Mustonen, Kevin

From: Laura Novitzki [Laura.Novitzki@twinportstesting.com]
Sent: Friday, March 20, 2009 8:49 AM
To: Mustonen, Kevin
Subject: Junction F-N-F, MPCA Leak #3534

Kevin,

This e-mail includes the latest indoor air and sub-slab sample results for Junction F-N-F. I am forwarding you this information to consider when looking at the CCAD report submitted in December.

Laura Novitzki

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Table 20a - Results of Soil Gas Sampling for Vapor Intrusion Screening
Junction Food-N-Fuel, MPCA Leak #3534

	Soil Gas Samples				Sub-Slab Samples							
Sample ID[2]	VS-1	VS-2	VS-3	VS-4	JFNF.IND001	JFNF.OUT001	SS-2	SS-3	SS-4	Intrusion Screening Value	10X Intrusion Screening Value	100X Intrusion Screening Value
Date	8/17/2005	8/17/2005	8/17/2005	8/17/2005	10/10/2006	10/10/2006	10/23/2007	7/28/2008	2/9/2009			
Depth (feet)	4.5'	4'	3.25'	3.5'	18-20"	-	12"	12"	12"			
PID (ppm)	-	-	-	-	-	-	-	-	-			
compounds related to gasoline/diesel contamination												
Benzene	<11.8	**4,550**	<1.0	<9.0	3.4	<0.87	1.4	2.6	0.94	4.5	45	450
Ethylbenzene	<15.9	<660	4.6	57.1	10	<1.2	<1.7	5.2	<1.2	1,000	10,000	100,000
Toluene	<13.9	<570	10.9	112	96.6	<1.0	14.1	21.3	5.3	5,000	50,000	500,000
1,2,4-Trimethylbenzene	<45.2	**4,850**	**9.8**	**96.8**	**134**	<3.4	<4.9	**25.0**	<3.4	7	70	700
1,3,5-Trimethylbenzene	<45.2	**1,100**	**4.8**	**170**	**43.2**	<3.4	<4.9	**6.7**	<3.4	6	60	600
m & p-xylene	75.9	**10,600**	14.1	**466**	35.5	<2.4	<3.5	27.9	3.2	100	1,000	10,000
o-xylene	<15.9	<660	4.5	**211**	13.8	<1.2	<1.7	8.6	<1.2	100	1,000	10,000
other compounds detected												
Acetone	104		90.5	<6.6	252	4.8	8.8	46.5	24.9	400	4,000	40,000
n-Hexane	42		43.3	242	40.2	<0.96	6.2	3.5	<0.96	2,000	20,000	200,000
4-Ethyltoluene	<45.2		5.8	139	25	<3.4	<4.9	6.6	<3.4	--	--	--
2-Butanone (MEK)	54.5		16.2	<8.3	81.9	<0.8	2.5	7.6	952	5,000	50,000	500,000
Dichlorodifluoromethane	<30.7	<750	5.1	<23.5	5.5	2.5	6.0	3.2	<1.3	200	2,000	20,000
Methylene chloride	14.3	<530	<1.1	<9.8	2.9	<0.95	5.5	<1.0	17.0	20	200	2,000
Trichloroethene (ethylene)	**40.1**	<820	**3.6**	<15.2	2.9	<1.5	**7.2**	1.7	<1.5	3	30	300
Cyclohexane	<12.3		7	<9.4	<0.91	<0.91	2.8	<0.97	<0.91	6,000	60,000	600,000
2-Propanol							14.3	5.5	16.8	7,000	70,000	700,000
Propylene	<6.3		11.2	<4.8	<0.47	<0.47	<0.69	<0.50	<0.47	3,000	30,000	300,000
Carbon disulfide	<11.4		<0.97	<8.7	2.8	<0.84	<1.2	0.94	19.1	700	7,000	70,000
Carbon tetrachloride	<23.5	<960	<2.0	<17.9	**1.9**	<1.7	<2.6	<1.9	<1.7	0.7	7	70
n-Heptane	<15.0		<1.3	<11.5	5.5	<1.1	<1.6	5.5	<1.1	--	--	--
4-Methyl-2-pentanone	<15.0		<1.3	<11.5	2.4	<1.1	<1.6	<1.2	1.4	3,000	30,000	300,000
Tetrahydrofuran	<10.8		<0.92	<8.3	471	<0.8	<1.2	<0.86	101	--	--	--
Chloromethane	<7.6	<310	<0.65	<5.8	<0.56	<0.56	<0.83	<0.60	<0.56	90	900	9,000
Styrene	<15.7	<650	<1.3	<12.0	<1.2	<1.2	<1.7	6.9	2.3	1,000	10,000	100,000
1,2-Dichloroethane	<14.8	<620	<1.3	<11.3	<1.1	<1.1	<1.6	**1.3**	<1.1	0.4	4	40
Ethanol							<3.7	330	<2.5	15,000	150,000	1,500,000
Napthalene	<48.8		<4.2	<37.3	<3.6	<3.6	<5.3	**300**	**11.0**	9	90	900
Trichlorofluoromethane	<19.9	<860	<1.7	<15.2	<1.5	<1.5	<2.2	3.0	<1.5	700	7,000	70,000

Notes:

All units are in ug/m3.

Only laboratory detected compounds are listed in this table

VS-2 was analyzed using method TO-14 due to elevated levels of organic compounds.

-- = No established limits

Bold result indicates analytical result above the Intrusion Screening Value

= Compounds analyzed are less than 10 times (10x) intrusion screening values (ISVs).

= Compounds analyzed are between 10 times (10x) and 100 times (100x) ISVs.

= Compounds analyzed are greater than 100 times (100x) ISVs.

= Not analyzed

Table 20b - Results of Indoor Air for Vapor Intrusion Screening
Junction Food-N-Fuel, MPCA Leak #3534

	Indoor Air Samples				Outdoor Air Samples				
Sample ID[2]	IA-1	IA-2	IA-3	IA-4	OA-1	OA-2	OA-3	OA-4	Intrusion Screening Value
Date	4/23/2007	10/22/2007	7/28/2008	2/9/2009	4/23/2007	10/22/2007	7/28/2008	2/9/2009	
Depth (feet)									
PID (ppm)	-	-	-	-	-	-	-	-	
compounds related to gasoline/diesel contamination									
Benzene	<0.93	1.5	1.8	0.91	<1.0	<0.87	<1.0	1.8	4.5
Ethylbenzene	2.8	<1.2	<1.5	<1.2	<1.4	<1.2	<1.4	2.1	1,000
Toluene	7.2	4.8	12.6	5.6	<1.2	6.5	1.7	6.1	5,000
1,2,4-Trimethylbenzene	**119**	**25.5**	**13.0**	<3.4	<4.0	<3.4	<4.0	<3.4	7
1,3,5-Trimethylbenzene	**48.1**	**10.0**	**6.5**	<3.4	<4.0	<3.4	<4.0	<3.4	6
m & p-xylene	10.8	4.0	3.8	<2.4	<2.8	<2.4	<2.8	6.9	100
o-xylene	6.5	2.3	1.7	<1.2	<1.4	<1.2	<1.4	1.8	100
other compounds detected									
Acetone	82.6	61.2	96.6	32.6	8.6	12.4	6.7	42.5	400
n-Hexane	5.9	1.9	4.9	8.0	<1.1	11.4	<1.1	1.9	2,000
Ethanol		1,270	675	485		8.7	<3.0	13.6	15,000
4-Ethyltoluene	20.9	4.7	5.9	<3.4	<4.0	<3.4	<4.0	<3.4	--
2-Butanone (MEK)	8.6	9.5	8.9	4.7	<0.95	1.2	1.1	6.4	5,000
Dichlorodifluoromethane	2.6	2.5	3.6	2.4	2.1	2.6	2.8	3.6	200
1,2-Dichloroethane		**3.7**	**5.3**	**1.1**		<1.1	<1.3	<1.1	0.4
Methylene chloride	<1.0	<0.98	<1.2	1.0	<1.1	247	<1.1	19.6	20
Trichloroethene	<1.6	<1.5	<1.8	<1.5	<1.7	<1.5	<1.7	**5.8**	3
Cyclohexane	13.7	<0.94	<1.1	9.0	<1.1	<0.91	<1.1	3.1	6,000
2-Propanol		92.0	83.4	79.9		<3.4	<4.0	<3.4	7,000
Propylene	<0.5	<0.48	<0.58	<0.47	<0.56	<0.47	<0.56	<0.47	3,000
Carbon disulfide	<0.9	0.89	2.1	3.2	<1.0	<0.84	<1.0	<0.84	700
Carbon tetrachloride	<1.9	<1.8	<2.2	<1.7	<2.1	<1.7	<2.1	<1.7	0.7
n-Heptane	3.3	<1.1	4.3	6.0	<1.3	<1.1	<1.3	4.7	--
4-Methyl-2-pentanone	<1.2	1.6	1.4	<1.1	<1.3	<1.1	<1.3	<1.1	3,000
Tetrahydrofuran	<0.86	<0.83	<1.0	<0.80	<0.95	<0.80	<0.95	<0.80	--
Chloromethane	1.1	1.1	1.5	<0.56	<0.67	0.78	1.1	1.1	90
Styrene	17.4	11.3	24.3	<1.2	<1.4	<1.2	<1.4	<1.2	1,000
Vinyl acetate		18.3	<1.2	<0.95		<0.95	<1.1	<0.95	200
naphthalene	<3.9	<3.7	<4.5	<3.6					

Notes:

Only laboratory detected compounds are listed in this table

All units are in ug/m3.

-- = No established limits

Bold result indicates analytical result above Intrusion Screening Values

= Not analyzed