FLINT HILLS resources®
Pine Bend Refinery

P.O. Box 64596
Saint Paul, Minnesota 55164
651.437.0700

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

October 19, 2011

Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155

Attention: Discharge Monitoring Report

Subject: NPDES Permit MN 0000418

Flint Hills Resources' Discharge Monitoring Report for the Pine Bend refinery for September 2011 is attached. There were no permit limit exceedances during the month.

As required by Chapter 1, Section 8.19 of the NPDES Permit, the monthly testing of the North Fire Basin (B5) was completed, and the results are included with this DMR. Test results for the other basins at the site are also provided.

A voluntary Whole Effluent Toxicity test was conducted during the month of September. Page D9 of the September DMR has been modified to allow reporting of these successful WET test results.

The following documents are attached for your information:

- Monthly Operating Records (spreadsheets)
- NPDES Permit Data Notes
- OSWTP Bypass, Firewater Release and Upset Report
- Spill Summary
- Hydrotesting Report
- Analytical Results for the Stormwater Basin Sampling
- Monthly Storm Water/Fire Water Basin Leak Detection Rates
- Monthly NPDES Chemical Additive Evaluations
- Water Quality Data – Station SD002

If you have any questions regarding this information, please contact me directly at 651-437-0761.

Sincerely,

James W. Brown

James W. Brown, PE
WWTP Process Manager/Chief Operator

cc: N. Vargas- USEPA, Region V

RECEIVED

OCT 25 2011

WATER ENFORCEMENT & COMPLIANCE
ASSURANCE BRANCH, EPA, REGION 5

ACILITY NAME/ADDRESS:
lint Hills Resources Pine Bend LLC
unctions 52 & 55
ver Grove Heights, MN 55077

WASTEWATER TREATMENT DISCHARGE MONITORING REPORT

PERMITTEE NAME/ADDRESS:
Flint Hills Resources Pine Bend LLC
PO Box 64596
St. Paul, MN 551640596

PERMIT #	LIMIT STATUS	PCS #
MN0000418	INTERIM	010N 1

TATION INFORMATION:
D-001 (Total Facility Discharge)
urface Discharge, Effluent To Surface Water
ttention: Scott Lindemann

MONITORING PERIOD	YEAR	MO.	DAY
FROM	2011/09/01		
TO	2011/09/30		

☐ AMENDED
☐ NO DISCHARGE

MPCA:TD

PARAMETER		QUANTITY		UNITS	CONCENTRATION			UNITS	FREQUENCY OF ANALYSIS		SAMPLE TYPE
low	SAMPLE VALUE	******	84.9	MG	******	2.83	3.71	mgd	continuous ✓ JB		✓
0050	PERMIT REQ	******	REPORT CalMoTot		******	REPORT CalMoAvg	REPORT DailyMax		1 x	Day	MeaCon
OD 05 Day 0 Deg C)	SAMPLE VALUE	12	26	kg/day	******	1	******	mg/L	✓		✓
0310	PERMIT REQ	630 CalMoAvg	1473 DailyMax		******	25 CalMoAvg	******		3 x	Week	Comp24
SS	SAMPLE VALUE	74	118	kg/day	******	7	******	mg/L	✓		✓
530	PERMIT REQ	614 CalMoAvg	1423 DailyMax		******	30 CalMoAvg	******		7 x	Week	Comp24
H	SAMPLE VALUE	******	******	****	6.6	******	7.4	SU	continuous		✓
400	PERMIT REQ	******	******		6.0 InstantMin	******	9.0 InstantMax		1 x	Day	MeaCon
osphorus tal (as P)	SAMPLE VALUE	******	******	****	******	******	1.1	mg/L	✓		✓
665	PERMIT REQ	******	******		******	******	REPORT DailyMax		1 x	Month	Comp24
trogen, Ammonia -ionized, (as N)	SAMPLE VALUE	******	******	****	******	******	0.00	mg/L	✓		✓
612	PERMIT REQ	******	******		******	******	0.46 DailyMax		7 x	Week	Calcul
romium xavalent (as Cr)	SAMPLE VALUE	<0.01	<0.01	kg/day	******	******	<1.0	ug/L	✓		✓
032	PERMIT REQ	0.64 CalMoAvg	1.43 DailyMax		******	******	29.0 DailyMax		2 x	Week	Grab

nd original with supplemental DMR (if plicable) by the 21st day of month following porting period to:
INNESOTA POLLUTION CONTROL AGENCY
20 LAFAYETTE RD
T. PAUL, MN 55155-4194
TTN: Discharge Monitoring Report

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief the information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT — DATE: 10/18/11

SIGNATURE OF CHIEF OPERATOR — PHONE: 651/437-0761 — DATE: 10-16-11 — CERTIFICATION#: A-4304

MMENTS:

ACILITY NAME/ADDRESS:
int Hills Resources Pine Bend LLC
inctions 52 & 55
ver Grove Heights, MN 55077

WASTEWATER TREATMENT DISCHARGE MONITORING REPORT

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MN0000418	INTERIM	010N 1

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PO Box 64596
St. Paul, MN 551640596

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D-001 (Total Facility Discharge)
urface Discharge, Effluent To Surface Water
tention: Scott Lindemann

MONITORING PERIOD	YEAR	MO.	DAY	YEAR	MO.	DAY
FROM	2011/09/01			TO	2011/09/30	

☐ AMENDED
☐ NO DISCHARGE

MPCA:TD

PARAMETER		QUANTITY		UNITS	CONCENTRATION			UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
ıromium	SAMPLE VALUE	<0.1	<0.1	kg/day	******	******	******	****	✓	✓
ɔtal (as Cr) 034	PERMIT REQ	8.3 CalMoAvg	18.6 DailyMax		******	******	******		2 x Week	Comp24
ɔD	SAMPLE VALUE	876	1069	kg/day	******	******	******	****	✓	✓
ıem Oxygen Demand 017	PERMIT REQ	8126 CalMoAvg	15795 DailyMax		******	******	******		4 x Week	Comp24
ercury	SAMPLE VALUE	******	******	****	******	7.0	******	ng/L	✓	✓
ıtal (as Hg) 900	PERMIT REQ	******	******		******	REPORT CalMoAvg	******		2 x Month	Grab
trogen, Ammonia	SAMPLE VALUE	3	5	kg/day	******	******	******	****	✓	✓
tal (as N) 610	PERMIT REQ	714 CalMoAvg	1569 DailyMax		******	******	******		7 x Week	Comp24
	SAMPLE VALUE	3	56	kg/day	******	******	******	****	✓	✓
tal Recoverable 552	PERMIT REQ	217 CalMoAvg	416 DailyMax		******	******	******		5 x Week	Grab
, % Of Time	SAMPLE VALUE	******	******	****	******	******	0	%	continuous	✓
ceeding pH Limits 108	PERMIT REQ	******	******		******	******	1 CalMoTot		1 x Day	MeaCon
, Length Of	SAMPLE VALUE	******	0	min	******	******	******	****	continuous	✓
lividual Excursion 107	PERMIT REQ	******	60 CalMoMax		******	******	******		1 x Day	MeaCon

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orting period to:
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MMENTS:

ACILITY NAME/ADDRESS:
int Hills Resources Pine Bend LLC
inctions 52 & 55
ver Grove Heights, MN 55077

WASTEWATER TREATMENT DISCHARGE MONITORING REPORT

PERMIT #	LIMIT STATUS	PCS #
MN0000418	INTERIM	010N 1

PERMITTEE NAME/ADDRESS:
Flint Hills Resources Pine Bend LLC
PO Box 64596
St. Paul, MN 551640596

TATION INFORMATION:
D-001 (Total Facility Discharge)
urface Discharge, Effluent To Surface Water
tention: Scott Lindemann

MONITORING PERIOD

	YEAR	MO.	DAY		YEAR	MO.	DAY
FROM	2011/09/01			TO	2011/09/30		

☐ AMENDED
☐ NO DISCHARGE

MPCA:TD

PARAMETER		QUANTITY		UNITS	CONCENTRATION			UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
l, Total	SAMPLE VALUE	******	0	min	******	******	******	****	continuous	✓
ange Excursions 582	PERMIT REQ	******	446 CalMoTot		******	******	******		1 x Day	MeaCon
enols, Total	SAMPLE VALUE	<0.3	<0.3	kg/day	******	******	<25	ug/L	✓	✓
730	PERMIT REQ	5 CalMoAvg	16 DailyMax		******	******	2214 DailyMax		2 x Week	Comp24
lenium tal (as Se)	SAMPLE VALUE	******	******	****	******	******	410	ug/L	✓	✓
147	PERMIT REQ	******	******		******	******	REPORT DailyMax		1 x Week	Comp24
lfide tal (as S)	SAMPLE VALUE	<0.5	<0.7	kg/day	******	******	******	****	✓	✓
745	PERMIT REQ	5.8 CalMoAvg	12.9 DailyMax		******	******	******		2 x Week	Grab
mperature, Water	SAMPLE VALUE	******	******	****	******	******	90	Deg F	continuous	✓
011	PERMIT REQ	******	******		******	******	120 DailyMax		1 x Day	MeaCon
xicity, Acute hole Effluent 03811	SAMPLE VALUE	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	0.9999	TUa	1 Test in September	✓
	PERMIT REQ	xxxxxx	xxxxxx		xxxxxx	xxxxxx	0.9999 Daily Max		1 x Month	Comp24

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plicable) by the 21st day of month following
orting period to:
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WASTEWATER TREATMENT DISCHARGE MONITORING REPORT

PERMIT #	LIMIT STATUS	PCS #
MN0000418	INTERIM	010N N

PERMITTEE NAME/ADDRESS:
Flint Hills Resources Pine Bend LLC
PO Box 64596
St. Paul, MN 551640596

TATION INFORMATION:
VS-002 (Aeration Tanks)
Vaste Stream, Internal Waste Stream
ttention: Scott Lindemann

MONITORING PERIOD	YEAR	MO.	DAY	YEAR	MO.	DAY
FROM	2011/09/01			TO	2011/09/30	

☐ AMENDED
☐ NO FLOW

MPCA:TD

PARAMETER		QUANTITY		UNITS	CONCENTRATION			UNITS	FREQUENCY OF ANALYSIS		SAMPLE TYPE
xygen, Dissolved	SAMPLE VALUE	******	******	****	******	3.8	******	mg/L	continuous		✓
)300	PERMIT REQ	******	******		******	REPORT DailyAve	******		1 x	Day	MeaCon

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plicable) by the 21st day of month following
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James W. Brown SIGNATURE OF CHIEF OPERATOR	651 437-0761 PHONE	10-16-11 DATE	A-4304 CERTIFICATION#

MMENTS:

FLINT HILLS RESOURCES
MONTHLY OPERATING RECORD
September 2011

Refer to attachments:

- Concentration Data
- Calculated (Mass) Data
- Selenium Test Results
- NPDES Permit Data Memorandum
- Aeration Basin Dissolved Oxygen Data

Flint Hills Resources - Pine Bend Refinery
Concentration Data For NPDES Monthly Report, Station SD001
September 2011

DATE	BOD	COD	Oil & Grease	TSS	Sulfide	Phenol	Total Cr	CR+6	Mercury	NH3-N	Pol Pond Temp	Pol Pond pH - Max	Pol Pond pH -Min	Pol Pond pH - Daily	Pol Pond Flow
	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	ug/L	ng/L	mg/L	Deg F	Continuous	Continuous	Composite	MGD
1-Sep-11	<16			7	<0.05	<25	<0.005	<1.0		0.39	87.5	6.9	6.7	7.2	3.35
2-Sep-11	<16		<5	8					4.1	0.26	90.4	6.9	6.8	7.6	3.68
3-Sep-11		72	<5	7						0.30	90.2	7.0	6.9	7.6	3.50
4-Sep-11		70	<5	7						0.32	87.8	7.0	6.9	7.6	3.32
5-Sep-11		69	<5	6		<25	<0.005	<1.0		0.35	83.1	7.1	6.9	7.6	3.39
6-Sep-11		71		5	<0.05					0.37	84.3	7.0	6.9	7.6	3.59
7-Sep-11	<16		<5	5					5.7	0.38	84.3	7.0	6.8	7.5	3.71
8-Sep-11	2			5	<0.05	<25	<0.005	<1.0		0.32	85.5	7.0	6.9	7.5	3.34
9-Sep-11	2		<5	6					5.2	0.29	86.7	7.0	6.9	7.6	3.19
10-Sep-11		81	<5	6						0.33	87.9	7.1	6.9	7.6	3.05
11-Sep-11		81	<5	7						0.35	89.1	7.1	6.9	7.6	2.82
12-Sep-11		80	<5	7		<25	<0.005	<1.0	5.2	0.33	87.6	7.3	7.0	7.6	2.25
13-Sep-11		80		9	<0.05					0.20	83.8	7.4	7.0	7.7	2.48
14-Sep-11	<16		<5	11					6.8	0.17	80.5	7.2	7.0	7.6	2.72
15-Sep-11	<16			11	<0.05	<25	<0.005	<1.0		<0.10	76.0	7.2	6.9	7.4	2.54
16-Sep-11	<16		<5	10					6.0	<0.10	77.4	6.9	6.8	7.2	3.12
17-Sep-11		92	<5	8						0.17	77.4	6.8	6.7	7.3	3.07
18-Sep-11		86	5	6						0.24	76.8	6.8	6.7	7.2	2.94
19-Sep-11		87	<5	5		<25	<0.005	<1.0	25.4	0.34	76.5	6.8	6.7	7.3	2.78
20-Sep-11		86		5	<0.05					0.32	79.1	6.8	6.6	7.2	2.96
21-Sep-11	2		<5	6					7.2	0.34	76.2	7.0	6.7	7.4	2.29
22-Sep-11	2			6	<0.05	<25	<0.005	<1.0		0.24	72.2	7.1	6.9	7.5	2.33
23-Sep-11	2		<5	6					4.5	0.16	73.9	6.9	6.8	7.4	2.37
24-Sep-11		92	<5	6						0.12	75.5	6.9	6.8	7.5	2.15
25-Sep-11		89	<5	8						<0.10	76.2	7.0	6.9	7.6	2.23
26-Sep-11		88	<5	9		<25	<0.005	<1.0	5.8	<0.10	77.9	6.9	6.9	7.5	2.61
27-Sep-11		86		7	<0.05					0.11	76.6	7.0	6.8	7.4	2.59
28-Sep-11	2		<5	7					4.5	0.20	77.2	7.0	6.9	7.4	2.23
29-Sep-11	2			6	<0.05	<25	<0.005	<1.0		0.13	81.2	7.0	6.9	7.5	2.03
30-Sep-11	3		<5	7					4.1	<0.10	75.5	7.3	7.0	7.6	2.30

Note: Results reported as "less than" indicate measurement below the Reporting Limit (RL)

Summary:

Daily Max	3	92	5	11	<0.05	<25	<0.005	<1.0	25.4	0.39	90.4	7.4		7.7	3.71
Daily Min	<16	69	<5	5	<0.05	<25	<0.005	<1.0	4.1	<0.10	72.2		6.6	7.2	2.03
Monthly Avg	1	82	0.2	7	<0.05	<25	<0.005	<1.0	7.0	0.22	81.1				2.83

NPDES Limits

												Max	Min	Max / Min
Daily Max	—	—	—	—	—	2214	—	29.0	—	—	120	9.0	6.0	8.5 / 6.5
Monthly Avg	25	—	—	30	—	—	—	—	—	—	—			

Exceedances?

Daily Max	—	—	—	—	—	NONE	—	NONE	—	—	NONE	NO	NO	NO / NO
Monthly Avg	NONE	—	—	NONE	—	—	—	—	—	—	—			

Flint Hills Resources - Pine Bend Refinery
Calculated Data For NPDES Monthly Report, Station SD001
September 2011

DATE	BOD * kg/Day	COD * kg/Day	O&G * kg/Day	TSS * kg/Day	Sulfide * kg/Day	Phenol * kg/Day	Total Cr * kg/Day	Hex Cr (Cr+6) * kg/Day	NH3-N * kg/Day	NH3-N Unionized mg/L	Pol Pond Temp Deg F	Pol Pond pH - Max Continuous	Pol Pond pH -Min Continuous	Pol Pond pH - Daily Composite	Polishing pond flow Mgal/day
1-Sep-11	<202.7			88.7	<0.6	<0.32	<0.06	<0.01	4.9	0.00	87.5	6.9	6.7	7.2	3.35
2-Sep-11	<222.9		<69.6	111.4					3.6	0.00	90.4	6.9	6.8	7.6	3.68
3-Sep-11		952.6	<66.2	92.6					4.0	0.00	90.2	7.0	6.9	7.6	3.50
4-Sep-11		878.0	<62.7	87.8					4.0	0.00	87.8	7.0	6.9	7.6	3.32
5-Sep-11		884.0	<64.1	76.9		<0.32	<0.06	<0.01	4.5	0.00	83.1	7.1	6.9	7.6	3.39
6-Sep-11		962.3		67.8	<0.7				5.0	0.00	84.3	7.0	6.9	7.6	3.59
7-Sep-11	<224.6		<70.2	70.2					5.3	0.00	84.3	7.0	6.8	7.5	3.71
8-Sep-11	25.3			63.2	<0.6	<0.32	<0.06	<0.01	4.0	0.00	85.5	7.0	6.9	7.5	3.34
9-Sep-11	24.2		<60.4	72.5					3.5	0.00	86.7	7.0	6.9	7.6	3.19
10-Sep-11		934.0	<57.7	69.2					3.8	0.00	87.9	7.1	6.9	7.6	3.05
11-Sep-11		862.5	<53.2	74.5					3.7	0.00	89.1	7.1	6.9	7.6	2.82
12-Sep-11		681.7	<42.6	59.6		<0.21	<0.04	<0.01	2.8	0.00	87.6	7.3	7.0	7.6	2.25
13-Sep-11		749.0		84.3	<0.5				1.9	0.00	83.8	7.4	7.0	7.7	2.48
14-Sep-11	<164.3		<51.3	113.0					1.7	0.00	80.5	7.2	7.0	7.6	2.72
15-Sep-11	<153.5			105.5	<0.5	<0.24	<0.05	<0.01	<1.0	0.00	76.0	7.2	6.9	7.4	2.54
16-Sep-11	<188.8		<59.0	118.0					<1.2	0.00	77.4	6.9	6.8	7.2	3.12
17-Sep-11		1068.7	<58.1	92.9					2.0	0.00	77.4	6.8	6.7	7.3	3.07
18-Sep-11		954.9	55.5	66.6					2.7	0.00	76.8	6.8	6.7	7.2	2.94
19-Sep-11		913.2	<52.5	52.5		<0.26	<0.05	<0.01	3.6	0.00	76.5	6.8	6.7	7.3	2.78
20-Sep-11		961.1		55.9	<0.6				3.6	0.00	79.1	6.8	6.6	7.2	2.96
21-Sep-11	17.3		<43.3	52.0					2.9	0.00	76.2	7.0	6.7	7.4	2.29
22-Sep-11	17.6			52.9	<0.4	<0.22	<0.04	<0.01	2.1	0.00	72.2	7.1	6.9	7.5	2.33
23-Sep-11	17.9		<44.8	53.8					1.4	0.00	73.9	6.9	6.8	7.4	2.37
24-Sep-11		746.8	<40.6	48.7					1.0	0.00	75.5	6.9	6.8	7.5	2.15
25-Sep-11		750.7	<42.2	67.5					<0.8	0.00	76.2	7.0	6.9	7.6	2.23
26-Sep-11		868.9	<49.4	88.9		<0.25	<0.05	<0.01	<1.0	0.00	77.9	6.9	6.9	7.5	2.61
27-Sep-11		841.3		68.5	<0.5				1.1	0.00	76.6	7.0	6.8	7.4	2.59
28-Sep-11	16.9		<42.1	59.0					1.7	0.00	77.2	7.0	6.9	7.4	2.23
29-Sep-11	15.4			46.1	<0.4	<0.19	<0.04	<0.01	1.0	0.00	81.2	7.0	6.9	7.5	2.03
30-Sep-11	26.0		<43.4	60.7					<0.9	0.00	75.5	7.3	7.0	7.6	2.30

* Dependent on polishing pond flow and concentration.

Note: Results reported as "less than" indicate measurement below the Reporting Limit

Summary:

Column Total	160.6	14009.9	55.5	2221.0	<4.8	<2.33	<0.45	<0.09	75.9	0.00					84.93
No. Samples	14	16	21	30	9	9	9	9	30	30	30	30	30	30	30
Daily Max	26.0	1068.7	55.5	118.0	<0.7	<0.32	<0.06	<0.01	5.3	0.00	90.4	7.4		7.7	3.71
Daily Min	<153.5	681.7	<40.6	46.1	<0.4	<0.19	<0.04	<0.01	<0.8	0.00	72.2		6.6	7.2	2.03
Monthly Avg	11.5	875.6	2.6	74.0	<0.5	<0.26	<0.05	<0.01	2.5	0.00	81.1				2.83

NPDES LIMITS

												Max	Min	Max / Min
Daily Max	1473	15795	416	1423	12.9	16	18.6	1.43	1569	0.46	120	9.0	6.0	8.5 / 6.5
Monthly Avg	630	8126	217	614	5.8	5	8.3	0.64	714					

Exceedances?

														NO / NO
Daily Max	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NO	NO	
Monthly Avg	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE					

Flint Hills Resources, L.P. - Pine Bend Refinery

Final Effluent Selenium Test Results
Station SD001

September 2011

Date	Total Selenium (ug/l)
9/6/2011	**410**
9/13/2011	**340**
9/20/2011	**220**
9/27/2011	**270**

Monthly Maximum =	410
Monthly Minimum =	220
Monthly Average =	310

FLINT HILLS RESOURCES
Pine Bend Refinery

To: September 2011 DMR File (Env File # 0200-402)
From: James W. Brown
Date: October 13, 2011
Subject: DMR Data Notes for September, 2011

1. Final effluent composite sample was tested for Nitrate-Nitrogen and Nitrite-Nitrogen for process control purposes four times during the month of September, and test results are shown below:

DATE	NITRATE – N (PPM)	NITRITE – N (PPM)
September 6	11	0.07
September 13	27	0.11
September 20	31	0.06
September 27	32	0.05

2. Testing of WWTP Final Effluent Composite Sample for Total Dissolved Solids (TDS): The production of demineralized water from WWTP effluent at the FHR Treated Water Reuse System causes an increase in the total dissolved solids concentration of the WWTP discharge to the river. MPCA approval of the project requires weekly testing of effluent composite sample for TDS. Test results for TDS are reported in these DMR Data Notes each month. Special off-line Whole Effluent Toxicity (WET) testing was conducted on sample produced from bench-scale equipment to assess the possible impact of effluent reuse, and successful tests results were obtained on samples with TDS values of 1900, 2371 and 3782 ppm. A WET failure in the bench-scale study did occur when the effluent was cycled up to a very high degree (270%) and TDS reached 5100 ppm. As shown below, all TDS results for September were well below this level.

Sample Date	TDS– mg/l
September 6	2000
September 13	2400
September 20	2000
September 27	2400

3. Whole Effluent Toxicity (WET) Testing in September, 2011: FHR utilized step-feed operation in the activated sludge system for a portion of the month during September. In order to demonstrate that this mode provided stable operation without negative impact on effluent quality, a voluntary Whole Effluent Toxicity serial dilution test was conducted. As the "Percent Survival" values shown below demonstrate, all three test species exhibited successful survival in all dilutions and in 100% effluent.

PERCENT SURVIVAL – Acute Whole Effluent Toxicity Test (Serial Dilution)

September 27 through 30

% EFFLUENT	CERIODAPHNIA DUBIA	DAPHNIA MAGNA	FATHEAD MINNOWS
100	100	100	100
75	100	100	100
50	100	100	100
25	100	100	100
12	100	100	100
Control (Mississippi River Water)	100	100	100

The results for the final effluent toxicity test conducted in September were successful at all levels of effluent strength. Since there was a successful result in 100% effluent, a value of 0.9999 Toxicity Units is listed as the Daily Maximum on Page D9 of the September DMR.

4. Testing of Final Effluent Composite Sample for BOD in September: Painting in the building that houses the FHR NPDES Laboratory was conducted during a portion of September. While this work was progressing, lab staff were concerned about the possible presence of paint fumes in the analytical area, which could potentially impact testing of BOD samples and Glucose-Glutamic Acid (GGA) check standards. The presumption has been that vapors from solvents and adhesives used during remodeling are toxic to bacteria, and that they stress the organisms used in the BOD test so that DO consumption drops and BOD values with a low bias might be generated. As a precaution, composite effluent sample for BOD testing was split with an MDH-certified contract laboratory for eight sample days in September.

The BOD values generated by the FHR NPDES lab and the contract lab were very similar, which demonstrates that there was no interference with testing at the FHR lab. All of the data generated at the FHR lab is accordingly included in the BOD data reported in the September DMR. As a result of the contract lab utilization, the values reported on the DMR spreadsheets for September 8, 9, 21, 22, 23, 28, 29 and 30 are the average of the FHR and contract lab results.

5. Final Effluent Composite Sampler Operation on September 14: The tubing which carries flow from the Isco composite sampler peristaltic pump to the composite sample bottle was replaced as part of the normal preventative maintenance program. Sample collection was shut down for several minutes, during which time no more than one single sample might have been missed. When the work was completed, one manual sampling cycle was triggered to verify operation. Due to the large volume of the Polishing Pond in service, this event would not have had any practical impact upon the representativeness of the composite sample collected on this day, and normal composite sample volume was collected.

6. Monitoring of Final Effluent Continuous pH on September 28: During mid-September, the FHR NPDES Lab noted that the final effluent grab samples bottles were containing an elevated amount of vegetative solids in comparison to the composite sample. This condition indicates the formation and sloughing of slime in the piping for the sample pump which provides grab samples and flow to the continuous pH meter. WWTP staff flushed the pump at 10:35 AM and had normal operation restored by 1:25 PM. Flow to the continuous pH meter was interrupted from 10:35 AM to 10:40 AM and from 12:45 PM to 1:25 PM. As a result, the 10 AM, noon and 1 PM hours had only partial valid pH data. Invalid pH data generated during the downtime was excluded from each hourly average value, and these hours are included in the calculation of the daily median effluent pH, using the average of the valid data. Due to the 7 AM to 7 AM convention used to define a 24-hour period for compositing purposes, this event was part of the September 29 sample date, and the daily median pH calculation includes a full 24 hourly values.

7. Final Effluent Composite Sampler Operation on September 29: During a routine inspection at the Final Effluent Sample Building at 12:14 PM on September 29, the WWTP Operator discovered a crack in the tubing which carries flow from the peristaltic pump to the sample bottle. The tubing was immediately replaced, and the composite sampler was put back in service. The tube leak caused sample collection for some portion of the compositing period, probably 5 to 6 hours in length between inspection rounds, to be underrepresented to some unknown minor degree. Due to the large volume of the Polishing Pond in service, this event would not have had any practical impact upon the representativeness of the composite sample collected on that sample day, and normal composite sample volume was collected.

Flint Hills Resources L.P. - Pine Bend Refinery

WWTP Aeration Basin Dissolved Oxygen Data

(Data Obtained from the Plant Information System)
(Data is 24 hour average from midnight to midnight)

	Aeration Basin		
Date	**3A D.O. (ppm)**	**3B D.O. (ppm)**	**3C D.O. (ppm)**
1-Sep-11	2.3	4.7	4.8
2-Sep-11	2.2	4.8	4.9
3-Sep-11	2.2	4.9	5.0
4-Sep-11	2.6	4.8	5.2
5-Sep-11	3.2	5.3	5.7
6-Sep-11	2.3	5.0	5.7
7-Sep-11	1.9	5.1	5.8
8-Sep-11	1.6	4.3	5.4
9-Sep-11	2.2	4.6	5.3
10-Sep-11	1.9	4.3	5.2
11-Sep-11	1.9	4.7	5.5
12-Sep-11	1.6	3.8	5.3
13-Sep-11	1.3	2.8	5.0
14-Sep-11	1.6	3.8	5.6
15-Sep-11	1.5	3.0	5.5
16-Sep-11	1.7	3.3	5.2
17-Sep-11	1.3	2.3	4.4
18-Sep-11	1.2	3.1	4.6
19-Sep-11	1.2	2.5	3.8
20-Sep-11	1.1	3.2	4.3
21-Sep-11	1.2	3.1	4.9
22-Sep-11	1.5	4.4	5.5
23-Sep-11	2.2	4.9	5.7
24-Sep-11	2.5	5.0	6.0
25-Sep-11	2.1	4.7	5.8
26-Sep-11	2.3	4.3	5.6
27-Sep-11	1.8	4.1	5.5
28-Sep-11	2.2	4.7	5.4
29-Sep-11	2.2	5.4	5.6
30-Sep-11	3.2	5.8	5.9
1-Oct-11			
Minimum	1.1	2.3	3.8
Maximum	3.2	5.8	6.0
Average	1.9	4.2	5.3

Overall Average = **3.8** **ppm**

FLINT HILLS RESOURCES
OIL SEPARATION AND WASTEWATER TREATMENT PLANT
BYPASS, FIRE WATER RELEASE, UPSET AND COURTESY CALL REPORT

September 2011

1. BYPASSES

EQUIPMENT	PERIOD	REASON
None		

2. FIRE WATER RELEASES TO GROUND

DATE	TIME	SUMMARY
9/1/-9/30		Approximately 328,300 gallons of firewater were discharged to soil during dust suppression activities.

3. UPSETS No upsets occurred during the month.

4. NON-FIREWATER COURTESY CALLS TO MPCA / MISCELLANEOUS EVENTS

DATE	TIME	SUMMARY
9/22	12:00 AM	Approximately 1000 gallons of cooling water were released to soil due to an underground line leak.
9/23	8:00 PM	Approximately 50 gallons of coker cutting water were released to soil due to a plugged coke drum.

FLINT HILLS RESOURCES
September 2011

SPILL SUMMARY

Flint Hills Resources' corrective action to the items listed below, are documented in the company's incident tracking system database.

DATE	TIME	SUMMARY
9/1	4:15 PM	Approximately 1511 gallons of asphalt were released to soil when a PSV relieved during transfer of product.
9/13	12:40 PM	Approximately 8500 gallons of a water, soda ash, surfactant and hydrogen peroxide mixture were released to soil when a frac tank foamed over.
9/29	1:40 PM	Approximately 1 quart of portable toilet chemical was released to soil when wind blew over the portable toilet.

FLINT HILLS RESOURCES
HYDROTESTING REPORT
September 2011

Approximately 134,000 gallons of hydrotest water were used to hydrotest two vessels in the WWTP (94V3 and V4) on September 25th. This water was drained back to the WWTP.

FLINT HILLS RESOURCES

FIREWATER BASIN ANALYSIS
AND
MONTHLY STORM WATER/FIRE WATER BASIN LEAK DETECTION RATES

September 2011

Flint Hills Resources, LP - Pine Bend Refinery
B5 Data and Analysis

Date	Ammonia (ppm)	GRO (ppb)	DRO (ppb)	TSS (ppm)	COD (ppm)	PHENOLS (ppm)	pH	TOTAL CYANIDE (ppm)	LEAD (ppm)	ZINC (ppm)
2002 Average	0.45	<100	278	9	25	0.001	7.9	0.001	<0.06	0.003
2002 Maximum	1.52	<100	540	29	40	0.007	8.4	0.01	<0.07	0.02
2003 Average	0.83	<100	643	15	46	<0.025	8.0	0.001	<0.07	0.01
2003 Maximum	2.77	<100	990	38	71	<0.025	8.3	0.01	<0.09	0.05
2004 Average	0.33	<108	649	14	47	0.002	8.0	0.002	<0.04	0.003
2004 Maximum	2.01	<200	1200	32	68	0.030	8.4	0.024	<0.10	0.02
2005 Average	0.48	<100	189	11	35	<0.025	8.0	0.002	<0.004	0.013
2005 Maximum	1.69	<100	320	28	71	<0.025	8.2	0.021	<0.005	0.036
2006 Average	0.38	<100	216	6	18	<0.025	8.2	0.002	<0.005	0.012
2006 Maximum	1.38	<100	370	33	40	<0.025	8.2	0.020	<0.005	0.039
2007 Average	0.74	<100	122	8	14	0.002	8.1	0.001	<0.005	0.008
2007 Maximum	2.21	<100	410	28	44	0.026	8.4	0.016	<0.005	0.029
2008 Average	0.29	<100	110	11	20	0.003	8.1	<0.014	<0.005	0.007
2008 Maximum	0.65	<100	250	39	44	0.035	8.3	<0.014	<0.005	0.035
2009 Average	0.32	<100	331	5	14	<0.025	8.1	0.001	<0.005	0.015
2009 Maximum	1.14	<100	790	25	35	<0.025	8.2	0.012	<0.005	0.035
2010 Average	0.55	<100	264	5	8	0.002	8.0	<0.010	<0.005	0.018
2010 Maximum	0.97	<100	460	14	26	0.029	8.1	<0.010	<0.005	0.060
1/12/2011	0.72	<100	180	<4	<20	<0.025	8.1	<0.010	<0.005	0.020
2/9/2011	0.64	<100	150	5	<20	<0.025	8.1	<0.010	<0.005	0.020
3/9/2011	0.20	<100		6	<20	<0.025	8.1	<0.010	<0.005	0.020
3/16/2011			210							
4/13/2011	<0.10	<100	220	14	31	<0.025	8.0	<0.010	<0.005	0.023
5/11/2011	0.10	<100	260	7	<20	<0.025	8.0	<0.010	<0.005	0.029
6/8/2011	<0.10	<100	180	<4	<20	<0.025	8.0	<0.010	<0.005	<0.020
7/13/2011	<0.10	<100	270	<4	<20	<0.025	8.1	<0.010	<0.005	<0.020
8/10/2011	<0.10	<100	450	<4	<20	<0.025	8.1	<0.010	<0.005	<0.020
9/14/2011	0.21	<100	490	5	26	<0.025	8.1	<0.010	<0.005	<0.020
2011 Average	0.21	<100	268	4	6	<0.025	8.1	<0.010	<0.005	0.012
2011 Maximum	0.72	<100	490	14	31	<0.025	8.1	<0.010	<0.005	0.029

Flint Hills Resources, LP - Pine Bend Refinery
South Fire Basin Data and Analysis

Date	Ammonia (ppm)	GRO (ppb)	DRO (ppb)	TSS (ppm)	COD (ppm)	BOD_5 (ppm)	PHENOLS (ppm)	pH	TOTAL CYANIDE (ppm)	LEAD (ppm)	ZINC (ppm)
2002 Average	0.31	<100	320	12	30	1	<0.025	8.2	0.001	<0.06	0.04
2002 Maximum	0.91	<100	620	54	62	7	<0.025	9.0	0.012	<0.07	0.14
2003 Average	0.36	<100	293	15		<16	<0.025	8.1	<0.009	<0.08	0.05
2003 Maximum	0.68	<100	380	47		<16	<0.025	8.3	<0.01	<0.09	0.27
2004 Average	0.13	61	472	3	23	<16	0.003	8.2	0.024	<0.03	0.023
2004 Maximum	0.33	500	1600	9	23	<16	0.035	8.6	0.27	<0.10	0.061
2005 Average	0.06	<100	376	3		<16	0.003	8.7	0.0008	0.0021	0.116
2005 Maximum	0.27	<100	990	15		<16	0.026	9.0	0.0062	0.017	0.85
2006 Average	0.18	<100	406	4		<16	<0.025	8.4	<0.018	<0.005	0.019
2006 Maximum	0.41	<100	650	10		<16	<0.025	8.7	<0.028	<0.005	0.042
2007 Average	0.23	<100	269	6		<16	<0.025	8.5	<0.014	<0.005	0.033
2007 Maximum	0.61	<100	350	24		<16	<0.025	8.9	<0.014	<0.005	0.087
2008 Average	0.18	<100	237	5		<16	<0.025	8.4	<0.014	<0.005	0.033
2008 Maximum	0.43	<100	310	13		<16	<0.025	8.9	<0.014	<0.005	0.079
2009 Average	0.08	<100	276	7		<16	<0.025	8.5	<0.012	<0.005	0.042
2009 Maximum	0.23	<100	330	16		<16	<0.025	8.7	<0.014	<0.005	0.059
2010 Average	0.10	<100	378	3		<16	<0.025	8.5	<0.010	<0.005	0.041
2010 Maximum	0.26	<100	460	7		<16	<0.025	8.7	<0.010	<0.005	0.056
4/13/2011	<0.10	<100	310	24		<16	<0.025	9.3	<0.010	<0.005	<0.020
6/8/2011	<0.10	<100	340	6		<16	0.034	9.0	<0.010	<0.005	<0.020
8/10/2011	0.30	<100	480	90		<16	0.030	8.4	<0.010	<0.005	0.190
9/14/2011	0.27	<100	450	<4		<16	<0.025	8.3	<0.010	<0.005	<0.020
2011 Average	0.14	<100	395	30		<16	0.016	8.8	<0.010	<0.005	0.048
2011 Maximum	0.30	<100	480	90		<16	0.034	9.3	<0.010	<0.005	0.190

Flint Hills Resources, LP - Pine Bend Refinery
SW Storm Basin Data and Analysis

Date	Ammonia (ppm)	GRO (ppb)	DRO (ppb)	TSS (ppm)	COD (ppm)	BOD_5 (ppm)	PHENOLS (ppm)	pH	TOTAL CYANIDE (ppm)	LEAD (ppm)	ZINC (ppm)	O&G (ppm)
2002 Average	0.49	<100	458	13	32	3	0.014	7.5	<0.005	<0.07	0.16	
2002 Maximum	0.79	<100	700	26	32	5	0.035	7.8	<0.005	<0.07	0.21	
2003 Average	0.90	<100	529	7		<16	<0.025	8.1	<0.009	<0.08	0.12	
2003 Maximum	2.72	<100	560	14		<16	<0.025	8.5	<0.01	<0.09	0.50	
2004 Average	1.00	<100	1103	6		<16	<0.025	7.9	<0.005	<0.03	0.070	
2004 Maximum	3.11	<100	2600	10		<16	<0.025	8.8	<0.005	<0.10	0.16	
2005 Average	0.86	300	749	19		<16	<0.025	7.9	<0.007	0.0015	0.170	
2005 Maximum	1.74	2100	2800	84		<16	<0.025	9.1	<0.014	0.0100	0.760	
2006 Average	0.276	126	942	20.6		<16	0.0062	8.78	<0.014	0.0012	0.083	
2006 Maximum	0.74	630	1700	70		<16	0.031	10	<0.014	0.006	0.13	
2007 Average	0.40	<100	448	5		<16	<0.025	8.8	<0.014	0.001	0.036	
2007 Maximum	1.48	<100	620	7		<16	<0.025	9.6	<0.014	0.005	0.083	
2008 Average	0.62	<100	485	11		<16	0.015	8.3	<0.014	<0.005	0.102	
2008 Maximum	1.18	<100	850	15		<16	0.033	8.7	<0.014	<0.006	0.240	
2009 Average	1.08	<100	553	11		<16	0.010	7.8	<0.013	0.009	0.080	
2009 Maximum	1.57	<100	740	26		<16	0.030	8.0	<0.014	0.016	0.120	
2010 Average	0.40	<100	563	9		<16	0.007	8.2	<0.010	0.005	0.097	<5.0
2010 Maximum	0.73	<100	740	11		<16	0.027	9.5	<0.010	0.007	0.220	<5.0
5/11/2011	0.14	<100	420	10		<16	0.027	8.8	<0.010	0.007	0.220	
7/13/2011	1.25	<100	800	12		<16	0.041	7.8	<0.010	0.006	0.051	
9/14/2011	0.29	<100	1100	12		<16	<0.025	8.1	<0.010	0.005	0.052	
2011 Average	0.56	<100	773	11		<16	0.023	8.2	<0.010	0.006	0.108	
2011 Maximum	1.25	<100	1100	12		<16	0.041	8.8	<0.010	0.007	0.220	

Flint Hills Resources, LP - Pine Bend Refinery
Coker Pond Data and Analysis

Date	Ammonia (ppm)	GRO (ppb)	DRO (ppb)	TSS (ppm)	COD (ppm)	PHENOLS (ppm)	pH	TOTAL CYANIDE (ppm)	LEAD (ppm)	ZINC (ppm)
2002 Average	6.5	<100	1281	19	133	0.012	8.0	0.005	<0.07	0.03
2002 Maximum	15.3	<100	2300	42	227	0.031	8.6	0.024	<0.07	0.13
2003 Average	8.7	<100	3482	50	288	0.036	8.0	0.003	<0.07	0.007
2003 Maximum	18.4	<100	6400	118	604	0.076	8.6	0.012	<0.09	0.04
2004 Average	7.3	<156	1721	51	237	0.019	7.8	<0.005	<0.04	0.014
2004 Maximum	15.2	<200	3400	109	413	0.04	8.4	<0.005	<0.10	0.03
2005 Average	7.66	<100	835	18	176	<0.025	8.0	<0.0045	<0.005	0.012
2005 Maximum	8.57	<100	1000	21	193	<0.025	8.0	<0.004	<0.005	0.023
2006 Average	8.9	<140	1866	68.4	294.4	0.018	8.08	0.0034	<0.005	0.0204
2006 Maximum	13.1	<200	2600	186	572	0.06	8.5	0.017	<0.005	0.052
2007 Average	9.77	<150	995	135	369	<0.025	8.2	<0.014	0.001	0.057
2007 Maximum	16.30	<200	2500	441	1059	<0.025	8.6	<0.014	0.005	0.150
2008 Average	12.89	<150	798	56	251	<0.025	8.0	<0.014	<0.005	0.022
2008 Maximum	20.00	<200	1100	90	330	<0.025	8.6	<0.014	<0.005	0.039
2009 Average	14.5	<175	1878	81	313	0.012	8.2	<0.012	<0.005	0.025
2009 Maximum	17.7	<200	3500	134	415	0.047	8.5	<0.014	<0.005	0.068
2010 Average	14.2	<200	3500	80	223	0.032	8.5	<0.010	<0.005	0.035
2010 Maximum	14.2	<200	3500	80	223	0.032	8.5	<0.010	<0.005	0.035
4/13/2011	4.2	<200	1400	61	185	0.117	7.7	<0.010	<0.005	0.072
6/8/2011	2.2	<100	2200	70	371	0.286	7.8	<0.010	<0.005	0.033
2011 Average	3.2	<150	1800	66	278	0.202	7.8	<0.010	<0.005	0.053
2011 Maximum	4.2	<200	2200	70	371	0.286	7.8	<0.010	<0.005	0.072

Flint Hills Resources, LP - Pine Bend Refinery
West Storm Basin

Date	Ammonia (ppm)	GRO (ppb)	DRO (ppb)	TSS (ppm)	COD (ppm)	BOD_5 (ppm)	PHENOLS (ppm)	pH	TOTAL CYANIDE (ppm)	LEAD (ppm)	ZINC (ppm)
2002 Average	0.03	<100	43	12	24	<16	0.010	8.7	<0.005	<0.07	<0.02
2002 Maximum	0.04	<100	130	19	27	<16	0.015	9.2	<0.005	<0.07	<0.02
2003 Average	<0.10	<100	220	<4		<16	<0.025	8.9	<0.005	<0.07	<0.02
2003 Maximum	<0.10	<100	220	<4		<16	<0.025	8.9	<0.005	<0.07	<0.02
No samples taken in 2004.											
2005 Average	<0.10	<100	100	<4	27	NA	<0.025	9.5	0.0058	<0.005	<0.02
2005 Maximum	<0.10	<100	100	<4	27	NA	<0.025	9.5	0.0058	<0.005	<0.02
No samples taken in 2006.											
2007 Average	<0.10	<100	170	14	22		<0.025	7.5	<0.014	<0.005	<0.020
2007 Maximum	<0.10	<100	170	14	22		<0.025	7.5	<0.014	<0.005	<0.020
No samples taken in 2008.											
No samples taken in 2009.											
No samples taken in 2010.											
6/8/2011	<0.10	<100	240	<4	<20		<0.025	7.3	<0.010	<0.005	0.024
2011 Average	<0.10	<100	240	<4	<20		<0.025	7.3	<0.010	<0.005	0.024
2011 Maximum	<0.10	<100	240	<4	<20		<0.025	7.3	<0.010	<0.005	0.024

Flint Hills Resources, LP - Pine Bend Refinery
Lower Basin Data and Analysis

Date	Ammonia (ppm)	GRO (ppb)	DRO (ppb)	TSS (ppm)	COD (ppm)	BOD_5 (ppm)	PHENOLS (ppm)	Cr+6 (ppb)	pH	TOTAL CYANIDE (ppm)	LEAD (ppm)	ZINC (ppm)
2002 Average	0.41	<100	231	12	32	5	0.005	10	8.0	<0.005	<0.07	0.06
2002 Maximum	1.22	<100	330	32	47	14	0.038	20	8.5	<0.005	<0.07	0.11
2003 Average	0.61	<100	912	15		<16	<0.025		8.3	<0.008	<0.08	0.10
2003 Maximum	1.28	<100	1200	39		<16	<0.025		9.0	<0.010	<0.09	0.22
2004 Average	0.21	<100	595	15		<16	<0.025		8.2	0.001	<0.04	0.0525
2004 Maximum	0.82	<100	1100	28		<16	<0.025		9.0	0.008	<0.10	0.14
2005 Average	0.14	<100	208	8		<16	<0.025		8.4	<0.010	0.0003	0.08
2005 Maximum	0.33	<100	320	21		<16	<0.025		8.6	<0.014	0.0013	0.14
2006 Average	0.46	<100	225	7		<16	<0.025		8.2	<0.028	<0.005	0.053
2006 Maximum	0.91	<100	320	10		<16	<0.025		8.3	<0.028	<0.005	0.086
2007 Average	0.19	<100	157	7		<16	0.009		8.7	<0.014	<0.005	0.021
2007 Maximum	0.39	<100	300	8		<16	0.026		9.5	<0.014	<0.005	0.034
2008 Average		<100	180		32					<0.014	<0.005	<0.020
2008 Maximum		<100	180		32					<0.014	<0.005	<0.020
2009 Average	0.27	<100	257	239		<16	0.010		8.2	<0.011	<0.005	0.101
2009 Maximum	0.66	<100	330	360		<16	0.029		8.1	<0.014	<0.005	0.130
2010 Average	0.41	<100	400	4		<16	<0.025		8.3	<0.010	<0.005	<0.020
2010 Maximum	0.64	<100	540	7		<16	<0.025		8.3	<0.010	<0.005	<0.020

Flint Hill Resources, L.P. - Pine Bend Refinery

Monthly Storm Water / Fire Water Basin Leak Detection Rates

September 2011

Date	Southwest Basin		B-5 Fire Basin	
	Average Measured Leak Rate (gal/day)	Allowable Leak Rate (gal/day)	Average Measured Leak Rate (gal/day)	Allowable Leak Rate (gal/day)
January 2011	(1)	1350	15	2000
February 2011	(1)	1350	14	2000
March 2011	(1)	1350	33	2000
April 2011	568	1350	187	2000
May 2011	354	1350	685	2000
June 2011	118	1350	17	2000
July 2011	258	1350	88	2000
August 2011	43	1350	173	2000
September 2011	31	1350	163	2000

Comments

(1) Not tested due to frozen conditions.

FLINT HILLS RESOURCES
MONTHLY NPDES CHEMICAL ADDITIVE EVALUATIONS

September 2011

Flint Hills Resources - Pine Bend Refinery
Monthly NPDES Chemical Additive Evaluations

Sep-11

Approval Date	Chemical Name	Intended Use	Amount Approved
9/1/2011	GENGARD GN8143	Cooling tower antiscalent and dispersant.	240 ppm
9/21/2011	GENGARD GN8320	Cooling tower corrosion inhibitor.	700 pounds/day
9/21/2011	Phosphoric Acid (70-85%)	Nutrient used in WWTP biobasins	40 gallons/day

* Copies of each chemical additive evaluation file is available upon request

FLINT HILLS RESOURCES
WATER QUALITY DATA – STATION SD002

September 2011

Flint Hills Resources, Pine Bend

Water Quality Data - Station SD0002

Spring Lake Trench Extension Underflow

(concentrations in ug/L)

Location	Date	Gasoline Range Organics	Benzene	Ethyl benzene	Toluene	Xylenes total
Trench Extension Underflow	January 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	February 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	March 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	April 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	May 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	June 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	July 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	August 2011	Valve closed. No flow; therefore no sample collected.				
Trench Extension Underflow	September 2011	Valve closed. No flow; therefore no sample collected.				