Wilson, Tabatha

From: Gilliam, Allen
Sent: Friday, April 25, 2014 8:06 AM
To: jeff.wages@united-in.com
Cc: Fuller, Kim; Wilson, Tabatha; Jon.Cummins@united-in.com; Anthony.Arnold@united-in.com; helenawater@sbcglobal.com
Subject: AR0043389_United Initiators SPI ARP001013 Feb 2014 non compliant semi annual Pretreatment report response with dilution factor and ADEQ reply_20140225
Attachments: United Initiators SPI Inc 14-105-0215 20140421 report_far_2951752-340.pdf; United Initiators SPI Watewater Effluent Dilution Evaluation 04082014.pdf; certification statement.pdf

Jeff,

Your response to United Initiators' February 2014 non-compliant report is deemed adequate and will be accepted as a "return to compliance" report.

Thank you for the effort put into calculating an appropriate dilution factor. The data appeared accurate as well as the final calculation of a meaningful dilution factor although the report's "Conclusion" states, "Therefore, effluent concentrations should be divided by 0.94…if an estimate of undiluted wastewater effluent concentrations is needed." This is contrary to the use of the combined wastestream formula (CWF) in 40 CFR 403.6 where you would multiply 0.94 times the concentration limits in 40 CFR 414.111.

As per our phone conversations, the consultant's approach is an alternative (and equal) way of involving the other dilution streams, but it may be in your best interest to follow traditional national Pretreatment guidance when calculating alternative limits. I believe we both agreed on this. Any other interested party familiar with the Pretreatment regulations would more readily identify your use of the CWF to arrive at alternative limit.

For your records, please show the CWF per 40 CFR 403.6(e)(1)(i) was used to adjust United Initiators' concentration limits in the Organic Chemicals, Plastics and Synthetic Fibers category under 40 CFR 414.

Thank you for your time and assistance in this matter.

Sincerely,

Allen Gilliam
ADEQ State Pretreatment Coordinator
501.682.0625

ec: Terry McGinister, Helena General Manager

E/NPDES/NPDES/Pretreatment/Reports

From: Jeff Wages [mailto:Jeff.Wages@united-in.com]
Sent: Wednesday, April 23, 2014 2:19 PM
To: Gilliam, Allen; Jon Cummins
Cc: Fuller, Kim; Wilson, Tabatha; helenawater@sbcglobal.com; Jon.Cummins@united-in.com; Anthony Arnold

Subject: RE: AR0043389_United Initiators SPI ARP001013 Feb 2014 non compliant semi annual Pretreatment report with ADEQ reply_20140324

Hi Allen,

Find attached the results of a repeat analysis for our wastewater discharge to the city. Dimethyl phthalate was not detected at the Method Quantitation Limit. Also find attached our wastewater effluent dilution factor as calculated for us by Ensafe taking into account local average rainfall and evaporation.

Please let me know if you require additional information or actions by us regarding this matter.

Best Regards,

Jeff Wages
Regulatory Manager
Phone : *+1 (870) 572-3297 Ext. 307*
Fax: *+1 (870) 572-1416*
Mobile: *+1 (870) 995-3443*
jeff.wages@united-in.com

UNITED INITIATORS SPI, INC
334 Phillips 311 Road
Helena, AR 72342

www.syrgispi.com

www.united-initiators.com

From: Gilliam, Allen [mailto:GILLIAM@adeq.state.ar.us]
Sent: Monday, March 24, 2014 2:00 PM
To: Jeff Wages; Jon Cummins
Cc: Fuller, Kim; Wilson, Tabatha; helenawater@sbcglobal.com
Subject: AR0043389_United Initiators SPI ARP001013 Feb 2014 non compliant semi annual Pretreatment report with ADEQ reply_20140324

Jeff,

United Initiators' (UI) February 2014 semi-annual Pretreatment report was e-received, reviewed and deemed non-compliant.

As per our phone conversation this morning, the streamlining modifications to the Federal Pretreatment Regulations in 40 CFR 403, specifically 40 CFR 403.6(c)(6) state, "[ADEQ] may convert the mass limits of the categorical Pretreatment Standards at 40 CFR parts 414, 419, and 455 to concentration limits for purposes of calculating limitations applicable to individual Industrial Users under the following conditions. When converting such limits to concentration limits, the Control Authority must use the concentrations listed in the applicable subparts of 40 CFR parts 414, 419, and 455 and document that dilution is not being substituted for treatment as prohibited by paragraph (d) of

this section." Documentation that dilution is not being substituted for treatment will be discussed below.

Prior to these streamlining revisions UI, covered under Subpart H with standards pursuant to 40 CFR 414.111(a) stated, "Any point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table." ADEQ will allow the concentration limits in CFR 414.111 to be UI's categorical standards.

Violations:

1) The Dimethyl phthalate concentration discharged from UI to the City exceeded both the Maximum for any one day limit (47 ug/l) and the Maximum for any monthly average limit of 19 ug/l.
2) The Pretreatment reporting requirements in 40 CFR 403.12(g)(2) state, "If sampling performed by [UI] indicates a violation, [UI] shall notify [ADEQ] within 24 hours of becoming aware of the violation. [UI] shall also repeat the sampling and analysis and submit the results of the repeat analysis to [ADEQ] within 30 days after becoming aware of the violation." No documentation can be located UI notified ADEQ of the violation nor repeated the analysis and submitted its results within 30 days.

Considering the size of your treatment/holding ponds (~6.5 acres), please provide within thirty (30) days from the date on this correspondence a proper dilution factor taking into account the average rainfall and evaporation for your area. Include stormwater piped to the pond as indicated by Mr. Torrence's correspondence dated 8/12/11. Provide the resources from which your dilution factor is based upon.

For example, http://www.usclimatedata.com/climate.php?location=USAR0261 indicates Helena's average annual precipitation is ~51".

Table I of NOAA Technical Report NWS 34 - National Weather Service (albeit old) indicates the average rate of evaporation at Stuttgart is ~53". Depending on how much stormwater is discharged into your treatment ponds, this exercise may be a moot point with UI not having a dilution factor.

Provide within thirty (30) days from the date on this correspondence a repeat analysis of a representative sample of wastewater discharged to the City indicating compliance for all parameters listed in 40 CFR 414.111. If not compliant, UI must repeat these analysis until it can take corrective actions and show compliance.

Sincerely,

Allen Gilliam
ADEQ State Pretreatment Coordinator
501.682.0625

ec: Terry McGinister, Helena General Manager

E/NPDES/NPDES/Pretreatment/Reports

From: Jeff Wages [mailto:Jeff.Wages@united-in.com]
Sent: Monday, February 17, 2014 2:41 PM

To: Gilliam, Allen
Cc: Jon.Cummins@united-in.com
Subject: United Initiators SPI Water Report February 2014

Dear Mr. Gilliam,

In accordance with 40 CFR Part 403.12(e) industrial users with processes regulated by categorical pretreatment standards (40 CFR Part 414, et al), please find attached our most recent monitoring report for the wastewater discharged from the United Initiators SPI, Inc. facility in Helena, Arkansas. Also attached are two sets of wastewater analytical results and the procedure used to composite the wastewater sample analyzed for zinc and lead.

Please contact me by phone at 870.572.2935 ext. 307 or by e-mail at jeff.wages@united-in.com if you have any questions or require additional information regarding this report.

<<United Initiators Wastewater Report 1402.pdf>> <<Wastewater Composite SOP 1402.pdf>>

<<United Initiators SPI 14-022-0215 20140128 report_far_2833815-333.PDF>> <<Syrgis Performance Initiators Inc 14-021-0301 20140203 report_far_2840672-336.PDF>>

Best Regards,

Jeff Wages
Regulatory Manager
Phone : *+1 (870) 572-3297 Ext. 307*
Fax: *+1 (870) 572-1416*
Mobile: *+1 (870) 995-3443*
jeff.wages@united-in.com

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2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440
"A Laboratory Management Partner"

4/21/2014

Rineco Analytical Services
Ms. Mia Dixon
P O Box 729
Benton, AR, 72018

Ref: Analytical Testing
ETC Report Number: 14-105-0215
Client Project Description: United Initiators, SPI, Inc.
40 CFR Part 414.111

Dear Ms. Mia Dixon:

Environmental Testing and Consulting, Inc. received sample(s) on 4/15/2014 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Per EPA Methods Update Rule (May 2012), all methods from Standard Methods for the Examination of Water and Wastewater are reported to include the year of approval.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Randall H. Thomas

Randy Thomas
Project Manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Alabama	#40750	Louisiana	#04015	VA NELAP	#460181	Texas	#T104704180-11-6	Arkansas	#88-0650
Mississippi		California	#2904	NC	#415	Oklahoma	#9311	Virginia	#00106
Kentucky	#90047	Tennessee	#TN02027	EPA	#TN00012	Kentucky UST	#41	Kansas	#E-10396

Client: Rineco Analytical Services **CASE NARRATIVE**
Project: United Initiators, SPI, Inc.
Lab Report Number: 14-105-0215
Date: 4/21/2014

Semivolatile Organic Compounds - GC/MS Method EPA-625
Sample 94437 (Composite 4/14-15/14)
QC Batch No: L196340
Surrogates were flagged for recoveries in the associated project sample. During the extraction step, the extraction technician noted that a significant emulsion formed. Batch QC samples (Method Blank and Laboratory Control Samples) all showed surrogate recoveries within QC limits, indicating that the low recoveries were due to the sample matrix.
QC Batch No: L196340
Sample requires dilution due to high levels of non-target analytes.

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05424
Rineco Analytical Services
Ms. Mia Dixon
P O Box 729
Benton , AR 72018

Project Information : United Initiators, SPI, Inc.
40 CFR Part 414.111

Report Date : 04/21/2014
Received : 4/15/2014

Report Number : **14-105-0215**

REPORT OF ANALYSIS

Lab No : **94436**
Sample ID : **Grab**

Matrix: **Aqueous**
Sampled: **4/15/2014 12:05**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Cyanide	<0.010	mg/L	0.010	1	04/16/14 10:00	EWB	4500CNE-2011

Qualifiers/ Definitions

*	Outside QC limit
MQL	Method Quantitation Limit
DF	Dilution Factor

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Ms. Mia Dixon
P O Box 729
Benton , AR 72018

Project Information : United Initiators, SPI, Inc.
40 CFR Part 414.111

Report Date : 04/21/2014
Received : 4/15/2014

Report Number : **14-105-0215**

REPORT OF ANALYSIS

Lab No : **94436**
Sample ID : **Grab**

Matrix: **Aqueous**
Sampled: **4/15/2014 12:05**

Analytical Method: 624
Prep Method: EPA-624 (PREP) **Prep Batch(es):** L196222 **Date/Time Prepped:** 4/15/2014 08:00:00

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Benzene	**4.54**	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Carbon Tetrachloride	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Chlorobenzene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Chloroform	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Methyl Chloride	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,1-Dichloroethane	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,2-Dichloroethane	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,1-Dichloroethylene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,2-trans-Dichloroethylene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,2-Dichloropropane	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
cis-1,3-Dichloropropene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
trans-1,3-Dichloropropene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,3-Dichloropropylene	<1.00	µg/L	1.00	1	04/15/14 19:02		L196224
Ethylbenzene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Methylene Chloride	<10.0	µg/L	10.0	1	04/15/14 19:02	ACS	L196224
Tetrachloroethylene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Toluene	<5.00	µg/L	5.00	1	04/15/14 19:02	ACS	L196224
1,1,1-Trichloroethane	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
1,1,2-Trichloroethane	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Trichloroethylene	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224

Qualifiers/ Definitions
* Outside QC limit
I Recovery out of range
DF Dilution Factor
MQL Method Quantitation Limit

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Rineco Analytical Services
Ms. Mia Dixon
P O Box 729
Benton , AR 72018

Project Information : United Initiators, SPI, Inc.
40 CFR Part 414.111

Report Date : 04/21/2014
Received : 4/15/2014

Report Number : **14-105-0215**

REPORT OF ANALYSIS

Lab No : **94436**
Sample ID : **Grab**

Matrix: **Aqueous**
Sampled: **4/15/2014 12:05**

Analytical Method: 624
Prep Method: EPA-624 (PREP) **Prep Batch(es):** L196222 **Date/Time Prepped:** 4/15/2014 08:00:00

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Vinyl Chloride	<1.00	µg/L	1.00	1	04/15/14 19:02	ACS	L196224
Surrogate: 4-Bromofluorobenzene	101		Limits: 71-131%	1	04/15/14 19:02	ACS	L196224
Surrogate: Dibromofluoromethane	100		Limits: 70-128%	1	04/15/14 19:02	ACS	L196224
Surrogate: 1,2-Dichloroethane - d4	102		Limits: 67-136%	1	04/15/14 19:02	ACS	L196224
Surrogate: Toluene-d8	91.4		Limits: 70-130%	1	04/15/14 19:02	ACS	L196224

Qualifiers/ Definitions

*	Outside QC limit	DF	Dilution Factor
I	Recovery out of range	MQL	Method Quantitation Limit

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Project Information : United Initiators, SPI, Inc.
40 CFR Part 414.111

Report Date : 04/21/2014
Received : 4/15/2014

Report Number : **14-105-0215**

REPORT OF ANALYSIS

Lab No : **94437**
Sample ID : **Composite 4/14-15/14**

Matrix: **Aqueous**
Sampled: **4/15/2014 0:00**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	**0.544**	µg/L	0.500	1	04/16/14 15:09	RQE	EPA-200.8
Total Zinc	**46.2**	µg/L	5.00	1	04/16/14 15:09	RQE	EPA-200.8

Qualifiers/ Definitions
* Outside QC limit
MQL Method Quantitation Limit
DF Dilution Factor

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Project Information : United Initiators, SPI, Inc.
40 CFR Part 414.111

Report Date : 04/21/2014
Received : 4/15/2014

Report Number : **14-105-0215**

REPORT OF ANALYSIS

Lab No : **94437**
Sample ID : **Composite 4/14-15/14**

Matrix: **Aqueous**
Sampled: **4/15/2014 0:00**

Analytical Method: 625
Prep Method: 625 **Prep Batch(es):** L196202 **Date/Time Prepped:** 4/16/2014 14:15:00

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acenaphthene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340
Anthracene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340
Bis(2-ethylhexyl)phthalate	<100	µg/L	100	10	04/16/14 20:48	BMP	L196340
1,2-Dichlorobenzene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
1,3-Dichlorobenzene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
1,4-Dichlorobenzene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Diethyl phthalate	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Dimethyl phthalate	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Di-n-butyl phthalate	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
4,6-Dinitro-o-cresol	<100	µg/L	100	10	04/16/14 20:48	BMP	L196340
Fluoranthene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340
Fluorene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340
Hexachlorobenzene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Hexachlorobutadiene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Hexachloroethane	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Naphthalene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340
Nitrobenzene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
2-Nitrophenol	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
4-Nitrophenol	<200	µg/L	200	10	04/16/14 20:48	BMP	L196340
Phenanthrene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340
Pyrene	<20.0	µg/L	20.0	10	04/16/14 20:48	BMP	L196340

Qualifiers/ Definitions
* Outside QC limit
I Recovery out of range
DF Dilution Factor
MQL Method Quantitation Limit

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05424
Rineco Analytical Services
Ms. Mia Dixon
P O Box 729
Benton , AR 72018

Project Information : United Initiators, SPI, Inc.
40 CFR Part 414.111

Report Date : 04/21/2014
Received : 4/15/2014

Report Number : **14-105-0215**

REPORT OF ANALYSIS

Lab No : **94437**
Sample ID : **Composite 4/14-15/14**

Matrix: **Aqueous**
Sampled: **4/15/2014 0:00**

Analytical Method: 625
Prep Method: 625 **Prep Batch(es):** L196202 **Date/Time Prepped:** 4/16/2014 14:15:00

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2,4-Trichlorobenzene	<50.0	µg/L	50.0	10	04/16/14 20:48	BMP	L196340
Surrogate: 2-Fluorobiphenyl	**22.7** *		Limits: 38-107%	10	04/16/14 20:48	BMP	L196340
Surrogate: 2-Fluorophenol	8.47		Limits: 8-88%	10	04/16/14 20:48	BMP	L196340
Surrogate: Nitrobenzene-d5	**22.4** *		Limits: 29-105%	10	04/16/14 20:48	BMP	L196340
Surrogate: Phenol-d6	7.14		Limits: 7-58%	10	04/16/14 20:48	BMP	L196340
Surrogate: 4-Terphenyl-d14	38.4		Limits: 30-130%	10	04/16/14 20:48	BMP	L196340
Surrogate: 2,4,6-Tribromophenol	43.8		Limits: 16-138%	10	04/16/14 20:48	BMP	L196340

Qualifiers/ Definitions

*	Outside QC limit	DF	Dilution Factor
I	Recovery out of range	MQL	Method Quantitation Limit

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Cooler Receipt Form

Customer Number: **05424**
Customer Name: **Rineco Analytical Services**
Report Number: **14-105-0215**

Shipping Method

○ Fed Ex ○ UPS ○ US Postal ○ Client ● Lab ○ Courier ○ Other :

Shipping container/cooler uncompromised?	● Yes	○ No	
Custody seals intact on shipping container/cooler?	○ Yes	○ No	● Not Required
Custody seals intact on sample bottles?	○ Yes	○ No	● Not Required
Chain of Custody (COC) present?	● Yes	○ No	
COC agrees with sample label(s)?	● Yes	○ No	
COC properly completed	● Yes	○ No	
Samples in proper containers?	● Yes	○ No	
Sample containers intact?	● Yes	○ No	
Sufficient sample volume for indicated test(s)?	● Yes	○ No	
All samples received within holding time?	● Yes	○ No	
Cooler temperature in compliance?	● Yes	○ No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	● Yes	○ No	
Water - Sample containers properly preserved	● Yes	○ No	○ N/A
Water - VOA vials free of headspace	● Yes	○ No	○ N/A
Trip Blanks received with VOAs	○ Yes	○ No	● N/A
Soil VOA method 5035 – compliance criteria met	○ Yes	○ No	● N/A

☐ High concentration container (48 hr) ☐ Low concentration EnCore samplers (48 hr)
☐ High concentration pre-weighed (methanol -14 d) ☐ Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included?	○ Yes	● No

Comments:

Any regulatory non-compliance issues will be recorded on non-compliance report.

Signature: Brooke Shoup

Date & Time: 04/15/2014 14:43:44

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2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440

CHAIN OF CUSTODY

14-105-0215
05424
04-15-2014
14:43:32
Rineco Analytical Services
United Initiators, SPI, Inc

Company Name	Customer Number	Telephone	RUSH	ICE
Rineco Analytical Services	05424	(501) 778-9089		

Site Name	Project Comment	FID Number
United Initiators, SPI, Inc.		

Project	Project Number	PO Number
Rineco - United Initiators Part 414111		

Project Manager / Contact	E-mail
Rineco Analytical Services	

Sample ID	Container Type	Collected Date / Time	# Cont	Preservative	Grab / Comp	Matrix	Analyses
Grab	Glass Vial Amber - 40ml	4-15-14 1205	3	HCL - Hydrochloric Acid	G	Aqueous	VOC
Grab	Plastic - Pint	〃 〃	1	NaOH - Sodium Hydroxide	G	Aqueous	CNT
Composite	Plastic - Pint	4/15/14 14 —	1	HNO3 - Nitric Acid	C	Aqueous	Pb/Zn
Composite	Glass Amber - Liter	↓ ↓	2	Na2S2O3 - Sodium Thiosulfate	C	Aqueous	SVOC

Sampled By	Method of Shipment	Blank / Cooler	Remarks
	4-15-14 1205	Temperature 0.8°C	

Relinquished By (sign)	Date / Time	Received By (sign)	Date / Time
Relinquished By (sign)	**Date / Time**	**Received By (sign)**	**Date / Time**
Relinquished By (sign)	**Date / Time**	**Received by Lab (sign)**	**Date / Time**
	4-15-14 1430		04-15-14 1430

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April 8, 2014

Mr. Jeff Wages
Regulatory Manager
United Initiators SPI Inc.
334 Phillips 311 Road
Helena, Arkansas 72342

via E-Mail: Jeff.Wages@united-in.com

Re: Evaluation of Potential Wastewater Effluent Dilution from Storm Water
United Initiators SPI Inc.
334 Phillips 311 Road
Helena, Arkansas 72342

Dear Mr. Wages:

EnSafe Inc. is pleased to present the following evaluation of potential wastewater dilution effects from discharging storm water captured from several locations at the United Initiators SPI Inc. (UI SPI) facility in Helena, Arkansas, to the two onsite wastewater treatment ponds.

Storm Water Contributions to Wastewater Ponds

The volume of storm water runoff discharged to the UI SPI wastewater treatment ponds was estimated using information provided by UI SPI, our knowledge of the site, and the following formula:

Runoff (gallons per year [gpy]) = Surface Area (square feet) x Rainfall (feet) x Runoff Coefficient

The estimated annual rainfall for Helena, Arkansas, is 51 inches (4.25 feet)/year (U.S.Climate Data).

Runoff coefficients for the areas at the UI SPI facility contributing storm water to the wastewater ponds are estimated as follows:

- Metal roofs: 0.80 (WaterAid)
- Concrete tank basins and Drainage Basin 6: 0.80 to 0.95 (Lindeburg)
- Ground surface around Building 6 (estimated to be 75% concrete and 25% grass): 0.65 to 0.77 based on the following:
  - Concrete: 0.80 to 0.95 (Lindeburg)
  - Grass, poorly drained, 2–7% slope: 0.18 to 0.22 (U.S. Department of Agriculture)

$$(0.75 \times 0.8) + (0.25 \times 0.18) = 0.65$$
$$(0.75 \times 0.95) + (0.25 \times 0.22) = 0.77$$

The annual volume of storm water discharged to UI SPI's wastewater ponds is 1,232,180 to 1,319,921 gpy, with an average storm water discharge of **1,276,051 gpy** (Table 1 in Attachment A).

The two wastewater treatment ponds have a combined surface area of approximately 6.5 acres (283,140 square feet); therefore the volume of storm water falling directly on the surface of the ponds is calculated as follows:

283,140 square feet x 4.25 feet of rainfall/year = 1,203,345 cubic feet/year
1,203,345 cubic feet/year * 7.48 gallons/cubic foot = **9,001,021 gpy**

Evaporation from the surface of the two wastewater treatment ponds is approximately 52.83 inches (4.40 feet)/year (Arkansas Agricultural Experiment Station). Therefore, evaporation is expected to reduce water levels in the wastewater treatment ponds by:

283,140 square feet x 4.40 feet/year = 1,245,816 cubic feet/year
1,245,816 cubic feet/year * 7.48 gallons/cubic foot = **9,318,703 gpy**

By adding the volume of storm water falling directly onto the ponds to the volume of storm water runoff discharged to the ponds from the facility and subtracting the volume of water in the ponds lost to evaporation, the net contribution of storm water to the wastewater ponds at UI SPI is calculated as follows:

1,276,051 gpy + 9,001,021 gpy - 9,318,704 gpy = **958,368 gpy**

Wastewater Influent to Wastewater Ponds

Using the annual, average effluent flows for the combined (process and sanitary) wastewater provided by UI SPI, a mass balance approach can be used to estimate the influent flow volumes.

As Table 2 in Attachment A indicates, effluent flow volumes from the wastewater ponds during the 2011 to 2013 reporting years varied between 13,582,998 and 16,634,258 gpy, with an average effluent volume of **15,482,059 gpy**.

By subtracting the average volume contributed by storm water to the measured wastewater effluent, the average volume of wastewater influent to the ponds is calculated as follows:

$WW_{effluent}$ (e.g., wastewater influent + storm water contribution) – $SW_{contribution}$ = $WW_{influent}$
15,482,059 gpy – 958,368 gpy = **14,523,691 gpy**

Dilution Factor for Storm Water Contributions to the Wastewater Ponds

The dilution factor (DF) for storm water contributions to UI SPI's wastewater treatment ponds is calculated as follows (Washington State Department of Ecology):

$$DF = \frac{Q_e}{Q_a + Q_e}$$

where: Q_e = Volume of the effluent (i.e., the storm water)
Q_a = Volume of the receiving water (i.e., the combined wastewater)

$$DF = \frac{958{,}368}{14{,}523{,}691 + 958{,}368} = \mathbf{0.0619}$$

Conclusion

In conclusion, it appears that storm water contributions from the UI SPI facility may be diluting UI SPI's treated wastewater effluent by approximately 6%. Therefore, effluent concentrations should be divided by **0.94** (1.0 – 0.0619 = 0.94) if an estimate of undiluted wastewater effluent concentrations is needed.

Please note that the calculated DF is based upon only two years of recorded wastewater effluent volumes at the facility. Re-evaluating the calculated DF in the future when additional recorded effluent volumes are available may narrow the range of effluent volumes used in the calculation; increasing the accuracy of the calculation.

EnSafe sincerely appreciates the opportunity to provide continued environmental consulting services to UI SPI. If you have any questions regarding the information provided in this evaluation, please do not hesitate to contact EnSafe at 901-372-7962.

Sincerely,

EnSafe Inc.

By: Geoff Pope, PE
Sr. Project Manager/Engineer

David Hilgeman, EIT
Environmental Scientist

Encl. Attachment A — Tables
Attachment B — Bibliography

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Attachment A
Tables

Table 1
Estimated Volume of Storm Water Discharged to Wastewater Treatment Ponds
United Initiators SPI Inc.
Helena, Arkansas

Location	Material	Surface Area (SF)	Annual Rainfall (in.)[1]	Runoff Coefficient	Runoff (gal/yr)	Notes
Bldg 1 downspouts	Metal Roof	14,000	51.00	0.8	356,048	Downspouts are valved to discharge to surfacewater ditch, if needec
Bldg 16 downspouts	Metal Roof	12,800	51.00	0.8	325,530	
Bldg 6 downspouts	Metal Roof	1,400	51.00	0.8	35,605	
Bldg 7 downspouts	Metal Roof	1,200	51.00	0.8	30,518	Only half of downspouts are piped to Pond 1
Bldg 8 downspouts	Metal Roof	1,200	51.00	0.4	15,259	Only half of downspouts are piped to Pond 1
Surface around Bldg 6	75% concrete / 25% grass	4,000	51.00	0.65	82,654	Coverage ratio est. by facility
				0.77	97,913	Coverage ratio est. by facility
Drainage Basin 6	Concrete	4,500	51.00	0.8	114,444	Surface area est. by facility
				0.95	135,902	Surface area est. by facility
TB02	Concrete	1,200	51.00	0.8	30,518	
				0.95	36,241	
TB03	Concrete	900	51.00	0.8	22,889	
				0.95	27,180	
TB04	Concrete	1,000	51.00	0.8	25,432	
				0.95	30,201	
TB05	Concrete	1,200	51.00	0.8	30,518	
				0.95	36,241	
TB06	Concrete	1,200	51.00	0.8	30,518	
				0.95	36,241	
TB07	Concrete	1,200	51.00	0.8	30,518	
				0.95	36,241	
TB08	Concrete	800	51.00	0.8	20,346	
				0.95	24,160	
TB11	Concrete	200	51.00	0.8	5,086	
				0.95	6,040	
TB12	Concrete	400	51.00	0.8	10,173	
				0.95	12,080	
TB14	Concrete	2,200	51.00	0.8	55,950	
				0.95	66,441	
TB15	Concrete	400	51.00	0.8	10,173	
				0.95	12,080	
				Total (minimum)	**1,232,180**	**gal/yr**
				Total (maximum)	**1,319,921**	**gal/yr**
				Total (average)	**1,276,051**	**gal/yr**

Notes:
SF = Square Feet
in. = inches
gal/yr = gallons per year
TB = Tank Basin (concrete)

Table 2
Effluent Flow Volumes from the Wastewater Ponds
2011 - 2013
United Initiators SPI Inc.
Helena, Arkansas

Semiannual Report Year	Date of Analysis	Type of Water	Semiannual Average Effluent Flow Rate, gpd	Semiannual Max Effluent Flow Rate, gpd	Annual Average Effluent Flow Rate, gpd	Annual Average Effluent Flow Rate, gpy
2013	Feb-14	Process	45,101	52,897	44,851	16,370,491
		Sanitary	730	856	723	263,767
		Combined				16,634,258
	13-Aug	Process	44,600	49,090		
		Sanitary	715	787		
2012	13-Feb	Process	42,409	51,152	43,748	15,967,871
		Sanitary	715	863	715	261,048
		Combined				16,228,919
	12-Aug	Regulated	45,086	46,581		
		Sanitary	715	739		
2011	Feb-12	Process	37,897	38,092	36,514	13,327,462
		Sanitary	715	719	700	255,537
		Combined				13,582,998
	Jul-11	Process	35,130	42,397		
		Sanitary	685	827		
2011, 2012, 2013		Combined				15,482,059

Notes:
gpd = gallons/day
gpy = gallons/year

Attachment B
Bibliography

Bibliography

Arkansas Agricultural Experiment Station. *Agricultural Water Management in the Mississippi Delta Region of Arkansas*. Research Bulletin. Fayetteville: University of Arkansas, 1998. Document.

Lindeburg, Michael R. *Environmental Engineering Reference Manual for the PE Exam*. Belmont: Professional Publications, Inc., 2001. Book.

U.S. Climate Data. *Climate Helena — Arkansas*. 2014. http://www.usclimatedata.com/climate/helena/arkansas/united-states/usar0261. 3 April 2014.

U. S. Department of Agriculture. "Soil Survey of Phillips County, Arkansas." November 1974. *USDA.* Document. 3 April 2014.

Washington State Department of Ecology. "Guidance for Conducting Mixing Zone Analyses." 2013. *State of Washington, Department of Ecology.* Technical Report. 4 April 2014.

WaterAid. *Rainwater Harvesting*. January 2013. Technical Brief. 3 April 2014.

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24 April 2014

Allen Gilliam
ADEQ State Pretreatment Coordinator
Water Division
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Dear Mr. Gilliam:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Jon Cummins
Vice President of Operations