

Helena Municipal Water & Sewer

702 Cherry Street
Helena-West Helena, Arkansas 72342

Owned and operated by the
City of Helena-West Helena

870-817-7460 Fax 870-817-7469

April 7, 2010

Rufus J. Torrence, Water Div Engineer
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

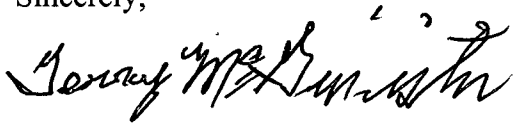
Re: City of Helena Industrial Waste Survey
Permit No. AR0043389, AFIN 54-00083

Dear Mr. Torrence:

Please find enclosed in accordance with the City of Helena's NPDES permit number AR0043389, Industrial Waste Surveys for Amerimax Coated Products, Inc. and Syrgis Performance Initiators which are connected to our POTW (sewer system). Also find enclosed a copy our Priority Pollutant Scan (PPS) analytical results.

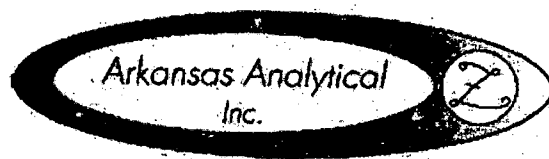
If you have any questions please feel free to contact me at (870) 816-5252 or via e-mail at helenawater@sbcglobal.net.

Sincerely,



Terry McGinister
General Manager

Enclosure



11701 I-30 Bldg 1, Ste 115 - Little Rock, AR 72209
501-455-3233 Fax 501-455-6118

30 December 2009

Prepared By:
McCLELLAND CONSULTING ENGINEERS
501-378-7808

Bill Miles
McClelland Consulting Engineers, Inc.
P.O. Box 34087
Little Rock, AR 72201-4087

A handwritten signature in cursive script that reads "Bill Miles".

RE: PPS Sample(s)

SDG Number: 0912307

Enclosed are the results of analyses for samples received by the laboratory on 22-Dec-09 13:17. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

Custody Seals	✓
Containers Intact	✓
COC/Labels Agree	✓
Preservation Confirmed	✓
Received On Ice	✓
Temperature on Receipt	3.0°C

Sincerely,

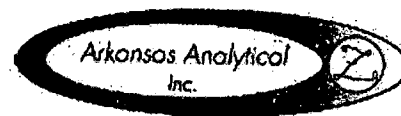
A handwritten signature in cursive script that reads "Norma James".

Norma James
President

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30 December 2009

Bill Miles
McClelland Consulting Engineers, Inc.
P.O. Box 34087
Little Rock, AR 72201-4087
Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

CASE NARRATIVE

SAMPLE DELIVERY GROUP 0912307:

Quality control excursions resulting in data qualification are discussed below.

PPS BASE/NEUTRAL COMPOUNDS AND ACID COMPOUNDS:

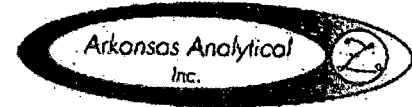
The compound 2 methyl- 4,6-dinitrophenol failed "low" in the Continuing Calibration Verification (CCV) sample. This compound was qualified as "estimated" (E10) in all samples.

VOLATILES:

The percent recovery for the compounds 1,1,2,2-tetrachloroethane, 2-chloroethyl vinyl ether, and 1,3-dichlorobenzene all failed "low" in the matrix spike and/or matrix spike duplicate. These compounds were qualified as "estimated" (E20) in the parent sample 0912307-05.

30 December 2009

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P.O. Box 34087
Little Rock, AR 72201-4087
Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

ANALYTICAL RESULTS

Lab Number: 0912307-01
Sample Name: Helena
Date/Time Collected: 12/22/09 10:17
Sample Matrix: Water

<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Cyanide (total)	mg/L	< 0.010	12/28/09 15:18	A912392	4500-CN E/9014
Phenolics	mg/L	< 0.005	12/22/09 16:35	A912348	420.1/9065

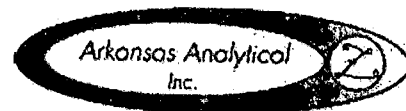
ANALYTICAL RESULTS

Lab Number: 0912307-02
Sample Name: Helena
Date/Time Collected: 12/22/09 10:13
Sample Matrix: Water

<u>PPS Metals</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Antimony	ug/L	< 60.0	12/22/09 17:12	A912341	200.7
Arsenic	ug/L	3.51	12/28/09 11:47	A912342	3113B/7041
Beryllium	ug/L	< 0.500	12/30/09 8:27	A912342	3113B/7010
Cadmium	ug/L	< 0.500	12/29/09 12:55	A912342	3113B/7010
Copper	ug/L	1.61	12/28/09 14:59	A912342	3113B/7010
Lead	ug/L	0.550	12/23/09 10:30	A912342	3113B/7010
Nickel	ug/L	9.24	12/29/09 10:04	A912342	3113B/7010
Selenium	ug/L	< 5.00	12/23/09 14:25	A912342	3113B/7010
Silver	ug/L	< 0.500	12/23/09 14:27	A912342	3113B/7761A
Thallium	ug/L	< 0.500	12/30/09 13:25	A912342	279.2/7010
Chromium	ug/L	< 10.0	12/22/09 17:11	A912341	200.7
Zinc	ug/L	< 20.0	12/22/09 17:11	A912341	200.7
<u>Total Metals</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Hexavalent Chromium	mg/L	< 0.010	12/22/09 16:11	A912347	7196A/3500-Cr B

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Date Received: 22-Dec-09 13:17

ANALYTICAL RESULTS

Lab Number: 0912307-03
Sample Name: Helena
Date/Time Collected: 12/22/09 10:14
Sample Matrix: Water

<u>Acid Compounds</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
2,4,6-Trichlorophenol	ug/L	< 10.0	12/23/09 18:02	A912363	625
2,4-Dichlorophenol	ug/L	< 10.0	12/23/09 18:02	A912363	625
2,4-Dimethylphenol	ug/L	< 10.0	12/23/09 18:02	A912363	625
2,4-Dinitrophenol	ug/L	< 50.0	12/23/09 18:02	A912363	625
2-Chlorophenol	ug/L	< 10.0	12/23/09 18:02	A912363	625
2-Nitrophenol	ug/L	< 20.0	12/23/09 18:02	A912363	625
4-Chloro-3-methylphenol	ug/L	< 10.0	12/23/09 18:02	A912363	625
4-Nitrophenol	ug/L	< 50.0	12/23/09 18:02	A912363	625
Pentachlorophenol	ug/L	< 5.00	12/23/09 18:02	A912363	625
Phenol	ug/L	< 10.0	12/23/09 18:02	A912363	625
2-Methyl-4,6-dinitrophenol	ug/L	< 50.0 *E10	12/23/09 18:02	A912363	625
2,4,6-Tribromophenol [surr]	%	60.0	12/23/09 18:02	A912363	625
2-Fluorophenol [surr]	%	27.6	12/23/09 18:02	A912363	625
Phenol-d5 [surr]	%	20.1	12/23/09 18:02	A912363	625
<u>Base/Neutral Compounds</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
1,2,4-Trichlorobenzene	ug/L	< 10.0	12/23/09 18:02	A912363	625
1,2-Dichlorobenzene	ug/L	< 10.0	12/23/09 18:02	A912363	625
1,2-Diphenyl Hydrazine	ug/L	< 20.0	12/23/09 18:02	A912363	625
1,3-Dichlorobenzene	ug/L	< 10.0	12/23/09 18:02	A912363	625
1,4-Dichlorobenzene	ug/L	< 10.0	12/23/09 18:02	A912363	625
2,3,7,8-TCDD Screen	ug/L	< 10.0	12/23/09 18:02	A912363	625
2,4-Dinitrotoluene	ug/L	< 10.0	12/23/09 18:02	A912363	625
2,6-Dinitrotoluene	ug/L	< 10.0	12/23/09 18:02	A912363	625
2-Chloronaphthalene	ug/L	< 10.0	12/23/09 18:02	A912363	625
3,3'-Dichlorobenzidine	ug/L	< 5.00	12/23/09 18:02	A912363	625
4-Bromophenyl-phenylether	ug/L	< 10.0	12/23/09 18:02	A912363	625
4-Chlorophenyl-phenylether	ug/L	< 10.0	12/23/09 18:02	A912363	625
Acenaphthene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Acenaphthylene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Anthracene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Benzidine	ug/L	< 50.0	12/23/09 18:02	A912363	625
Benzo[a]pyrene	ug/L	< 5.00	12/23/09 18:02	A912363	625
Benzo[b]fluoranthene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Benzo[g,h,i]perylene	ug/L	< 20.0	12/23/09 18:02	A912363	625
Benzo[k]fluoranthene	ug/L	< 5.00	12/23/09 18:02	A912363	625
Benzo (a) anthracene	ug/L	< 5.00	12/23/09 18:02	A912363	625
Bis(2-chloroethoxy)methane	ug/L	< 10.0	12/23/09 18:02	A912363	625
Bis(2-chloroethyl)ether	ug/L	< 10.0	12/23/09 18:02	A912363	625
Bis(2-chloroisopropyl)ether	ug/L	< 10.0	12/23/09 18:02	A912363	625
Bis(2-ethylhexyl)phthalate	ug/L	< 10.0	12/23/09 18:02	A912363	625
Butylbenzylphthalate	ug/L	< 10.0	12/23/09 18:02	A912363	625
Chrysene	ug/L	< 5.00	12/23/09 18:02	A912363	625

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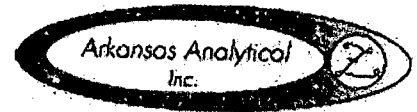
Bill Miles

McClelland Consulting Engineers, Inc.

P.O. Box 34087

Little Rock, AR 72201-4087

Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

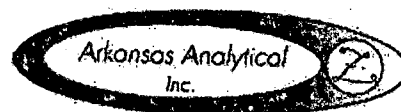
ANALYTICAL RESULTS

Lab Number: 0912307-03
Sample Name: Helena
Date/Time Collected: 12/22/09 10:14
Sample Matrix: Water

<u>Base/Neutral Compounds</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Dibenz[a,h]anthracene	ug/L	< 5.00	12/23/09 18:02	A912363	625
Diethylphthalate	ug/L	< 10.0	12/23/09 18:02	A912363	625
Dimethylphthalate	ug/L	< 10.0	12/23/09 18:02	A912363	625
Di-n-butylphthalate	ug/L	< 10.0	12/23/09 18:02	A912363	625
Di-n-octylphthalate	ug/L	< 10.0	12/23/09 18:02	A912363	625
Fluoranthene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Fluorene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Hexachlorobenzene	ug/L	< 5.00	12/23/09 18:02	A912363	625
Hexachlorobutadiene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Hexachlorocyclopentadiene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Hexachloroethane	ug/L	< 20.0	12/23/09 18:02	A912363	625
Indeno[1,2,3-cd]pyrene	ug/L	< 5.00	12/23/09 18:02	A912363	625
Isophorone	ug/L	< 10.0	12/23/09 18:02	A912363	625
Naphthalene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Nitrobenzene	ug/L	< 10.0	12/23/09 18:02	A912363	625
N-Nitrosodimethylamine	ug/L	< 50.0	12/23/09 18:02	A912363	625
N-Nitroso-di-n-propylamine	ug/L	< 20.0	12/23/09 18:02	A912363	625
N-Nitrosodiphenylamine	ug/L	< 20.0	12/23/09 18:02	A912363	625
Phenanthrene	ug/L	< 10.0	12/23/09 18:02	A912363	625
Pyrene	ug/L	< 10.0	12/23/09 18:02	A912363	625
2-Fluorobiphenyl [surr]	%	44.2	12/23/09 18:02	A912363	625
Nitrobenzene-d5 [surr]	%	40.8	12/23/09 18:02	A912363	625
Terphenyl-d14 [surr]	%	45.0	12/23/09 18:02	A912363	625

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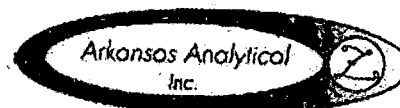
ANALYTICAL RESULTS

Lab Number: 0912307-04
Sample Name: Helena
Date/Time Collected: 12/22/09 10:15
Sample Matrix: Water

<u>Pesticides/PCBs</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Aldrin	ug/L	< 0.010	12/28/09 17:16	A912343	608
alpha-BHC	ug/L	< 0.050	12/28/09 17:16	A912343	608
beta-BHC	ug/L	< 0.050	12/28/09 17:16	A912343	608
gamma-BHC (Lindane)	ug/L	< 0.050	12/28/09 17:16	A912343	608
delta-BHC	ug/L	< 0.050	12/28/09 17:16	A912343	608
Chlordane	ug/L	< 0.200	12/28/09 17:16	A912343	608
4,4'-DDT	ug/L	< 0.020	12/28/09 17:16	A912343	608
4,4'-DDE	ug/L	< 0.100	12/28/09 17:16	A912343	608
4,4'-DDD	ug/L	< 0.100	12/28/09 17:16	A912343	608
Dieldrin	ug/L	< 0.020	12/28/09 17:16	A912343	608
Endosulfan I	ug/L	< 0.010	12/28/09 17:16	A912343	608
Endosulfan II	ug/L	< 0.020	12/28/09 17:16	A912343	608
Endosulfan sulfate	ug/L	< 0.100	12/28/09 17:16	A912343	608
Endrin	ug/L	< 0.020	12/28/09 17:16	A912343	608
Endrin aldehyde	ug/L	< 0.100	12/28/09 17:16	A912343	608
Heptachlor	ug/L	< 0.010	12/28/09 17:16	A912343	608
Heptachlor epoxide	ug/L	< 0.010	12/28/09 17:16	A912343	608
Chlorpyrifos	ug/L	< 0.070	12/28/09 17:16	A912343	608
Aroclor-1242	ug/L	< 0.200	12/28/09 17:16	A912343	608
Aroclor-1254	ug/L	< 0.200	12/28/09 17:16	A912343	608
Aroclor-1221	ug/L	< 0.200	12/28/09 17:16	A912343	608
Aroclor-1232	ug/L	< 0.200	12/28/09 17:16	A912343	608
Aroclor-1248	ug/L	< 0.200	12/28/09 17:16	A912343	608
Aroclor-1260	ug/L	< 0.200	12/28/09 17:16	A912343	608
Aroclor-1016	ug/L	< 0.200	12/28/09 17:16	A912343	608
Toxaphene	ug/L	< 0.300	12/28/09 17:16	A912343	608
TCMX [surr]	%	94.0	12/28/09 17:16	A912343	608
DCBP [surr]	%	104	12/28/09 17:16	A912343	608

30 December 2009

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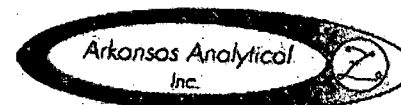
ANALYTICAL RESULTS

Lab Number: 0912307-05
Sample Name: Helena
Date/Time Collected: 12/22/09 10:18
Sample Matrix: Water

<u>Volatiles</u>	<u>Units</u>	<u>Result</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
1,1,1-Trichloroethane	ug/L	< 10.0	12/27/09 16:45	A912378	624
1,1,2,2-Tetrachloroethane	ug/L	< 10.0 *E20	12/27/09 16:45	A912378	624
1,1,2-Trichloroethane	ug/L	< 10.0	12/27/09 16:45	A912378	624
1,1-Dichloroethane	ug/L	< 10.0	12/27/09 16:45	A912378	624
1,1-Dichloroethene	ug/L	< 10.0	12/27/09 16:45	A912378	624
1,2-Dichloroethane	ug/L	< 10.0	12/27/09 16:45	A912378	624
1,2-Dichloropropane	ug/L	< 10.0	12/27/09 16:45	A912378	624
2-Chloroethyl vinyl ether	ug/L	< 10.0 *E20	12/27/09 16:45	A912378	624
Acrolein	ug/L	< 50.0	12/27/09 16:45	A912378	624
Acrylonitrile	ug/L	< 20.0	12/27/09 16:45	A912378	624
Benzene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Bromodichloromethane	ug/L	< 10.0	12/27/09 16:45	A912378	624
Bromoform	ug/L	< 10.0	12/27/09 16:45	A912378	624
Bromomethane	ug/L	< 50.0	12/27/09 16:45	A912378	624
Carbon tetrachloride	ug/L	< 2.00	12/27/09 16:45	A912378	624
Chlorobenzene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Chlorodibromomethane	ug/L	< 10.0	12/27/09 16:45	A912378	624
Chloroethane	ug/L	< 50.0	12/27/09 16:45	A912378	624
Chloroform	ug/L	< 10.0	12/27/09 16:45	A912378	624
Chloromethane	ug/L	< 50.0	12/27/09 16:45	A912378	624
cis-1,3-Dichloropropene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Ethylbenzene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Methylene chloride	ug/L	< 20.0	12/27/09 16:45	A912378	624
Tetrachloroethene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Toluene	ug/L	< 10.0	12/27/09 16:45	A912378	624
trans-1,2-Dichloroethene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Trichloroethene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Vinyl chloride	ug/L	< 2.00	12/27/09 16:45	A912378	624
1,2-Dichlorobenzene	ug/L	< 5.00	12/27/09 16:45	A912378	624
1,3-Dichlorobenzene	ug/L	< 5.00 *E20	12/27/09 16:45	A912378	624
1,4-Dichlorobenzene	ug/L	< 5.00	12/27/09 16:45	A912378	624
trans-1,3-Dichloropropene	ug/L	< 10.0	12/27/09 16:45	A912378	624
Trichlorofluoromethane	ug/L	< 50.0	12/27/09 16:45	A912378	624
4-Bromofluorobenzene [sur]	%	82.0	12/27/09 16:45	A912378	624
Dibromofluoromethane [sur]	%	107	12/27/09 16:45	A912378	624
Toluene-d8 [surr]	%	90.0	12/27/09 16:45	A912378	624

30 December 2009

Bill Miles
McClelland Consulting Engineers, Inc.
P.O. Box 34087
Little Rock, AR 72201-4087
Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

QUALITY CONTROL RESULTS

PPS Metals -- Batch: A912341 (Water)

Prepared: 22-Dec-09 09:15 By: TT -- Analyzed: 22-Dec-09 16:19 By: TT

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Antimony	<60.0 ug/L	110% / NA	90.7% / 91.4%	ND ug/L	0.726%	
Chromium	<10.0 ug/L	91.8% / NA	80.7% / 80.8%	ND ug/L	0.188%	
Zinc	<20.0 ug/L	92.1% / NA	83.5% / 83.5%	ND ug/L	0.0151%	

PPS Metals -- Batch: A912342 (Water)

Prepared: 22-Dec-09 09:15 By: TT -- Analyzed: 28-Dec-09 11:47 By: RH

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Arsenic	<0.500 ug/L	97.5% / NA	MBA / MBA		2.37%	MBA
Beryllium	<0.500 ug/L	82.5% / NA	85.0% / 95.5%		11.3%	
Cadmium	<0.500 ug/L	108% / NA	60.0% / 54.5%		9.61%	%D1
Copper	<0.500 ug/L	108% / NA	MBA / 111%		9.42%	
Lead	<0.500 ug/L	93.5% / NA	41.0% / 33.5%		10.5%	%D1
Nickel	<0.500 ug/L	104% / NA	MBA / MBA		17.1%	MBA
Selenium	<5.00 ug/L	91.8% / NA	55.8% / 55.6%		0.359%	%D1
Silver	<0.500 ug/L	82.6% / NA	27.5% / 32.0%		13.1%	%D1
Thallium	<0.500 ug/L	96.5% / NA	MBI / MBI		0.00%	MBI

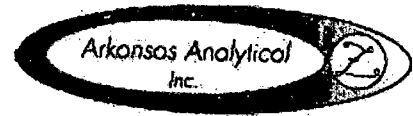
Pesticides/PCBs -- Batch: A912343 (Water)

Prepared: 22-Dec-09 14:38 By: WF -- Analyzed: 23-Dec-09 17:56 By: TB/

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
4,4'-DDD	<0.100 ug/L	77.0% / NA	MBI / MBI		NA	MBI
4,4'-DDE	<0.100 ug/L	79.2% / NA	MBI / MBI		NA	MBI
4,4'-DDT	<0.020 ug/L	90.7% / NA	MBI / MBI		NA	MBI
Aldrin	<0.010 ug/L	80.1% / NA	MBI / MBI		NA	MBI
alpha-BHC	<0.050 ug/L	77.3% / NA	MBI / MBI		15.5%	MBI
beta-BHC	<0.050 ug/L	85.6% / NA	MBI / MBI		144%	MBI
delta-BHC	<0.050 ug/L	88.5% / NA	MBI / MBI		2.25%	MBI
Dieldrin	<0.020 ug/L	84.1% / NA	MBI / MBI		NA	MBI
Endosulfan I	<0.010 ug/L	120% / NA	MBI / MBI		NA	MBI
Endosulfan II	<0.020 ug/L	84.6% / NA	MBI / MBI		NA	MBI
Endosulfan sulfate	<0.100 ug/L	85.9% / NA	MBI / MBI		NA	MBI
Endrin	<0.020 ug/L	95.5% / NA	MBI / MBI		%	MBI
Endrin aldehyde	<0.100 ug/L	75.1% / NA	MBI / MBI		NA	MBI
gamma-BHC (Lindane)	<0.050 ug/L	83.3% / NA	MBI / MBI		%	MBI
Heptachlor	<0.010 ug/L	97.9% / NA	MBI / MBI		13.3%	MBI
Heptachlor epoxide	<0.010 ug/L	100% / NA	MBI / MBI		1.36%	MBI
DCBP [surr]	77.0 %	80.6% / NA	79.0% / 83.4%		NA	MBI
TCMX [surr]	70.9 %	74.5% / NA	118% / 134%		NA	

30 December 2009

Bill Miles
McClelland Consulting Engineers, Inc.
P.O. Box 34087
Little Rock, AR 72201-4087
Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

QUALITY CONTROL RESULTS

Total Metals -- Batch: A912347 (Water)

Prepared: 22-Dec-09 13:00 By: RH -- Analyzed: 22-Dec-09 16:11 By: RH

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Hexavalent Chromium	<0.010 mg/L	100% / NA	52.0% / 54.0%		3.17%	

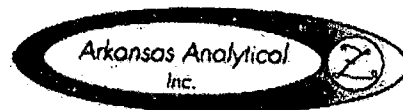
Wet Chemistry -- Batch: A912348 (Water)

Prepared: 22-Dec-09 16:35 By: AP -- Analyzed: 22-Dec-09 16:35 By: AP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Phenolics	<0.005 mg/L	89.0% / NA	83.0% / 84.2%		1.02%	

30 December 2009

Bill Miles
 McClelland Consulting Engineers, Inc.
 P.O. Box 34087
 Little Rock, AR 72201-4087
 Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

QUALITY CONTROL RESULTS

Base/Neutral Compounds -- Batch: A912363 (Water)

Prepared: 23-Dec-09 11:27 By: WF -- Analyzed: 23-Dec-09 17:13 By: LR/

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
1,2,4-Trichlorobenzene	<10.0 ug/L	70.5% / NA	73.6% / 67.0%		9.39%	
1,2-Dichlorobenzene	<10.0 ug/L	68.8% / NA	75.0% / 63.9%		15.9%	
1,2-Diphenyl Hydrazine	<20.0 ug/L	90.9% / NA	106% / 92.2%		13.9%	%D1
1,3-Dichlorobenzene	<10.0 ug/L	69.2% / NA	75.7% / 64.2%		16.5%	
1,4-Dichlorobenzene	<10.0 ug/L	68.2% / NA	76.7% / 65.4%		15.8%	
2,4,6-Trichlorophenol	<10.0 ug/L	60.4% / NA	66.8% / 53.0%		23.1%	
2,4-Dichlorophenol	<10.0 ug/L	91.4% / NA	96.4% / 84.2%		13.5%	
2,4-Dimethylphenol	<10.0 ug/L	100% / NA	106% / 94.0%		12.3%	%D1
2,4-Dinitrophenol	<50.0 ug/L	78.3% / NA	109% / 75.1%		36.0%	D
2,4-Dinitrotoluene	<10.0 ug/L	82.9% / NA	88.2% / 81.3%		8.07%	
2,6-Dinitrotoluene	<10.0 ug/L	77.8% / NA	77.8% / 69.3%		11.6%	
2-Chloronaphthalene	<10.0 ug/L	73.2% / NA	86.1% / 77.5%		10.5%	
2-Chlorophenol	<10.0 ug/L	84.7% / NA	91.6% / 78.3%		15.6%	
2-Nitrophenol	<20.0 ug/L	85.4% / NA	90.9% / 82.7%		9.42%	%D1
3,3'-Dichlorobenzidine	<5.00 ug/L	102% / NA	108% / 87.6%		20.5%	D
4,6-Dinitro-o-cresol	<50.0 ug/L	76.4% / NA	81.0% / 62.1%		26.5%	E10
4-Bromophenyl-phenylether	<10.0 ug/L	87.8% / NA	87.5% / 80.8%		8.03%	
4-Chloro-3-methylphenol	<10.0 ug/L	90.5% / NA	90.9% / 92.0%		1.12%	
4-Chlorophenyl-phenylether	<10.0 ug/L	74.3% / NA	82.3% / 76.8%		6.86%	
4-Nitrophenol	<50.0 ug/L	51.7% / NA	55.5% / 50.0%		10.3%	
Acenaphthene	<10.0 ug/L	74.0% / NA	91.0% / 83.4%		8.78%	
Acenaphthylene	<10.0 ug/L	74.6% / NA	85.9% / 82.6%		3.89%	
Anthracene	<10.0 ug/L	80.0% / NA	87.3% / 77.8%		11.5%	
Benzidine	<50.0 ug/L	102% / NA	83.8% / 80.3%		4.33%	
Benzo (a) anthracene	<5.00 ug/L	91.4% / NA	107% / 95.4%		11.7%	
Benzo[a]pyrene	<5.00 ug/L	84.4% / NA	93.0% / 83.6%		10.7%	
Benzo[b]fluoranthene	<10.0 ug/L	88.4% / NA	99.6% / 86.1%		14.5%	
Benzo[g,h,i]perylene	<20.0 ug/L	95.4% / NA	104% / 92.5%		11.9%	
Benzo[k]fluoranthene	<5.00 ug/L	85.5% / NA	91.7% / 85.7%		6.74%	
Bis(2-chloroethoxy)methane	<10.0 ug/L	80.3% / NA	89.6% / 79.8%		11.6%	
Bis(2-chloroethyl)ether	<10.0 ug/L	88.3% / NA	96.6% / 91.0%		5.92%	
Bis(2-chloroisopropyl)ether	<10.0 ug/L	93.1% / NA	96.4% / 91.5%		5.20%	
Bis(2-ethylhexyl)phthalate	<10.0 ug/L	76.6% / NA	96.1% / 75.8%		23.5%	
Butylbenzylphthalate	<10.0 ug/L	93.3% / NA	108% / 93.6%		14.1%	
Chrysene	<5.00 ug/L	88.3% / NA	125% / 90.2%		32.1%	
Dibenz[a,h]anthracene	<5.00 ug/L	76.5% / NA	94.6% / 81.0%		15.4%	
Diethylphthalate	<10.0 ug/L	73.4% / NA	79.9% / 78.4%		1.98%	
Dimethylphthalate	<10.0 ug/L	74.8% / NA	82.8% / 78.6%		5.16%	
Di-n-butylphthalate	<10.0 ug/L	87.6% / NA	101% / 88.0%		13.6%	
Di-n-octylphthalate	<10.0 ug/L	92.3% / NA	105% / 93.4%		11.5%	
Fluoranthene	<10.0 ug/L	87.9% / NA	99.8% / 91.7%		8.46%	
Fluorene	<10.0 ug/L	78.1% / NA	90.6% / 86.9%		4.21%	
Hexachlorobenzene	<5.00 ug/L	79.5% / NA	81.5% / 76.6%		6.25%	
Hexachlorobutadiene	<10.0 ug/L	67.9% / NA	70.7% / 61.2%		14.4%	
Hexachlorocyclopentadiene	<10.0 ug/L	60.4% / NA	68.1% / 58.2%		15.7%	
Hexachloroethane	<20.0 ug/L	63.4% / NA	72.4% / 60.9%		17.3%	
Indeno[1,2,3-cd]pyrene	<5.00 ug/L	95.0% / NA	109% / 98.1%		10.4%	
Isophorone	<10.0 ug/L	84.5% / NA	89.7% / 81.8%		9.27%	

30 December 2009

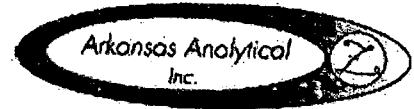
Bill Miles

McClelland Consulting Engineers, Inc.

P.O. Box 34087

Little Rock, AR 72201-4087

Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

QUALITY CONTROL RESULTS

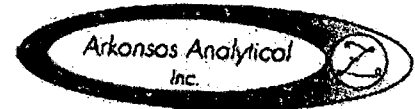
Base/Neutral Compounds -- Batch: A912363 (Water)

Prepared: 23-Dec-09 11:27 By: WF -- Analyzed: 23-Dec-09 17:13 By: LR/

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Naphthalene	<10.0 ug/L	74.1% / NA	78.1% / 71.1%		9.38%	
Nitrobenzene	<10.0 ug/L	80.5% / NA	82.4% / 81.4%		1.17%	
N-Nitrosodimethylamine	<50.0 ug/L	52.9% / NA	56.1% / 53.9%		3.93%	
N-Nitroso-di-n-propylamine	<20.0 ug/L	94.8% / NA	95.4% / 93.8%		1.67%	
N-Nitrosodiphenylamine	<20.0 ug/L	73.6% / NA	82.4% / 70.8%		15.1%	
Pentachlorophenol	<5.00 ug/L	93.2% / NA	116% / 81.3%		34.8%	D
Phenanthrene	<10.0 ug/L	81.4% / NA	95.1% / 85.3%		10.9%	
Phenol	<10.0 ug/L	48.4% / NA	56.5% / 48.1%		15.6%	
Pyrene	<10.0 ug/L	80.9% / NA	94.5% / 85.6%		9.97%	
2,4,6-Tribromophenol [surr]	95.2 %	79.9% / NA	88.6% / 81.3%		NA	
2-Fluorobiphenyl [surr]	74.8 %	71.0% / NA	78.8% / 74.9%		NA	
2-Fluorophenol [surr]	49.9 %	55.4% / NA	57.1% / 51.7%		NA	
Nitrobenzene-d5 [surr]	70.7 %	71.3% / NA	68.6% / 70.3%		NA	
Phenol-d5 [surr]	32.2 %	40.3% / NA	43.1% / 40.4%		NA	
Terphenyl-d14 [surr]	69.6 %	74.0% / NA	89.9% / 70.0%		NA	

30 December 2009

Bill Miles
 McClelland Consulting Engineers, Inc.
 P.O. Box 34087
 Little Rock, AR 72201-4087
 Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

QUALITY CONTROL RESULTS

Volatiles -- Batch: A912378 (Water)

Prepared: 27-Dec-09 16:00 By: KR -- Analyzed: 27-Dec-09 20:32 By: KR

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
1,1,1-Trichloroethane	<10.0 ug/L	111% / NA	108% / 99.8%		8.07%	
1,1,2,2-Tetrachloroethane	<10.0 ug/L	93.1% / NA	81.3% / 97.6%		18.2%	D
1,1,2-Trichloroethane	<10.0 ug/L	85.8% / NA	95.5% / 94.1%		1.46%	
1,1-Dichloroethane	<10.0 ug/L	92.9% / NA	99.3% / 96.3%		2.99%	
1,1-Dichloroethene	<10.0 ug/L	94.0% / NA	76.6% / 88.0%		13.9%	
1,2-Dibromoethane	<2.00 ug/L	95.1% / NA	88.1% / 104%		16.8%	
1,2-Dichlorobenzene	<5.00 ug/L	83.4% / NA	89.8% / 84.1%		6.53%	
1,2-Dichloroethane	<10.0 ug/L	94.2% / NA	98.3% / 97.3%		1.03%	
1,2-Dichloropropane	<10.0 ug/L	104% / NA	98.8% / 92.3%		6.73%	
1,3-Dichlorobenzene	<5.00 ug/L	98.9% / NA	88.3% / 73.4%		18.5%	%D1
1,4-Dichlorobenzene	<5.00 ug/L	90.8% / NA	91.4% / 89.8%		1.79%	
2-Butanone	<50.0 ug/L	109% / NA	112% / 106%		5.27%	
2-Chloroethyl vinyl ether	<10.0 ug/L	73.2% / NA	4.38% / No Rec		NA	%D1
Acrolein	<50.0 ug/L	90.8% / NA	70.0% / 96.3%		31.7%	D
Acrylonitrile	<20.0 ug/L	100% / NA	97.4% / 100%		2.80%	
Benzene	<10.0 ug/L	93.5% / NA	100% / 96.5%		3.54%	
Bromodichloromethane	<10.0 ug/L	92.3% / NA	95.3% / 91.5%		4.11%	
Bromoform	<10.0 ug/L	94.0% / NA	100% / 114%		12.9%	
Bromomethane	<50.0 ug/L	81.6% / NA	88.2% / 98.0%		8.50%	
Carbon tetrachloride	<2.00 ug/L	101% / NA	95.9% / 97.7%		1.90%	
Chlorobenzene	<10.0 ug/L	92.1% / NA	86.7% / 90.3%		4.12%	
Chlorodibromomethane	<10.0 ug/L	96.0% / NA	90.7% / 102%		12.2%	D
Chloroethane	<50.0 ug/L	70.0% / NA	70.6% / 90.1%		24.3%	
Chloroform	<10.0 ug/L	107% / NA	91.1% / 98.0%		7.29%	
Chloromethane	<50.0 ug/L	85.5% / NA	102% / 86.4%		16.4%	
cis-1,3-Dichloropropene	<10.0 ug/L	95.9% / NA	93.3% / 91.1%		2.41%	
Ethylbenzene	<10.0 ug/L	90.9% / NA	90.1% / 90.7%		0.709%	
Methylene chloride	<20.0 ug/L	95.1% / NA	83.6% / 86.5%		3.40%	
Tetrachloroethene	<10.0 ug/L	81.5% / NA	85.6% / 84.1%		1.85%	
Toluene	<10.0 ug/L	91.0% / NA	95.6% / 91.0%		4.94%	
trans-1,2-Dichloroethene	<10.0 ug/L	95.1% / NA	87.7% / 88.5%		0.924%	
trans-1,3-Dichloropropene	<10.0 ug/L	100% / NA	101% / 98.7%		2.60%	
Trichloroethene	<10.0 ug/L	92.7% / NA	78.6% / 84.0%		6.67%	
Trichlorofluoromethane	<50.0 ug/L	83.8% / NA	81.7% / 95.4%		15.5%	
Vinyl chloride	<2.00 ug/L	81.1% / NA	84.6% / 90.8%		7.05%	
4-Bromofluorobenzene [surr]	94.5 %	100% / NA	81.8% / 96.9%		NA	
Dibromofluoromethane [surr]	111 %	106% / NA	108% / 107%		NA	
Toluene-d8 [surr]	88.1 %	95.4% / NA	108% / 98.4%		NA	

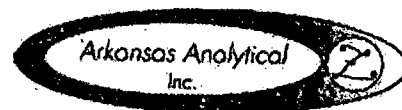
Wet Chemistry -- Batch: A912392 (Water)

Prepared: 28-Dec-09 15:18 By: SB -- Analyzed: 28-Dec-09 15:18 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Cyanide (total)	<0.010 mg/L	94.3% / NA	95.0% / 91.0%		4.30%	

30 December 2009

Bill Miles
McClelland Consulting Engineers, Inc.
P.O. Box 34087
Little Rock, AR 72201-4087
Project: PPS Sample(s)



Date Received: 22-Dec-09 13:17

QUALIFIER(S)

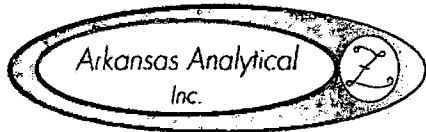
- *%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
 - *D: RPD Value Does Not Meet Laboratory Acceptance Criteria
 - *E10: Estimated Result; Analyte Did Not Meet Method RSD and/or % D Requirements for Calibration Criteria
 - *E20: Estimated result due to matrix spike and or matrix spike duplicate failure; this sample was used as "parent sample" in MS/MSD prep.
 - *MBA: Masked By Analyte
 - *MBI: Masked By Interference
-

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

A handwritten signature in cursive script that reads "Norma James".

Reviewed by: _____

Norma James
President



11701 Interstate 30, Bldg. 1, Ste. 115
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-6118

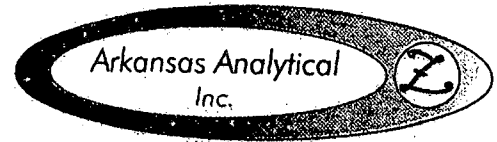
CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING	Project Description	Turnaround Time	Preservation Codes:							
McClelland Consulting Engineers 1311 W 2nd St. Little Rock, AR 72201	McClelland Consulting Engineers P.O. Box 34087 Little Rock, AR 72203-4087	PPS Sample Helena Reporting Information Telephone: 501-378-7808 Fax: 501-376-4877 Email: bmiles@mccllelland-engrs.com	24 Hour 48 Hour 72 Hour Routine (5 Day)	1. Cool, 4 Degrees Centigrade 2. Sulfuric Acid (H ₂ SO ₄), pH < 2 3. Nitric Acid (HNO ₃), pH < 2			4. Thiosulfate for Dechlorination 5. Hydrochloric Acid(HCl) 6. Sodium Hydroxide (NaOH), pH > 12				
Attn: Bill Miles			Preservative Code:	1,6	1,2	1,3	1	1	1	1,5	Bottle Type Code
			Bottle Type:	P	GA	P	P	GA	GA	GV	G = Glass; P = Plastic V = Septum; A = Amber

Lisa Bryant			Lisa Bryant			TEST PARAMETERS										Bottle Type Code	
Sampler(s) Signature			Sampler(s) Printed													Arkansas Analytical Work Order Number:	
Field Number	SAMPLE COLLECTION		Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION										Order Number:
	Date/s	Time/s															
	12-22-09	10:17	✓		1		Helena										0912307-
	12-22-09	10:17	✓		1												01
	12-22-09	10:13		✓	2												02
	12-22-09	10:13		✓	1												03
	12-22-09	10:14		✓	2												04
	12-22-09	10:15		✓	1												05
	12-22-09	10:18	✓		3												

1. Relinquished by: (Signature) Lisa Bryant	Date/Time 12-22-09 1317	2. Received by: (Signature) 	SAMPLE CONDITION UPON RECEIPT IN LAB	REMARKS / SAMPLE COMMENTS
3. Relinquished by: (Signature) 	Date/Time	4. Received by lab: (Signature) Sydney James	1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2. CONTAINERS CORRECT: <input type="checkbox"/> Yes <input type="checkbox"/> No 3. COC/LABELS AGREE: <input type="checkbox"/> Yes <input type="checkbox"/> No 4. PRESERVATION CONFIRMED: <input type="checkbox"/> Yes <input type="checkbox"/> No 5. RECEIVED ON ICE: <input type="checkbox"/> Yes <input type="checkbox"/> No 6. TEMPERATURE ON RECEIPT: 3°C	COC received w/white out on it. - 12-22-09 - (S) PPS Hg to be subcontracted to ETG - 12-22-09 - (S)
			FOR COMPLETION BY LAB ONLY	

12/30/2009



11701 I-30 Bldg 1, Ste 115 • Little Rock, AR 72209
501-455-3233 • Fax 501-455-6118

**PLEASE FIND ATTACHED RESULTS FOR
SUBCONTRACTED ANALYSIS.**

SUBCONTRACTED ANALYSIS:	PPS Hg
SUBCONTRACT LAB:	Mercury One LTD
AR ANALYTICAL SDG NUMBER:	0912307 - 01

Mercury One LTD

Analytical Research and Data Validation

Analytical Report

EPA Method 1631E & 245.7

Report #: 09-01675

Page 1 of 1

Customer Name:

Arkansas Analytical Inc.
11701 Interstate 30 Bldg 1 Ste 115
Little Rock AR 72209

Date: 12/29/09

Attention:

Norma James

Project/PO#

0

Lab / (Field ID) or (Customer ID)	Results ng/L	Results ng/L/L	Results ng/L	Results ng/L	Mercury One ID:
0912307-01	2.74				091228-03
0912307-01 Field Blank		<0.5			091228-04
Sample Type	Water	Field Blank			
Date Sampled:	12/22/09	12/22/09			
Date Received:	12/28/09	12/28/09			
Date Prepared:	12/28/09	12/28/09	12/28/09	12/28/09	
Date Analyzed:	12/29/09	12/29/09			
Time Analyzed:	4:05:22 PM	4:18:51 PM			
Method Qualifier	M 1	M 1	M 1	M 1	QCS Acceptable Range 80-120%
Dilution Factor					
Method Blank	<0.2	-	-	-	
Quality Control Sample (QCS)	4.71	100.2%	-	-	

M= Modified: See Below for Explanation

M1= Method 1631E used for analysis.

M2= Method 245.7 used for analysis.

The Matrix Spike and Matrix Spike reported are for samples identified below.

Acceptable Acceptable Range

Mercury One ID % Recovery MS MSD RPD <20% 71-129%

The results are related only the samples presented on this report.

The test results are certified to meet all requirements of NELAC.

Other Codes

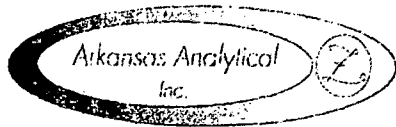
Other Comments: J = Estimated result , R = Rejected,

Reason for J or R flag:

	Water*		Soils	
	Method 1631E	Method 245.7	Sludges	Arkansas Cert# 88-0911
Detection			Method 245.7	West Virginia Cert # 348
Limit ng/L	0.2	1.8	Detection	Louisiana
Reporting			Limit	NELAP Cert # 04160
Limit ng/L	0.5	5.0	ng/Kg	Florida
			10	NELAP Cert # E871043

* A value found between the Reporting Limit and the Method Detection Limit is considered estimated

William W. Purves



11701 Interstate 30, Bldg. 1, Ste. 115
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION			Project Description			Turnaround Time		Preservation Codes:							
Arkansas Analytical, Inc.			0912307			24 Hour		1. Cool, 4 Degrees Centigrade			4. Thiosulfate for Dechlorination				
11701 Interstate 30, Bldg. 1, Ste. 115			PPS Hg Sample			48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 2			5. Hydrochloric Acid(HCl)				
Little Rock, AR 72209			Reporting Information			72 Hour		3. Nitric Acid (HNO ₃), pH < 2			6. Sodium Hydroxide (NaOH), pH > 12				
Attn: Norma James			Telephone: 501-455-3233			Preservative Code: None		TEST PARAMETERS						Bottle Type Code	
			Fax: 501-455-6118			Bottle Type: G								G = Glass; P = Plastic	
														V = Septax; A = Amber	
Sampler(s) Signature			Sampler(s) Printed												
Field Number	SAMPLE COLLECTION		Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	PPS Hg							Lab Number:
	Date/s	Time/s													
	12/22/2009	1013		X	1	Water	0912307-01	X							091228-3
	12/22/2009	1013		X	1	Water	0912307-01 Field Blank	X							091228-4
<input checked="" type="checkbox"/> All Samples received as required by method <input type="checkbox"/> See attached receiving form															
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)			SAMPLE CONDITION UPON RECEIPT IN LAB				REMARKS / SAMPLE COMMENTS				
Norma James		12-22-09 1351		FedEx			1. CUSTODY SEALS: ___ Yes ___ No 2. CONTAINERS CORRECT: ___ Yes ___ No 3. COC/LABELS AGREE: ___ Yes ___ No				Please Email Results : njames@arkansasanalytical.com sjames@arkansasanalytical.com				
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)			4. PRESERVATION CONFIRMED: ___ Yes ___ No 5. RECEIVED ON ICE: ___ Yes ___ No 6. TEMPERATURE ON RECEIPT: 16°C								
FedEx		12-28-09 1338		Melissa Eberzole			FOR COMPLETION BY LAB ONLY								

helenawater@sbcglobal.net

From: "Torrence, Rufus" <TORRENCE@adeq.state.ar.us>
To: <helenawater@sbcglobal.net>
Sent: Wednesday, March 10, 2010 4:41 PM
Attach: IU SURVEY FORM 1.doc
Subject: AFIN 54-00083 AR0043389 City of Helena IWS

ADEQ

ARKANSAS
 Department of Environmental Quality

AMERIMAX
 COPY

March 10, 2010

Terry McGinister, General Manager
 Helena Municipal Water and Sewer System
 702 Cherry Street
 Helena-West Helena, Arkansas 72342

Re: City of Helena Industrial Waste Survey
 (Permit No. AR0043389, AFIN 54-00083)

Dear Mr. McGinister:

In accordance with the City of Helena's NPDES permit number AR0043389 Part III 7.b, the POTW must conduct an Industrial Waste Survey (IWS) of the industries which are connected to the POTW (sewer system). The IWS was due on January 1, 2010 which was two months from the effective date of the permit, i.e., November 1, 2009. The POTW may use the attached form for the survey.

Please complete the survey and send the results to the Department at the following address:

Rufus J. Torrence, Water Div Engineer
 Arkansas Department of Environmental Quality
 5301 Northshore Drive
 North Little Rock, AR 72118-5317

If you have any questions or concerns, please contact the Department at (501) 682-0626 or by email at torrence@adeq.state.ar.us.

Sincerely,



Rufus Torrence, Pretreatment Engineer
 Water Division

Cc: Mr. Benzene Collier, WWTP Superintendent
 Helena Municipal Water and Sewer System

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
 5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK / ARKANSAS 72118-5317 / TELEPHONE (501) 682-0744 / FAX
www.adeq.state.ar.us

4/1/2010

NON-DOMESTIC WASTEWATER CONTRIBUTION SURVEY

Section A.—Activity Information

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply). A facility with processes within these business areas may be regulated as a categorical industrial user under Environmental Protection Agency Regulations.

Industrial Categories*

- Aluminum Forming
- Asbestos Manufacturing
- Battery Manufacturing
- Carbon Black
- Cement Manufacturing
- Coil Coating
- Copper Forming
- Electrical and Electronic Components Manufacturing
- Electroplating
- Feedlots
- Ferroalloy Manufacturing
- Fertilizer Manufacturing
- Fruits and Vegetables
- Processing Manufacturing
- Glass Manufacturing
- Grain Mills
- Inorganic Chemicals
- Iron and Steel Manufacturing
- Leather Tanning and Finishing
- Meat Processing
- Metal Finishing
- Metal Molding and Casting
- Nonferrous Metals Forming
- Nonferrous Metals Manufacturing
- Paint Formulating
- Paving and Roofing Manufacturing
- Pesticides Manufacturing
- Petroleum Refining
- Pharmaceuticals Plastics Molding and Forming
- Porcelain Enamel
- Pulp and Paper
- Rubber Processing
- Soaps and Detergents Manufacturing
- Steam Electric
- Sugar Processing
- Textile Mills

Timber Products Manufacturing

2. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

Amerimax applies protective and/or decorative coatings
to gavanized steel or aluminum metal coils. The metal is
uncoiled, cleaned, given a chemical treatment to promote
adhesion, dried, coated, cured, and recoiled.
The primary product is coated sheet metal in coils.

3. Environmental Permits

List all environmental control permits held by the applicant and the agency issuing permit.

<u>Permit No.</u>	<u>Issuing Agency</u>	<u>Expiration Date</u>
1581-AR-2	ADEQ	N/A
AAR000000083	ADEQ	N/A

4. Product Volume: List the products produced and the volume of each for the past calendar year. If added space is needed, please attach additional sheets.

<u>Product</u>	<u>Average</u>	<u>Maximum</u>
Coated Steel (Gavanized)	288,361 ft ² /day	10,390,000 ft ² /yr
Coated Aluminum	575,387 ft ² /day	98,967,000 ft ² /yr

Section B—Water Supply

1. Water Sources: (Check as many as are applicable)

Private Well
 Surface Water

Municipal Water Utility (Specify City): Helena, AR

Other (Specify _____)

2. Name on the water bill: Amerimax Coated Products, Inc.

Name: _____

Street: 215 Phillips 324 Road

City: Helena State: AR Zip: 72342

3. Water service account number: 3753, 4726, 4727

4. List average water usage on premises:
(New facilities may estimate)

Type	Avg. Water Use (GPD)	Indicate Estimated (E) or Measured (M)
a. Contact cooling water	_____	_____
b. Non-contact cooling water	_____	_____
c. Boiler feed	_____	_____
d. Process	<u>31,000</u>	<u>E</u>
e. Sanitary	<u>1,425</u>	<u>E</u>
f. Air pollution control	_____	_____
g. Contained in product	_____	_____
h. Plant and equipment wash down	_____	_____
i. Irrigation and lawn watering	_____	_____
j. Other	_____	_____
k. Total	_____	_____

Section D—Sewer Information

Sanitary Sewer Connection

a. For existing business:

Is the building presently connected to the public sanitary sewer system?

Yes: Sanitary sewer account number 3753, 4726, 4727

No: Have you applied for a sanitary sewer hookup? Yes No

b. For a new business:

(i) Will you be occupying an existing vacant building, such as in an industrial park?

Yes No

(ii) Have you applied for a building permit if a new facility will be constructed?

Yes No

(iii) Will you be connected to the public sanitary sewer system?

Yes No

e. Percent of the total discharge _____

4. Schematic Flow Diagram—Please attach a diagram that shows each manufacturing activity that produces wastewater. The diagram should show for each wastewater producing activity the flow of materials, products, water and wastewater, from the start of the activity until the end. Diagram Attached

Facilities that checked activities in question 1 of Section B are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. Include the reference number from the process schematic that corresponds to each process. New facilities should provide estimates for each discharge.

No.	Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of discharge (batch, continuous, none)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

ANSWER QUESTIONS 6 & 7 ONLY IF YOU INDUSTRY IS SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users. Provide the wastewater discharge flows for each of your processes or proposed processes. Include the reference number from the process schematic that corresponds to each process. New facilities should provide estimates for each discharge.

No.	Regulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of discharge (batch, continuous, none)
1	Galvanized Coil	4,261	5,680	Continuous
2	Aluminum Coil	26,694	35,583	Continuous
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

No.	Unregulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of discharge (batch, continuous, none)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Average Maximum Type of discharge

No.	Dilution	Flow (GPD)	Flow (GPD)	(batch, continuous, none)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

7. For categorical users subject to total, toxic organic (TTO) requirements, provide the following information:

- a. Does (or will) this facility use any of the toxic organics listed under the TTO standard of the EPA categorical pretreatment standards?
 Yes
 No
- b. Has a baseline monitoring report (BMR) been submitted which contains TTO information?
 Yes
 No
- c. Has a toxic organics management plan (TOMP) been developed?
 Yes (please attach a copy)
 No

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering: Yes No N/A
Sampling Equipment: Yes No N/A

Planned Flow Metering: Yes No N/A
Sampling Equipment: Yes No N/A

If you have an automatic sampler or flow metering equipment, indicate where it is located on the flow schematic diagram and describe the equipment below:

9. If there are any process changes planned for the next three years that may alter or significantly contribute to the wastewater flow of the facility, please describe these below:

None.

10. If there are any materials or water reclamation processes used in the facility, please describe these briefly below:

Reclaim quench overflow for use in wet section.

Section F—Characteristics of Discharge

Industrial users are required to submit monitoring data on all regulated pollutants contained in their wastewater. Use the tables provided in this section to report available analytical results. **DO NOT LEAVE BLANKS.** For all other (unregulated) pollutants, indicate whether the pollutant is known to be present, suspected to be present, suspected absent, or known to be absent. Place an X in the appropriate column. Indicate on either the top of each table, or on a separate sheet, if necessary, the sample location and type of analysis used. Be certain sample and analysis methods conform to 40 CFR Part 136. Monitoring for categorical industries must conform to requirements under 40 CFR Part 403.12 (iii).

Metals and Inorganics	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
1. Antimony	[]	[]	[]	[x]	_____
2. Arsenic	[]	[]	[]	[x]	_____
3. Asbestos	[]	[]	[]	[x]	_____
4. Beryllium	[]	[x]	[]	[]	_____
5. Cadmium	[]	[x]	[]	[]	_____
6. Chromium	[x]	[]	[]	[]	0.70 mg/l
7. Copper	[X]	[]	[]	[]	2.37 mg/l
8. Cyanide	[X]	[]	[]	[]	0.38 mg/l
9. Lead	[]	[x]	[]	[]	_____
10. Mercury	[]	[]	[]	[x]	_____
11. Nickel	[]	[x]	[]	[]	_____
12. Selenium	[]	[x]	[]	[]	_____
13. Silver	[]	[x]	[]	[]	_____
14. Thallium	[]	[x]	[]	[]	_____
15. Zinc	[X]	[]	[]	[]	1.89 mg/l

PHENOLS and CRESOLS

16. Phenol	[]	[]	[]	[x]	_____
17. 2- Chlorophenol	[]	[]	[]	[x]	_____
18. 2,4-Dichlorophenol	[]	[]	[]	[x]	_____
19.	[]	[]	[]	[]	_____
20.	[]	[]	[]	[]	_____
21.	[]	[]	[]	[]	_____
22.	[]	[]	[]	[]	_____

23.	[]	[]	[]	[]	_____
24.	[]	[]	[]	[]	_____
25.	[]	[]	[]	[]	_____
26.	[]	[]	[]	[]	_____

MONOCYCLIC AROMATICS
(excluding phenols, cresols, and phthalate)

27. Benzene	[]	[]	[]	[x]	_____
28. Chlorobenzene	[]	[]	[]	[x]	_____

	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
29.	[]	[]	[]	[]	_____
30.	[]	[]	[]	[]	_____
31.	[]	[]	[]	[]	_____
32.	[]	[]	[]	[]	_____
33.	[]	[]	[]	[]	_____
34.	[]	[]	[]	[]	_____
35.	[]	[]	[]	[]	_____
36.	[]	[]	[]	[]	_____
37.	[]	[]	[]	[]	_____
38.	[]	[]	[]	[]	_____

PCB's and RELATED COMPOUNDS

39. PCB-1016 (Arochlor 1016)	[]	[]	[]	[x]	_____
40. PCB-1221 (Arochlor 1221)	[]	[]	[]	[x]	_____
41. PCB-1232 (Arochlor 1232)	[]	[]	[]	[x]	_____
42. PCB-1242 (Arochlor 1242)	[]	[]	[]	[x]	_____
43. PCB-1248 (Arochlor 1248)	[]	[]	[]	[x]	_____
44. PCB-1254 (Arochlor 1254)	[]	[]	[]	[x]	_____
45. PCB-1260 (Arochlor 1260)	[]	[]	[]	[x]	_____
46. 2-Chloronaphthalene	[]	[]	[]	[x]	_____

ETHERS

47. None	[]	[]	[]	[]	_____
48.	[]	[]	[]	[]	_____
49.	[]	[]	[]	[]	_____
50.	[]	[]	[]	[]	_____
51.	[]	[]	[]	[]	_____

52.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
-----	--------------------------	--------------------------	--------------------------	--------------------------	-------

**NITROSAMINES and OTHER NITROGEN
CONTAINING COMPOUNDS**

53. None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
54.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
55.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
56.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
57.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
58.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
59.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**HALOGENATED
ALIPHATICS**

Known
Present

Suspected
Present

Known
Absent

Suspected
Absent

Conc.

60. None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
61.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
62.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
62.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
64.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
65.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
66.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
67.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
68.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
69.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
70.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
71.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
72.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
73.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
74.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
75.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
76.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
77.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

78.	[]	[]	[]	[]	_____
79.	[]	[]	[]	[]	_____
80.	[]	[]	[]	[]	_____
81.	[]	[]	[]	[]	_____
82.	[]	[]	[]	[]	_____
83.	[]	[]	[]	[]	_____

PHTHALATE ESTERS

84. None	[]	[]	[]	[X]	_____
85.	[]	[]	[]	[]	_____
86.	[]	[]	[]	[]	_____
87.	[]	[]	[]	[]	_____
88.	[]	[]	[]	[]	_____
89.	[]	[]	[]	[]	_____

POLYCYCLIC AROMATIC HYDROCARBONS

	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
90. None	[]	[]	[]	[X]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____

PESTICIDES

106. None	[]	[]	[]	[X]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____

	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____
	[]	[]	[]	[]	_____

	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
122. Heptachlor	[]	[]	[]	[x]	_____
123. Heptachlor Epoxide	[]	[]	[]	[x]	_____
124. Isophorone	[]	[]	[]	[x]	_____
125. TCDD (Dioxin) (2,3,7, 8-tetrachlorodibenzo-p-dioxin)	[]	[]	[]	[x]	_____
126. Toxaphene	[]	[]	[]	[x]	_____

If you are unable to identify the chemicals that may be discharged in the wastewater, please attach copies of the Material Safety Data Sheets (MSDS).

Section G—Treatment

1. Is there any wastewater treatment equipment at this facility? [] Yes [] No

2. Please describe the wastewater treatment processes utilized on site. Include information pertaining to the type of equipment used, flow rates, operating procedures, chemicals used and physical size of wastewater treatment and storage tanks.

Process water flow to two settling tanks where solids are removed. The water is then transferred into a treatment tank where chemicals are added to remove the metals and adjust the pH. Water is then filtered to remove the solids and sent to the weir for discharge.

3. Attach a process flow diagram for the existing wastewater treatment system. Include process equipment, sludge disposal method, waste and by-product volumes, and design and operating conditions.

4. Describe any changes in wastewater treatment or disposal methods planned or under construction. Please include estimated completion dates.

None.

5. Do you have a wastewater treatment operator? [x] Yes [] No

If yes please list name and hours worked/day. Eric Martin, Randy Gschwend, 12

6. Do you have a wastewater treatment system manual? Yes [] No
7. Do you have a written maintenance schedule for wastewater treatment equipment?
 Yes [] No

Section H—Facility Operational Characteristics

1. Shift Information

Work Days	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Mon.	Tues	Wed.	Thurs.	Fri.	Sat.	Sun
Shifts/day	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u> </u>
Emp./ Shift	1 st <u>25</u>	25 <u>25</u>	25 <u>25</u>	25 <u>25</u>	25 <u>25</u>	4 <u> </u>	<u> </u>
	2 nd <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	3 rd <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
End & Start Times	1 st <u>7</u>	7 <u>7</u>	7 <u>7</u>	7 <u>7</u>	7 <u>7</u>	8 <u>4</u>	<u> </u>
	1 st <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	2 nd <u>7</u>	7 <u>7</u>	7 <u>7</u>	7 <u>7</u>	7 <u>7</u>	<u> </u>	<u> </u>
	2 nd <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	3 rd <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	3 rd <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

2. Indicate whether the business activity is:

- Continuous through the year, or
 Seasonal—Circle the months of the year when the business activity occurs:

J F M A M J J A S O N D

Comments: _____

3. Indicate whether the facility discharge is:

- Continuous through the year, or
 Seasonal—Circle the months of the year when the business activity occurs:

J F M A M J J A S O N D

Comments: _____

4. Does operation shut down for vacation, maintenance, or other reasons?

Yes, indicate reasons and period shutdown occurs: Maintenance, varies

No

Section I—Spill Prevention

1. Do you have chemical storage containers, bins, or ponds at your facility?

Yes No

If yes, please give a description of their location, contents, size, type, and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain. Indicate if buried metal containers have cathodic protection.
Cleaners, coatings, lube oils in metal and plastic totes of various sizes. No onsite cleaning, materials contained per 40 CFR 112.

2. Do you have floor drains in your manufacturing or chemical storage area(s)?

Yes No

If yes, where do they discharge to? _____

3. If you have chemical storage containers, bins, or ponds in manufacturing area, could an accidental spill lead to a discharge to: (check all that apply).

- an on-site disposal system
- public sanitary sewer system (ex. Through a floor drain)
- storm drain
- to ground
- other, specify:
- Not applicable, no possible discharge to any of the above routes

4. Do you have an accidental spill prevention plan to prevent spill of chemicals or slug discharges from entering the sanitary sewer collection system?

Yes Please enclose a copy with the application.

Do you have an accidental spill prevention plan to prevent spill of chemicals or slug discharges from entering the sanitary sewer collection system?

Yes Please enclose a copy with the application.

No

N/A, Not applicable since there are no floor drains and/or the facility discharges only domestic wastewater.

5. Please describe below any previous spill events and remedial measures taken to prevent their reoccurrence.

Section J—Non-Discharged Wastes

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

- Yes, please describe below
 No, skip the remainder of Section J.

<u>Waste Generated</u>	<u>Quantity (per year)</u>	<u>Disposal Method</u>
Paint Waste	385156 lb/yr	Off-site Landfill
Filter Cake	43,514 lb/yr	Off-site Landfill
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site. All

3. If any of your wastes are sent to an off-site centralized waste treatment facility, identify the waste and facility.

4. If an outside firm removes any of the above checked wastes, state the name(s) and addresses of all waste haulers:

a. Triad Transport
10501 Sheldon Rd
Houston, TX 77044

b. Pollution Control Industries
5485 Victory Lane
Millington, TN 38053

Permit No.
(if applicable) OKD981588791

Permit No.
(if applicable) TND000772186

Section K-Compliance Certification and Authorized Signatures

Compliance certification.

1. Are all applicable Federal, State, or local pretreatment standards and requirements being met on a consistent basis?

- Yes No Not yet discharging Have see occasional excursions for Zinc

2. If No:

- a. What additional operation and maintenance procedures are being considered to bring the facility into compliance? Also, list additional treatment technologies or practices being considered to bring the facility into compliance.

Reviewing alternative treatment chemicals.


- b. Provide a schedule for bringing the facility into compliance Specify major events planned along with reasonable completion dates. Please note, if the Control Authority issues a permit to the applicant, it may establish a schedule for compliance different from the one submitted by the facility. Please attach additional sheets as needed.

Authorized Representative Statement:

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 submitted false information, including the possibility of fine and imprisonment for knowing violations.

Mr. David Sieler

Name



Signature

Plant Manager

Title

April 1, 2010 870-572-5074

Date

Phone #

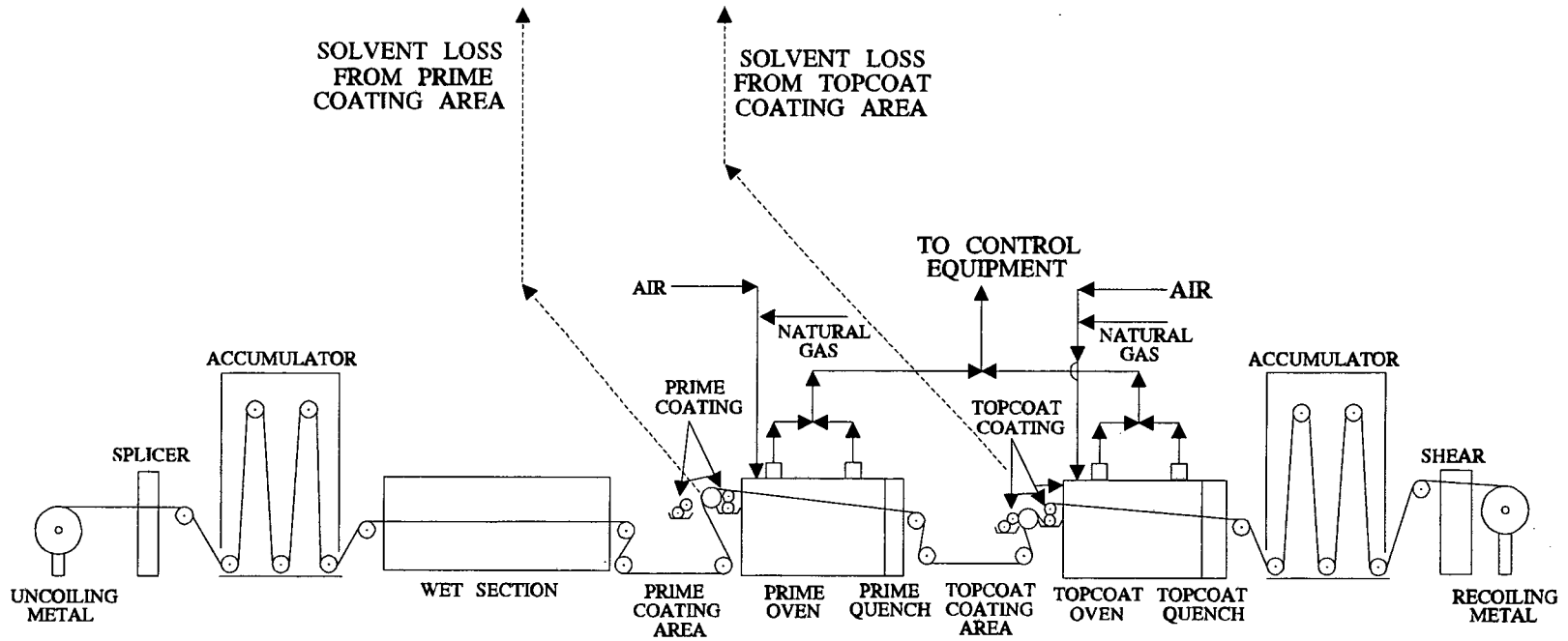
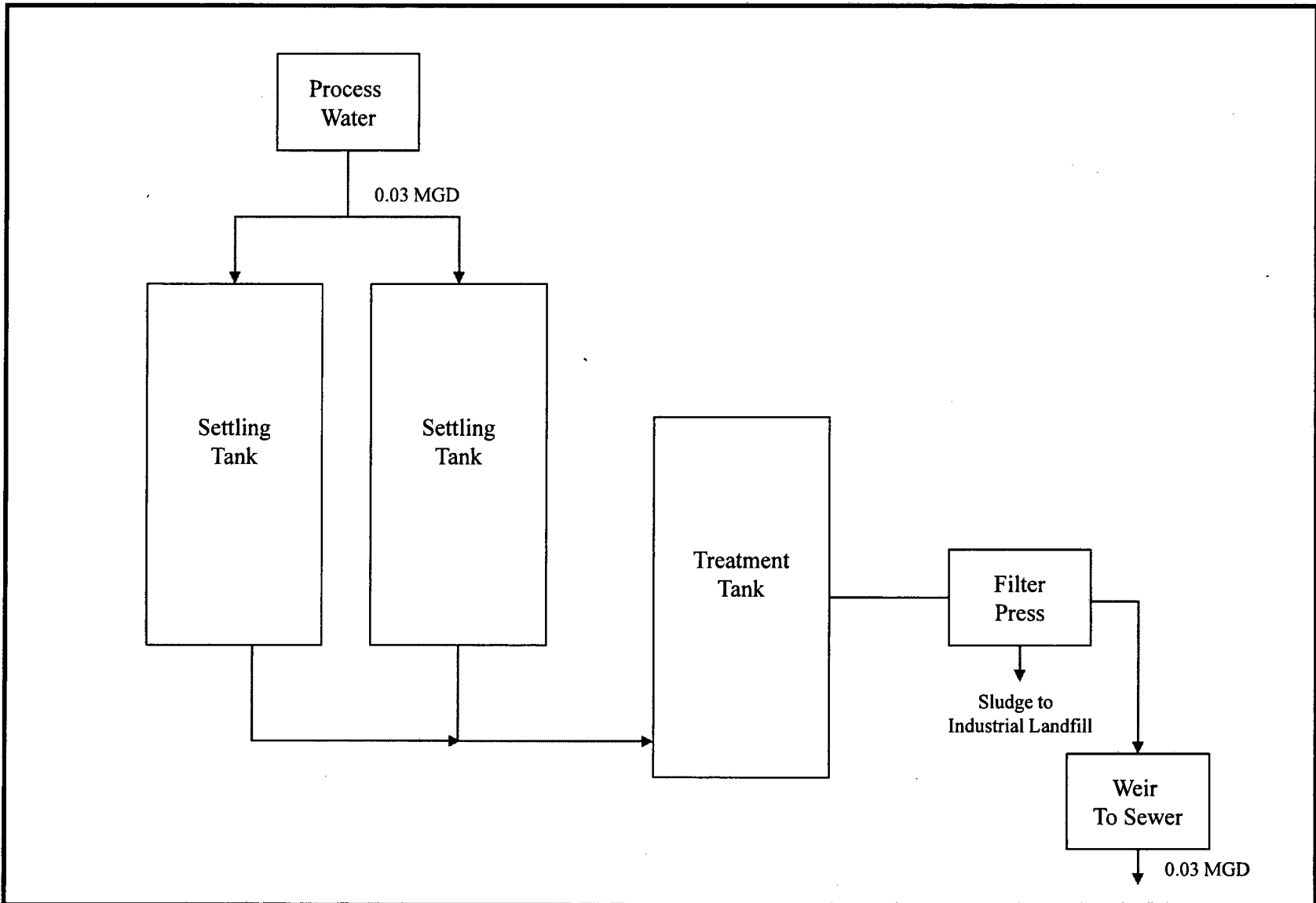


Figure 4.2.2.10-1. Flow diagram of model coil coating line.



Amerimax Coated Products
Wastewater Treatment Diagram

Trinity
Consultants

March 2010

helenawater@sbcglobal.net

From: "Torrence, Rufus" <TORRENCE@adeq.state.ar.us>
To: <helenawater@sbcglobal.net>
Sent: Wednesday, March 10, 2010 4:41 PM
Attach: IU SURVEY FORM 1.doc
Subject: AFIN 54-00083 AR0043389 City of Helena IWS

ADEQ

ARKANSAS
 Department of Environmental Quality

SYR915

March 10, 2010

Terry McGinister, General Manager
 Helena Municipal Water and Sewer System
 702 Cherry Street
 Helena-West Helena, Arkansas 72342

Re: City of Helena Industrial Waste Survey
 (Permit No. AR0043389, AFIN 54-00083)

Dear Mr. McGinister:

In accordance with the City of Helena's NPDES permit number AR0043389 Part III 7.b, the POTW must conduct an Industrial Waste Survey (IWS) of the industries which are connected to the POTW (sewer system). The IWS was due on January 1, 2010 which was two months from the effective date of the permit, i.e., November 1, 2009. The POTW may use the attached form for the survey.

Please complete the survey and send the results to the Department at the following address:

Rufus J. Torrence, Water Div Engineer
 Arkansas Department of Environmental Quality
 5301 Northshore Drive
 North Little Rock, AR 72118-5317

If you have any questions or concerns, please contact the Department at (501) 682-0626 or by email at torrence@adeq.state.ar.us.

Sincerely,



Rufus Torrence, Pretreatment Engineer
 Water Division

Cc: Mr. Benzene Collier, WWTP Superintendent
 Helena Municipal Water and Sewer System

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
 5301 NORTHSHORE DRIVE • NORTH LITTLE ROCK • ARKANSAS 72118-5317 • TELEPHONE 501 682 0744 FAX
www.adeq.state.ar.us

4/7/2010

NON-DOMESTIC WASTEWATER CONTRIBUTION SURVEY

Section A.—Activity Information

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply). A facility with processes within these business areas may be regulated as a categorical industrial user under Environmental Protection Agency Regulations.

Industrial Categories*

- Aluminum Forming
- Asbestos Manufacturing
- Battery Manufacturing
- Carbon Black
- Cement Manufacturing
- Coil Coating
- Copper Forming
- Electrical and Electronic Components Manufacturing
- Electroplating
- Feedlots
- Ferroalloy Manufacturing
- Fertilizer Manufacturing
- Fruits and Vegetables
- Processing Manufacturing
- Glass Manufacturing
- Grain Mills
- Inorganic Chemicals
- Iron and Steel Manufacturing
- Leather Tanning and Finishing
- Meat Processing
- Metal Finishing
- Metal Molding and Casting
- Nonferrous Metals Forming
- Nonferrous Metals Manufacturing
- Paint Formulating
- Paving and Roofing Manufacturing
- Pesticides Manufacturing
- Petroleum Refining
- Pharmaceuticals Plastics Molding and Forming
- Porcelain Enamel
- Pulp and Paper
- Rubber Processing
- Soaps and Detergents Manufacturing
- Steam Electric
- Sugar Processing
- Textile Mills

[] Timber Products Manufacturing

2. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

Manufacture of Industrial Organic Chemicals and
Chemical mixing/blending. Methyl ethyl ketone
peroxide, Benzoyl peroxide, Methyl isobutyl
ketone peroxide.

3. Environmental Permits

List all environmental control permits held by the applicant and the agency issuing permit.

<u>Permit No.</u>	<u>Issuing Agency</u>	<u>Expiration Date</u>
ARR000016899	EPAID HAZWASTE	NA
ARR000303	EPA WATER NPDES Storm Runoff	To be resolved by APC&EC

4. Product Volume: List the products produced and the volume of each for the past calendar year. If added space is needed, please attach additional sheets.

Product	Average	Maximum
Benzoyl peroxide	449,455 lbs/Mo	637,634 lbs/Month
Methyl ethyl ketone peroxide	489,570 lbs/Mo	621,940 lbs/Month
Methyl isobutyl ketone peroxide	2,293 lbs/Mo.	4,379 lbs/Mo

Section B—Water Supply

1. Water Sources: (Check as many as are applicable)

[] Private Well
[] Surface Water

Municipal Water Utility (Specify City): Helena, AR

Other (Specify _____)

2. Name on the water bill: Syrgis Performance Initiators
Name: _____
Street: 334 Phillips 311 Road
City: Helena State: AR Zip: 72342

3. Water service account number: 1798

4. List average water usage on premises:
(New facilities may estimate)

Type	Avg. Water Use (GPD)	Indicate Estimated (E) or Measured (M)
a. Contact cooling water	<u>NA</u>	<u>NA</u>
b. Non-contact cooling water	<u>1,000</u>	<u>E</u>
c. Boiler feed	<u>750</u>	<u>E</u>
d. Process	<u>34,300</u>	<u>E</u>
e. Sanitary	<u>625</u>	<u>E</u>
f. Air pollution control	<u>600</u>	<u>E</u>
g. Contained in product	<u>5,805</u>	<u>E</u>
h. Plant and equipment wash down	<u>3,500</u>	<u>E</u>
i. Irrigation and lawn watering	<u>100</u>	<u>E</u>
j. Other <u>RO unit</u>	<u>750</u>	<u>E</u>
k. Total	<u>47,430</u>	<u>E</u>

Section D—Sewer Information

Sanitary Sewer Connection

a. For existing business:

Is the building presently connected to the public sanitary sewer system?

Yes: Sanitary sewer account number 1798

No: Have you applied for a sanitary sewer hookup? Yes No

b. For a new business:

(i) Will you be occupying an existing vacant building, such as in an industrial park?

Yes No

(ii) Have you applied for a building permit if a new facility will be constructed?

Yes No

(iii) Will you be connected to the public sanitary sewer system?

Yes No

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (if more than three, attach additional information on another sheet.)

<u>Sewer Size</u>	<u>Descriptive Location of Sewer Connection or Discharge Point</u>	<u>Average Flow (GPD)</u>
<u>8"</u>	<u>Waste Treatment Pond #2</u>	<u>47,000</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Section E—Wastewater Discharge Information

1. Does (or will) this facility discharge any wastewater other than from rest rooms to the City sanitary sewer?

Yes If the answer to this question is "yes", complete the remainder of the application

No If the answer to this question is "no", skip to Section I.

2. Provide the following information on wastewater flow rate. New facilities may estimate.

- a. Hours/Day wastewater is discharged. (ex. 8 hours/day)

M 20 T 20 W 20 T 20 F ___ S ___ S ___

- b. Hours of Discharge (ex. 9 a.m. to 5 p.m.)

M T W T F ___ S ___ S ___
6am to 2am

- c. Peak hourly flow rate (GPD) 4,200

- d. Maximum daily flow rate (GPD) 51,430

- e. Annual daily average (GPD) 47,430

3. If batch discharge occurs or will occur, indicate.

- a. Number of batch discharges per day 1

- b. Average discharge per batch in GPD 125

- c. Time of batch discharges in day of the week 8am and hours of the day Tuesday & Wednesday

- d. Flow rate in gallons/minute 5 gpm

No.	Dilution	Flow (GPD)	Flow (GPD)	(batch, continuous, none)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

7. For categorical users subject to total, toxic organic (TTO) requirements, provide the following information:
- a. Does (or will) this facility use any of the toxic organics listed under the TTO standard of the EPA categorical pretreatment standards?
 - Yes
 - No
 - b. Has a baseline monitoring report (BMR) been submitted which contains TTO information?
 - Yes
 - No
 - c. Has a toxic organics management plan (TOMP) been developed?
 - Yes (please attach a copy)
 - No

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Sampling Equipment:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Planned Flow Metering:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Sampling Equipment:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A

If you have an automatic sampler or flow metering equipment, indicate where it is located on the flow schematic diagram and describe the equipment below:

9. If there are any process changes planned for the next three years that may alter or significantly contribute to the wastewater flow of the facility, please describe these below:

No

10. If there are any materials or water reclamation processes used in the facility, please describe these briefly below:

No

Section F—Characteristics of Discharge

Industrial users are required to submit monitoring data on all regulated pollutants contained in their wastewater. Use the tables provided in this section to report available analytical results. DO NOT LEAVE BLANKS. For all other (unregulated) pollutants, indicate whether the pollutant is known to be present, suspected to be present, suspected absent, or known to be absent. Place an X in the appropriate column. Indicate on either the top of each table, or on a separate sheet, if necessary, the sample location and type of analysis used. Be certain sample and analysis methods conform to 40 CFR Part 136. Monitoring for categorical industries must conform to requirements under 40 CFR Part 403.12 (iii).

Metals and Inorganics	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
1. Antimony	[]	[]	[]	[]	_____
2. Arsenic	[]	[]	[]	[]	_____
3. Asbestos	[]	[]	[]	[]	_____
4. Beryllium	[]	[]	[]	[]	_____
5. Cadmium	[]	[]	[]	[]	_____
6. Chromium	[]	[]	[]	[]	_____
7. Copper	[]	[]	[]	[]	_____
8. Cyanide	[]	[]	[]	[X]	< 0.010 mg/L
9. Lead	[X]	[]	[]	[]	1.50 ug/L
10. Mercury	[]	[]	[]	[]	_____
11. Nickel	[]	[]	[]	[]	_____
12. Selenium	[]	[]	[]	[]	_____
13. Silver	[]	[]	[]	[]	_____
14. Thallium	[]	[]	[]	[]	_____
15. Zinc	[X]	[]	[]	[]	216 ug/L

PHENOLS and CRESOLS

16. Phenol	[]	[]	[]	[X]	< 5.00 ug/L
17. 2- Chlorophenol	[]	[]	[]	[X]	< 5.00 ug/L
18. 2,4-Dichlorophenol	[]	[]	[]	[X]	< 5.00 ug/L
19.	[]	[]	[]	[]	_____
20.	[]	[]	[]	[]	_____
21.	[]	[]	[]	[]	_____
22.	[]	[]	[]	[]	_____

23.	[]	[]	[]	[]	_____
24.	[]	[]	[]	[]	_____
25.	[]	[]	[]	[]	_____
26.	[]	[]	[]	[]	_____

MONOCYCLIC AROMATICS
(excluding phenols, cresols, and phthalate)

27. Benzene	[x]	[]	[]	[]	1.44 $\mu\text{g/L}$
28. Chlorobenzene	[]	[]	[]	[x]	< 1.00 $\mu\text{g/L}$

	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
29.	[]	[]	[]	[]	_____
30.	[]	[]	[]	[]	_____
31.	[]	[]	[]	[]	_____
32.	[]	[]	[]	[]	_____
33.	[]	[]	[]	[]	_____
34.	[]	[]	[]	[]	_____
35.	[]	[]	[]	[]	_____
36.	[]	[]	[]	[]	_____
37.	[]	[]	[]	[]	_____
38.	[]	[]	[]	[]	_____

PCB's and RELATED COMPOUNDS

39. PCB-1016 (Arochlor 1016)	[]	[]	[]	[x]	_____
40. PCB-1221 (Arochlor 1221)	[]	[]	[]	[x]	_____
41. PCB-1232 (Arochlor 1232)	[]	[]	[]	[x]	_____
42. PCB-1242 (Arochlor 1242)	[]	[]	[]	[x]	_____
43. PCB-1248 (Arochlor 1248)	[]	[]	[]	[x]	_____
44. PCB-1254 (Arochlor 1254)	[]	[]	[]	[x]	_____
45. PCB-1260 (Arochlor 1260)	[]	[]	[]	[x]	_____
46. 2-Chloronaphthalene	[]	[]	[]	[x]	< 5.00 $\mu\text{g/L}$

ETHERS

47.	[]	[]	[]	[]	_____
48.	[]	[]	[]	[]	_____
49.	[]	[]	[]	[]	_____
50.	[]	[]	[]	[]	_____
51.	[]	[]	[]	[]	_____

52.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
-----	--------------------------	--------------------------	--------------------------	--------------------------	--

NITROSAMINES and OTHER NITROGEN CONTAINING COMPOUNDS

53. TOTAL KJELDAHL NITROGEN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.3 MS/L
54.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
55.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
58.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

HALOGENATED ALIPHATICS

Known Present

Suspected Present

Known Absent

Suspected Absent

Conc.

	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
60.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
66.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
67.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
71.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
74.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
76.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
77.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
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.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____
.	[]	[]	[]	[]	_____

	Known Present	Suspected Present	Known Absent	Suspected Absent	Conc.
122. Heptachlor	[]	[]	[]	[x]	UNK
123. Heptachlor Epoxide	[]	[]	[]	[x]	UNK
124. Isophorone	[]	[]	[]	[x]	< 5.00
125. TCDD (Dioxin) (2,3,7, 8-tetrachlorodibenzo-p-dioxin)	[]	[]	[]	[x]	_____
126. Toxaphene	[]	[]	[]	[x]	_____

If you are unable to identify the chemicals that may be discharged in the wastewater, please attach copies of the Material Safety Data Sheets (MSDS).

Section G—Treatment

- Is there any wastewater treatment equipment at this facility? [] Yes [] No
- Please describe the wastewater treatment processes utilized on site. Include information pertaining to the type of equipment used, flow rates, operating procedures, chemicals used and physical size of wastewater treatment and storage tanks.
Two aerobic wastewater treatment ponds
utilizing biodegradation.

- Attach a process flow diagram for the existing wastewater treatment system. Include process equipment, sludge disposal method, waste and by-product volumes, and design and operating conditions.
- Describe any changes in wastewater treatment or disposal methods planned or under construction. Please include estimated completion dates.
None

- Do you have a wastewater treatment operator? [] Yes [x] No

If yes please list name and hours worked/day. _____

6. Do you have a wastewater treatment system manual? Yes No
7. Do you have a written maintenance schedule for wastewater treatment equipment?
 Yes No

Section H—Facility Operational Characteristics

1. Shift Information

Work Days	<input checked="" type="checkbox"/> Mon.	<input checked="" type="checkbox"/> Tues	<input checked="" type="checkbox"/> Wed.	<input checked="" type="checkbox"/> Thurs.	<input type="checkbox"/> Fri.	<input type="checkbox"/> Sat.	<input type="checkbox"/> Sun
Shifts/day	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	___	___	___
Emp./ Shift	1 st	<u>19</u>	<u>19</u>	<u>19</u>	<u>19</u>	___	___
	2 nd	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	___	___
	3 rd	___	___	___	___	___	___
End & Start Times	1 st	<u>6am</u>	<u>6am</u>	<u>6am</u>	<u>6am</u>	___	___
	1 st	<u>4pm</u>	<u>4pm</u>	<u>4pm</u>	<u>4pm</u>	___	___
	2 nd	<u>4pm</u>	<u>4pm</u>	<u>4pm</u>	<u>4pm</u>	___	___
	2 nd	<u>2am</u>	<u>2am</u>	<u>2am</u>	<u>2am</u>	___	___
	3 rd	___	___	___	___	___	___
	3 rd	___	___	___	___	___	___

2. Indicate whether the business activity is:

- Continuous through the year, or
 Seasonal—Circle the months of the year when the business activity occurs:

J F M A M J J A S O N D

Comments: _____

3. Indicate whether the facility discharge is:

- Continuous through the year, or
 Seasonal—Circle the months of the year when the business activity occurs:

J F M A M J J A S O N D

Comments: _____

4. Does operation shut down for vacation, maintenance, or other reasons'?

Yes, indicate reasons and period shutdown occurs:

Approximately last two weeks each year for Christmas Holiday.

No

Section I—Spill Prevention

1. Do you have chemical storage containers, bins, or ponds at your facility?

Yes No

If yes, please give a description of their location, contents, size, type, and frequency and method of cleaning Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain. Indicate if buried metal containers have cathodic protection.

See attached copy of Tier II Report and site map.

2. Do you have floor drains in your manufacturing or chemical storage area(s)?

Yes NO

If yes, where do they discharge to? Waste Water ponds or blind Sumps

3. If you have chemical storage containers, bins, or ponds in manufacturing area, could an accidental spill lead to a discharge to: (check all that apply).

an on-site disposal system

public sanitary sewer system (ex. Through a floor drain)

storm drain

to ground

other, specify: Waste water ponds or blind sumps

Not applicable, no possible discharge to any of the above routes

4. Do you have an accidental spill prevention plan to prevent spill of chemicals or slug discharges from entering the sanitary sewer collection system?

Yes Please enclose a copy with the application.

Do you have an accidental spill prevention plan to prevent spill of chemicals or slug discharges from entering the sanitary sewer collection system?

Yes Please enclose a copy with the application.

No

N/A, Not applicable since there are no floor drains and/or the facility discharges only domestic wastewater.

5. Please describe below any previous spill events and remedial measures taken to prevent their reoccurrence.

HOOT spill due to incorrect level control relay installation.
Correct relay was installed and maintenance and production
personnel were instructed verify proper operation of
equipment after repairs are made.

5. Continued.

HDOH spill resulting from operator error during off-loading.
Operator was retrained on off-loading procedure.

Section J—Non-Discharged Wastes

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

- Yes, please describe below
- No, skip the remainder of Section J.

<u>Waste Generated</u>	<u>Quantity (per year)</u>	<u>Disposal Method</u>
<u>Solvents, Flammable</u>	<u>~ 500 lbs</u>	<u>incineration</u>
<u>Organic Peroxides</u>	<u>~ 11,000 lbs</u>	<u>incineration</u>
<u>Benzoyl Chloride</u>	<u>~ 3,000 lbs</u>	<u>incineration</u>
<u>Dimethyl phthalate</u>	<u>~ 300 lbs</u>	<u>incineration</u>
_____	_____	_____
_____	_____	_____

2. Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

All above wastes are disposed of off-site.

3. If any of your wastes are sent to an off-site centralized waste treatment facility, identify the waste and facility. All wastes are sent to Clean Harbors Environmental Services Inc.

4. If an outside firm removes any of the above checked wastes, state the name(s) and addresses of all waste haulers:

- a. Clean Harbors b. _____
- 589 American Way _____
- El Dorado, AR 71730 _____

Permit No. (if applicable) MAD05932250

Permit No. (if applicable) _____

Section K-Compliance Certification and Authorized Signatures

Compliance certification.

1. Are all applicable Federal, State, or local pretreatment standards and requirements being met on a consistent basis?

- Yes
- No
- Not yet discharging

2. If No:

- a. What additional operation and maintenance procedures are being considered to bring the facility into compliance? Also, list additional treatment technologies or practices being considered to bring the facility into compliance.

We are analyzing facility intake water and process wastewater discharge to determine source of contaminants so appropriate actions may be taken.

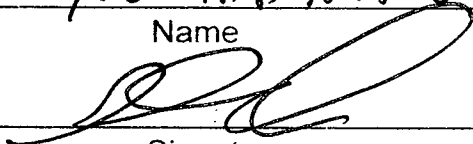
- b. Provide a schedule for bringing the facility into compliance Specify major events planned along with reasonable completion dates. Please note, if the Control Authority issues a permit to the applicant, it may establish a schedule for compliance different from the one submitted by the facility. Please attach additional sheets as needed. Expected to be complete by 12/31/2010

Authorized Representative Statement:

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 submitted false information, including the possibility of fine and imprisonment for knowing violations.

Glynn Hamilton

Name



Signature

Plant Manager

Title

4-5-10

Date

870-572-2935

Phone #

Tier Two
Emergency and Hazardous Chemical Inventory
Specific Information by Chemical

Reporting Period: January 1 to December 31, 2009
Page 1
Printed: February 22, 2010

Facility Name: Syrgis Performance Initiators, Inc.

FACILITY IDENTIFICATION:

Syrgis Performance Initiators, Inc.
Dept:
334 Phillips 311 Road
Helena, AR 72342-9033 USA
County: Phillips
Number of employees: 42
Latitude: 34.3100
Longitude: 090.3913
Method: A0 - Address Matching (Other)
Description: AB - Administrative Building

IDENTIFICATION NUMBERS:

Dun & Bradstreet:
NAICS: 325199
SIC: 2869

COPY

CONTACT INFORMATION:

Hamilton, Glynn

Title: Asst. Plant Manager Contact Type 1: Owner / Operator Contact Type 2: Emergency Contact
Address: 1216 North Fourth St., Helena, AR, 72342 USA
Phones: Work: 870.572.2935 Mobile - Cell: 870.572.3679
Email: ghamilton@syrgis.com

Wages, Jeff

Title: EHS Manager Contact Type 1: Regulatory Point of Contact Contact Type 2: Emergency Contact Contact Type 3:
Emergency Contact
Address: 96 Stonebrook Road, Helena, AR, 72342 USA
Phones: Work: 870.572.2935 Home: 870.572.3132 Mobile - Cell: 870.995.3443
Email: jwages@syrgis.com

CHEMICAL DESCRIPTIONS:

All chemicals in inventory are identical to last year's submission

CHEM NAME: 2, 2, 4-trimethyl-1,3-pentanediol di isobutyrate (TXIB)
CAS: 6848-50-0

Identical to previous year
 TRADE SECRET
 Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 206568 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)
Avg Amt: 43000 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)
Max quantity in largest container: 149,340 pounds
No. of days on-site: 365

Emergency and Hazardous Chemical Inventory

Specific Information by Chemical

Printed: February 22, 2010

Facility Name: Syrgis Performance Initiators, Inc.

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank bay TB02 Amount: 150220 pounds

Container Type: Q Pressure: 1 Temp: 4 Location: Rail spur at TB02 Amount: 192200 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: 2,4-PENTANEDIONE

CAS: 123-54-6

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 60068 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 37335 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 2,200 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: O Pressure: 1 Temp: 4 Location: Drum Storage Shed UT03 Amount: 60068 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: BENZOYL CHLORIDE

CAS: 98-88-4

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 324444 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)

Avg Amt: 158383 pounds Avg Daily Amt code: 05 (100,000 - 999,999 pounds)

Max quantity in largest container: 110,000 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB06 Amount: 324444 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: BENZOYL PEROXIDE

CAS: 94-36-0

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 363953 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)

Facility Name: Syrgis Performance Initiators, Inc.

Avg Amt: 272425 pounds Avg Daily Amt code: 05 (100,000 - 999,999 pounds)

Max quantity in largest container: 8000 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: E	Pressure: 1	Temp: 4	Location: Building 16	Amount: 15000 pounds
Container Type: I	Pressure: 1	Temp: 4	Location: Building 16	Amount: 20000 pounds
Container Type: K	Pressure: 1	Temp: 4	Location: Building 16	Amount: 4000 pounds
Container Type: E	Pressure: 1	Temp: 4	Location: Building 17	Amount: 17500 pounds
Container Type: I	Pressure: 1	Temp: 4	Location: Building 17	Amount: 260000 pounds
Container Type: K	Pressure: 1	Temp: 4	Location: Building 17	Amount: 25000 pounds
Container Type: O	Pressure: 1	Temp: 4	Location: Building 16	Amount: 35000 pounds
Container Type: O	Pressure: 1	Temp: 4	Location: Building 17	Amount: 35000 pounds
Container Type: C	Pressure: 1	Temp: 4	Location: Building 16	Amount: 16000 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: CUMYL HYDROPEROXIDE

CAS: 80-15-9

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 68487 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 27822 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 68487 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A	Pressure: 1	Temp: 4	Location: Tank Bay TB15	Amount: 68487 pounds
Container Type: D	Pressure: 1	Temp: 4	Location: Drum Shed UT03	Amount: 68487 pounds
Container Type: M	Pressure: 1	Temp: 4	Location: Building 18	Amount: 1800 pounds
Container Type: M	Pressure: 1	Temp: 4	Location: Building 3	Amount: 1440 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: DIACETONE ALCOHOL

CAS: 123-42-2

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 63393 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 37335 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 63393 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A	Pressure: 1	Temp: 4	Location: Tank Bay TB12	Amount: 63393 pounds
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CHEMICALS IN INVENTORY STATE FIELDS:

COPY

Emergency and Hazardous Chemical Inventory

Specific Information by Chemical

Facility Name: Syrgis Performance Initiators, Inc.

No additional chemical information is required by Arkansas

CHEM NAME: DICUMYL PEROXIDE

CAS: 80-43-3

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 24562 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 22530 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 100 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: I	Pressure: 1	Temp: 4	Location: Building 17	Amount: 24562 pounds
Container Type: J	Pressure: 1	Temp: 4	Location: Building 17	Amount: 10000 pounds
Container Type: I	Pressure: 1	Temp: 4	Location: Building 16	Amount: 4000 pounds
Container Type: J	Pressure: 1	Temp: 4	Location: Building 16	Amount: 4000 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: DIMETHYL ADIPATE (DME-2)

CAS: 627-93-0

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 12490 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 10405 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 500 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: E Pressure: 1 Temp: 4 Location: Drum Shed UT03 Amount: 12490 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: DIMETHYL PHTHALATE

CAS: 131-11-3

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 296588 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)

Avg Amt: 137145 pounds Avg Daily Amt code: 05 (100,000 - 999,999 pounds)

COPY

Tier Two

Reporting Period: January 1 to December 31, 2009

Emergency and Hazardous Chemical Inventory

Page 5

Specific Information by Chemical

Printed: February 22, 2010

Facility Name: Syrgis Performance Initiators, Inc.

Max quantity in largest container: 116000 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB03 Amount: 296588 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: HEXYLENE GLYCOL

CAS: 107-41-5

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 42405 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 27616 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 42405 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB14 Amount: 42405 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: HYDROGEN PEROXIDE (52% BY WEIGHT OR GREATER)

CAS: 7722-84-1

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 340867 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)

Avg Amt: 215070 pounds Avg Daily Amt code: 05 (100,000 - 999,999 pounds)

Max quantity in largest container: 279723 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB10 Amount: 340867 pounds

Container Type: Q Pressure: 1 Temp: 4 Location: Rail Spur at TB10 Amount: 206315 pounds

Container Type: E Pressure: 1 Temp: 4 Location: Building 8 Amount: 2000 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: Isodecyl benzoate (K-Flex)

CAS: 131298-44-7

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Emergency and Hazardous Chemical Inventory

Specific Information by Chemical

Facility Name: Syrgis Performance Initiators, Inc.

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 70830 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)
Avg Amt: 45956 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)
Max quantity in largest container: 70830 pounds
No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB05 Amount: 53788 pounds
Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB09 Amount: 27800 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: KETONE, ETHYL METHYL

CAS: 78-93-3

Identical to previous year
 TRADE SECRET
 Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 151006 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)
Avg Amt: 79919 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)
Max quantity in largest container: 151006 pounds
No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB03 Amount: 151006 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: METHYL ETHYL KETONE PEROXIDE

CAS: 1338-23-4

Identical to previous year
 TRADE SECRET
 Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 721364 pounds Max Daily Amt code: 05 (100,000 - 999,999 pounds)
Avg Amt: 576464 pounds Avg Daily Amt code: 05 (100,000 - 999,999 pounds)
Max quantity in largest container: 6000 pounds
No. of days on-site: 366

STORAGE CODES & STORAGE LOCATIONS:

Container Type: C Pressure: 1 Temp: 4 Location: Building 7 Amount: 96000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 2 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 3 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 12 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 13 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 14 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 15 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 18 Amount: 116000 pounds
Container Type: N Pressure: 1 Temp: 4 Location: Building 19 Amount: 116000 pounds

Tier Two
Emergency and Hazardous Chemical Inventory
Specific Information by Chemical

Reporting Period: January 1 to December 31, 2009

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Printed: February 22, 2010

Facility Name: Syrgis Performance Initiators, Inc.

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: NITRIC ACID, <=40%

CAS: 7697-37-2

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 1500 pounds Max Daily Amt code: 03 (1,000 - 9,999 pounds)

Avg Amt: 1500 pounds Avg Daily Amt code: 03 (1,000 - 9,999 pounds)

Max quantity in largest container: 500 pounds

No. of days on-site: 366

STORAGE CODES & STORAGE LOCATIONS:

Container Type: E Pressure: 1 Temp: 4 Location: Building 20 Amount: 1500 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: POLYETHYLENE GLYCOL 200

CAS: 25322-68-3

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 74378 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 27152 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 74378 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB11 Amount: 74378 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: PROPYLENE GLYCOL

CAS: 57-55-6

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 10531 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 8000 pounds Avg Daily Amt code: 03 (1,000 - 9,999 pounds)

Max quantity in largest container: 425 pounds

No. of days on-site: 365

Facility Name: Syrgis Performance Initiators, Inc.

STORAGE CODES & STORAGE LOCATIONS:

Container Type: D Pressure: 1 Temp: 4 Location: Drum Storage Shed UT03 Amount: 10531 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: PYROL-M

CAS: 872-50-4

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 33178 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 16097 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 2600 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: O Pressure: 1 Temp: 4 Location: Drum Shed UT03 Amount: 10822 pounds

Container Type: D Pressure: 1 Temp: 4 Location: Drum Shed UT03 Amount: 10822 pounds

Container Type: D Pressure: 1 Temp: 4 Location: Building 8 Amount: 2600 pounds

Container Type: O Pressure: 1 Temp: 4 Location: Building 8 Amount: 2600 pounds

Container Type: D Pressure: 1 Temp: 4 Location: Building 5 Amount: 2600 pounds

Container Type: O Pressure: 1 Temp: 4 Location: Building 5 Amount: 2600 pounds

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB12 Amount: 33178 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: SODIUM HYDROXIDE SOLUTION

CAS: 1310-73-2

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 75265 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 59099 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 75265 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB07 Amount: 75265 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: SULFURIC ACID

CAS: 7664-93-9

Identical to previous year

TRADE SECRET

Facility Name: Syrgis Performance Initiators, Inc.

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 27456 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 15783 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 725 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: E Pressure: 1 Temp: 4 Location: Building 6 Amount: 27456 pounds

Container Type: E Pressure: 1 Temp: 4 Location: Building 8 Amount: 8700 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: Tergitol XD Surfactant

CAS:

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 76914 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 51575 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 76914 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB08 Amount: 76914 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: TERT-BUTYL HYDROPEROXIDE

CAS: 75-91-2

Identical to previous year

TRADE SECRET

Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)

INVENTORY:

Max Amt: 24674 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 12364 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 400 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: N Pressure: 1 Temp: 4 Location: Building 19 Amount: 12337 pounds

Container Type: E Pressure: 1 Temp: 4 Location: Building 19 Amount: 12337 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

Specific Information by Chemical

Printed: February 22, 2010

Facility Name: Syrgis Performance Initiators, Inc.

CHEM NAME: TERT BUTYL PEROXYBENZOATE
CAS: 614-45-9 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)
INVENTORY:

Max Amt: 24672 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 14880 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 40 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: N Pressure: 1 Temp: 4 Location: Building 2 Amount: 7000 pounds

Container Type: N Pressure: 1 Temp: 4 Location: Building 18 Amount: 7000 pounds

Container Type: N Pressure: 1 Temp: 4 Location: Building 19 Amount: 7000 pounds

Container Type: N Pressure: 1 Temp: 4 Location: Building 14 Amount: 7000 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

COPY

CHEM NAME: Tripropylene glycol monomethyl ether
CAS: 25498-49-1 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)
INVENTORY:

Max Amt: 27280 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 16042 pounds Avg Daily Amt code: 04 (10,000 - 99,999 pounds)

Max quantity in largest container: 27280 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Container Type: A Pressure: 1 Temp: 4 Location: Tank Bay TB11 Amount: 27280 pounds

Container Type: O Pressure: 1 Temp: 4 Location: Drum Storage UT03 Amount: 27280 pounds

CHEMICALS IN INVENTORY STATE FIELDS:

No additional chemical information is required by Arkansas

CHEM NAME: ZINC STEARATE

CAS: 557-05-1

 Identical to previous year TRADE SECRET Pure Mix Solid Liquid Gas EHS

PHYSICAL & HEALTH HAZARDS:

 Fire Sudden Release of Pressure Reactivity Immediate (acute) Delayed (chronic)
INVENTORY:

Max Amt: 20350 pounds Max Daily Amt code: 04 (10,000 - 99,999 pounds)

Avg Amt: 8000 pounds Avg Daily Amt code: 03 (1,000 - 9,999 pounds)

Max quantity in largest container: 50 pounds

No. of days on-site: 365

STORAGE CODES & STORAGE LOCATIONS:

Tier Two
Emergency and Hazardous Chemical Inventory
Specific Information by Chemical

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Facility Name: Syrgis Performance Initiators, Inc.

Container Type: J Pressure: 1 Temp: 4 Location: Building 16 Amount: 20350 pounds
CHEMICALS IN INVENTORY STATE FIELDS:
No additional chemical information is required by Arkansas

FACILITY STATE FIELDS:
No additional information is required by Arkansas

COPY

STATE / LOCAL FEES: \$60.00

- I have attached a site plan
- I have attached a list of site coordinate abbreviations
- I have attached a description of dikes and other safeguard measures

Certification (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through 11,
and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Glynn Hamilton

Name and official title of owner/operator
OR owner/operator's authorized representative

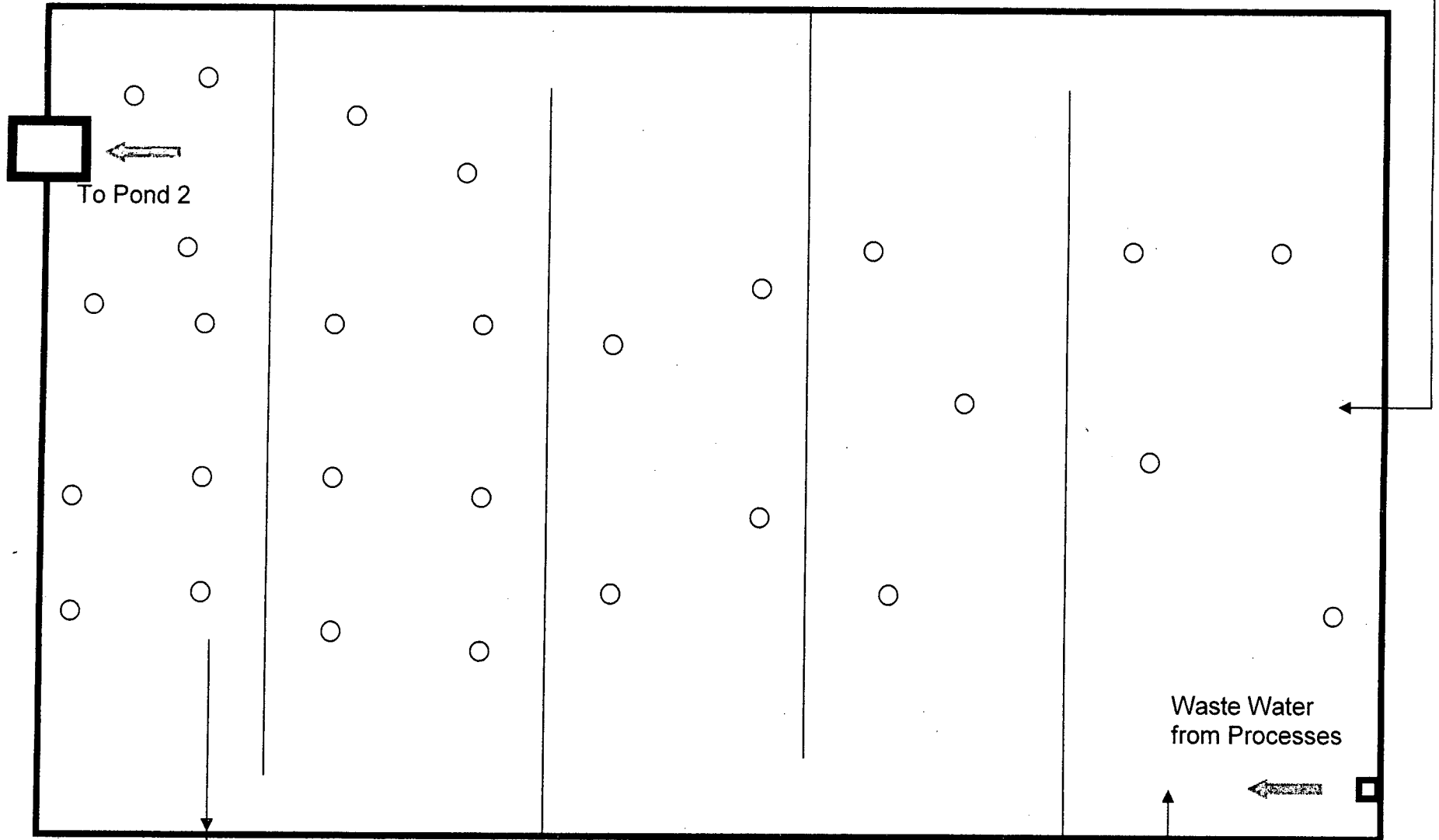
Signature

2/23/2010

Date signed

Return from
Pond 2

Pond 1



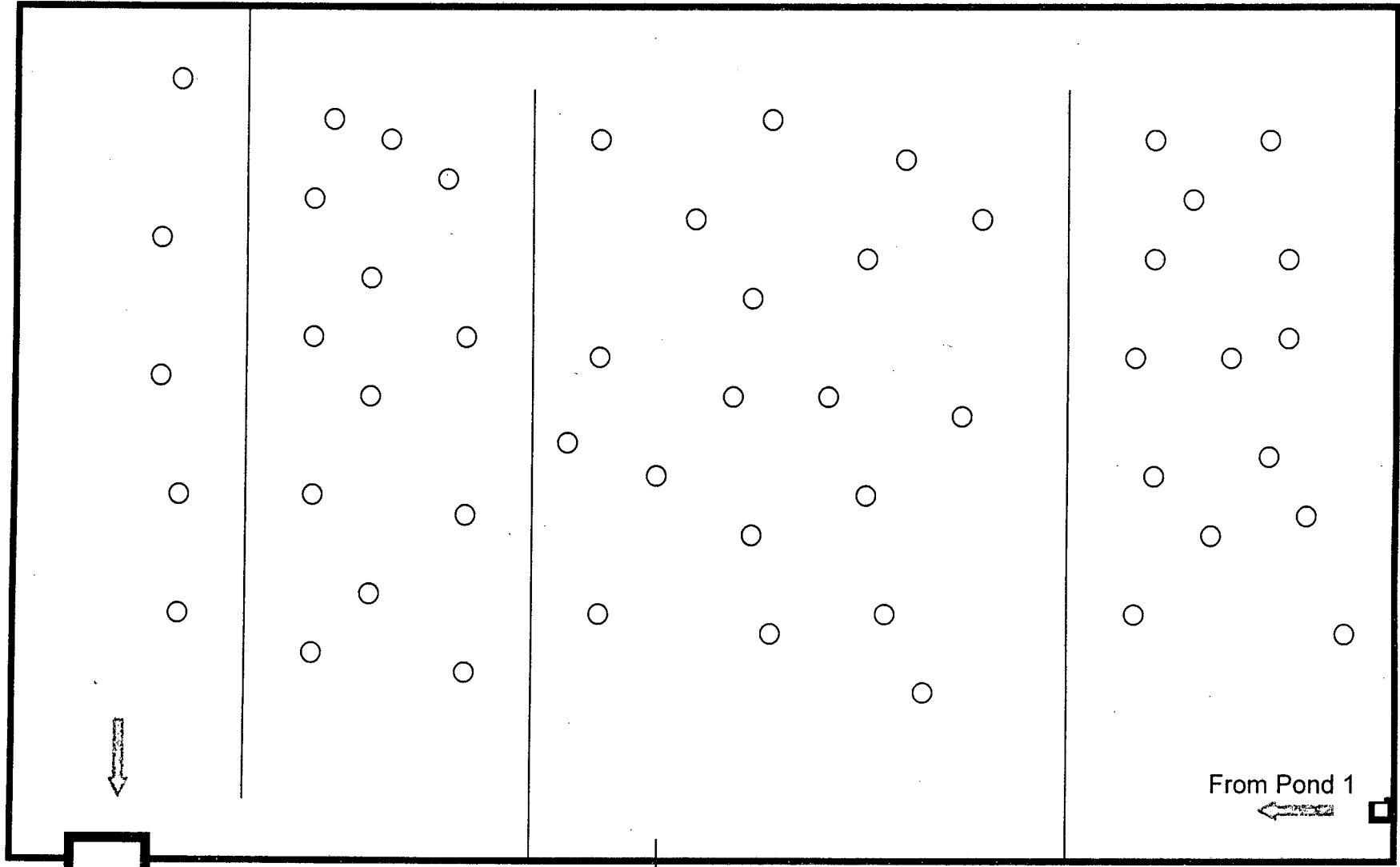
To Pond 2

Waste Water
from Processes

Bacteria
Incubation

Pond capacity ~1.62 million gallons
Length x Width x Depth = 190'x190'x6'
○ = Pond Aerators

Pond 2

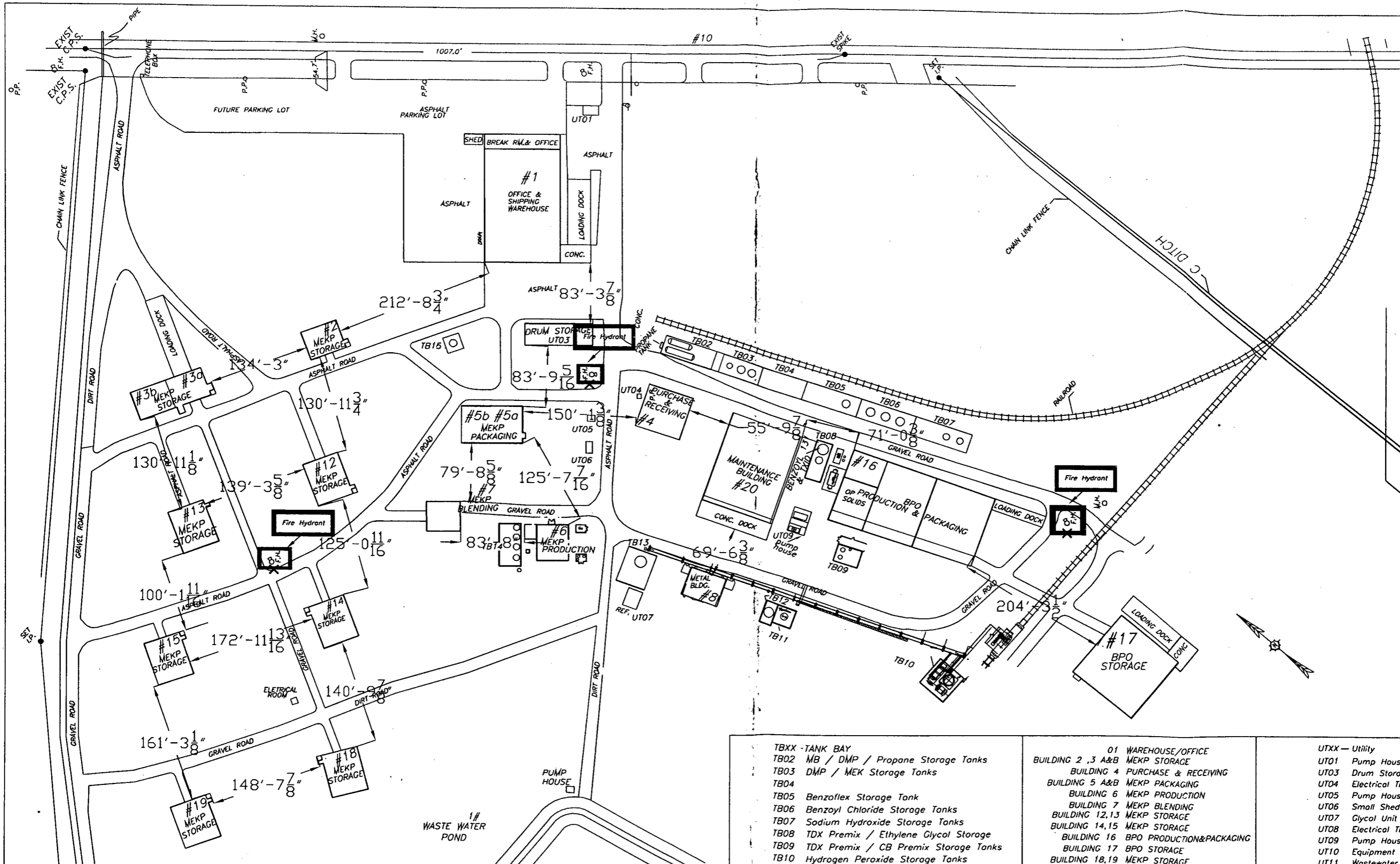


Discharge to POTW
~27,000 GPD

From Pond 1

Pond capacity ~5.95 million gallons
Length x Width x Depth = 337'x337'x7'
○ = Pond Aerators

Return to Pond 1



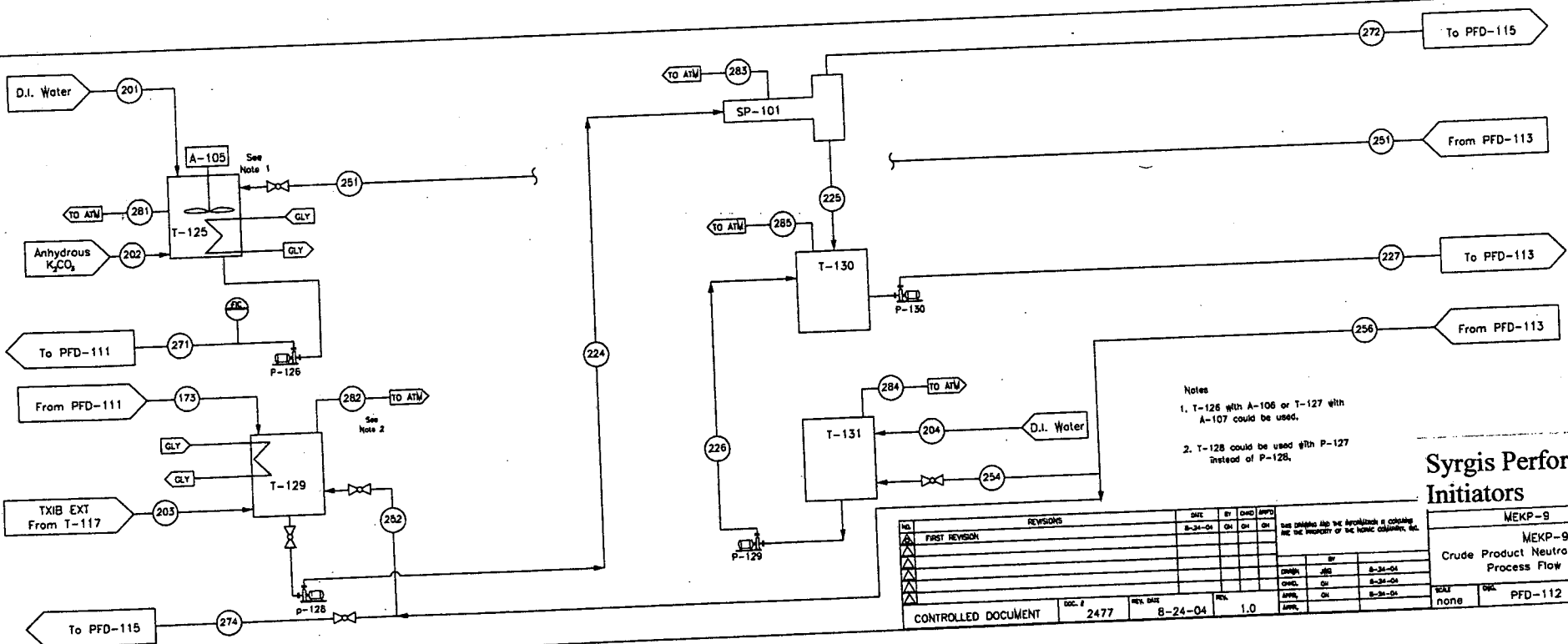
- | | | |
|---|---|--|
| <p>TBXX - TANK BAY
 TB02 MB / DMP / Propane Storage Tanks
 TB03 DMP / MEK Storage Tanks
 TB04
 TB05 Benzoflex Storage Tank
 TB06 Benzoyl Chloride Storage Tanks
 TB07 Sodium Hydroxide Storage Tanks
 TB08 TDX Premix / Ethylene Glycol Storage
 TB09 TDX Premix / CB Premix Storage Tanks
 TB10 Hydrogen Peroxide Storage Tanks
 TB11 Diacetone Alcohol
 TB12 Polyethylene Glycol
 TB13 Ethylene Glycol Storage Tanks
 TB14 Glycol / TXIB Extract Storage Tanks
 TB15 Cumyl Hydroperoxide Storage Tank</p> | <p>01 WAREHOUSE/OFFICE
 BUILDING 2,3 A&B MEKP STORAGE
 BUILDING 4 PURCHASE & RECEIVING
 BUILDING 5 A&B MEKP PACKAGING
 BUILDING 6 MEKP PRODUCTION
 BUILDING 7 MEKP BLENDING
 BUILDING 12,13 MEKP STORAGE
 BUILDING 14,15 MEKP STORAGE
 BUILDING 16 BPO PRODUCTION&PACKAGING
 BUILDING 17 BPO STORAGE
 BUILDING 18,19 MEKP STORAGE
 BUILDING 20 MAINTENANCE SHOP</p> | <p>UTXX - Utility
 UT01 Pump House
 UT03 Drum Storage
 UT04 Electrical Transformers
 UT05 Pump House
 UT06 Small Shed
 UT07 Glycol Unit
 UT08 Electrical Transformer
 UT09 Pump House
 UT10 Equipment Storage Shed
 UT11 Wastewater Pond #1
 UT12 Wastewater Pond #2
 TTX - Temporary Trailers</p> |
|---|---|--|

SYRGIS
 SYRGIS PERFORMANCE INITIATORS INC.
 Helena, Arkansas

PLANT HYDRANT LAYOUT
 Scale: 1" = 80'
 Date: 0

MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		173	201	202	203	204	224	225	226	227	251	252	254	256	271	272	274	281	282	283	284	285
Description	Units	Crude Product Feed to T-129	De-Ionized Water Feed to PotCarb Tank (T-125)	Anhydrous Potcarb Feed to Wash Water Tank (T-125)	TXIB Extract Feed to Tank (T-129)	De-Ionized Water Feed to Wash Water Tank (T-131)	Feed Stream to 1st Cooler (SP-101)	Product Stream to 2nd Cooler Feed Tank (T-130)	Wash Water Feed to T-130	Feed Stream to 2nd Cooler (SP-102)	Wastewater from 2nd Cooler to PotCarb Tanks	Wastewater from 3rd Cooler to T-129	Wastewater from 3rd Cooler to T-131	Wastewater from 3rd Cooler (SP-103)	PotCarb Feed to Stream 129	Wastewater from 1st Cooler to T-136	Wastewater from 3rd Cooler to T-136	Vent from PotCarb Tank	Vent from T-129	Vent from SP-101	Vent from T-131	Vent from T-130
Mass Flow	kg/min	26.21	1.31	0.03	1.82	0.83	28.02	19.59	2.64	22.26	2.86	0.00	1.81	1.81	4.19	8.43	0.00	0.00	0.00	0.00	0.00	0.00
Temperature	°C	15	24	-	24	24	15	21	24	22	22	24	24	24	15	21	24	-	-	-	-	-
DNP	kg/min	6.82	0.00	0.00	0.03	0.00	5.15	0.34	0.05	0.39	0.32	0.00	0.06	0.06	0.17	0.87	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	5.10	0.00	0.00	0.05	0.00	1.13	0.25	0.06	0.32	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	1.12	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.08	0.08	0.12	0.37	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	12.27	0.00	0.00	0.00	0.00	3.77	3.41	0.08	3.48	0.12	0.00	0.15	0.15	0.24	0.72	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	3.75	0.00	0.00	0.03	0.00	7.42	6.70	0.15	6.86	0.24	0.00	0.00	0.00	29.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	7.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.82	0.00	0.44	0.44	2.82	42.34	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	29.37	0.00	29.37	0.00	0.00	45.30	2.95	0.44	3.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TBS	g/min	3.24	0.00	0.00	0.42	0.00	1.66	1.66	0.00	1.66	0.00	0.00	1.52	1.52	3.62	6.40	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	1.66	0.00	1.66	0.74	2.35	3.10	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	7.08	1.31	0.00	0.07	0.83	7.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Notes
 1. T-126 with A-106 or T-127 with A-107 could be used.
 2. T-128 could be used with P-127 instead of P-128.

Syrgis Performance Initiators

REVISED				DATE	BY	CHKD	APPRD
NO.	DESCRIPTION	DATE	BY	CHKD	APPRD		
1	FIRST REVISION	8-24-04	CH	CH	CH		
2							
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MEKP-9
 Crude Product Neutralization & Washing
 Process Flow Diagram

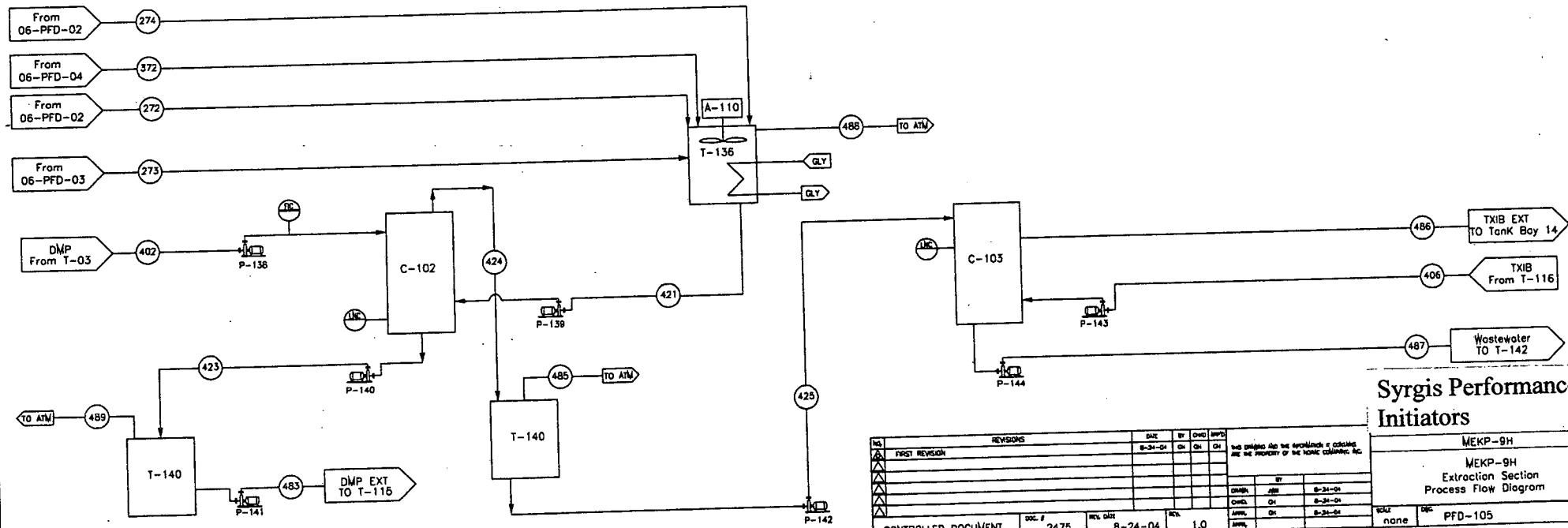
CONTROLLED DOCUMENT DOC. # 2477 REV. DATE 8-24-04 REV. 1.0

SCALE none SHEET PFD-112

MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

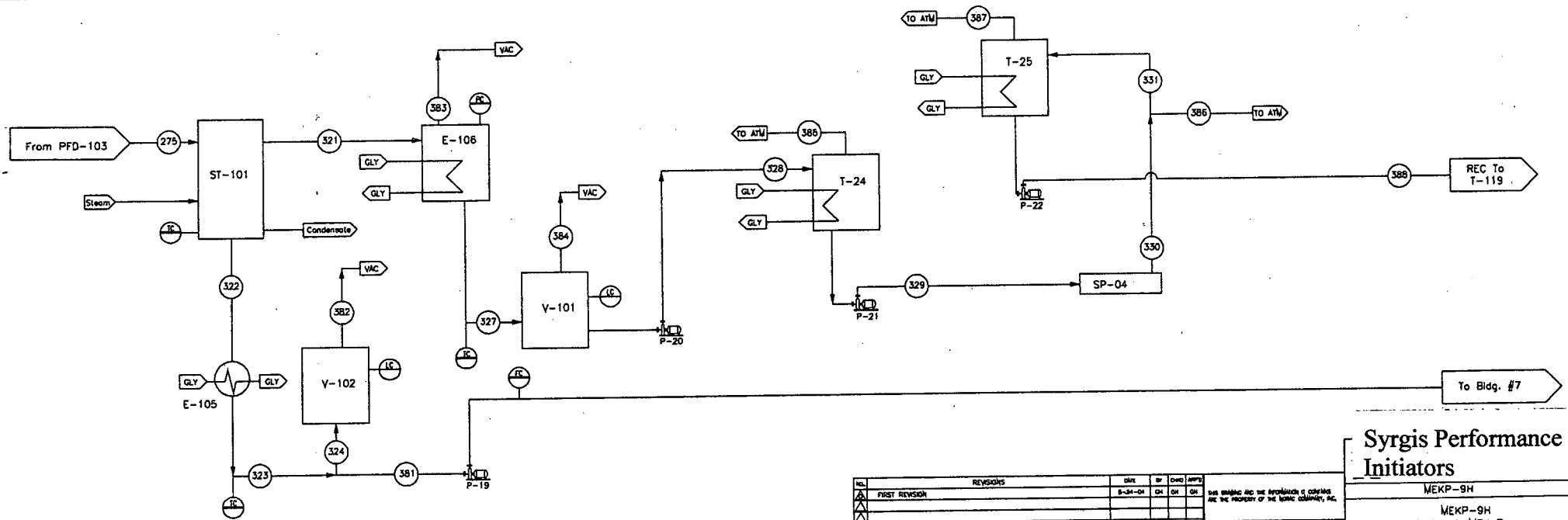
Stream Number		272	273	274	402	406	421	424	425	483	485	486	487	488	489
Description	Units	Wastewater From 1st Coalescer to T-136	Wastewater from 2nd Coalescer to T-136	Wastewater from 3rd Coalescer to T-136	DMP Feed to C-102	TXIB Feed to the TXIB Extraction Column (C-103)	Wastewater Feed to C-102	C-102 Tops to T-140	Feed Stream to C-103	DMP EXT Feed to DMP EXT Day Tank (T-115)	Vent from T-141	C-103 Tops to External TXIB Ext Tank	Settled Wastewater Stream to External Tank	Vent from T-136	Vent from T-137
Mass Flow	kg/min	8.58	0.00	0.00	6.07	1.66	8.99	7.76	7.76	7.29	0.00	1.81	7.59	0.00	0.00
Temperature	°C	21	-	-	24	24	24	24	24	6.06	0.00	0.03	0.00	0.00	0.00
DMP	kg/min	0.02	0.00	0.00	6.07	6.07	4.82	4.77	4.77	0.05	0.00	0.05	4.73	0.00	0.00
EDTA	g/min	4.82	0.00	0.00	0.00	0.00	1.22	1.21	1.21	0.01	0.00	0.01	1.20	0.00	0.00
H ₂ O ₂	kg/min	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.52	0.03	0.03	0.49	0.00	0.02	0.00	0.00	0.00
MEK	kg/min	0.44	0.00	0.00	0.00	0.00	0.71	0.04	0.04	0.67	0.00	0.03	0.00	0.00	0.00
MEKP	kg/min	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	42.79	42.36	42.36	0.43	0.00	0.42	41.93	0.00	0.00
TDS	g/min	42.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.00	1.66	0.00	0.00	0.00	0.00	0.00	0.06	6.34	0.00	0.00
Water	kg/min	6.14	0.00	0.00	0.00	0.00	6.47	6.40	6.40	0.06	0.00	0.06	6.34	0.00	0.00



MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		275	321	322	323	324	327	328	329	330	331	381	382	383	384	385	386
Description	Units	Washed Product Stream to Stripping Column	Distillate Feed to Condenser	Stripper Product Feed to E-105	Coal Product Exiting E-105	Product from Product Receiver (V-101)	Wet MEK Feed to Bottom of Distillate Receiver (V-101)	Wet MEK to T-135	Wet MEK Feed to Gravity Settling Vessel (SP-104)	REC Stream from SP-104	Feed to REC Receiver Tank (T-134)	Product Stream to Bldg. #7	Vacuum Line from V-102	Vacuum Line from E-106	Vacuum Line from V-101	Vent from T-135	Vent of REC Stream from SP-104
Mass Flow	kg/min	21.76	4.40	17.35	17.35	0.00	4.36	4.36	4.36	3.94	3.94	17.35	0.00	0.5	0.00	0.00	0.00
Temperature	°C	24	75	75	10	-	15	15	20	20	20	15	-	-	-	-	-
DMP	kg/min	3.13	0.00	6.13	6.13	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	0.10	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.09	0.00	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	3.69	3.51	0.18	0.18	0.00	3.47	3.47	3.47	3.39	3.37	0.18	0.00	0.04	0.00	0.00	0.02
MEKP	kg/min	5.94	0.03	5.91	5.91	0.00	0.03	0.03	0.03	0.03	0.03	5.91	0.00	0.00	0.00	0.00	0.00
Pat Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.91	0.00	0.91	0.91	0.00	0.00	0.00	0.00	0.00	0.00	5.02	0.00	0.00	0.00	0.00	0.00
TX1B	kg/min	5.02	0.00	5.02	5.02	0.00	0.00	0.00	0.00	0.00	0.00	5.02	0.00	0.01	0.00	0.00	0.00
Water	kg/min	0.89	0.86	0.02	0.02	0.00	0.86	0.86	0.86	0.52	0.52	0.02	0.00	0.01	0.00	0.00	0.00



REVISIONS				DATE	BY	CHKD	APPD
1	FIRST REVISION			8-24-04	CH	CH	CH

DESIGNING AND THE INFORMATION IS CORRECT AND THE PROPERTY OF THE ISSUING COMPANY, INC.

DESIGNED	JHB	8-24-04
CHECKED	CH	8-24-04
APPROVED	CH	8-24-04

CONTROLLED DOCUMENT DOC # 2474 REV. DATE 8-24-04 REV. 1.0

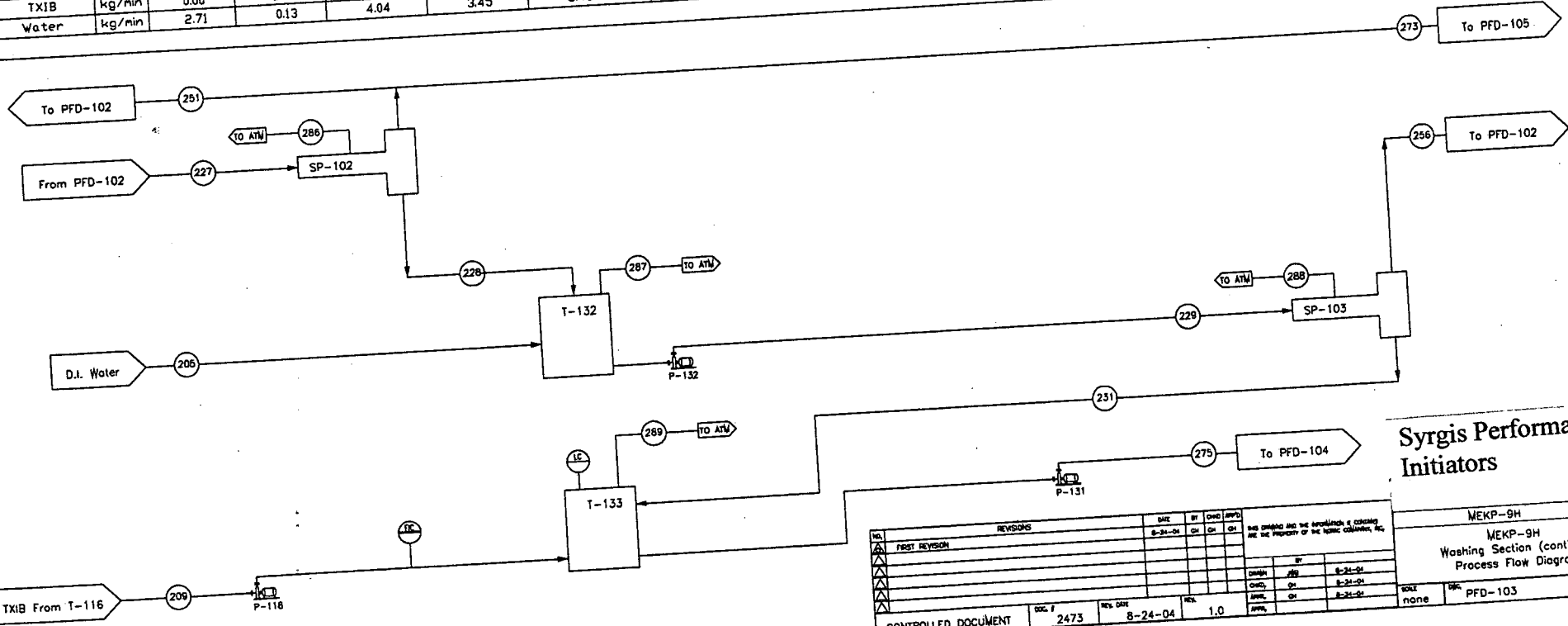
SCALE none SHEET PFD-104

Syrgis Performance Initiators

MEKP-9H
 Stripping & MEK Recovery
 Process Flow Diagram

MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		205	209	227	228	229	231	251	256	273	275	286	287	288	289
Description	Units	De-Ionized Water Feed to T-132	TXIB Feed to Stripper Feed Tank	Feed Stream to 2nd Coalescer (SP-102)	Product Stream to T-132	Feed Stream to 3rd Coalescer (SP-103)	Product Stream from 3rd Coalescer to T-133	Wastewater from 2nd Coalescer to Potcarb Tanks	Wastewater from 3rd Coalescer (SP-103)	Wastewater from 2nd Coalescer to T-136	Washed Product Stream to Stripping Column	Vent from SP-102	Vent from T-132	Vent from SP-103	Vent from T-133
Mass Flow	kg/min	2.71	3.69	22.69	18.56	21.27	18.06	4.13	3.21	0.00	21.76	0.00	0.00	0.00	0.00
Temperature	°C	24	24	22	22	23	24	22	24	22	24	0.00	-	-	-
DMP	kg/min	0.00	0.06	6.08	6.07	6.07	6.07	0.01	0.01	0.00	6.13	0.00	0.00	0.00	0.00
EDTA	g/min	0.00	0.10	0.35	0.04	0.15	0.06	0.27	0.09	0.00	0.10	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.00	0.02	0.42	0.00	0.00	0.00	0.00	0.16	0.00	0.09	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	3.64	0.21	0.26	0.00	5.94	0.00	0.00	0.00	0.00
MEK	kg/min	0.00	0.05	4.02	3.81	3.81	5.87	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	0.00	0.07	6.47	6.13	6.13	0.00	0.00	0.32	0.00	0.91	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.37	1.66	2.76	0.00	0.00	5.02	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.86	3.14	1.66	1.66	0.76	3.30	2.69	0.00	0.89	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	3.36	1.66	3.45	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	2.71	0.13	4.04	3.45	3.45	0.76	3.30	2.69	0.00	0.89	0.00	0.00	0.00	0.00



NO.	REVISIONS	DATE	BY	CHKD	APP'D
1	FIRST REVISION	8-24-04	CH	CH	
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DOC # 2473
 REV DATE 8-24-04
 REV 1.0
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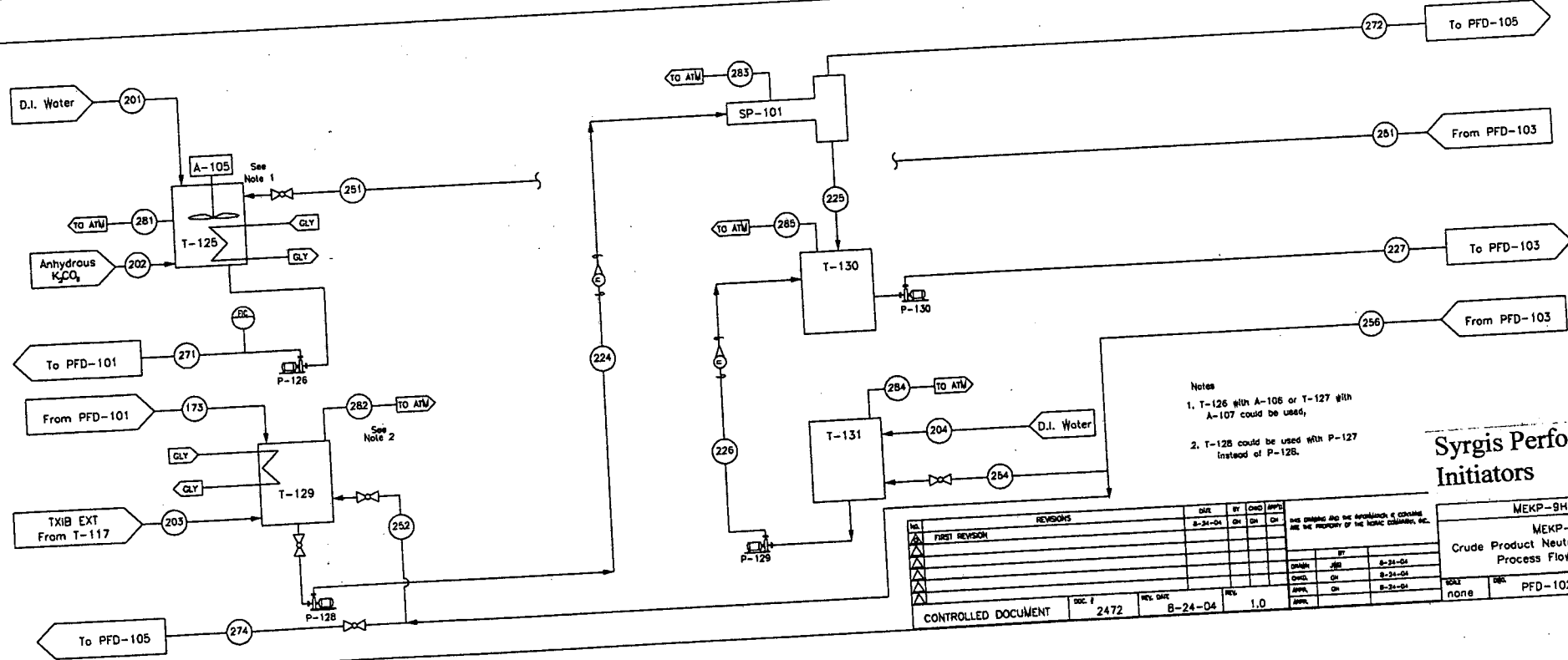
Syrgis Performance Initiators

MEKP-9H
 MEKP-9H
 Washing Section (continued)
 Process Flow Diagram

SCALE none
 PFD-103

MEKP-9H Process Flow Data
 is: 21.2 kg/min Feed to reactor (Rate of 1.4)

Stream Number	Units	173	201	202	203	204	224	225	226	227	251	252	254	256	271	272	274	281	282	283	284	285
Description		Crude Product Feed to T-129	De-Ionized Water Feed to PotCarb Tank (T-125)	Anhydrous PotCarb Feed to T-125	TXIB Extract Feed to Tank T-129	De-Ionized Water Feed to Wash Water Tank (T-131)	Field Stream to 1st Coalescer (SP-101)	Product Stream to 2nd Coalescer Feed Tank (T-130)	Wash Water Feed to (T-131)	Field Stream to 2nd Coalescer (SP-102)	Waste Water from 2nd Coalescer to PotCarb Tanks	Waste Water from 3rd Coalescer to T-129	Waste Water from 3rd Coalescer to T-131	Waste Water from 3rd Coalescer SP-103	PotCarb Feed to Stream 129	Waste Water from 1st Coalescer to T-136	Waste Water from 3rd Coalescer to T-136	Vent from PotCarb Tank	Vent from T-129	Vent from SP-101	Vent from T-131	Vent from T-130
Mass Flow	kg/min	25.56	0.09	0.03	1.81	0.67	27.38	19.81	3.88	22.69	4.13	22	24	24	4.24	8.58	0.00	0.00	0.00	0.00	0.00	0.00
Temperature	°C	15	24	-	0.03	0.00	6.09	6.08	0.04	0.35	0.01	0.00	0.01	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00
DMP	kg/min	6.06	0.00	0.00	0.05	0.00	5.14	0.32	0.09	0.42	0.00	0.00	0.00	0.00	0.21	0.44	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	5.09	0.00	0.00	0.01	0.00	1.36	0.33	0.00	0.27	0.00	0.00	0.00	0.16	0.21	0.44	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.16	4.02	0.21	0.00	0.00	0.26	0.34	0.71	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	12.27	0.00	0.00	0.00	0.00	4.29	3.86	0.26	6.47	0.34	0.00	0.00	0.00	29.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	4.27	0.00	0.00	0.03	0.00	6.92	6.21	0.00	0.00	0.00	0.00	0.32	0.32	2.76	42.79	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	6.89	0.00	0.00	0.00	0.00	0.00	0.00	0.32	3.14	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	29.72	0.00	29.72	0.00	0.00	45.60	2.82	0.00	1.66	0.00	0.00	0.00	2.69	3.38	6.14	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	3.19	0.00	0.00	1.66	0.00	1.66	1.66	0.00	4.04	3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.06	0.67	6.81	0.67	3.36	4.04	3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	6.75	0.09	0.00	0.00	0.67	6.81	0.67	3.36	4.04	3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



- Notes
1. T-126 with A-106 or T-127 with A-107 could be used,
 2. T-126 could be used with P-127 instead of P-128.

Syrgis Performance Initiators

REVISIONS					DATE	BY	CHKD	APPR
1	FIRST REVISION				8-24-04	CH	CH	CH

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NO.	DATE	BY	CHKD	APPR

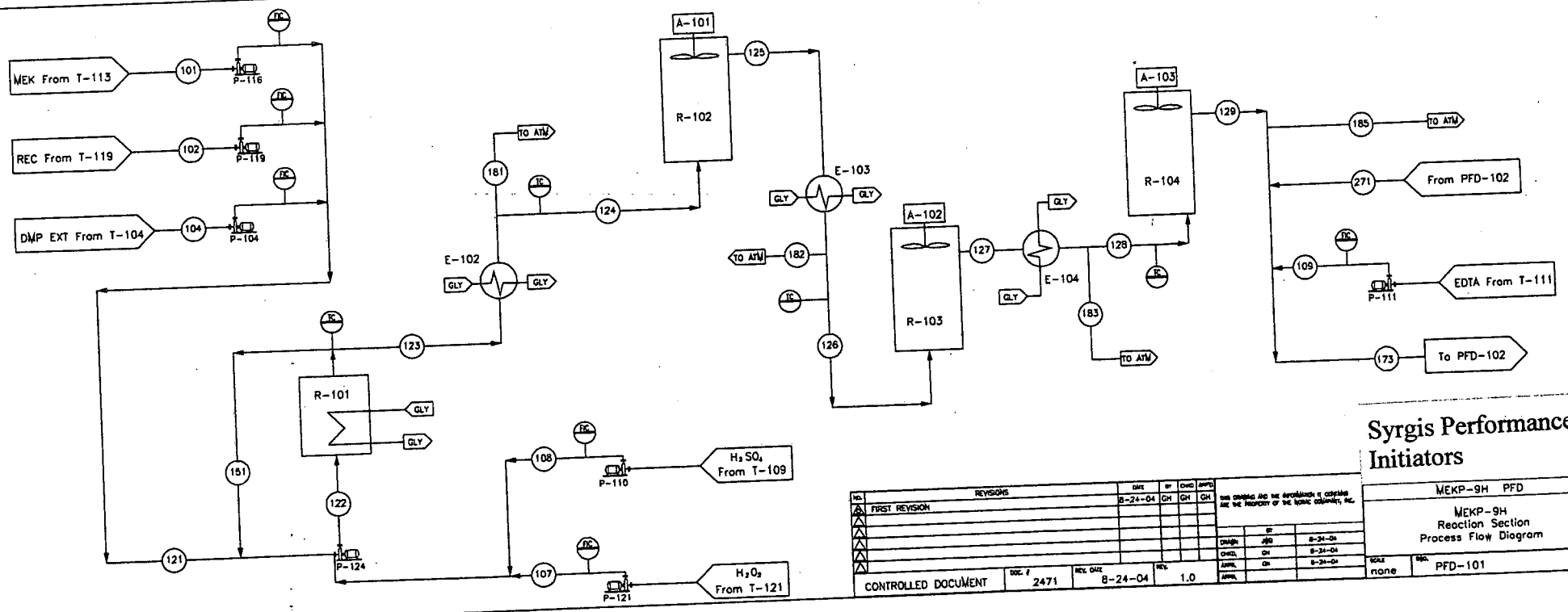
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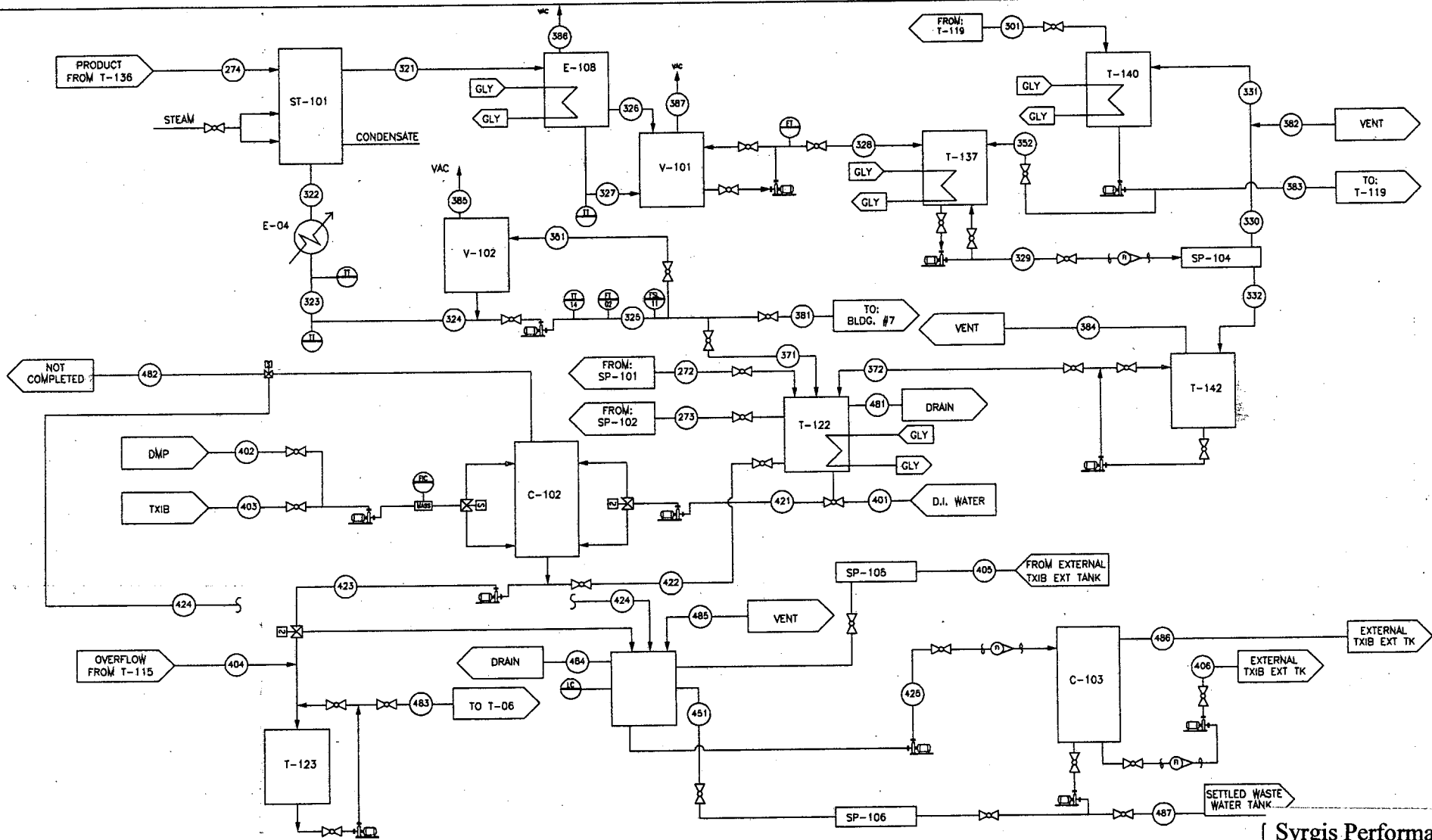
MEKP-9H
 MEKP-9H
 Crude Product Neutralization & Washing
 Process Flow Diagram

SCALE none SHEET PFD-102

MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		101	102	104	107	108	109	121	122	123	124	125	126	127	128	129	151	173	181	182	183	185	271
Description	Units	MEK Reactor Feed	Recycled MEK Reactor Feed	DMP Extract Reactor Feed	Hydrogen Peroxide Reactor Feed	Sulfuric Acid Reactor Feed	EDTA Feed to Stream	Organics Feed to Reactor	Reaction Stream	Reaction Production Stream	1st Heat Exchanger Outlet	2nd Heat Exchanger Inlet	2nd Heat Exchanger Outlet	3rd Heat Exchanger Inlet	3rd Heat Exchanger Outlet	R-104 Outlet	Reaction Product Recycle	Crude Product Feed to T-129	Vent in Stream 124	Vent in Stream 126	Vent in Stream 128	Vent in Stream 129	Pot Carb Feed to Stream 129
Mass Flow	kg/min	4.40	3.20	7.29	6.30	0.03	0.09	14.90	127.37	21.23	21.23	21.23	16	-	-	6.06	15	6.06	0.00	0.00	0.00	0.00	0.01
Temperature	°C	24	24	24	24	24	24	24	-	50	32	-	-	-	-	6.06	50	5.09	0.00	0.00	0.00	0.00	0.31
DMP	kg/min	0.00	0.00	6.06	0.00	0.00	4.73	0.05	-	-	-	-	-	-	-	1.27	-	1.54	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	0.00	0.00	0.05	0.00	0.00	0.00	0.01	-	-	-	-	-	-	-	11.60	-	12.27	0.00	0.00	0.00	0.00	0.21
H ₂ O ₂	kg/min	0.00	0.00	0.01	4.41	0.00	0.67	0.00	-	-	-	-	-	-	-	4.06	-	4.27	0.00	0.00	0.00	0.00	0.34
H ₂ SO ₄	kg/min	0.00	0.00	0.00	0.00	11.60	0.00	7.65	-	-	-	-	-	-	-	6.55	-	6.89	0.00	0.00	0.00	0.00	29.72
MEK	kg/min	4.40	2.75	0.49	0.00	0.00	0.00	.70	-	-	-	-	-	-	-	0.00	-	29.72	0.00	0.00	0.00	0.00	2.76
MEKP	kg/min	0.00	0.03	0.67	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	0.43	-	3.19	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.43	-	-	-	-	-	-	-	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.00	0.43	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	3.28	-	6.75	0.00	0.00	0.00	0.00	0.00
TX1B	kg/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water	kg/min	0.00	0.42	0.06	1.89	0.02	0.08	0.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Syrgis Performance
Initiators

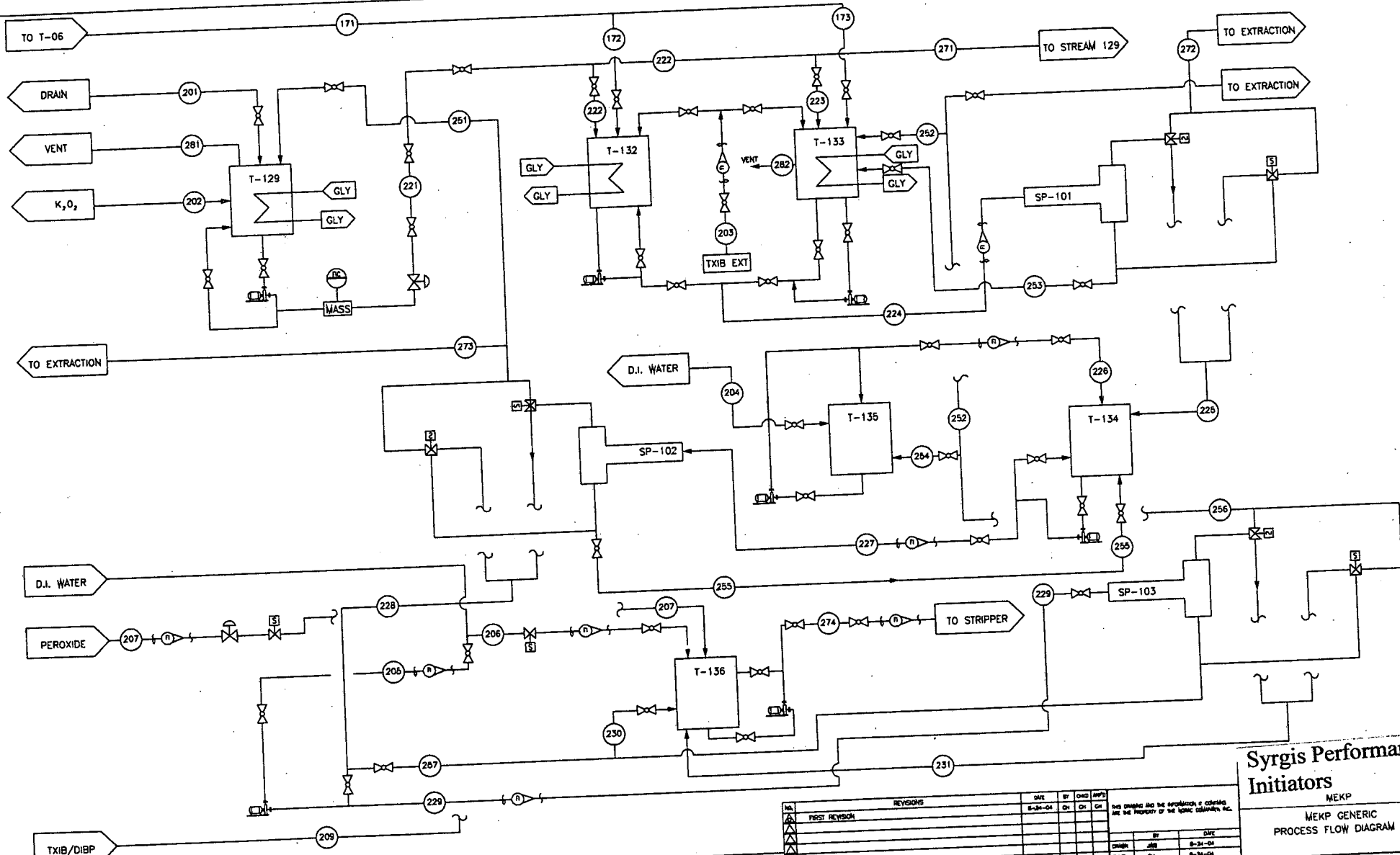
MEKP
 MEKP GENERIC
 PROCESS FLOW DIAGRAM

NO.	REVISIONS	DATE	BY	CHKD	APP'D
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DATE	BY	DATE
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8-24-04	OK	8-24-04
8-24-04	OK	8-24-04

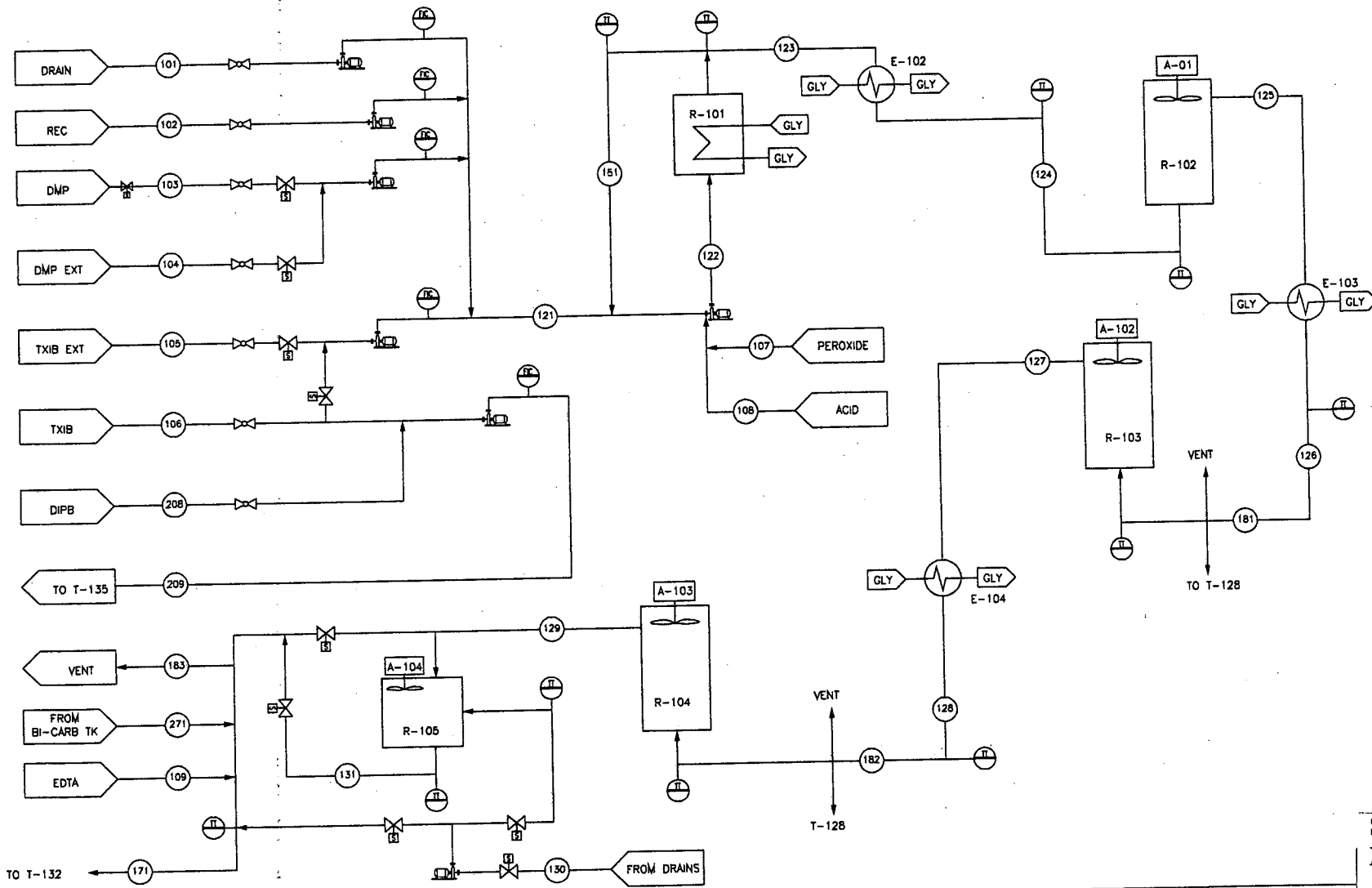
CONTROLLED DOCUMENT DOC. # 2470 REV. DATE 8-24-04 REV. 1.0 SCALE NONE SHEET PFD-100C



REVISIONS				DATE	BY	CHKD	APP'D	REVISED AND THE APPROVALS & COMMENTS ARE THE PROPERTY OF THE ISSUING ORGANIZATION ETC.
NO.	DESCRIPTION	DATE	BY	CHKD	APP'D			
1	FIRST REVISION	8-24-04	CH	CH	CH			

CONTROLLED DOCUMENT	DOC. # 2469	REV. DATE 8-24-04	REV. 1.0	SCALE NONE	PKG PFD-100B
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Syrgis Performance Initiators
 MEKP
 MEKP GENERIC PROCESS FLOW DIAGRAM



Syrgis Performance Initiators

MEKP
 MEKP GENERIC
 PROCESS FLOW DIAGRAM

REVISIONS				DATE	BY	CHKD	APPD
1	FIRST REVISION			8-24-04	CH	CH	CH

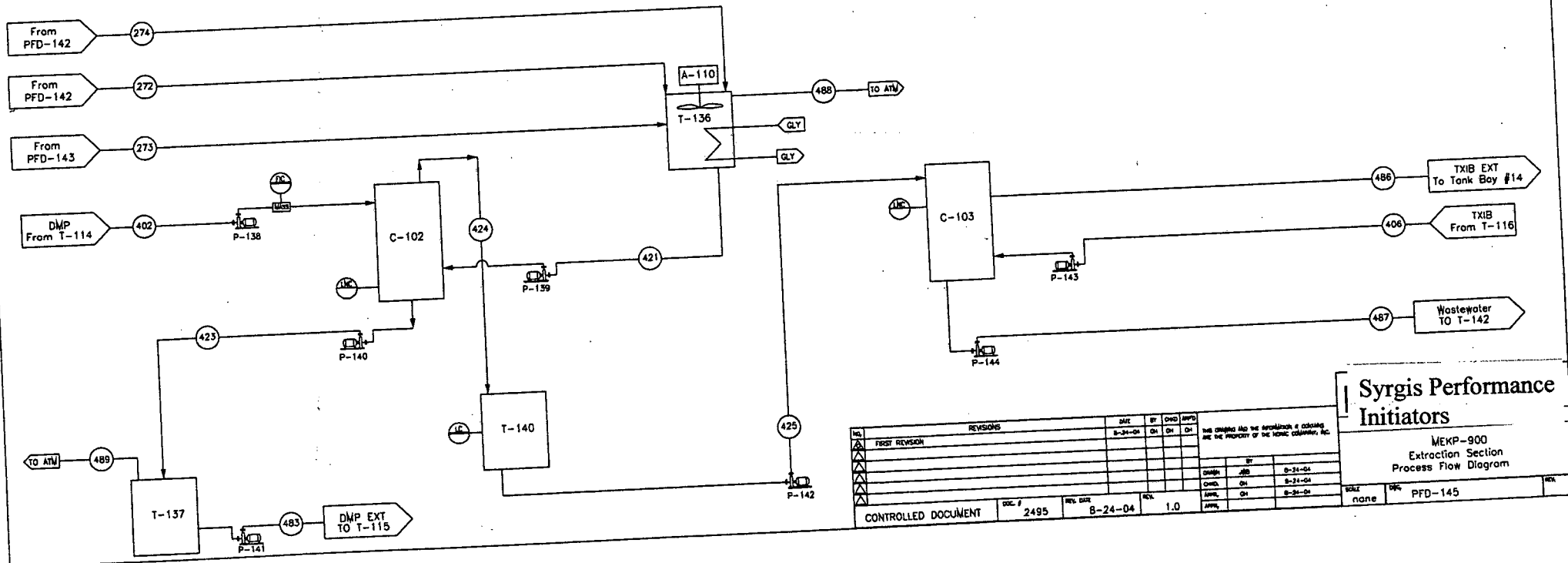
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CHKD	CH	8-24-04
APPR	CH	8-24-04

SCALE	NONE
PKG	PFD-100A

CONTROLLED DOCUMENT DEC. # 2468 REV. DATE 8-24-04 REV. 1.0 APPR. CH DATE 8-24-04 SCALE NONE PKG PFD-100A

MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Steam Number		272	273	274	402	406	421	423	424	425	483	486	487	488	489
Description	Units	Wastewater from 1st Coalescer to T-136	Wastewater from 2nd Coalescer to T-136	Wastewater from 3rd Coalescer to T-136	DMP Feed to C-102	TXIB Feed to the TXIB Extraction Column (C-103)	Wastewater Feed to C-102	C-102 Bottoms to T-137	C-102 Tops to T-140	Feed Stream to C-103	DMP Ext Feed to DMP Ext Day Tank to T-115	C-103 Tops to External TXIB Ext Tank	Settled Wastewater Stream to Ext Tank	Vent from T-136	Vent from T-137
Mass Flow	kg/min	8.45	0.00	0.00	7.30	1.65	9.12	8.50	7.93	7.93	8.50	1.82	7.75	0.00	0.00
Temperature	°C	21	22	24	24	24	24	24	24	24	24	24	24	-	-
DMP	kg/min	0.02	0.00	0.00	0.00	0.00	4.81	0.05	4.76	4.76	0.05	0.01	0.87	0.00	0.00
EDTA	g/min	4.81	0.00	0.00	0.00	0.00	0.89	0.01	0.88	0.88	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.49	0.47	0.02	0.02	0.47	0.02	0.00	0.00	0.00
MEK	kg/min	0.36	0.00	0.00	0.00	0.00	0.70	0.67	0.04	0.04	0.67	0.00	0.00	0.00	0.00
MEKP	kg/min	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.84	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	42.69	0.43	42.26	42.26	0.43	0.42	1.66	0.00	0.00
TDS	g/min	42.69	0.00	0.00	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.07	6.83	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.00	0.00	6.97	0.07	6.90	6.90	0.07	0.07	0.00	0.00	0.00
Water	kg/min	6.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



REVISIONS									
NO.	DATE	BY	CHKD	APPD	DESCRIPTION	DATE	BY	CHKD	APPD
1	8-24-04	CH	CH	CH	FIRST REVISION				

has checked and the specification is correct and the property of the basic column is OK.

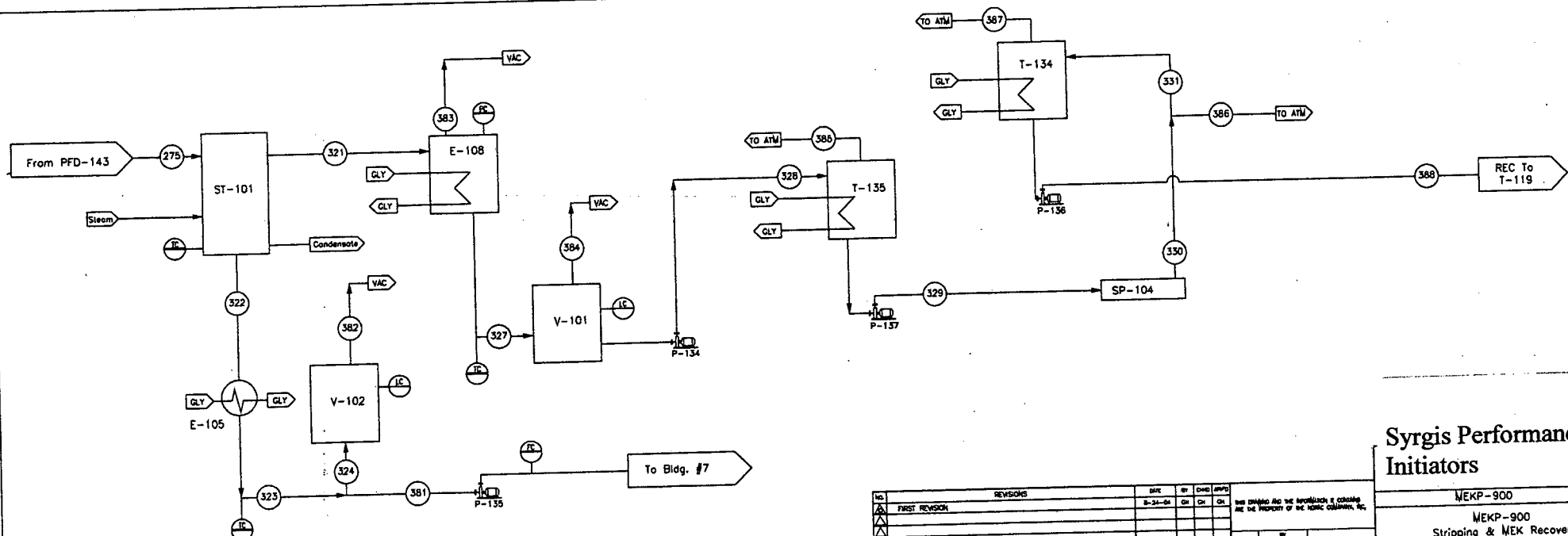
Syrgis Performance Initiators
 MEKP-900
 Extraction Section
 Process Flow Diagram

CONTROLLED DOCUMENT	DOC # 2495	REV DATE 8-24-04	REV 1.0	SCALE none	PK PFD-145	PK
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min Feed to reactor (Rate of 1.4)

Stream Number		275	321	322	323	324	327	328	329	330	331	381	382	383	384	385	386	387	388
Description	Units	Washed Product Stream to Stripping Column	Distillate Feed to Condenser	Stripper Product Feed to E-105	Cool Product Exiting E-105	Product from Holding Tank (V-102)	Wet MEK Feed to Bottom of Distillate Receiver (V-101)	Wet MEK to T-135	Wet MEK Feed to Gravity Settling Vessel (SP-104)	REC Stream from SP-104	Feed to REC Receiver Tank (T-134)	Product Stream to Bldg. #7	Vacuum Line from (V-102)	Vacuum Line from (E-108)	Vacuum Line from (V-101)	Vent from T-135	Vent of REC Stream from SP-104	Vent from T-134	REC Feed to the REC Day Tank (T-119)
Mass Flow	kg/min	23.59	4.27	19.32	19.32	0.00	4.23	4.23	4.23	3.55	3.53	19.32	0.00	0.04	0.00	0.00	0.02	0.00	20
Temperature	°C	24	75	75	10	-	15	15	20	20	20	15	-	-	-	-	-	-	-
DMP	kg/min	7.37	0.00	7.37	7.37	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	0.11	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.27	0.01	0.27	0.27	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.02	0.00	3.04
MEK	kg/min	3.39	3.22	0.17	0.17	0.00	3.18	3.18	3.18	3.05	3.04	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.03
MEKP	kg/min	6.51	0.03	6.48	6.48	0.00	0.03	0.03	0.03	0.00	0.00	6.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	1.01	0.00	1.01	1.01	0.00	0.00	0.00	0.00	0.00	0.00	5.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	5.01	0.00	5.01	5.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.46
Water	kg/min	1.03	1.01	0.02	0.02	0.00	1.00	1.00	1.00	0.46	0.46	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00



Syrgis Performance Initiators

MEKP-900

Stripping & MEK Recovery Process Flow Diagram

NO.	REVISIONS	DATE	BY	CHKD	APPD
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See drawings and the attachments if existing and be prepared to the historic columns, etc.

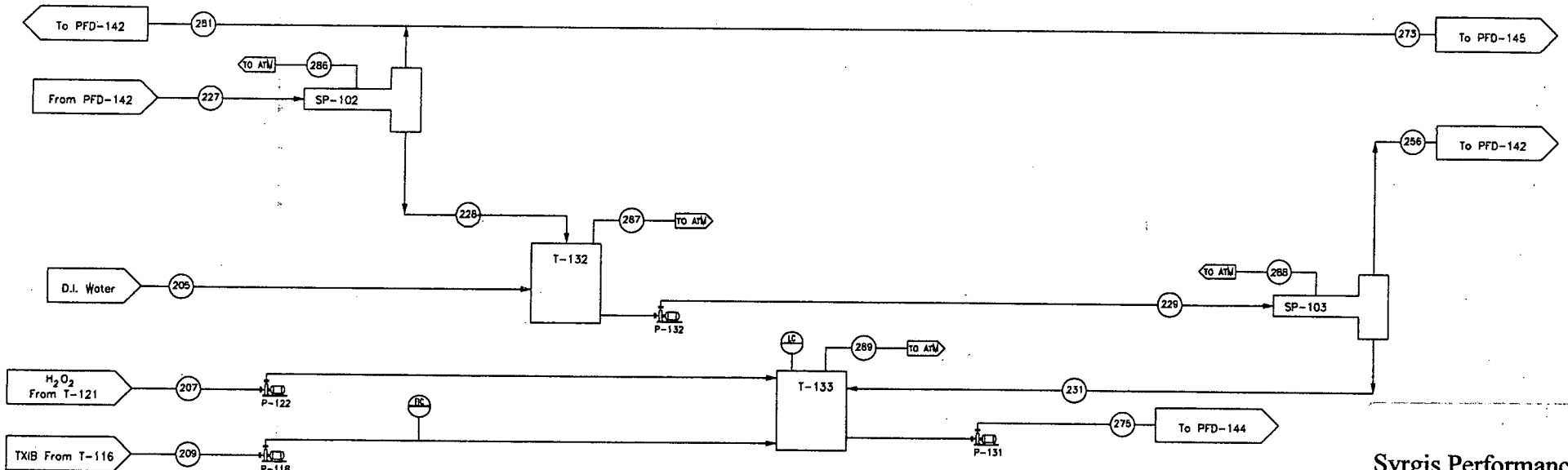
NO.	DATE	BY	CHKD	APPD
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CONTROLLED DOCUMENT DOC. # 2494 REV. DATE 8-24-04 REC. 1.0

TITLE none SIZE PFD-144

MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Steam Number		205	207	209	227	228	229	231	251	256	273	275	286	287	288	289
Description	Units	De-Ionized Water Feed to T-132	Peroxide Feed to Stripper Feed Tank (T-133)	TXIB Feed to Stripper Feed Tank	Feed Stream to 2nd Coalescer (SP-102)	Product Stream to T-132	Feed Stream to 3rd Coalescer (SP-103)	Product Stream from 3rd Coalescer to T-133	Wastewater from 2nd Coalescer to PotCarb Tanks	Wastewater from 3rd Coalescer (SP-103)	Wastewater from 2nd Coalescer to T-136	Washed Product Stream to Stripping Column	Vent from SP-102	Vent from T-132	Vent from SP-103	Vent from T-133
Mass Flow	kg/min	1.54	0.24	-	22.79	19.93	21.46	19.65	2.86	1.82	0.00	23.59	0.00	0.00	0.00	0.00
Temperature	°C	24	24	24	22	22	23	24	22	24	22	24	-	-	-	-
DMP	kg/min	0.00	0.00	0.07	7.31	7.30	7.30	7.30	0.01	0.01	0.00	7.37	0.00	0.00	0.00	0.00
EDTA	g/min	0.00	0.00	0.10	0.40	0.07	0.07	0.02	0.33	0.05	0.00	0.11	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.00	0.17	0.02	0.33	0.15	0.15	0.09	0.18	0.07	0.00	0.27	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	0.00	0.00	0.05	3.54	3.42	3.42	3.34	0.12	0.08	0.00	3.39	0.00	0.00	0.00	0.00
MEKP	kg/min	0.00	0.00	0.07	6.83	6.59	6.59	6.44	0.24	0.15	0.00	6.51	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.00	0.86	3.51	0.61	0.61	0.15	2.90	0.46	0.00	1.01	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	3.36	1.66	1.66	1.66	1.66	0.00	0.00	0.00	5.01	0.00	0.00	0.00	0.00
Water	kg/min	1.54	0.07	0.14	0.81	0.81	0.81	0.82	2.32	1.52	0.00	1.03	0.00	0.00	0.00	0.00



Syrgis Performance
 Initiators

MEKP-900
 MEKP-900
 Washing Section (continued)
 Process Flow Diagram

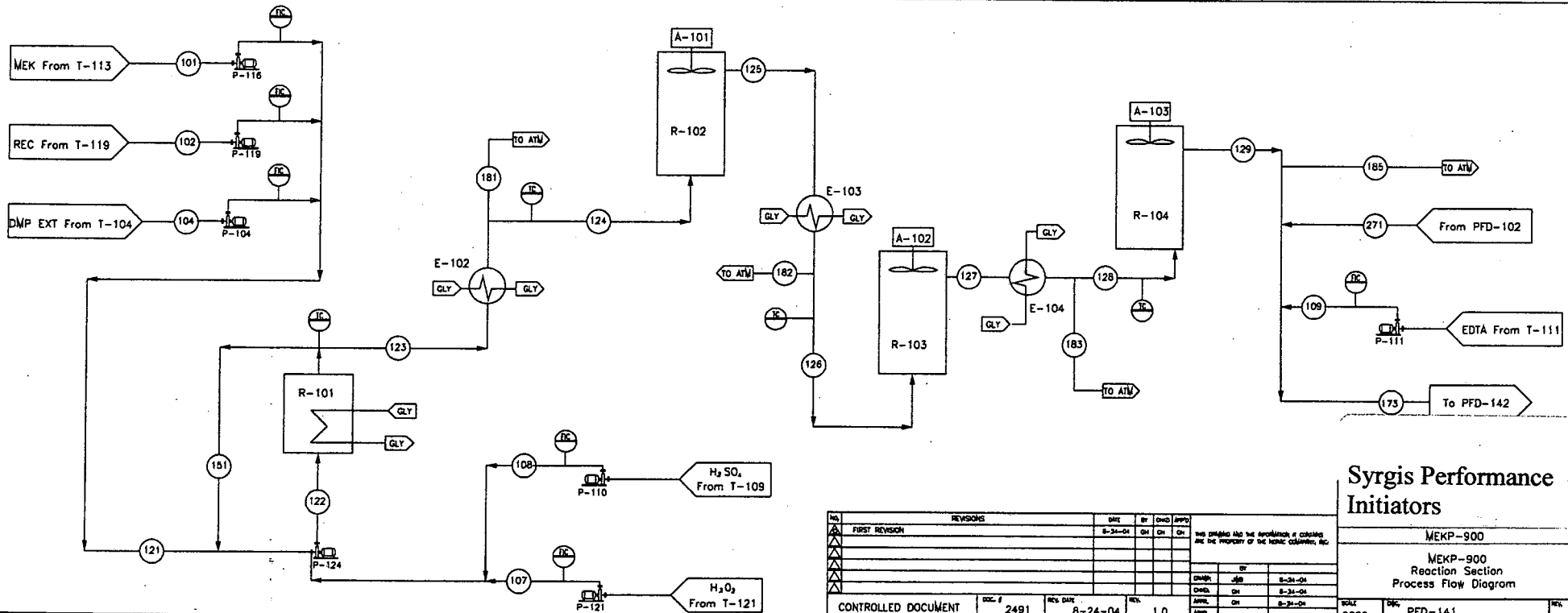
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CONTROLLED DOCUMENT	DOC # 2493	REV. DATE 8-24-04	REV. 1.0	SCALE none	DWG. BY 8-24-04	CHKD. CH 8-24-04	APPD. CH 8-24-04	FILE PFD-143
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min Feed to reactor (Rate of 1.4)

Stream Number	101	102	104	107	108	109	121	122	123	124	125	126	127	128	129	151	173	181	182	183	185	271
Description	MEK Reactor Feed	Recycled MEK Reactor Feed	DMP Extract Reactor Feed	Hydrogen Peroxide Reactor Feed	Sulfuric Acid Reactor Feed	EDTA Feed to Stream 129	Organics Feed to Reactor	Reaction Stream	Reactor Product Stream	1st Heat Exchanger Outlet	2nd Heat Exchanger Inlet	2nd Heat Exchanger Outlet	3rd Heat Exchanger Inlet	3rd Heat Exchanger Outlet	R-104 Outlet	Reaction Production Recycle	Crude Product Feed to T-129	Vent in Stream 124	Vent in Stream 126	Vent in Stream 128	Vent in Stream 129	PotCarb Feed to Stream 129
Mass Flow	kg/min	4.40	3.20	6.30	0.03	0.09	16.11	134.57	22.43	22.43	22.43	22.43	22.43	22.43	22.43	112.53	26.76	0.00	0.00	0.00	0.00	4.25
Temperature	°C	24	24	24	24	24	24	-	50	32	-	16	-	11	13	50	15	-	-	-	-	15
DMP	kg/min	0.00	0.00	0.00	0.00	0.00	7.29	-	-	-	-	-	-	-	7.29	-	7.29	0.00	0.00	0.00	0.00	0.01
EDTA	g/min	0.00	0.00	0.00	0.00	4.73	0.05	-	-	-	-	-	-	-	0.05	-	5.11	0.00	0.00	0.00	0.00	0.33
H ₂ O ₂	kg/min	0.00	0.00	4.41	0.00	0.00	0.01	-	-	-	-	-	-	-	0.96	-	1.14	0.00	0.00	0.00	0.00	0.18
H ₂ SO ₄	g/min	0.00	0.00	0.00	11.60	0.67	0.00	-	-	-	-	-	-	-	11.60	-	12.27	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	4.40	2.75	0.00	0.00	0.00	7.62	-	-	-	-	-	-	-	3.68	-	3.80	0.00	0.00	0.00	0.00	0.12
MEKP	kg/min	0.00	0.00	0.00	0.00	0.00	0.70	-	-	-	-	-	-	-	7.11	-	7.35	0.00	0.00	0.00	0.00	0.24
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	0.00	-	29.72	0.00	0.00	0.00	0.00	29.72
TDS	g/min	0.00	0.00	0.00	0.00	0.00	0.43	-	-	-	-	-	-	-	0.43	-	3.33	0.00	0.00	0.00	0.00	2.90
TXIB	kg/min	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	0.00	0.42	1.89	0.02	0.08	0.49	-	-	-	-	-	-	-	3.38	-	7.13	0.00	0.00	0.00	0.00	3.68



NO.	REVISIONS	DATE	BY	CHKD	APPRD
1	FIRST REVISION	8-24-04	CH	CH	CH
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DESIGN	BY	DATE
JDB	CH	8-24-04
CH	CH	8-24-04
CH	CH	8-24-04

CONTROLLED DOCUMENT DOC # 2491 REV DATE 8-24-04 REV 1.0

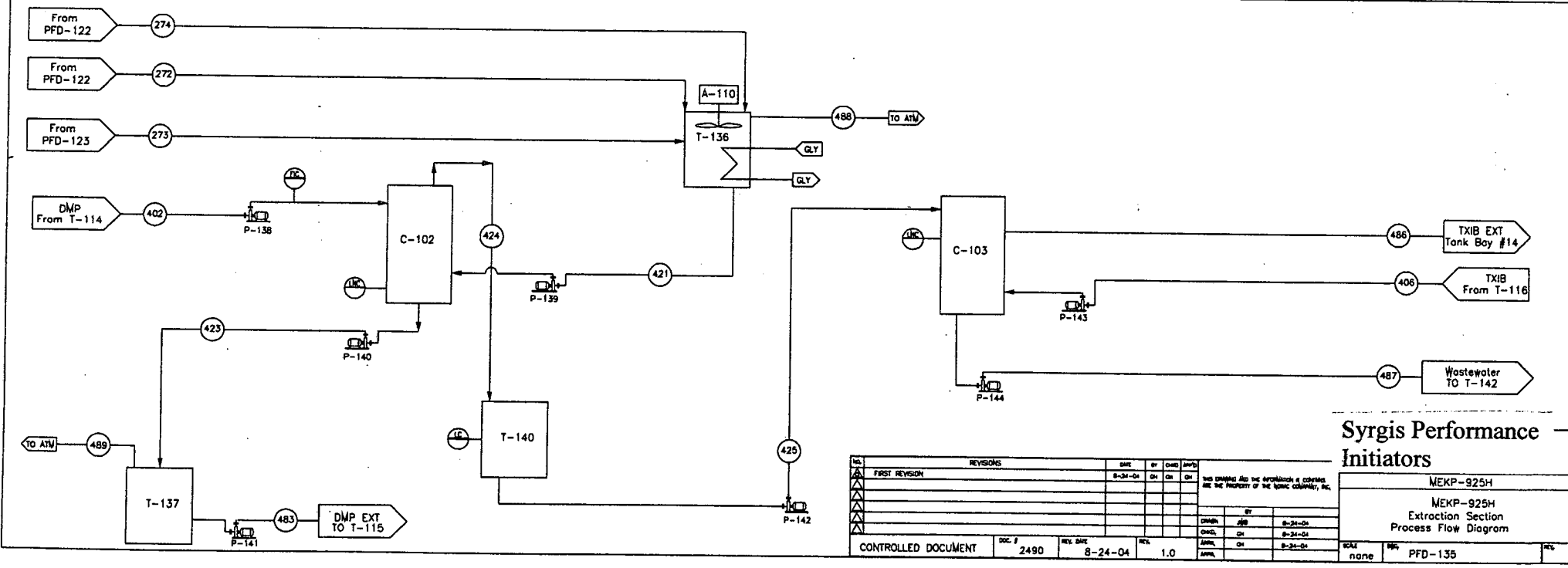
Syrgis Performance Initiators

MEKP-900
MEKP-900 Reaction Section Process Flow Diagram
SCALE none DWG PFD-141

MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		272	273	274	402	406	421	423	424	425	483	486	487	488	489
Description	Units	Wastewater from 1st Coalescer to T-136	Wastewater from 2nd Coalescer to T-136	Wastewater from 3rd Coalescer to T-136	DMP Feed to C-102	TXIB Feed to the TXIB Extraction Column (C-103)	Wastewater Feed to C-102	C-102 Bottoms to T-137	C-102 Tops to T-140	Feed Stream to C-103	DMP EXT Feed to DMP EXT Day Tank (T-115)	C-103 Tops to External TXIB EXT Tank	Settled Wastewater Stream to External Tank	Vent from T-136	Vent from T-137
Mass Flow	kg/min	12.42	0.00	0.00	5.65	0.97	12.93	7.51	11.10	11.10	7.51	1.21	10.85	0.00	0.00
Temperature	°C	21	22	24	24	24	24	24	24	24	24	24	24	-	-
DMP	kg/min	0.03	0.00	0.00	5.65	0.00	0.03	5.64	0.04	0.04	5.64	0.04	0.00	0.00	0.00
EDTA	g/min	5.47	0.00	0.00	0.00	0.00	5.47	0.05	5.41	5.41	0.05	0.05	5.36	0.00	0.00
H ₂ O ₂	kg/min	2.05	0.00	0.00	0.00	0.00	2.05	0.02	2.03	2.03	0.02	0.02	2.01	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	0.84	0.00	0.00	0.00	0.00	0.94	0.90	0.05	0.05	0.90	0.04	0.00	0.00	0.00
MEKP	kg/min	0.90	0.00	0.00	0.00	0.00	0.90	0.86	0.05	0.05	0.86	0.04	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	266.36	0.00	0.00	0.00	0.00	266.36	2.66	263.69	263.69	2.66	2.64	261.06	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00	0.00
Water	kg/min	8.33	0.00	0.00	0.00	0.00	8.74	0.09	8.66	8.66	0.09	0.09	8.57	0.00	0.00



Syrgis Performance Initiators

MEKP-925H
MEKP-925H
Extraction Section
Process Flow Diagram

REVISIONS				DATE	BY	CHKD	APP'D
Δ	FIRST REVISION			8-24-04	CH	CH	
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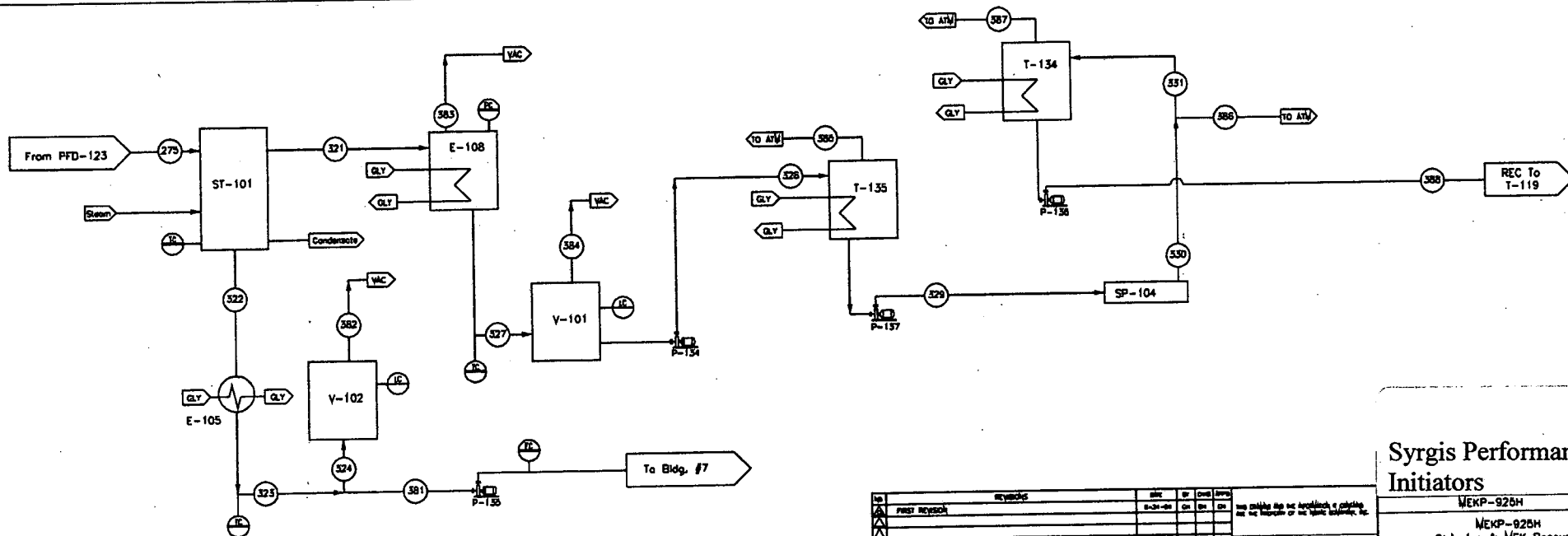
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CH	CH	8-24-04

CONTROLLED DOCUMENT	DOC # 2490	REV. DATE 8-24-04	REV. 1.0
SCALE none	APP. PFD-135	REV.	

MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		275	321	322	323	324	327	328	329	330	331	381	382	383	384	385	386	387	388
Description	Units	Washed Product Stream to Stripping Column	Distillate Feed to Condenser	Stripper Product Feed to E-105	Cool Product Exiting E-105	Product from Holding Tank (V-102)	Wet MEK Feed to Bottom of Distillate Receiver (V-101)	Wet MEK to T-135 E-105	Wet MEK Feed Gravity Settling Vessel (SP-104)	REC Stream from SP-104	Feed to REC Receiver Tank (T-134)	Product Stream to Bldg. #7	Vacuum Line from V-102	Vacuum Line from E-108	Vacuum Line from V-101	Vent from T-135	Vent of REC Stream from SP-104	Vent from T-134	REC Feed to the REC Day Tank (T-119)
Mass Flow	kg/min	18.99	5.25	13.74	13.74	0.00	5.20	5.20	5.20	4.69	4.66	13.74	0.00	0.05	0.00	0.00	0.02	0.00	4.66
Temperature	°C	24	75	75	10	-	15	15	20	20	20	15	-	-	-	-	-	-	20
DMP	kg/min	5.74	0.00	5.74	5.74	0.00	0.00	0.00	0.00	0.00	0.00	5.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	0.11	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O	kg/min	0.08	0.00	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	4.01
MEK	kg/min	4.40	4.18	0.22	0.22	0.00	4.14	4.14	4.04	0.02	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
MEKP	kg/min	4.69	0.02	4.67	4.67	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.52	0.00	5.52	5.52	0.00	0.00	0.00	0.00	0.00	0.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	2.99	0.00	2.99	2.99	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
Water	kg/min	1.08	1.05	0.03	0.03	0.00	1.04	1.04	1.04	0.63	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.63



Syrgis Performance Initiators

MEKP-925H

MEKP-925H Stripping & MEK Recovery Process Flow Diagram

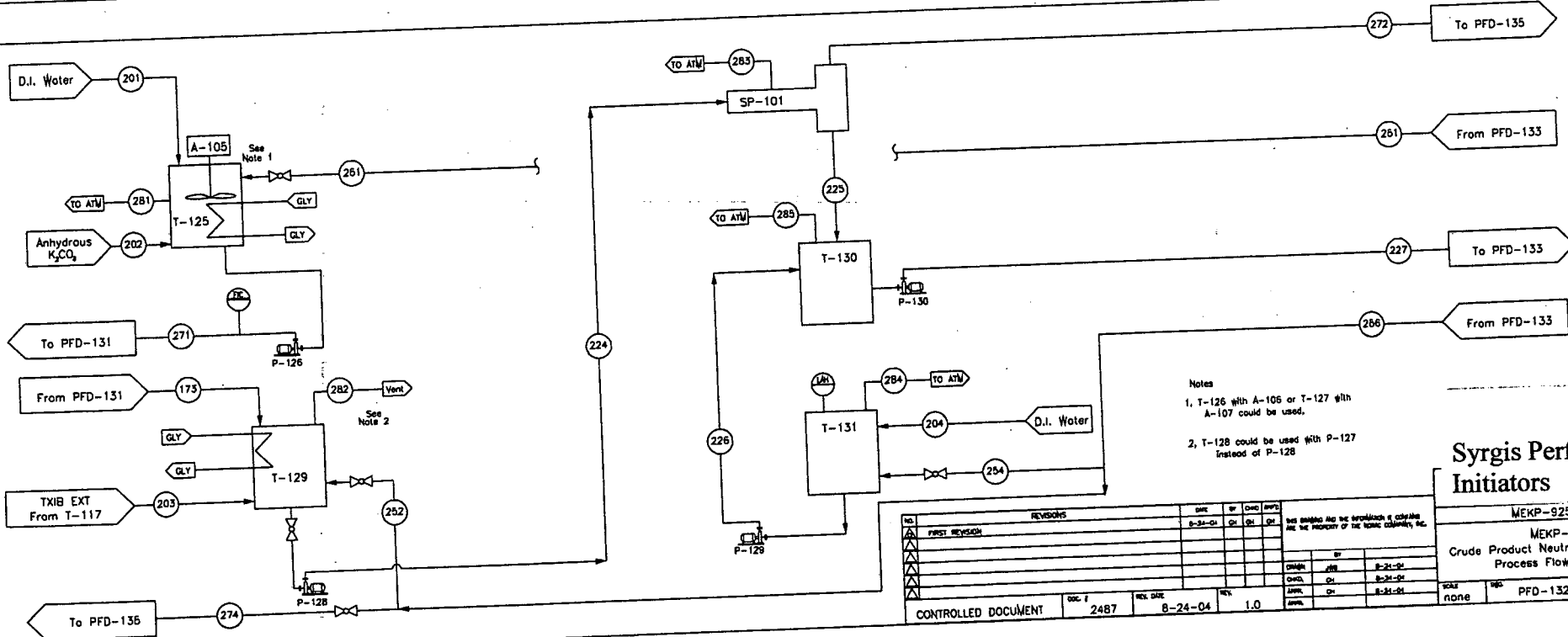
REV	DESCRIPTION	DATE	BY	CHKD	APP'D
1	FIRST REVISION	8-24-04	DN	DN	DN

CONTROLLED DOCUMENT	REV #	REV DATE	REV BY	REV APP'D	SCALE	DATE	BY	APP'D
	2489	8-24-04	DN	DN	1.0			

TITLE	NO.	REV.
none	PPD-134	

MEKP-9H Process Flow Data
 Basis: 212 kg/min feed to reactor (Rate of 1.4)

Stream Number		173	201	202	203	204	224	225	226	227	251	252	254	256	271	272	274	281	282	283	284	285
Description	Units	Crude Product Feed to T-129	De-ionized Water Feed to PotCarb Tank (T-129)	Anhydrous PotCarb Feed to Tank T-129	TXIB Extract Feed to Tank T-129	De-ionized Water Feed to Wash Water Tank (T-131)	Feed Stream to 1st Coalescer (SP-101)	Product Stream to 2nd Coalescer Feed Tank T-130	Wash Water Feed to T-130	Feed Stream to 2nd Coalescer (SP-102)	Wastewater from 2nd Coalescer to PotCarb Tanks	Wastewater from 3rd Coalescer to T-129	Wastewater from 3rd Coalescer to T-131	Wastewater from 3rd Coalescer to SP-103	PotCarb Feed to Stream 129	Wastewater from 1st Coalescer to T-136	Wastewater from 3rd Coalescer to T-136	Vent from PotCarb Tank	Vent from T-129	Vent from SP-101	Vent from T-131	Vent from T-130
Mass Flow	kg/min	28.52	0.88	0.19	1.21	1.22	29.72	17.31	5.38	22.68	5.77	0.00	4.16	4.16	6.85	12.42	0.00	0.00	0.00	0.00	0.00	0.00
Temperature	°C	21	24	-	24	24	15	21	24	22	22	24	24	24	15	21	24	0.00	0.00	0.00	0.00	0.00
DMP	kg/min	5.65	0.00	0.00	0.04	0.00	5.69	0.23	0.02	0.25	0.01	0.00	0.01	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	5.64	0.00	0.00	0.05	0.00	5.69	0.36	0.08	0.43	0.23	0.00	0.02	0.02	0.23	5.47	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	2.38	0.00	0.00	0.02	0.00	2.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.84	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	69.56	0.00	0.00	0.04	0.00	5.54	4.70	0.28	4.98	0.39	0.00	0.28	0.29	0.42	0.90	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	5.50	0.00	0.00	0.04	0.00	5.92	5.02	0.29	5.31	0.42	0.00	0.29	0.29	191.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	5.88	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.03	266.36	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	191.61	0.00	191.61	2.64	0.00	277.49	11.13	0.87	12.00	11.03	0.00	0.87	0.87	0.00	8.33	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	13.69	0.00	0.00	0.98	0.00	0.98	0.98	0.00	0.98	0.00	0.00	0.00	0.00	5.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.98	1.22	8.91	0.58	4.72	5.30	4.62	0.00	3.50	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	8.83	0.88	0.00	0.98	1.22	8.91	0.58	4.72	5.30	4.62	0.00	3.50	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Syrgis Performance Initiators

MEKP-925H
 MEKP-925H
 Crude Product Neutralization & Washing
 Process Flow Diagram

NO.	REVISIONS	DATE	BY	CHKD	APPD	DESC
1	PREP REVISION	8-24-04	CH	CH	CH	
2						
3						
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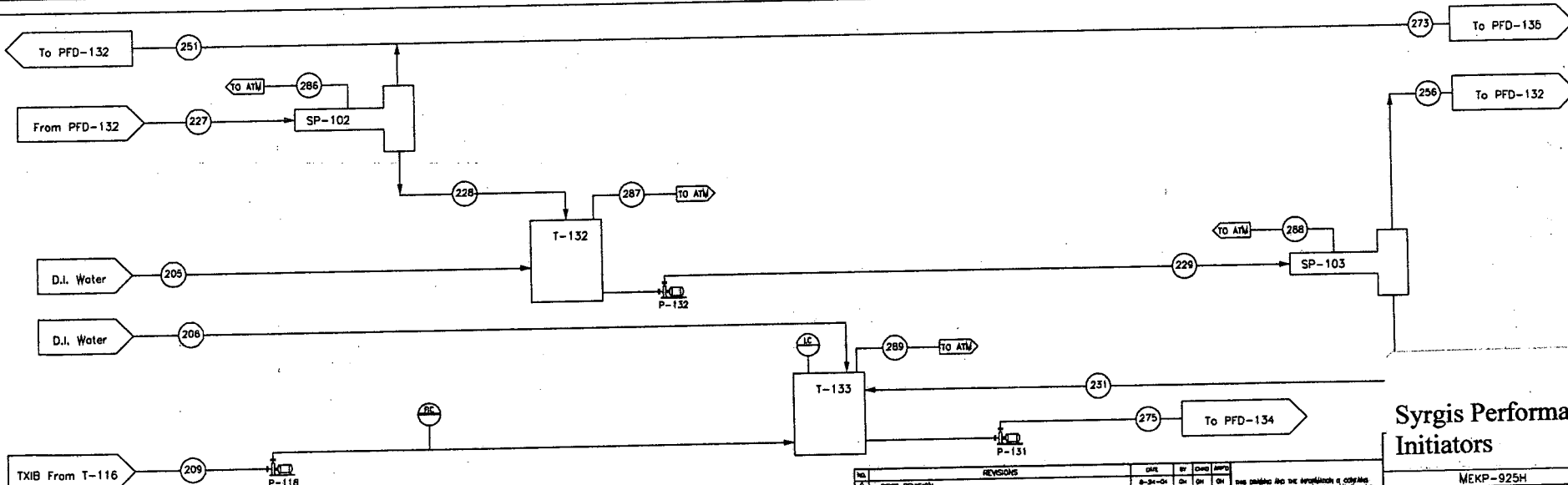
CONTROLLED DOCUMENT DOC # 2487 REV DATE 8-24-04 REV 1.0

SCALE none SHEETS PFD-132

MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		205	206	209	227	228	229	231	251	256	273	275	286	287	288	289
Description	Units	De-Ionized Water Feed to T-132	De-Ionized Water Feed to T-133	TXIB Feed to Stripper Feed Tank	Feed Stream to 2nd Coalescer (SP-102)	Product Stream to T-132	Feed Stream to 3rd Coalescer (SP-103)	Product Stream from 3rd Coalescer to T-133	Wastewater from 2nd Coalescer to PotCarb Tanks	Wastewater from 3rd Coalescer (SP-103)	Wastewater from 2nd Coalescer to T-136	Washed Product Stream to Stripping Column	Vent from SP-102	Vent from T-132	Vent from SP-103	Vent from T-133
Mass Flow	kg/min	3.51	0.22	2.51	22.68	16.91	20.41	16.26	5.77	4.16	0.00	18.99	0.00	0.00	0.00	0.00
Temperature	°C	24	24	24	22	22	23	24	22	24	22	24	-	-	-	-
DMP	kg/min	0.00	0.00	0.09	5.67	5.66	5.66	5.65	0.01	0.01	0.00	0.11	0.00	0.00	0.00	0.00
EDTA	g/min	0.00	0.00	0.11	0.25	0.02	0.02	0.00	0.23	0.02	0.00	0.08	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.00	0.00	0.04	0.43	0.12	0.12	0.04	0.32	0.08	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.40	0.00	0.00	0.00	0.00
MEK	kg/min	0.00	0.00	0.09	4.98	4.58	4.58	4.31	0.39	0.28	0.00	4.69	0.00	0.00	0.00	0.00
MEKP	kg/min	0.00	0.00	0.09	5.31	4.89	4.89	4.60	0.42	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.00	5.42	12.00	0.97	0.97	0.10	11.03	0.87	0.00	2.99	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	2.01	0.98	0.98	0.98	0.98	0.00	0.00	0.00	1.08	0.00	0.00	0.00	0.00
Water	kg/min	3.51	0.22	0.18	5.30	0.68	4.18	0.68	4.62	3.50	0.00	1.08	0.00	0.00	0.00	0.00



Syrgis Performance Initiators
 MEKP-925H
 Washing Section (continued)
 Process Flow Diagram

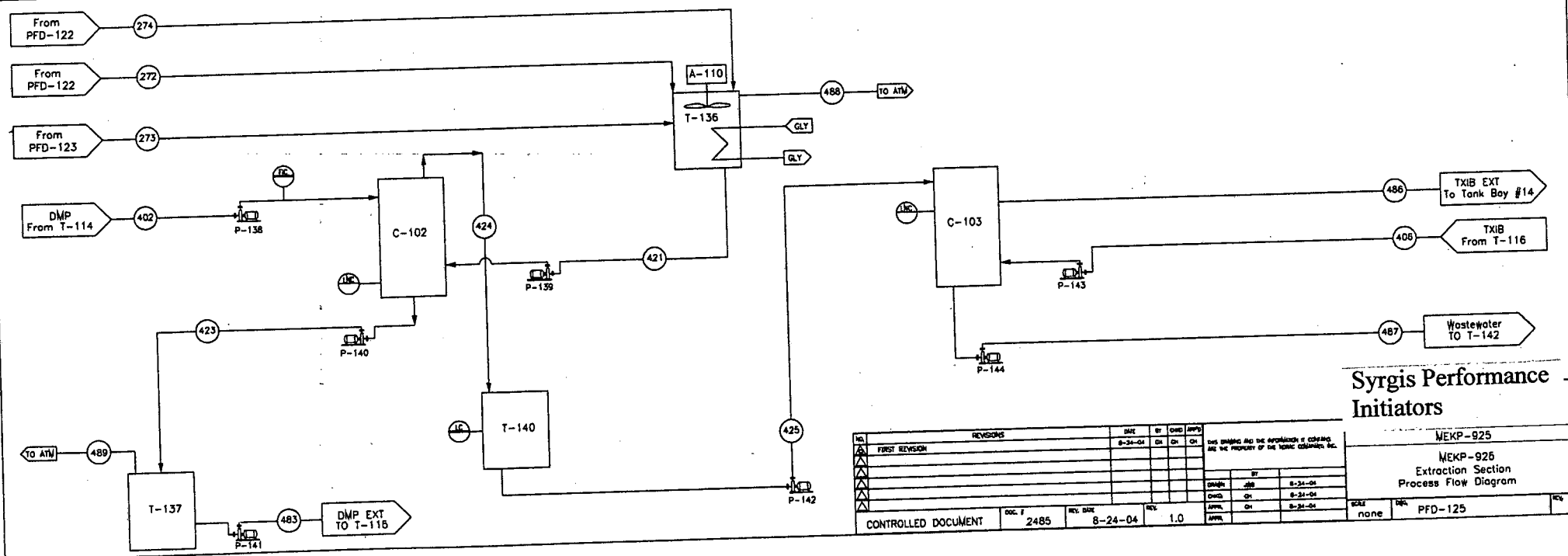
REV	REVISIONS	DATE	BY	CHKD	APP'D	THIS DRAWING AND THE INFORMATION IT CONTAINS ARE THE PROPERTY OF THE SYRGIS COMPANY, INC.	
						SCALE	SHEET
1	FIRST REVISION	8-24-04	CH	CH	CH		

CONTROLLED DOCUMENT	DOC # 2488	REV DATE 8-24-04	REV 1.0	SCALE none	SHEET PFD-133
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

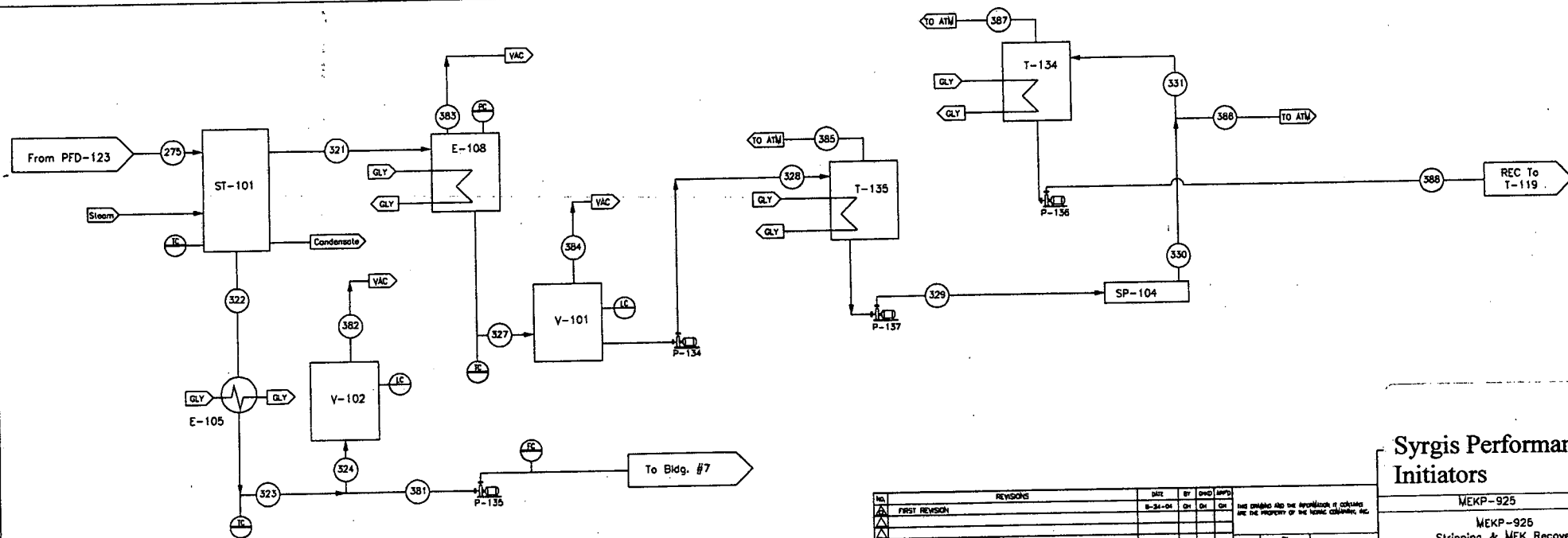
Stream Number		272	273	274	402	406	421	423	424	425	483	486	487	488	489
Description	Units	Wastewater from 1st Coalescer to T-136	Wastewater from 2nd Coalescer to T-136	Wastewater from 3rd Coalescer to T-136	DMP Feed to C-102	TXIB Feed to the TXIB Extraction Column (C-103)	Wastewater Feed to C-102	C-102 Bottoms to T-137	C-102 Tops to T-140	Feed Stream to C-103	DMP EXT Feed to DMP EXT Day Tank (T-115)	C-103 Tops to External TXIB EXT Tank	Settled Wastewater Stream to External Tank	Vent from T-136	Vent from T-137
Mass Flow	kg/min	12.40	0.00	0.00	5.76	0.97	12.97	7.60	11.12	11.12	7.60	1.21	10.88	0.00	0.00
Temperature	°C	21	22	24	24	24	24	24	24	24	24	24	24	0.00	0.00
DMP	kg/min	0.03	0.00	0.00	5.76	0.00	0.03	0.05	5.41	5.41	0.05	0.05	5.36	0.00	0.00
EDTA	g/min	5.47	0.00	0.00	0.00	0.00	2.04	0.02	2.02	2.02	0.02	0.02	2.00	0.00	0.00
H ₂ O ₂	kg/min	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	kg/min	0.00	0.00	0.00	0.00	0.00	0.94	0.90	0.05	0.05	0.90	0.04	0.00	0.00	0.00
MEK	kg/min	0.83	0.00	0.00	0.00	0.00	0.90	0.85	0.04	0.04	0.85	0.04	0.00	0.00	0.00
MEKP	kg/min	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	266.35	2.66	263.69	263.69	2.66	2.64	261.05	0.00	0.00
TDS	g/min	266.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.00	0.97	8.79	0.09	8.70	8.70	0.09	0.09	8.61	0.00	0.00
Water	kg/min	8.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		275	321	322	323	324	327	328	329	330	331	381	382	383	384	385	386	387	388
Description	Units	Washed Product Stream to Stripping Column	Distillate Feed to Condenser	Stripper Product Feed to E-105	Cool Product Exiting E-105	Product from Product Receiver (V-102)	Wet MEK Feed to Bottom of Distillate Recvr. (V-101)	Wet MEK to T-135	Wet MEK Feed to Gravity Settling Vessel (SP-104)	REC Stream from SP-104	Feed to REC Receiver Tank (T-134)	Product Stream to Bldg. #7	Vacuum Line from V-102	Vacuum Line from V-103	Vacuum Line from V-101	Vent from T-135	Vent of REC Stream from (SP-104)	Vent from T-134	REC Feed to the REC Day Tank (T-119)
Mass Flow	kg/min	19.22	5.29	13.94	13.94	0.00	5.24	5.24	5.24	4.67	4.65	13.94	0.00	0.05	0.00	0.00	0.02	0.00	4.65
Temperature	°C	24	75	75	10	-	15	15	20	20	20	15	-	0.00	-	-	-	-	20
DMP	kg/min	5.84	0.00	5.84	5.84	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	0.11	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.16	0.00	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	4.39	4.17	0.22	0.22	0.00	4.13	4.13	4.13	4.02	4.00	0.22	0.00	0.04	0.00	0.00	0.02	0.00	0.02
MEKP	kg/min	4.71	0.02	4.69	4.69	0.00	0.02	0.02	0.02	0.02	0.02	4.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	5.52	0.00	5.52	5.52	0.00	0.00	0.00	0.00	0.00	0.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	2.99	0.00	2.99	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.63
Water	kg/min	1.12	1.10	0.03	0.03	0.00	1.09	1.09	1.09	0.63	0.63	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.63



REVISIONS				DATE	BY	CHKD	APPD
1	Δ	FIRST REVISION		8-24-04	CH	CH	CH
2	Δ						
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Syrgis Performance Initiators

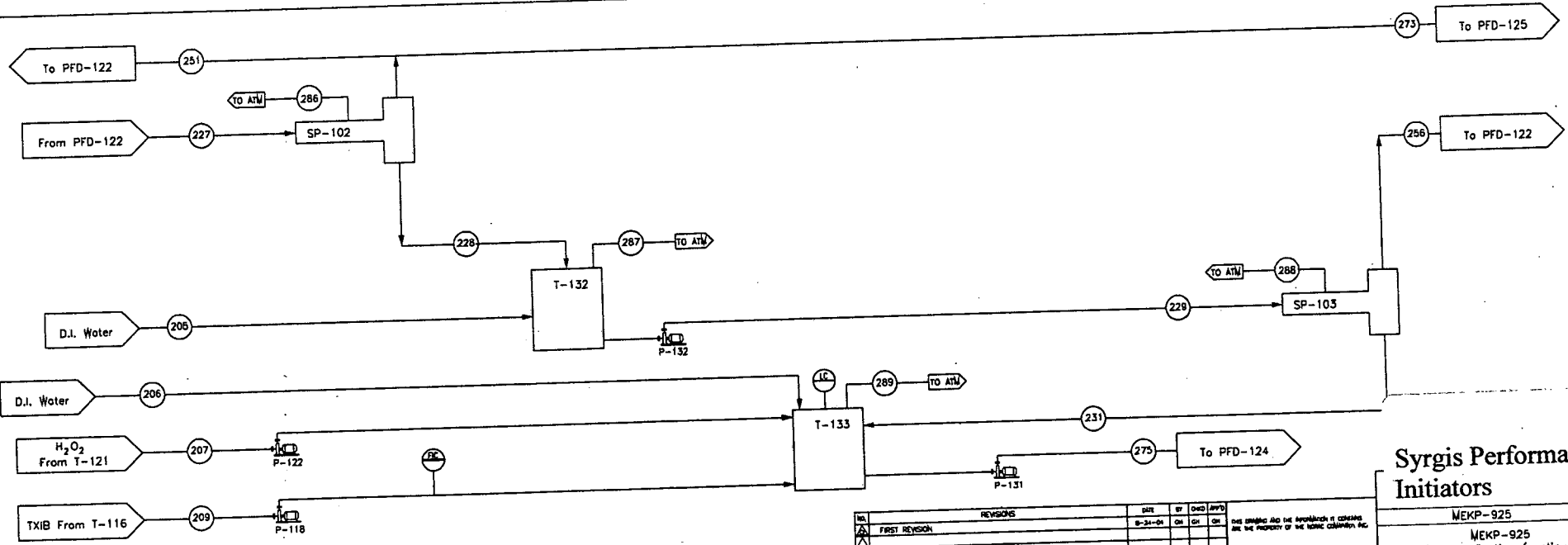
MEKP-925
Stripping & MEK Recovery
Process Flow Diagram

CONTROLLED DOCUMENT	DOC # 2484	REV. DATE 8-24-04	REV. 1.0	SCALE none	PK PFD-124
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		205	206	207	209	227	228	229	231	251	256	273	275	286	287	288	289
Description	Unit	De-Ionized Water Feed to T-132	De-Ionized Water Feed to T-133	Peroxide Feed to Stripper Feed Tank (T-133)	TXIB Feed to Stripper Feed Tank (T-133)	Feed Stream to 2nd Coalescer (SP-102)	Product Stream to T-132	Feed Stream to 3rd Coalescer (SP-103)	Product Stream from 3rd Coalescer to T-133	Wastewater from 2nd Coalescer to PotCarb Tanks	Wastewater from 3rd Coalescer (SP-103)	Wastewater from 2nd Coalescer to T-136	Washed Product Stream to Stripping Column	Vent from SP-102	Vent from T-132	Vent from SP-103	Vent from T-133
Mass Flow	kg/min	3.51	0.22	0.11	2.51	22.82	17.03	20.54	16.39	5.78	4.15	0.00	19.22	0.00	0.00	0.00	0.00
Temperature	°C	24	24	24	24	22	22	23	24	0.01	0.01	0.00	5.84	0.00	0.00	0.00	0.00
DMP	kg/min	0.00	0.00	0.00	0.11	0.25	0.02	0.02	0.00	0.23	0.02	0.00	0.16	0.00	0.00	0.00	0.00
EDTA	g/min	0.00	0.00	0.00	0.04	0.44	0.12	0.12	0.04	0.32	0.08	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.39	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	4.96	4.57	4.57	4.30	0.39	0.27	0.00	4.71	0.00	0.00	0.00	0.00
MEK	kg/min	0.00	0.00	0.00	0.09	5.34	4.92	4.92	4.63	0.42	0.29	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	12.11	0.99	0.99	0.10	11.13	0.88	0.00	2.99	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.00	0.00	5.42	0.98	0.98	0.98	0.98	0.00	0.00	0.00	1.12	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.18	5.31	4.19	0.68	0.69	4.63	3.50	0.00					
Water	kg/min	3.51	0.22	0.03	0.18	5.31	4.19	0.68	0.69	4.63	3.50	0.00					



Syrgis Performance Initiators

MEKP-925
Washing Section (continued)
Process Flow Diagram

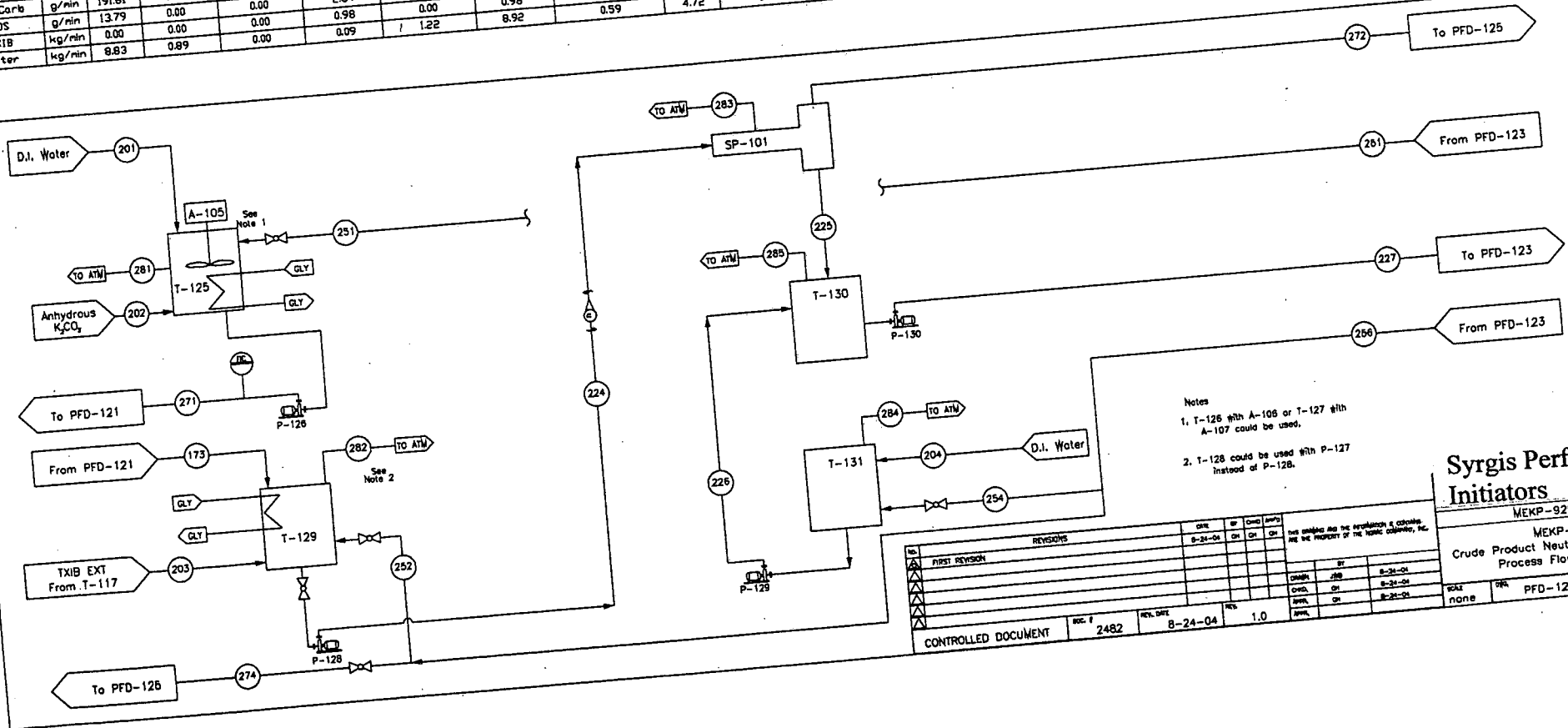
No.	REVISIONS		DATE	BY	CHKD	APPRD	THIS DRAWING AND THE APPROPRIATE IT CONTAINS ARE THE PROPERTY OF THE NOBAC COMPANY INC.
	REV	DESCRIPTION					
1	Δ	FIRST REVISION	8-24-04	CH	CH	CH	
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DESIGN	JFB	8-24-04
CHKD	CH	8-24-04
APPR	CH	8-24-04

DOC #	2483	REV. DATE	8-24-04	REV.	1.0	SCALE	none	SHEET	PFD-123	TOTAL	1
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MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number	Units	173	201	202	203	204	224	225	226	227	251	252	254	256	271	272	274	281	282	283	284	285
Description		Crude Product Feed to T-129	De-ionized Water Feed to PotCarb Tank (T-125)	Anhydrous PotCarb Feed to Tank (T-125)	TXIB Extract Feed to Tank T-129	De-ionized Water Feed to Wash Water Tank (T-130)	Feed Stream to 1st Coalescer (SP-101)	Product Stream to 2nd Coalescer Feed to T-130	Wash Water Feed to T-130	Field Stream to 2nd Coalescer SP-102	Wastewater from 2nd Coalescer to PotCarb Tanks	Wastewater from 3rd Coalescer to T-129	Wastewater from 3rd Coalescer to T-131	Wastewater from 3rd Coalescer SP-103	PotCarb Feed to Stream 129	Wastewater from 1st Coalescer to T-136	Wastewater from 3rd Coalescer to T-136	Vent from PotCarb Tank	Vent from T-129	Vent from SP-101	Vent from T-131	Vent from T-130
Mass Flow	kg/min	28.61	0.89	0.19	1.21	1.22	29.82	17.44	5.37	22.82	5.78	24	4.15	4.15	6.85	12.40	0.00	0.00	0.00	0.00	0.00	0.00
Temperature	°C	21	0.00	0.00	0.04	0.00	3.79	0.23	0.02	0.25	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DMP	kg/min	5.79	0.00	0.00	0.02	0.00	0.00	0.00	0.08	0.44	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	2.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	g/min	69.56	0.00	0.00	0.04	0.00	0.00	0.00	0.27	4.96	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	5.48	0.00	0.00	0.04	0.00	0.00	0.00	0.00	5.34	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	5.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	191.61	0.00	191.61	2.64	0.00	277.59	11.23	0.98	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	13.79	0.00	0.00	0.98	0.00	0.98	0.98	4.72	5.31	4.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.09	1.22	8.92	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	8.83	0.89	0.00	0.09	1.22	8.92	0.59	4.72	5.31	4.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Notes
 1. T-126 with A-106 or T-127 with A-107 could be used.
 2. T-128 could be used with P-127 instead of P-128.

Syrgis Performant Initiators
 MEKP-925
 Crude Product Neutralization & Process Flow Diagram
 PFD-122

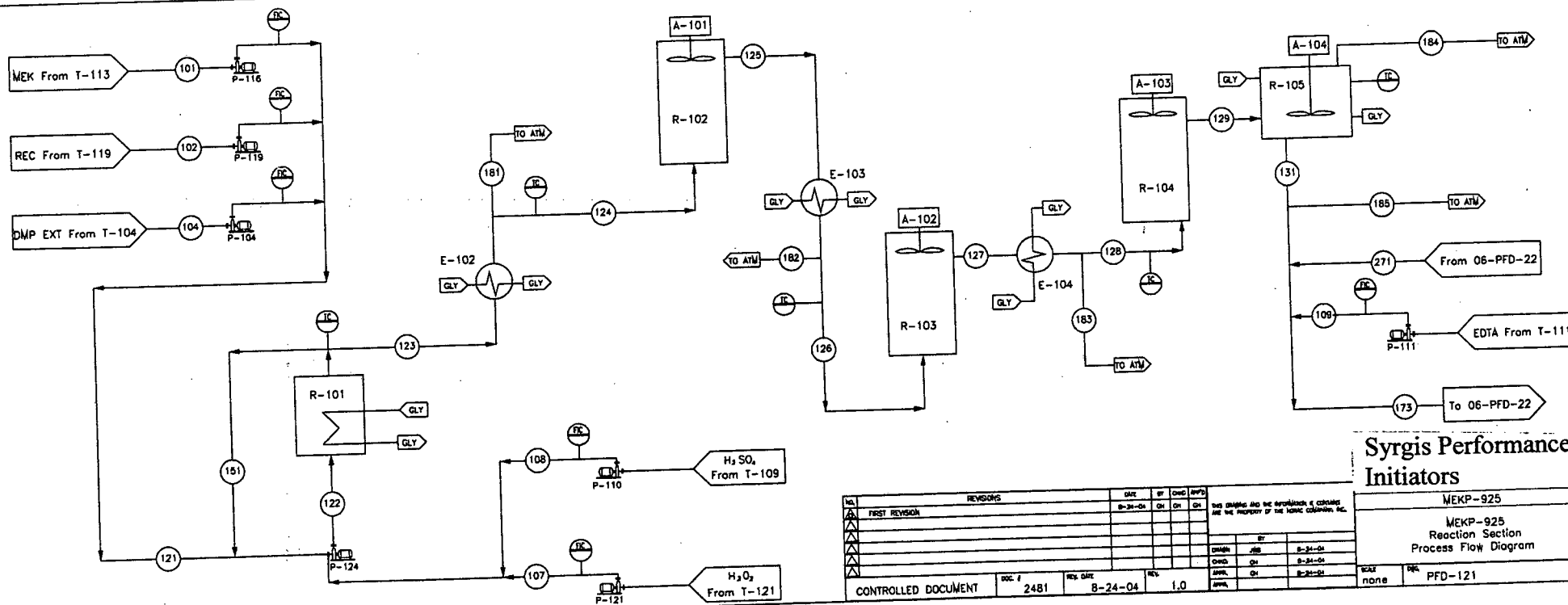
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NO.	DESCRIPTION				
1	FIRST REVISION				

CONTROLLED DOCUMENT	DOC. # 2482	REV. DATE 8-24-04	REV. 1.0
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		101	102	104	107	108	109	121	122	123	124	125	126	127	128	129	131	151	173	181	182	183	184	185	271
Description	Units	MEK Reactor Feed	RECYCLED MEK Reactor Feed	DMP Extract Reactor Feed	Hydrogen Peroxide Reactor Feed	Sulfuric Acid Reactor Feed	EDTA Feed to Stream 131	Organics Feed to Reactor	Reaction Stream	Reactor Product Stream	1st Heat Exchanger Outlet	2nd Heat Exchanger Inlet	2nd Heat Exchanger Outlet	3rd Heat Exchanger Inlet	3rd Heat Exchanger Outlet	R-104 Outlet	R-105 Outlet	Reaction Product Recycle	Crude Product Feed to T-129	Vent in Stream 124	Vent in Stream 126	Vent in Stream 128	Vent from R-105	Vent in Stream 131	Pot Carb Feed to Stream 131
Mass Flow	kg/min	4.40	3.20	7.60	6.30	0.17	0.10	15.19	130.03	21.67	21.67	21.67	21.67	21.67	21.67	21.67	21.67	108.36	28.61	0.00	0.00	0.00	0.00	0.00	6.85
Temperature	°C	24	24	24	24	24	24	24	-	51	34	-	25	-	22	-	21	51	21	-	-	-	-	-	15
DMP	kg/min	0.00	0.00	5.74	0.00	0.00	0.00	5.74	-	-	-	-	-	-	-	-	0.05	-	5.75	0.00	0.00	0.00	0.00	0.00	0.01
EDTA	g/min	0.00	0.00	0.05	0.00	0.00	5.36	0.05	-	-	-	-	-	-	-	-	2.05	-	5.64	0.00	0.00	0.00	0.00	0.00	0.32
H ₂ O ₂	kg/min	0.00	0.00	0.02	4.41	0.00	0.00	0.02	-	-	-	-	-	-	-	-	68.80	-	69.56	0.00	0.00	0.00	0.00	0.00	0.39
H ₂ SO ₄	g/min	0.00	0.00	0.00	68.80	0.76	0.00	0.00	-	-	-	-	-	-	-	-	8.05	-	5.48	0.00	0.00	0.00	0.00	0.00	0.42
MEK	kg/min	4.40	2.75	0.90	0.00	0.00	0.00	0.88	-	-	-	-	-	-	-	-	5.48	-	5.90	0.00	0.00	0.00	0.00	0.00	191.61
MEKP	kg/min	0.00	0.00	0.95	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	0.00	-	191.61	0.00	0.00	0.00	0.00	0.00	11.13
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	2.66	-	-	-	-	-	-	-	-	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.00	2.66	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	2.66	-	13.79	0.00	0.00	0.00	0.00	0.00	5.51
TXIB	kg/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	3.24	-	8.83	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	0.00	0.42	0.09	1.89	0.10	0.09	0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

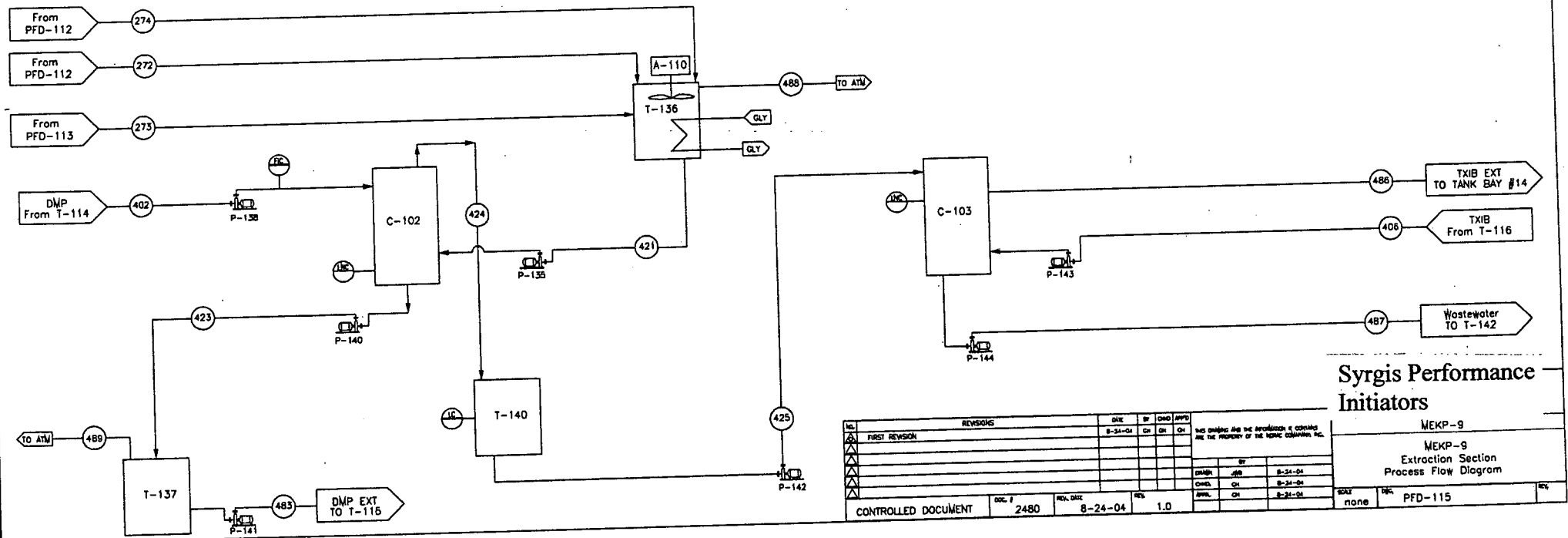


Syrgis Performance Initiators

MEKP-925
Reaction Section
Process Flow Diagram

MEKP-9H Process Flow Data
 Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Steam Number		272	273	274	402	406	421	423	424	425	483	486	487	488	489
Description	Units	Wastewater From 1st Coalescer to T-136	Wastewater From 2nd Coalescer to T-136	Wastewater From 3rd Coalescer to T-136	DMP Feed to C-102	TXIB Feed to the TXIB Extraction Column (C-103)	Wastewater Feed to C-102	C-102 Bottoms to T-137	C-102 Tops to T-140	Feed Stream to C-103	DMP EXT Feed to DMP EXT Day Tank (T-115)	C-103 Tops to External TXIB EXT Tank	Settled Wastewater to Stream to External Tank	Vent from T-136	Vent from T-137
Mass Flow	kg/min	8.43	0.00	0.00	6.83	1.66	8.85	8.00	7.67	7.67	8.00	1.82	7.51	0.00	0.00
Temperature	°C	21	22	24	24	24	24	24	24	24	24	24	24	-	-
DMP	kg/min	0.02	0.00	0.00	6.83	0.00	0.02	6.81	0.03	0.03	6.81	0.03	0.00	0.00	0.00
EDTA	g/min	4.81	0.00	0.00	0.00	0.00	4.81	0.05	4.76	4.76	0.05	0.05	4.72	0.00	0.00
H ₂ O ₂	kg/min	0.87	0.00	0.00	0.00	0.00	0.88	0.01	0.87	0.87	0.01	0.01	0.86	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	kg/min	0.37	0.00	0.00	0.00	0.00	0.45	0.43	0.02	0.02	0.43	0.02	0.00	0.00	0.00
MEKP	kg/min	0.72	0.00	0.00	0.00	0.00	0.72	0.68	0.04	0.04	0.68	0.03	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	42.34	0.00	0.00	0.00	0.00	42.34	0.42	41.92	41.92	0.42	0.42	41.50	0.00	0.00
TXIB	kg/min	0.00	0.00	0.00	0.00	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	kg/min	6.40	0.00	0.00	0.00	0.00	6.73	0.00	6.66	6.66	0.07	0.07	6.60	0.00	0.00



Syrgis Performance
 Initiators

MEKP-9

MEKP-9
 Extraction Section
 Process Flow Diagram

REVISIONS				DATE	BY	CHKD	APPD	THIS DRAWING AND THE INFORMATION IT CONTAINS ARE THE PROPERTY OF THE NUCLEAR CORPORATION, INC.					
1	Δ	FIRST REVISION		8-24-04	CH	CH	CH						
2	Δ												
3	Δ												
4	Δ												
5	Δ												

DESIGN	JFB	8-24-04
CHECK	CH	8-24-04
APPR.	CH	8-24-04

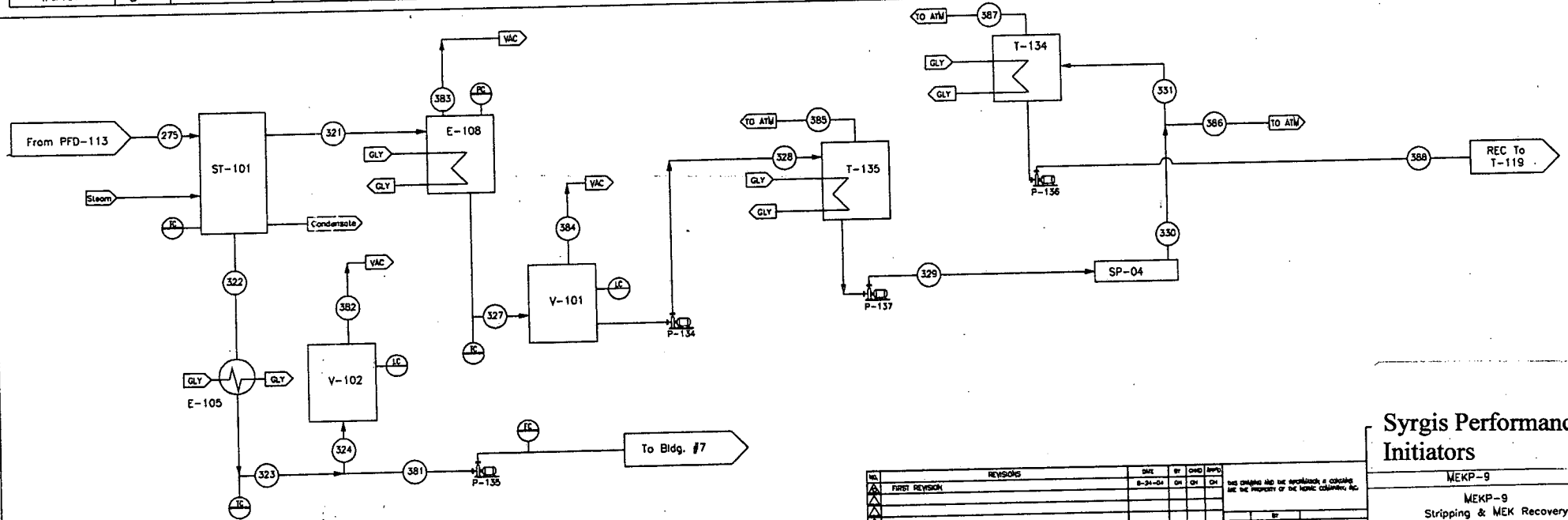
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FILE	PFD-115

CONTROLLED DOCUMENT	DOC # 2480	REV. DATE 8-24-04	REV. 1.0
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		275	321	322	323	324	327	328	329	330	331	381	382	383	384	385	386	387
Description	Units	Washed Product to Stripping Column	Distillate Feed to Condensor	Stripper Product Feed to E-105	Cool Product Exiting E-105	Product from Holding Tank V-102	Wet MEK Feed to Bottom of Distillate Rcvr. (V-101)	Wet MEK to T-24	Wet MEK Feed Gravity Settling Vessel (SP-104)	REC Stream from SP-104	Feed to REC Rcvr. Tank T-134	Product Stream to Building #7	Vacuum Line from V-102	Vacuum Line from E-108	Vacuum Line from V-101	Vent from T-135	Vent from REC Stream from SP-104	Vacuum from T-134
Mass Flow	kg/min	22.86	3.94	18.92	18.92	0.00	3.90	3.90	3.90	3.48	3.47	18.92	0.00	0.04	0.00	0.00	0.02	0.00
Temperature	°C	24	75	75	10	-	15	15	20	20	20	15	-	-	-	-	-	-
DMP	kg/min	6.83	0.00	0.00	6.83	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
EDTA	g/min	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.12	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	0.16	0.00	0.03	0.00	0.00	0.02	0.00
MEK	kg/min	3.28	3.12	0.16	0.16	0.00	3.09	3.09	3.09	0.03	0.03	6.43	0.00	0.00	0.00	0.00	0.00	0.00
MEKP	kg/min	6.46	0.03	6.43	6.43	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.14	0.00	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00
TXIB	kg/min	5.36	0.00	5.36	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Water	kg/min	0.81	0.79	0.02	0.02	0.00	0.78	0.78	0.78	0.45	0.45	0.02	0.00	0.01	0.00	0.00	0.00	0.00



Syrgis Performance Initiators

MEKP-9

MEKP-9 Stripping & MEK Recovery Process Flow Diagram

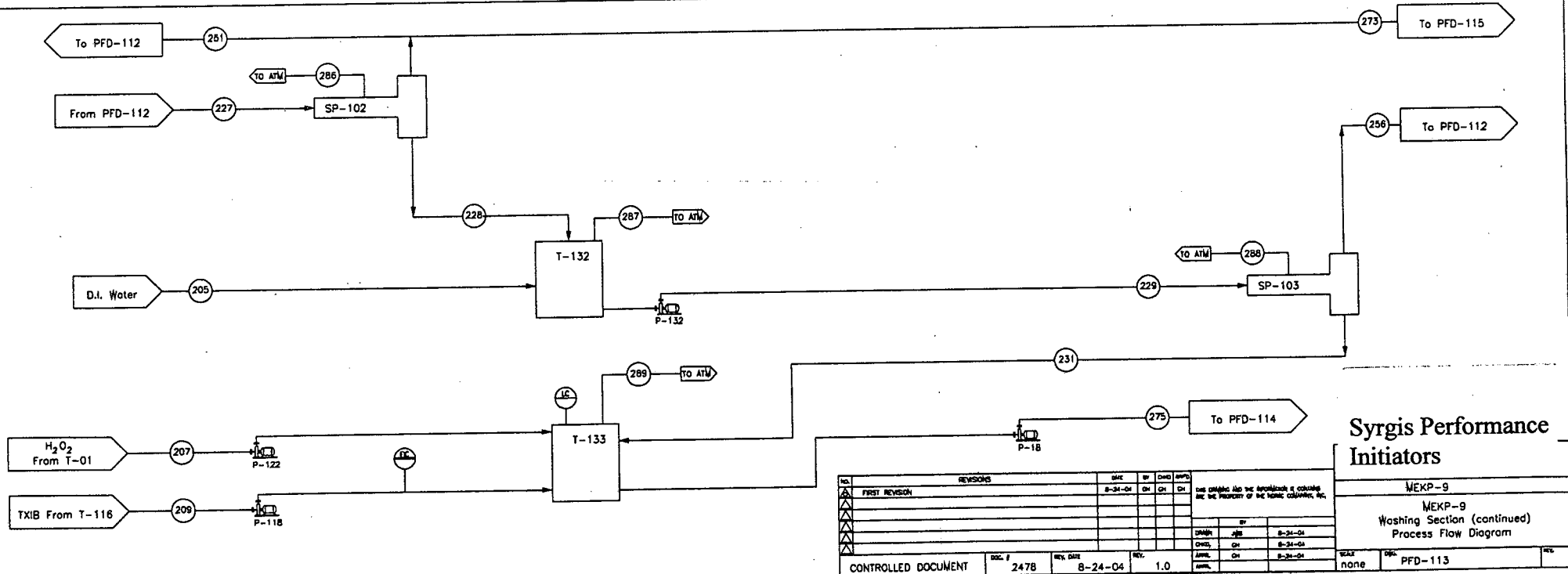
REVISIONS					DATE	BY	CHKD	APPD	HAS CHANGES AND BE REWORKED A CHANGE LOG BE PROPERTY OF THE HOME COMPANY INC.
NO.	DESCRIPTION	DATE	BY	CHKD	APPD				
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CONTROLLED DOCUMENT	DOC # 2475	REV. DATE 8-24-04	REV. 1.0	SCALE none	DATE PFD-114
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MEKP-9H Process Flow Data

Basis: 21.2 kg/min feed to reactor (Rate of 1.4)

Stream Number		205	207	209	227	228	229	231	251	256	273	275	286	287	288	289
Description	Units	De-Ionized Water Feed to T-132	Peroxide Feed to Stripper Feed Tank (T-133)	TXIB Feed to Stripper Feed Tank	Feed Stream to 2nd Coalescer (SP-102)	Product Stream to T-132	Feed Stream to 3rd Coalescer (SP-103)	Product Stream from 3rd Coalescer to T-133	Wastewater from 2nd Coalescer to PotCarb Tanks	Wastewater from 3rd Coalescer (SP-103)	Wastewater from 2nd Coalescer to T-136	Washed Product Stream to Stripping Column	Vent from SP-102	Vent from T-132	Vent from SP-103	Vent from T-133
Mass Flow	kg/min	1.54	0.06	3.70	22.26	19.39	20.93	19.11	2.86	1.81	0.00	22.86	0.00	0.00	0.00	0.00
Temperature	°C	24	-	24	22	22	23	24	0.01	0.00	0.00	24	-	-	-	-
DMP	kg/min	0.00	0.00	0.00	6.84	6.83	6.83	6.83	0.32	0.05	0.00	0.02	0.00	0.00	0.00	0.00
EDTA	g/min	0.00	0.00	0.00	0.39	0.07	0.07	0.02	0.17	0.06	0.00	0.12	0.00	0.00	0.00	0.00
H ₂ O ₂	kg/min	0.00	0.04	0.00	0.32	0.15	0.15	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H ₂ SO ₄	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.08	0.00	3.28	0.00	0.00	0.00	0.00
MEK	kg/min	0.00	0.00	0.00	3.48	3.36	3.36	3.28	0.24	0.15	0.00	6.46	0.00	0.00	0.00	0.00
MEKP	kg/min	0.00	0.00	0.00	6.86	6.61	6.61	6.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pot Carb	g/min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	g/min	0.00	0.00	0.00	3.39	0.57	0.57	0.14	2.82	0.44	0.00	0.14	0.00	0.00	0.00	0.00
TXIB	kg/min	0.00	0.00	3.70	1.66	1.66	1.66	1.66	0.00	0.00	0.00	5.36	0.00	0.00	0.00	0.00
Water	kg/min	1.54	0.02	0.00	3.10	0.78	2.32	0.80	2.32	1.52	0.00	0.81	0.00	0.00	0.00	0.00



Syrgis Performance Initiators

NO.	REVISIONS	DATE	BY	CHKD	APPD.
1	FIRST REVISION	8-24-04	CH	CH	CH

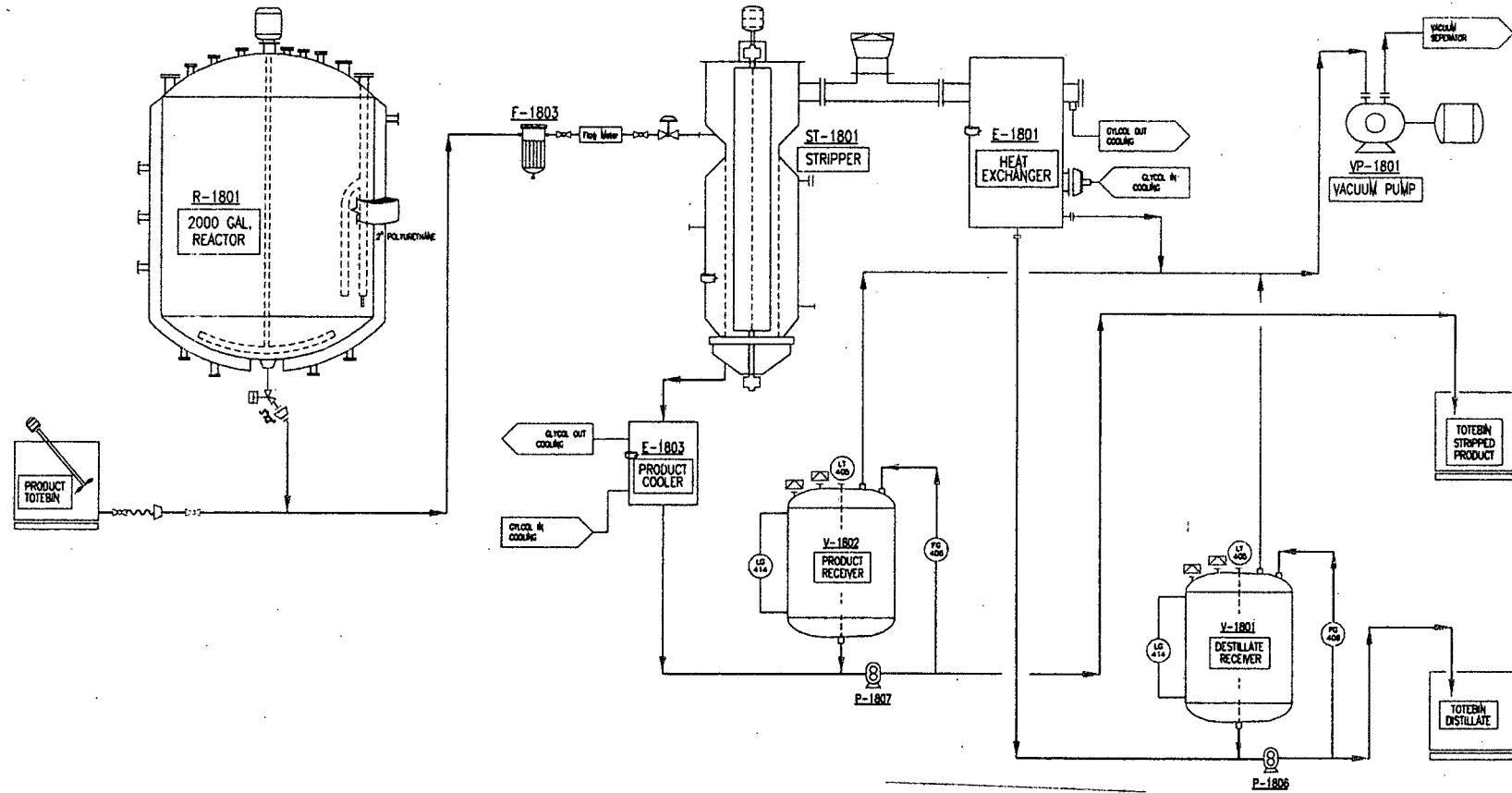
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DESIGN	JHB	8-24-04
CHKD.	CH	8-24-04
APPR.	CH	8-24-04

CONTROLLED DOCUMENT DOC. # 2478 REV. DATE 8-24-04 REV. 1.0 SCALE none Dwg. PFD-113

MEKP-9
Washing Section (continued)
Process Flow Diagram

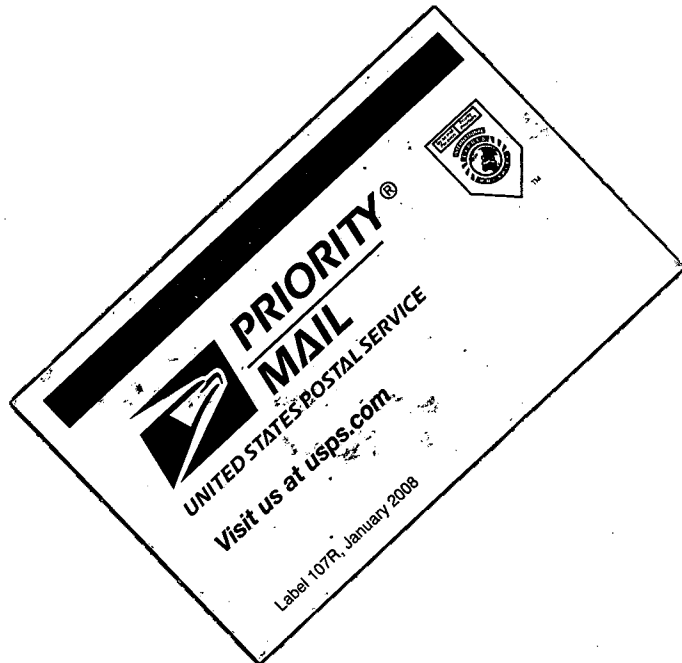
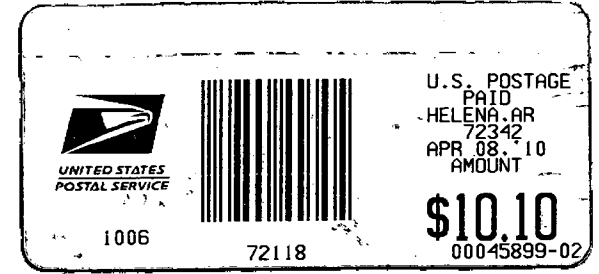
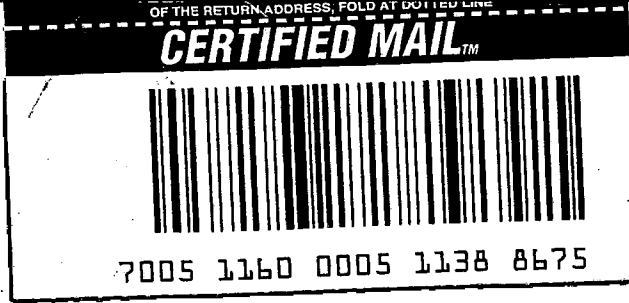
MIBKP (PULCAT) PFD



Syrgis Performance
Initiators

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PROJECT NO.	MIBKP (Pulcat)							DATE	E 131
ISSUE NO.	& W-60 Reactor							ISSUED	DATE ISSUED
REVISED NO.	Building #8							PROJECT NO.	PFD-1801
DATE ISSUED	DT-28-65							REVISED	DATE

Helena Mun. Water
702 Cherry St.
Helena, AR 72342



Rufus J. Lawrence, Water Div. Engineer
Ark. Dept. of Env. Quality
5301 Northshore Drive
North Little Rock, AR

72118-5317