AMOCO

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

COOLING WATER - NO. 6 SEPARATOR EFFLUENT (TO LAKE)

	FLOW G/D (MM)	HEAT GIGA BTU/HR	OIL FREON mg/L	OIL FREON MLB/D	DELTA TOC PPM	TOC	pH	TEMP DEG C	RESID CL MG/L	FLOW G/D (MM)	DELTA OIL mg/L	IN-OIL FREON mg/L
NPDES												
DAILY AVG.		1.7	---		-		7-9			O+G		
DAILY MAX.		2.0	---		5		7-9			INST.	5	
1 W	106.4	0.80	<0.3	<0.27	0	3	8.1	34			-0.3	<0.3
2 T	106.7	1.00	--	--	0	3	--	38	--	--	--	--
3 F	106.8	1.00	<0.3	<0.27	1	4	8.0	38	--		-0.3	<0.3
4 S	108.3	1.08	--	--	--	--	--	38	--	--	--	--
5 S	108.2	1.08	--	--	--	--	--	39	--	--	--	--
6 M	108.3	1.01	<0.3	<0.27	0	3	8.5	39	--		-0.3	<0.3
7 T	108.5	1.02	--	--	0	3	--	39	--	--	--	--
8 W							--					--
AVG	107.6	1.00<	0.3<	0.27	0	3	8.2	38	0.00	0.0	-0.3<	0.3

-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

PROCESS WATER - ACTIVATED SLUDGE EFFLUENT TO LAKE

	FLOW G/D (MM)	HEAT GIGA BTU/HR	O I L FREON PPM	O I L FREON MLB/D	NH3-N PPM	NH3-N LB/D (M)	PHENOLS PPM	PHENOLS LB/D	BOD PPM	BOD LB/D (M)	COD PPM	pH	P
NPDES													
DAILY AVG.				1.37		1.03		20.3		4.16	243 *	6.5-9	
DAILY MAX.				2.60		2.06		73.0		8.16	468 *	6.5-9	
1 W	19.3	0.18	4.1	0.66	0.16	0.03	--	--	7.0	1.13	--	7.5	12
2 T	18.4	0.17	4.1	0.63	--	--	0.03	5			--	--	18
3 F	15.7	0.15	4.4	0.58	0.20	0.03	--	--	--	--	86	7.8	-
4 S	15.9	0.17	--	--	1.30	0.17	--	--	--	--	100	--	-
5 S	16.1	0.16	--	--	6.25	0.84	0.01	1			--	--	
6 M	16.4	0.15	2.4	0.33	7.22	0.99	--	--			--	7.2	10
7 T	15.8	0.14	1.9	0.25								--	
8 W							--	--			--		
AVG	16.8	0.16	3.4	0.49	3.03	0.41	0.02	3.00	7.0	1.13	93	7.5	13.

* LIMITS ARE BASED ON 15.0 MGD FLOW.
COD DAILY AVG = 30,323 #/D, DAILY MAX = 58,427 #/D.
SULFIDE DAILY AVG = 23.1 #/D, DAILY MAX = 51.5 #/D.
HEX CHROM DAILY AVG = 2.01 #/D, DAILY MAX = 4.48 #/D.
TOTAL CHROM DAILY AVG = 23.9 #/D, DAILY MAX = 68.5 #/D.
** LIMITED ONLY FROM APRIL 1 TO OCTOBER 31, ANNUALLY.
RESIDUAL CHLORINE MUST BE MONITORED WHEN CHLORINATING THIS STREAM.
-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

PROCESS WATER - ACTIVATED SLUDGE EFFLUENT TO LAKE

FLOW G/D (MM)	HEAT GIGA BTU/HR	T S S PPM	T S S LB/D (M)	ORTHO P PPM	SULF-IDE PPM	HEX CHROM PPM	TOTAL CHROM PPM	TEMP DEG C	FECAL** COLIF /100ML	FLOW G/D (MM)

NPDES											
DAILY AVG.				3.65		.18*	.016*	.19*		200	O+G
DAILY MAX.				5.69		.41*	.036*	.55*		400	INST.
1	W	19.3	0.18	12.8	2.06	--	--	0.000	<0.01	37	
2	T	18.4	0.17	18.0	2.76	--	--	--	--	38	
3	F	15.7	0.15	--	--	--	--	--	--	38	
4	S	15.9	0.17	--	--		--	--	--	39	-- --
5	S	16.1	0.16			0.53	--	--	--	39	-- --
6	M	16.4	0.15	10.0	1.37	--	0.11	--	--	39	
7	T	15.8	0.14				--	--	--	38	
8	W					--	--				
AVG		16.8	0.16	13.6	2.06	0.53	0.11	0.000	<<0.01	38	1 0.0

* LIMITS ARE BASED ON 15.0 MGD FLOW.
COD DAILY AVG = 30,323 #/D, DAILY MAX = 58,427 #/D.
SULFIDE DAILY AVG = 23.1 #/D, DAILY MAX = 51.5 #/D.
HEX CHROM DAILY AVG = 2.01 #/D, DAILY MAX = 4.48 #/D.
TOTAL CHROM DAILY AVG = 23.9 #/D, DAILY MAX = 68.5 #/D.
** LIMITED ONLY FROM APRIL 1 TO OCTOBER 31, ANNUALLY.
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WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

WASTE WATER TREATING TANKS - ALL VALUES PPM

	TK1 TSS	TK1 VSS	TK2 TSS	TK2 VSS	TK4 UNDERFLOW TSS	TK5 UNDERFLOW TSS
1 W						
2 T						
3 F	3300		2940			
4 S						
5 S						
6 M	3910		3000		9550	9720
7 T						
8 W						
AVG	3605	0	2970	0	9550	9720

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

PROCESS WATER - AIR FLOTATION UNIT EFFLUENT

	FLOW G/D (MM)	OIL HEXANE PPM	OIL HEXANE MLB/D	PHENOLS PPM	PHENOLS LB/D	COD PPM	TSS PPM	TSS LB/D MLB/D
1 W	23.3	57.0	11.1			--		
2 T	22.7	46.2	8.7			82		
3 F	19.7	19.7	3.2					
4 S	20.0							
5 S	20.0					284		
6 M	20.4					--	392	66.7
7 T	19.9					--		
8 W						--		
AVG	20.9	41.0	7.7	0.0	0	183	392	66.7

-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

PROCESS WATER - NO. 7 SEPARATOR EFFLUENT

	FLOW G/D (MM)	O I L HEXANE PPM	O I L HEXANE MLB/D	TOT NIT PPM	T S S PPM	T S S LB/D (M)
1 W	23.3	271	52.7		2660	516.9
2 T	22.7	156	29.5		203	38.4
3 F	19.7	145	23.8			
4 S	20.0	108	18.0			
5 S	20.0	133	22.2			
6 M	20.4	96	16.3		689	117.2
7 T	19.9	162	26.9			
8 W						
AVG	20.9	153	27.1	0.0	1184	224.2

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

INTAKE WATER

	FLOW G/D (MM)	O I L FREON PPM	O I L FREON MLB/D	TOC PPM	TEMP DEG C	RECYCL-STRMS FIRWTR MMG/D	RECYCL-STRMS CTMKUP MMG/D
1 W	129.7	<0.3	<0.32	3	22	4.1	0.0
2 T	129.4	--	--	3	23	4.2	0.0
3 F	126.5	<0.3	<0.32	3	23	4.1	0.0
4 S	128.3	--	--	--	22	4.1	0.0
5 S	128.2	--	--	--	23	4.1	0.0
6 M	128.7	<0.3	<0.32	3	24	4.0	0.0
7 T	128.4	--	--	3	24	4.1	0.0
8 W		--					
AVG	128.5<	0.3<	0.32	3	23	4.1	0.0

-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR SEPTEMBER 9/08/1999

STORM WATER RUNOFF - J & L AREA

	WEST DITCH - JL3 TOC PPM	WEST DITCH - JL3 OIL PPM	WEST DITCH - JL3 pH	EAST DITCH - JL4 TOC PPM	EAST DITCH - JL4 OIL PPM	EAST DITCH - JL4 pH
NPDES DLY MAX	110	15	6-9	110	15	6-9
1 W						
2 T						
3 F						
4 S						
5 S						
6 M						
7 T						
8 W						
AVG	0	0.0	0.0	0	0.0	0.0

WATER QUALITY DATA FOR AUGUST 9/08/1999

COOLING WATER - NO. 6 SEPARATOR EFFLUENT (TO LAKE)

	FLOW G/D (MM)	HEAT GIGA BTU/HR	OIL FREON mg/L	OIL FREON MLB/D	DELTA TOC PPM	TOC	pH	TEMP DEG C	RESID CL MG/L	FLOW G/D (MM)	DELTA OIL mg/L	IN-OIL FREON mg/L
NPDES												
DAILY AVG.		1.7	---		-		7-9			O+G		
DAILY MAX.		2.0	---		5		7-9			INST.	5	
1 S	108.8	1.02	--	--	--	--	--	40	--	--	--	--
2 M	108.6	0.95	<0.3	<0.27	-1	2	8.5	39	--		-0.3	<0.3
3 T	108.3	0.95	--	--	0	3	--	39	--	--	--	--
4 W	106.6	1.00	<0.3	<0.27	0	3	8.6	40			0.0	<0.3
5 T	106.7	0.93	--	--	0	3	--	39	--	--	--	--
6 F	106.8	0.93	<0.3	<0.27	0	3	8.6	39	--		-0.2	<0.3
7 S	107.3	0.94	--	--	--	--	--	39	--	--	--	--
8 S	107.0	0.94	--	--	--	--	--	39	--	--	--	--
9 M	107.0	0.94	0.5	0.45	0	3	8.5	38	--		0.2	<0.3
10 T	107.4	1.01	--	--	0	3	--	38	--	--	--	--
11 W	107.8	1.01	<0.3	<0.27	0	3	8.3	38			0.0	<0.3
12 T	107.9	1.08	--	--	1	3	--	39	--	--	--	--
13 F	107.6	1.01	0.4	0.36	1	3	8.3	39	--		0.1	<0.3
14 S	107.4	1.07	--	--	--	--	--	39	--	--	--	--
15 S	107.4	1.01	--	--	--	--	--	38	--	--	--	--
16 M	107.6	1.08	<0.3	<0.27	0	3	8.3	38	--		-0.3	<0.3
17 T	107.4	1.01	--	--	0	3	--	38	--	--	--	--
18 W	107.1	1.07	<0.3	<0.27	0	3	8.3	39			-0.3	<0.3
19 T	107.0	1.00	--	--	0	3	--	38	--	--	--	--
20 F	107.3	1.01	<0.3	<0.27	0	3	8.3	38	--		-0.3	<0.3
21 S	107.3	1.07	--	--	--	--	--	39	--	--	--	--
22 S	107.4	1.07	--	--	--	--	--	39	--	--	--	--
23 M	107.4	1.07	<0.3	<0.27	0	3	8.3	39	--		-0.1	<0.3
24 T	107.5	1.01	--	--	0	3	--	38	--	--	--	--
25 W	107.7	1.08	<0.3	<0.27	0	3	8.2	39			-0.1	<0.3
26 T	108.8	1.09	--	--	0	3	--	39	--	--	--	--
27 F	109.7	1.10	<0.3	<0.27	0	3	8.2	39	--		-0.1	<0.3
28 S	109.3	1.09	--	--	--	--	--	39	--	--	--	--
29 S	107.5	1.07	--	--	--	--	--	39	--	--	--	--
30 M	106.0	0.99	<0.3	<0.27	1	4	8.3	39	--		-0.3	<0.3
31 T	106.2	1.00	--	--	1	4	--	38	--	--	--	--
AVG	107.5	1.02<	0.3<	0.29	0	3	8.4	39	0.00	0.0	-0.1<	0.3

-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR AUGUST 9/08/1999

PROCESS WATER - ACTIVATED SLUDGE EFFLUENT TO LAKE

	FLOW G/D (MM)	HEAT GIGA BTU/HR	OIL FREON PPM	OIL FREON MLB/D	NH3-N PPM	NH3-N LB/D (M)	PHENOLS PPM	PHENOLS LB/D	BOD PPM	BOD LB/D (M)	COD PPM	pH	P
NPDES													
DAILY AVG.				1.37		1.03		20.3		4.16	243 *	6.5-9	
DAILY MAX.				2.60		2.06		73.0		8.16	468 *	6.5-9	
1 S	18.4	0.17	--	--	--	--	<0.01	0	8.2	1.26	--	--	14
2 M	19.5	0.18	2.5	0.41	3.17	0.52	--	--	7.7	1.25	--	7.5	17
3 T	19.6	0.18	2.5	0.41	3.97	0.65	<0.01	0	9.3	1.52	62	--	16
4 W	19.5	0.17	3.3	0.54	6.20	1.01	--	--	9.5	1.54	--	7.5	20
5 T	18.7	0.16	3.0	0.47	--	--	0.01	2	11.0	1.72	--	--	15
6 F	18.8	0.18	1.9	0.30	4.30	0.67	--	--	--	--	58	7.5	-
7 S	18.3	0.16	--	--	3.83	0.58	--	--	--	--	65	--	-

8	S	18.0	0.16	--	--	--	--	<0.01	0	5.9	0.89	--	--	12
9	M	17.2	0.16	1.6	0.23	7.16	1.03	--	--	3.8	0.55	--	7.6	6
10	T	16.0	0.15	1.2	0.16	6.14	0.82	<0.01	0	3.1	0.41	45	--	4
11	W	17.9	0.18	1.2	0.18	5.88	0.88	--	--	3.6	0.54	--	7.6	5
12	T	19.7	0.20	1.2	0.20	--	--	0.01	2	5.0	0.82	--	--	7
13	F	18.1	0.16	2.1	0.32	7.80	1.18	--	--	--	--	64	7.5	-
14	S	18.3	0.18	--	--	5.63	0.86	--	--	--	--	51	--	-
15	S	17.1	0.16	--	--	--	--	0.01	1	5.2	0.74	--	--	8
16	M	16.7	0.17	1.4	0.19	2.75	0.38	--	--	4.7	0.65	--	7.5	6
17	T	19.2	0.18	1.8	0.29	2.55	0.41	0.01	2	5.4	0.86	64	--	9
18	W	17.6	0.16	2.5	0.37	3.26	0.48	--	--	6.7	0.98	--	7.5	8
19	T	19.0	0.17	2.2	0.35	--	--	0.01	2	8.5	1.35	--	--	10
20	F	17.6	0.15	1.8	0.26	6.75	0.99	--	--	--	--	74	7.6	-
21	S	23.7	0.19	--	--	2.62	0.52	--	--	--	--	76	--	-
22	S	18.5	0.16	--	--	--	--	0.02	3	7.5	1.16	--	--	8
23	M	18.9	0.15	2.9	0.46	4.75	0.75	--	--	9.2	1.45	--	7.6	8
24	T	18.4	0.15	3.0	0.46	4.36	0.67	0.02	3	9.2	1.41	81	--	9
25	W	20.5	0.17	2.6	0.44	4.28	0.73	--	--	8.0	1.37	--	7.5	7
26	T	18.1	0.15	2.3	0.35	--	--	0.01	2	6.9	1.04	--	--	7
27	F	17.3	0.15	2.3	0.33	4.54	0.66	--	--	--	--	74	7.5	-
28	S	16.2	0.14	--	--	1.35	0.18	--	--	--	--	98	--	-
29	S	17.5	0.15	--	--	--	--	0.01	1	6.9	1.01	--	--	13
30	M	17.0	0.15	2.1	0.30	0.28	0.04	--	--	7.3	1.03	--	7.5	17
31	T	17.9	0.16	3.1	0.46	0.15	0.02	0.01	1	7.0	1.05	89	--	16
AVG		18.4	0.16	2.2	0.34	4.17	0.64<	0.01	1.36	6.9	1.07	69	7.5	10.

* LIMITS ARE BASED ON 15.0 MGD FLOW.
COD DAILY AVG = 30,323 #/D, DAILY MAX = 58,427 #/D.
SULFIDE DAILY AVG = 23.1 #/D, DAILY MAX = 51.5 #/D.
HEX CHROM DAILY AVG = 2.01 #/D, DAILY MAX = 4.48 #/D.
TOTAL CHROM DAILY AVG = 23.9 #/D, DAILY MAX = 68.5 #/D.
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WATER QUALITY DATA FOR AUGUST 9/08/1999

PROCESS WATER - ACTIVATED SLUDGE EFFLUENT TO LAKE

		FLOW G/D (MM)	HEAT GIGA BTU/HR	T S S PPM	T S S LB/D (M)	ORTHO P PPM	SULF-IDE PPM	HEX CHROM PPM	TOTAL CHROM PPM	TEMP DEG C	FECAL** COLIF /100ML	FLOW G/D (MM)
NPDES												
DAILY AVG.					3.65		.18*	.016*	.19*		200	O+G
DAILY MAX.					5.69		.41*	.036*	.55*		400	INST.
1	S	18.4	0.17	14.4	2.21	0.54	--	--	--	40	--	--
2	M	19.5	0.18	17.6	2.86	--	0.06	--	--	40		
3	T	19.6	0.18	16.0	2.62		--	--	--	40		
4	W	19.5	0.17	20.0	3.25	--	--	0.000	<0.01	39		
5	T	18.7	0.16	15.2	2.37	0.38	--	--	--	39		
6	F	18.8	0.18	--	--	--	--	--	--	40		
7	S	18.3	0.16	--	--		--	--	--	39	--	--
8	S	18.0	0.16	12.8	1.92	0.42	--	--	--	39	--	--
9	M	17.2	0.16	6.4	0.92	--	0.04	--	--	39		
10	T	16.0	0.15	4.8	0.64		--	--	--	38		
11	W	17.9	0.18	5.2	0.78	--	--	0.000	<0.10	39		
12	T	19.7	0.20	7.2	1.18	0.41	--	--	--	39		
13	F	18.1	0.16	--	--	--	--	--	--	38		
14	S	18.3	0.18	--	--		--	--	--	39	--	--
15	S	17.1	0.16	8.0	1.14	0.30	--	--	--	38	--	--
16	M	16.7	0.17	6.4	0.89	--	0.06	--	--	38		
17	T	19.2	0.18	9.2	1.47		--	--	--	38		

18	W	17.6	0.16	8.8	1.29	--	--	0.000	<0.01	38		
19	T	19.0	0.17	10.4	1.65	0.08	--	--	--	37		
20	F	17.6	0.15	--	--	--	--	--	--	37		
21	S	23.7	0.19	--	--		--	--	--	36	--	--
22	S	18.5	0.16	8.0	1.23	0.03	--	--	--	37	--	--
23	M	18.9	0.15	8.4	1.32	--	0.06	--	--	36		
24	T	18.4	0.15	9.2	1.41		--	--	--	36		
25	W	20.5	0.17	7.2	1.23	--	--	0.000	<0.01	36		
26	T	18.1	0.15	7.2	1.09	0.03	--	--	--	36		
27	F	17.3	0.15	--	--	--	--	--	--	37		
28	S	16.2	0.14	--	--		--	--	--	37	--	--
29	S	17.5	0.15	13.2	1.93	0.26	--	--	--	37	--	--
30	M	17.0	0.15	17.2	2.44	--	0.11	--	--	38		
31	T	17.9	0.16	16.0	2.39		--	--	--	37		
AVG		18.4	0.16	10.8	1.66	0.27	0.07	0.000	<<0.03	38	1	0.0

* LIMITS ARE BASED ON 15.0 MGD FLOW.
COD DAILY AVG = 30,323 #/D, DAILY MAX = 58,427 #/D.
SULFIDE DAILY AVG = 23.1 #/D, DAILY MAX = 51.5 #/D.
HEX CHROM DAILY AVG = 2.01 #/D, DAILY MAX = 4.48 #/D.
TOTAL CHROM DAILY AVG = 23.9 #/D, DAILY MAX = 68.5 #/D.
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WATER QUALITY DATA FOR AUGUST 9/08/1999

WASTE WATER TREATING TANKS - ALL VALUES PPM

		TK1 TSS	TK1 VSS	TK2 TSS	TK2 VSS	TK4 UNDERFLOW TSS	TK5 TSS
1	S						
2	M	2390		2740		8340	6950
3	T						
4	W						
5	T						
6	F	2800		2850			
7	S						
8	S						
9	M	2710		3050		7080	6760
10	T						
11	W						
12	T						
13	F	2570		2590			
14	S						
15	S						
16	M	2550		3590		5830	5410
17	T						
18	W						
19	T						
20	F	2660		3200			
21	S						
22	S						
23	M	2720		2450		9070	7770
24	T						
25	W						
26	T						
27	F	3270		3480			
28	S						
29	S						
30	M	3200		3350		8920	8450
31	T						

AVG 2763 0 3033 0 7848 7068

WATER QUALITY DATA FOR AUGUST 9/08/1999

PROCESS WATER - AIR FLOTATION UNIT EFFLUENT

	FLOW G/D (MM)	OIL HEXANE PPM	OIL HEXANE MLB/D	PHENOLS LB/D PPM	COD PPM	TSS PPM	TSS LB/D MLB/D
1 S	22.5				94		
2 M	23.8	22.8	4.5		--	1320	262.0
3 T	23.9	19.8	3.9		130		
4 W	23.7	43.9	8.7		--		
5 T	23.0	24.2	4.6		110		
6 F	23.0	19.4	3.7				
7 S	22.6						
8 S	22.3				125		
9 M	21.1	25.6	4.5		--	310	54.6
10 T	19.9	24.3	4.0		98		
11 W	21.9	32.9	6.0		--		
12 T	23.6	25.9	5.1		108		
13 F	21.9	42.9	7.8				
14 S	22.1						
15 S	20.8				99		
16 M	20.5	49.2	8.4		--	1650	282.1
17 T	22.5	58.6	11.0		111		
18 W	20.1	110.7	18.6		--		
19 T	22.0	47.0	8.6		147		
20 F	21.1	43.6	7.7				
21 S	26.6						
22 S	21.4				152		
23 M	21.6	72.1	13.0		--	6580	1185
24 T	21.9	239.1	43.7		129		
25 W	24.3	101.5	20.6		--		
26 T	21.9	76.3	13.9		133		
27 F	21.0	60.6	10.6				
28 S	19.9						
29 S	21.2				122		
30 M	20.7	173.9	30.0		--	1570	271.0
31 T	21.5	35.7	6.4		109		
AVG	22.1	61.4	11.1	0.0 0	119	2286	410.9

-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR AUGUST 9/08/1999

PROCESS WATER - NO. 7 SEPARATOR EFFLUENT

	FLOW G/D (MM)	OIL HEXANE PPM	OIL HEXANE MLB/D	TOT NIT PPM	TSS PPM	TSS LB/D (M)
1 S	22.5	101	19.0		354	66.4
2 M	23.8	264	52.4		192	38.1
3 T	23.9	74	14.8		306	61.0
4 W	23.7	122	24.1		406	80.2
5 T	23.0	87	16.7		276	52.9
6 F	23.0	151	29.0		282	54.1
7 S	22.6	149	28.1		434	81.8
8 S	22.3	86	16.0		356	66.2
9 M	21.1	142	25.0		418	73.6
10 T	19.9	299	49.6		1308	217.1

11	W	21.9	235	42.9		718	131.1
12	T	23.6	161	31.7		772	151.9
13	F	21.9	186	34.0		674	123.1
14	S	22.1	140	25.8		382	70.4
15	S	20.8	120	20.8		610	105.8
16	M	20.5	144	24.6		546	93.3
17	T	22.5	169	31.7		482	90.4
18	W	20.1	151	25.3		396	66.4
19	T	22.0	650	119.3		1090	200.0
20	F	21.1	136	23.9		722	127.1
21	S	26.6	189	41.9		880	195.2
22	S	21.4	218	38.9		452	80.7
23	M	21.6	193	34.8		1042	187.7
24	T	21.9	311	56.8		618	112.9
25	W	24.3	113	22.9		486	98.5
26	T	21.9	201	36.7		476	86.9
27	F	21.0	162	28.4		990	173.4
28	S	19.9	119	19.7		196	32.5
29	S	21.2	147	26.0		322	56.9
30	M	20.7	243	42.0		406	70.1
31	T	21.5	155	27.8		904	162.1
AVG		22.1	181	33.2	0.0	564	103.5

WATER QUALITY DATA FOR AUGUST 9/08/1999

INTAKE WATER

		FLOW G/D (MM)	O I L FREON PPM	O I L FREON MLB/D	TOC PPM	TEMP DEG C	RECYCL-STRMS FIRWTR MMG/D	RECYCL-STRMS CTMKUP MMG/D
1	S	131.3	--	--	--	25	4.4	0.0
2	M	132.4	<0.3	<0.33	3	25	4.4	0.0
3	T	132.2	--	--	3	25	4.3	0.0
4	W	130.3	<0.3	<0.33	3	25	4.4	0.0
5	T	129.7	--	--	3	25	4.5	0.0
6	F	129.8	<0.3	<0.32	3	25	4.4	0.0
7	S	129.9	--	--	--	25	4.4	0.0
8	S	129.3	--	--	--	25	4.4	0.0
9	M	128.1	<0.3	<0.32	3	24	4.1	0.0
10	T	127.3	--	--	3	23	4.0	0.0
11	W	129.7	<0.3	<0.32	3	23	4.1	0.0
12	T	131.5	--	--	2	23	4.1	0.0
13	F	129.5	<0.3	<0.32	2	24	4.0	0.0
14	S	129.5	--	--	--	23	3.9	0.0
15	S	128.2	--	--	--	23	3.9	0.0
16	M	128.1	<0.3	<0.32	3	22	4.1	0.0
17	T	129.9	--	--	3	23	3.4	0.0
18	W	127.2	<0.3	<0.32	3	23	2.6	0.0
19	T	129.0	--	--	3	23	3.1	0.0
20	F	128.4	<0.3	<0.32	3	23	3.5	0.0
21	S	133.9	--	--	--	23	2.5	0.0
22	S	128.8	--	--	--	23	2.5	0.0
23	M	129.0	<0.3	<0.32	3	23	2.5	0.0
24	T	129.4	--	--	3	23	2.9	0.0
25	W	132.0	<0.3	<0.33	3	23	3.3	0.0
26	T	130.7	--	--	3	23	3.3	0.0
27	F	130.7	<0.3	<0.33	3	23	3.3	0.0
28	S	129.2	--	--	--	23	3.3	0.0
29	S	128.7	--	--	--	23	3.4	0.0
30	M	126.7	<0.3	<0.32	3	24	3.5	0.0
31	T	127.7	--	--	3	23	3.6	0.0
AVG		129.6<	0.3<	0.32	3	24	3.7	0.0

-- MEANS NOT TESTED THIS DATE.

WATER QUALITY DATA FOR AUGUST

9/08/1999

STORM WATER RUNOFF - J & L AREA

		WEST DITCH - JL3			EAST DITCH - JL4		
		TOC PPM	OIL PPM	pH	TOC PPM	OIL PPM	pH
NPDES DLY MAX		110	15	6-9	110	15	6-9
1	S						
2	M						
3	T						
4	W						
5	T						
6	F						
7	S						
8	S						
9	M						
10	T						
11	W						
12	T						
13	F						
14	S						
15	S						
16	M						
17	T						
18	W						
19	T				39	1.1	8.2
20	F						
21	S						
22	S						
23	M						
24	T						
25	W						
26	T						
27	F						
28	S						
29	S						
30	M						
31	T						
AVG		0	0.0	0.0	39	1.1	8.2

Date 9-1-99 Unit Supervisor MJH OSC [illegible]

FLOW MEASUREMENT CALCULATION Outfall 001

Flows(MM gal/day)

		ETL Calculation	Computer Totalizer	Chart
1. AFU Flow			19.9	20.43
2. Firewater Recycle Flow (FWR)		-	4.1	4.2
3. Cooling Water Return Flow (CWR)		-	0	0
4. Backwash Flow → #1 DAF		-	.5	—
5. 6001 Tank Effluent Scrubber from incinerator		+	.56	—
6. Calculated ETL Flow 001	Estimated		15.9	—
7. No. 6 Seperator Flow			108.[illegible]	101.25

Totalizer ETL Flow 15.8 001

Temperatures

8. Intake 75.2 deg. F.
9. No. 6 Separator 002 39 deg. C.
10. ETL 001 38.3 deg. C.

Recovered Oil Data

11. No. 7 Separator Emulsion Recovery 0 barrels
12. DGO Pumped 0 barrels

FBI Feed Rates

13. DAF/API Sludge 54.45 GPM
14. Reclaimer Amine 0 GPM
15. #2 Fuel Oil 96 GPM

NPDES Flow Meter Status

Malfunction: Yes/No Maintanance: Yes/No Calibration: Yes/No

Comments:

Computer Data Entry

Computer Data Entry Completed Comments

By OSC [illegible]

Compositors/ No. 6 Separator Grab Sample Status

ETL Compositor: Operational: Yes/No
Date out of service —
Environmental Notified: Yes/No
ETL Hand sampling required Yes/No
U-1091 Completed: Yes/No
Refridgerator Temperature: 36

ETL Phenol Compositor: Operational: Yes/No
Date out of service —
Environmental Notified: Yes/No
ETL Hand sampling required Yes/No
U-1091 Completed: Yes/No
Refridgerator Temperature: 36

No. 6 Sep. Sample Pump Operational: Yes/No
Grab Sample Dipped: Yes/No

Comments:

Distribution Daily: Unit Engineer

Rev. 1/99

FORM U-302

5-47 W. French main pump Page 1 No power

Date 6/17, 18, 25/99

AMOCO FLOW MEASUREMENT CALIBRATION

LAKEFRONT QUARTERLY NPDES METER CALIBRATION CHECK SHEET AND RECORD FOR PERMITTED OUTFALLS 001 AND 002

1. ETL Flow Loop

Input	Expected Output	Actual Output	% Difference	% Change Made

Comments DISCONTINUED

Checked out by _____

2. No. 6 Separator Flow Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
0	4 mA	4 mA	0	0
7.16"	20 mA	20 mA	0	0

Comments _____

Checked out by J Espinoza

3. Effluent Recycle to Cooling Towers Flow Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
0	3 PSI	4.5 psi	1.5 psi	1.5 psi
11.6"	15 psi	15 psi	0	0

Comments reserved transmitter

Checked out by J Espinoza

4. Effluent Recycle to Firewater System Flow Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
0	4 mA	4 mA	0	0
200"	20 mA	20 mA	0	0

Comments _____

Checked out by J Espinoza

5. Air Flotation Unit Effluent Flow Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
0	4 mA	4 mA	∅	∅
41"	20 mA	20 mA	∅	∅

Comments _____

Checked out by J Espinoza

6. ETL Temperature Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
32°	3 psi	3 psi	∅	∅
122°	15 psi	15 psi	∅	∅

Comments _____

Checked out by J Espinoza

7. No. 6 Separator Effluent Temperature Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
32°	3 psi	3 psi	∅	∅
122°	15 psi	15 psi	∅	∅

Comments _____

Checked out by J Espinoza

8. Intake Temperature Loop

Input	Expected Output	Actual Output	% Difference	% Change Made
32°	3 psi	2 psi	1 psi	1 psi
100°	15 psi	15 psi	∅	∅

Comments rezeroed transmitter

Checked out by J Espinoza

Instructions:

1. All above instruments are to be checked for calibration a minimum of once quarterly. Calibration shall be conducted as near to the first of the month of each new quarter as practical.

2. If no adjustments are needed, write "none needed". If any adjustments or repairs are needed, give written description.

3. After loops are checked, the Instrument man will sign off and date.

4. Completed form will be promptly sent to Reclamation Superintendent.

5. This form shall also be completed any time a meter must be checked prior to the required date or at any time repairs are made on any of the above loops.

CALIBRATION

Pneumatic Flow Transmitter

1. Zero and span checked.
2. Input signal - pressure regulator with Ashcroft precision test gauge.
3. Output signal - Ashcroft precision test gauge.
4. Flapper nozzle cleaned.

Electronic Flow Transmitter

1. Zero and span checked.
2. Input signal - pressure regulator with Ashcroft precision test gauge.
3. Output signal - Transmation digital calibrator.

Chart Recorders - Electronic

1. Zero and span checked.
2. Input signal - Transmation digital calibrator.

Chart Recorders - Pneumatic

1. Zero and span checked.
2. Input signal - pressure regulator with Ashcroft precision test gauge.

Integrator

1. Input signal - Transmation digital calibrator, analog stop watch.

Annubars, tap lines - blown down at each quarterly calibration. Annubar steamed out if necessary.

Temperature Transmitters

1. Dip-type mercury thermometer used to verify temperature.
2. Transmitter output read with Ashcroft precision test gauge.

All calibration equipment is tested quarterly by the Utilities I/E shop.

Equipment used: Meriam mercury manometer 1/16 psi subd.
Heise 0-500" H_2O test gauge 1/2 subd.
Ametek Modcal calibrator
Beckman digital multimeter
Hewlett-Packard multimeter

GTC/JJR/NAS/eg
D.2007

7/29/93

FORM U-302

ATTACHMENT

Name J Espinoza Date 6/25/99

6001 TANK WATER FLOW METERS

The flow meters which measure 6001 tank water flow (listed below) will be removed, cleaned, and zeroed annually during the fall FBI TAR.

Other visual checks will be conducted quarterly to verify normal operation.

Flow Meter	Description	Quarterly	Yearly
FT-4271	Seal water flow	✓	
F-4215	Stack Vein Wash Water	✓	
F-4723	DW-3 Press Belt Wash Water	✓	

Comments

NAS/eg
D.2007

7/29/93

STATE OF ILLINOIS

ENVIRONMENTAL PROTECTION AGENCY DIVISION OF LAND POLLUTION CONTROL

P OX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

PLEASE TYPE (Form designed for use on elite (12 pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: IND000810861 — Manifest Document No.: 98161

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different

Amoco Oil Company (Return to: MANIFEST, MC 242)
Lakefront: 2815 Indianapolis Blvd., Whiting, IN 46394

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (219) 473-3361**

A. Illinois Manifest Document Number: IL 7567241 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: 9 1 8 0 0 1 9 9 9 9

5. Transporter 1 Company Name: Clean Harbors Env. Services, Inc.

6. US EPA ID Number: MAD039322250

C. Illinois Transporter's ID: 1 4 7 8

D. (781) 849-1800 Transporter's Phone

7. Transporter 2 Company Name

8. US EPA ID Number

E. Illinois Transporter's ID

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address

Clean Harbors Services, Incorporated
11800 South Stony Island Avenue
Chicago, IL 60617

10. US EPA ID Number: ILD000608471

G. Illinois Facility's ID: 0 3 1 6 0 0 0 0 5 1

H. Facility's Phone: (773) 646-6202

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WWTF- Grit + Bar screen waste RQ, Hazardous Waste, Solid, N.O.S., 9, NA3077, PG III (F037, F038)	0 0 1	C M	0 0 0 1 2	Y	EPA HW Number: X X F 0 3 7 Authorization Number: 0 0 0 2 8 4
b.					EPA HW Number: X X Authorization Number
c.					EPA HW Number: X X Authorization Number
d.					EPA HW Number: X X Authorization Number

J. Additional Description for Materials Listed Above

*Ia. F037, F038
Profile #CH010115

K. Handling Codes for Wastes Listed Above In Item #14

Y

15. Special Handling Instructions and Additional Information

**24-hour emergency response telephone number: (219) 473-3361 (Gate 36); ask to contact "on-call environmental support." See attached NA emergency response guide #171.

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, and disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR,** if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: RICHARD A. HARRIS — Signature: [signature] — Date (Month Day Year): 04 27 99

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: JOAQUIN GARCIA — Signature: [signature] — Date (Month Day Year): 04 27 99

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: JESSE BREWALD — Signature: [signature] — Date (Month Day Year): 04 27 99

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

In case of a spill call the Illinois Office of Emergency Response at 217 / 782-7860 and the National Response Center at 800 / 424-8802 or 202 / 426-2675.

1245870

COPY 1 TSD MAIL TO GENERATOR

CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
LAND DISPOSAL RESTRICTION NOTIFICATION FORM LDR-1

Manifest No. IL 756 7241

THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268 AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(A)(1), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS -- COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.
Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).
Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.
Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.
Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:

1 = The waste is a characteristic hazardous waste D001, D002, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.

1A = The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGS) or combustion (CMBST) technology. UHC's are NOT required to be identified.

2 = The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. Or, the waste is a D003 Explosive, Water Reactive or Other Reactive subcategory (regardless of whether intended for CWA or non-CWA treatment). All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGS) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.

3 = The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.

4 = The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(1)(iv)(A): (1) "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45"; and (2) the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Sections III and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.

5 = The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D004-11, a characteristic waste D012-17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.

6 = The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	[ ] D001 Ignitables, except High TOC subcategory	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	[ ] Non-WW only	1A 3 6
_____	[ ] D002 Corrosives	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D003		
	[ ] Reactive Sulfide, per 261.23(a)(5)	[ ] WW [ ] Non-WW	3 4 5 6
	[ ] Reactive Cyanide, per 261.23(a)(5)	[ ] WW [ ] Non-WW	3 4 5 6
	[ ] Explosive, per 261.23(a)(6), (7) & (8)	[ ] WW [ ] Non-WW	2 3 4 6
	[ ] Water Reactive, per 261.23(a)(2), (3) & (4)	[ ] Non-WW only	2 3 4 6
	[ ] Other Reactive, per 261.23(a)(1)	[ ] WW [ ] Non-WW	2 3 4 6
	[ ] Unexploded Ordnance, Emergency Response	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D004 Arsenic	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D005 Barium	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D006		
	[ ] Cadmium	[ ] Non-WW only	3 5 6
	[ ] Cadmium Containing Batteries	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D007 Chromium	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D008		
	[ ] Lead	[ ] Non-WW only	3 5 6
	[ ] Lead Acid Batteries		

CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
LAND DISPOSAL RESTRICTION NOTIFICATION FORM LDR-1

Manifest No. IL7567241

SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / NAME	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	[ ] D009		
	[ ] Low Mercury, less than 260 mg/kg Mercury	[ ] WW [ ] Non-WW	3 4 5
	[ ] High Mercury Organic Subcategory	[ ] Non-WW only	3 4 5
	[ ] High Mercury Inorganic Subcategory	[ ] Non-WW only	3 4 5
_____	[ ] D010 Selenium	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D011 Silver	[ ] WW [ ] Non-WW	3 4 5 6
_____	[ ] D012 Endrin	[ ] WW [ ] Non-WW	2 3 4 5 6
_____	[ ] D013 Lindane	[ ] WW [ ] Non-WW	2 3 4 5 6
_____	[ ] D014 Methoxychlor	[ ] WW [ ] Non-WW	2 3 4 5 6
_____	[ ] D015 Toxaphene	[ ] WW [ ] Non-WW	2 3 4 5 6
_____	[ ] D016 2,4-D	[ ] WW [ ] Non-WW	2 3 4 5 6
_____	[ ] D017 2,4,5-TP (Silvex)	[ ] WW [ ] Non-WW	2 3 4 5 6
_____	[ ] D018 Benzene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D019 Carbon tetrachloride	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D020 Chlordane	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D021 Chlorobenzene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D022 Chloroform	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D023 o-Cresol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D024 m-Cresol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D025 p-Cresol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D026 Cresol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D027 1,4-Dichlorobenzene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D028 1,2-Dichloroethane	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D029 1,1-Dichloroethylene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D030 2,4-Dinitrotoluene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D031 Heptachlor (and its epoxide)	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D032 Hexachlorobenzene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D033 Hexachlorobutadiene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D034 Hexachloroethane	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D035 Methyl ethyl ketone	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D036 Nitrobenzene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D037 Pentachlorophenol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D038 Pyridine	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D039 Tetrachloroethylene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D040 Trichloroethylene	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D041 2,4,5-Trichlorophenol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D042 2,4,6-Trichlorophenol	[ ] WW [ ] Non-WW	1 2 3 4 6
_____	[ ] D043 Vinyl Chloride	[ ] WW [ ] Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / CONSTITUENTS	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	[ ] F001 [ ] F002 [ ] F003 [ ] F004 [ ] F005	[ ] WW [ ] Non-WW	3 4 5 6

_____ [ ] 1. ALL F001-F005
_____ [ ] 2. Acetone
_____ [ ] 3. Benzene
_____ [ ] 4. n-Butyl alcohol
_____ [ ] 5. Carbon disulfide
_____ [ ] 6. Carbon tetrachloride
_____ [ ] 7. Chlorobenzene
_____ [ ] 8. o-Cresol
_____ [ ] 9. m-Cresol (difficult to distinguish from p-cresol)
_____ [ ] 10. p-Cresol (difficult to distinguish from m-cresol)
_____ [ ] 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)
_____ [ ] 12. Cyclohexanone
_____ [ ] 13. o-Dichlorobenzene
_____ [ ] 14. 2-Ethoxyethanol (F005 only)
_____ [ ] 15. Ethyl acetate
_____ [ ] 16. Ethyl benzene
_____ [ ] 17. Ethyl ether
_____ [ ] 18. Isobutyl alcohol
_____ [ ] 19. Methanol
_____ [ ] 20. Methylene chloride
_____ [ ] 21. Methyl ethyl ketone
_____ [ ] 22. Methyl isobutyl ketone
_____ [ ] 23. Nitrobenzene
_____ [ ] 24. 2-Nitropropane (F005 only)
_____ [ ] 25. Pyridine
_____ [ ] 26. Tetrachloroethylene
_____ [ ] 27. Toluene
_____ [ ] 28. 1,1,1-Trichloroethane
_____ [ ] 29. 1,1,2-Trichloroethane
_____ [ ] 30. Trichloroethylene
_____ [ ] 31. 1,1,2-Trichloro-1,2,2-trifluoroethane
_____ [ ] 32. Trichloromonofluoromethane
_____ [ ] 33. Xylene - mixed isomers (sum of o-, m-, and p-xylene)

CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
LAND DISPOSAL RESTRICTION NOTIFICATION FORM LDR-1

Manifest No. IL7567241

SECTION III. CALIFORNIA LIST WASTES

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
_____	Hazardous waste containing one or more of the following California List constituents:	[ ] WW [ ] Non-WW	1 2 3 4 5 6

[ ] ALL CALIFORNIA LIST CONSTITUENTS
[ ] Liquids with nickel greater than or equal to 134 mg/l
[ ] Liquids with thallium greater than or equal to 130 mg/l
[ ] Liquids with PCB's > or = 50 ppm
[ ] Waste containing HOC's > or = 1,000 mg/kg

SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
11a	F037	[ ] WW [X] Non-WW	3 4 (5) 6
11a	F038	[ ] WW [X] Non-WW	3 4 (5) 6
		[ ] WW [ ] Non-WW	3 4 5 6
		[ ] WW [ ] Non-WW	3 4 5 6
		[ ] WW [ ] Non-WW	3 4 5 6

[ ] CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
[ ] CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR-1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

SECTION V. CONTACT NAME AND DATE

Print Name: Richard A. Harris Date: 4-27-99

KEY TERMS/DEFINITIONS

CLASS I SDWA SYSTEM means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

CWA SYSTEM means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

CWA-EQUIVALENT SYSTEM means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 268.40, such wastes must be treated using organic recovery (RORGS) or combustion (CMBST) technology. Examples of RORGS technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

WASTEWATERS are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 268.2(f)]

State Form 47989(R/4-97)

IDEM	INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER MANAGEMENT **NPDES Facility Inspection Report**	100 NORTH SENATE AVENUE P. O. BOX 6015 INDIANAPOLIS, IN 46206-6015

NPDES PERMIT #:	YR/MO/DAY:	INSPECTION TYPE:	INSPECTOR:	FACILITY TYPE CODE:
IN0000108	98/9/15	CED	S	☐1 ☒2 ☐3 ☐4 ☒Major ☐Minor ☐Municipality ☒Industry ☐Semi-Public ☐State

OVERALL FACILITY EVALUATION RATING:	COMPLIANCE STATUS:
5	☐ Non-Compliance ☒ Compliance

Name and Location of Facility Inspected:	Receiving Waters/~~POTW~~:	Permit Effective Date:
Amoco Oil Co 2815 Indianapolis Blvd Town/City: Whiting County: Lake	Lake Michigan Entry Time: 930A Exit Time: 1430P	3-1-90 Permit Expiration Date: 2-28-95
Name(s) of On-Site Representatives:	**Title(s):**	**Phone:**
Mark Webster Pete Barenio	Environ. Affairs Engineers	Phone: 219-473-7740 Fax: 219-473-5379 Phone: ( ) Fax: ( )
Certified Operator:	**Number:**	☒ Full Time ☐ Part Time (Hours per week: 40+)
George Cook	Number: 5404 Class: D Exp:	
Name, Address of Responsible Official:	**Title:**	**Phone:**
Don Welson	Plant mgr Contacted: ☐ Yes ☒ No	Phone: ( ) Fax: ( )

Areas Evaluated During Inspection
(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Evaluated, N/A=Not Applicable)

S	Effluent	S	Facility Site Review	S	Flow Measurement	N	Pretreatment
S	Receiving Waters	S	Operation & Maintenance	M	Laboratory		Other:
S	Permit	N/A	CSO/SSO (Sewer Overflow)	S	Self-Monitoring Program		
N	Compliance Schedules	S	Sludge Disposal Special Waste	S	Records/Reports		

COMMENTS:
Effluent outfall 002 - Non-contact cooling water is clear & colorless
Effluent outfall 001 - Treated Process Waste Water is slightly Turbid & colorless

see INDUSTRIAL WWT Facility Rept & Flow schem of WWTP

Name(s) and Signature(s) of Inspector(s):	Date:	Office/Telephone:
Nick Ream	9/15/98	219 881 5760
Received By:	**Date:**	**Referred to:**
Section Chief:	**Date:**	**For:**
	10/9/98	☐ Follow-up ☐ Enforcement ☒ NPDES ☐ Other

DISTRIBUTION: White - Public File; Canary - Site Copy; Pink - Inspector; Goldenrod - Supervisor

State Form 35969 (R3/10-97)

IDEM	NPDES Facility Inspection Report **Industrial Wastewater Facility**	PAGE 1 OF 1

NPDES PERMIT #:	FACILITY:	CITY:	YR/MO/DAY:
IN0000108	Amoco Oil Co	Whiting	98/9/15

FACILITY DESCRIPTION: Oil Refinery

Outfall	Water Use	Treatment	Avg Discharge/Flow	Appearance/Violations
002	Non-contact cooling water	None/settling	110.0 mgD High 113.4 mgD	Clear & Colorless
001	Process waste water, Storm water surface Run-off, Floor Drains	* Bar Screening, Oil/water Separator, Activated Sludge, Clarification, Sand filters (Dewater of Sludge → incinerator)	19.6 mgD High 23.2 mgD	Slightly turbid Colorless

Sludge thickening Rotary Drum

	S	M	U	(S - Satisfactory M - Marginal U - Unsatisfactory)
TREATMENT SYSTEMS	✓			001 MGD
				Flow / BOD / CBOD / PH (mg/L) / TSS / O/G / Ammonia / Sulfides
DAF → Active				19.6 / 4.9 / 60 / 7.6 / 7.1 / 2.1 / <3.60 / 0.05
Sludge Treatment				
Final Sand filter				
Operations and maintenance	✓			
O&M manual & maint records	✓			on site Available for Review
Preventative maintenance	✓			Routine, audit / Daily Logs / PM mgt.
Bypasses/Overflows				N/A
Flow meter(s) and recorder(s)	✓			Control Room Direct Readout / Recorders –
Meter calibration(s)	✓			
Sample type, frequency, location				GRAB / 24 HR Composite
TTO monitoring				
Biomonitoring (whole eff toxicity)				
Toxic Reduction Evaluation Plan				
Sludge handling	✓			Sludge thickening / Rotary Drum Process
Sludge disposal	✓			Special Waste –
RCRA manifest records				
Laboratory methods				
Quality control				not evaluated
Calibration of equipment				
Contract lab(s) used:				
DMR, MRO and records	✓			onsite / Available for Review
SPCC plan	✓			in place / TRAINING - Routine Mock TRAINING
Housekeeping	✓			
Self-monitoring program	✓			

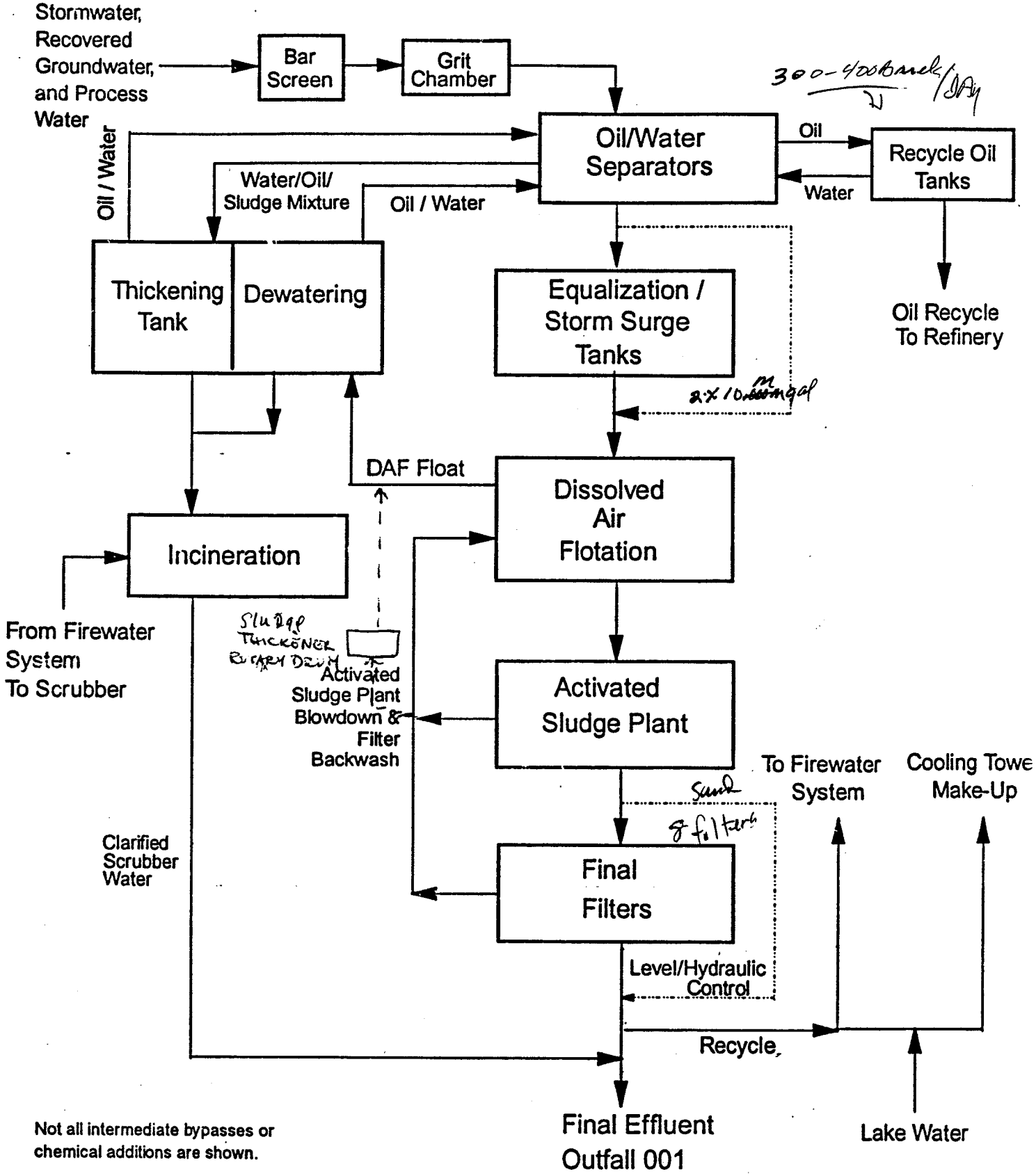
NPDES Compliance	in Compliance –
Notice of Violation	in Compliance – Reporting
Agreed Order	N/A
Compliance Schedule	
Properly certified operator	Waste Water Treatment operators
Letter needed	NO

Inspected by:	Received by:	Date:
Shelly Dyton + Nick Ream		9/15/98

DISTRIBUTION: White - Public File; Canary - Site Copy; Pink - Inspector; Goldenrod - Supervisor

Wastewater Treatment Plant - Water Flow Diagram

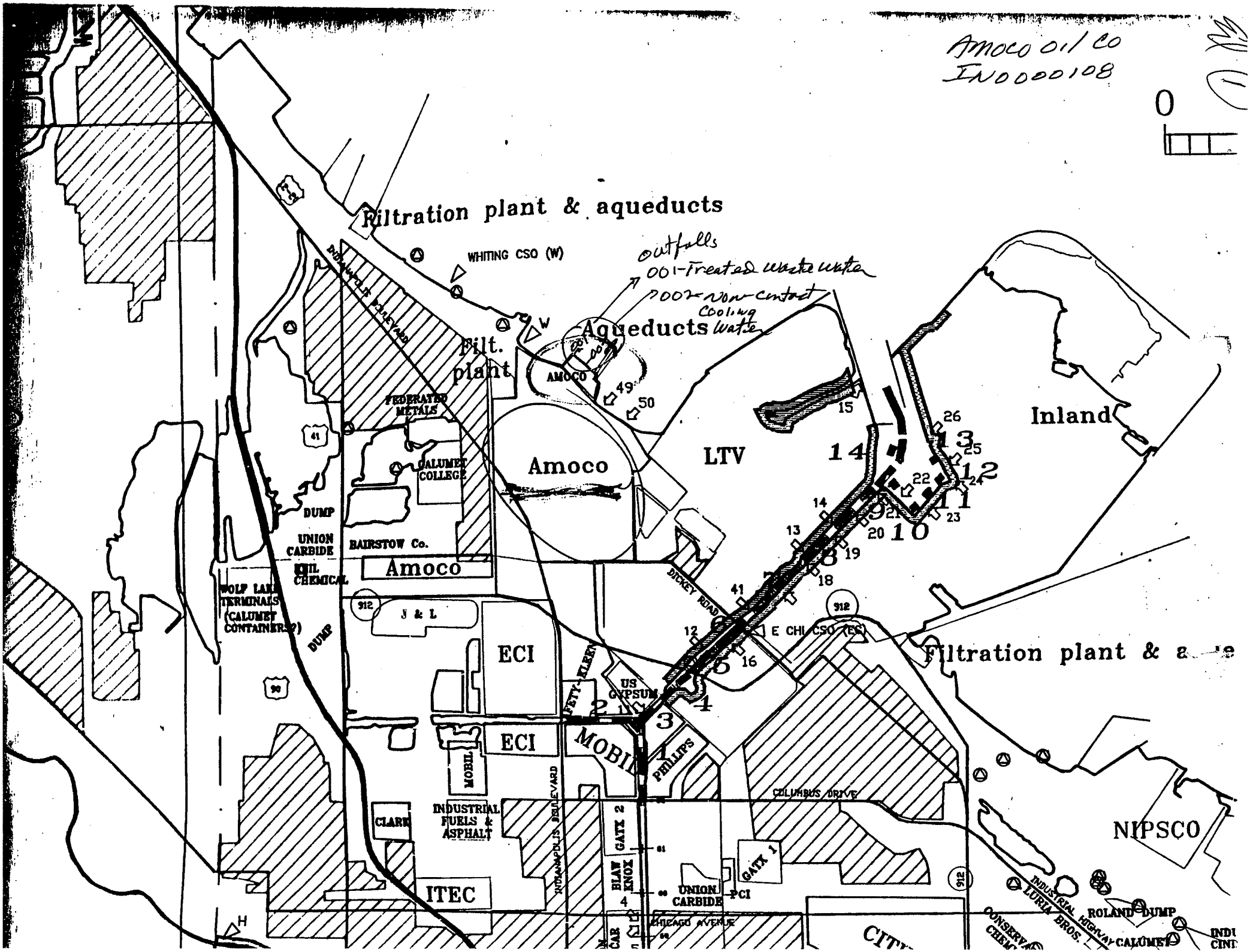
Amoco Oil Company - Whiting Refinery

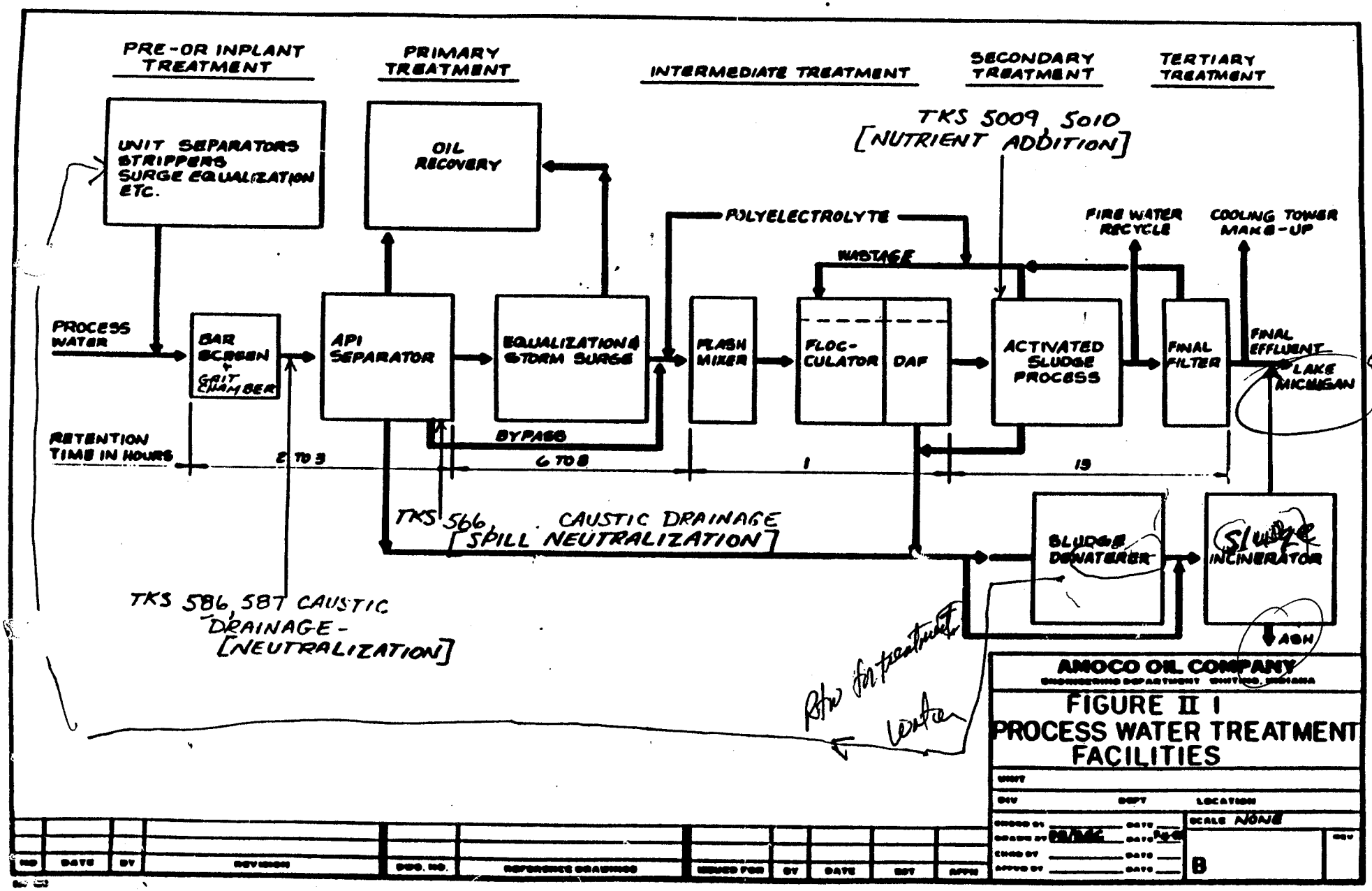


Not all intermediate bypasses or chemical additions are shown.

8/94

Amoco Oil Co
IN0000108




PRE-OR INPLANT TREATMENT
PRIMARY TREATMENT
INTERMEDIATE TREATMENT
SECONDARY TREATMENT
TERTIARY TREATMENT
UNIT SEPARATORS STRIPPERS SURGE EQUALIZATION ETC.
OIL RECOVERY
TKS 5009, 5010 [NUTRIENT ADDITION]
POLYELECTROLYTE
FIRE WATER RECYCLE
COOLING TOWER MAKE-UP
WASTAGE
PROCESS WATER
BAR SCREEN + GRIT CHAMBER
API SEPARATOR
EQUALIZATION & STORM SURGE
FLASH MIXER
FLOC-CULATOR
DAF
ACTIVATED SLUDGE PROCESS
FINAL FILTER
FINAL EFFLUENT
LAKE MICHIGAN
001
BYPASS
RETENTION TIME IN HOURS
2 TO 3
6 TO 8
1
19
TKS 566 CAUSTIC DRAINAGE [SPILL NEUTRALIZATION]
SLUDGE DEWATERER
SLUDGE INCINERATOR
ASH
TKS 586, 587 CAUSTIC DRAINAGE - [NEUTRALIZATION]
Rtn for treatment
water
AMOCO OIL COMPANY
ENGINEERING DEPARTMENT WHITING, INDIANA
FIGURE II I
PROCESS WATER TREATMENT FACILITIES
UNIT
DIV
DEPT
LOCATION
SCALE NONE
B
NO. DATE BY REVISION
DWG. NO.
REFERENCE DRAWINGS
ISSUED FOR BY DATE
NOTIFY ENGINEERING OF ALL CHANGES

State Form 47989(8-96)

P-file

IDEM	INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT **NPDES Facility Inspection Report**	100 NORTH SENATE AVENUE P. O. BOX 6015 INDIANAPOLIS, IN 46206-6015

SECTION A: National Data System Coding

NPDES	YR/MO/DAY	INSPECTION TYPE	INSPECTOR	FACILITY TYPE CODE
IN 0000108	97/2/10	Recm	Steve Judith O.E. E. Depositar	2

Overall Facility Evaluation Rating: 3 ADDITIONAL COMMENTS:

SECTION B: Facility Data

Name and Location of Facility Inspected: Amoco Petroleum oil co 2185 Indianapolis, Blvd TOWN/CITY Whiting, IN COUNTY: 46394	Receiving Waters/POTW: Lake Michigan	Permit Effective Date: 3-1-90 Permit Expiration Date: 2-28-95
Name(s) of On-Site Representatives: Shive Baloo Envir Engineer	Title(s): Environ + Safety Officer	Phone: 219-473-7700 Fax:
Name, Address of Responsible Offical: Don Wilson	Title: Plant manager Phone: Fax:	Contacted ☐ Yes ☒ No

SECTION C: Areas Evaluated During Inspection
(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Evaluated)

S	Permit	N	Flow Measurement	N	Pre-treatment	N	Operation & Maintenance
S	Records/Reports	N	Laboratory	S	Compliance Schedules	N	Sludge Disposal
N	Facility Site Review	N	Effluent/Receiving Waters	N	Self-Monitoring Program		Other:

Certified Operator: Full/Parttime: Hours per week:

Oral Report About Compliance/Maintenance & Operator/Other findings: Discussed the Action ~~[illegible]~~ (To date) of Taken in Response to WONC 7-9-96 - Progress Statement.

Given on: 2-10-97 By phone/person to: Shive Baloo

Facility type: Municipality Industry Semi-Public Non-Permitted

COMMENTS:

1) The purpose of this meeting was to introduce Steve Judith, (OE) to Shive Baloo, Amoco Environ. + Safety Affairs Officer.

2) The Discussion focused on the WWTP upset on June 24, 1996. (enclosed 7-3-96 Letter to IDEM)

3) We also discussed the Response Letters (7-31-96 + 12-4-96) to IDEM of the WONC 7-9-96. Cause No. B-2006.

4) Amoco has taken steps to identify + improve process water + stormwater ~~management~~ mangement. Imposed early detection measures to handle WWTP upsets. (enclosed Reply to WONC Cause No. B-2006 12-4-96)

Name(s) and Signature(s) of Inspector(s):	Agency/Office/Telephone:	Date of Final Report:
Eddy Depositar	IDEM-OWM	2/10/97

Date of Final Report Mailed/Faxed: / /	Referred to:	For (1) Follow-up (2) Enforcement (3) Other

Reviewer:	Date:	Compliance Status
[signature] C	3/3/97	☐ Non-Compliance ☒ Compliance

DISTRIBUTION: WHITE (FILE COPY) CANARY (SITE COPY) PINK (SUPERVISOR) GOLDENROD (INSPECTOR)

KEY TO REPORT

INSPECTION TYPE:

- R: RECONNAISSANCE
- S: COMPLIANCE SAMPLING
- Z: SLUDGE
- L: LEGAL SUPPORT
- C: COMPLIANCE EVALUATION
- I: INDUSTRIAL USER INSPECTION W/PRET

FACILITY TYPE:

- 1: MUNICIPALITY
- 2: INDUSTRY
- 3: AGRICULTURAL
- 4: FEDERAL

OVERALL FACILITY RATING:

5	EXCELLENT	IN COMPLIANCE
4	GOOD	
3	AVERAGE	BORDERLINE
2	POOR	NON COMPLIANCE
1	VERY POOR	

Amoco Petroleum Products
Refining Business Group
Whiting Business Unit

2815 Indianapolis Boulevard
Post Office Box 710
Whiting, Indiana 46394-0710
219-473-7700

D. H. Wilson
Manager, Whiting Business Unit

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

P. 419-130-604
sent 9/26/97
lab

September 26, 1997

Indiana Department of Environmental Management
Office of Water Management
100 North Senate Street
P.O. Box 6015
Indianapolis, IN 46206-6015

NPDES Permit No. 0000108, Serials 001, 002, 003, and 004

Effluent quality data and Discharge Monitoring Report forms from Amoco Oil Company's Whiting Refinery for the month of August, 1997, are attached. Effluent quality from the wastewater treatment plant for the month was excellent.

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

Sincerely,

D.H. Wilson

D. H. Wilson /SWS.

August, 1997

bcc: S. Baloo, Mail Code 242
L. A. Benninghoff, Mail Code 242
P. J. Campbell, Advent; Brentwood, TN
G. T. Cook, Mail Code 345
R. L. Garibay, Advent; Rosslyn, VA
C. G. Grieves, Mail Code H7, Naperville
D. C. Kloeckner, Mail Code P062X, Chicago
J. G. Murphy, Mail Code 143 - w/o attachment
A. E. Weber, Mail Code 202

Author: Andrew E. Weber at whiting,refinewhi
Date: 9/22/97 9:38 AM
Priority: Normal
TO: Mark E. Webster at whiting,refinewhi
Subject: Water Report

---------- Message Contents ----------

Mark, the August water report data you ask about is as follows.

Sulfides all data is 0.02 ppm actual readings.
Total Chromium all < 0.01 ppm
Hex Chromium all 0.001 ppm acutal readings

Let me know if you need anything else for the report.

Andy

State Form 47989(R/4-97)

IDEM

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER MANAGEMENT

NPDES Facility Inspection Report

100 NORTH SENATE AVENUE
P. O. BOX 6015
INDIANAPOLIS, IN 46206-6015

NPDES PERMIT #:	YR/MO/DAY:	INSPECTION TYPE:	INSPECTOR:	FACILITY TYPE CODE:
IN0000108	97/9/29	CEI	E Depositar	☐1 ☒2 ☐3 ☐4 ☒Major ☐Minor ☐Municipality ☒Industry ☐Semi-Public ☐State

OVERALL FACILITY EVALUATION RATING: 5

COMPLIANCE STATUS: ☐ Non-Compliance ☒ Compliance

Name and Location of Facility Inspected:	Receiving Waters/POTW:	Permit Effective Date:
Amoco Oil Co. 2815 Indianapolis, Blvd	Lake Michigan	3-1-90
Town/City: Whiting, IN County: Lake 46394	Entry Time: 12 45p Exit Time: 3 45p	Permit Expiration Date: 2-28-95
Name(s) of On-Site Representatives: Shiva Baloo	Title(s): Environ Affairs/Engineer	Phone: 219-473-7790
		Fax: 219-473-5379
Mark Webster	Environ Affairs Officer	Phone: 219-473-3459
		Fax: ( )
Certified Operator: George Cook	Number: 5404	☒ Full Time ☐ Part Time
	Class: D Exp:	(Hours per week: 40+)
Name, Address of Responsible Official: Don Wilson	Title: Plant Mgr	Phone: ( )
		Fax: ( )
	Contacted: ☐ Yes ☒ No	

Areas Evaluated During Inspection
(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Evaluated, N/A=Not Applicable)

S	Effluent	S	Facility Site Review	S	Flow Measurement	N/A	Pretreatment
S	Receiving Waters	S	Operation & Maintenance	N	Laboratory	S	Other: *
S	Permit	N/A	CSO/SSO (Sewer Overflow)	S	Self-Monitoring Program		
N/A	Compliance Schedules	N	Sludge Disposal	S	Records/Reports		

COMMENTS: All Major Waste Water Treatment Equipment are Active.
* Major change in the WWTP is the Sludge Thickener Rotary Drum See Attachment 'A' (WWTP Flow Diagram)
- One Reportable pH exceedance for stormwater outfall 004 (3-9-97).
Permitted outfalls: 001 Effluent is Clear & Colorless
002 Effluent is Clear & Colorless
003 & 004 - No observed Discharged this Date

Evaluation is Satisfactory

Name(s) and Signature(s) of Inspector(s):	Date:	Office/Telephone:
Eddy Depositar	9/29/97	219-881-5760
Received By:	**Date:**	**Referred to:**
Section Chief:	**Date:**	**For:**
[illegible]	10/9/97	☐ Follow-up ☐ Enforcement ☒ NPDES ☐ Other

DISTRIBUTION: White - Public File; Canary - Site Copy; Pink - Inspector; Goldenrod - Supervisor

INDUSTRIAL INSPECTION

State Form 35969 (R2/2-94)

☒ Satisfactory
☐ Marginal
☐ Unsatisfactory

Indiana Department of Environmental Management
Office of Water Management
105 S. Meridian Street
Indianapolis, Indiana 46225

Name of inspector: Eddy Depositar

Name of company: Amoco Oil Co.

Issued 3-1-90
Expired 2-28-95

Date (month, day, year): 9/29/97

Address of company (street and number or Rural Route): 2815 Indianapolis Blvd

City: Whiting, IN

County: Lake

Telephone number: (219) 473-3179

ZIP code: 46394

Name of responsible official: Mark Webster/Environ Affairs & Dan Wilson - Plant mgr. 219 473-7200

Name(s) of individual(s) contacted: Shiv Baloo - Environ. Affairs Engineer

Permit number: IN0000108

Name of receiving stream and/or POTW: Lake Michigan

Type sewage disposal: Hammond POTW

Name of certified operator: George Cook

Number of employees: —

Class: D

Number: 5404

Type of inspection
☐ O & M ☒ CEI ☐ CSI ☐ Follow-up ☐ Pretreatment
☐ Other (specify) _____
☐ Products Oil Refinery

Outfall	Water Use	Treatment	Waste Flow	Appearance
001	Treat Process Wastewater	Oil separator - Active sludge/sand filters		Discharge 001 Clear & colorless
002	Non-contact Cooling Water	Equalization Basins		Discharge 002 Clear & colorless
003	Stormwater	Catch Basin		No Discharge This Date
004	Stormwater	Catch Basin		No Discharge This Date

Other water uses: Intake Lake water + Recycle treated waste water are reused for Fire water system, Cooling Tower make-up + scrubber water for the incinerator.

EFFLUENT DATA
mg / 1 / (lb/d)

Parameter 001	MGD Flow	pH	# BOD	# TSS	# CBOD	# O/G	# Phenol	# NH3-N	# Sulfide
Permit Limits									
Daily Max.	Reported	9.0	8164	5694	58427	2600	7.3	2060	51.4
Daily Avg.	//	6.5	4161	3646	30323	1368	20.3	1030	23.1
Actual Data			mg/l						
Daily Max.	28.0	7.6	5.6	12	53	3.2	(0.01)	2.05	0.02
Daily Avg.	22.5	7.5	2.7	4	42	1.5	0.01	0.80	0.02

Period covering: 6 mos MRO's Reviews outfalls 001, 002, 003 + 004

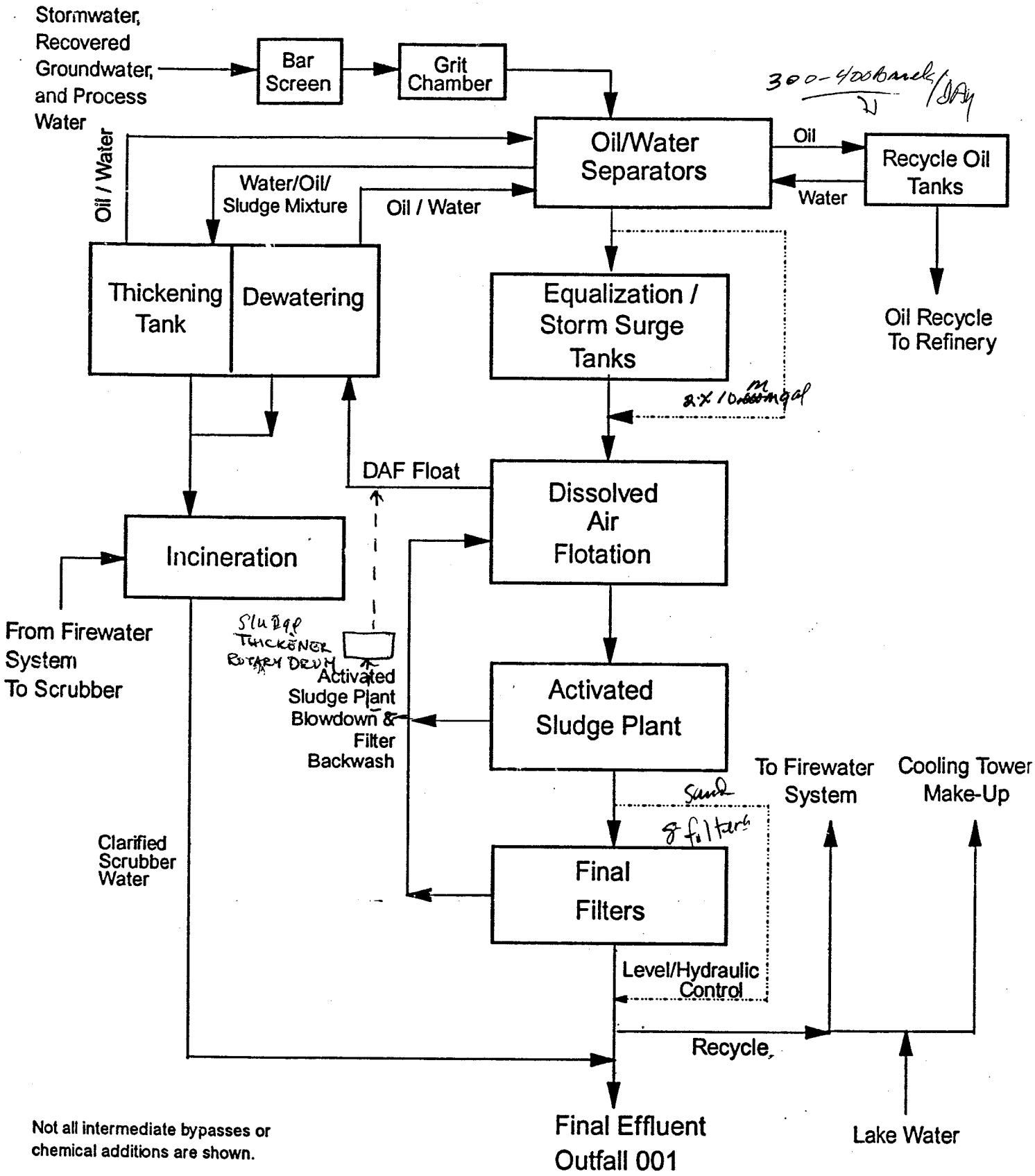
Comments

In compliance in meeting NPDES permit limits

	#'s BOD	TSS	CBOD	O/G	Phenol	NH3-N	Sulfide
Daily MAX	1093	2112	10340	624	< 2.34	371	0.02
Avg.	504	871	7747	280	< 1.88	151	0.02

Wastewater Treatment Plant - Water Flow Diagram

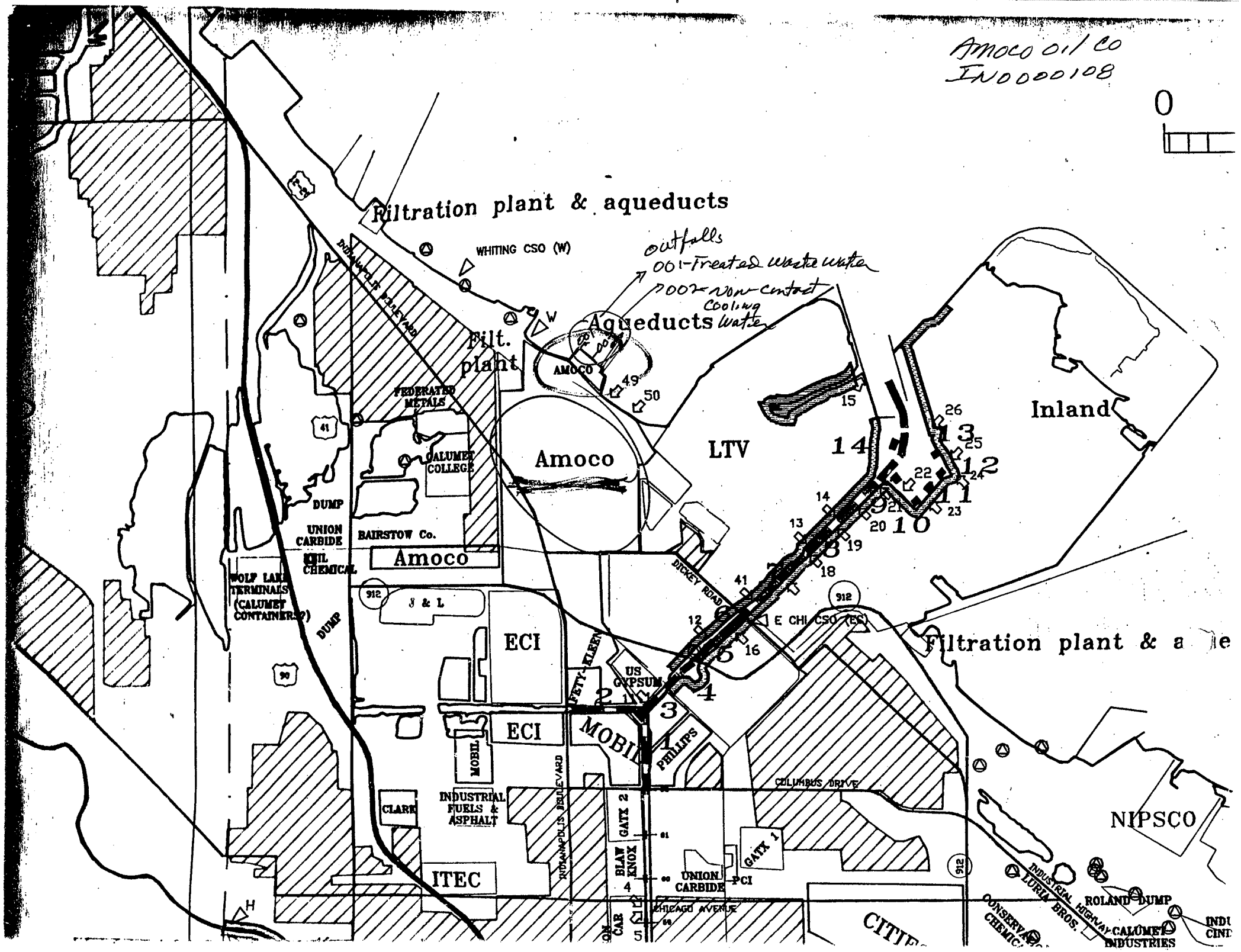
Amoco Oil Company - Whiting Refinery

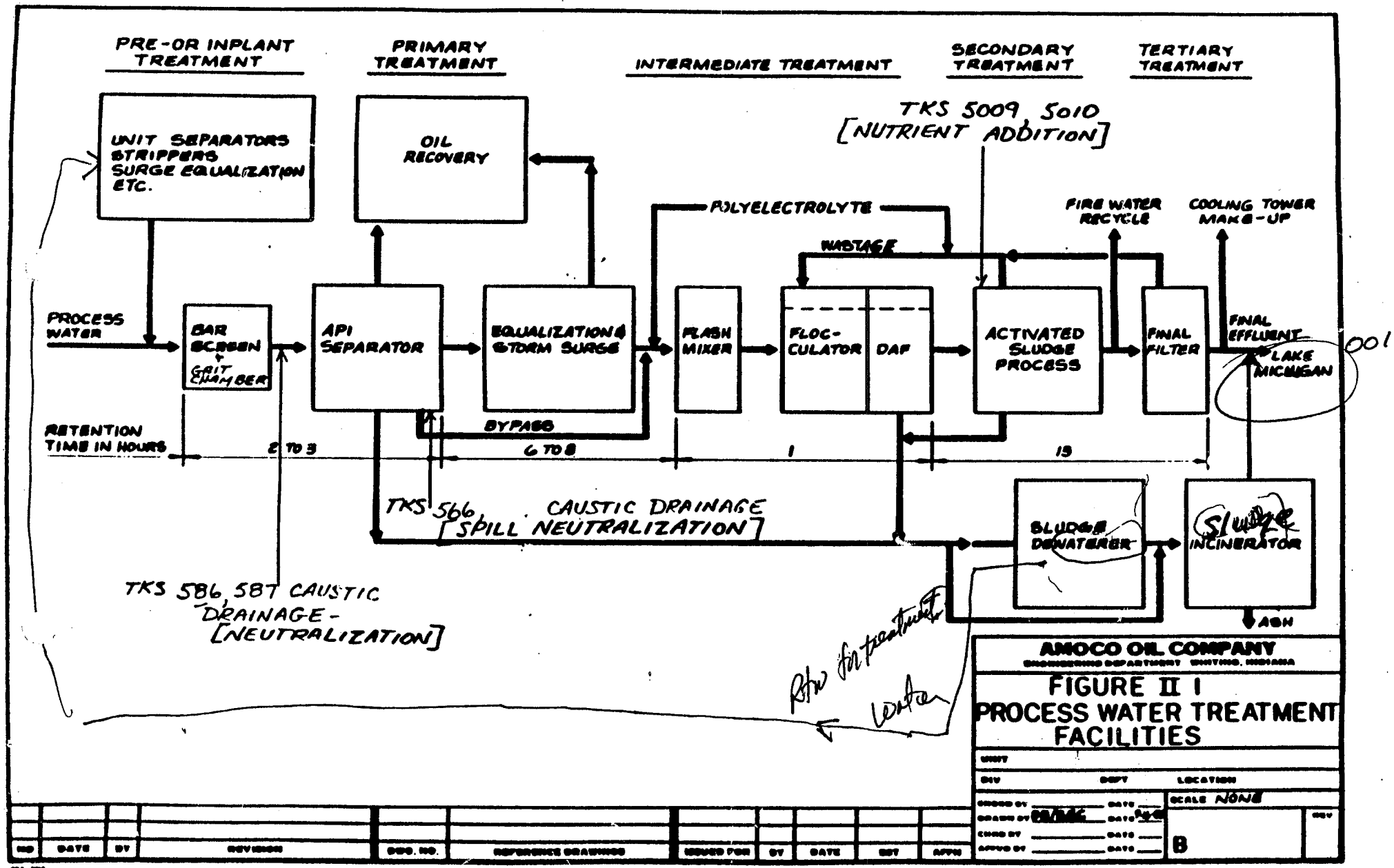


Not all intermediate bypasses or chemical additions are shown.

8/94

Amoco Oil Co
IND000108




PRE-OR INPLANT TREATMENT
PRIMARY TREATMENT
INTERMEDIATE TREATMENT
SECONDARY TREATMENT
TERTIARY TREATMENT
UNIT SEPARATORS STRIPPERS SURGE EQUALIZATION ETC.
OIL RECOVERY
TKS 5009, 5010 [NUTRIENT ADDITION]
POLYELECTROLYTE
WASTAGE
FIRE WATER RECYCLE
COOLING TOWER MAKE-UP
PROCESS WATER
BAR SCREEN + GRIT CHAMBER
API SEPARATOR
EQUALIZATION & STORM SURGE
FLASH MIXER
FLOC-CULATOR
DAF
ACTIVATED SLUDGE PROCESS
FINAL FILTER
FINAL EFFLUENT
LAKE MICHIGAN
001
BYPASS
RETENTION TIME IN HOURS
2 TO 3
6 TO 8
1
15
TKS 566 CAUSTIC DRAINAGE [SPILL NEUTRALIZATION]
SLUDGE DEWATERER
SLUDGE INCINERATOR
ASH
TKS 586, 587 CAUSTIC DRAINAGE - [NEUTRALIZATION]
Rtn for treatment
water
AMOCO OIL COMPANY
ENGINEERING DEPARTMENT WHITING, INDIANA
FIGURE II 1
PROCESS WATER TREATMENT FACILITIES
UNIT
DIV
DEPT
LOCATION
SCALE NONE
B
NO
DATE
BY
REVISION
DWG. NO.
REFERENCE DRAWINGS
ISSUED FOR
BY
DATE
EST
APPR
NOTIFY ENGINEERING OF ALL CHANGES

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME AMERICAN OIL COMPANY (AMOCO)
ADDRESS WHITING REFINERY
2815 INDIANAPOLIS BOULEVARD
WHITING, IN 46394

FACILITY AMERICAN OIL COMPANY (AMOCO)
LOCATION WHITING, IN 46394
ATTN: DANIEL H. WILSON, REF. MGR.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

(2-16) IN0000108 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

Form Approved.
OMB NO. 2040-0004
Approval expires 05-31-98
12345

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM		08	01	TO		08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

F - FINAL
MAJOR
EFFLUE
***NO DISCHARGE ☐ ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) MINIMUM	(54-61) AVERAGE	MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	504	1093	(26)	********	2.7	5.6	(19)	0	5 TIME /WEEK	COMP 24
310 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	4161 MO AVG	8164 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		5 TIME /WEEK	COMP 24
OXYGEN DEMAND, CHEM. (LOW LEVEL) (COD)	SAMPLE MEASUREMENT	7,747	10,340	(26)	********	42	53	(19)	0	THREE/ WEEK	COMP 24
00335 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	30323 MO AVG	58427 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		THREE/ WEEK	COMP 24
PH	SAMPLE MEASUREMENT	******	******		7.3	*********	7.6	(12)	0	THREE/ WEEK	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.5 MINIMUM	*********	9 MAXIMUM	SU		THREE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	821	2,112	(26)	********	4.0	12	(19)	0	5 TIME /WEEK	COMP 24
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	3646 MO AVG	5694 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		5 TIME /WEEK	COMP 24
OIL & GREASE (FREON EXTR.-IR METH) TOT,RC	SAMPLE MEASUREMENT	280	624	(26)	********	1.5	3.2	(19)	0	WEEK-DAYS	GRAB
00560 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	1368 MO AVG	2600 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		WEEK-DAYS	GRAB
NITROGEN, AMMONIA TOTAL (AS N)	SAMPLE MEASUREMENT	151	371	(26)	********	0.8	2.05	(19)	0	5 TIME /WEEK	COMP 24
00610 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	1030 MO AVG	2060 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		5 TIME /WEEK	COMP 24
SULFIDE, TOTAL (AS S)	SAMPLE MEASUREMENT	3.9	4.2	(26)	********	0.02	0.02	(19)	0	1X /WEEK	COMP 24
00745 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	23.1 MO AVG	51.4 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		WEEKLY	COMP 24

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Authorized Agent:
Mark E. Webster
Environmental Engineer - Water

TYPED OR PRINTED

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Mark E. Webster
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219	473-3459	97	04	26
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME AMERICAN OIL COMPANY (AMOCO)
ADDRESS WHITING REFINERY
2815 INDIANAPOLIS BOULEVARD
WHITING, IN 46394

FACILITY AMERICAN OIL COMPANY (AMOCO)
LOCATION WHITING, IN 46394
ATTN: DANIEL H. WILSON, REF. MGR.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

(2-16) IN0000108 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

Form Approved.
OMB NO. 2040-0004
Approval expires 05-31-98
12345

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM		08	01	TO		08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

F - FINAL
MAJOR
EFFLUE
***NO DISCHARGE ☐ ***

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PARAMETER (32-37)		(3 Card Only) (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
CHROMIUM, HEXAVALENT (AS CR)	SAMPLE MEASUREMENT	0.2	0.2	(26)	********	0.001	0.001	(19)	0	1X /WEEK	COMP 24
01032 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	2.01 MO AVG	4.48 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		WEEKLY	COMP 24
CHROMIUM, TOTAL (AS CR)	SAMPLE MEASUREMENT	<1.9	<2.1	(26)	********	<0.01	<0.01	(19)	0	1X /WEEK	COMP 24
01034 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	23.9 MO AVG	68.53 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		WEEKLY	COMP 24
PHENOLICS, TOTAL RECOVERABLE	SAMPLE MEASUREMENT	<1.88	<2.34	(26)	********	<0.01	0.01	(19)	0	THREE/ WEEK	COMP 24
32730 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	20.33 MO AVG	73.01 DAILY MX	LBS/ DAY	********	REPORT MO AVG	REPORT DAILY MX	MG/L		THREE/ WEEK	COMP 24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	22.5	28	(03)	********	********	********		0	DAILY	CONTIN
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	**** ****		DAILY	CONTIN
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	******	******		********			(19)	0	*NA	*NA
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	0.05 DAILY MX	MG/L		5 TIME /WEEK	GRAB
COLIFORM, FECAL GENERAL	SAMPLE MEASUREMENT	******	******		********			(13)	0	**NA	**NA
74055 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	200 MO AVG	400 DAILY MX	#/ 100ML		5 TIME /WEEK	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Authorized Agent:
Mark E. Webster
Environmental Engineer - Water

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Mark E. Webster
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219	473-3459	97	09	26
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
* Chlorine testing required only when chlorinating this stream.
** Fecal coliform testing required only when refinery sanitary sewers are discharging to the Amoco WWTP.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME AMERICAN OIL COMPANY (AMOCO)
ADDRESS WHITING REFINERY
2815 INDIANAPOLIS BOULEVARD
WHITING, IN 46394

FACILITY AMERICAN OIL COMPANY (AMOCO)
LOCATION WHITING, IN 46394
ATTN: DANIEL H. WILSON, REF. MGR.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

(2-16) IN0000108 PERMIT NUMBER

(17-19) 002 A DISCHARGE NUMBER

Form Approved.
OMB NO. 2040-0004
Approval expires 05-31-98
12345

F - FINAL
MAJOR
EFFLUE
***NO DISCHARGE ☐ ***

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM		08	01	TO		08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) MINIMUM	(54-61) AVERAGE	MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	******	******		********	36	37	(04)	0	5 TIME /WEEK	CONTIN
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	REPORT DAILY MX	DEG.C		5 TIME /WEEK	CONTIN
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	******	******		********	22	23	(04)	0	5 TIME /WEEK	CONTIN
00010 7 0 0 INTAKE FROM STREAM	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	REPORT DAILY MX	DEG.C		5 TIME /WEEK	CONTIN
WASTE HEAT REJECTION RATE	SAMPLE MEASUREMENT	1,100	1,210	(05)	********	*********	********		0	5 TIME /WEEK	CONTIN
00179 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	1700 MO AVG	2000 MX DA AV	MBTU/ HR	********	*********	********	**** ****		5 TIME /WEEK	CONTIN
PH	SAMPLE MEASUREMENT	******	******		8.2	*********	8.4	(12)	0	THREE/ WEEK	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	7 MINIMUM	*********	9 MAXIMUM	SU		THREE/ WEEK	GRAB
OIL & GREASE (FREON EXTR.-IR METH) TOT,RC	SAMPLE MEASUREMENT	******	******		********	<0.4	0.9	(19)	0	THREE/ WEEK	GRAB
00560 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	5.0 DAILY MX	MG/L		THREE/ WEEK	GRAB
L & GREASE (FREON .TR.-IR METH) TOT,RC	SAMPLE MEASUREMENT	******	******		********	<0.3	0.3	(19)	0	THREE/ WEEK	GRAB
00560 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	5.0 DAILY MX	MG/L		THREE/ WEEK	GRAB
OIL & GREASE (FREON EXTR.-IR METH) TOT,RC	SAMPLE MEASUREMENT	******	******		********	<0.3	0.5	(19)	0	THREE/ WEEK	GRAB
00560 7 0 0 INTAKE FROM STREAM	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	REPORT DAILY MX	MG/L		THREE/ WEEK	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Authorized Agent:
Mark E. Webster
Environmental Engineer - Water

TYPED OR PRINTED

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TELEPHONE		DATE		
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COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

EPA Form 3320-1(08-95) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME AMERICAN OIL COMPANY (AMOCO)
ADDRESS WHITING REFINERY
2815 INDIANAPOLIS BOULEVARD
WHITING, IN 46394

FACILITY AMERICAN OIL COMPANY (AMOCO)
LOCATION WHITING, IN 46394
ATTN: DANIEL H. WILSON, REF. MGR.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

(2-16) IN0000108 PERMIT NUMBER

(17-19) 002 A DISCHARGE NUMBER

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OMB NO. 2040-0004
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12345

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	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

F - FINAL
MAJOR
EFFLUE
***NO DISCHARGE ☐ ***

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PARAMETER (32-37)		(3 Card Only) (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
CARBON, TOT ORGANIC (TOC)	SAMPLE MEASUREMENT	******	******		********	2.0	3.0	(19)	0	5 TIME /WEEK	GRAB
680 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	REPORT DAILY MX	MG/L		5 TIME /WEEK	GRAB
CARBON, TOT ORGANIC (TOC)	SAMPLE MEASUREMENT	******	******		********	0.0	1.0	(19)	0	5 TIME /WEEK	GRAB
00680 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	5.0 DAILY MX	MG/L		5 TIME /WEEK	GRAB
CARBON, TOT ORGANIC (TOC)	SAMPLE MEASUREMENT	******	******		********	2.0	3.0	(19)	0	5 TIME /WEEK	GRAB
00680 7 0 0 INTAKE FROM STREAM	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	REPORT DAILY MX	MG/L		5 TIME /WEEK	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	126.7	128.7	(03)	********	********	********	****	0	DAILY	CONTIN
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		DAILY	CONTIN
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	******	******		********	<0.04	0.04	(19)	0	1X /WEEK	GRAB
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	0.05 DAILY MX	MG/L		WEEKLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Authorized Agent:
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Environmental Engineer - Water

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ATTN: DANIEL H. WILSON, REF. MGR.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

(2-16) IN0000108 PERMIT NUMBER

(17-19) 003 A DISCHARGE NUMBER

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	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

F - FINAL
MAJOR
EFFLUE
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PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) MINIMUM	(54-61) AVERAGE	MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	******	******		7.7	*********	8.2	(12)	0	1X /WEEK	GRAB
100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6 MINIMUM	*********	9 MAXIMUM	SU		WEEKLY	GRAB
OIL & GREASE (FREON EXTR.-IR METH) TOT,RC	SAMPLE MEASUREMENT	******	******		********	1.2	1.2	(19)	0	1X /WEEK	GRAB
00560 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	15.0 DAILY MX	MG/L		WEEKLY	GRAB
CARBON, TOT ORGANIC (TOC)	SAMPLE MEASUREMENT	******	******		********	23	27	(19)	0	1X /WEEK	GRAB
00680 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	110 DAILY MX	MG/L		WEEKLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Authorized Agent:
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Environmental Engineer - Water

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TELEPHONE		DATE		
219	473-3459	97	09	26
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME AMERICAN OIL COMPANY (AMOCO)
ADDRESS WHITING REFINERY
2815 INDIANAPOLIS BOULEVARD
WHITING, IN 46394

FACILITY AMERICAN OIL COMPANY (AMOCO)
LOCATION WHITING, IN 46394
ATTN: DANIEL H. WILSON, REF. MGR.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

(2-16) IN0000108 PERMIT NUMBER

(17-19) 004 A DISCHARGE NUMBER

Form Approved.
OMB NO. 2040-0004
Approval expires 05-31-98
12345

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM		08	01	TO		08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

F - FINAL
MAJOR
EFFLUE
***NO DISCHARGE ☐ ***
NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUANTITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	******	******		7.8	******	8.5	(12)	0	1X /WEEK	GRAB
100 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6 MINIMUM	******	9 MAXIMUM	SU		WEEKLY	GRAB
OIL & GREASE (FREON EXTR.-IR METH) TOT,RC	SAMPLE MEASUREMENT	******	******		********	3.3	6.1	(19)	0	ONCE/ MONTH	GRAB
00560 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	15.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
CARBON, TOT ORGANIC (TOC)	SAMPLE MEASUREMENT	******	******		********	35	53	(19)	0	1X /WEEK	GRAB
00680 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	********	REPORT MO AVG	110 DAILY MAX	MG/L		WEEKLY	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Authorized Agent:
Mark E. Webster
Environmental Engineer - Water

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*

Mark E. Webster
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219	473-3459	97	09	26
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

EPA Form 3320-1(08-95) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

AMOCO OIL COMPANY, WHITING REFINERY
2815 INDIANAPOLIS BLVD., WHITING, INDIANA 46394

{WLSTAT}

PERMIT NO. IN0000108 OUTFALL 001 8/97 AUGUST PROCESS WATER EFFLUENT

RAMETER	FLOW	PH	BOD	TSS	COD	OIL	PHENOL
DE	Q50050	C00400	Q00310	Q00547	Q00340	Q00550	Q32730
MPLE TYPE							
PERMIT	CONT	GRAB	24	24	24	3/DAY	24
ACTUAL	CONT	GRAB	24	24	24	3/DAY	24
EQUENCY							
PERMIT	CONT	3/7	5/7	5/7	3/7	5/7	3/7
ACTUAL	CONT	3/7	5/7	5/7	3/7	5/7	3/7
MITS AVG.			4161	3646	30323	1368	20.33
MAX.		6.5-9	8164	5694	58427	2600	73.00
TE	MG/D	pH	mg/l LB/D	mg/l LB/D	mg/l LB/D	mg/l LB/D	mg/l LB/D
1	20.2	7.4	-- --	-- --	40 6739	0.9 152	-- --
2	21.1	--	-- --	-- --	46 8090	-- --	-- --
3	21.9	--	4.5 822	4 731	-- --	-- --	<0.01 <1.83
4	21.6	7.5	4.4 793	6 1081	-- --	1.4 252	-- --
5	22.4	--	4.1 766	9 1681	43 8033	1.7 318	<0.01 <1.87
6	21.3	7.6	3.8 675	6 1066	-- --	1.2 213	-- --
7	21.2	--	3.5 619	5 884	-- --	1.0 177	<0.01 <1.77
8	22.2	7.4	-- --	-- --	44 8150	1.0 185	-- --
9	22.3	--	-- --	-- --	51 9490	-- --	-- --
10	21.1	--	3.0 528	12 2112	-- --	-- --	<0.01 <1.76
11	23.7	7.5	3.6 712	7 1384	-- --	1.8 356	-- --
12	23.7	--	2.9 573	3 593	50 9880	1.8 356	<0.01 <1.98
13	22.3	7.4	2.6 484	4 744	-- --	1.8 335	-- --
14	21.6	--	3.0 540	6 1081	-- --	2.3 414	<0.01 <1.80
15	21.5	7.4	-- --	-- --	47 8430	2.5 448	-- --
16	23.4	--	-- --	-- --	53 10340	-- --	-- --
17	28.0	--	1.8 420	3 701	-- --	-- --	<0.01 <2.34
18	25.3	7.4	1.7 359	3 633	-- --	0.8 169	-- --
19	21.7	--	1.3 235	0 0	34 6153	1.5 271	<0.01 <1.81
20	24.7	7.5	2.2 453	2 412	-- --	1.8 371	-- --
21	23.4	--	5.6 1093	8 1561	-- --	3.2 624	<0.01 <1.95
22	22.6	7.5	-- --	-- --	33 6220	1.7 320	-- --
23	24.7	--	-- --	-- --	45 9270	-- --	-- --
24	22.9	--	1.7 325	2 382	-- --	-- --	<0.01 <1.91
25	22.3	7.6	1.1 205	2 372	-- --	1.6 298	-- --
26	22.0	--	0.9 165	2 367	27 4954	1.3 239	<0.01 <1.85
27	22.4	7.6	1.0 187	2 374	-- --	0.8 149	-- --
28	22.7	--	1.1 208	3 568	-- --	0.8 151	<0.01 <1.89
29	20.5	7.3	-- --	-- --	36 6155	0.5 85	-- --
30	20.7	--	-- --	-- --	38 6560	-- --	-- --
31	20.6	--	2.4 412	3 515	-- --	-- --	<0.01 <1.72
ERAGE	22.5	7.5	2.7 504	4 821	42 7747	1.5 280	<0.01 <1.88
GHEST VAL.	28.0	7.6	5.6 1093	12 2112	53 10340	3.2 624	0.01 <2.34
WEST VAL.	20.2	7.3	0.9 165	0 0	27 4954	0.5 85	<0.01 <1.72
ER LIMIT		0	0	0	0	0	0

RTIFIED OPERATOR : George Cook NO. 5404 DATE : 9/26/97 AUTHORIZED AGENT : Mark E. Webster
MEANS NOT TESTED THIS DATE.