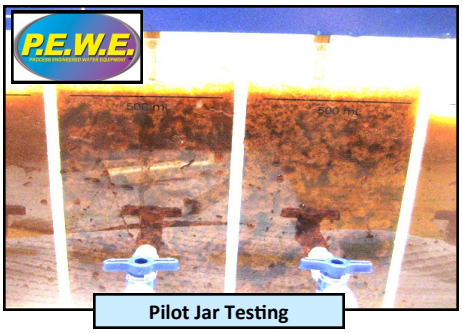
Wastewater Treatment: Perfect Pilot

Pretreatment in the food industry can provide sustainable water cost savings. Stuart Ward of *Process Engineered Water Equipment* explains effective pilot testing is key...

Pilot Study

PEWE was offered the opportunity to provide a pilot test study for a national



Pilot Jar Testing

food company. The purpose was to verify the suitability of various product wastewater streams for treatability. Chemical pretesting showed promising results and helped select optimal chemistry.

The pilot would demonstrate the technology built into each **PEWE** DAF system maximizes TSS and other insoluble solids removal while minimizing the chemistry usage and sludge production. The testing would provide management with valuable data needed for making key return on

HD² XLRator Pilot

investment decisions.

System Setup

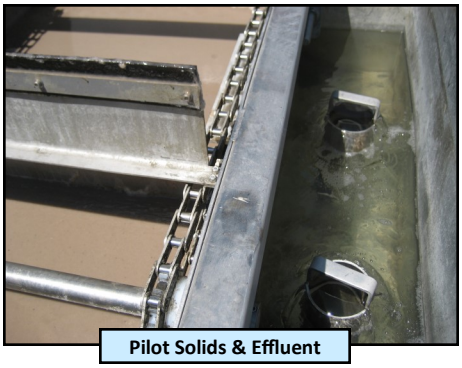
The pilot test system was delivered as a readily installed skid mounted unit. An experienced operator assisted with set-up, trialing and the return shipment. The pilot is a fully scaled version of it's larger "brothers", is constructed in stainless steel and PVC for corrosion resistance, utilizes ***Rogue*** regenerative turbine aeration technology and is operated with the automated **PEWE** ***Command Control*** .

The electrical control panel is designed for 60Hz, and has a 50 amp maximum current draw. Installed power was 2.5 Hp. Compressed air was supplied by the client at 8cfh. Fresh water from a hose was used to dilute the chemicals and final cleaning of the equipment.

PEWE arranged with the client's choice of chemical vendor to supply the appropriate type and quantities of required chemicals. The cost and delivery of these chemicals was handled separately by the chemical vendor.

Daily Operation & Tests

The flotation solids were dewatered and scraped off by the chain and flight rake system. Periodic bottom discharge solids were released as well. Both the DAF effluent and sludge solids was collected in containers for lab testing.



Pilot Solids & Effluent

Additionally, periodic on-site TSS readings were logged as well.

Final Results

The final pilot test results provided management with the decision making information they needed. The before and after lab tests conducted on representative water samples clearly showed the results of over 90% TSS and 75% BOD reductions with a near complete reductions Settleable Solids. Further on-site solids testing demonstrated the high solids content of the DAF sludge. This proved invaluable as the solids were easily dewatered, saving tremendously on disposal costs.

Pilot Test Results
Project: 0707091

TSS- Plant		TSS- DAF		BOD- Plant		BOD- DAF	
MG/L	LBS	MG/L	LBS	MG/L	LBS	MG/L	LBS
		90% REDUCTION				75% REDUCTION	
2580	4174	258	417	1080	1747	108	175
266	324	27	32	240	292	24	29
464	279	46	28	3870	2324	387	232
412	440	41	44	602	643	60	64
592	810	59	81	282	386	28	39
416	482	42	48	2150	2492	215	249
508	377	51	38	428	318	43	32
462	166	46	17	1060	380	106	38
848	679	85	68	1030	825	103	83
692	820	69	82	289	342	29	34
544	485	54	49	1540	1374	154	137
595	471	60	47	2510	1989	251	199
1020	1242	102	124	1140	1388	114	139
992	1266	99	127	1450	1850	145	185
3320	1896	332	190	1800	2307	180	231
3320	1896	332	190	2940	1667	294	167
2510	1602	251	160	4700	2979	470	298
428	692	43	69	304	492	30	49
278	477	28	48	212	364	21	36
1066	978	107	98	1454	1272	145	127