



Air Diffusion Systems
A John Hinde Company
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January 2007

To: Operators, Engineers, and State Permitting Agents

MEET ADVANCED WASTEWATER TREATMENT IN ADS LAGOONS TODAY!

99% BOD & 98% TSS REMOVAL in 3 YEAR STUDY

Re: Woodson, IL WWTP Case History 33 Year Old Aerated Lagoon System



Date of Design: 1973 by Benton & Associates Jacksonville, IL

Date of Hinde Engineering Installation: 1974

Design Data: Domestic Waste only

Design Flow

<0.100 MGD

Design Load

BOD 200 mg/l ~170 PPD

TSS 200 mg/l ~170 PPD

2 Lagoons ~ 2 Acres Total 10' WD 2' FB

2 Sand Filters

In 1999 ADS converted the original aeration system to Out-of-Water HDPE headers and new aeration diffusers. (Same air supply 125 CFM by Blowers, Two running, one standby)

Estimated energy use = 6.5 Wire HP

**New ILEPA NPDES limits: CBOD < 25 mg/l TSS < 37 mg/l NH3 record monthly
No ammonia limits established, but expected to be coming by ILEPA.**

In 2002 Woodson received grant money to install new Blowers and Aerated Rock Filter by ADS.



Work completed in late 2003 and operational January 2004.

Woodson, IL **BOD** **TSS** **NH3** **FLOW** **0.10 MGD**
Monthly Limits
mg/l **25** **37** **Report**

Date	Daily Flow	Influent BOD (mg/L)	Influent TSS		Effluent BOD	Effluent TSS	Effluent Ammonia
	MGD						
Jan-04	0.05	124	76		1.13	1.38	2.4
Feb-04	0.04	293	136		1.31	1.84	4.1
Mar-04	0.06	252	106		3.24	18.9	1.4
Apr-04	0.05	153	114		<1	1.08	0.105
May-04	0.04	105	94		<1	1.08	2.7
Jun-04	0.03	215	244		<1	1.6	0.032
Jul-04	0.04	127	80		<1	1.2	0.068
Aug-04	0.03	264	296		<1	<1	0.445
Sep-04	0.03	270	130		<1	<1	0.105
Oct-04	0.03	190	144		<1	<1	0.048
Nov-04	0.04	202	96		1.5	4	0.7
Dec-04	0.06	194	196		1.16	1.27	5.8
Jan-05	0.1	84	70		1.4	2.33	0.035
Feb-05	0.07	155	-		2.5	8.5	
Mar-05	0.04	243	130		1.13	7.5	0.37
Apr-05	0.04	170	102		<1	1.95	0.13
May-05	0.03	258	198		<1	1.3	0.15
Jun-05	0.03	350	196		<1	2.8	0.23
Jul-05	0.03	247	122		<1	2.33	
Aug-05	0.03	205	80		<1	<2	
Sep-05	0.03	190	78		<1	<2	
Oct-05	0.02	335	152		<1	1.06	2.6
Nov-05	0.03	198	70		<1	2.58	
Dec-05	0.03	217	104		<1	<1	0.46
Jan-06	0.03	305	220		1.73	1.93	4.95
Feb-06	0.008	232	98		<1	<1	6.8

Mar-06	0.03	329	700	<1	2.98	2.4
Apr-06	0.04	168	68	2.64	4.6	3.4
May-06	0.015	222	110	<1	2.14	0.034
Jun-06	0.019	345	352	<1	2.69	0.045
Jul-06	0.004	252	140	<1	<1	0.22
Aug-06	0.005	204	138	<1	<1	0.07
Sep-06	0.018	339	114	<1	1.57	0.0385
Oct-06	0.008	269	102	<1	<1	0.14
Nov-06	0.02	344	232	<1	<1	0.09
Dec-06	0.04	130	102	<1	2.51	2.75
3 YEAR AVERAGE	0.034	227	154	1.8	3.2	1.38

This system is 33 years old

**NO SLUDGE
REMOVED**

Aerated Rock Filter added in 2003

Operator Gary Marlow 217-370-2989

All monthly ILEPA reports have been in full compliance and Ammonia removal has been outstanding.

Sincerely,

John Hinde President of ADS



The effluent looks like bottled water!