

Plot Date: 8/15/11 By: Peterson, Gary File Location: U:\30070.00 Drawings\Proc\PDF\09-F-290.dwg

09-X-9100
TRUCK UNLOADING
STATION

09-T-9010A
PHOSPHORIC ACID
STORAGE
7,500 GAL.

09-P-9011A
PHOSPHORIC ACID
SUPPLY PUMP
1 GPM

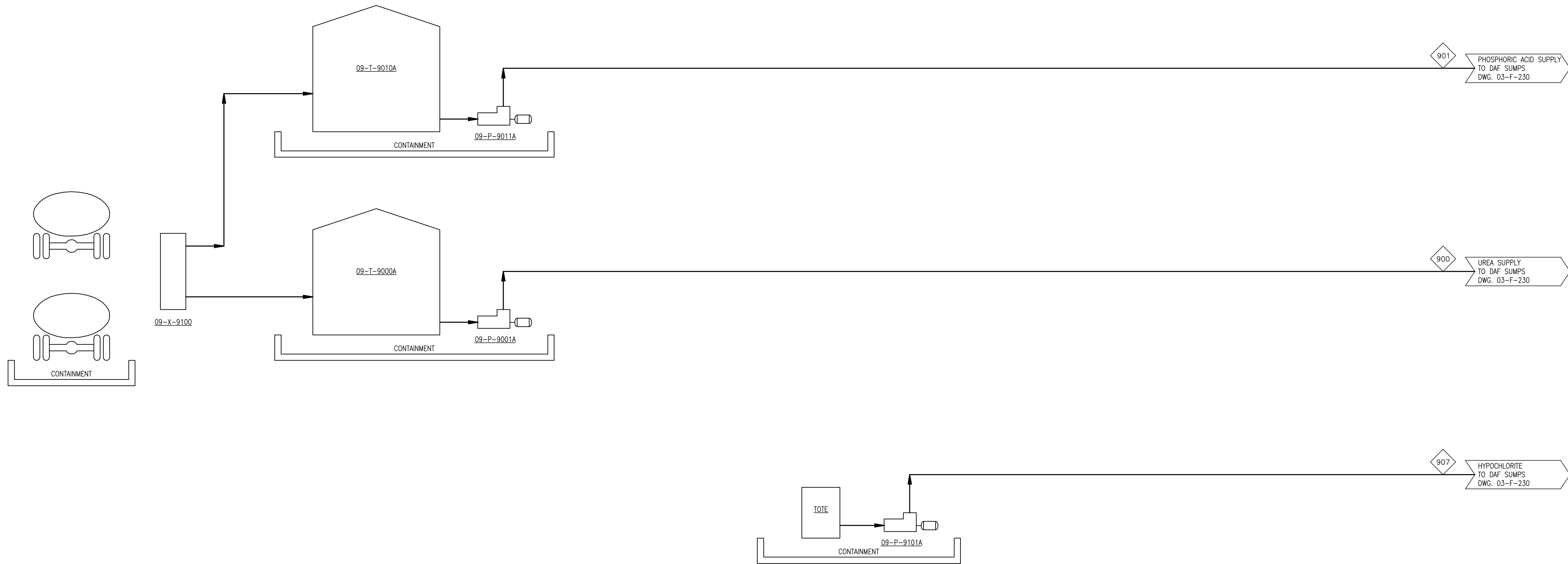
09-T-9000A
UREA
STORAGE
15,000 GAL.

09-P-9001A
UREA
SUPPLY PUMP
1 GPM

09-P-9101A
HYPOCHLORITE
SUPPLY PUMP
0.5 GPM

NOTES:

1. STREAM DATA IS FOR PEAK FLOW.






STREAM NO.		900	901	907
DESCRIPTION		UREA (URAN 28)	PHOSPHORIC ACID (75%)	NaOCl (12.5% SOLUTION)
FLOW	LB/HR	382	63	98
FLOW	GPM	0.6	0.1	0.2
TEMPERATURE	° F	68	68	68
PRESSURE	PSIA	12.6	12.6	12.6
VAPOR FRACTION		0.00	0.00	0.00
% ALGAE IN AQ SOLNS				
WATER	LB/HR	0	16	86
ALGAE OIL	LB/HR	0	0	0
ALGAE BIOMASS	LB/HR	0	0	0
ASH	LB/HR	0	0	0
CO2	LB/HR	0	0	0
UREA	LB/HR	382	0	0
PHOSPHORIC ACID	LB/HR	0	47	0
METHANE	LB/HR	0	0	0
PROPANE	LB/HR	0	0	0
OXYGEN	LB/HR	0	0	0
NITROGEN	LB/HR	0	0	0
HYPPOCHLORITE	LB/HR	0	0	12
SODIUM HYDROXIDE	LB/HR	0	0	0

XXX DENOTES CHANGE IN STREAM TEMPERATURE ONLY. NO COMPOSITION CHANGE.
XXX DENOTES CHANGE IN STREAM PRESSURE ONLY. NO COMPOSITION CHANGE.

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Aug 15, 2011



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Scale: NONE PMgr: RSM Appr: MEW				Drawn: GAP Check:	Engr: BO Check:	
				SAPPHIRE ENERGY SAN DIEGO CALIFORNIA		
				IABR Columbus, NM.		
				PROCESS FLOW DIAGRAM INTEGRATED ALGAL BIOREFINERY CHEMICAL STORAGE AND DISTRIBUTION		
0	08/15/11	MDB	ISSUED FOR CONSTRUCTION	Project No.: 30070.00	Drawing: 09-F-290	Rev: 
Rev.	Date	By	Description			