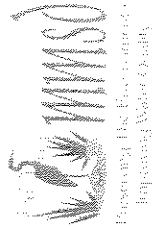


OPERATIONS & MAINTENANCE REPORT

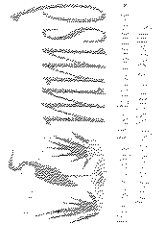
DECEMBER 2004



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TREATMENT PLANT PERFORMANCE DECEMBER 2004

- No contract violations
- No WPDES permit violations
- No In-plant diversion/blending events

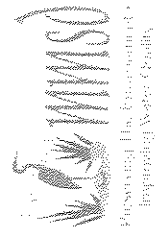


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December 2004

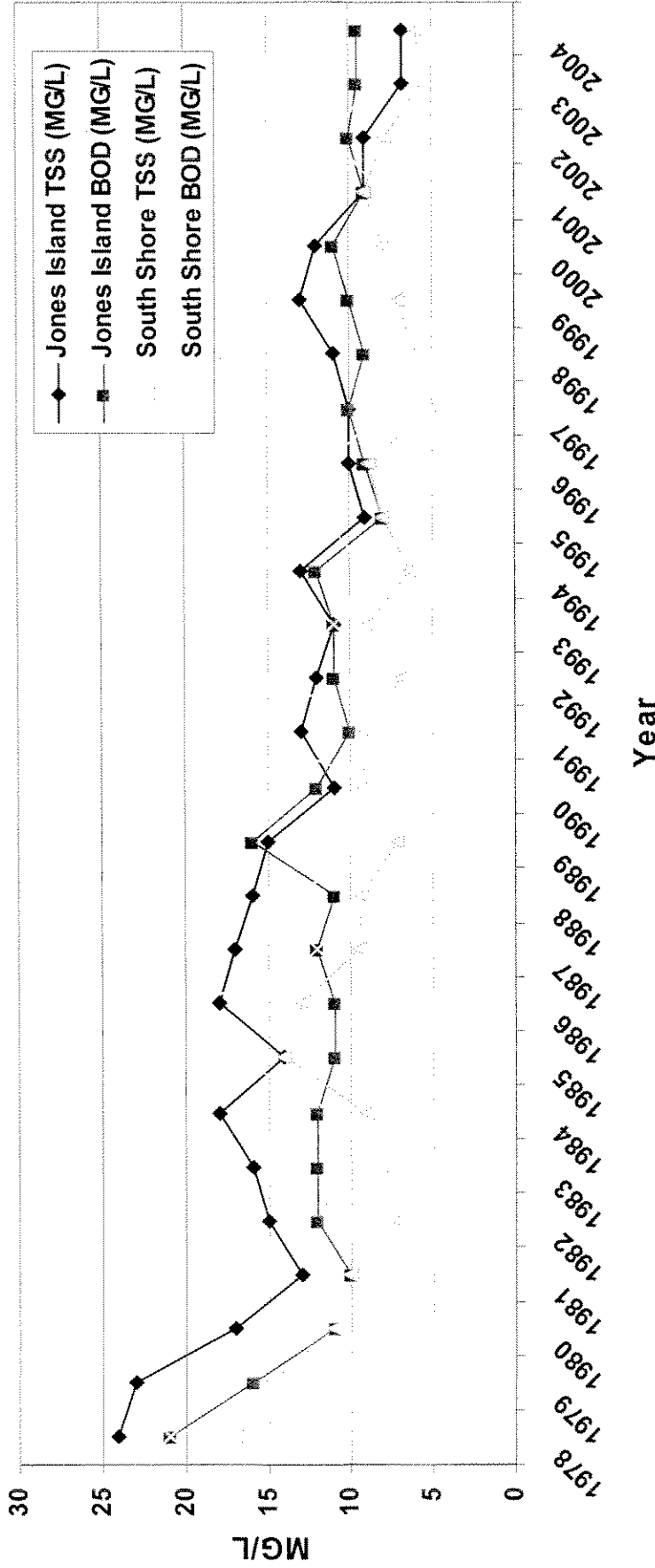
Wastewater Treatment Plant Effluent Quality

	BOD (mg/L)	TSS (mg/L)	TP (mg/L)	Fecal Coliform (No./100mL)
Jones Island	8.4	5.9	0.38	52
South Shore	8.6	7.8	0.58	29
Contract Standard	15	15	Jl: 0.5 SS:1.0	100
DNR Permit Limit	30	30	1	400
Wastewater Treatment Plant Influent				
Jones Island	344	208	5.8	n/a
South Shore	288	362	6.6	n/a



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MMSD Jones Island and South Shore Effluent History



Metropolitan Milwaukee Sewerage District
 Improving Water Quality

United Water.

2004 Wastewater Treatment Plant Performance

Parameter	Concentration	Bonus Limit	Penalty Limit	Contract Limit	Permit Limit
BOD	8.6 mg/L	<9 mg/L	>13 mg/L	15 mg/l	30 mg/l
TSS	6.2 mg/L	<8 mg/L	>13 mg/L	15 mg/l	30 mg/l
Fecal Coliform	38 /100 ml	--	>100/100 mL	100/100 mL	400/100 mL

Results are the combined average for Jones Island & South Shore Wastewater Treatment Plants

United Water will receive \$100,000 in bonus payments for 2004 performance

Jones Island & South Shore Treatment Plants have qualified for the AMSA Gold Award



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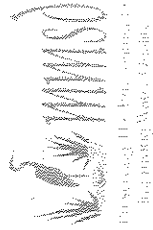
CONVEYANCE SYSTEM PERFORMANCE

DECEMBER 2004

➤ Tunnel Utilization

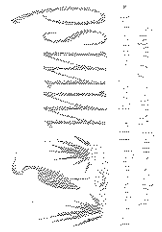
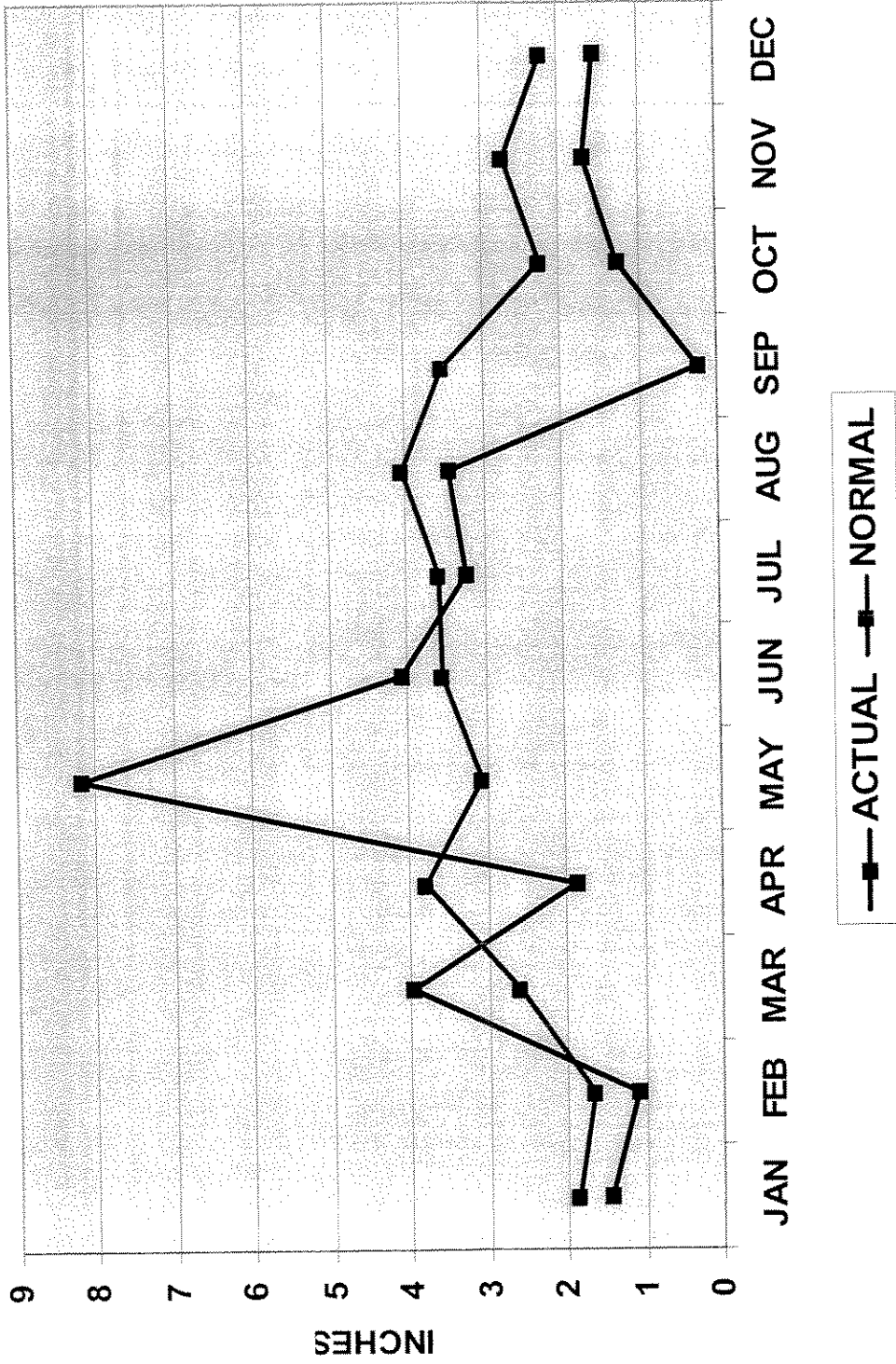
December 7 - 12 120 MG

- No wet weather overflows
- No dry weather overflows



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2004 PRECIPITATION



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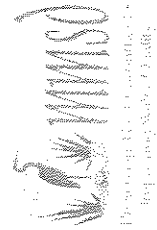
INLINE STORAGE SYSTEM EVENTS: 2004

	Precipitation		Number of		Volume Captured*:		CSO Bypasses:			SSO Bypasses:	
	Actual	Normal	ISS Events	Storm Related*	Total*	Number	Volume*	Number	Volume*		
Jan	1.43	1.85	0	0	138.9	0	0	0	0		
Feb	1.10	1.65	0	0	188.4	0	0	0	0		
Mar	3.99	2.59	4	641.8	704.8	0	0	0	0		
Apr	1.87	3.78	2	225.2	384.7	0	0	0	0		
May	8.18	3.06	2	1609	1549.0	1	4141	1	474		
Jun	4.07	3.56	5	345.8	642.0	0	0	0	0		
Jul	3.25	3.58	3	719.6	878.0	0	0	0	0		
Aug	3.43	4.03	2	471.8	743.0	0	0	0	0		
Sep	0.24	3.30	1	27.9	364.9	0	0	0	0		
Oct	1.25	2.25	3	69.3	311.9	0	0	0	0		
Nov	1.68	2.70	2	125.3	368.2	0	0	0	0		
Dec	1.53	2.22	1	120.4	316.3	0	0	0	0		
Total	32.02	34.57	25	4356.1	6590.1	1	4141	1	474		

*Volumes reported in millions of gallons.

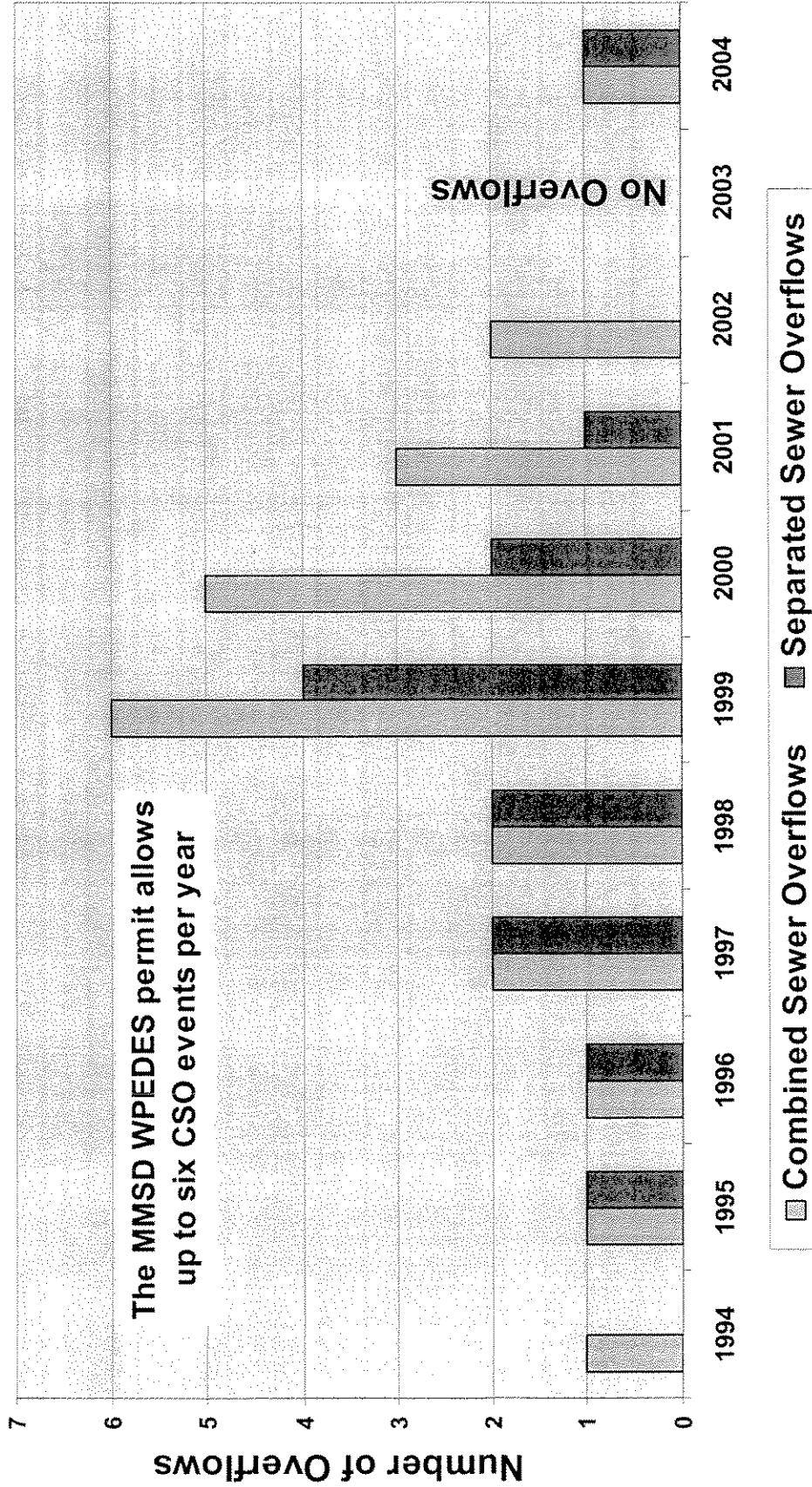
Wastewater & stormwater captured by the ISS.

Overflows prevented



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Overflows Related To ISS Operations



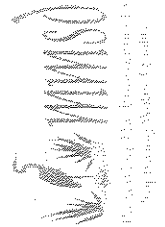
Pre – 1994
 Annual Avg CSO = 79
 Annual Avg SSO = 25

Post – 1994
 Annual Avg CSO = 2.2
 Annual Avg SSO = 1.3



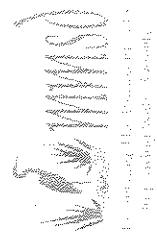
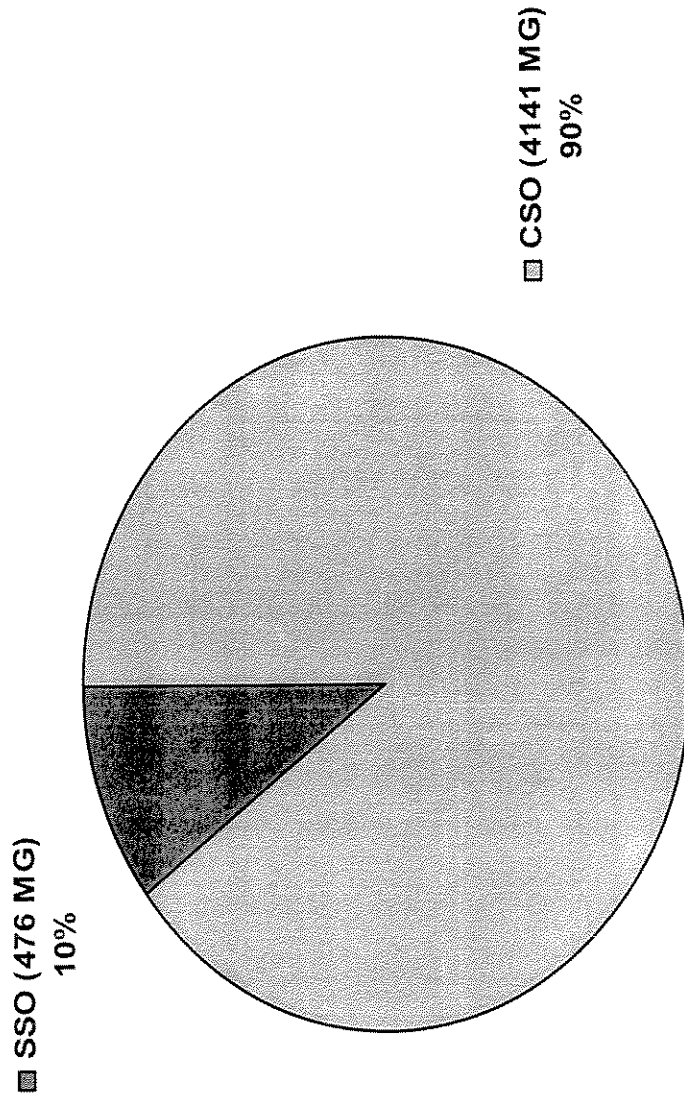
2004 OVERFLOWS

DATE	VOLUME (Gallons)	TYPE	LOCATION
March 29	<1000	SSO	Ravine Lane during <u>dry weather</u>
April 20	350	SSO	31st & West Fairmount Ave.
May 10 -24	474,000,000 4,141,000,000	SSO CSO	ISS overflow and numerous other locations ISS overflow
July 4	1,800,000 46,000 150,000	SSO SSO SSO	6th & Oklahoma N. 31st and Cameron Honeycreek & Wisc. Ave.
July 11	65,000	SSO	N. 31st and Cameron
August 3	8500	CSO	Marshall St & Milwaukee River



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2004 OVERFLOWS (4617 MG)

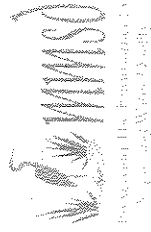


Biosolids: December 2004

- **0.05 Million Gallons on 4 Acres: 15 Dry Tons**

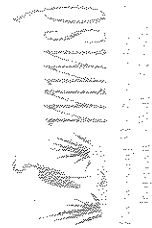
- **No Filter Cake was Land Applied in December**

- **Milorganite:**
 - **Staged for Distribution: 3,263 Tons**
 - **Production: 2,909 Tons**
 - **Landfill 424 Tons**



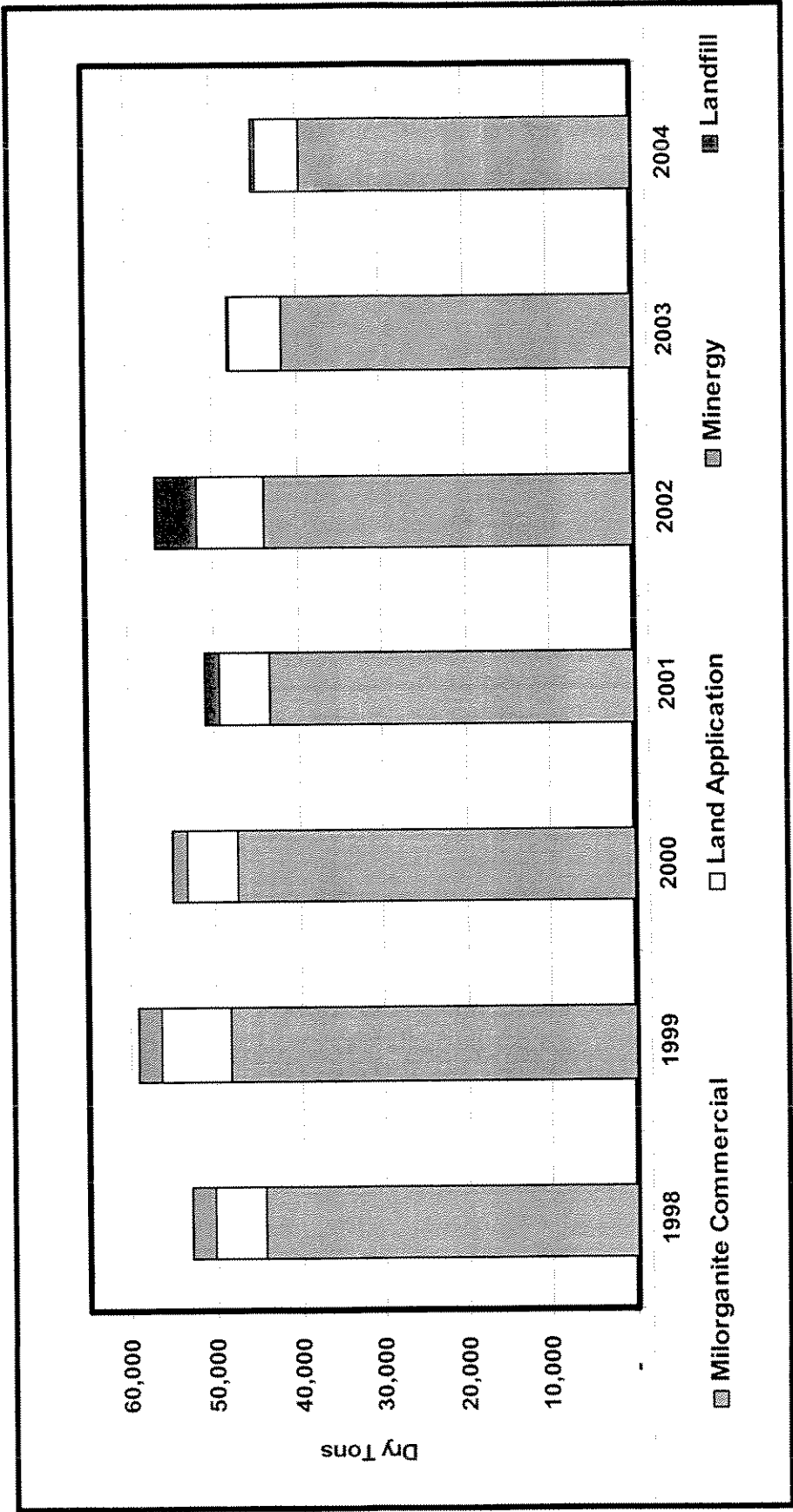
BIOSOLIDS: 2004

- **Agri-Life Liquid**
 - 11.8 Million Gallons
 - 3,600 Dry Tons
 - 825 Acres
- **Agri-Life Cake**
 - 1,700 Dry Tons
 - 300 Acres
- **Milorganite**
 - 46,596 Tons Staged for Distribution
 - 48,236 Tons Produced



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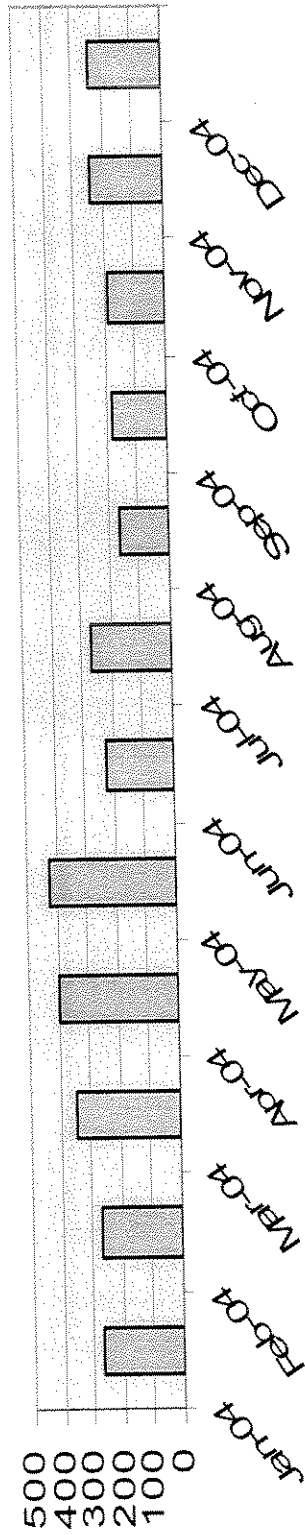
District Biosolids Reuse/Disposal: 1998-2004



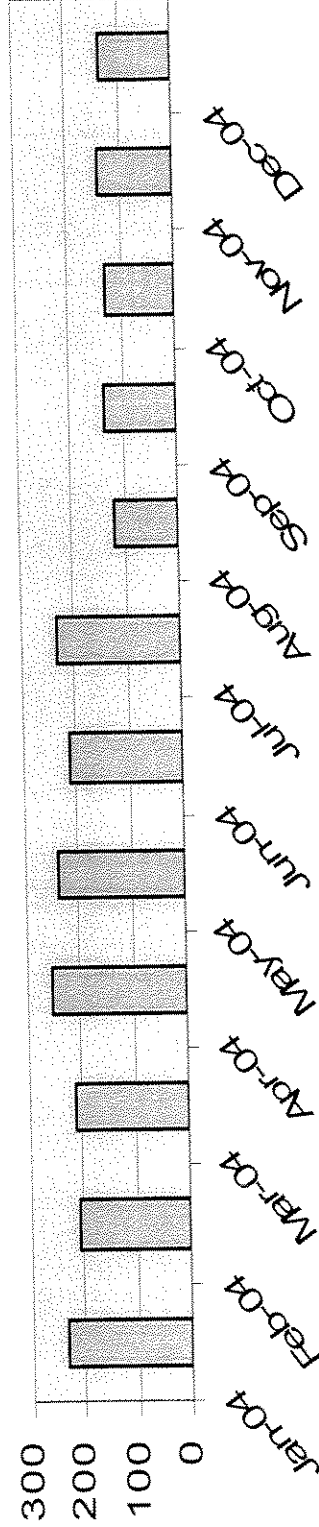
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MAINTENANCE BACKLOG

PM Workorders open over 90 days



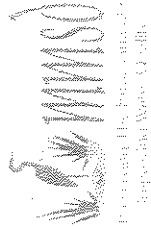
CM Workorders open over 90 days



09/11/04
 [Signature]

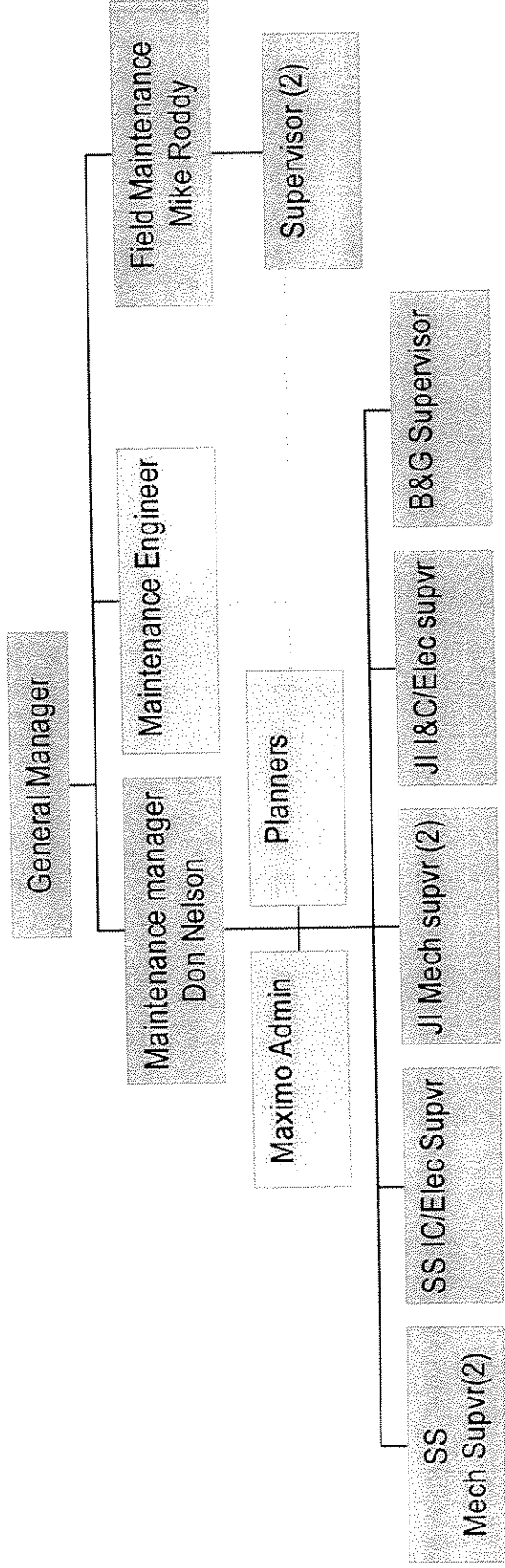
2004 Maintenance Highlights

- **MAXIMO: Computerized maintenance management system**
 - Preventive Maintenance – 15,079 Work Orders Completed**
 - Corrective Maintenance – 7,136 Work Orders Completed**
- **Capital Repair and Replacement Projects**
 - 29 Projects Completed in 2004**
 - Total Cost = \$1.9 million**
 - Major Projects Undertaken:**
 - Transformer radiator replacement at JIWWTP**
 - Rebuild RAS pumps at SSWTP**
 - Overhaul ISS pump #2**



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Maintenance Organization



Working Structure Changes

- Business Process Revisions

- Job Description & Duty Changes

- Workflow changes

- Management Control & Reporting Structure Changes

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