US EPA RECORDS CENTER REGION 5
477635

Kolak, Shari

From: Tracy, Carol Hefferan (DEQ) <TracyC1@michigan.gov>
Sent: Monday, May 05, 2014 1:42 PM
To: Kolak, Shari
Subject: RE: methane - fyr discussion
Attachments: P-67_chtCHT-2.pdf; P-67_chtCHT-2.xlsx

Since you brought up methane at that location, I quickly added some methane data. I saved this update as P-67 chtCHT-2 (added #2 to the file name).

Carol

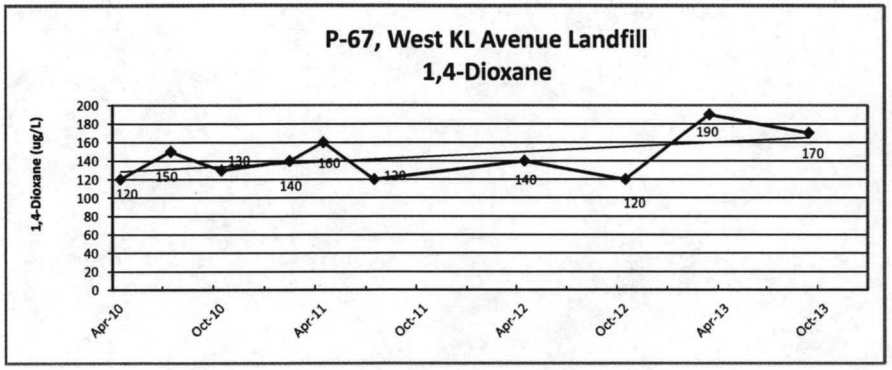
Carol Tracy, Senior Geologist
Michigan Department of Environmental Quality
Superfund Section, Remediation and Redevelopment Division
Geology and Defense Site Management Unit
tracyc1@michigan.gov
Phone Number: 517-284-5161

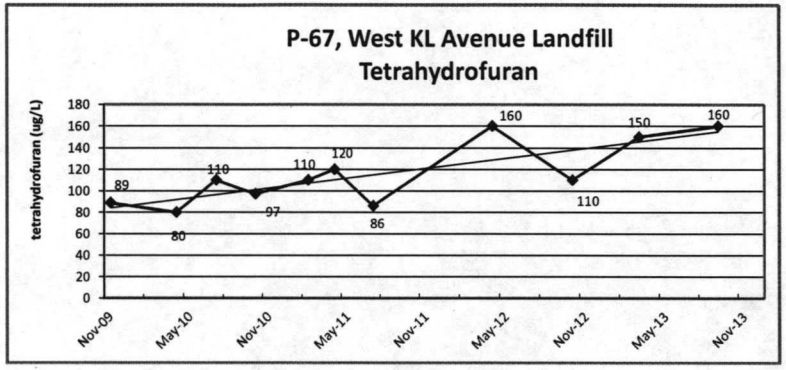
From: Kolak, Shari [mailto:kolak.shari@epa.gov]
Sent: Monday, May 05, 2014 12:08 PM
To: Tracy, Carol Hefferan (DEQ)
Cc: Wagaw, Wally (DEQ)
Subject: methane - fyr discussion

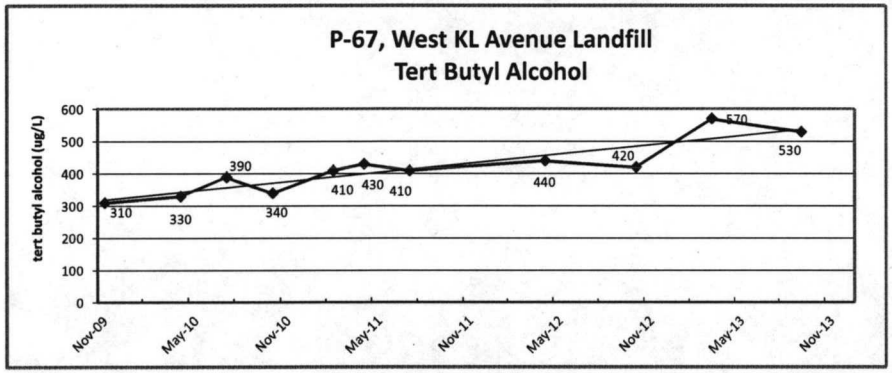
Carol,

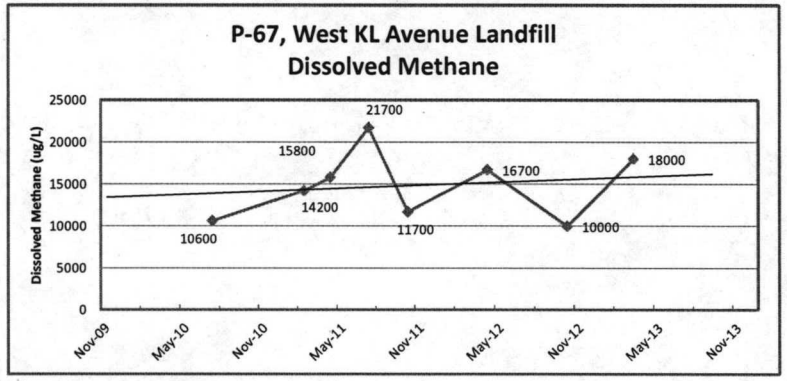
I am working on the methane discussion. The highest methane concentrations appear to be from 3/25/13 in P-67 at 18,000 ppb and P-63 at 19,000 ppb. Are there any other wells that have high methane concentrations that I should discuss in the fyr? Thanks, Shari

P-67
West KL Avenue Landfill





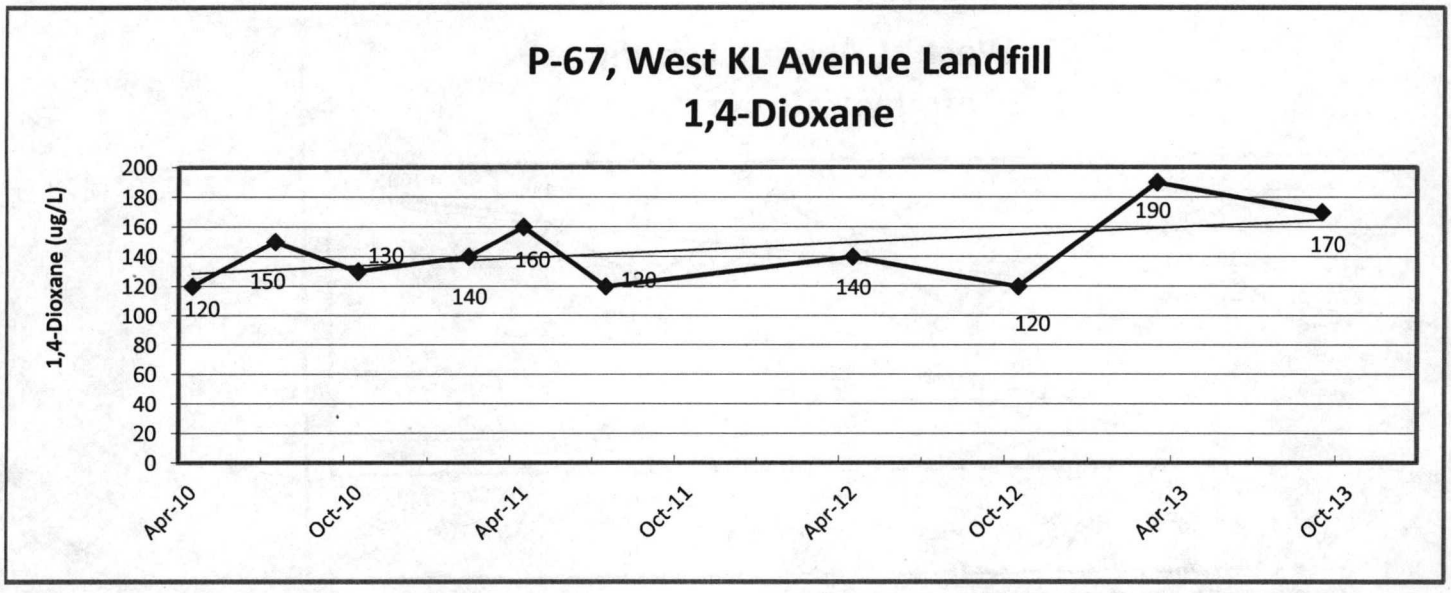


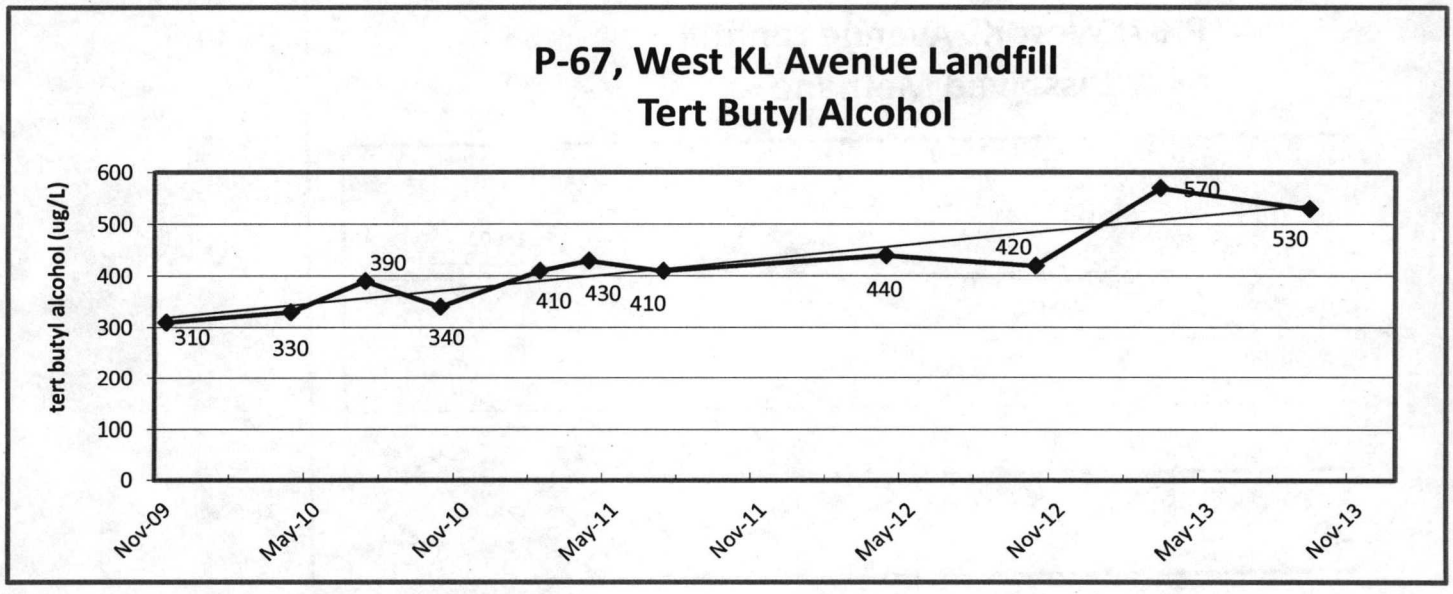


		Nov-09	Apr-10	Jul-10	Oct-10	Feb-11	Apr-11	Jul-11	Oct-11	Apr-12	Oct-12	Mar-13	Sep-13
1, 4-Dioxane	µg/L	100	120	150	130	140	160	120	150	140	120	190	170
Tetrahydrofuran	µg/L	89	80	110	97	110	120	86	100	160	110	150	160
Tert Butyl Alcohol	µg/L	310	330	390	340	410	430	410	450	440	420	570	530
Chloride	mg/L								52.6			65.4	
Dissolved Methane	µg/L			10600		14200	15800	21700	11700	16700	10000	18000	

*µg/L - micrograms per liter
mg/L - milligrams per liter

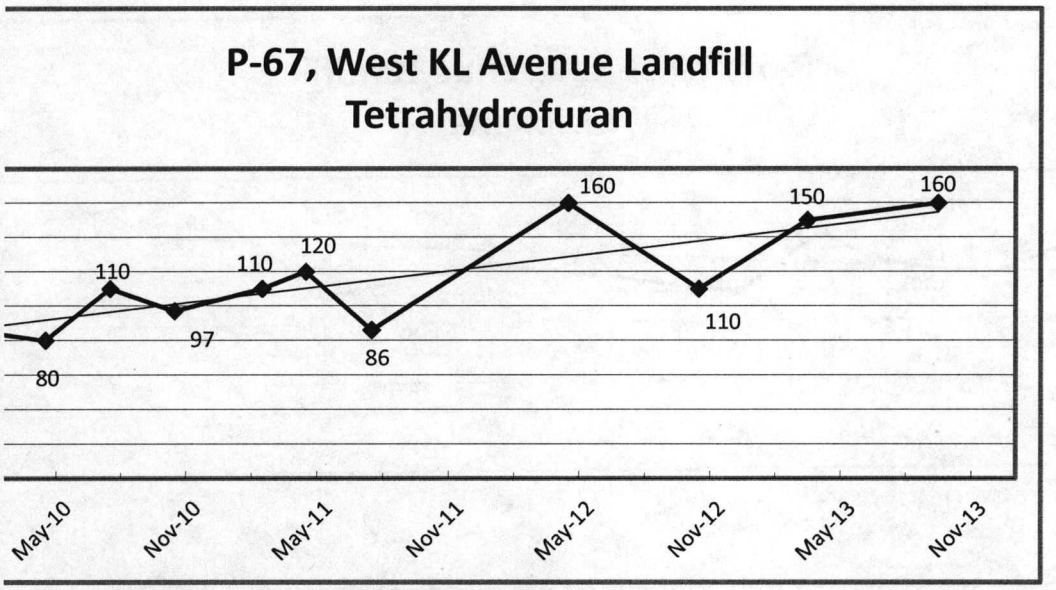
P-67
West KL Avenue Landfill

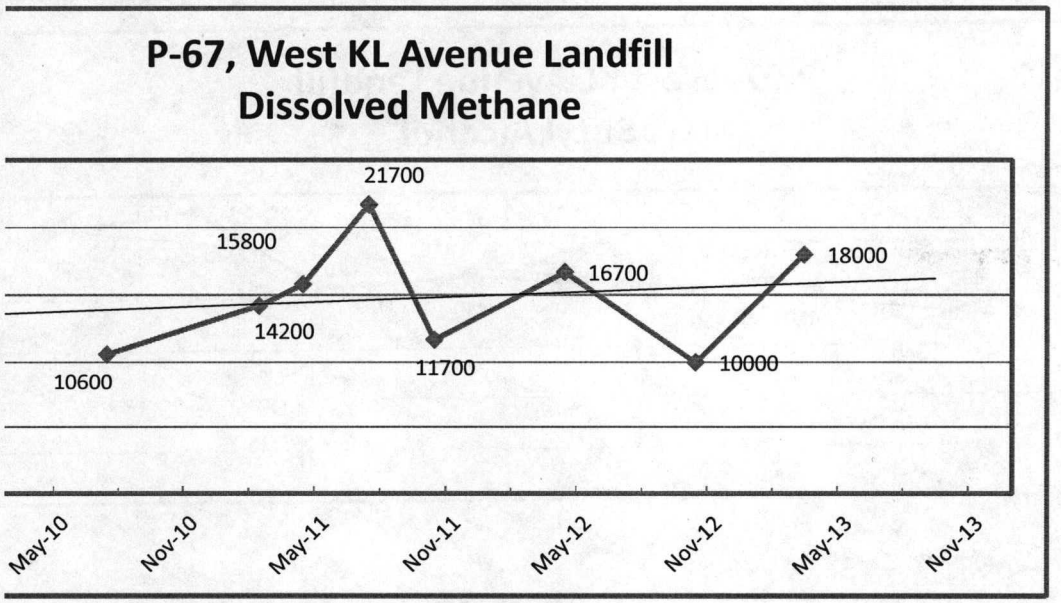




		Nov-09	Apr-10	Jul-10	Oct-10	Feb-11	Apr-11	Jul-11	Oct-11	Apr-12
1, 4-Dioxane	µg/L	**100**	**120**	**150**	**130**	**140**	**160**	**120**	**150**	**140**
Tetrahydrofuran	µg/L	89	80	**110**	**97**	**110**	**120**	86	**100**	**160**
Tert Butyl Alcohol	µg/L	310	330	390	340	410	430	410	450	440
Chloride	mg/L								52.6	
Dissolved Methane	µg/L			10600		14200	15800	21700	11700	16700

*µg/L - micrograms per liter
mg/L - milligrams per liter





Sep-13
170
160
530

Kolak, Shari

From: Tracy, Carol Hefferan (DEQ) <TracyC1@michigan.gov>
Sent: Monday, May 05, 2014 12:23 PM
To: Kolak, Shari
Cc: Wagaw, Wally (DEQ)
Subject: RE: methane - fyr discussion

Of the wells sampled for dissolved methane, P-67 was consistently the highest during the last 5 years---ranging from 10,000 in the fourth quarter 2012 to 21,700 during the 3rd quarter of 2011. P-67 is located along 1st street, approximately 9600 feet from the edge of the landfill.

Just taking a quick look, it appears that P-63 is also generally high, but not as high as P-67. P-63 is located on Skyview Drive.

P-10711 was 15,000 during the 2nd quarter 2013!

Kind of hard to imagine a sand and gravel aquifer with so much water being that anaerobic. But, dissolved oxygen levels are very low (generally below 2 ug/L) throughout the plume, until you get to P-76 (the new sentinel well upgradient of Chaddsford Way, screened in the upper uncontaminated portion of the aquifer), which has a dissolved oxygen level of 6 ug/L.

Carol

Carol Tracy, Senior Geologist
Michigan Department of Environmental Quality
Superfund Section, Remediation and Redevelopment Division
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Kolak, Shari

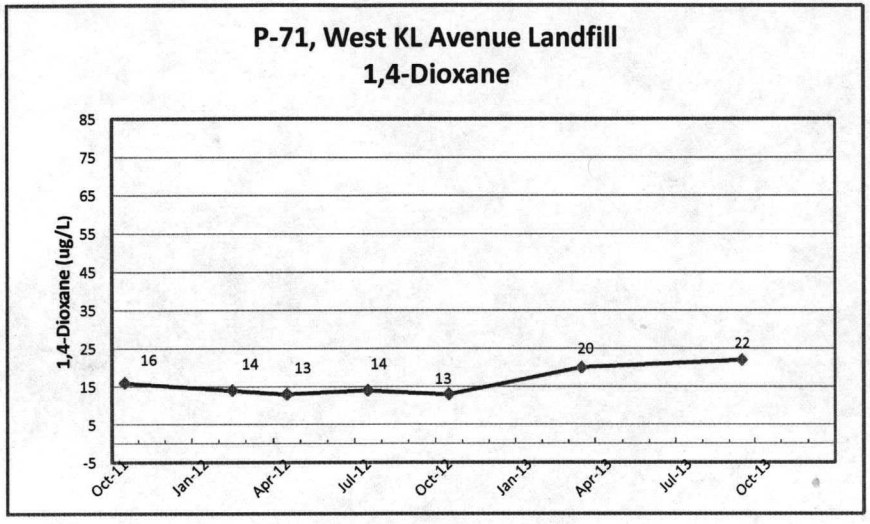
From: Tracy, Carol Hefferan (DEQ) <TracyC1@michigan.gov>
Sent: Monday, May 05, 2014 7:56 AM
To: Kolak, Shari
Cc: Wagaw, Wally (DEQ); Alexander, Eric (DEQ); Franks, Robert (DEQ)
Subject: West KL Avenue Landfill All 7 trends as pdf files
Attachments: P-71-CHT.pdf; 826 Wickford trends-bp-CHT.pdf; P-49-bpCHT.pdf; P-53-bpCHT-3_.pdf; P-66-chtCHT.pdf; P-67_chtCHT.pdf; P-70-CHT-3.pdf

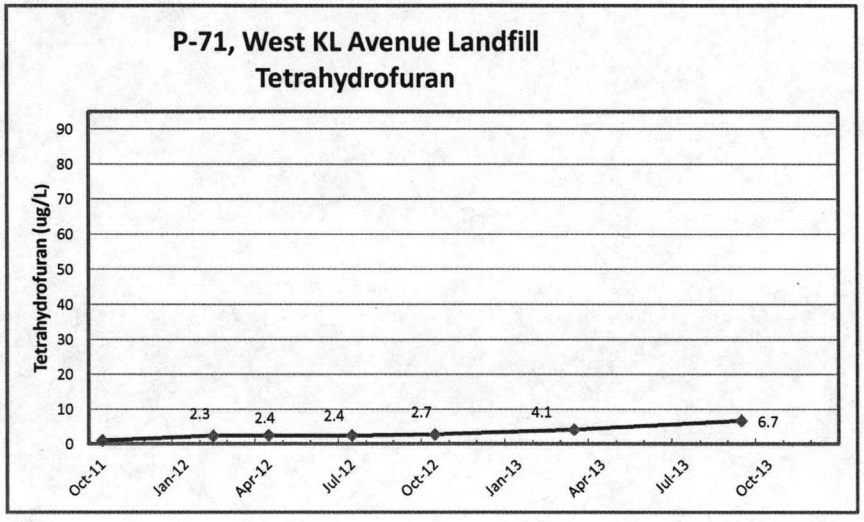
Shari,
I resaved all 7 of the charts we've been working on as pdf files and attached them here - to make sure you have all the changes without the Excel compatibility issues.
Were there any other charts you needed?

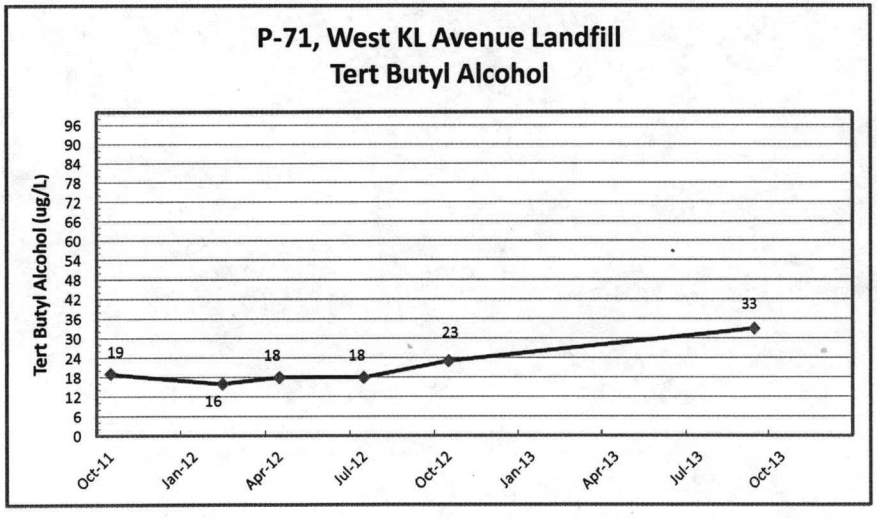
Carol

Carol Tracy, Senior Geologist
Michigan Department of Environmental Quality
Superfund Section, Remediation and Redevelopment Division
Geology and Defense Site Management Unit
tracyc1@michigan.gov
Phone number: 517-284-5161

P-71
West KL Avenue Landfill



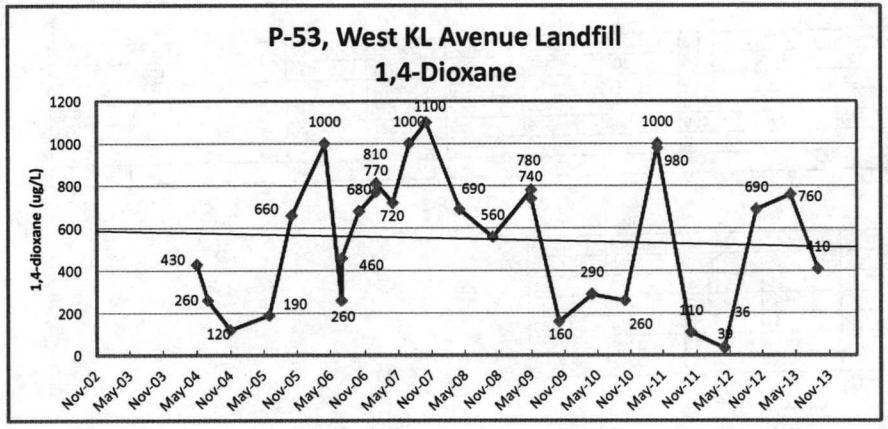


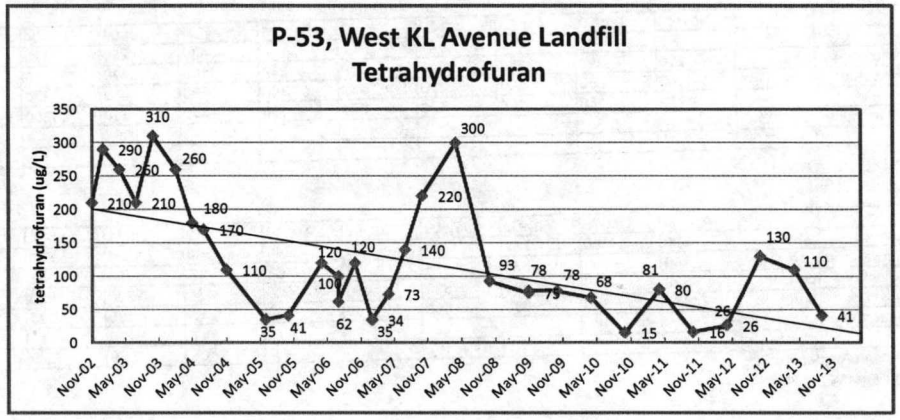


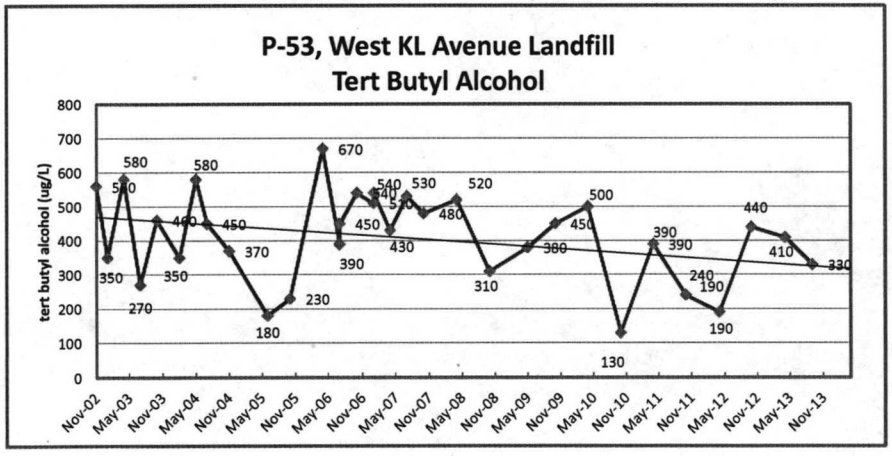
Date		Oct-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Sep-13
1,4-Dioxane	µg/L	16	14	13	14	13	20	22
Tetrahydrofuran	µg/L	<2	2.3	2.4	2.4	2.7	4.1	6.7
Tert Butyl Alcohol	µg/L	19	16	18	18	23		33
Chloride	mg/L	19.2	20.4	20.6	21.1	218		
Disolved Methane	µg/L	124	15	114	110	120	110	

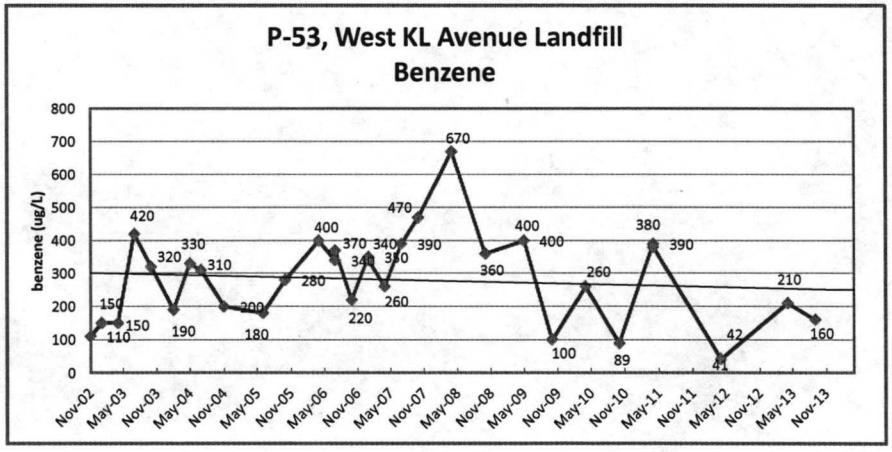
*µg/L - micrograms per liter
**mg/L - milligrams per liter

P-53
West KL Avenue Landfill









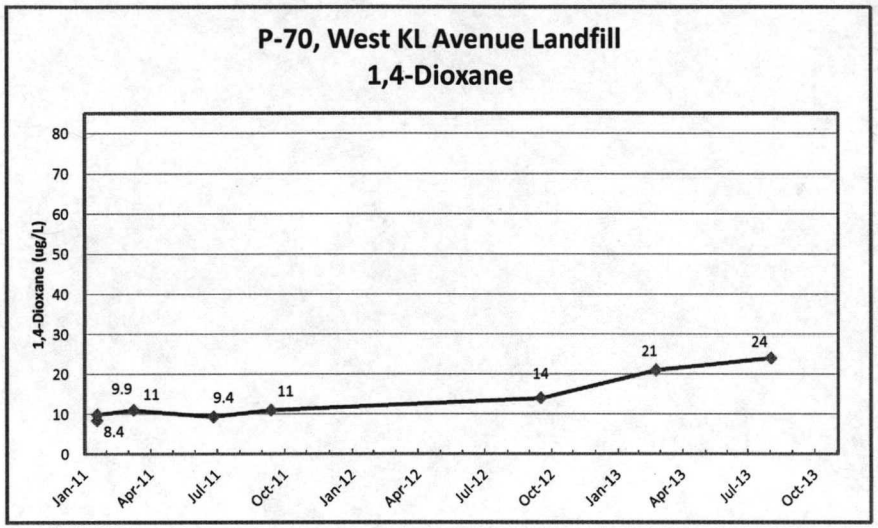
P-53
West KL Avenue Landfill

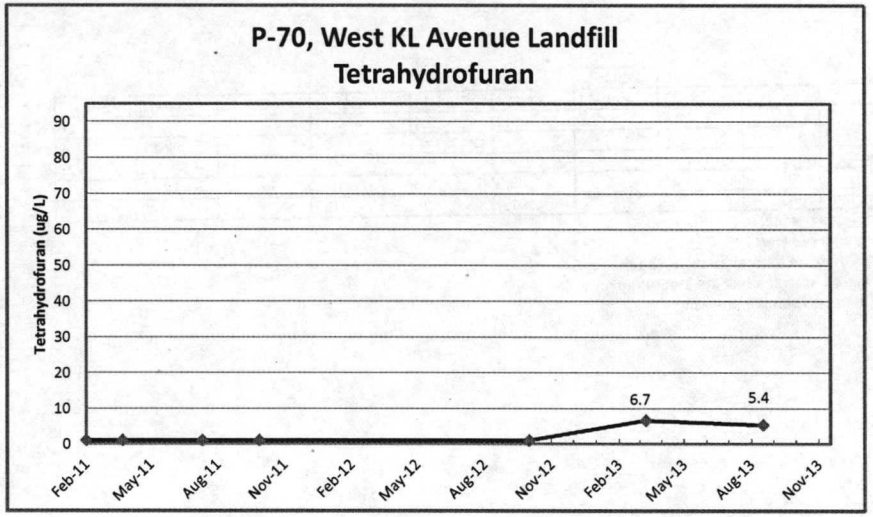
		Nov-02	Jan-03	Apr-03	Jul-03	Oct-03	Feb-04	May-04	Jul-04	Nov-04	Jun-05	Oct-05	Apr-06	Jul-06	Jul-06	Oct-06	Jan-07	Jan-07	Apr-07	Jul-07	Oct-07
1,4-dioxane	µg/L							430	260	120	190	660	1000	260	460	680	770	810	720	1000	1100
tetrahydrofuran	µg/L*	210	290	260	210	310	260	180	170	110	35	41	120	100	62	120	34	35	73	140	220
tert butyl alcohol	µg/L	560	350	580	270	460	350	580	450	370	180	230	670	390	450	540	510	540	430	530	480
benzene	µg/L	110	150	150	420	320	190	330	310	200	180	280	400	340	370	220	350	340	260	390	470
dissolved methane	µg/L																				
chloride	mg/L**																				

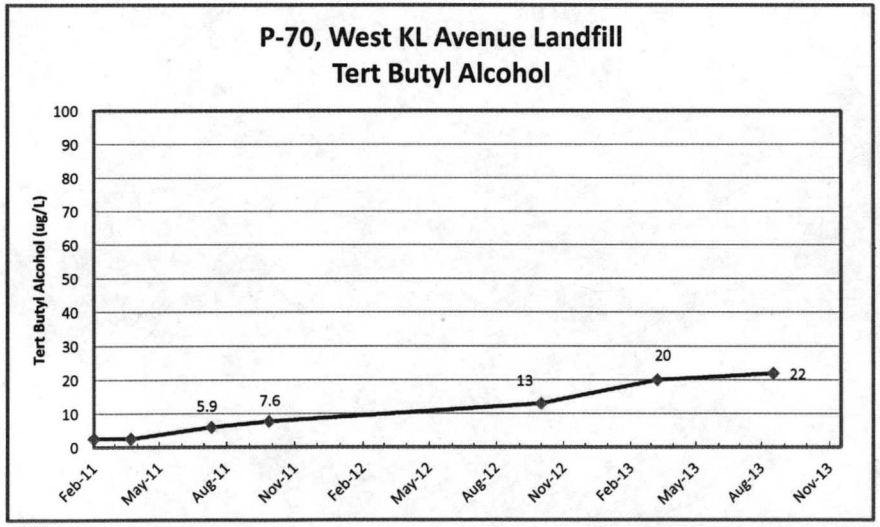
		Apr-08	Oct-08	May-09	May-09	Oct-09	Apr-10	Oct-10	Apr-11	Apr-11	Apr-12	Apr-12	Oct-12	Apr-13	Sep-13
1,4-dioxane	µg/L	690	560	780	740	160	290	260	1000	980	36	39	690	760	410
tetrahydrofuran	µg/L	300	93	75	78	78	68	15	80	81	26	26	130	110	41
tert butyl alcohol	µg/L	520	310	380	380	450	500	130	390	390	190	190	440	410	330
benzene	µg/L	670	360	400	400	100	260	89	390	380	42	41		210	180
dissolved methane	µg/L								8220			1050		8700	2300
chloride	mg/L								75.9	75.8		38		66.4	62.9

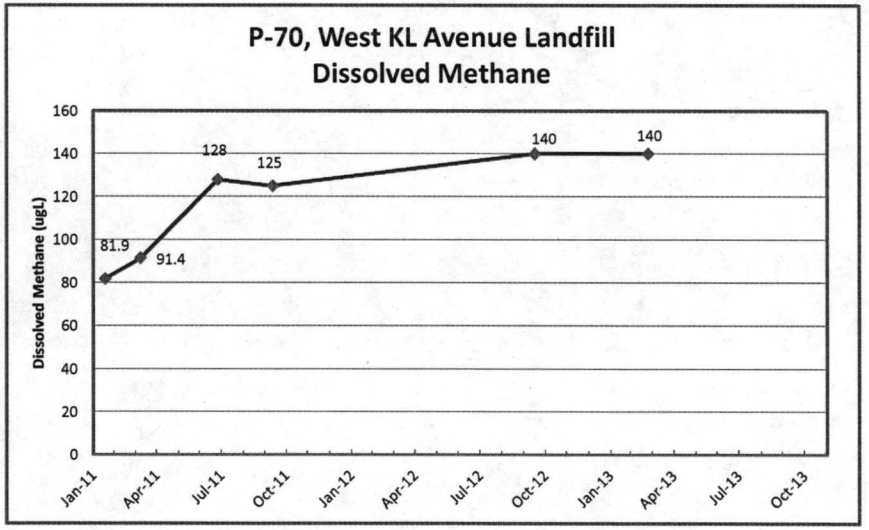
*µg/L - micrograms per liter
**mg/L - milligrams per liter

P-70
West KL Avenue Landfill







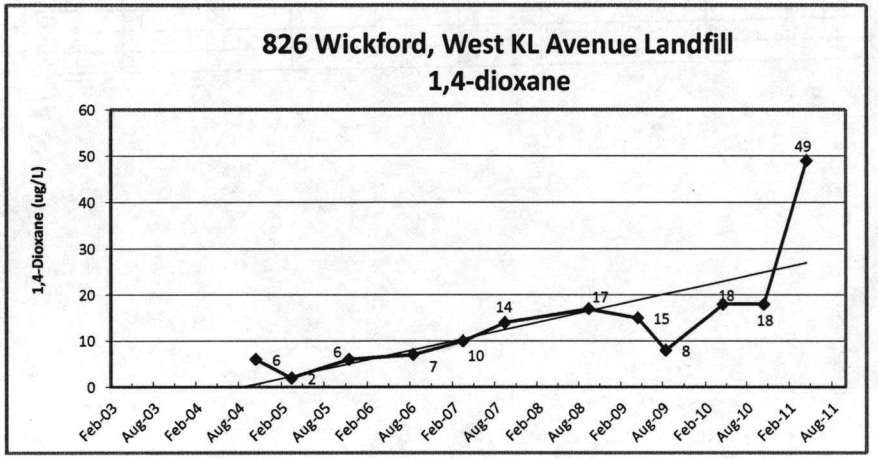


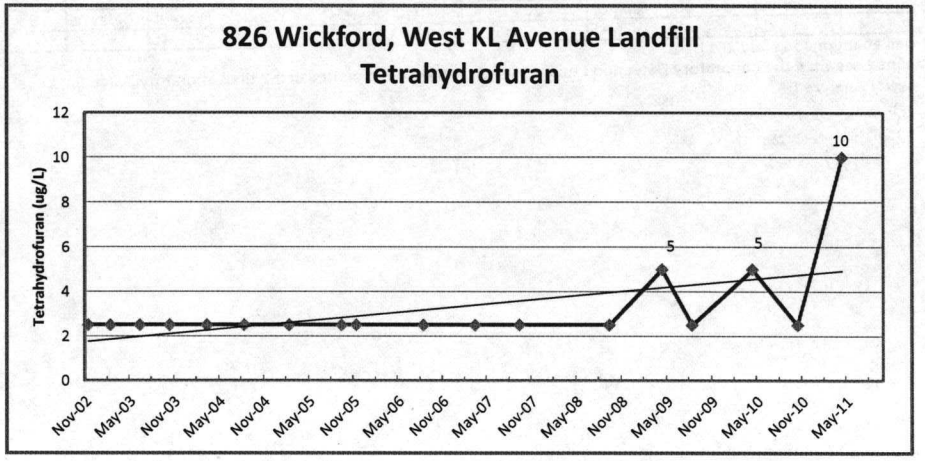
P-70
West KL Avenue Landfill

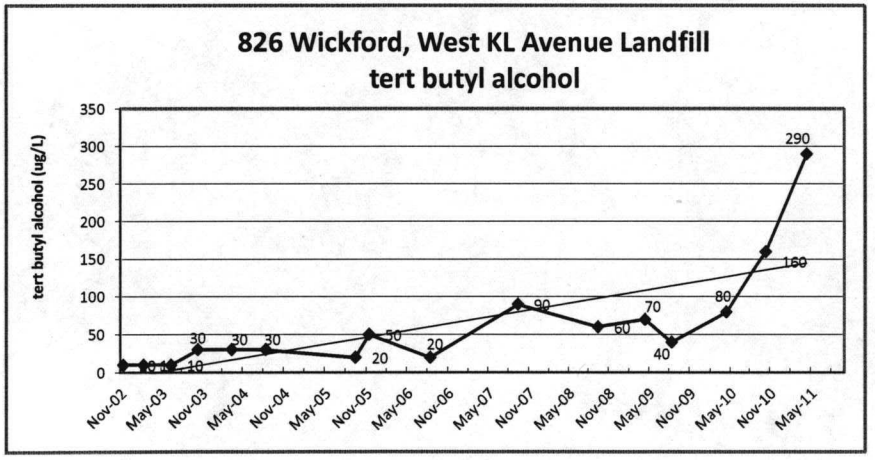
Date		Feb-11	MDEQ Feb-11	Apr-11	Jul-11	Oct-11	Oct-12	Mar-13	Sep-13
1,4-Dioxane	µg/L*	8.4	9.9	11	9.4	11	14	21	24
Tetrahydrofuran	µg/L	<2	<2	<2	<2	<2	<2	6.7	5.4
Tert Butyl Alcohol	µg/L	<5	<5	<5	5.9	7.6	13	20	22
Chloride	mg/L**	15		15.9	15.6	15.6	19.3	21.3	
Disolved Methane	µg/L	81.9		91.4	128	125	140	140	

*µg/L - micrograms per liter
**mg/L - milligrams per liter
<5 means less than the laboratory detection of 5 ug/L
Non detects were plotted as half the laboratory detection level
Blank areas mean no sample analysis

826 Wickford Way
West KL Avenue Landfill







826 Wickford Way
West KL Avenue Landfill

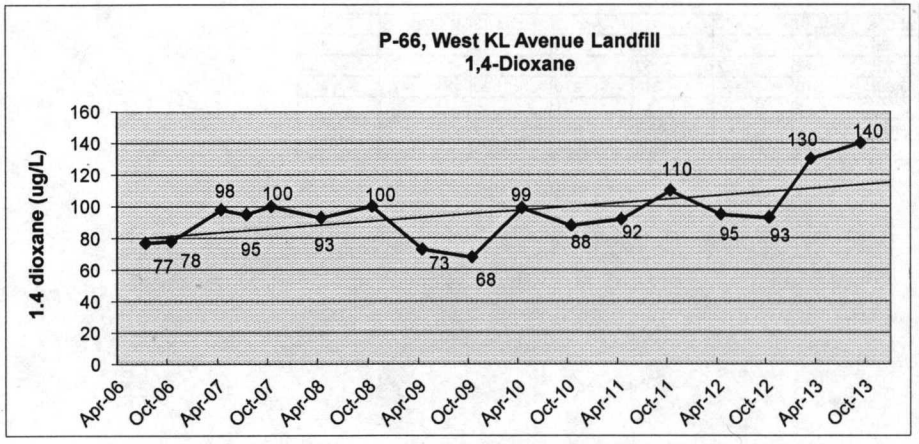
	826 Wickford																			
	Nov-02	Feb-03	Jun-03	Oct-03	Mar-04	Aug-04	Oct-04	Feb-05	Mar-05	Sep-05	Nov-05	Aug-06	Mar-07	Sep-07	Sep-08	Apr-09	Aug-09	Apr-10	Oct-10	Apr-11
t-butyl alcohol	10	10	10	30	30	30				20	50	20		90	60	70	40	80	160	290
	Nov-02	Feb-03	Jun-03	Oct-03	Mar-04	Aug-04	Oct-04	Feb-05	Mar-05	Sep-05	Nov-05	Aug-06	Mar-07	Sep-07	Sep-08	Apr-09	Aug-09	Apr-10	Oct-10	Apr-11
1,4-dioxane							6		2		6	.7	10	14	17	15	8	18	18	49
	Nov-02	Feb-03	Jun-03	Oct-03	Mar-04	Aug-04	Oct-04	Feb-05	Mar-05	Sep-05	Nov-05	Aug-06	Mar-07	Sep-07	Sep-08	Apr-09	Aug-09	Apr-10	Oct-10	Apr-11
THF	<5	<5	<5	<5	<5	<5		<5		<5	<5	<5	<5	<5	<5	5	<5	5	<5	10.00

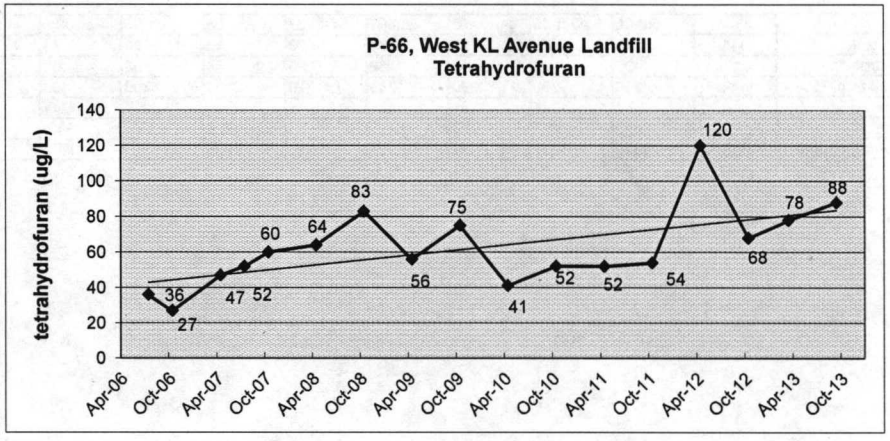
Well was abandoned in late 2011

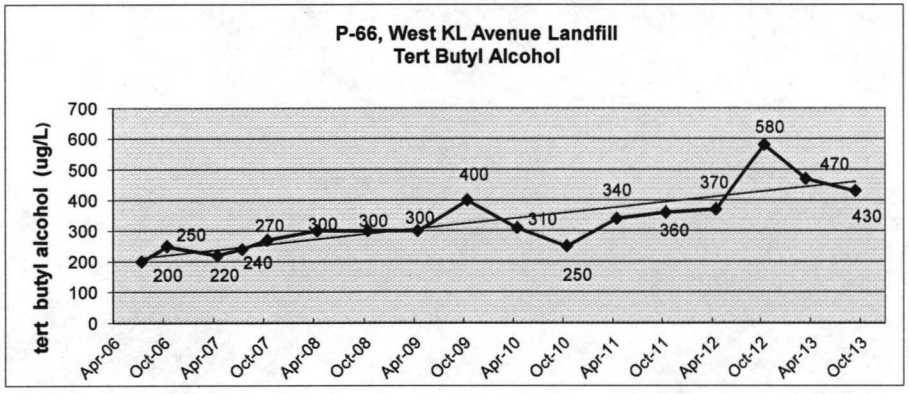
<5 Means Less than the Laboratory Detection Level of 5 ug/L. These were plotted at 1/2 the Laboratory Detection Level.

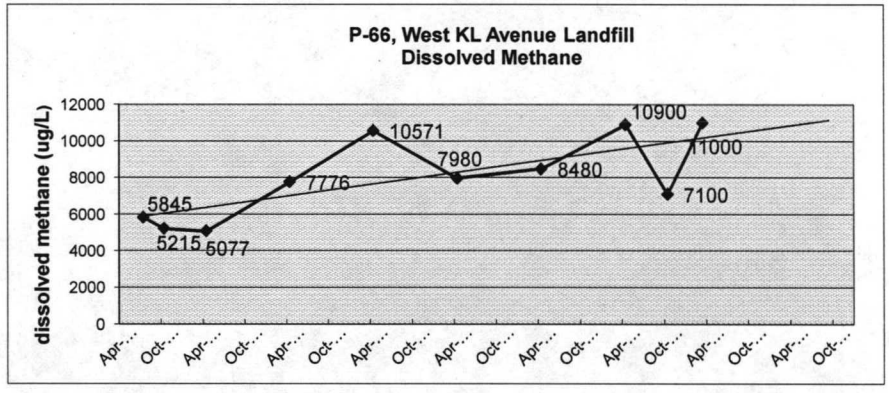
Blank - Not Analyzed

P-66
West KL Avenue Landfill





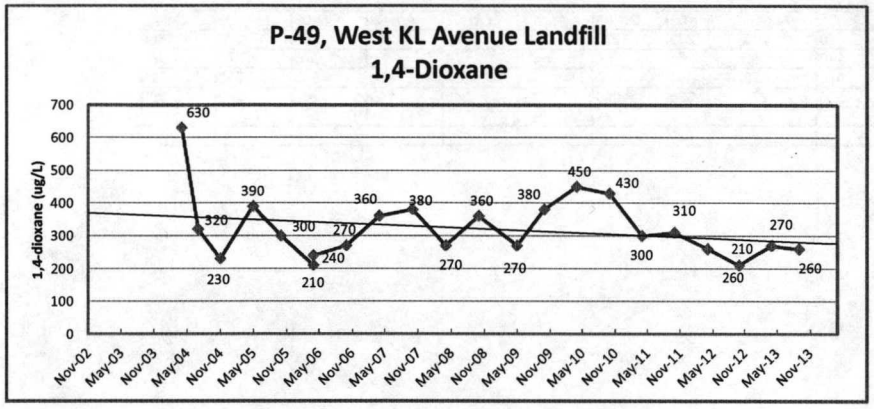


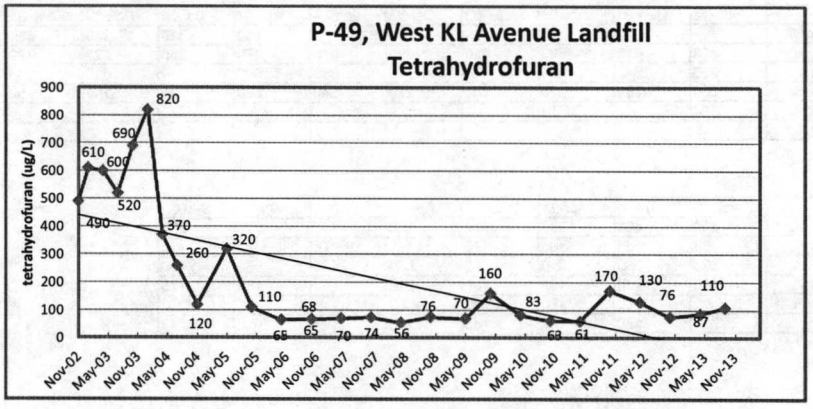


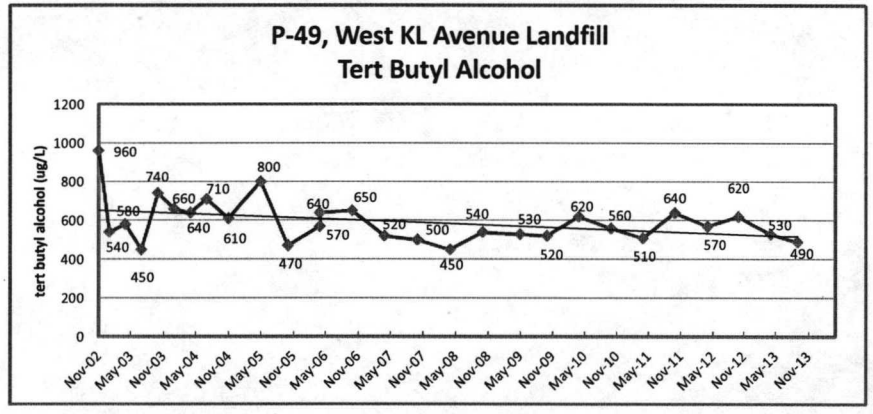
P-66
West KL Avenue Landfill

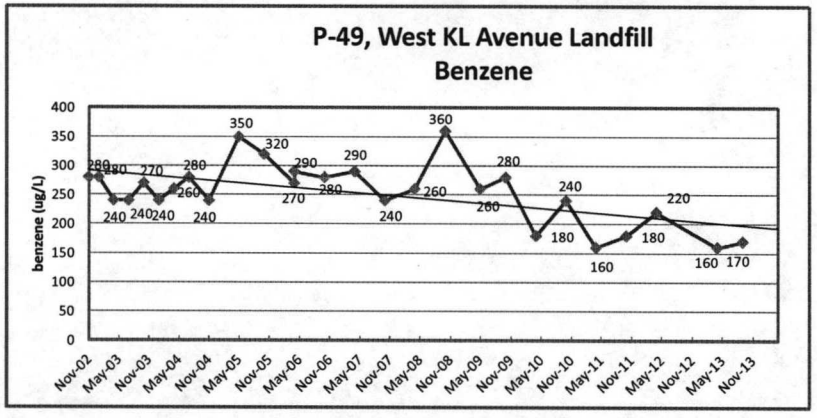
		Jul-06	Oct-06	Apr-07	Jul-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-09	Apr-10	Oct-10	Apr-11	Apr-12	Oct-12	Mar-13	Sep-14
1,4-dioxane	ug/L	77	78	**98**	**95**	**100**	**93**	**100**	73	68	**99**	**88**	**92**	**95**	**93**	**130**	**140**
tetrahydrofuran	ug/L	36	27	47	52	60	64	83	56	75	41	52	52	**120**	68	78	88
tert butyl alcohol	ug/L	200	250	220	240	270	300	300	300	400	310	250	340	370	580	470	430
benzene	ug/L	<1	<1	<1		<1	<1		<1		<1	<1	<1	<1			
chloride	mg/L	30.2	31.5	33.4			38.9		38.3				42.7	49.1	53.4		
dissolved methane	ug/L	5845	5215	5077			7776		10571		7980		8480	10900	7100	11000	

P-49
KL Avenue Landfill









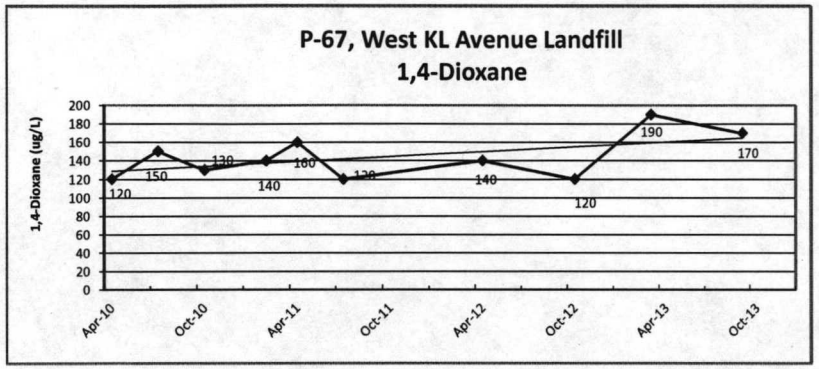
P-49
KL Avenue Landfill

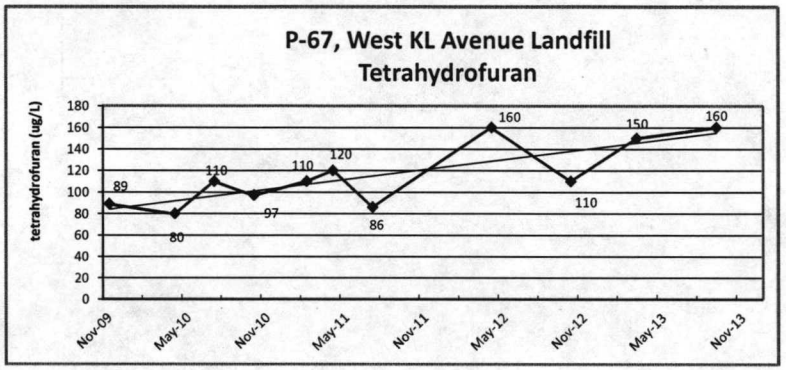
		Nov-02	Jan-03	Apr-03	Jul-03	Oct-03	Jan-04	Apr-04	Jul-04	Nov-04	May-05	Oct-05	Apr-06	Apr-06	Oct-06	Apr-07	Oct-07	Apr-08	Oct-08	May-09	Oct-09
1,4-dioxane	ug/L*							630	320	230	390	300	210	240	270	360	380	270	360	270	380
tetrahydrofuran	ug/L	490	610	600	520	690	820	370	260	120	320	110	65	65	68	70	74	56	76	70	160
tert butyl alcohol	ug/L	960	540	580	450	740	660	640	710	610	800	470	570	640	650	520	500	450	540	530	520
benzene	ug/L	280	280	240	240	270	240	260	280	240	350	320	270	290	280	290	240	260	360	260	280
dissolved methane	ug/L																				
chloride	mg/L**																				

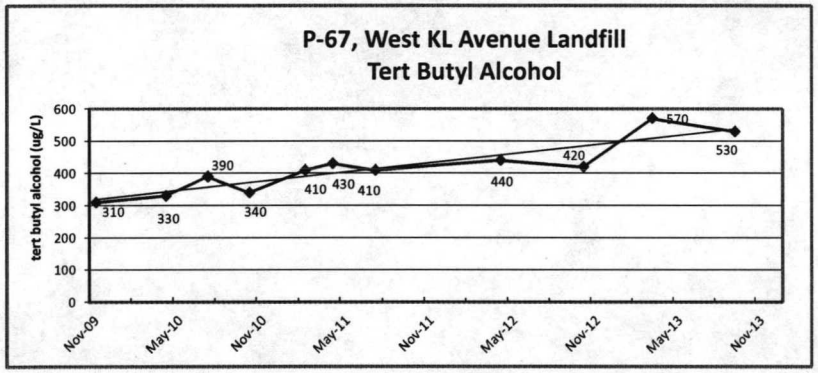
		Apr-10	Oct-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Sep-13
1,4-dioxane	ug/L	450	430	300	310	260	210	270	260
tetrahydrofuran	ug/L	83	63	61	170	130	76	87	110
tert butyl alcohol	ug/L	620	560	510	640	570	620	530	490
benzene	ug/L	180	240	160	180	220		160	170
dissolved methane	ug/L		4360	7170	5940	4650		1.7	4000
chloride	mg/L		180	162	185	156		37.6	142

*µg/L - micrograms per liter
**mg/L - milligrams per liter

P-67
West KL Avenue Landfill







		Nov-09	Apr-10	Jul-10	Oct-10	Feb-11	Apr-11	Jul-11	Apr-12	Oct-12	Mar-13	Sep-13
1, 4-Dioxane	µg/L	100	120	150	130	140	160	120	140	120	190	170
Tetrahydrofuran	µg/L	89	80	110	97	110	120	86	160	110	150	160
Tert Butyl Alcohol	µg/L	310	330	390	340	410	430	410	440	420	570	530
Chloride	mg/L										65.4	
Dissolved Methane	µg/L										18000	

*µg/L - micrograms per liter
mg/L - milligrams per liter