MICHIGAN DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL LABORATORY

RECEIVED
SEP 24 1993
SURFACE WATER QUALITY DIVISION
SOUTHEAST MICHIGAN DISTRICT OFFICE

REPORT Surface Water Quality Div.
TO District M14
39890 Seven Mile Road
Livonia, MI 48152
ATTEN BILL STONE

LABORATORY WORK ORDER # 93-07-164
WORK ID MCLOUTH STEEL-GIBRALTAR
P.O. # 90052 COST $ 2264.93
RECEIVED 07/29/93 CLIENT SWQ SE
REPORTED NUMBER OF SAMPLES 9
LAB CONTACT SC IN DR MATRIX WATER

TEST UNITS	SO-1	SO-2	SO-3	SI-1
Silver by Furnace ug/l	K 0.5			K 0.5
Alkalinity of Water mg CaCO3/l				83
Arsenic by Furnace ug/l	1.8			1.7
BOD 5 Day Carb mg/l				2
Calcium in Water mg/l	30.8			29.1
Cadmium by Furnace ug/l	0.4			1.1
Chloride in Water mg/l				15
Cyanide mg/l	K .005			K .005
Conductivity of Water umho/cm				270
Hex Chromium in Water ug/l				K 5
Chromium by Furnace ug/l	K 1.0			K 1.0
Copper by Furnace ug/l	24			12
Iron (Low Level) ug/l	420			360
Hardness mg/l				104
Mercury in Water ug/l	K 0.2			K 0.2
Potassium in Water mg/l	1.59			1.66
Oil & Grease-Water mg/L		K 10	K 10	
Magnesium in Water mg/l	7.8			7.5
Sodium in Water mg/l	10.1			9.9

TEST	UNITS	S0-1	S0-2	S0-3	S1-1
Nickel by Furnace	ug/l	2.9			2.9
Nitrate + Nitrite	mg N/l	.28			.29
Ammonia	mg N/l	.06			.04
Kjeldahl Nitrogen	mg N/l	.36			.48
Lead by Furnace	ug/l	2.4			3.8
Phenolics - Automated	ug/l	K 10. ug/l MANUAL			K 10. ug/l MANUAL
Total Phosphorus	mg P/l	.14			.13
Suspended Solids	mg/l	8			8
Sulfate in Water	mg/l				17
TOC	mg/l	3.1			3.0
Turbidity of Water	NTU	4.4			3.2
Zinc (Low Level)	ug/l	6			12

TEST	UNITS	S1-2	S2-1	S2-2	S2-3
Silver by Furnace	ug/l		K 0.5		
Arsenic by Furnace	ug/l		2.4		
BOD 5 Day Carb	mg/l		30		
Calcium in Water	mg/l		10.2		
Cadmium by Furnace	ug/l		3.2		
Cyanide	mg/l		K .005		
Chromium by Furnace	ug/l		K 1.0		
Copper by Furnace	ug/l		7.6		

Received: 07/29/93

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Work Order # 93-07-164
Continued From Above

TEST	UNITS	S1-2	S2-1	S2-2	S2-3
Iron (Low Level)	ug/l		600		
Mercury in Water	ug/l		K 0.2		
Potassium in Water	mg/l		19.6		
Oil & Grease-Water	mg/L	K 10		12	12
Magnesium in Water	mg/l		4.2		
Sodium in Water	mg/l		178		
Nickel by Furnace	ug/l		9.4		
Nitrate + Nitrite	mg N/l		.06		
Ammonia	mg N/l		K .01		
Kjeldahl Nitrogen	mg N/l		1.42		
Lead by Furnace	ug/l		1.8		
Phenolics - Automated	ug/l		130 ug/l MANUAL		
Total Phosphorus	mg P/l		.49		
Suspended Solids	mg/l		8		
TOC	mg/l		43.		
Turbidity of Water	NTU		3.5		
Zinc (Low Level)	ug/l		30		

Report prepared By: D Hartig 9/21/93

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL LABORATORY

REPORT Surface Water Quality Div.
TO District #14
39890 Seven Mile Road
Livonia, MI 48152
ATTEN BILL STONE

LABORATORY WORK ORDER # 93-07-165
WORK ID MCLOUTH STEEL-GIBRALTAR
P.O. # 90052 COST $ 1819.22
RECEIVED 07/29/93 CLIENT SWQ SE
REPORTED _____ NUMBER OF SAMPLES 5
LAB CONTACT GC IN OR MATRIX WATER

RECEIVED SEP 24 1993 SURFACE WATER QUALITY DIVISION SOUTHEAST MICHIGAN DISTRICT OFFICE

RECEIVED ERD S.E. MICH. SEP 24 1993 FILE_____ COUNTY_____

TEST UNITS	S3-1	S3-2	S3-3	S4-1
Silver by Furnace ug/l	K 0.5			K 0.5
Alkalinity of Water mg CaCO3/l	111			254
Arsenic by Furnace ug/l	1.9			1.6
BOD 5 Day Carb mg/l	7			
Calcium in Water mg/l	28.2			11.1
Cadmium by Furnace ug/l	K 0.2			K 0.2
Chloride in Water mg/l	27			85
Cyanide mg/l	K .005			K .005
Conductivity of Water umho/cm	403			1052
Hex Chromium in Water ug/l	K 5			K 5
Chromium by Furnace ug/l	K 1.0			K 1.0
Copper by Furnace ug/l	21			2.4
Iron (Low Level) ug/l	450			1970
Hardness mg/l	101			49
Mercury in Water ug/l	K 0.2			K 0.2
Potassium in Water mg/l	4.71			19.5
Oil & Grease-Water mg/L		K 10	K 10	14
Magnesium in Water mg/l	7.3			5.1
Sodium in Water mg/l	40.6			212

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Work Order # 93-07-165
Continued From Above

TEST / UNITS	S3-1	S3-2	S3-3	S4-1
Nickel by Furnace ug/l	K 2.0			2.4
Nitrate + Nitrite mg N/l	.25			K .01
Ammonia mg N/l	.03			.02
Kjeldahl Nitrogen mg N/l	.59			1.18
Lead by Furnace ug/l	1.3			K 1.0
Phenolics - Automated ug/l	29. ug/l MANUAL			900 ug/l MANUAL
Total Phosphorus mg P/l	.20			.53
Suspended Solids mg/l	10			9
Sulfate in Water mg/l	29			104
TOC mg/l	11.			86.
Turbidity of Water NTU	3.0			
Zinc (Low Level) ug/l	8			K 4

Report prepared By: D Harlig 9/21/93

01B

S-2

COMPLIANCE SAMPLING INSPECTION FIELD SHEET

COMPANY McLouth Steel Co - Gibraltar Plant FACILITY#
PLANT CONTACT Don Windeler 285-1200 PLANT ADDRESS 28000 River Road Gibraltar
PERMIT# MI0004227 OUTFALL# 01B DESCRIPTION treated process wastewater
FLOW 2.0 MGD SPLIT PARAMETERS (PERMIT LIMITED) treated landfill leachate, stormwater
SPECIAL INST. TSS, [redacted], Total Iron, CBOD, Ammonia-Nitrogen, [redacted], ~~Total Lead, Total Zinc~~.
Sample to be taken before mixing with other WW.

****

COMPOSITE CIRCLE OR LIST IN THE SPACE PROVIDED THE PARAMETERS THAT YOU ARE REQUESTING AND CIRCLE THE CORRESPONDING BOTTLE CODES

ORGANIC: ON SCAN 3, OB GC/MS, ~~SCAN 8~~

INORGANIC: MA METAL(TOTAL), BASIC 6 Low level Cd, Cr, Cu, Ni, Pb, Zn

S2-1

MD METAL(DISSOLVED)

MN ~~CR16, ALK, HARD, Cl, SO4, COND~~

GENERAL CHEMISTRY: GN TSS, TDS, BOD5, O-PHOS, CBOD5, TURBIDITY, SILICON

GA COD, TOC, NH3, TP, ~~PHENOL~~, NO3+NO2, KJEL N

GP/GG PHENOL GB CYANIDE S SULFIDE

GRAB COMPOSITE TIMES OF ADDITION: 0850 / 1730 / 0800 / / /

****

GRABS WRITE IN PARAMETERS YOU ARE REQUESTING NEXT TO APPROP. BOTTLE CODE; CROSS OUT THE BOTTLE CODES OF ANALYSIS YOU WILL NOT BE REQUESTING; CIRCLE THE NUMBER OF GRABS YOU WANT IN 24 HRS (eg. 1/24, 2/24 etc.)

S2-2 S2-3 S2-4

	1/24	2/24	3/24	4/24	5/24
DATE	7-27-93	7-27-93	7/28/93		
TIME	0850	1730	0800		
~~TEMP.~~	78°F	82°F	80°F		
pH	7.7	7.7	7.9		
~~Cl2~~	0.0	0.0	0.0		
~~PO-1~~ P01	✓	✓	✓		
~~PO-2~~ P02	✓	✓	✓		
~~ON~~					
~~OB~~					
~~OA~~					
OG	✓	✓			
DO	5.0	4.5	5.2		
~~MA~~					
~~MD~~					
~~MN~~					
~~GN~~					
~~GA~~					
~~GP Phenol~~					
~~GB CN-~~					
~~S Sulfide~~					
~~BC~~					

COMPANY TOTALIZER / FACTOR START END
SURVEY DONE BY COMMENTS

ISCO set at weir 01B 0850 7/27/93
0800 7/28/93

001

COMPLIANCE SAMPLING INSPECTION FIELD SHEET

5-3

COMPANY McLouth Steel Co - Gibraltar Plant FACILITY#
PLANT CONTACT Don Windeler 2851200 PLANT ADDRESS 28000 River Rd. Gibraltar
PERMIT# MI 0004227 OUTFALL# 001 DESCRIPTION Treated process w/w treated to pit lagoon, stormwater, non contact
FLOW 10.0 MGD SPLIT PARAMETERS (PERMIT LIMITED) Total lead, Total Zinc,
SPECIAL INST.
Sample to be taken after mixing with OIB but before drain.

****

COMPOSITE CIRCLE OR LIST IN THE SPACE PROVIDED THE PARAMETERS THAT YOU ARE REQUESTING AND CIRCLE THE CORRESPONDING BOTTLE CODES

ORGANIC: ON SCAN 3, OB GC/MS, OA SCAN 8

INORGANIC: MA METAL(TOTAL), BASIC 6 Low level Cd, Cr, Cu, Ni, Pb, Zn

S3-1

MD METAL(DISSOLVED)

MN CR+6, ALK, HARD, Cl, SO4, COND

GENERAL CHEMISTRY: GN TSS, TDS, BOD5, O-PHOS, CBOD5, TURBIDITY, SILICON

GA COD, TOC, NH3, TP, ~~PHENOL~~, NO3+NO2, KJEL N

GP/GG PHENOL GB CYANIDE S SULFIDE

GRAB COMPOSITE TIMES OF ADDITION: 0920 1745 0815 / / /

****

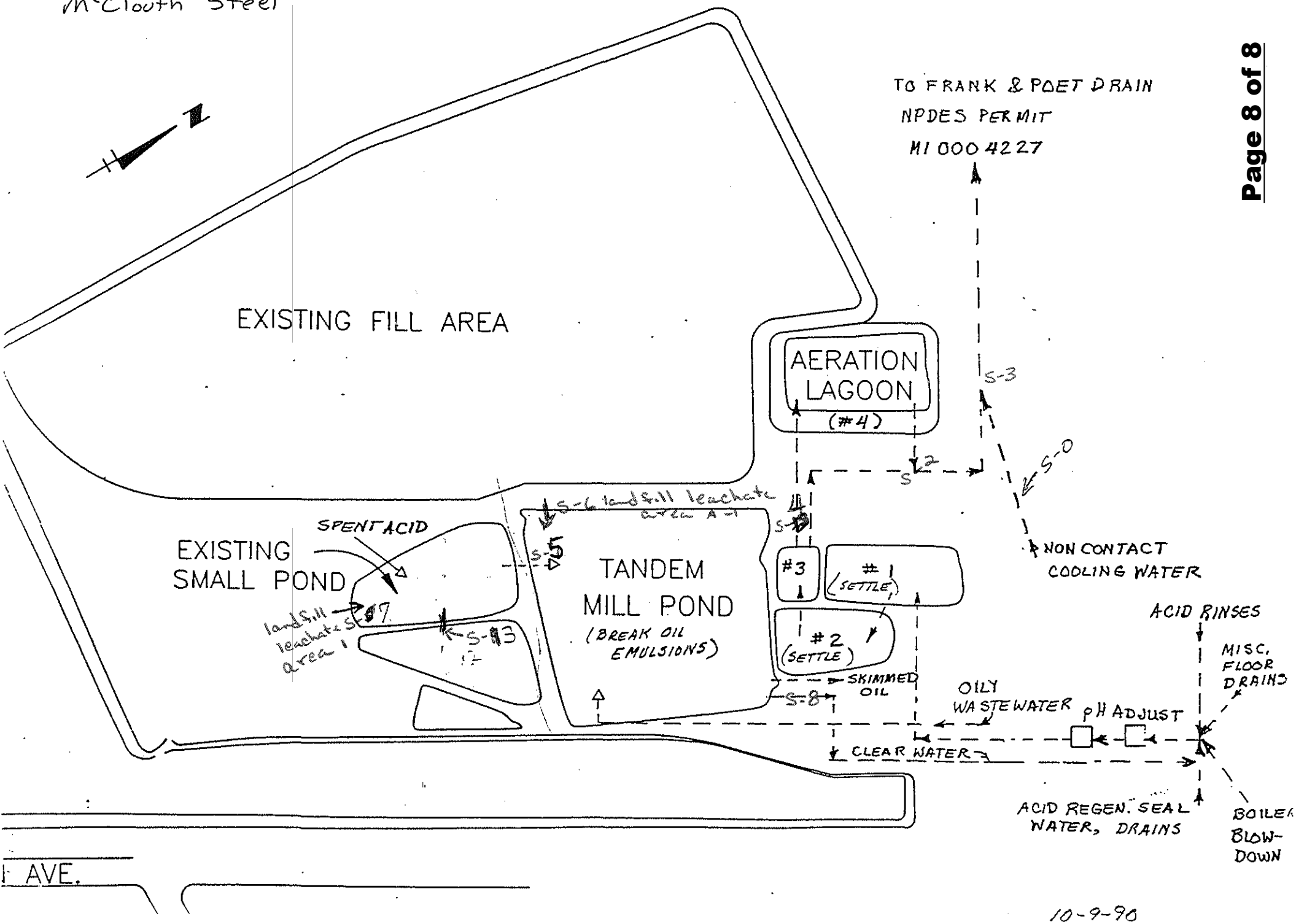
GRABS WRITE IN PARAMETERS YOU ARE REQUESTING NEXT TO APPROP. BOTTLE CODE; CROSS OUT THE BOTTLE CODES OF ANALYSIS YOU WILL NOT BE REQUESTING; CIRCLE THE NUMBER OF GRABS YOU WANT IN 24 HRS (eg. 1/24, 2/24 etc.)

S3-2 S3-3 S3-4

	1/24	2/24	3/24	4/24	5/24
DATE	7-27-93	7-27-93	7/28/93		
TIME	0920	1745	0815		
TEMP.	78°F	80°F	80°F		
pH	7.46	7.5	7.8		
C12	0.0	0.0	0.0		
~~PO-1~~ PO1	✓	✓	✓		
~~PO-2~~ PO2	✓	✓	✓		
~~ON~~					
~~OB~~					
~~OA~~					
OG	✓	✓	✓		
DO	6.4	6.8	6.8		
~~MA~~					
~~MD~~					
~~MN~~					
~~GN~~					
~~GA~~					
~~GP Phenol~~					
~~GB CN=~~					
~~S Sulfide~~					
~~BC~~					

COMPANY TOTALIZER / FACTOR START END
SURVEY DONE BY COMMENTS
Isco set at wood dock, off at 0830 7/28/93

WASTEWATER SYSTEM
GIBRALTER PLANT
McClouth Steel



10-9-90