FMO06165A 10-3-6

HUDWALKER & ASSOCIATES, INC
Consulting Engineers
P O Box 676
FARMINGTON MISSOURI 63640

(314) 756 6775

LETTER OF TRANSMITTAL

DATE	JOB NO
12/20/88	

ATTENT ON: Mr Bob Oberfelt

RE: Groundwater Monitoring Well
Test Results
St Francois County Landfill

TO: Mr Bob Oberfelt
Ecology & Environment
6405 Metcalf - Bldg 3
Overland Park, KS 66202

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO	DESCRIPTION
	11/29/88		6 sheets - test results

THESE ARE TRANSMITTED as checked below

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
XX For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

Site Big Rock Mines
ID# MOD981126899
Break 13
Other E&E
12-20-88

07CR

40108327
SUPERFUND RECORDS

COPY TO

SIGNED D E Hudwalker

If enclosures are not as noted kindly notify us at once

TH DTR WASTE MANAGEMENT W

MONITO N REPORT

FACILITY SI FFYNCOI COUNTY SANITARY LANDF IL LA UPER/ISORS SIC
PERMIT NO 1187 1 AN DFILL OWNER/OPER
FOI T NO 1 1

URE AND D IE David Allen 17 Dec 88

DATE OLLECTEI 11-29-88
DATE F D BY LAB 11 29 88
SAM LE FECD PROPERI PRI VED
SAMPLE ANALY D W/IN HO DING TIMES

NOTE QL M / IS HE REASONABLY ACCEPTABLE QUA / I ATI E IM T
FOR D/ H AKAM TER IN TH ELCIFI I UNIT L WE HLUE
MA TI F I OFF I IFST COLUMN OF SPACE FOR PARAMETERS I
RE F 1 OF I 4 OF REAT R THAN 5 ON

UNI S UC L

NH AN A AS N (		
NO (N F E/NITE TE AS N O)		
P TO PL P OL)		
COD OH)		41
CL (H ORIDE QL 1)		1
TDS (QL 1)		671
CONL CONDUCTIVITY AT 2 C UMHO/CM)		854
PH (U HITS)		7.3
L (F UORIDE QL-0 1		
SO4 (SULFATE QL 0 1)		
CA (CALCIUM QL 5)		
MG (MAGNESIU I QL-2)		
NA (SODIUM QL 2)		
HARD (HARDNESS AS CALCULA ED)		
WL (DEPTH FROM WATER SURFACE TO BOTTOM OF WELL IN FT)		11.6'

AL (LUMINUM QL 1)		
A ARSENIC QL 10)		
B (BORON QL-10(		
(BARIUM QL 100)		
CD (CADMIUM QL 2)		
CO (COBALT QL 60)		
CR (CHROMIUM QL-5)		
CU (COPPER QL 5)		
FE (IRON QL 20)		420
HG (MERCURY QL-0 5)		
MN (MANGANESE QL-20)		
PB (LEAD QL 5)		
SE (SELENIUM QL=10)		
ZN (INC QL 10)		
LAB COMMENTS Rusty		

Larron Laboratory
520 Broadway
~~Cape Girardeau, MO 63701~~

LAB NAME
LAB ADDRESS AND PHONE
COLLECTED BY (SIGNATURE)
(CIRCLE ONE) LAB LANDFILL

CIRCLE ONE
BAILER WELL
PUMP SURFACE SAMPLE
OTHER POND

(CIRCLE ONE) LAB LANDFILL

COLOR Rusty ODOR none
COLLECTORS COMMENT

PLEASE FORWARD TO DNR WASTE MANAGEMENT PROGRAM
PO BOX 176
JEFFERSON CITY MO 65102

RECEIVED
DEC 20 1988
Date

Hudwalker & Associates, Inc.

4TH QTR W STE MANAGEMENT WATER MONITORING REPORT

FACILITY T FR N JTS COUNTY SANITARY LANDFILL
FACILITY ID 116 0
POINT ID 1C2

LAB SUPERVISOR SIGNATURE AND DATE
LANDFILL OWNER OPERATOR

DATE COLLECTED 11-29-88
DATE RECD BY LAB 11-29-88
SAMPLE PROPERLY PRESERVED (Y) N
SAMPLE WITHIN HOLDING TIME (Y) N

NOTE: GROUNDWATER THE FOLLOWING ARE QUANTITATIVE LIMITS FOR EACH PARAMETER. THE SPECIFIED UNITS AND VALUE MAY BE REPORTED. DISTRICT COLUMN OF SPEC FOR PARAMETERS IS REQUIRED FOR LEAD THE OR CHROMATE HALF

FILL SAMPLES CHECK FIELD FOR MG MN SE MERCURY FILL ARE GREEN BURIED FILL TO SAMPLE IN

UNITS MG/L		UNITS MG/L	
NH3 (AMMONIA AS N QL 0.01)		P (SOLUBLE QL 1)	
N (NITRATE/NITRITE AS N QL))		AS (ARSENIC QL-10)	
F (FLUORIDE QL 0.05)		B (BORON QL-1)	
OD (COD -		BA (BARIUM QL 100)	
CL (CHLORIDE QL 1)		CD (CADMIUM QL 2)	
TDS (1)		CO (COBALT QL 60)	
CO (CONDUCTIVITY AT 25 C UMHO CM		CR (CHROMIUM QL 5)	
PH (UNITS)		CU (COPPER QL 5)	
FL (FLUORIDE QL 0.1)		FE (IRON QL-20)	
SO4 (SULFATE QL 0.1)		HG (MERCURY QL-0.5)	
CA (CALCIUM QL -)		MN (MANGANESE QL=20)	
MG (MAGNESIUM QL-)		PB (LEAD QL)	
NA (SODIUM QL 2)		SE (SELENIUM QL=10)	
HARD (HARDNESS AS CALCULATED)		ZN (ZINC QL 10)	
*WL (DEPTH FROM WATER SURFACE TO BOTTOM OF WELL IN FT)		LAB COMMENTS Drop	

LAB NAME Larron Laboratory
LAB ADDRESS AND PHONE 1 Broadway Cape Girardeau MO 63701
COLLECTED BY (SIGNATURE)
(CIRCLE ONE) (LAB) LANDFILL

(CIRCLE ONE) LAB LANDFILL

CIRCLE ONE
BAILER WELL
PUMP SURFACE SAMPLE
OTHER POND

COLOR ODOR
COLLECTORS COMMENT

PLEASE FORWARD TO DNR-WASTE MANAGEMENT PROGRAM
PO BOX 176A
JEFFERSON CITY MO 65102

TH (TE WAST MANAGEMENT W

R MON TOLINC (R OR)

ST C COUNTY /NIT EY LANDFILL LAE SUPERV SORS ICN
LANDFILL OWNER/OPER

URE A DATE (L ELITED 11-29-88
DATE PE D 11-29 88
A FLE F CD FFD PF Y F F -0
C F F C S E W I H L)HG T NF 0

AL (ILLE U F F T
FL F M AL A D MEFLITY A L
C T E P I J FSIOR C N (1

UN TS U /L

A N A N

L (NITRATE/N RITE N DI

T (1) F L

LO (JL 5 42

C CHLORID QL 1) 1

T (QL 1 1202

I NC ON J TIVI A 25 JMHO/CM 1422

TH (J T 71

FL (F LORIDE CL-0 1)

O (SULFATE QL 0 1

CA (AL QL)

MC (MAGNE U1

NA (S DIUM QL 2)

HARD (HARD ESS A CALC) A ED)

WL (DEPTH FROM WATER URFACE TO BOT OM OF WE L IN FT) 70

S L

A ARS NI QL 1(

B BORON L 1)

SA IA IUM QL 1

CD (CADMIU DI

CR COBA 0 6

F (CHROM J 0

CU O FE L)

F (IRON QL)

HG MER UR QL 0)

(MANGAN S QL-2

(E D DI

SE (ELENIUM 0 1)

N (IN QL 0)

AB COMMENT clear liquid with gray PPT

Larron Laboratory
529 Broadway
Cape Girardeau, MO 63701

LA NAME
LAB ADDRESS AND PHONE
COLLECTED BY (SIGNATURE)
(CIRCLE ONE) LAB LANDFILL

CIRCLE ONE
BAILER WELL
PUMP SURFACE SAMPLE
OTHER POND

(CIRC E ONE LAB LANDFILL

COLOR cloudy ODOR none
COLLECTORS COMMENT gray PPT/suspension

PLEASE FORWARD TO DNR WASTE MANAGEMENT PROGRAM
PO BOX 176
JEFFERSON CIT 10 651

T I C I W E N CLM I I WATE MON I ICKINC REPOIT

F IL T I CSANCLI CO INT N T F) I ANC ILL
41 118 1
CL I O J

I E SUPE VI R SIGNAT E AL I E
L DFIL GEN OF KATC

Dwk 11/1 for 19 Dec 88

ITTE CO LHCTED 11-29-88
D TE CLI F ICP 11-29-88
SAM IL I I PI TEI FE IR F
SAM LE AI E I TO DIIC TIH

I O M 3P F D IIY C L II E CU ITA I NII
ICC E F FAF I IN T PI IFI II ICU F VALUE
I AY J CCC I FI T C M C SI CE COF FAR MLTER I
RE F D FOF L MAN OI E A F I L

AI F I I T IIC
JI HEA IF MEFI A IFII
HCL II F T CA IIG

JI T MC

UI TS UG/I

N (AM1 VIA A N CL)

F T (I RA E/NITIF E G)

TO L F C U

COD O J)

C (CHLORIDE OL 1

TL (C)

D C (CONDUCTIV TY A C JMHO CM)

FH (UI TS)

FL FLUOR DE OL- 1)

F (SULFATE O O 1)

CA (C LC JM OL-)

MC (MAGNE UM O)

NA (ODIUI OL-2

HARD (HARDNESS AS CALCU ATED)

W (DEPTH FROM WATER S RFACE TO BOTTOM OF WELL IN F

99
9
1077
809
71
09

H I F I

AS (AR EN C I)

F (EC I C

B (BARILM CI I C)

CD (CADM U O P)

CO CO IIT 60)

CF (HFOM U1 CL 5)

L COFPFF OL J)

*FE (IRCN OL J)

HC (MERCL) OL 5

MN (MANG N E L-

PB (LEAD OL 5)

SE (CLENIUM OL-10)

ZN (ZINC O C)

50

LAB COMMENT Red/cloudy color with rusty ppt

Larron Laboratory
529 Broadway
Cape Girardeau MO 63701

LAB NAME
LAB ADDRESS AND PHONE
CO ECTED BY (SIGNATURE)
(CIRCLE ONE) AB LANDFILL

(CIRCLE ONE LAB LANDFILL

CIRCLE ONE
BAILER WELL
PUMP SURFACE SAMPLE
OTHER POND

COLOR cloudy/red ppt ODOR none
COLLECTOPS COMMENT rusty ppt

PLEASE FORWARD TO DNR WASTE MANAGEMENT PROGRAM
PO BOX 76
JEFFERSON CITY MO 65102

4 H QTR WAST MANAGEMENT WATE MONITORING REPORT

ACILITY T FRANCOIS COUNTY ANITARY LANDFILL
ERM T NO 18701
FOINT NO)

LA SUPERVISORS SIGNATUR A ID DATE
ANDFILL OWNER/OP RATO

DATE COLLECTED 11-29-88
D TE RECD BY LAB 11-29-88
SAMPLES RECD ROPERLY RESER E (Y) N
SAMPLES ANALY ED W/ N HOLDING TIMES (Y) N

NOTE QL MEANS THE REASONABLY ACCEPTABLE QUANTITATIVE MIT FOR EACH PARAMETER IN THE SPECIFIED JNITS LOWER VA JES MAY BE REPORTED FIRST COLUMN OF PAL FOR PARAMETERS IS RESERVED OR L SS THAN OR REATER THAN SIGN

ALL SAMPLES AR TO FIELD FILTERED FOR HEAVY METALS AND MERCURY AL WE S ARE TO BE BAILED PRIOR TO SAMPL IG

UN Ts - MG/L	
NH3 MMONIA A A N QL 1)	
032 NITRATE NI R TE AS N QL 0)	
(TOTAL F QL 05)	
LD ( )	9
LH OR L 1	1
(L 1)	335
C ND (CONDUCTIVITY AT 2 C UMHO/CM)	473
PH (JNITS	76
FL L PI QL)	
SO (ULFATE LL 0)	
CA ALCIUM QL)	
M AGN SIUM QL 2)	
A (SOD M LL 2)	
I PD HA S AS A CULATED	
D PTH F CM R S F C OTTOM C W LL I FT)	06'

LIT UG/L	
AG SILVER QL 1	
AS (R ENIC QL-10)	
B (BO ON QL 1))	
BA (JA IUM QL 0)	
CD (CADMIUM QL 2)	
CO (OBALT QL 50)	
CR (CHROMIUM QL 5	
CU (COP P L 5)	
FE IRON QL 20)	420
HG (MER URY L 0 5	
MN (MANGANES QL 20)	
PB EAD QL 5)	
E (EL NIUM QL 10)	
ZN ZINC QL)	
LAB CO M NTS	

Larron Laboratory
529 Broadw
Cape Girardeau, MO 63701

LAB cloudy none

MANAGEMENT DATE

LANDFILL

SUPERVISOR SIGNATURE

David 19 Dec 88

11-29-88

11-29-88

OWNER/OPERATOR

AMOUNT

TOTAL

UNIT

CODE		7
CL (CHLORIDE QL=1)		105
T		1136
CONDUCTIVITY AT 25 C (MHO/CM		1608
PH		6.6
FL FLUORIDE QL 1)		
O (SULFAT QL 1		
CA A C UM QL)		
MG MA NE IUM CL)		
NA (ODIL QL 2		
HARD (HARDNESS A CALCULATED)		
WL (DEPTH FROM WA EF SURFACE TO BOTTOM OF WELL IN FT)		711"

FE		12000
HG (MERCURY QL 5)		
MN MANGANESE QL= 5)		
PB LEAD CL		
SE SELENIUM 0 -10)		
ZN (INC QL 10)		
LAB COMMENT	Red ppt	

Larron Laboratory
529 Broadway
Cape Girardeau MO 63701

LAB NAME
LAB ADDRESS AND PHONE
COLLECTED BY (SIGNATURE)
(CIRCLE ONE) AB LANDFILL
(CIRCLE ONE) LAB LANDFILL

CIRCLE ONE
BAILER WELL
PUMP SURFACE SAMPLE
OTHER POND

COLOR rusty ODOR none
COLLECTOR COMMENT

PLEASE FORWARD TO DNR-WASTE MANAGEMENT PROGRAM
PO BOX 176
JEFFERSON CITY MO 6510