s))</b>																			
1. Wet Well(s)		Phases I/II		Phases 1 to 3				Phases 2&3 (Stages 1 to 4)				NA						NA	
2. Sump Pump(s)		Phase 1A	Combined Phases					Phases 1, 1A, 3 (Stage 5), 5&6	At sewer hook-up	Yes, for Phases 1 & 2.	Phase 2B to 4F		Phases 1 to III	Yes		Force main to sewer	Phases 001,002W,003 & 005	6	
3. Gravity Discharge(s)								Phase 4, since 2010			Yes		PreD		2 into ponds.		NA	NA	
4. Other Location(s): Leachate Storage Tanks	Storage pond					Cells 1 - 5						Storage Tank		Prior to entering tanks.		Leak det. Sumps	NA	Storage tanks	
<b>Type of Sample(s) Taken:</b>																			
(Specify whether grab or composite sample(s) for each location)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab w bailer	Grab	Grab	Grab	Grab	Grab	Grab?
<b>Leachate Flow Measurement(s)</b>																			
(Specify as indicating and/or recording)	NA	Yes, R.	meter.	Metered	Cells 4-5 w R.	sump discharges	Turbine meters	recorder.	meters in 2012.			meters.	Daily log	Yes, recording.		Meter	NA	Weekly R.	
<b>Leachate Storage Facilities: (specify number, volume and phases)</b>																			
stored in each facility																			
1. Lagoon(s)	Temporary in 2004	Yes										2		4 ponds		NA		1 Pond	4 tanks
2. Tank(s)			2-15,000 gal.	None	All in 2 tanks	One	1-20,000, 1-30,000, 2-25,000 gal	None	2-15,000 gal.	2-20,000 gal all		10,000 gal.	5000 gal tanker			NA	3 Tanks		
3. Other Facility(ies)	Wet well prior to pond.							None	None				Yes?			NA	NA		
<b>Toe Drain Facilities: (specify phase(s) collecting toe drainage)</b>																			
1. Phase(s) with storage facility(ies)	All SubB cells drain to wet well.	Yes, Pre D into manhole?		None			Phases 5, 6 & 1A; storage comingled		Final and only	NA	Presub D	NA	NA	NA	NA	NA	NA	NA	
2. Storage Facility(ies): (specify type, number and volume)				None					See leachate storage.		into lagoons		NA	NA	NA	NA	NA	NA	
<b>Disposal of Leachate and Toe Drainage: (specify liquid(s))</b>																			
approximate annual amount(s) and basis for disposal decision(s)		Haul date.		Haul date.				856,905 gal. in 2012				1.6 Mgal	778,800 gal. to Parsons in 2012					1.98 Mgal annual	427,466 gal. in 2012
1. Transport and Discharge to POTW	To El Dorado during wet years.	Yes	Great Bend	Liberal POTW	Yes, 2nd	Zero to Parsons since 2010		Hook-up to	Yates Center	50,000 gal		NA						Yes, 2010 to 2012.	NA in last year.
2. Recirculation to MSWLF: (Identify point of application(s))	Yes, to active face via piping.	Yes	Yes, to Phase 3		Yes, 1st.	0.3 Mgal via subsurface piping	Phases 6 & 1A adjacent to active face		Recirculation well & trench	0.6 mgal	Over SubD lined areas.	Yes	Yes, ADC used.	Yes	Yes, as needed.	None	NA	NA in last year.	To all phases
3. On-site Treatment Prior to Disposal to: (Identify treatment process(es) and disposal location(s))	None		Evaporation ponds on Phases 1 & 2								Aeration of lagoons.		NA			Evaporation of 18,600 gal in 2012.	NA	NA	
4. Other Disposal Option(s)	None					Deep well injection		Evaporation pond on Phase 1			None	NA		Ponds in 2012.		NA			
<b>Leachate Cleanouts: (Identify cleanout methods and frequency of cleaning for existing phase(s))</b>	Connected to LFG collection system. No record of cleaning	No	Not used.	Not used	Yes	Water jetting as needed		NA	None		Jetting every other year.		No to date.	No	No in last 3 years.	No to date.	Water jet as needed.	5 cleanouts but use not needed	No to date.
<b>Other Useful Information:</b>																			
leachate collection lines																			
Storage Volume:	0.11 Mgal or 0.825 Mgal		NA		12,500 gal tanks	20,000 gal	Phases 1 to 4 (Stages 1 to 4 of Phase 3), and Phase 5 are closed although the latter is a partial closure.		Leachate haul volumes are available.			0.6 Mgal each.	487,993 gal. via subsurface piping in 2012	Tanker used for large rain events.	Future changes by Terracon	2.57 Mgal total Pre-D not sampled.	0.39 Mgal/pond		20,000 gal/tank

**Summary of Leachate Sample Collection, Storage & Distribution for Kansas Subtitle D Landfills**

Landfill Name No.	Contributing Phases/Cells	Sampling Location <sup>1</sup>	Sample Device or Type	Storage Type	Volume (gallons)	Distribution to:		Remarks
						Active Face	POTW	
Butler County 0100	All	Within SEB	Bailer	SEB	825,000	Yes	El Dorado	Note: SEB = Storage & Evaporation Basin; Mgal = million gallons Since 2004; leachate sent during wet years.
Allen County 0101: (BWM sampled)	Phases I & II	Wet well	Bailer	Tank	13,000	Closed	La Harpe, Gas City or Humboldt	Prior to 2010; La Harpe, Gas City or Humboldt; RWD No. 8 water used on active face w/o leachate.
	Phases I & II	Wet well	Bailer	SEB No. 1	2.85 Mgal	Closed		After 2010; same distribution.
	Phase 1A	Sump discharge	Grab	Same	Same	Yes		After 2010; same distribution.
B&M (Sampled)	All	Within SEB	Bailer	Same	Same	Yes	Humboldt	BWM & B&M quarterly samples were taken on the same day at about the same time during the last year.
Barton 0103	Phases 1 to 3	Sump discharge	Grab	2 Tanks	15,000 ea	Yes	Great Bend	Also, ponds on top of covered Phases 1 & 2 which allow infiltration & evaporation.
Seward County 0140	Phases 1 to 3	Inlet to wet well	Grab	None	NA	No	Liberal	
Salina 0144	Cells 1 to 5	Tank discharge	Grab	2 Tanks	12,500 ea	Yes	Salina	Use to sample tanks by bailing (ending date unknown)
Wheatland 0179	All	Tank discharge	Grab	1 Tank	20,000	Yes	Parsons	Two older 10,000 tanks were sampled as the new one installed in 2011. Subsurface recirculation of about 300,000 gallons in ?.
Johnson County 0263	Phases 2 & 3 (Stages 1 to 4)	Wet well	Grab	4 Tanks (Combined phases)	1-20,000	Yes, Phases 1A & 6	French drain liquid send to Mill Creek	Leachate from all phases is injected into a deep well disposal system. Estimated annual volume was 24 Mgal in 2012.
	Phases 1,1A, 5, 6 & Phase 3 (Stage 5)	Sump discharges	Grab		1-30,000			Phase 1 is closed. Phase 5 is partially closed.
	Phase 4	Sump discharges	Grab		2-25,000			
	Phase 4	Gravity discharge	Grab					
Chanute 0274	All	Sump discharge	Grab	None	NA	No	Chanute	856,905 gallons of leachate was discharged into Chanute' sanitary sewer in 2012.
Coffey County 0297	Phases 1 & 2	Sump discharge	Grab	2 Tanks	15,000 ea	Yes	Yates Center	All leachate flows converge to Cell No. 1 sump. Infiltration pond on Phase 1 in summer & trenches on active Phase 2.
Shawnee County 0342	All	Tank discharge	Grab	2 Tanks	20,000 ea	Yes	No	600,000 gallons recirculated in 2012?
Hamm 0394	All	Within SEB	Bailer	2 SEBs	600,000 ea	Yes	No	Annual leachate production about 1.6 Mgal; SEBs are aerated.
Resource Rec. 0505	All	Tank discharge	Grab	1 Tank	10,000	Yes	Parsons	487,993 & 778,800 gallons, recirculated & off-site, respectively, in 2012.
Clay County, 0577	Phases I to III	Wet well	Bailer	2 Tankers	500 & 5,000	Yes	No	Leachate sprayed daily on active face (unless too wet) using 500 gallon tanker; 5,000 tanker only used once.
Ford County 0718	Phases 1 to 4	Sump discharge	Grab	None	NA	Yes	No	Terracon designing new leachate pump system.
Reno County 0723	All	Inlet to clean-out sump	Grab	4 SEBs	2.57 Mgal total	Yes	No	Recirculation not typically needed.
Finney County 0809	All	Within SEB	Bailer	2 SEBs	390,000	No	No	No leachate recirculated; evaporation was 18,600 gallons in 2012.
Forest View 0817	All	Sump discharge	Grab	None	NA	No	KCK KP	Composite leachate stream sampled; 1.9775 Mgal average per year for 2010 to 2012.
	West, Central & East	Sump discharges	Grab	None	NA	No	KCK KP	Future plan to collect separate leachate streams.
Oak Grove 0819	Phases 001 & 002W	Sump discharges	Grab	SEB	2.24 Mgal	Yes	Lamar	Phase 002 is the active phase. Parsons and Pittsburg POTWs being considered; also, has SEB and considering building another.
	Phases 003 & 005	Tank discharge	Grab	2 Tanks	15,000 & 30,000	Yes	Lamar	Third tank taken out of service, but 30,000 gal. replacement pond is planned in 2014.
Plumb Thicket 0842	From sumps 8 to 13	Sump discharges	Grab	4 Tanks	20,000 ea	Yes	No	Sampled 2X to 3X in 2012 for RD&D purposes.
	All	Tank discharge	Grab	4 Tanks	20,000 ea	Yes	No	Annual leachate sample taken from common discharge header.
Landfill or phase closed - Most of the closed phases for the listed Landfills are not identified.					<sup>1</sup> Stabilization Assessment:	Gravity discharge	Best	Represents leachate which flows by gravity to a collection point; hence, a continuously fresh leachate.
Landfills approved for RD&D liquid additions.						Sump discharge	Best	Represents leachate from sump although not necessarily the freshest; the freshest would be the leachate obtained just as the sump pump turns off.
						Well well sample	Good	More of a composite sample since it contains previously pumped leachate; a composite is a function of sump volume at time of sampling, the incoming flow rate and the degree of mixing in the wet well.
						Tank discharge	Weak	Typically from bottom of unmixed tank which is not representative incoming leachate.
						SEB sample	Worst	Affected by precipitation, evaporation, sedimentation & biostabilization.