i£ieAA.roe

reU^« *Mmoiimi-* 0<j .id

Stpp.R D. IDW V« I *2 o* **f2-MP**

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CONSULTANTS, INC.

VOLUME II OF II

SUPPLEMENTAL DESIGN REPORT
INDUSTRIAL DRAINAGEWAY REMEDIATION
KENTUCKY AVENUE WELLFIELD SITE
OPERABLE UNIT NO. 3

PREPARED FOR:

VIACOM [NC.
11 STANWIX STREET
PITTSBURGH, PA 152-22

PROJECT NO. 98245.30/02
APRIL 19,2001

339 Haymaker Road • Parkway Building • Suite 201 • Monroeville, PA 15146
(412) 373-5240 • FAX (412) 373-5242 • E-Mail: crc@cummingsriter.com

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*1*V CONSULTANTS, INC

VOLUME II OF II

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SOIL SAMPLE COLLECTION REPORTS

r 'UMMINGS
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SOIL SAMPLE
FIELD COLLECTION REPORT

Ja^^plihoi ro; nT 1

Bl '" ' I I III y u ^ y ^ ^ U j Project No. 982H 5. 3o / Dl

Date Collected Z /H/Qi Time Collected ^-JO- i ct \z:cc , Sp-JQ-?^ igqp

CollectedBy CLN 50-JQ-3«»+ e-DS", 30-XO-qof iz.'os

Cummin^s/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

22too Z3+0* /"

Pood

1 StVoptha

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
5D-IQ-	Q-Jl	LooSfr- hfcarlc, &.\+£ oc*a_nr ^A.c, wc>
	2!	rrsfig.^lor.k, K:H\ we
JO-? ID-H—	o "^	i-oosc.b^c^ -s.'t'H1 Kif 5b-v^ fkw^ jr^v cl<^y1 wgf

Sampling Method 2"»y^reco^ w/ gcekk. Uer

Composite Sample? Yfc] ND Composite Sample I.D. No.

Describe Compositing PUce in t^p^fe pen ^ M*

SAMPLE TYPES COLLECTED

Type<2>	Volume	Per Sample?		Per Composite?	
	Hog.	Y IS	N •	Y 0.	N D
		Y D	N •	Y •	N D
		Y •	N •	Y •	N •
		Y •	N •	Y a	N a

Number of Containers l^

Date Received by Lab 2 I2\ IO \ Laboratory STL

Weather Conditions Cloudy , j>oogNj, 3QoF

Remarks 1^ qcttUtt hokr b°A 'fa -freok^ .b^ld^ c^ 30^1e.^ ^4 I^O

ft ganic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/coip

r 'UMMINGS
WRITER
± V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

*M- j>S^-\pli^ roiof 2 '

Project NameXnA,<rr-,o,l O ^ T ^ v ^ y S g v y U j Project No. 9 8 2 H 5 . 3 < b / o i

Date Collected 2 /R/Ql Time Collected 50'IQ ~g Q-HHJQO, 5D-TiV6tfr-m<|o

CollectedBy >&LW- ' S*ro-*>«rf-«.'Z0; 5D-XD-6.fm-.zo

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

+2Z1-5& -4 2"?tt"=

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
S0-1D-5		
SD'XD-C	2-x	Loose,. ^)Q«IL 3'J4, weT
sfrrp -R	g^T Al-K	Loose.. hWk« s ; H ^ J cfcyeg, jfov, cky^ ^fe"t~ y^nse. ^r^y, chy^ Mors

Sampling Method Scoop<aj Sg^ple fr*^ C>i', <-ft"Sampler Vrowi ly fr> W

Composite Sample? Y (3 . ND Composite Sample I.D. No.

Describe Compositing rkco »n G^pcs^b^ p3n q^ ^i/

SAMPLE TYPES COLLECTED

Type(1)(2)	Volume	Per Sample?		Per Composite?	
PCft		Y P	N O	Y 0	N D
		Y D	N D	Y D	N D
		Y D	N •	Y D	N D
		Y D	N D	Y D	N D

Number of Containers M

Date Received by Lab 2 IZ\ /Of Laboratory STL

Weather Conditions O o u J w (K/MCJv. ? < P ° F

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fn/coip

r "UMMINGS
&ITER
L V CONSULTANTS, INC.

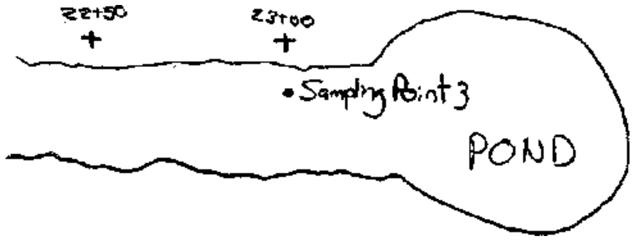
SOIL SAMPLE
FIELD COLLECTION REPORT

QPlTpli^ Po'.n^" .3

W p k j Project No. P 8 2 H b . 3 o / o i

I Date Collected 2 /fl /Ol Time Collected SO -ID - %l lH'3Pi SD-ID-)Q«t-w.3c>
Collected By CLNJ SO'IO-INf W-HO, SO-lO-IZ<,t^Ho
I Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
SD-io-q	o - i '	
-ID-IP	\f - z'	-nnsg, blqck^ 3iH~, We.t"
	Z"-3%'	loces, hlqck. ST H^ -trace cW^; We+
SD'IO ~ 12	y - H '	LQCSO, hUck i s;j+^ u/.sc>^e jrc^v , CIQ^, wet

Sampling Method
Composite Sample? YC3 I^b Composite Sample I.D. No.
Describe Compositing "m OQ^ q^d ^rx

SAMPLE TYPES COLLECTED

Type<2>	Volume	Per Sample?		Per Composite?	
Kk	Hoz	Y D	N •		N •
		Y a	N •	Y •	N •
		Y •	N •	Y •	N •
		Y a	N •	Y •	N •

Number of Containers n
Date Received by Lab Z AZ1 / O) Laboratory
Weather Conditions O o o d v . Windv\ 30>°F
^^Remarks

•
1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

^UMMINGS
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SOIL SAMPLE
FIELD COLLECTION REPORT

^mphoQ PO\Y& H

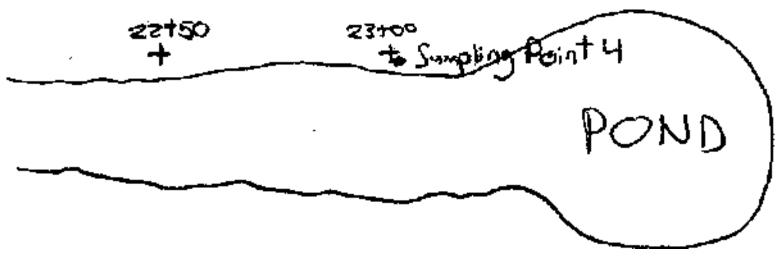
Project Name lnJ^^-ql D_r o,_0 cyww Sg^pUj Project No. 982^L| 5. 3o/ Ol

Date Collected Z /A/Ql Time Collected 5D-XQ-|3 °if- 'M150 SD-ID-P-HT tt'5P

Collected By CUsJ »-ID-6«* N>55, 30-Jl>-fc<ri'"3?

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample LP. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
SO -TO- H	\'-2'	LQ__.I H^L. ?rH , wj 4^ q^ rfc^ „cV
^P"I{_-16	2('W	he/ye, 3^ hrouo, &mk(ctavf, wi»re\-

Sampling Method L& _^np>€f-Tro^ Q-2^ «nd" ^" H '

Composite Sample? Y £3 N D Composite Sample I.D. No.

Describe Compositing rUce fo pQ*'> qf*d *v%-

SAMPLE TYPES COLLECTED

Typefl)	Volume	Per Sample?		Per Composite?	
		Y D	N •	Y ^1	N •
		Y D	N O	Y D	N D
		Y D	N •	Y D	N a
		Y D	N a	Y D	N D

Number of Containers K

Date Received by Lab 2 /2| / Q| Laboratory ^ f L

Weather Conditions **Qcx** Aj, ^)t\d\j1 30^0 P

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fn/corp

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SOIL SAMPLE
FIELD COLLECTION REPORT

Jgrvyhricv *Po\f\T 5*

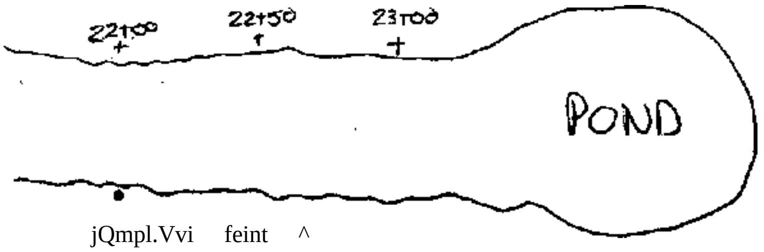
W ^ t N a m d ^ ^ o J Qrftiocyvjdy S g ^ U j Project No. 9 8 2 M b . 3 o / o i

I Date Collected Z /I^/Ql Time CollectedSD-ID-n oH-fito, 50-10-fogr- I5:JW

CollectedBy C L N S o " I D , " * * IS35, ^ XO,2Ci< * ^^

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



jQmpl.Vvi feint ^

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
	o-r	LooSfc, hlcdi, 3,)-^ *WeV*
	r-z'	L o o s e , blqcfc v S"rVh ^e"V
P-rD-iq	2-3'	
^b-Ift-20	s'-q'	

Sampling Method ^ p d ^ e ^ q ^ p k r Q - , ^ **LR** _ < ^ Q W *2.r-l\r*

Composite Sample? Y §l ND Composite Sample I.D. No.

Describe Compositing ? U c £ ;o d^ooSqblc- ^Qn SYI<J rvu>

SAMPLE TYPES COLLECTED

Type*2*	Volume	Per Sample?		Per Composite?	
_ _ _ _	**Mo***	**Y a**	N D	Y (&	N •
		Y n	N D	Y D	N D
		Y D	N D	Y •	N D
		Y •	N D	Y •	N •

Number of Containers **H**

Date Received by Lab *2 IZ\ /Q1* Laboratory STL

Weather Conditions C U A |, unidy^ 3Q°h

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

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SOIL SAMPLE FIELD COLLECTION REPORT

5P[\y\ £ iW (

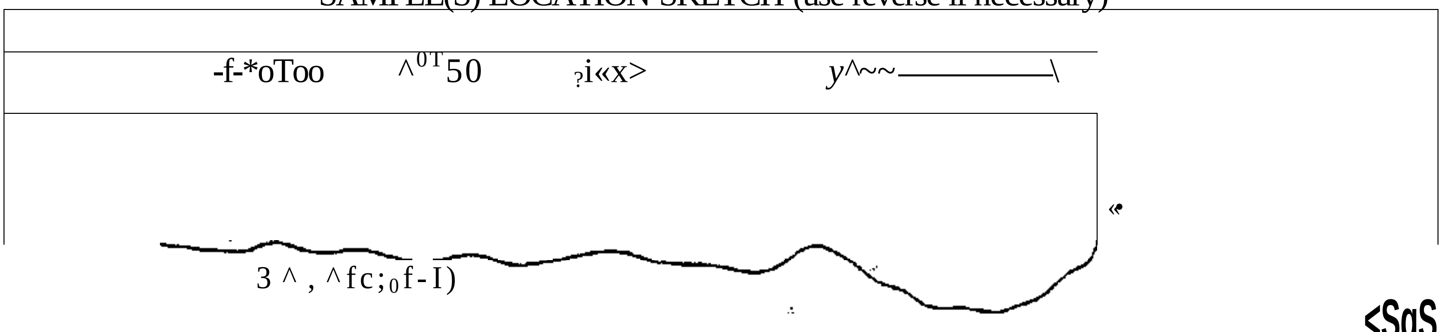
Project Name XrvL^-.ol Dr^cywcy Sg^hj Project No. 982H5. 3o/p|

Date Collected Z 0>/Q| Time Collected ^-ED-HZ ^ IOIIQ, 5D-XD-MS4)&g^

CollectedBy CLN S^I^Lj *\ \0^e>t5D'lt>-^H;tt

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH-(use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^*)
5D-XD-H2	O'V -2'	X' tW^ Loe^, ht^^feclgv, rook nxo^t ss^^a
	2'-3'	
	3r~M'	tora^, h<-owti, ^^jkfegi^d. urr^

SampUng Method \~WnJ <*Jf>r O'-l'^ *-R SGmpicv K-l^ .

Composite Sample? YD N1^ Composite Sample I.D. No.

Describe Compositing Pkoe ,v» r>q0 <£ mn^ uj J^J Spg<k

SAMPLE TYPES COLLECTED

TypeP)	Volume	Per Sample?		Per Composite?	
	u r^	Y D	N D	Y EJ	N D
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •

Number of Containers H

Date Received by Lab 2 iz\ /of Laboratory ST^—

Weather Conditions % ,nr^ i '-/O^P

Remarks _ .

9

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

n7/corp

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SOIL SAMPLE
FIELD COLLECTION REPORT

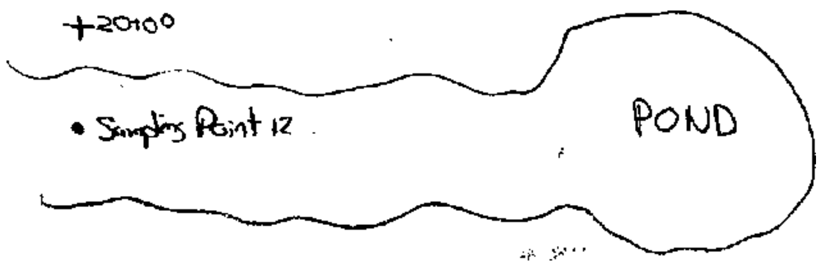
qwosW felol |2

P t NameJ-ndvisfr.otl IJr^o^&gwcw . T g ^ U j Project No. 9 8 2 W S . 3 o / p |

Cummings/Riter Consultants

Elected Z'/go / Q | ' Time Collected SP-IB-<H6s* f^>; -SP-JO-HI <>V O.HQ

:tedBy p, M S AMPLE(S) LOCATION SKETCH (use reverse if necessary) M:3o50^D-5C^,,!S|



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
		kcv«r.. f)Wlr, ^|-Lg^nc\ WK5-T"
	"¥	SfVXS qs qfcp^, Qt,1p Qp-5ft-lQ-^
•H>fep	2^-3"	UCPSP-I hWkv ^ M & tS-ncJt WCrV
SD"r0-5O	3^M	

Sampling Method)-^<j Qu^cr CM', ^-8 Sot ler i^2< Z-ft ^

Composite Sample? Y tS^ ND Composite Sample I.D. No. ________

Describe CompoTiting (pWg. rr> p^^ £ y^fy ^f Jp*i±

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
A^QC		Y a	N a	Y ^	N •
		Y D	N a	Y D	N •
		Y a	N a	Y a	N •
		Y a	N D	Y D	N •

Number of Containers 5

Date Received by Lab 2/21 /Of Laboratory

Weather Conditions S'.irYv.fiMCF

Remarks ^~Xt)-4B ,'<' ft. p n? .^A-rD-W^
^

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

SCiM ra- Po of 12

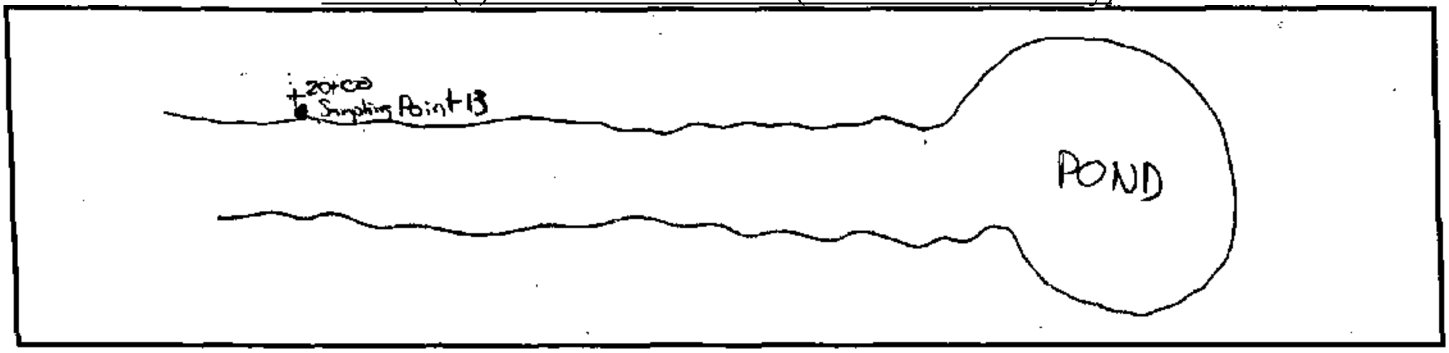
ProjectName Xnjirifr;o)| Dnwoyw/w . WpUj Project No. 982HS.3O/Q|

Date Collected Z /IP/QI Time Collected 5D-JD-5tqt i".3Q Sft-XQ-52^-50

Collected By CLN &-Tb*&»*v \Xrto*H*n™

Cumriiirigs/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[01])
	0-.I'	Lor.^e TGnffl'l[5]! ^n3v'^ "^ ^^ kf 3'lty .*^<^v .jl rfcmp- yagr-1 l'nc'r^
	1'- z"	Do^fe, bwmin rr> crfiy, dftVff T/If, Vracc 5ft A nn<K^
	2' -V	(^crig- fo ci~^e, \)xo^<\ feB^ci:, SiIf, sn<\d. cWf, *\c*5h
3D-XCi -5M	3'• - H'	

Sampling Method Mg/tJi Qi/yr Q~\\ /.ft SQnflkr-)X-M^ ,

Composite Sample? V^ZJ . ND Composite Sample I.D. No.

Describe Compositing PWo IA C)^•Qc&hk JO<A^ <$rr\ «"v^ i^/ l^y^l 3p^cfe

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
SE		Y •	N D	YEI	Na
		Y •	N •	Y •	ND
		Y •	N •	Ya	•Na
		Y •	N •	Ya	Na

Number of Containers H

Date Received by Lab 2/£!/O Laboratory SJL

Weather Conditions S^nn\ft Mo*F .

Remarks K$ '2 ~ 2 - 2.Q- Q I ,T*i ^pU-(^ | f 1 *?N

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organicT, etc.

fl7/coip

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IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

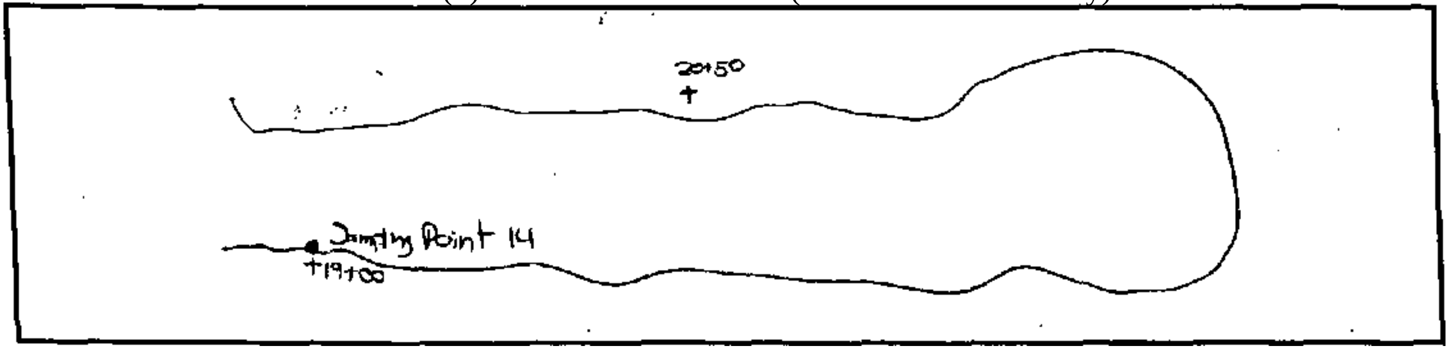
.tNamJunJt^fridl Pr^py^y 5g^Uj) Project No. 982L| 5. 3o/oi

Date Collected 2 l& I Q\ Time CoUected^-Tb-SScjf ,?;tc^ 5o-xQ-^g^ir^

Collected By CLN

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^))
	0-1'	Lqy£, hrq^in, SCyyj£ 3 *~<vcK V\Q,XV
	1 r ~ ^	^^feafc-. brou,^r^ffA^1 ^oor^t-

SamplingMethod H<^ Q<y<- Q-l^ Lft ^o^lgr i"~V .

Composite Sample? YD . NO Composite Sample I.D. No. ___

Describe Compositing Plgce '1 Gr^po^Kb pa/i cd KI<V W/ "fnawd

SAMPLE TYPES COLLECTED

Type(1)(2)	Volume	Per Sample?		Per Composite?	
Bc&	MO?:	Y •	N •	Y El	N D
		Y •	N •	Y D	N •
		Y •	N •	Y D	N •
		Y D	N •	Y D	N •

Number of Containers **2.**

Date Received by Lab Z g| / O Laboratory 5TL

Weather Conditions Xi moy, LjQ°F"

emarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

3 °imD 'r\ I W 15

Project Name Xr^r-^l O r ^ y ^ y , W ^ j Project No. 9 8 2 L | 5 . 3 o / Q |

Date Collected 2 f&> I OI Time Collected Sfr-rp-sqgt fg:i5. 5D–*-Q-3fr<tf-ft'ii?

Collected By CLN
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

fltoo

• Sointpl;^ Po,Vlf |5

i-l^t-oo

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^1)
	^~ 2	Loose. 9'<*rfc . 3<T»WJ cijrAvri >
	2'-*	^oca?, Qrow\ .S^/iO <CiCiy^*^Yt-| y Y\IT

Sampling Method Q-~\y sccppccji b^ h<^ in c^ r-s' ^-ft ^^p]cr

Composite Sample? Y $ N D Composite Sample LD. No.

Describe Compositing £i<*<*- ;r\ u >ick

SAMPLE TYPES COLLECTED

Typeffl	Volume	Per Sample?		Per Composite?	
EE	U££.	Y n	N D	Y Q	N O
		Y D	N •	Y D	N •
		Y D	N •	Y •	N •
		Y D	N •	Y D	N D

Number of Containers J2L

Date Received by Lab ? /2i / a Laboratory

Weather Conditions ^Ty r\ r\\j , M ^ F

Remarks SJV I"ft- • ^ ^ V s ' '^ '? & - ICKS^ft-Sfl "KU °yV |PV< 1^ "~
0<<W ^ °U V or ord^r OtjC f-o 5q^pli-n6j Crc-w fnL.v^j 3<^pl£ °[V
G / V He-rGnr loc-qrrc*^

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
&ITER
l V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

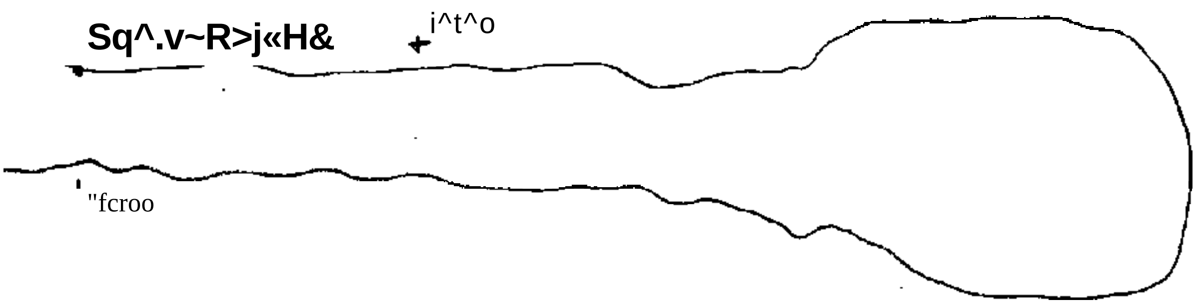
cS^phvg fepHg

j^^ctNamelrwki^ooil Dn>Mty woȣy . W ^ U j Project No. H82W5. 3o/ Q|

Date Collected 2 l&>IO\ Time Collected Sfi-TO-^ shino sQ-Jft-Gi <5z«

Collected By CLN
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
i	o-r	^ " ^ >_Lor*-- HcAt -Kf& q^jravrl, Wet

Sampling Method hWl) gpy^ Q-j^7^ j_ft SA^jjier l"-?^

Composite Sample? YD N D Composite Sample I.D. No.

Describe Compositing Pl^ce op Q/SfoyibW pc^y^ cyy\(3 oy> vJ K<**t sb<idfc

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
	U £2-	Y a	N •	Y cr	N •
		Y a	N D	Y D	N D
		Y •	N a	Y a	N D
		Y a	N •	Y a	N D

Number of Containers 2.

Date Received by Lab 2/21/ot Laboratory 3PL

Weather Conditions S^iMfP

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
&ITER
LV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

O ^ p l ^ l (o t h T 1*7

Project NamJVwJ,<K--.c,I O n ^ y u t w , W y U j Project No. 9.82 W 5. 3 o / 0 l

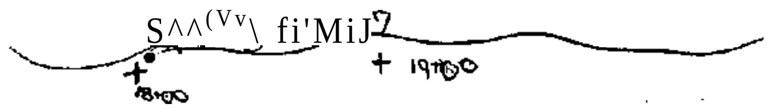
Date Collected 2-/aP/Ol Time Collected SQ-IQ-G2. ^V f f t , ^ 5Q-TD-C3<ih;

Collected By CLN ^O^xO-eKc^/^^sO-JO-cJ^^tQ

Cummings/Riter Consultants ,x

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

t-*M9»



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
	O-i'	
	o -(/	
	'2*	
TfV£ft-g?	2 ^	ft»0<^ ^Ttf\vi j c k v ^ rvypcs^

Sampling Method Q-j H^d qwsGWn . iW ^fi 5^pler

Composite Sample? Y^ N D Composite Sample I.D. No. ________

Describe Compositing Pkqv ^ d^pp^f- |^n ^r(^t> Ki J kq»*A SpaAf

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
H:A	MO?	Y D	N D	Y E	N D
		Y •	N •	Y •	N •
		Y •	N •	Y •	N •
		Y D	N D	Y •	N •

Number of Containers H

Date Received by Lab 2 /2\ /Oi Laboratory 3. \ 1~

Weather Conditions J ^ A V , H O e F

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/corp

^UMMINGS
&ITER
L V CONSULTANTS, INC.

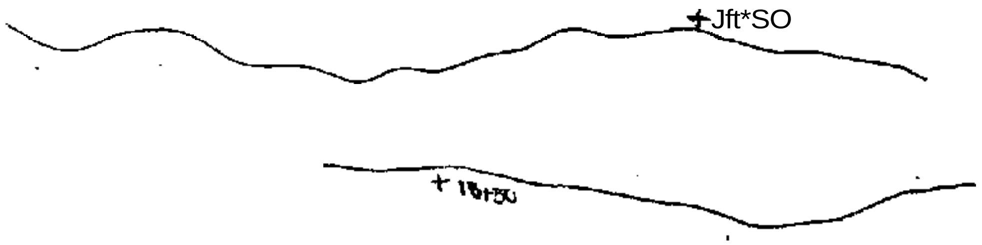
SOIL SAMPLE
FIELD COLLECTION REPORT

Sq*yl;n<x Po/pt' /ff

P

t Name Jrd^rr*! OrA-nog£w<w ^^p'g Project No. S82M5.3<^/O^
:ollected Z /2fr/c* Time Collected5D-nVa5 oV fj?:uS(•Sft-ia-ffk-fafo
;tedBy Q,M S)-ID-g5qfr i?,5»
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*')
.^-rp-ss	o-i	
	r-2	U?v3rs \Mc% vlfi cWy, W&V
	2'-.?'	

SamplingMethod .^cqppect tn ggU-pQ-1' frf-'S' hqrtd qcgc-r-
Composite Sample? YD N &. Composite Sample I.D. No.
Describe Compositing 9\w- in r*\y\ ^vnci ^TV S[1]^ h^ ^pcck

SAMPLE TYPES COLLECTED

Type*2)	Volume	Per Sample*?		Per Composite?	
Pcft	Hoa	Y 0	N n	Yip	N a
		YD	N D	Y a	N D
		Y D	N D	Y a	N •
		Y n	N •	Y a	N a

Number of Containers Jj
Date Received by Lab 2 /<^l / O) Laboratory StL
Weather Conditions ^JIA^VI

.^Jemarks \

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/cwp

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SOIL SAMPLE-
FIELD COLLECTION REPORT

5^

Project NameTrcUVngl &N.tv*y^cM ISq^pUjj Project No. c^82M'5.3o /of

Date Collected 2 /2P/PI Time Collected SD-rb-^oV IH'C^p^soA^

Collected By CLK) ^ ^ ° -o/«,+ i H3*

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

«SWpU_3 fe.;^r ^

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
sirvift-oo	o-r	Loo^ to dens*, bro^r. Vo ^Wlr, ^/f J rk^. .y^p^t
Sb-m-oi	2--r	

Sampling Method O " 3 • Hgrxjl ftuyr

Composite Sample? Y $ NO Composite Sample I.D. No.

Describe Compositing :r\qc€ Vo Q te ftcfonh^ C: OCJ-A <^yl w>,"g U J fo%yy\ S&\A

SAMPLE TYPES COLLECTED

Type:U)	Volume	Per Sample?		Per Composite?	
DCfr	Mo?	Y D	N D	Y $	N D
		Y D	N D	Y D	N D
		Y D	N D	Y D	N •
		Y D	N D	Y D	N •

Number of Containers 5

Date Received by Lab Z te\/Q\ Laboratory STL

Weather Conditions 'Swnox) , M.*S°F

Remarks £R-V2-2o-Q| oij- IM:HO - 2/>,H « -

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f17/coip

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SOIL SAMPLE
FIELD COLLECTION REPORT

^V;QQ Poxri 2&

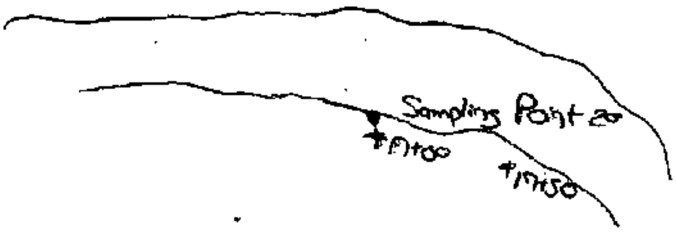
^P&ctNameTocUW^ tWncyiw 5^pi,>^ Project No. %2M5.3Q

I Date Collected ££b/Q| Time Collected SD-TD-^gst (q:HS SP-XQ^?qW-f\

CollectedBy *Ct-tiS* 30-^-^,^:3^30-^-^^:55

L Cummings/Riter Consultants

. SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
SD-P0-9Z	O-Y	
SD	t(2r	fibug, b<o^ ft>K)^
I	2:	Pop, 0P ^Q-rivo?- :w ^ .^bc?yf
SD~ITO~t7'5	2 " ~ ^	0c^5£, ^rfrv) cUy ^j ^7^ 'VAveK ^ors^

Sampling Method Rqnd Q1yyrio^ Q - V

Composite Sample? Y139, ND Composite Sample I.D. No.

Describe Compositing . PUce 'm ol'SpcJsiKlfr pGw. qod POJ "MY u) *h<tnti* Sp*Tc/i

SAMPLE TYPES COLLECTED

Type(1)(2)	Volume	Per Sample?		Per Composite?	
£^L		Y a	N •	Y D	N D
		Y •	N •	Y D	N •
		Y •	N D	Y D	N •
		Y •	N D	Y D	N •

Number of Containers H'

Date Received by Lab 2 72) / Q| Laboratory STL

Weather Conditions Qr^jdu (JQ°F

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
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L V CONSULTANTS/INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

5«.

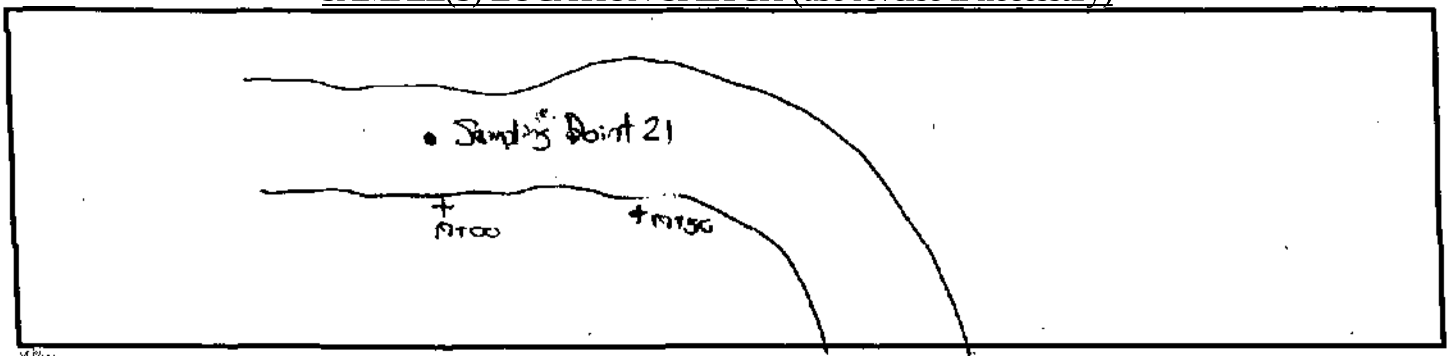
f

Project Name TrvJv,4r^l Dr^ocyijcw .WpUj) Project No. 982H5. 3o/oi

Date Collected Z /3>/Q| ; TimeCollected SS-rrv^C «t j^cfr, S0-X0-7?„f K^ 50-rO-TB^ i5."S

Collected By CLN
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
STH.Ch<r7 5f)-rf)'i8	ir-V	Lc)c7^, hWk, ^Ui? JNTCW/IJ, **£-•)•

Sampling Method rtfl^d gRffirivvs Q~3>^x
Composite Sample? Y^. ND Composite Sample I.D. No.
Describe Compositing

SAMPLE TYPES COLLECTED

Type	Volume	Per Sample?		Per Composite?	
		Y D	N D	Y 13	N D
		Y D	N •	Y D .. •	N D
		Y D	N •	Y D	N •
		Y D	N •	Y D	N D

Number of Containers **3**
Date Received by Lab 2 /2i /Ol Laboratory
Weather Conditions Cloudy;, Uo°F
Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/corp

"UMMINGS
&ITER
IV CONSULTANTS, INC.

SOIL SAMPLE FIELD COLLECTION REPORT

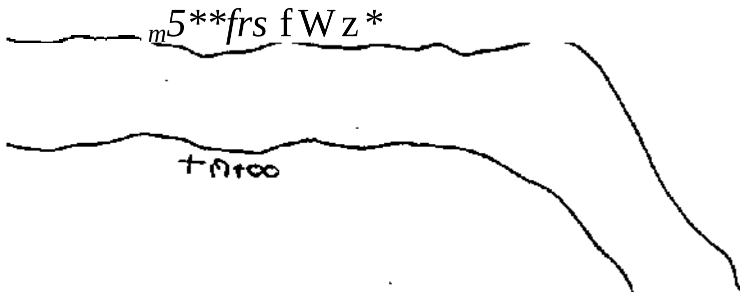
j^PsctNameXrvJos+QQil Drt^cyww Sg^Uj Project No. 982M 5. 3o/Q|

I Date Collected 2 ff^/Ql Time Collected^D-lP-^^lSUS ^ so-ro-ec^-f /»3o

Collected By CLN S0-X/)-6'^ .5*0

I Cummings/Riter Consultants •

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No,	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^[1])
3D-rp--7q		?Wte. yvj io bfc*-^ CUN , 3; H-^ Qf^A7«r ^fjcr-^ ^orjV
-XD-ftO		p£^^1 hw.w^-to ^iflf>&lT\ Or^n.r w»<5^f&– w\or^
•JD-»		£bA^e! y^vj rob&wn c]^}j rn °><^

Sampling Method Q ~ S" HQV<J ^Oyrtna

Composite Sample? Y"P . ND Composite Sample I.D. No.

Describe Compositing Plqgg in Q rspuS^bW p3n qncj ^V w1 K^n^ -sp^dr

SAMPLE TYPES COLLECTED

Type*[2]	Volume	Per Sample?		Per Composite?	
		Y D	N D	Y E^	N D
		Y •	N a	Y P	N D
		Y D	N a	Y D	N D
		Y •	N a	Y D	N D

Number of Containers 3

Date Received by Lab Z IZ\I £>} Laboratory **STL**

Weather Conditions QfruUh Mft°F

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f17/coip

r ^UMMINGS
&ITER
£ V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

3. *^pl?Q^ { W 23

ProjectNamdn A^ql [Wocyway Sg^pUj Project No. C)82H5*3o/0l

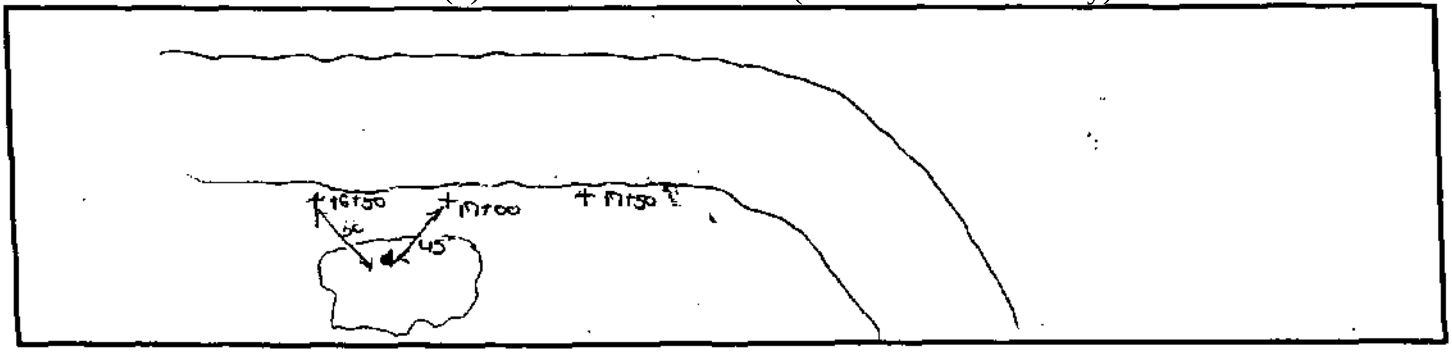
Date Collected Z ££>/Ol ' Time Collected 3 iyrf>&z Q4- Jfy.^.Sfr-IQ-gg^riggo

Collected By QiH 30rD-6S st ,3.30

Cummings/Riter Consultants

§)»)' ^TOw-i 17K5G
q5' P>c^ t^50

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])
SB-ID-82	o-r	Si^rP***, 51 If- o* ton oV moWral• ^Oi^

Sampling Method H^nd %jcrh^ Q~3

Composite Sample? Y0 ND Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
	4o£	Y O	N D	Y J^	N a
		Y •	N D	Y •	N •
		Y D	N D	Y •	N D
		Y D	N a	Y D	N •

Number of Containers M

Date Received by Lab z /a / oi Laboratory 5ZL

Weather Conditions St^ny \ Mf>°P

Remarks 3 > J Q ~ g>2 AQ<JfVttD 4*Wn horre

f!7/corp

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

^UMMINGS
f>ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

3°^p'|V>^

m

^ Project No. 9 8 2 W 5 . 3 o / o i

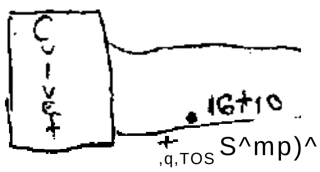
Date Collected Z /fe/Ql Time CoUectedSD-TP-es^t JG^CO . Sfo-tQ-Sc gf >Sbs

Collected By CLN 3D'«>^ ^ <a<*

* Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

R



,q,TOS S^mp)^ fo."nT- 2a + H+o»

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
		LCSM*S> Su*A <mt) ^,<~*\ifi-\. b r o w n . ^ o x f
• E-l-s-gn	<^ ""3	tX-n^. hvr>_,^ r l r w R P r G v ^ h^or^V

Sampling Method HQ^J Quyri^ Q~' z'

Composite Sample? Y® N D ^ Composite Sample I.D. No.

Describe Compositing PUcc ,vo ^rg posAltr p^n ^n<^ ^f'x^cl by h<xn<i ^p^ide

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
WW		Y D	N D	Y m	N O
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •

Number of Containers 3

Date Received by Lab ^ /^l IQ\ Laboratory STL

Weather Conditions Clo.X"W (irv*p

"emarks

•

1. Organic vapor analysis, pocket penetrometer, etc. f!7/coip
2. Metals, VOA, organics, etc.

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&ITER
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SOIL SAMPLE FIELD COLLECTION REPORT

g^yi^ fW 2_.

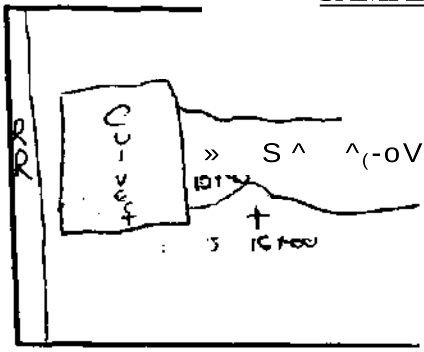
Project Namaln^.^q | Drx>i^ym».y SgvyUj Project No. ^82H 5. 3o/oi

Date Collected 2 /zo/Ql Time CollectedSp-.ro -88gV- lazo, "SCi-rQ-Sqof S^H

Collected By CL^ 5b-ifl-«»^»=*«>

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



+ I')TO'

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
sp-rp-S>b	si — i /	I<*W, JJo/L, 3? 14 OnJ sc^j, wet"
	/_ 2'	
sn-ro -so	2^2 "D*	

Sampling Method Hcy^ ^iffr Q^3>

Composite Sample? Y |3 ND Composite Sample I.D. No.

Describe Compositing rUq- iV* PQ^ 50 A iyy [1]v/ KGKICJ 30qcfe-

SAMPLE TYPES COLLECTED

Ty_>_(2)	Volume	Per Sample?		Per Composite?	
VOC		Y D	N •	Y ta	N •
		Y D	N D	Y D	N •
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •

Number of Containers J

Date Received by Lab Z (Z\ I Ol Laboratory 3T->

Weather Conditions .j^hny, MO°1^

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

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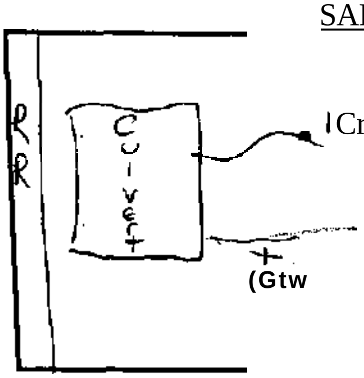
SOIL SAMPLE
FIELD COLLECTION REPORT

I^PkctNamelrwL^oil Dr^Mcy-i/ay .Tg^pUjj Project No. Q82H5. 3o/oi

Date Collected Z /SWOT Time Collected JEP-Tfi '9/ qV /g-35, Sfc-fQ-^Qtevt

Collected By CLN
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



lCrto -

-f tOroo

r Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^))
	0- M'	^Q5g. <hUck. 5^nc\ GnC^ Srgyy/^l i ivM37<t
	1'--2/	Lno^. blcA. ^^ <snA JYG^C-I { \jgt) o. If -she^o
	2r -i'	[-c»y. nicy-\c1 5Q^d qr\<A Qroivcl.

Sampling Method K<A nc^ Q y y Q--^/

Composite Sample? Y^ N D Composite Sample LD. No.

Describe Compositing flgcg- in i^ct-^y, QQ^ ^/-ftj h.7 ,„ 1 *Hftd S pa dc

SAMPLE TYPES COLLECTED

Type[1](2)	Volume	Per Sample?		Per Composite?	
VOC		Y D	N D	Y ^	N D
		Y D	N D	Y •	N a
		Y •	N D	Y a	N a
		Y a	N D	Y a	N D

Number of Containers

Date Received by Lab '•?ie\io\ Laboratory ^RL

Weather Conditions CU*As\ H?°r

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

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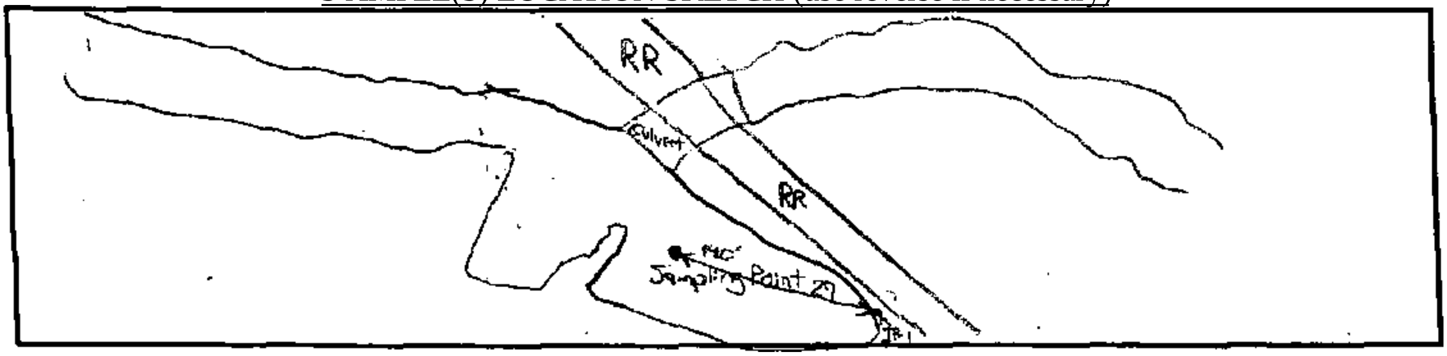
SOIL SAMPLE
FIELD COLLECTION REPORT

S ^ p U ^ |po-,n+- 2^7

Project Name XrvUV.oJ D r ^ c y ^ y . ^ U j Project No. 9 8 2 H 5. 3 o / p |
Date Collected Z /g|/Ql Time Collected ^-JO -9H q j - ^ ^-ip-«TWaw
Collected By CLN *$)-•&> *=*C^V.q^, ^0 -io-«¥7 V«-e.<©
Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])
33MD-<7q	O-M'	
	1 -2'	Ocnte. flqy nm4__3 ™ * ^___ ^VTJMYI ! >^^..'-<
	•?: -V	&£ 0 ^___QroMA f-o ^ ^ y , c k y <& ^r^vr=-f- roor<.f
	2' '3'	Pop, o^ sn-r^-qo. 5w%* <iKfiU£.

Sampling Method B ^ J QLyv;ocv Q ^ 3
Composite Sample? Y^ . ND Composite Sample I.D. No.
Describe Compositing Place- "'^ q"'*pU&4>V p<^ qoj ,^Ny j^j fr-gkfe.\

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
SSfc	Mo?	Y D	N •	Y H	N D
		Y D	N •	Y D fl	D
		Y D	N O	**Y •**	**N •**
		Y D	N •	Y D	N •

Number of Containers i
Date Received by Lab T^JZZ /o| Laboratory 5TL
Weather Conditions f U A ^ U.IAC^ K O F

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

r^UMMINGS
&ITER
XV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

^qy^plin^ PQ;AT28

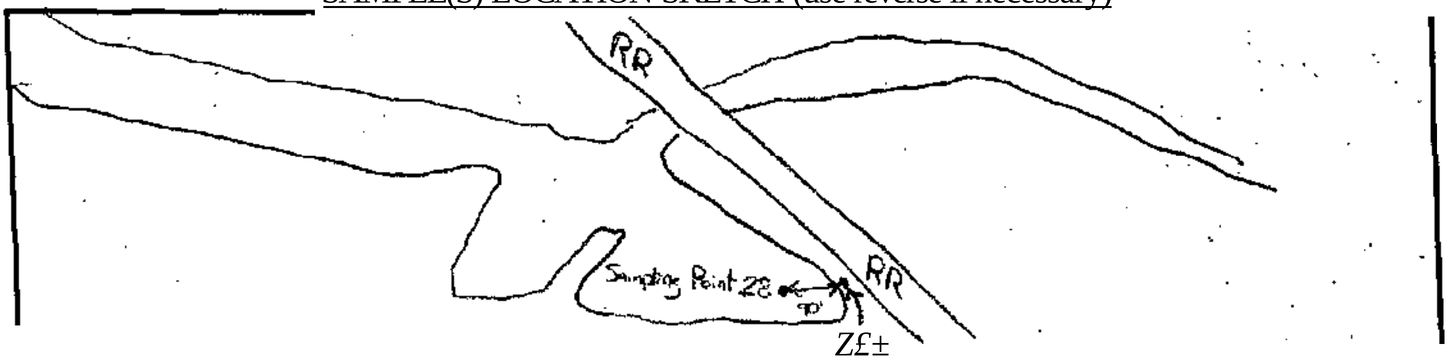
^^ectNameXrvlu^ooil Dn>iocy ww S^pUj Project No. ^82^^. 3o/oi

Date Collected Z• g| /Q| ; Time Collected3D"T0-TB nV fr55, SQ-rD "H office

Collected By CLN T0 -H>1«*KV-«i*>

Cummings/Riter Consultants ^ ^

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Z£±

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
	0- X'	
	•3' -r	£We., krfrrfv^ ^fy, w SOK f 3>'^' c) i w<^ *
rp-ioo	1 -1/	U>OSCrt K^^^n, S<|f, cky^£ jfq^-1, wCJ
r\\	-	RyE^t ft- ?

Sampling Method HcinJ *x^grj^ Q~g

Composite Sample? Y & N D

Composite Sample LD. No.

Describe Compositing PWf LQ

SAMPLE TYPES COLLECTED

Tvpe<2>	Volume	Per Sample?		Per Composite?	
&	^ D2,	Y D	N D	Y Q	N D
		Y D	N •	Y •	N D
		Y D	N •	Y •	N •
		Y D	N •	Y •	N •

Number of Containers -Jr

Date Received by Lab 2 122 1^)

Laboratory 5TL

Weather Conditions S^hvAj; Zfr0!" t voMdy

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, orgariics, etc.

fl7/corp

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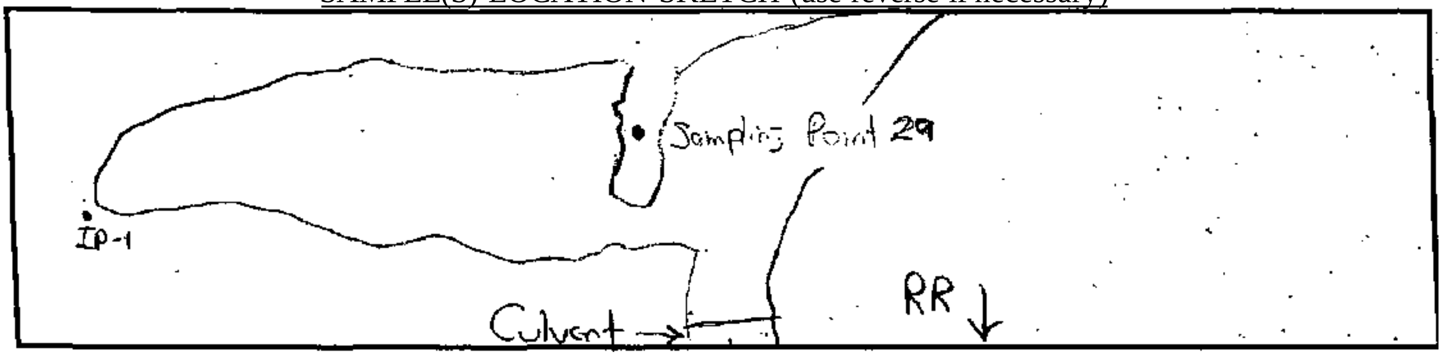
£V CONSULTANTS,'INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

^p h^ Po;n4 Z*=\

Project Name XnJu^ocI Droopyu/W WyU j Project No. %2W5. 3o/'Ql
Date Collected Z I2.\ I Q\ Time Collected 3Q-JD-^f ^-CKIQ , 'sp-ro^tcg <y/f ^15
Collected By CUsi 5D-£0-»G5^'V
Cummings/Riter Consultants ••

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
SD-UVJOZ	O-f, 2^§/	Loose Lo-tH, Cky.^ ^'i^Wc «MXO^ .W3;<T-

<*s nkewc-

Sampling Method 1 u*hd ^c lo<gr,fyy^ 6-3/
Composite Sample? Y JXJ . NNDD . ^7 Composite Sample I.D. No.
Describe Compositing PW ,n ^ * ^ V . p / \ <£ «M;V \. I jv^wl

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
	Mo?	Y D	N •	Y Q	N •
		Y D '	N •	Y D,	N •
		Y D	N •	Y D	N •
		Y D	N D	Y D	N D

Number of Containers H
Date Received by Lab "% 122 I Ol Laboratory STL
Weather Conditions A^rvnv^ ,, <?£°P ^.inflj
Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

"UMMINGS
J2ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

<Jfrw\phnGj vbiry 3Q

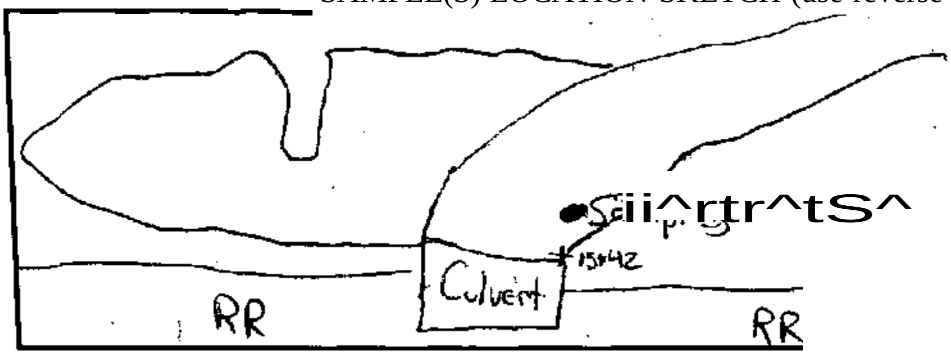
• ^ ^ c t NameJ-rvh,<fr»«il IJrQ*o°^ei>w . W p U j Project No. 9 8 2 H ^ 3 o / o i

I Date Collected 2 I2\ / Ol Time Collected S0T0-/og ^S'.^^fl'Xft~*fr<*H'?5

Collected By CLN ^^ **"* ^

1 Cummings/Riter Consultants _ ^ _

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
T>fT-?D-)og	--L-.0-U6M	IhvST^ Mark, <>|ml &r>ryh,Y l^typr, ^? H i NAA££ Jkft^ •*?!+£ rlcl^ fbiqrk^ ^cj^V
	2'-*5"	fy^sg, hktit, ^n-^-<j<w1 M«4~

Sampling Method |~Wc^ ^C^yr (?) - V

Composite Sample? Y fr ND

Composite Sample I.D. No.

Describe Compositing r\c%ce M p^>> ^ VYI rv v

SAMPLE TYPES COLLECTED

Type<2>	Volume	Per Sample?		Per Composite?	
fc*	Mof	Y D	N D	Y P	N •
		Y D	N •	Y •	N •
		Y D	N •	Y •	N D
		Y D	N •	Y •	N •

Number of Containers 3

Date Received by Lab 2 !22lO\

Laboratory 5TU

Weather Conditions C1 2o°P

^^Remarks 7'

W

1. Organic vapor analysis, pocket penetrometer, tstc.
2. Metals, VOA, organics, etc.

fl7/coip

'UMMINGS
&ITER
£ V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

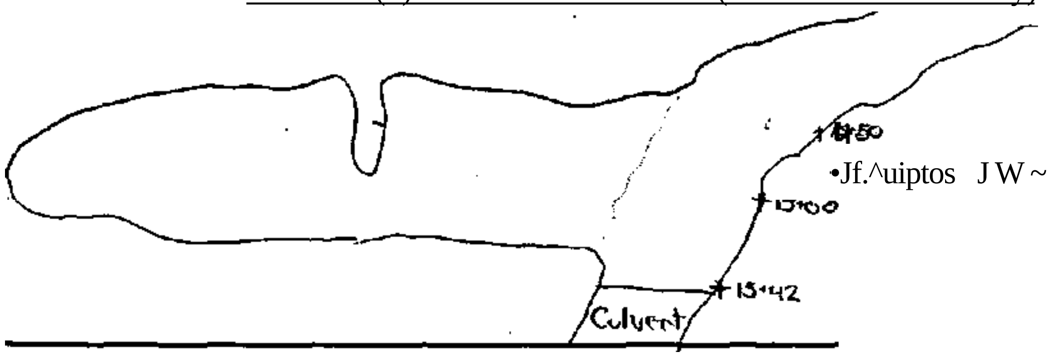
^mnpbry^ rOiO ' 3\

Project N a m e l y,^o>I Dr^oywcw .Wpl.hj Project No. 982H 5. 3o/oi

Date Collected Z I2\ I Q\ Time Collected S D -J p = f-c ^ H^, jQ'£p -igg^gi

Collected By C l N
Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
	—ı '	St.
50-ID-IBB	K'7"	J W, brpun, ^,'1+^. r-W(^ ww<>
	z , _ r	loose, b\Qctc^ sr K^^rftvc-), wet

Sampling Method \~\<\rti frtfforS^ 0-3^

Composite Sample? Y t& N D " Composite Sample I.D. No.

Describe Compositing PWc<r iV pew <R nn*St W»'fy [^g>v-,<ri

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
£c£_	Mo*	**Y ca**	**N •**	Y &	N D
		Y D	N D	Y D	N D
		Y D	N D	Y D	N D
		Y D	N D	Y D	N D

Number of Containers

Date Received by Lab Z / ^ / O l Laboratory

Weather Conditions 3(>vnn^ <?g'°F

Remarks ^ 5^-e~Z l^o 1 ^ /O.U^. TV sre<* gt 3* r 1 1 »
C^ri^j Hr^n W'tcvi periods

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

'UMM1NGS
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£V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

2H

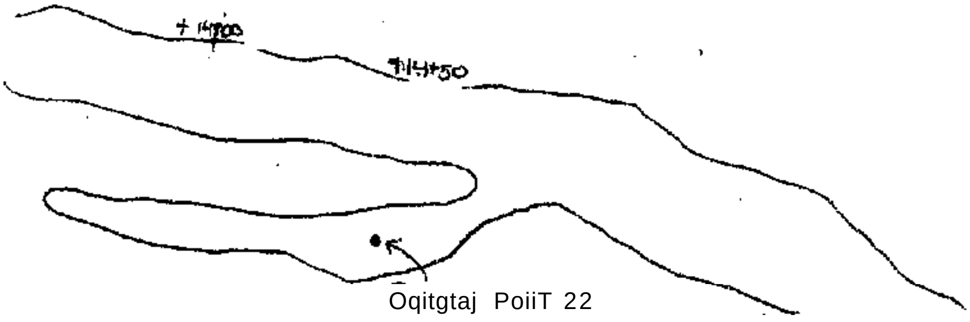
l^^ctNamelnA^^-cl Di^ncy^y .WyUj Project No. 982[L]| S. 3o/oi

Date Collected Z £[/Qt Time Collected SCKDrr llc^V to^o, ^rJn -fff-rf-to*

Collected B y O N 50^0 - u ^ ,^

^ Cummin gs/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
^K flHl[2]-	g'*~V	Loose, sore). <'HA gra^ W^, •uuft

Sampling Method [Hord ^t-gSriW^ Q"5'

Composite Sample? Y IS ND 3?- Composite Sample I.D. No.

Describe Compositing Pik^e ;n . O ;--sp^q\?\ frOn £ W;N ^1 trowel

SAMPLE TYPES COLLECTED

Type(2>	Volume	Per Sample?		Per Composite?	
	LA£l£.	Y Q	N a	Y 15	N D
		Y D	N a	Y D	N D
		Y Q	N •	Y D	N a
		Y a	N a	Y D	N a

Number of Containers 3

Date Received by Lab Z /&? / o| Laboratory 5TL

Weather Conditions C"U,A[^ <»v^w 9-K^

^ ^ R'emarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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&ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Jfr'^pW ?0;r,\ 33

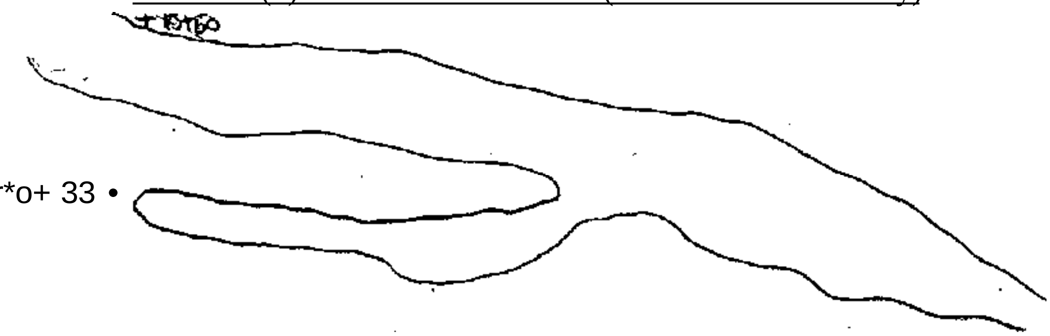
Project Namelrxjo^r-.ol Dn>^cyufty 5g**pli*j Project No. ^82H5. 3o/0l

Date Collected Z tei/Ql Time Collected 5b-^~Hg^ <o-.^ 5P-I/HWiHt**|

CollectedBy CLN SD-a>-«^«^

Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



S*«j*^ fr*o+ 33 •

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
		-.—•·· ^ -•.—.——————^————1———^_j. , -—к————.————

Sampling Method ITW] ct^cr Q~3

Composite Sample? Y fi . NO Composite Sample ID. No.

Describe Compositing PW in eilsp-^, pa^ £ wyy y,(Ko ^

SAMPLE TYPES COLLECTED

Type[1](2)	Volume	Per Sample?		Per Composite?	
EE		Y 0	N •	Y 3	N D
		Y •	N •	Y •	N •
		Y •	N •	Y D	N •
		Y •	N D	Y •	N •

Number of Containers **3**

Date Received by Lab 2 /22 /of Laboratory 3~T 1—

Weather Conditions "S^CVKJ 20°?

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fH/corp

yUMMINGS
J)ITER
IV CONSULTANTS, INC.

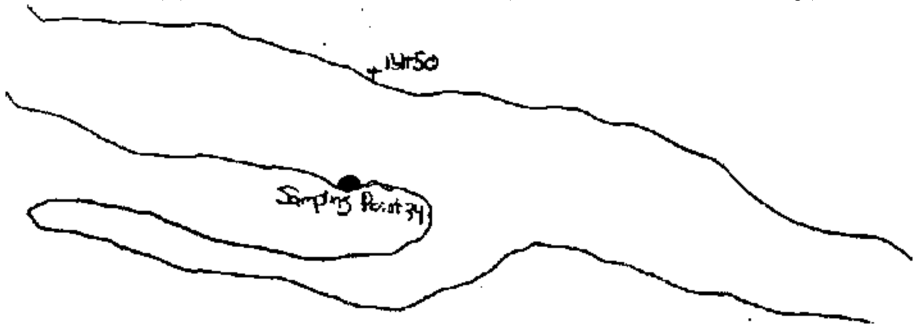
SOIL SAMPLE
FIELD COLLECTION REPORT

Ilte^plrn^ r°-oT SH?

.WpUj Project No. 982L|5. 3o/p|

I Date Collected Z /2|/Q| Time Collected SD'HHtCcfr/r,^. JO^'tl^H-^
Collected By ON SO-roVie^ l,^'
J Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
SD-ID-/k;	o-r r-lff r	Laose. ioWlr.^l^c^,1v-„^V

Sampling Method |"\Qy^j ^^Cy- O "~5 ;
Composite Sample? Y C3^. N D Composite Sample I.D. No. _
Describe Compositing Pldce G^ - Qrsppgrihk pQv\ <P MW v^jj frpU/e

SAMPLE TYPES COLLECTED

T£ft	Volume	Per Sample?		Per Composite?	
	L o£.	Y •	N •	YEJ	N D
		Y •	N •	Y •	N D
		Y •	N •	Y •	N a
		Y D	N •	Y •	N D

Number of Containers **2**
Date Received by Lab <? IQ /Ol Laboratory ~^VL
Weather Conditions X^y, ;?o^p
emarks

•
1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f17/corp

r AUMMINGS
&ITER
£V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Oqwipl'.Qflv ro''n"^ 3&.

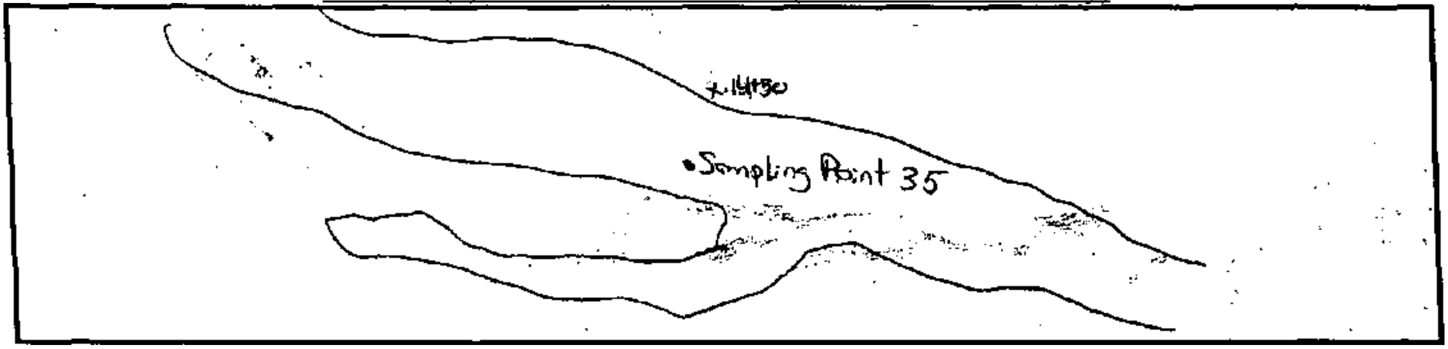
Project Namclnju<fr;«i I On>M<ywW SgwyUj Project No. 982H5. 3o/oi

Date Collected Z &\ /Ql Time Collected ^Bt-XQ -i R ^K11 \sp 30 -Xp- t^fu^

Collected By CLN SB ~m^(^ U'^o

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1]*)
	O-i'	Ursc^ block, ^1+2
	\~Z	Ccrar^ h\cA S ; ! ^ QjfCft^t . we I
	2^-2.	fr ^, fe^/5}ifg: «st

Sampling Method K'^yicj e^cr Q-%

Composite Sample? Y t3 N • Composite Sample I.D. No. ______

Describe Compositing iPle^. "^ d\<rc>?-A>)c- pwt c>od ^iy y.j J f-gQu^

SAMPLE TYPES COLLECTED

Type[1(2)]	Volume	Per Sample?		Per Composite?	
Pcft		Y &	N •	Y~5	N •
		Y D	N •	Y •	N •
		Y •	N •	Y •	N D
		Y •	N •	Y •	N •

Number of Containers 3

Date Received by Lab 2/22 ZO\ Laboratory

Weather Conditions *St ^nV, ZO^V-

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/corp

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IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

3°lhnplfr^ Po^f 3fi

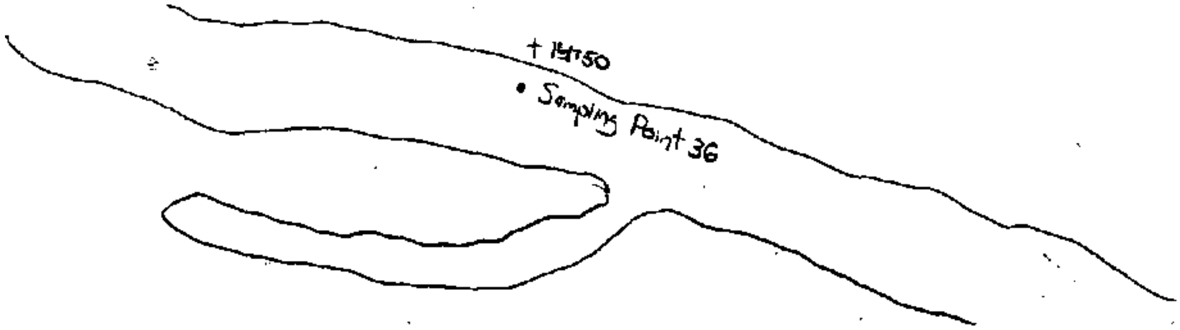
• tNarneTrvL-d-r^l Dr*>io<y v/w . W p U j Project No. P 8 2 H 5 . 3 o / o i

Date Collected 2 # / Q| Time Collected SO-tft-gZit- f2bS si>^?^M 2to,

Collected B y O N ^ > ^ W " T

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
	err	L-v~^ l, oU-* Harl^ ylfXclavi. t.rpV- LCK>^C , bUck, eky £ ^rew*4, v^r-V-

Sampling Method °»^y- co-3

Composite Sample? Y l^L. N • Composite Sample I.D. No.

Describe Compositing Dice* Co ^^"WsAW p*ft <^ Wu*. U* / **lto**^<

SAMPLE TYPES COLLECTED

Type(2>	Volume	Per Sample?		Per Composite?	
PC&	' ljo?	Y •	N •	Y-Q	N O
		Y D	N •	Y D	N O
		Y D	N •	Y D	N •
		Y •	N •	Y D	N D

Number of Containers **3**

Date Received by Lab 1.I& /o\ Laboratory **Sn_**

Weather Conditions S^^wv. 2o°^

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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f>ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

3 ^pliYl £!l^ Point ^1

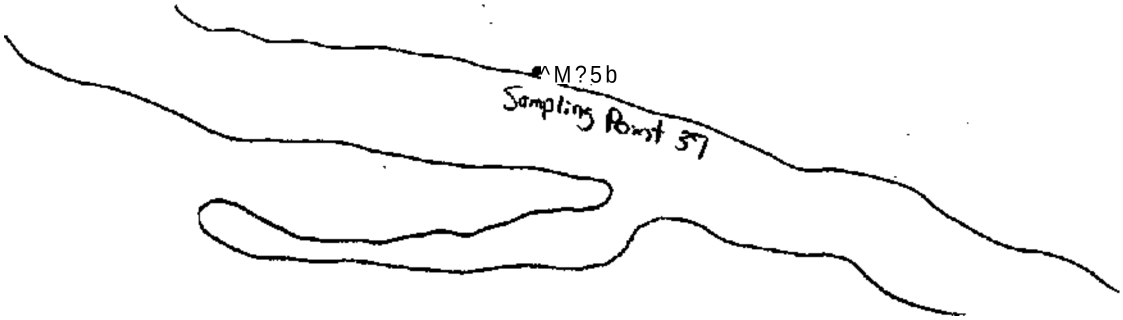
Project Name XvL^ocJ Dn>io«y v^y S^li *j Project No. 982M5. 3o/0l

Date Collected Z_JZ[/ OJ Time Collected ^-3ft -i?s qr £123 s^^s-es^ \- iz-20

Collected By CLN

L Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary^ *•



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^1*)
	OH	Pop. o9 ^n-Tfi-12.5

Sampling Method f-Vci«^l q o y - Q - ^ .

Composite Sample? Y Q- . ND Composite Sample I.D. No.

Describe Compositing Picrr- U drsrrv*rU= ^(AW SI wyY w| h ^ . J

SAMPLE TYPES COLLECTED

Type[1]tt>	Volume	Per Sample?		Per Composite?	
^a		Y •	N •		N D
		Y •	N D	Y •	N •
		Y •	N •	Y •	N •
		Y •	N •	Y •	N •

Number of Containers q

Date Received by Lab &Zlo\ Laboratory 3TTL

Weather Conditions CU^ di« V<•^Avj . ;^rV^P

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f]7/corp

^UMMINGS
ID ITER
fC CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

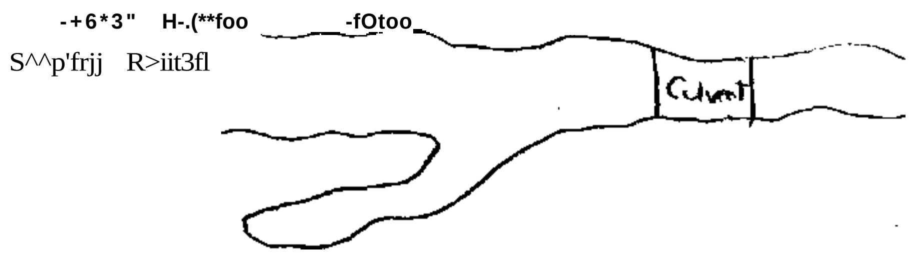
^yctNameXruJy.^ooil Dnvnyv/w Sg-yUj Project No. 982H5. 3o/oi

I Date Collected Z A21/Q1 Time Collected SCrJD-^H^ J*ao,3Q-3ft-f3gnri-<?gfr

CollectedBy *CM* 5D-w^v **>

1 Cummings/Riter Consultants |

S AMPLE(S) LOCATION SKETCH (use reverse if necessary) __^__^__



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^>)
j^Tn-i^ft	r-z-	/^o^lh^...,ts:t{2.Uyl Wet

Sampling Method HQfrd q^yr^A Q~7V

Composite Sample? Y EST lrt3 Composite Sample I.D. No.

Describe Compositing rl^Qs Cq O r5 O-rs Ap c m & VW> I'*/ lour\

SAMPLE TYPES COLLECTED ' " •

Type<2>	Volume	Per Sample?		Per Composite?	
PCfr	Ho2~	Y U\	ND	Y^	ND
		YD	ND	YD	ND
		YD	ND	YD	ND
		Y D	NO	YD	ND

Number of Containers **H**

Date Received by Lab *Z I2zl* C>\ Laboratory ^TtL

Weather Conditions Clpucku go^P

^Remarks £8-6 -Z ~^j--QI °tt *iT*< *? \ 5D-T0- 1?^ iW^SQ U*L W

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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^UMMINGS
J>ITER
l V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

^npl.vy, Po;0f 5g

Project N a m e l r J^^c l f)r* .^MpTT^ Project No. 9 8 2 H ^ 3 o / p |

Date Collected 2 IUIQ\ Time Collected 5p'3D"^s\-f?:3^.5n-m^Uh7^&

Collected By £LN »^-&* ^ '

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary^* ,:<r&£^

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition^ Staining,-,Qdbr, Field Measurements^[1]))
	o-r I'-2.'	052.
30-rn-ig	2"-y	6<jO;ry-, Qr&v-fp 1-,,

Sampling Method j-\c\v"d M^^i£"'iV\ Q " S

Composite Sample? YI^? ND Composite Sample I.D. No.

Describe Compositing yWr~ ih qfrp3ft^f D°UA <f ^,-> N, j Trowc-

SAMPLE TYPES COLLECTED

m	Volume	Per Sample?		PerComposite?	
		Y •	N •	Y • i--	N D
		Y •	N D	Y D	N D
		Y D	N •	Y D	N •
		Y •	N •	Y D	N •

Number of Containers ?

Date Received by Lab *2 &Zto* Laboratory .STL

Weather Conditions Sona), W^/v 70>\

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
f>ITER
£V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

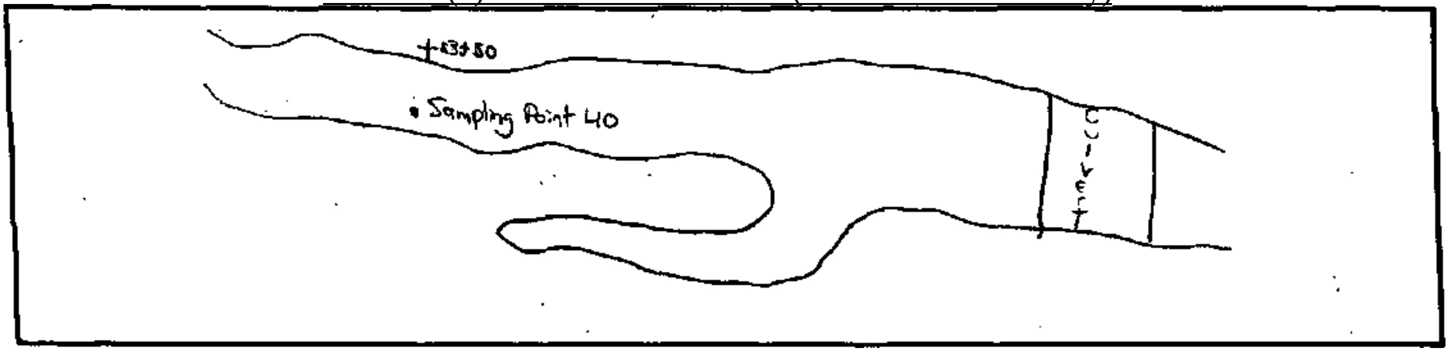
Pomf HO

S g ^ U j Project No. 9 8 2 H 5 . 3 o / o i

I Date Collected Z "/£WQ| ' TimeCollected^-3l>-l33iVi?,^ 50'TO-^ ^Hy^

Collected By CLN
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^*)
-w£.	2T~y *?- LJ/'	^coan bWJc, -5;/t~<S ya\<), wgV

Sampling Method H^nC ^ v y P- S ^

Composite Sample? Y ^ ND Composite Sample I.D. No.

Describe Compositing rfficfr 'H CK-SrtryssbV t-r°v\| <£ AVIY w / f<owf \

SAMPLE TYPES COLLECTED

Type*2)	Volume	Per Sample?		Per Composite?	
		Y *B*	N D	Y ^	N D
		Y •	N •	Y •	N D
		Y D	N •	**Y a**	N •
		Y D	N •	Y D	N D

Number of Containers **3**

Date Received by Lab Z I2\ / Q \ Laboratory

Weather Conditions S^mr^ ^wf;^^vi 2 P ° F

emarks

•

1. Organic vapor analysis^ pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f]7/corp

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&ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name Xrvj,,^°il Dn»in«yww .SgnpUj Project No. 982H^ 3o/0l

Date Collected 2 /^ / Ol Time Collected so-"**""^^_•Q ,^-"^*' S^f*:

^'lO-ISSit IH^S

Collected By CLN

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
SD-IP-ae	Or	W-, ^«'\-ɛ *5\\\& QOV<^ r-qntW,___rry^V____;________
	2 ^ _	/ ~ ^ bloA, ^H<g c%,
	^ - V	Pone, hr

Sampling Method [~TCVY>CJ < ^ y^ o-g

Composite Sample? YI?(N D Composite Sample I.D. No. ____

Describe Compositing P)qc<? \f\ OAp&^iblr P^H O WV V J/ k*c*vr^

SAMPLE TYPES COLLECTED

Ty^;(2)	Volume	Per Sample?		Per Composite?	
Ea	Ho?	Y D	N D	Y &	N D
		Y n	N •	Y •	N •
		Y •	N •	Y •	N D
		Y •	N •	Y •	N •

Number of Containers 5

Date Received by Lab 2/^e/o1 Laboratory 'STL

Weather Conditions CL, rL K/'hdxfi ?<~<^

Remarks IT

1. Organic vapor analysis^ pocket penetrometer, etc.
2. Metals, VOA, OFganics, etc.

f17/corp

' ^UMMINGS
J>ITER
IV CONSULTANTS, INC.

m

SOIL SAMPLE
FIELD COLLECTION REPORT

o^pl'V, Po;o~K H<2

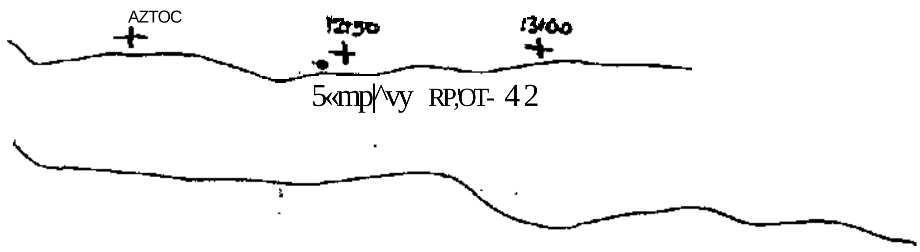
SgvyUj Project No. 982H5. 3o/p|

Date Collected Z /?UOI Time Collected 5fi Jfw-fr g-i mgo •^*t&-N&^^iC<,,l<e,

Collected By CLN

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
		Iccs^ fc>Wk. ^ l K ckvj1 ^rc\efc °\rt*\j&\ ^oy-jr

Sampling Method ifertl ^yj^p- Q ~ ^ .

Composite Sample? Y p N • Composite Sample I.D. No.

Describe Compositing Plq^ in dfSCW^aKk OGv\ <L YV\?y v\,thft fvo^

SAMPLE TYPES COLLECTED

TypeO	Volume	Per Sample?		Per Composite?	
		Y D	N D	Y ^	N D
		Y •	N D	Y •	N •
		Y •	N D	Y D	N D
		Y •	N •	Y D	N •

Number of Containers H

Date Received by Lab 2.02f oi Laboratory .^CL

Weather Conditions era1 \ ^VO^j ZO^

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

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f>ITER
IV CONSULTANTS, INC.

SOIL SAMPLE FIELD COLLECTION REPORT

Scr^plhfi ?o)^~ H?

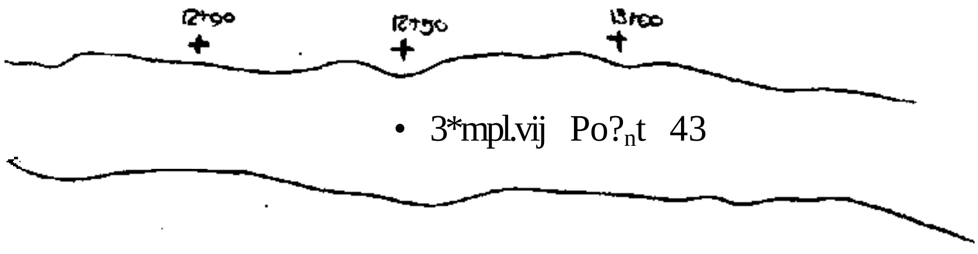
Project Namely,..fool Dn>i'gcymw ,Wpl.hj Project No. 982W5. 3o/Ol

Date Collected Z /*A / OI Time Collected5D'ip-iSgB(4 W5~; Sb-ia-iHM Er.go

CollectedBy QlH S>-xo-M5<friM!ff*

Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
	-Z gr~^ x	Q^

Sampling Method ri^rc\

Composite Sample? N D Composite Sample I.D. No.

Describe Compositing Pkcc- L3__^ 9 o ^ bW Onyx .1___rry^ Vwj W w r \

SAMPLE TYPES COLLECTED

T v ^	Volume	Per Sample?		Per Composite?	
		Y Q	N a	Y KJ	N n
		Y D	N D	Y Q	N •
		Y D	N a	Y D	N D
		Y D	N D	Y D	N D

Number of Containers 4:

Date Received by Lab rz &2/<=>\ Laboratory .STL

Weather Conditions ->< *^ ^JocLf, ZQ°P J_

Remarks 5 B'"rIDjj> -T; JM^ M^ / M5 ft ~Ub^ V)erg

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

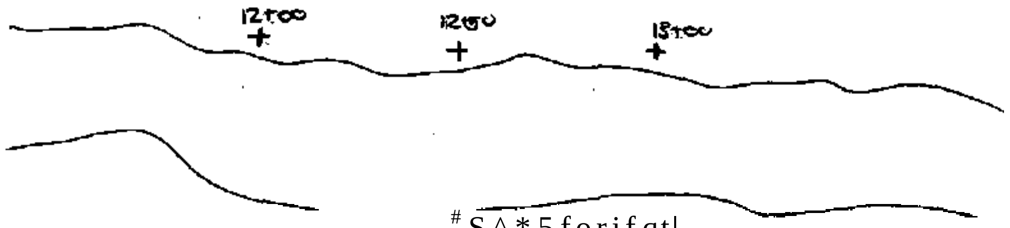
: 'UMM1JSGS .
ft ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

X JrrO Uo Po7hf 4H

P ect NameXrvduvrnql Oroiocy y^y •Sg^plT^ Project No. 9 8 2 H 5 . 3 o / o i

Cummings/Riter Consultants
; Collected Z /2y/Q| Time Collected ^Q-XtViqC^K iv^so, *W-ib-H^T&f*
lectedBy CLN S AMPLE(S) LOCATION SKETCH (use reverse if necessary) w-»-mrn qp) #10



S ^ * 5 f o r j f qt|

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
*fl>rP-MC		
	l'~Z^	tooa», "feow^ c k j (w>o7-v[- .
-IT>-IMS	2'^?>'	Looy-f kWlcf d^y M/ ogcj,-,;^ wTQ'fer

Sampling Method
Composite Sample? YR . ND Composite Sample I.D. No. ______
Describe Compositing P(gjC^ ;^ olr^'^oSfiWW prey <^ ^X UA| Trebly el

SAMPLE TYPES COLLECTED

Type*[2]	Volume	Per Sample?		Per Composite?	
ttSB *tio^*		Y n	N D	Y 9	N D
		Y •	N D	Y a	N •
		Y •	N •	Y a	N a
		Y D	N D	Y a	N a

Number of Containers 3
Date Received by Lab 2 1 2? 1 oj Laboratory
Weather Conditions O^K^i | , "V'O
.^M. Remarks 'tf: p

1 TDrganic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/corp

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L V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

,>t"\p)po3 ro\c& M5T

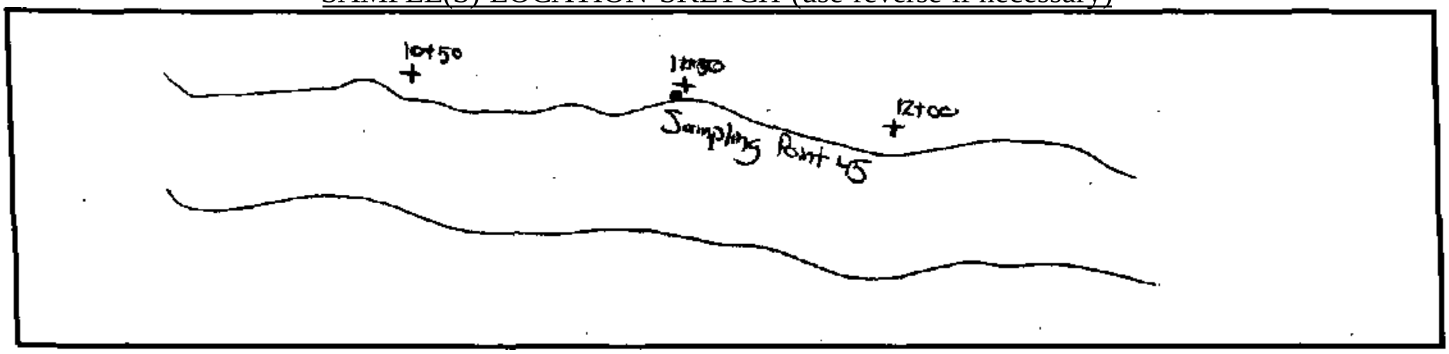
Project Name In<j|r-(oil Dr^cyuxw Sg^Uj Project No. 982 L b. 3o/oi

Date Collected Z I7\IQ\ - Time Collected 5TKCft-IS.iS^ ^-Sl^feOqf [*tlo

Collected By QM 3b-i0-.5»-+ **>

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])
	o-r t'-2r	Dense, hv-fow,^. cUy 2 or~em,v w^ He^ . vwfr

Sampling Method Hfiflcj Q ^y^ 0-1'

Composite Sample? Y13 ND Composite Sample I.D. No.

Describe Compositing Hgcr \c\ <3HOo^^k Q=\^ <£ ->V> ^s J T>t>^\

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
^r		YD	Na	Y A	N D
		YD	Na	YD	NO
		YD	Na	YD	N •
		YD	Na	YD	N •

Number of Containers

Date Received by Lab e/32/^ Laboratory ATZ

Weather Conditions C.ou .^y*^ ^c>>p

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
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SOIL SAMPLE
FIELD COLLECTION REPORT

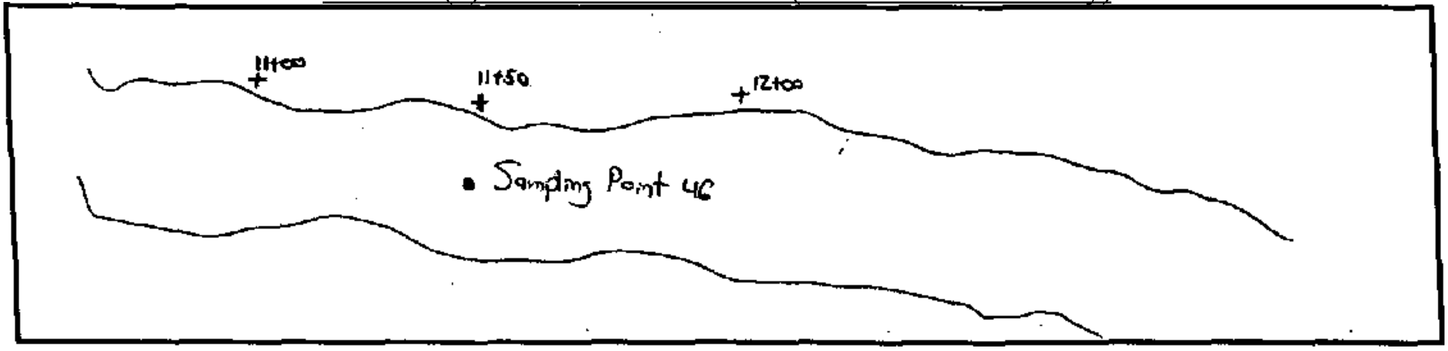
jectNameXrvlosfr'.oil DrQ*™ywcw - W p U j Project No. 9 8 2 H 5 . 3 o / o i

Date Collected -g fe| / 01 Time Collected 5fc)-:ro-fs:?cfr t^Vs SP-Jfl- IT3 qh fvt<b

Collected By CW ™–r1> ,5H,+ *'M*

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1]>)
	o-r Jl-Z'.	
IQ "^SH-	^ ' V	*Lcx*r*x KWic, s^v^,; <^fh <&• -yc^l. u?V. flfrTiokxx ocW

Sampling Method °iugr Q--^

Composite Sample? Y I^ ND Composite Sample I.D. No.

Describe Compositing Plq<:e i^\ dT^pp«**Mf p a n A , IV\>N t.^ 7Vou^

SAMPLE TYPES COLLECTED

Type[1](2)	Volume	Per Sample?		Per Composite?	
PQ&		Y D	N n	Y $	N D
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •
		Y D	N •	Y D	N D

Number of Containers

Date Received by Lab *2 /32/o˙(Laboratory **^U**

Weather Conditions CU-KJA^ SW^U, ^r^F

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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&ITER
L V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

*0\w\ fa **& 4 Mn**

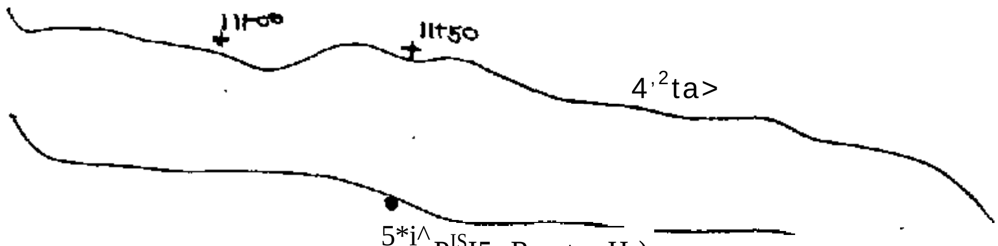
Project Name Xr^u^ocI Dn^cyww Sgi^ptihj Project No. H82H5. 3o/oi

Date Collected 2 /3| / 01 Time Collected Sft~Tft-<ys-fr is,^, Sft-ra-r* /*w<*

CollectedBy C j ^ *>-r0-.s^+ < ^

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
5D"Zb-i5^	[r ~Z' QT~2f	__ Lpoa^ broW\-\^ 5^j, ^K <^^' V'''aT^ t <#<* \s^& rvqjuvA VP y ^ \ ^t\ cUy <£y^. "^ •

Sampling Method ["TCfitJi ^yyv Q~~3"~. i l *r

Composite Sample? Y]3 . ND Composite Sample I.D. No.

Describe Compositing P[c^> \\ P ^ K X l^r*. i,,/ Kc»Aci frp^rl ***

SAMPLE TYPES COLLECTED

Type(1)(2)	Volume	Per Sample?		Per Composite?	
2a±	uiis.	Y D	N D	Y^O	N •
		Y D	N •	Y a	N a
		Y D	N D	Y D	N • .
		Y D	N •	Y D	N a

Number of Containers **3**

Date Received by Lab 2 /2£/<2>\ Laboratory ST^-

WeatherConditions QQJU, Snow, ££>°p

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

feet Namely, *Ar** Dn^oyv^y Scj^pUj Project No. 982H 5. 3o/oi

Date Collected 2 /22/QI Time Collected SQ-XD-'^^V5^ So-to-/yf^g3v

CollectedBy CLN ^D ~ , e o * ^ ' 30„t0M€l ^ **6

Cummings/Riter Consultants ^_

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)

+ *i-tttyo* \2-t-oo

^^f^TS^FMB

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements**>)
		Crw*--, *klarlL* S.'IK *W*C** cUvy, n,o,v>
	Q-l'	d\,p G£ ^"Jp-JS'fe- O^r*^ ^ ^faoK/e
-,trwg&	t'-"2T	Lnrar, pro^o k b l ^ , cky<£s.-(lf v^

Sampling Method ("T^v^ **Riwg*^** O" 3"

Composite Sample? Y ^ JD Composite Sample **I.D.** No.

Describe Compositing PWc tv^ q.^po^lo^ pCTYs ,f tvu> K>/ fv&wr-\

SAMPLE TYPES COLLECTED

Type(1)(2)	Volume	Per Sample?		Per Composite?	
& &		Y •	N D	Y rx	N D
		Y •	N •	Y •	N •
		Y •	N •	Y •	N •
		Y D	N •	Y D	N •

Number of Containers **5**

Date Received by Lab 2 /2V<>1 Laboratory 5TL

Weather Conditions

Remarks |<B 8 ~ *Z'* gz-oj ^\ ^\2*Q,* 3<p -JTQ - t€ 1 V&/MSO U^\ K<vy

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc. *n* ^u- p,

fl7/coip

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SOIL SAMPLE
FIELD COLLECTION REPORT

Pa;nY MR

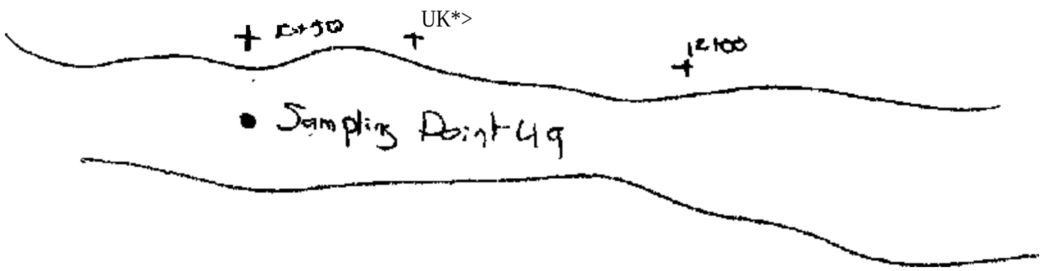
Project Name X^.^cl fU^gy^y .WpUj Project No. 982Hb.3o/pl

Date Collected Z /22/Q| Time Collected 5Q-I:ft-K? Vr 8:55. Sp-Jp-teSc^

Collected By Cl~N ^-to-^^h^

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
30-irrv)fo7	CrM'	
	1/-2r	LOOSE , hloJi ftih^u.*, ^lfi<r)<w. w^V
	2- -V	Loose, W^ VIkek^ gn<l grc^K wc-t

Sampling Method rTC\ y^j °\ Kj *yy Q ^'

Composite Sample? Y' ND Composite Sample I.D. No.

Describe Compositing PWc I>I d^-Qc^lMf p<V^ i£ ^V7 ^/ trOw/i

SAMPLE TYPES COLLECTED

Type'(2>	Volume	Per Sample?		Per Composite?	
SCK		Y Q	N D	**Yd**	**N a**
		Y D	N a	Y D	N a
		Y D	N D	Y D	N •
		Y D	N •	Y D	N •

Number of Containers 3

Date Received by Lab 2 f%$ I Q\ Laboratory 3TL

Weather Conditions ,S .^j . lQ°r

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Y
O^plfrn rwif 5&

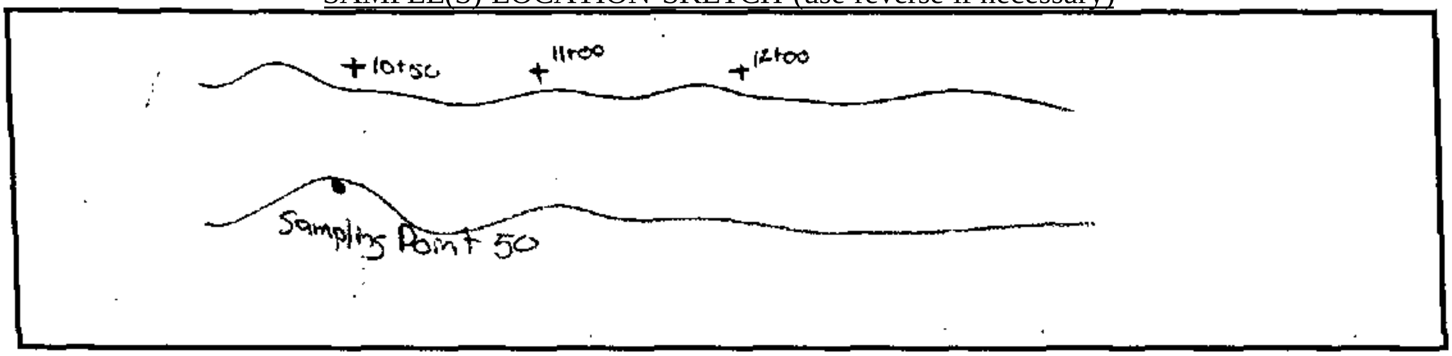
J^ectNameXruJo^r-,0.1 Dr»»n«yyje,y Sg-yUj Project No.: 982H S. 3o/Ol

I Date Collected Z f2?J Q\ Time Collected Sft-^ft-fcg tfr V<^ ^O^-JS^^

CollectedBy CLN . S *) - ^ . ^ ^

J Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^[1]*)
	o-r	
	2^-3^	l^osr-i bWL <rku W^f- ^YP^). ft4<fcK~v o*u

Sampling Method ^fo^ ^^y e>-3

Composite Sample? Y [^ ND Composite Sample I.D. No.

Describe Compositing PWc- \f\ CiCSto&hU 0°>n <k 'YMX u^ *Wo*<-*

SAMPLE TYPES COLLECTED

Type*[2])	Volume	Per Sample?		Per Composite?	
PcB	Moa-	Y D	N D	Y H	N D
		Y D	N D	Y D	N D
		Y D	N D	Y D	N D
		Y D	**N D**	Y D	N D

Number of Containers **"9**

Date Received by Lab J2 /2b/o Laboratory *STL*

Weather Conditions "5u*Mryy^ **I Q ^ P**

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fI7/corp

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SOIL SAMPLE
FIELD COLLECTION REPORT

Pofnf 6-)

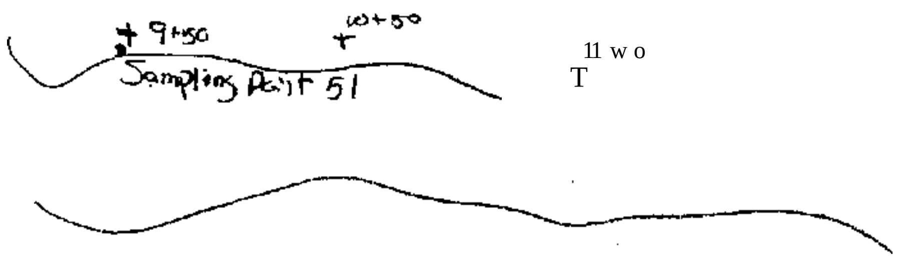
Project N a m e l ^^fool Dn^cyiAy ,**Wpl.***j Project No. 982M5. 3o/oi

Date Collected Z /^2/Ql Time Collected ^-trwa*nfV, i^ .<>n-.cQ-fc«>0,HM,?

Collected By CLNJ JO-B0^^S.«

L Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



11 wo
T

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
		& nSG-/ Qttxn <c> eVow . HAM < fnor<\ 3 A
	^ 2 "	nra5d1 kVip^-lobfarir £^-U^NJ r~lqv.J , rr*&7<4-
	Z '-y	

Sampling Method Spy Q-5 /

Composite Sample? Y^ , ND Composite Sample I.D. No.

Describe Compositing flkirc ,'n rU.-v-^)^ r^„ A rWy K, j h<* hd W^.,r\

SAMPLE TYPES COLLECTED

Type[1,(2)]	Volume	Per Sample?		Per Composite?	
cc§	^ Q 2	Y D	N D	Y (&	N •
		Y •	N •	Y •	N •
		Y D	N •	Y •	N •
		Y •	N •	Y D	N •

Number of Containers S

Date Received by Lab Z /23/OI Laboratory JL

Weather Conditions ^.v-^vjl IK^H

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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&ITER
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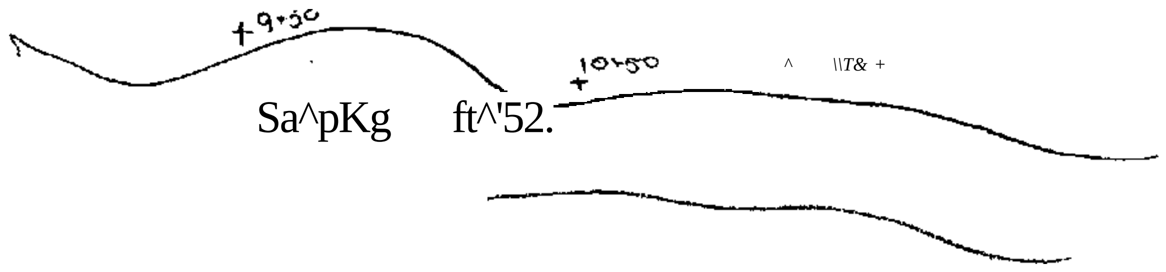
SOIL SAMPLE
FIELD COLLECTION REPORT

Jowplfe fcWof ^2

S g ^ U j Project No. 9 8 2 H 5. 30 / Ol

I Date Collected Z /22/QI Time Collected SQ-rTj-l^igt-'iizs,, 5Q-r0-fO2i^3o
Collected By ON *>-«>--S^Jj-
[Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



^ \\T& +

Sa^pKg ft^'52.

w%5

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
trivia	0- -V	Lcose, nlcwdf. T'j'h 3<AQ(A. fro^c- org^ymfr 'VA<jfe^, ygyg-[1]
	r--2'	Loe>sg", bWk, *5Mr-<& ck\\^ N^^V -sh^M p^f/ok.*™ ojor
	2/ -r	^-oo^! bfoc/c Vo bvo^n. -s.'H~<^ "VfTta/r-l. ^ohT w>

Sampling Method H^nd °\\j*fr O"^^ . •

Composite Sample? Y tjL N D Composite Sample I.D. No.

Describe Compositing r Iqee pp C &O0W3 h Q<\ r\ <$i rv^ ty f 'fyrpwiel

SAMPLE TYPES COLLECTED

Volume	Per Sample?		Per Composite?	
Mo*	Y &	N Q	Y D	N D
	Y •	N D	Y D	N •
	Y a	N D	Y a	N •
	Y a	N D	Y a	N •

Number of Containers 3

Date Received by Lab 2 /ZS / OI Laboratory 571

Weather Conditions Soo^M l5°P

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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£ V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

r ' U ' kņḩ 5$ p — — -—

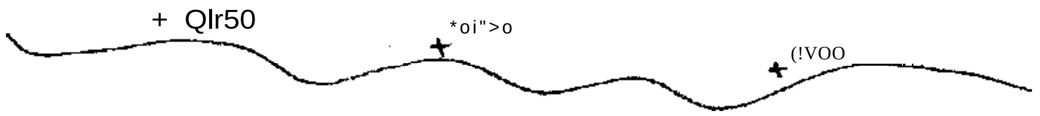
Project Name Xn^fc-.dl Drtvooyv^y Sg^pUj) Project No. H82Ht>.3 O / Q |

Date Collected 2 *hQ.? O* Time Collected SO-XO-y^^WHn i tfl-Tfv *ins&'&Q*

Collected By CLN

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



^^^[mfeni 53

qtss

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])
	o-i	
	o - i	
-5|b-rJigM%	l-Z.	
Sfrrji^rfl	2 L 2.S'	

Sampling Method IT^V^A ^u^sgr- O ^-^

Composite Sample? Y13 N D Composite Sample I.D. N6.

Describe Compositing P U r e '/> d fe OcggbW pg\n & >A^ Wij trou-H

SAMPLE TYPES COLLECTED

jas[2] ^	Volume	Per Sample?		Per Composite?	
		Y D	N •	Y IS	N •
		Y D	N •	Y •	N D
		Y •	N •	Y •	N •
		Y •	N D	Y D	N •

Number of Containers M

Date Received by Lab *2 J 2% IP* Laboratory

Weather Conditions *\~\ou*0 ^ 5 o

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

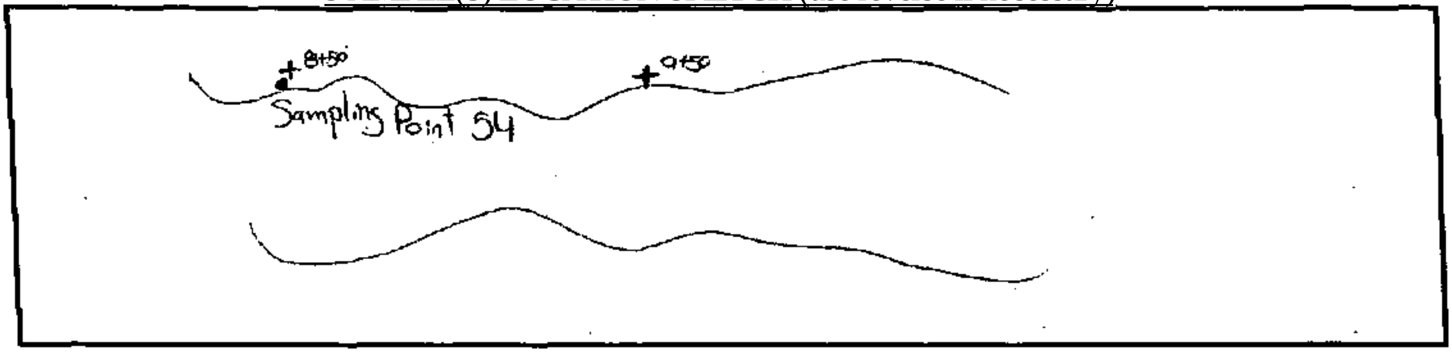
^ y) » g P^v)+" SM

^^tNameX^^fK.cl Dn^y wW SgnpUj Project No. 982H5.3o/oi

Date Collected Z /2^ Ol Time Collected *SO-xr> ,Q& ^H'.ss , ^n-rri-rH #w
CollectedBy *ClH* ^-*0-.*.«no*«.

Cummings/Riter Consultants J

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition. Staining, Odor. Field Measurements*'>)
^ I III	\~2f 7'^T	*m+* ivi**£ Pb^^fjw*^^^^>^v^ycU,^,*t\o.'3V /cvjy^ ^J^ir j?> bre^n, r levy ^ ^r^i^l• Wv,,jlV

Sampling Method ^WvcJ q ^ r o - ^
Composite Sample? YD ND Composite Sample I.D. No. _____
Describe Compositing P^cC- 'S1 diSPoSq^f Tr<W 1 ry^y t^J ^Vowr^

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
PCS	TJ .aSu	Y D	N •		N •
		Y D	N •	Y •	N D
		Y •	N •	Y •	N •
		Y D	N •	Y •	N •

Number of Containers **M**
Date Received by Lab *2 f2yo* Laboratory **m**
Weather Conditions Ooojy^ /^S^F
emarks SlVrft ~ (^ft jAK //VKfN HJcen /)Cf?

•
1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project NamfiEnJ^fri,,! *f)n*i«wzuvf* S g v y U j Project No. 9 8 2 H 5. 3 O / Q |

Date Collected *Z IZ^I Q* Time Collected 5QXQ-IQ(M- I O - . C ^ . ^ ' ^ O - ^ 2 " ^ ^

Collected By C U ^ - *W*&**5^*ouo*

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

•+9f^£-

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
t>&-13) - ft I	O-	
	1'--zs	EOJST, \)\&flf W> bvoum Ctky <S*^rk*M i K\or4~
	7' ' ^	leery-. hW V i r & *yrg\w^^ i vJ ^ T

Sampling Method ["Vx tyd ^ u y Q ~ ^

Composite Sample? Y ^ N • Composite Sample I.D. No.

Describe Compositing P f a r e ^ ^ ' S O o S i b W f r c w X Wy^. u) " f r c ; ^

SAMPLE TYPES COLLECTED

Type<2>	Volume	Per Sample?		Per Composite?	
		Y D	N D	Y E$	N D
		Y D	N D	Y •	N •
		Y D	N D	Y •	N •
		Y •	N •	Y •	N •

Number of Containers *S*

Date Received by Lab *2 I2ty °1* Laboratory

Weather Conditions CW •< . j\f 'p C ^ V

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

J Q*opliQCj P o i <vr S€

ec N a m e l y ,^r-r cl D n ^ y v / w S g - y U j Project No. 9 8 2 H 5 « 3 o / o i

Date Collected Z /22/01 Time Collected Sft-ro-isu^ 10;^ . 'Sg) - Eft-E5 *<&:,?

Collected By CLN

Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)

5-^1-Vj Po;of 5^

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
	On'	**f** lc^.,e, h^>.,r, fe->^vi rlavi; mn,-<V~ ^ C ; n ^ ^ blctr.lf ^ C^llff <^ytti,<^ ^ c ^ "

Sampling Method **[T ^ A O ^ t i ^ o -** C>—V' .

Composite Sample? Yl$. . N D Composite Sample I.D. No.

Describe Compositing UUcg ^ (j ^*pp&hlf*- frcivJ *- wv / 1\// froupl

SAMPLE TYPES COLLECTED

Typej(2)	Volume	Per Sample?		Per Composite?	
£cb.		**Y n**	N D	Y E3	N •
		Y D	N D	Y •	N •
		Y D	N •	Y n	N •
		Y D	N •	Y D	N Q

Number of Containers **3**

Date Received by Lab ~*2. l2*>> /o» Laboratory *SXL*

Weather Conditions O n . **,eiu** ***^?ry^***

Remarks ^ ' W - g g - Q l q'V ***\&l?Ur*** - 2 **{y>H** £1

^ ^ ı)rganic vapor analysis^ pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

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SOIL SAMPLE FIELD COLLECTION REPORT

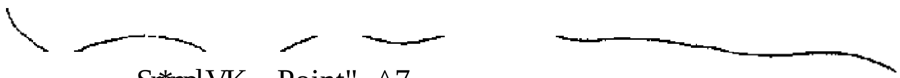
jc^pliv^ Poi^rh 5^

Project N a m e X ^ o c l D r c . c y ^ y ,<w.l; ^ Project No. 9 8 2 H 5 . 3 o / o i

Date Collected 2 *I2ZI O*| ' Time Collected SOstb-J6<> .«i- *loi^o*, V)-2n -/ftft«h«*
3D-XD- (»fc Mt »^'^Q

Collected By CLM
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sr*npl,VK Point" ^7

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
	Hiz: 2 / - ^	Lcoy-, o U ^ "5rt-^ ^c Uy, Ur4

Sampling Method _ ^ i r > ^ *tyr* O - ^/-

Composite Sample? **X** N D Composite Sample **I.D.** No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
JkEr	*£&.*	Y D	N •	Y EX	N •
		Y D	N •	Y D	N D
		Y D	N •	Y D	N D
		Y D	N D	Y D	N D

Number of Containers **3**

Date Received by Lab £ / ^ / <>\ Laboratory 5TL

Weather Conditions Clearly ft^T

Remarks

1. Organic vapor analysis* pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/corp

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SOIL SAMPLE
FIELD COLLECTION REPORT

J<fryLv\^ fhrfr~ 5#

WpctNamfiE rv|11<fr-1c1| QrcM^vAy Sg-yUj Project No. 982Mb. 3o/oi

I Date Collected 2 I2£ I 01 Time Collected 5fi-rp-i«fO ^t~ fo-,vof 5Q-n>|qUH^tjs

Collected By Oh} ^ * * pN5

Cummings/Riter Consultants

^ 5 0 + S SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

«
Ota

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
	o-i	
	_1 '-2.'	IcPSC^ AUcir h> Amftwi, cUv^ ^rgrr T<^, V,^V
	*'-\	

Sampling Method LtCAv%d Q^c^ Q~3^ :

Composite Sample? Y 5£ . ND Composite Sample I.D. No.

Describe Compositing PUcg *in Q^pry^^ric* Qft^ *Jl* ^^v v^/ fn>wef

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
KSL		Y •	N •	Y p	N •
		Y •	N •	Y •	N •
		Y •	N •	Y D	N •
		Y •	N •	Y D	N D

Number of Containers 3

Date Received by Lab 2 /3^ /o Laboratory _51L

Weather Conditions CL^rkf ^ *F T* ^ K

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

^UMMINGS
JDITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Jq^n«v ro>oT CF\

Project Name XnJu^rlo.I Dreio«yu/W .WpUj Project No. 982HS.3O/Q|

DateCollected 2 I2ZI Q\ Time Collected Sp-jp^gy- ip'55 ~jp-ro-fv^fc*^

Collected By QiH
Cummings/Riter Consultants

J

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

-*-<J*5G

532pk*i Po.'nV 59
^5"

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1]>)
		^ ^ i hr[1]"^"! La=rvy bv«^r> la ^ ^ ¥ 1 C\M i-n ,-, .<>W
	2" -M^	Loc£f-, Ki<yi 4r,^&wn t rUy | •^•••^ ^own rfftftA| ^o?^r

SamplingMethod r W ^ ^l^^r O ~V

Composite Sample? Y fej N D Composite Sample **I.D.** No.

Describe Compositing r)qc<f i^ cUvpc£qbi<S Tray <> "-n* \~.,\ rrc*~*c\

SAMPLE TYPES COLLECTED

Type[2]>	Volume	Per Sample?		Per Composite?	
Hm		Y D	N D	Y5C	N D
		Y D	N •	Y D	N D
		Y D	N D	Y D	N D
		Y D	N O	Y D	N P

Number of Containers 3

Date Received by Lab Z 12%! q) Laboratory 31k

Weather Conditions (T^loi JC^VJ, j f~Sc?

Remarks .

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
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IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

q w\f) plv^ PoiQ^ bO

j^^ctNameX^A.^r-.otl OnaMcymW S g ^ U j Project No. CJ82L| 5. 3 o / p

I Date Collected 2 /22/Ql Time Collected ^-iv^iiiey. SQ-rp-ft^iVnwo,
"'Jp'r0-/^"!Mt'.O, 30-*O-'V» *,*• (U15

Collected By CLM
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

+ Cf5o + Vtfie

OQ^T^UTPOI^ ^

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
	o-c	Qfrv^ fVn^ k kla-lf, 5/!l&rl„^ -AO^ , {-rare nj^fv&J^
	l'-2"	
	r-2-	
	Z'-V	

Sampling Method \\(KTA ^KSjy- Q - V

Composite Sample? Y tS ND Composite Sample I.D. No.

Describe Compositing ^Kcr. Y\ Qr^poS'AU frqw ^ ^v w/ T^w-el

SAMPLE TYPES COLLECTED

Type[(2)]	Volume	Per Sample?		Per Composite?	
£c&	Mn2.	Y D	N •		N D
		Y •	N •	Y D	N •
		Y •	N •	Y D	N •
		Y •	N •	Y •	N •

Number of Containers H

Date Received by Lab Z -es/oi Laboratory 5X1—

Weather Conditions CL.ci./, Kw^yvj , ^Q°F

"emarks

•

1. Organic vapor analysis, pocket penetrometer, etc. f!7/coip
2. Metals, VOA, organics, etc.

^UMMINGS ID ITER
ZV CONSULTANTS, INC

SOIL SAMPLE
FIELD COLLECTION REPORT

JgrfyK"! Po^t" £^

Project NameXn<]$_{0S}$fr-,o.l D r ^ o y ^ y S g - y U j Project No. ^ 2 ^ ^ 3 o / o i

Date Collected 2 iZZJ Q\ Time CollectecfcQ-iP2<* ^ (r.?o, •5fvrfl-2oiohr.ro

Collected By C L N

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

* 3oyl.>* fb^+Gl

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
S T) ^ ! ? - ^	V ' ^	L n ^ yqdf. V l K WfC-l <?€F^al *± Z /

Sampling Method rTcjVTgl C i o y o Q ~^ s

Composite Sample? Yp . ND Composite Sample I.D. No. ______

Describe Compositing P W c - To d i s p c ^ l ^ U pcyn Jj r^;y ^;j -f^^,,^

SAMPLE TYPES COLLECTED

Type*2>	Volume	Per Sample?		Per Composite?	
Pee	Mo*	Y D	N •	**Y B**	**N O**
		Y D	N •	Y D	N D
		Y D	N •	Y D	N • .
		Y D	N O	Y D	N D

Number of Containers M

Date Received by Lab 2 /2?/ °* Laboratory 3T L

Weather Conditions Qo$_{L}$ cK/, Z O ° F

Remarks 'SD-^fo-.Zoo Ans/frr/) ^^ ^crf-

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc

fl7/corp

rAUMMINGS
RITER
fV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

3°lnYJ/nq Pofrlj" ^°^

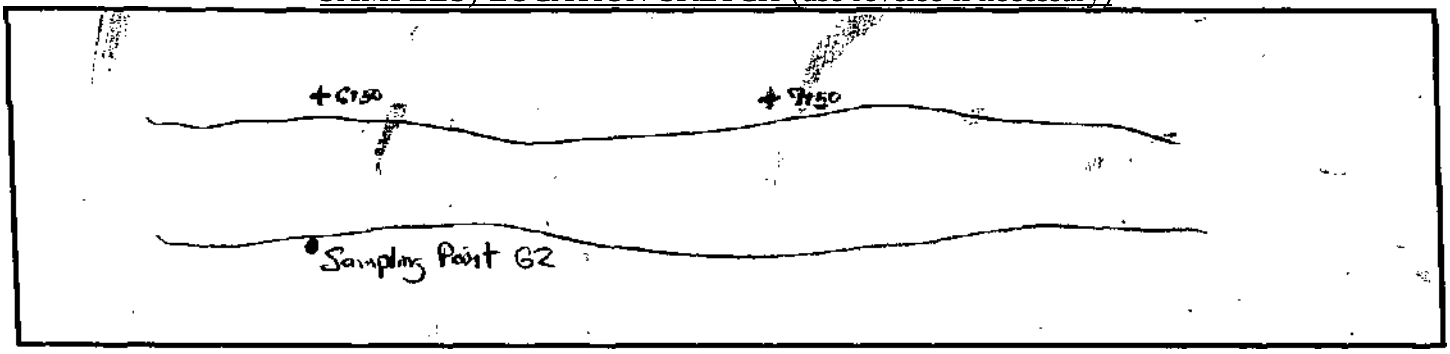
% y U j Project No. 982H5. 3o/p|

I Date Collected Z-'/<?•£/OI ' - :^?^- Time CollectedTO-irj.po? nHr.s^, 5fVt:K-2pVt»3y

Collected By £LN " • " ^^'^^ft, Mo

I Cummings/Riter Consultants "^

SAMPLES) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1])
	O--f .	Loo^ jir-> dcnrc^ 3*"°^ \ CUy, Tr^rf- org«ft.r waiter
	[':-?-s	Dc-nSc, OVDWI^ l&'jyray W hlat^. Ctfly, <v ?i'lt. ^r«^ vrwK <g 4-ra<.h
	'^'-3'*	^OSr^/Vr^ grlf<? gmyd| Ur^

Sampling Method HAAA ^o^g^ Q-3'

Composite Sample? ' YS , ND Composite Sample I.D. No. _

Describe Compositing (-W,* ; CJ'£pu^b)c pfrA dl fn*> KJ Ho^trl

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
T5CPT		Y •	N n	Y a	,N •
		Y •	N •	Y D	^N D
		Y D	N D	Y D	N D
		Y D	N •	Y D	^N D

Number of Containers ?

Date Received by Lab "Z 12$I o) Laboratory Sk

Weather Conditions Qr.iAs ?,CPP

0 4 .em arks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

'UMM1JSGS
JDITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

it o

Project Namely, ,Vt0< I OraiocywAy Sg^Thj Project No. 982 L |5. 3o/oi

Date Collected Z /?z/Q| Time CollectedSD*-3fl^QS'q1-f3'./'S-1 5Q3».336<«TH: t*

Collected By CLN S>^~^ ^ *>«

Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)

+ evae>

S»«pi^ pbvi+ C3

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
	O-r	
	r-2-	lj^n^{ h<r)K\r___Vlf-X rUy. w^>r<t-
	zy -r	

Sampling Method O ^n/

Composite Sample? Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type**)	Volume	Per Sample?		Per Composite?	
Ea		Y D	N •	Y>0	N D
		Y D	N •	Y£	N •
		Y O	N •	Y n	N •
		Y •	N D	Y •	N •

Number of Containers **3**

Date Received by Lab <1 I^IGl Laboratory ^SL

Weather Conditions C(riiA/t fyw??.^. ^C^-

Remarks WlQ ' 2 '22 -Q| ^*yM erf- ^:C^

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

rAUMMINGS
&ITER
f V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Qq^plo^ Powt" £H

kct N a m e l y , ^ r l c J Dr^ocyww Sg^Uj Project No. 982H 5. 3o/oi

Date Collected 2 /Z2/QI Time Collected Sfr-lD-dQg °tf i?:3Q *Sb-m-Vw *fr's:"3**>

Collected By CLN

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

JfmpJf'w *rO\o^~* £>H

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^))
		I -r-*-^-1 JoWk , ^rtf & Sart<A, w^
	I' ?-'	Uoy. *IdsA-* Jr. k^..^ -T.-H <1 cUy
		foRg^ 1 <\\- -z.

Sampling Method ^ n Q *^ucor* Q - y

Composite Sample? Y)J >4 **D** Composite Sample I.D. No.

Describe Compositing Hqc^ *f*<\ Q^to^Br- TTQv/ aj w\^ tv/ frQ^c\

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
TDV	\OZ=	**Y a**	N D	YR-	N •
		Y •	**N a**	**Y •**	N •
		Y •	N D	Y D	N •
		Y a	**N a**	**Y a**	N •

Number of Containers **z**

Date Received by Lab *2 E$ I* C Laboratory JTL

Weather Conditions *C\ouLi{ hrCK=?\j* Zo°l^

emarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Melals, VOA, organics, etc.

fl7/corp

r ^UMMINGS
&ITER
£V CONSULTANTS, INC.

SOIL SAMPLE FIELD COLLECTION REPORT

^ymyliOQ rofoT bC)

Project NamfttnJi ,<fr,cil Of^ocywitw Sgi^pkj Project No. Q&2H5.3ofo\

Date Collected 2 IZZI Q\ Time Collected 3!>TO-g|OTti^v? •^-ts-eflo-f'Vi0

CollectedBy CLNJ SD^O-^^ Uttf

• Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

•fcC¥&.

s»* Jtfmpi,^ Pomt C^

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
5t>-.PlV.Zia	0-V	
	r-"2S	coy-, ^jV^Y TC>Voy Ckw, w\o.^N- 7^ ^
	is 'V	Loo^i ^w ¥[T-, -kn, rU, • o 'i*y

Sampling Method /-} an4 ^yyy Q"~3' 9

Composite Sample? Y Qk N D Composite Sample I.D. No.

Describe Compositing Plopr r> Q JSffc>SP| klr- ncm <?L *>»,•> w/ fvo.J

SAMPLE TYPES COLLECTED

Typeffl	Volume	Per Sample?		Per Composite?	
		Y D	N D	Y ^	N D
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •

Number of Containers 3

Date Received by Lab ^ /^/o Laboratory . 3TL

Weather Conditions <?buAy , ^nW) /s°F

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fn/cmp

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&ITER
£ V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

vS*yks Po;oV ^

TMyectNameXr\^,^°il Dr^iooyww Sg^pUj Project No. ^82H S. 3o/oi

I Date Collected Z A&/Q1 Time Collected 9?)~£ft-ZJ?qH^:oo, 30-3^2^4-1 Vc*

Collected By CLN a-M-^J^^QS,-- '

] Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)

J>9nip!f>Yj Vh*\\-Qv

-t^tso +6fflt!

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^))
	O H '	B^f-
	1-2-	
	1-2'	i,po9 5t)-ro-£n-i, Sc>wif °\s tbc^f.

Sampling Method 1~W^ ^.L>jcv Cvfr

Composite Sample? Y 13 N D Composite Sample I.D. No.

Describe Compositing PWr~ j/i GXnc>V\Mr- k,u <^ W,v I.J -fvn^

SAMPLE TYPES COLLECTED

Tv^(2)	Volume	Per Sample?		Per Composite?	
ic%	q Pa-	Y D	N •	Y ^	N •
		Y D	N •	Y D	N D
		Y •	N •	Y D	N D
		Y •	N •	Y D	N •

Number of Containers 4

Date Received by Lab 2 /ig / O) Laboratory

Weather Conditions OoucW SHQv l"y>p

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fn/corp

"UMMINGS
&ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

^gj spline;

Project N a m e l y ,4r-t0|| D^ S g ' ^ l i ^ Project No. 9 8 2 H 5 . 3 o / o i

Date Collected Z ftz I Q\ Time Collected SB-Irj^fe^ M^ ^b-^sj- {c'!^- lfc^CJ^ie^n^io

Collected By CLN

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

• S^pW Po'^O?

-———+H»w> + $,,£..

-

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])
		ii fi/f. °'^i1 -tc-I V* 2 •r /

Sampling Method n<M\f\ qpc^f Q " 3 ^

Composite Sample? Y & N O Composite Sample I.D. No.

Describe Compositing (Piece Vi d Ky^l-jl(. \y^K\f £ '/v., V. Vy| \-yc,, rJ

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
JlOi	i c y	Y D	N D	Y la	N D
		Y D	N D	Y •	N D
		Y D	N O	Y D	N •
		Y Q	N D	Y D	N D

Number of Containers J

Date Received by Lab '2 I2> I ol Laboratory Sri

Weather Conditions O c x A f , ^ o v , t 1 5 ° F

Remarks 3 f > q > 2 f G 'V1S/(MsQ * k l he**

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

WMMINGS
&ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Si^pim Po^hC8

5<^pl*c Project No. S&2K5vfc /oi <

I DateCollected ^ Q2/^| Time Collected 3^0- g!8<# N5c , -sfyttygK^fosray

Collected By O-M ^'^ZZ^ ^HQ

\ Cummings/Riter Consultants

. SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

w^J*
5«tmpl.>K Po,v>t"£8 + 5»so

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
		\ \iy "'-»••*•* •JIM. ^ 'OX U"-mA VJ \vyft LSXJ
	<^"V	UCTK* Llo,'r„c S^Wi ^'7 J^"'rt

Sampling Method Rono S U <j<fr- Q'3 r

Composite Sample? Y t$ N D Composite Sample I.D. No. _

Describe Compositing Pkcr t>i Or<;pG^klf ps>n £ *>Y W/ Tro^f-

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
&&_		Y •	N •	Y $	N •
		Y •	N •	Y D	N D
		Y •	N •	Y D	N D
		Y •	N •	Y D	N •

Number of Containers 3

Date Received by Lab 2 A?3 IO \ Laboratory , 3TL

Weather Conditions Clcx^ 5nou^ |S°P

^£'Remarks j?R i| - 2-.fc-oi c^j M'MO

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f|7/coip

^UMMINGS
&ITER
LV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

S^-ndfrx K>;nV $f\

ProjectName l^3frrfil IWo^cv,^ S*>^h 2a. Project No. : 962^5"* 3o/<5

Date Collected 1 tf?IQ>\ Time Collected 5ft-TO - 2Jo g+ fQ^^^.ro-aaf irf-^-j 50-^0-^^2 ^f (^i SS

Collected By CLK
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

^^pi^T^feq

3'oc-

•f *t»iio

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*!>)
		Jn^i^b
3&-^0-2Z£	2'-!T	IgJO^^ ^j^y TJ k c «i H- 1V""'*'

Sampling Method /j~<ufil Su^Or Q>~3~

Composite Sample? Y D N D Composite Sample I.D. No.

Describe Compositing plocc in di^OoyAk- pqn <£ ^.'N W Trowf-I

SAMPLE TYPES COLLECTED

Type[1] U)	Volume	Per Sample?		Per Composite?	
Prfe		Y D	N n	Y El	N D
		Y D	N •	Y D	N D
		Y D	N •	Y D	N •
		Y D	N •	Y D	N •

Number of Containers "3

Date Received by Lab 2 /23/pt Laboratory o L

Weather Conditions C bvXJw "vn <V -• . 1*3 ° F

Remarks r\fW CoKed^ Sompic-s «H th% pp,-,ifr T r^;9*d ftwV r y i ^ l

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fi7/coip

^UMMINGS
DITER
'V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

f

tNameTndosh-;,^ Drv./mgu^ S<^pf^ Project No. sdr-f-5.30

Elected 2 jg2 /Q\ Time Collected 3p-ro~g23^i

^0-tO^^^f- 15^

COO

Cummings/Riter Consultants

:tedBy

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

+ ^60

Sample I.D.No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
		/rr^sr-t h>\w k \ -5Ctt » V^ :
«pft-2ZM		
		Lec^Tj ,kWK ~5fl"r w^-1-
	2" ~ ~3f	Densr^ Dr&i\jn, Syetyr-l ,5<^cJ . 6- -a'/r t. *--")-

Sampling Method [^Wd ^ ,^cr Q ~ 5 ^

Composite Sample? Y t2[. ND Composite Sample I.D. No.

Describe Compositing Pi<*t<r ^ dripc^hlf- pgr- J r^ u*/ froui-f-l

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
S		Y •	N D	Y ta	N D
		Y D	N •	Y •	N •
		Y •	N •	Y •	N D
		Y •	N •	Y •	N D

Number of Containers =9 J

Date Received by Lab 2 /?3 / c>\ Laboratory .2LC

Weather Conditions GQKA «M ;-<'sn^,, /5°F

Remarks

1. Organic vapor analysis, pocket penetrometer, elc.
2. Metals, VOA, organics, etc.

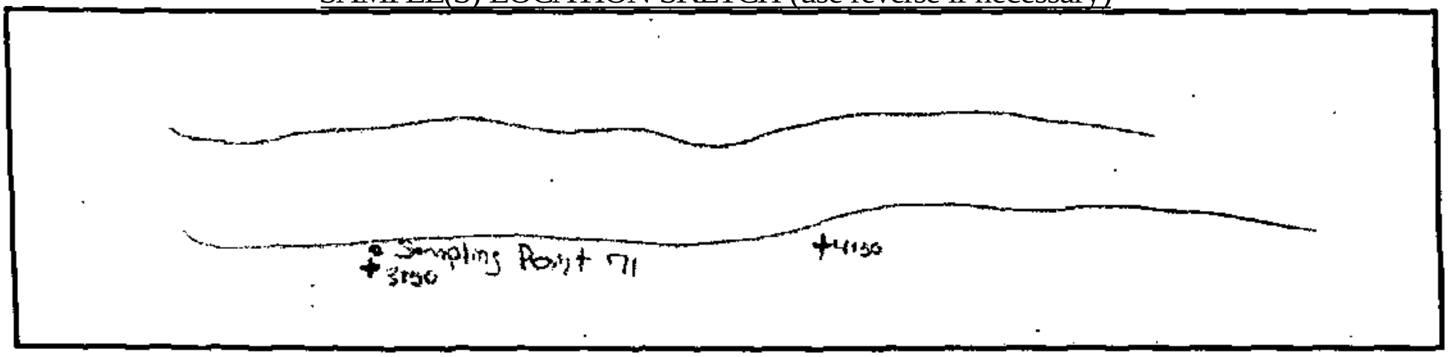
fl7/coip

^UMMINGS
E)ITER
LV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name i od^frml &rs.;o y=g w*\v 5^ff.oyy Project No. 1d#-/5(?o/oi |^
Date Collected Z &- /Ol Time Collected^)-ro-^rw <w *iSuSt-so-ib-wh&z**
CollectedBy Q-N) -*>***** *r .**•
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample LP. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1] >)

Sampling Method [yAftj 3 user O-;
Composite Sample? Y *&L* N D Composite Sample I.D. No. __
Describe Compositing Pl-^Cf- *fa* <J-< \V^TK If Tr<v-/ i; ^tjy • *i*\ f rou,r [

SAMPLE TYPES **COLLECTED**

mP) WSH	Volume Mas	Per Sample?		Per Composite?	
		Y D	N O	Y IS)	N D
		Y D	N •	Y D	N D
		Y D	N •	Y D	N D
		Y D	N D	Y D	N D

Number of Containers M
Date Received by Lab *Z iZj* /Oj Laboratory 3T L
Weather Conditions C looCkg, 5naw , 11'"° p
Remarks 5'yro-2ffB m,vi^n r^^Wi W»

1. Organic vapor analysis, pocket penetrometer, elc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
&ITER
'V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

QnADlfV) orn nz

^ ^ ^ ^ ^ ^ h ^ \ Ihr^^y^ So^W^^ProjectNo. ^8^5-33 /o

I Date Collected 2 l&tG) Time Collected50-jp.gto cKm^o.aft^n-g?! 4-ISJ^?

Collected By Ci-M
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

C\jtaM"^

+ Zt3o

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^)
	o-r	Q c W j t)rsw^ k)AW^, 3^ur-J j-Sow.lff <:)4-(K v ^ V

Sampling Method 11 c\^ Buy- O ~ ^

Composite Sample? YD ' ND Composite Sample **I.D.** No.

Describe Compositing________________________

SAMPLE TYPES COLLECTED

Type[1](2)	Volume	Per Sample?		Per Composite?	
leg.		Y •	N •	Y ^	N •
		Y •	N •	Y D	N •
		Y •	N D	Y D	N •
		Y •	N D	Y D	N •

Number of Containers 3

Date Received by Lab 2 R^l<=>\ Laboratory .STL

Weather Conditions C to*,d\j; !anou(^ I*g°P

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

^UMMINGS
&ITER
l V CONSULTANTS, INC.

SOIL SAMPLE FIELD COLLECTION REPORT

O^-npjfty; VO)^ ^?3

Project NameID^(r^ & ^ f ^ . 5o^phj   Project No. S & Z ^ J P

Date Collected .2 /22/ot   Time Collected^ -to - ^33-, Ufr HK

Collected By O-N
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

C\Jtji.rf Sws^fhu&ni

s*

T ^ »

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements* *>)
^VrCV?^		loO^, kftfk. ViK M-J- ; S lc-fbsql <*V l.O^

Sampling Method l^ftyy? ^ y r Q^'K

Composite Sample? Y 0 N D   Composite Sample I.D. No.

Describe Compositing PUce m O^p^KV- fr*W ^ ^ w) frouel

SAMPLE TYPES COLLECTED

„Type<2>	Volume	Per Sample?		Per Composite?	
		Y D	N a	Y jSJ	N D
		Y D	N D	Y D	N D
		Y D	N D	Y D	N a
		Y D	N D	Y D	N D

Number of Containers

Date Received by Lab 2 fQ /O   Laboratory STL

Weather Conditions QQIAJ^ Shfeu 1 IS °P

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f!7/corp

^UMMINGS
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LV CONSULTANTS/INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

I^^Pct Name X-cLsfrr^ D^chyW 3^ pltrg Project No. - SB2^5.3> /o)

I Date Collected 2- l?z /Qj Time Collected SB-SQ-^ ^ KJfrg /Sfli-Jft-gfr *tnx

Collected By CLM ***>' ** ^ '^

| Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

*^!1^2!L-fe3i-^

CJuc^t-

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*[1] >)
		5 ^ •y(^rs
		L? -o^ b^vh, Sif <C flfiy r Hvo-f^L

Sampling Method H ^

Composite Sample? Y (2 ND Composite Sample I.D. No.

Describe Compositing Place fo 0^0059Kkv "h^N ^ r/>I> Vi/ tvougl

SAMPLE TYPES COLLECTED

Ty^e[2]	Volume	Per Sample?		Per Composite?	
VOC		Y n	N a	Y fl	N D
		Y a	N a	Y D	N D
		Y a	N a	Y D	N D
		Y •	N D	Y D	N •

Number of Containers 3

Date Received by Lab ""2 I22IQ\ Laboratory . ^)l L

Weather Conditions Q o i ^ y Sh/su, 1*S°P f

emarks

#

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

r 'UMM1DIGS
WRITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project NamelrvJo^r;^ I Dn>M«y uoiy Sgl^Uj Project No. 982L|S.3 O / Q |

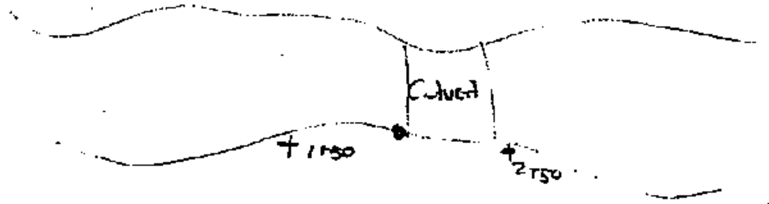
Date Collected Z /2^V OI Time CollectedSQ-XO-^s^WS&o » iO-m-7264 d"jʕ

SO-^-2^^f i >) ^

Collected By QlH

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
5ft-r.fiV2^T	O H	
S>.77>;*?a	\r-7-	
	? " V	^Qo>ib^M, Sc^ <t ^r^^ \.,-^ -y

Sampling Method flor • ^ vigor*-.Q -^"/ '.-;

Composite Sample? YD . NO Composite Sample I.D. No.

Describe Compositing P W r ,v^ 0[1] ."S'fxj^tjr W??y <£ ^ X K,^/ Wo ^

SAMPLE TYPES COLLECTED

TypeO	Volume	Per Sample?		Per Composite?	
		Y D	N O	Y EJ	N D
		Y D	N •	Y D	N D
		Y D	N •	Y Q	N O
		Y D	N •	Y D	N •

Number of Containers M

Date Received by Lab ^/2L|/ O Laboratory .^)

Weather Conditions

Remarks tS12-2-7^-Ql Um frcre ^ 8120

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

^UMMINGS
&ITER
A. CONSULTANTS, INC

SOIL SAMPLE
FIELD COLLECTION REPORT

^ QciWNplivvs POJAT Dg ^ _ _

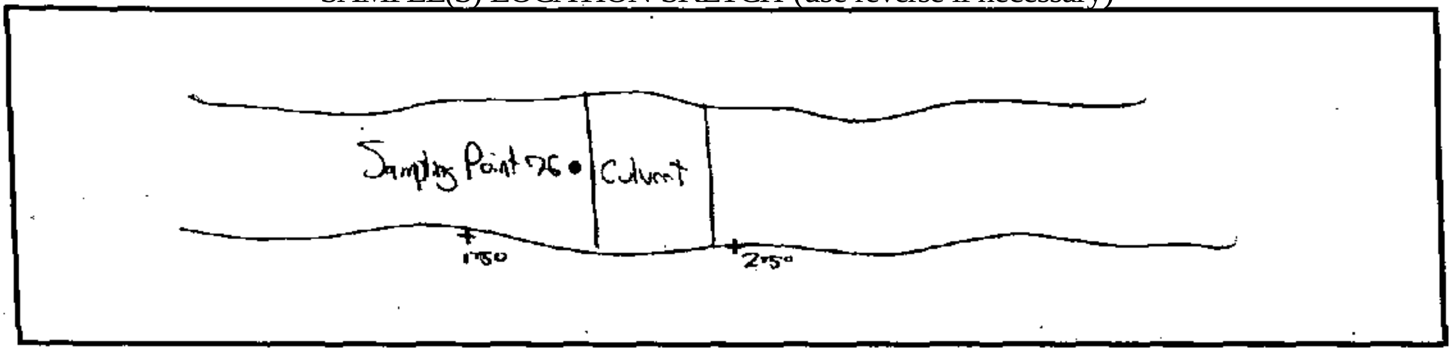
I^B^tNameXJ;^^ DroU«yw<w S^pl^ Project No. ^fi2Ws.3o/ Ol I

Date Collected 2 IZ^IQ] Time Collected SD-CQ-^osV?^^, •SQ-Tn-^Ml-^

Collected By CLK) **&*2 ^ ^

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurementst'))
SP-rp-2^)	C M -	W. b\ack> <j}lrL -sc*sj. W<M
frfVPig	1-2"	uJU bfactr, SrU-£ cUvf. u*4 Q"4r^•\i Q-V^2x

Sampling Method (4aiA A <%) ^Cr O ~~?

Composite Sample? Y I& NCtX Composite Sample I.D. No.

Describe Compositing P/OQ JV\ Q) ^Qcy&hV- Rx\y ^ v-A;x UJ/ Jr'q^A .

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
Fm	t\cn?	YD	ND	YE) .	ND
		YD	ND	YD	ND
.		YD	ND	YD	ND
		YD	ND	YD	ND

Number of Containers H

Date Received by Lab ? Pty Q| . Laboratory <5TL_

Weather Conditions So n nij f 3or>^ v 2^°^

Remarks SD-Jft- 2U2 (^^/i^fp) -kkrr^ AOr r.

1. Organic vapor analysis, pocket penetrometer, etc. fl7/coip
2, Metals, VOA, organics, etc.

"UMMINGS
&ITER
IV CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

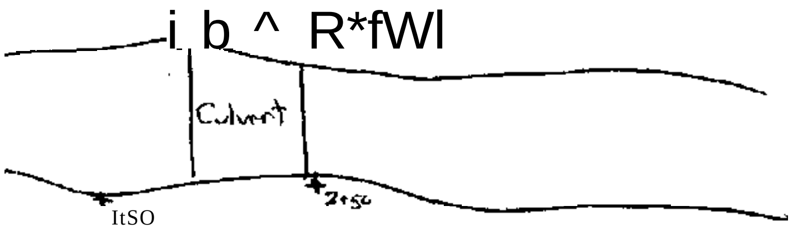
gtwpiiVvs ro.{if ^

Project Name 3VicU£rsgl [Wr,.,~-.^, Sc^u, Project No. ^QZHS.So [Q \ p

Date Collected 2.123*0) 1 Time Collected ?P~Jfl-<^?f^icg; 5ft-Tfl-^^9;ro

Collected By Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements* *>)
		^Osr-, ^r^N mkni Clqr ^ T\ K—bs^i ^<jo£^, IflWcIf SM4-^ v r^+
5P-I:D-7M	2.r~Y	Lc~*-^ {>-<-,.,.,•,, ^ j A Jy/-«,.*«.| t \. ,r.A

Sampling Method lA^ncA ^^yy Q-'Y

Composite Sample? Y ^ N D Composite Sample I.D. No.

Describe Compositing P \| G ^ D d .^pogcyhk Trasg: J? "Wf* '-^ t*e>t~<=l

SAMPLE TYPES COLLECTED

Type(2)	Volume	Per Sample?		Per Composite?	
leu		Y D	N •	Y ta	N D
		Y D	N •	Y •	N •
		Y D	N •	Y •	N •
		Y •	N •	Y •	N D

Number of Containers 3.

Date Received by Lab 2-rzn/Q Laboratory • 5TX

Weather Conditions S^ oo^) Pi orr ,rs, P>5°h-

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2, Metals, VOA, organics, etc.

fl7/coip

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SOIL SAMPLE
FIELD COLLECTION REPORT

!>i^)).VH -Po;it~ ^S

l ^ ^ t Name tnj^fVfg) firc^y^ S^plgr Project No. ^feZ^/g^O/o/

1 Date Collected £ /£?/ O) Time Collected SO-TQ-gg^Qfa?; ^.^.g^g^

CollectedBy _ C 2 ~ f>i *>*0-*<a«*9i*>

Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)

j^j^^J^^V^S

CJVKT-V

i-tvso t-^5i

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements^))
3D-Xp-guc	O-r	^-OOJC-, oUcfc l-O ^rowh, 5^if^ Sg.^f »*M,7<*
	' /'-2"	Ujoy, inW//, ^R< ^c-f-
«	2' -r	

Sampling Method Hcwyj qyj^cr Q"~1 ^

Composite Sample? YB, . ND Composite Sample I.D. No. ___

Describe Compositing P)gcf .v\ <9 ^pcr,<»bV~ (>-EV V J? ^>T> W/ frou^-l

SAMPLE TYPES COLLECTED

T ^ (2) £01	Volume	' Per Sample?		Per Composite?	
		Y D	N •		N a
		Y D	N Q	Y D	N a
		Y D	N **P**	Y D	N •
		Y D	N a	Y D	N a

Number of Containers 3

Date Received by Lab **2/2^/** o l Laboratory . 5TJL

Weather Conditions ^u^vj, 15PP

emarks

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/corp

"UMMINGS
JDITER
L V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

T^mpl^ Po^l ^n

Project Name I^sfr^l Qrgnc^Fy^ Sg^plncj • Project No. , ^t'ibZ.U^. 30/cy

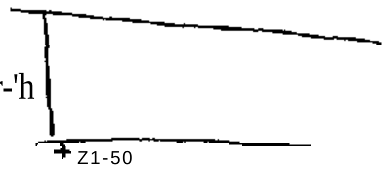
Date Collected 2. /25/Ql Time CollectedSS-Jft-ggi qt gig^ -^p-rp- £E*r^t<.?'y

Collected By C i- Kl ^ C 0 - 25i ^^Wo

Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

• 5^)>^-$3>ihT70l -Jvc-r-'h



T?Voe » + U50 Z1-50

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements* *>)
	L l 2 l	3™5f U^-sr-, UUfL, «?r)f t u^fr j>M-u^ r^or
	1'~Y	Loo-y M°'l'. ^^ ' L-r<r^

Sampling Method I-Wv^ ^^c 0-3

Composite Sample? YH N D Composite Sample I.D. No.

Describe Compositing P W ^ ;* d/^prr>qhfc- It^y <£ /vyV. K,/fr^w-

SAMPLE TYPES COLLECTED

TypeW	Volume	Per Sample?		Per Composite?	
		Y •	N D	Y ^	N •
		YD	N D	Y a	N D
		Y •	N •	Y a	N D
		Y D	N •	Y a	N D

Number of Containers 2

Date Received by Lab ""2 /2M /O) Laboratory JSDL

Weather Conditions Tvnvr^ -foiv^ " Z ^ P

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

n7/coxp

^UMMINGS
DITER
-V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

qvnyW Pov>rhft)0

H^tName jTviH^.-^fr^f IWfr-yy^.j S^iJProiectNo. ^Q-£fl-g52 "tf-q.y^. TiKEn-?^^:^

I Date Collected ^ •/<??/c» Time Collected jprT.n-^i •rV^'.S'o

I Collected By Q_/U

1 Cummings/Riter Consultants *

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

\vtA

lT5^ tZ15^

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
		l*=*agA. 'SVOVN, CJcAjfg <))-, ^c-V . -$£&4
		(-Ocas*. 'J^ly Clciy/^.H\ ^(^V
ro-2^1	~2-'-v	

Sampling Method M'c\rvi qv1yy- 0-3- /

Composite Sample? YE . ND~ Composite Sample I.D. No.

Describe Compositing l-^j^/f. i<\ U f-

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Prfi>		Y D	N •	Y^q	N •
		Y D	N •	Y O	N a
		Y •	N •	Y D	N a
		Y •	N •	Y •	N a

Number of Containers 3

Date Received by Lab 2 (2^1 ZA Laboratory 21±

Weather Conditions <-TV' czs 2£L

[redacted]pariesRfe ft-2-S&-Q^ 1 *qj \ 1?, f\Q

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

f17/coip

^UMMINGS
OITER
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SOIL SAMPLE
FIELD COLLECTION REPORT

Q<4mpW YQ]<\\ fil

Project Name&cUtnnl ^r^^^ S^pl.^ Project No. 1S2H5*3e>/ O
Date Collected 2 /<$/ o \ Time Collected .SD-Jp-^SSnt / o ; ^^0-^0-3^^A*»K
Collected By **O-NJ**
Cummings/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

j&w^U>v ft>^t&t

CMftll

L<J\A?C^

lioo + 1*50

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'>)
		UpjSg) OKOsn, *^hy^ -\rft,/i«-l v mnfef ;
	1-2'	
	2.-3 ^	L^<^, klc^ SP,ftJ. ^HA. ^r*A\H> wf-h

Sampling Method H<^d 9o^Q- Q~"V
Composite Sample? Y"^ ND Composite Sample I.D. No. _
Describe Compositing WWr- ^ o/ % pcggk/r- jv^y ^ ,vi',x. v^/ k&u,^/

SAMPLE TYPES **COLLECTED**

7&T	Volume	Per Sample?		Per Composite?	
		Y •	N Q	T"§ '	N D
		YD	N •	Y D	N D
		Y •	N •	Y •	N D
		Y D	N D	Y •	N D

Number of Containers H
Date Received by Lab g/^-j/oj Laboratory JIL
Weather Conditions Cloud M, Jf^°P
Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

fl7/coip

^UMMINGS
&ITER
l V CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

Jwxy>).VK fro^'V &2.

tName l^^f,.^! On>ii«yv*w Sgy^Uj Project No. 982H5. 3o/Ol

Date Collected Z 12ZIQ\ Time Collected 35-£e>-*5Ts H ^ O . SO-tO-Sk^r*"*
%-20'^ii^*-fc»'.at,

Collected By CLN
Cummings/Riter Consultants

S AMPLE(S) LOCATION SKETCH (use reverse if necessary)

^ • S^r M" &- V-kJ\ft^r-

+ l«JO

"^Oroo + tns*

Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
2QzaL25fL	/. 2'	
	Z ^	

Sampling Method rVfrvTO *±Q&- 0~3>/

Composite Sample? Y Efl N D Composite Sample I.D. No.

Describe Compositing a^C& '-A Q^Qo^hW nrftV X- ^TNL \.i| P^urrl

SAMPLE TYPES COLLECTED

Typeffl	Volume	Per Sample?		Per Composite?	
		Y D	N •	Y	N •
		Y •	N •	Y D	N •
		Y •	N •	Y •	N •
		Y •	N •	Y •	N •

Number of Containers 4

Date Received by Lab 2. /Zq/ o\ Laboratory SEL

Weather Conditions Q.rvrW. I^l

emarks Sfo-IiW^q KS J m<n Uk&\ i^Crr-

•

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

m/corp

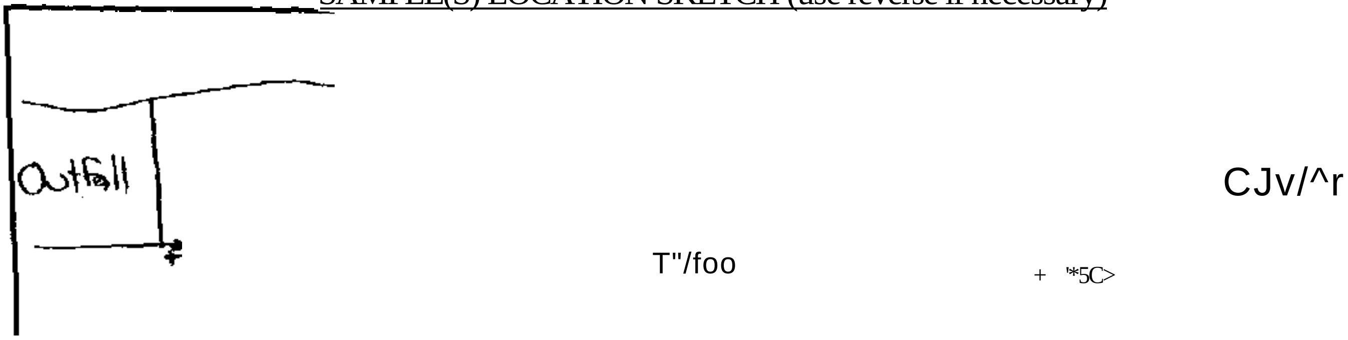
&ITER
l\ CONSULTANTS, INC.

SOIL SAMPLE
FIELD COLLECTION REPORT

QCAV^V^ ftyv^83

Project Name Xr^fcsgl. Dn^ywxW SgyyUj Project No. efl82M 5. 3o/Ol / "
Date Collected Z /g/Ql Time Collectet P^P-^tf/c^, ^,-JQ-cg^-f p;er
Collected By fl,N
Cummin^s/Riter Consultants

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)



Sample ID. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements*'))
		Lc-*sy^ bUcJc^^vu/) "Si" If, 3ft^/e< y-^l, *^L Q^ii^L-LiTr

Sampling Method Hfrvyj quyr Q~7
Composite Sample? Y G3 NO Composite Sample LD. No.
Describe Compositing HT.P '0 dbpCQ^Mfr- r>w <0- ^iY uJ fWW

SAMPLE **TYPES** COLLECTED

Type[1](2)	Volume	Per Sample?		Per Composite?	
ftTA		Y D	N D	Y P	N D
		Y •	N D	Y •	N •
		Y •	N a	Y D	N a
		Y D	N •	Y D	N a

Number of Containers Z
Date Received by Lab 2&\i °i Laboratory 3TL
Weather Conditions IU^y. 3o-r
Remarks

Organic vapor analysis, pocket penetrometer, etc.
Metals, VOA, organics, etc.

fl7/corp

>
"D
T3
m
z
g
x
03

APPENDIX B

DESIGN CALCULATIONS

CULVERT FLOW CALCULATION

Industrial Drainageway Flow Calculation
orseheads, New York

Location	<3ulvert 1, Station 2 + I50	
Diameter of pipe	60.00	inches
Radius of pipe	30.00	inches
Velocity of flow	49.80	ft/min

Water Height (inches)	d (inches)	alpha (radians)	a (inches)	Sector Area (sqare in)	Segment ftrea (sqare inches)	Flow Area (sq in)	Flow (gpm)
13.00	17.00	0.9683	24.72	871.51	420.21	451.29	1,167.42
14.25	15.75	1.0181	25.53	916.27	402.15	514.13	1,329.96
14.50	15.50	1.0278	25.69	925.06	398.13	526.93	1,363.09
14.63	15.37	1.0329	25.76	929.61	395.99	533.62	1,380.39

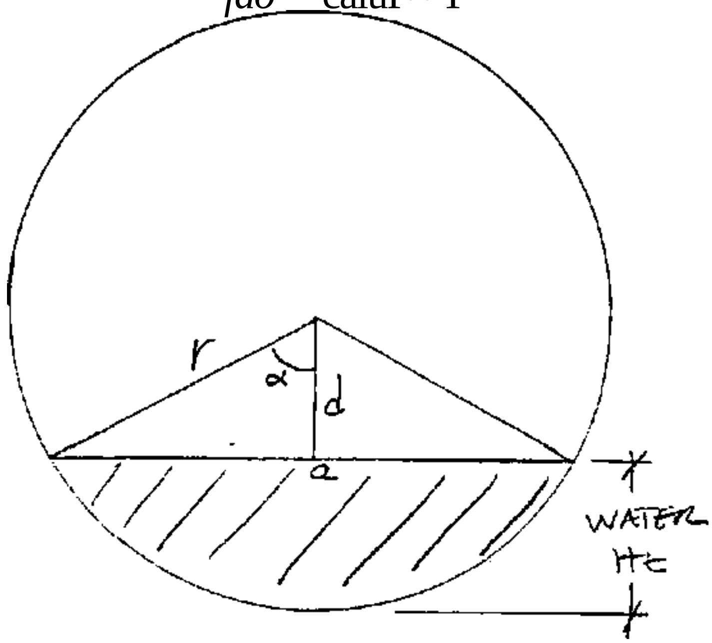
FLOW DATA

Date	Water Height (inches)	Velocity (ft/min)	Flow (gpm)	Comments
2/13/01	14.25	49.8	1329.96	
2/20/01	14.25	49.8	1329.96	*2"*snow
2/23/01	14.5	49.8	1363.09	
3/6/01	14.5	49.8	1363.09	18" snow
3/12/01	14.63	49.8	1380.39	12" snow
3/19/01	14.25	49.8	1329.96	
3/28/01	13	49.8	1167.42	High runoff day
4/2/01	14.25	49.8	1329.96	
4/9/01	14.25	49.8	1329.96	
4/12/01	14.25	49.8	1329.96	
4/16/01	14.25	49.8	1329.96	Minor rain 24 hrs.

CALCINATION METHOD

Note:

1. Water height measured in field.
2. Velocity measured in field.



d = radius of pipe (r) - water height
  = 30.00"- 13.00"
  = 17.00"

alpha = cosine" (d/r)
  = cosine'[1] (17.00730.00")
  = 0.9683 radians = 55.48 degrees

a = r (sine alpha)
  = 30.00" (sin 55.48)
  = 24.72"

sector area = r (alpha)
  = $(30)^2$ 0.9683
  = 871.51 square inches

segment area = a (d)
  = 24.72" (17.00")
  = 420.21 square inches

flow area = sector area - segment area
  = 871.51 -420.21
  = 450.30 square inches

flow = flow area/144" (velocity) (7.48)
  = 450.30 square inches/144" (49.80 ft/min) (7.48)
  = 1,167.42 gpm

r^UMMINGS
V&ITER

SEDIMENT AND SOIL REMOVAL VOLUMES

Estimated Volume of S[illegible] Sediment to be Removed
Industrial Drainageway Remediation
Horseheads, New York

	STA.	Clean Bank Green Area, SF	Clean Bank Volume CY	Impacted Bank Red Area, SF	Impacted Bank Volume CY	Impacted Sed. Orange Area, SF	Impacted Sed. Volume CY	Haz./TSCA Hatched Area, SF	Haz./TSCA Volume CY
	0	2.3		9.6		0		0	
			20.9		46.5		75.9		25.9
	100	9		15.5		41		14	
			26.2		49.0		116.1		20.7
	180	8.7		17.6		37.4		0	
Culvert		subtotal	47.1		95.5		192.1		46.7
Culvert									
Culvert									
Culvert									
	250	13.9		5		7.9		0	
			40.0		36.7		53.5		0.0
	350	7.7		14.8		21		0	
			14.3		27.4		85.2		0.0
	450	0		0		25		0	
			0.0		0.0		87.4		0.0
	550	0		0		22.2		0	
			20.7		13.9		73.9		0.0
	650	11.2		7.5		17.7		0	
			39.8		38.1		100.9		0.0
	750	10.3		13.1		36.8		0	
			41.3		46.5		145.9		0.0
	850	12		12		42		0	
			34.4		57.4		140.7		20.7
	950	6.6		19		34		11.2	
			25.2		64.8		63.0		20.7
	1050	7		16		0		0	
			13.0		51.9		0.0		0.0
	1150	0		12		0		0	
			13.0		40.7		144.4		0.0

	Station								
	1250	7		10		78		0	
			24.1		23.1		250.0		4.6
	1350	6		2.5		57		2.5	
			11.1		4.6		216.7		4.6
	1450	0		0		60		0	
			0.0		17.0		141.4		0.0
	1542	0		10		23		0	
			276.9		422.2		1503.1		50.7
Culvert									
Culvert									
Culvert									
Culvert									
	1600	0		0		0		0	
			0.0		22.2		37.0		0.0
	1700	0		12		20		0	
			7.4		25.9		37.0		0.0
	1800	4		2		0		0	
			7.4		3.7		0.0		0.0
	1900	0		0		0		0	
			0.0		0.0		0.0		0.0
	2000	0		0		0		0	
			0.0		0.0		0.0		0.0
	2100	0		0		0		0	
			11.1		7.4		0.0		0.0
	2200	6		4		0		0	
			18.5		13.0		179.6		0.0
	2300	4		3		97		0	
			1.5		1.1		35.9		0.0
Estimated End	2310	4		3		97		0	
			45.9		73.3		289.6		0.0
	Total		370 cy	*	591 cy		1985 cy		97 cy

Total Impacted Bank and Sediment (non-haz.)	2576 cy
Total TSCA/Haz Soil and Sediment,	97 cy
Total Clean Bank Soil to be Removed	370 cy

Volume calculated using the average-end area method.
Refer to Figures 12,13, and 14 of the Supplement Design Report for Removal Cross Sections.

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APPENDIX C

CONSTRUCTION QUALITY ASSURANCE PROJECT PLAN

i^UMMINGS
S&ITER
f l \ CONSULTANTS, INC.

CONSTRUCTION QUALITY ASSURANCE PROJECT PLAN
INDUSTRIAL DRAINAGEWAY REMEDIATION
KENTUCKY AVENUE WELLFIELD SITE
OPERABLE UNIT NO. 3

PREPARED FOR:

VIACOM INC.
11 STANWIX STREET
PITTSBURGH, PA 15222

PROJECT NO. 98245.30/02
APRIL 19,2001

339 Haymaker Road • Parkway Building • Suite 201 • Monroeville, PA 15146
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CONSTRUCTION QUALITY ASSURANCE PROJECT PLAN INDUSTRIAL DRAINAGEWAY REMEDIATION KENTUCKY AVENUE WELLFIELD SITE OPERABLE UNIT NO. 3

1.0 INTRODUCTION

This Construction Quality Assurance Project Plan (CQAPP) describes the methods and procedures to be used for field monitoring and construction quality assurance to be conducted in conjunction with remedial action (RA) for Operable Unit No. 3 at the Kentucky Avenue Wellfield site in Horseheads, New York. The RA will include excavation of sediment and bank soils associated with the Industrial Drainageway that exceed the performance standard for polychlorinated biphenyls (PCBs). This CQAPP has been prepared by Cummings/Riter Consultants, Inc. (Cummings/Riter) in accordance with the requirements of Paragraph D.5.b of the Statement of Work attached to the Consent Decree between Viacom Inc. (Viacom), successor in interest to CBS Corporation (CBS), and the U.S. Environmental Protection Agency (USEPA). The objective of this CQAPP is to ensure that the completed project meets or exceeds design requirements, including both performance and technical specifications.

Quality assurance (QA), in the context of this CQAPP, is defined as the planned and systematic actions necessary to provide adequate confidence that design requirements are met. This includes the continuing evaluation of the quality control (QC) program through inspections, verifications, audits, and evaluations of the means employed to control and measure the quality of the constructed component. QA will also include the initiation of corrective measures when necessary.

This CQAPP has been prepared in accordance with USEPA *Technical Guidance Document: Construction Quality Assurance for Hazardous Waste Land Disposal Facilities* (EPA/530-SW-86-031, October 1986) and includes five primary elements:

- Responsibility and authority,
- QA personnel qualifications,
- Inspection and certification of the work,

Sampling requirements,
Field'performance and testing requirements, and
Docutnentation.

Responsibility and authority and personnel qualifications are discussed in Sections 2.0 and 3.0, respectively. Sections 4.0, 5.0, and 6.0 describe the monitoring activities, sampling strategies, and documentation requirements, respectively.

2.0 RESPONSIBILITY AND AUTHORITY

Responsibility and authority are delineated in this CQAPP to establish the lines of communication and assign tasks to qualified personnel. This quality management structure is designed to establish an effective decision-making process during RA implementation. The principal parties involved in QA of the RA construction include the project coordinator, supervising contractor, Construction Manager (CM) and QA official, and remedial construction contractors. Lines of authority and communication between the parties involved in QA are illustrated on Figure 1. The following sections describe the general responsibilities and authorities of each of these parties with regard to QA. The responsibility and authority of a given party may be modified or expanded as dictated by specific project needs during construction.

2.1 PROJECT COORDINATOR

Mr. Richard K. Smith is the Viacom Project Coordinator. Mr. Smith is responsible for remedial design and RA construction. Accordingly, Mr. Smith has the authority to select and dismiss parties charged with QA and construction activities, and to accept or reject reports and recommendations of the Supervising Contractor. Mr. Smith's responsibilities and duties, on behalf of Viacom, related to construction QA are the following:

- Define project objectives and establish project policy and procedures;
- Review and analyze task performance with respect to plan requirements and authorizations;
- Review and approve project deliverables prior to submittal to USEPA;
- Serve as the primary communication link between the USEPA and the Supervising Contractor;
- Supervise QA/QC audits of project activities;
- Approve corrective actions resulting from audits; and

- Coordinate with the Supervising Contractor to ensure compliance with the Remedial Design (RD) Work Plan (Cummings/Riter, April 26, 1999) and QAPP.

2.2 SUPERVISING CONTRACTOR

Mr. Leo M. Brausch, P.E., is the Supervising Contractor. Mr. Brausch is thoroughly familiar with the available site data, design requirements, RD Work Plan, and performance specifications set forth in the Consent Decree. During construction, Mr. Brausch will observe and monitor RA activities to ensure compliance with this CQAPP, and will coordinate the efforts of the CM/QA Official.

2.3 DESIGN ENGINEER

Cummings/Riter has prepared the supplemental design for excavation and off-site disposal of PCB-impacted sediment and bank soil. Cummings/Riter will provide technical assistance to Viacom, as needed, in evaluating or modifying elements of the design due to unforeseen site conditions or changes in construction methodology. Any modifications to the design will be implemented only with the consent of both Viacom andUSEPA.

2.4 CONSTRUCTION MANAGER AND QA OFFICIAL

Cummings/Riter has been retained by Viacom as the CM and QA Official. Cummings/Riter is an environmental engineering consulting firm with experience in construction quality assurance and quality control, particularly on remediation projects involving soil excavation and removal, and treatment system construction. Cummings/Riter will assign technically qualified personnel to the project, including a project manager and QA construction engineer.

Mr. William C. Smith, P.E., will be the Project Manager for Cummings/Riter. He will have overall responsibility for all aspects of QA and construction management. Mr. Smith has over 18 years' experience in engineering design, evaluation, implementation and QA of soil and drum removals, landfill caps, and treatment systems. He has been involved in numerous soil excavation and sediment removal projects.

Mr. Smith will be responsible for issuing a certification after completion of the work. The certification will indicate that sediment and soil removal activities were conducted in accordance with the plans and specifications and that the constructed product meets the intent of the design and applicable performance standards. The certification will be signed and sealed by Mr. Smith and submitted to the USEPA.

Mr. Bruce Geno will serve as the Supervising Engineer for Cummings/Riter. Mr. Geno has eleven years' experience in engineering design, construction, and QA. He has served as the QA supervising engineer and construction monitor for five soil excavation and removal projects, and two projects involving treatment system construction. Mr. Jeffry Pytlak will serve as the full-time, on-site representative for Cummings/Riter. Mr. Pytlak has acted as the on-site construction engineer for similar remedial projects. Other staff members that may be involved with the removal project include Mr. Richard Hrenko and Mr. Brad McCalla.

Throughout the construction period, Cummings/Riter personnel will observe construction operations, review sampling and testing results, and document site activities. The CM and QA Official will be responsible for the following:

- Verifying that the contractor's practices and supporting documentation are in accordance with this CQAPP;
- Scheduling and coordinating construction inspections;
- Inspecting the construction work to assure compliance with the design;
- Verifying that any corrective measures are implemented;
- Reviewing and approving project modifications;
- Confirming that any on-site testing equipment is suitable and the appropriate equipment has been properly calibrated;
- Confirming that off-site laboratories used for testing materials are qualified for such work and that such laboratories are independent subcontractors;
- Confirming that test data and inspection information have been properly documented; and
- Providing the Supervising Contractor with construction QA updates and identifying work that should be corrected or rejected.

As CM and QA Official, Cummings/Riter will also establish and maintain comprehensive project files. Resumes for Messrs. Smith, Geno, Pytlak, Hrenko, and McCalla are included in Appendix A.

2.5 REMEDIAL CONSTRUCTION CONTRACTORS

Viacom has not yet selected the Remedial Construction Contractor for removal of Industrial Drainageway sediment and bank soil. The successful contractor will have completed health and safety training courses in accordance with U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations under 29 Code of Federal Regulations (CFR) 1910.120, and will be experienced in stream sediment removal related to hazardous waste site cleanup.

Fagan Engineers, P.C. has been retained to provide local support during stream sediment removal and surveying services, as needed.

Analytical services will be contracted to Severn Trent Laboratories. Transportation and disposal services will also be directly contracted to Viacom, but providers have not yet been identified.

The contractors are responsible for *QC* during construction and are required to establish and maintain effective QC systems. QC systems shall consist of plans, procedures, and organization necessary to produce an end-product that complies with contract and design requirements.

The contractors are responsible for performing the work in strict accordance with the design using the necessary construction procedures and techniques. Contractor personnel will coordinate their work with QA personnel. Specific contractor responsibilities include the following:

- Maintaining a continuous line of communication with Cummings/Riter QA personnel to identify and discuss field issues as they arise;

- Providing shop drawings and other submittals (e.g., catalog cuts, delivery tickets) to confirm that the technical specifications are being met;

- Performing QC testing as required in the technical specifications and providing these results to QA personnel;

- Identifying potential design/construction issues as early as possible to allow resolution in a manner that will not impact project performance or the construction schedule; and

- Maintaining an on-site supervisory presence during construction, start-up and initial testing.

Any conflicts between the QA personnel and the contractors regarding the scope of work or performance requirements will be resolved by the Supervising Contractor prior to commencing the task in question.

3.0 REVIEW OF TECHNICAL SUBMITTALS

For some elements of construction, the technical specifications require the contractor to prepare technical data and submit this information for review. The objective of this requirement is to monitor the contractor's understanding of the design and prevent any misinterpretation of the technical specifications that may otherwise impact the design objectives or construction schedule. The submittal of technical data, also referred to as "shop drawing" submittals, encompasses many elements of the construction activity. Typical submittals that are required as part of the technical specifications include material samples; manufacturer's literature describing the component; dimensioned engineering drawings of the component showing sizes, widths, weights, connections, etc.; installation drawings; operating descriptions; layout drawings; detail drawings; and electrical interconnections. A list of contractor submittals is included as Table 1.
The shop drawing review process is an essential activity for QA/QC monitoring before construction is initiated. The contractor's submittal of a shop drawing constitutes his representation that he has determined and verified quantities, dimensions, field construction criteria, materials, model numbers, and similar data. In addition, it demonstrates that he has reviewed or coordinated each shop drawing with the requirements of the technical specifications (including QA/QC requirements) and design drawings.

Shop drawings will be reviewed by the CM/QA Official to determine general compliance with the design drawings and technical specifications. Submitted data are reviewed and classified by the CM/QA Official as follows:

1. "Reviewed and Accepted" if no objections are observed or comments made;

2. "Reviewed and Noted" if minor objections, comments, or additions are made but resubmittal is not considered necessary;

3. "Resubmit" if the objections, comments, or additions are extensive (in this case, the contractor would resubmit the items after correction); and

4. "Rejected" if the submittal under consideration is not, even with reasonable revision, acceptable or when the data submitted are not sufficiently complete to establish compliance with the design drawings and technical specifications.

Table 2 provides a list of information to be submitted to USEPA as part of site remediation. It includes information to be provided by the contractor and by the CM. All USEPA submittals will be made by the CM or the Supervising Contractor.

4.0 MATERIALS AND EQUIPMENT TESTING

In addition to the review of technical data, there are also several requirements in the technical specifications involving specific testing of materials and equipment. In some cases, this testing requirement can be performed by the supplier, while in other instances the testing is required once the component is on site or has been installed. Testing of select material and equipment provides additional assurances that the component has been properly manufactured, installed, and/or coordinated with other components of construction. Specific to the sediment and bank soil removal at the Kentucky Avenue Wellfield site, the following testing/inspections are required:

- Certified soils laboratory and chemical analysis for borrow materials;
- Waste characterization analytical reports;
- Waste shipment records, disposal manifests, and certificates of disposal;
- Topsoil agronomic testing results;
- Seed certificate of analysis;
- Fertilizer label; and
- As-built drawing showing removal limits and post-removal verification sample locations.

5.0 ON-SITE INSPECTION

The QA personnel from Cummings/Riter will provide the needed on-site observation and will have the following roles in implementing QA/QC procedures for the Industrial Drainageway excavation/removal:

- Record any observed on-site activities that could result in noncompliance with the design documents and report these activities to the Supervising Contractor;
- Collect post-excavation soil and sediment samples;
- Document field and laboratory testing at the frequency established in the design;
- Delineate areas of non-conformance with the QA/QC requirements based on the results of field and laboratory testing;
- Visually observe construction materials such as soils delivered to the site to determine general conformance with material specifications;
- Observe and record procedures used for excavation and backfilling to required elevations and compaction;
- Observe and record procedures for placement of clean fill;
- Record any on-site activities that could result in damage to the quality of the construction product; and
- Maintain routine communications with the various remedial construction contractors.

Checks will be performed to assure continuing compliance with contract requirements (including QC testing) until completion of the particular feature of work. Each check performed will be made a matter of record in the QC documentation. Final follow-up checks will be conducted and deficiencies corrected prior to the start of additional features of work that may be affected by the deficient work. The contractor will not build upon or conceal non-conforming work. Follow-up investigations and compliance checks will be necessary if any of the following occur:

- The quality of ongoing work is unacceptable;
- There are changes in the assigned contractor QC staff or in the on-site production supervision or work crew;
- Work on a definable feature is resumed after a substantial period of inactivity; or
- Other problems develop.

6.0 PROJECT MODIFICATIONS

During the course of construction, modifications may be identified to enhance design performance, improve constructability, or provide better value. The procedures to be employed in the review and approval of any identified modification depend on the significance and magnitude of the change with respect to the overall project. A Field Design Change Request Form (Appendix B) will be completed for each proposed project modification. The three types of modifications are defined as follows:

- PROCESS-RELATED **MODIFICATIONS**
  Proposed design or construction changes that could affect the performance of the remediation of Industrial Drainageway sediment and bank soil.

- **OTHER DESIGN MODIFICATIONS**
  Proposed changes to construction components which do not have the potential of affecting attainment of performance standards, but nonetheless require detailed engineering evaluation and approval.

- **MINOR MODIFICATIONS**
  Proposed changes for constructability that do not have the potential of affecting the achievement of soil performance standards and require minimal engineering review.

Any Process-Related Modifications to the design will be prepared, as directed by the Supervising Contractor, and presented to the USEPA for review and approval. No Process-Related Modifications will be undertaken without prior USEPA approval. After USEPA approval, the modification will be forwarded to the appropriate contractor(s) for inclusion in the work.

Other Design Modifications may be made from time to time throughout the project to improve constructability or increase value. These modifications will be initiated by the Supervising Contractor, Design Engineer, or the Remedial Construction Contractors) as value engineering changes. Other Design Modifications will be evaluated by the Supervising Contractor, and the USEPA will be notified of any such design modifications.

In addition, the contractor may institute Minor Modifications at the direction of the Supervising Contractor or Design Engineer. In this case, the Supervising Contractor will work closely with the Remedial Construction Contractor to continuously record any changes or modifications to the design drawings or specifications. Minor Modifications will be initiated without prior notification of the USEPA. Documentation of Minor Modifications will be by the as-built record drawings.

All design modifications will be reviewed and approved by a New York licensed professional engineer. As-built drawings will reflect any deviations from the design and will be stamped by a New York licensed professional engineer for submittal with the Remedial Action Report.

7.0 PROJECT MEETINGS

Periodic project meetings will be held during the course of the work to provide a mechanism for QA/QC information transfer and resolution of uncertainties or deficient work. Types of meetings include the following:

- Preconstruction meeting,
- Progress meetings, and
- Resolution and work deficiency meetings.

7.1 PRECONSTRUCTION MEETING

A preconstruction meeting will be held at the site prior to construction to be attended by the responsible parties, including the Supervising Contractor, the Design Engineers, the CM/QA Official, and the contractors' supervisory personnel. USEPA representatives will be invited to the preconstruction meeting. QA/QC agenda items for the preconstruction meetings will include, but will not be limited to, the following:

- Responsibilities of each organization;
- Lines of authority and communication for each organization;
- Protocols for observations and tests;
- Protocols for handling construction deficiencies, repairs, and retesting;
- Methods for documenting and reporting inspection data;
- Methods for distributing and storing documents and reports;
- Work area security and safety protocols;
- Any appropriate modifications of the CQAPP to verify that site considerations are addressed;
- Contractor submittals; and
- Procedures for the protection of materials and for the prevention of damage from inclement weather or other adverse effects.

Required preconstruction submittals will be made prior to or during the preconstruction meeting. At the time of the preconstruction meeting, the convened parties will conduct a site walk-around to verify that acceptable design criteria, plans, and specifications are understood and to review material and equipment storage locations.

7.2 PROGRESS MEETINGS

Progress meetings will be held biweekly during construction. At a minimum, the meetings will be attended by the contractors) actively engaged in site work, Design Engineers, and the CM/QA Official. The purpose of these meetings is to review project schedule, status, and any potential construction problems.

7.3 RESOLUTION AND WORK DEFICIENCY MEETINGS

Resolution and work deficiency meetings will be held, as necessary, to address the following:

- Define and discuss the uncertainty, problem, or deficiency;
- Review alternate solutions;
- Implement a plan to resolve the uncertainty, problem, or deficiency; and
- Discuss procedures to verify that a resolution has been reached and that the uncertainty, problem, or deficiency has been corrected.

Resolution and work deficiency meetings will be attended by the CM/QA Official, Design Engineer, and representatives of those contractors involved.

7.4 SUMMARY OF MEETINGS

A summary of each meeting will be prepared by the CM/QA Official. The summary will become a part of the project file.

8.0 PROJECT COMPLETION AND DOCUMENTATION

8.1 COMPLETION INSPECTION

Based on the Supervising Contractor's and the Design Engineer's concurrence that the work of any of the Remediation Construction Contractors is nearing substantial completion, that contractor's manager, the Supervising Contractor, and CM/QA Official will conduct a detailed inspection. This inspection will be performed at least 14 days prior to the final inspection.

The work will be inspected for conformance to plans, specifications, quality, workmanship, and completeness. The CM/QA Official will prepare an itemized list of work not properly completed, inferior workmanship, or work not conforming to plans and specifications. The list will also include outstanding or incomplete administrative items such as as-built drawings, operation and maintenance manuals, and spare parts. The list will be included in the QA documentation and submitted to the Supervising Contractor and contractor with an estimated date for correction of each deficiency within five working days after conducting this inspection.

8.2 FINAL INSPECTIONS

The final inspection for any contractors' work will be formally scheduled at a date and time agreed to by USEPA, the Supervising Contractor, the CM/QA Official, and the contractor(s). This notice of inspection must include the contractor's assurance that specific items previously identified to the contractor as unacceptable will be acceptably corrected by the date scheduled for the final inspection. If, during the final inspection, the Supervising Contractor or CM/QA Official identifies deficient or incomplete work performed under the contract, the CM/QA Official will develop a list of such work and will subsequently furnish this list to the contractor and Supervising Contractor. The contractor will be responsible for correcting items identified on the final inspection list and arranging for a follow-up inspection.

8.3 PROJECT DOCUMENTATION

Each contractor will maintain current records of QC operations, activities, and tests performed, including the work of subcontractors and suppliers. These records will be on an acceptable form and will include factual evidence that required QC activities and/or tests have been performed, including, but not limited to, the following:

- Identification of subcontractors and their areas of responsibility;
- Weekly work reports;
- Identification of testing or QC activities performed with results and references to specification/plan requirements;
- Identification of deficiencies noted along with corrective action proposed and/or implemented;
- List of material received with statement as to its acceptability and storage;
- Identification of submittals reviewed with contract reference, by whom, and action taken;
- Evaluations of job safety stating what was checked, results, and instructions or corrective actions;
- Conflicts in plans and/or specifications; and
- Statement of verification from the contractor.

These records will indicate a description of work on the project, weather conditions, and any delays encountered. These records will cover both conforming and deficient features and will include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records will be furnished to the CM/QA Official within three workdays following the week covered by the report. Reports need not be submitted for days on which no work is performed. The report from the contractor's QC manager will include copies of test reports and copies of reports prepared by subordinate QC personnel.

8.4 NOTIFICATION OF NONCOMPLIANCE

The CM/QA Official will alert the contractor to any detected noncompliance with the foregoing requirements. If noncompliance is relatively minor and amenable to quick resolution, the CM/QA Official may notify the contractor verbally, providing the contractor the opportunity to rectify the noncompliance without further formality. If the noncompliance is major, the CM/QA Official will notify the contractor in writing. The contractor will, after receipt of such notice and acknowledgment in writing, immediately take corrective action. Such notice, when delivered to the contractor at the site of the work, will be deemed sufficient for the purpose of notification. The contractor will be responsible for promptly implementing any necessary corrective action to bring the construction into compliance.

8.5 CERTIFICATION DOCUMENTATION/SUMMARY REPORT

Documentation of the construction QA activities will be compiled by the CM/QA Official and used in preparation of Viacom's written report to be submitted to the USEPA for certification that the components of the Remedial Action for Disposal Area F and the Former Runoff Basin Area have been completed in accordance with the Consent Decree and that the Performance Standards have been achieved. Viacom's written report requesting certification shall be signed by the CM/QA Official, Supervising Contractor, and a registered professional engineer licensed by the State of New York. The as-built drawings to be included with the written report shall also be signed and stamped by a New York licensed professional engineer.

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TABLES

TABLE 1
LIST OF CONTRACTOR SUBMITTALS
HORSEHEADS, NEW YORK

	TO BE SUBMITTED		
SUBMITTAL	PRIOR TO CONSTRUCTION	DURING CONSTRUCTION	FOLLOWING CONSTRUCTION
Health and Safety Plan	X		
List of Subcontractors and Facilities for Waste Disposal	X		
By-Pass Pumping Plan	X		
Sediment Removal Plan	X		
Sediment Stabilization Plan	X		
Water Treatment System Plan	X		
Borrow Material Analytical Results		X	
Borrow Material Grain-Size Analysis		X	
Topsoil Agronomic Test Results		X	
Seed Certificate of Analysis		X	
Fertilizer Label		X	
As-built Drawings			X
Waste Characterization Data		X	
Waste Shipment Records and Disposal Manifests			X

TABLE 2
USEPA SUBMITTALS
HORSEHEADS, NEW YORK

SUBMITTAL	To BE SUBMITTED	
	FOR REVIEW AND APPROVAL	FOR INFORMATION ONLY
Health and Safety Plan	X	
List of Subcontractors and Facilities for Waste Disposal	X	
By-Pass Pumping Plan	X	
.. Sediment Removal Plan	X	
Sediment Stabilization Plan	X	
Water Treatment System Plan	X	
Borrow Material Analytical Results		X
Borrow Material Grain-Size Analysis		X
Topsoil Agronomic Test Results		X
Seed Certificate of Analysis		X
Fertilizer Label		X
As-built Drawings	X	
Field Change Forms	X	
Waste Characterization Data		X
Waste Shipment Records and Disposal Manifests		X
Confirmatory Sample Results and Locations	X	
Daily Construction Reports		X

FIGURE 1

RA PROJECT ORGANIZATION

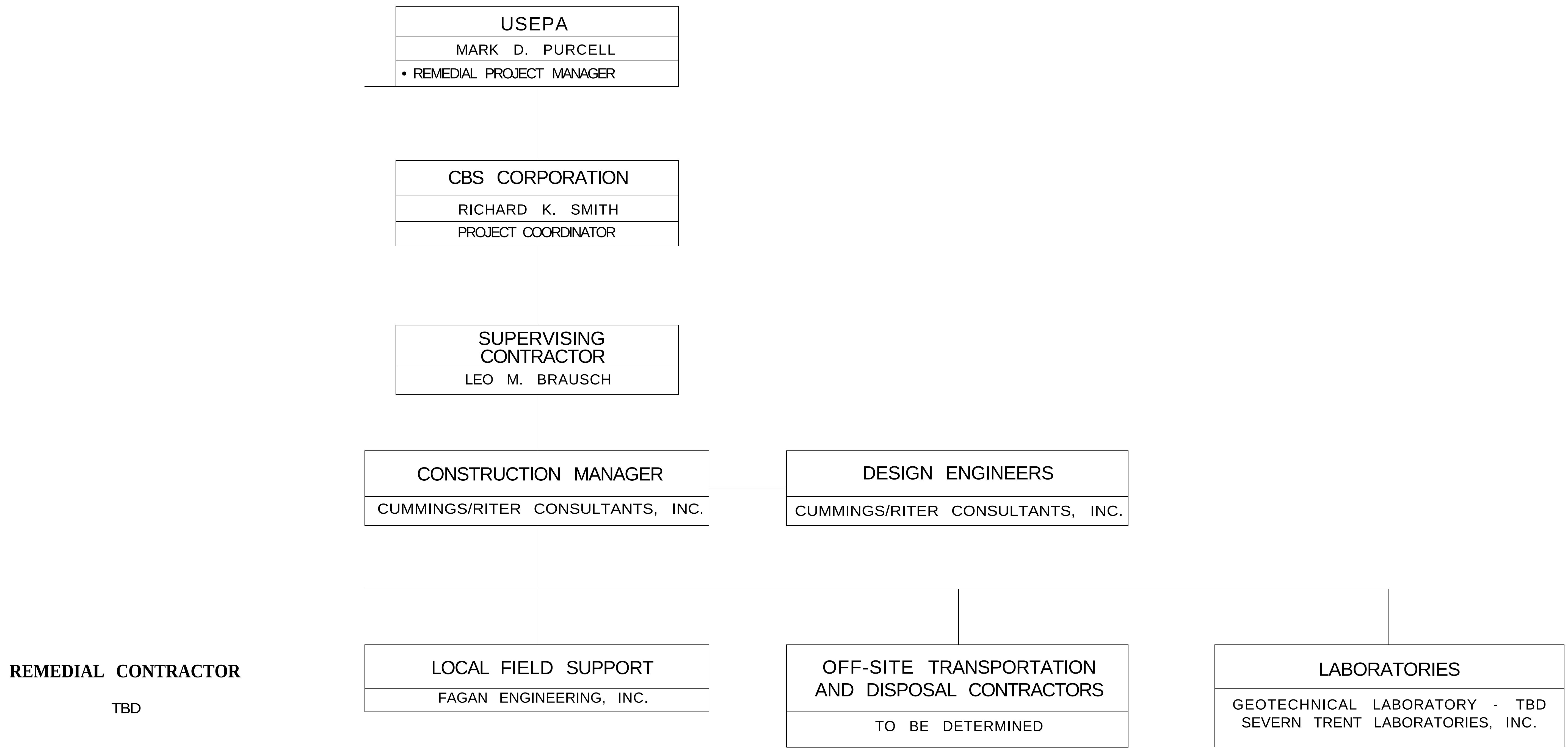

FIGURE 1

RA PROJECT ORGANIZATION

KENTUCKY AVENUE WELLFIELD SITE - 0U3
HORSEHEADS, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

rUMMINGS v&ITER
J\ CONSULTANTS, INC

DRAWING NUMBER
98245B33

DRAWN BY:	T.N. Fitzroy	DATE 4-21-00
CHECKED BY:	B. Geno	DATE 5-2-00
APPROVED BY:	B. Geno	DATE 5-2-00

REVISION	DATE	)ESCRIPTIO
1	4/18/01	REVISED ORGANISATION FOR SEDIMENT REMOVAL -Wfc&-

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APPENDIX A

RESUMES

WILLIAM C. SMITH, P.E.
PROJECT MANAGER
CUMMINGS/RITER CONSULTANTS

Mr. Smith has 18 years of experience on solid and hazardous waste projects. Mr. Smith has participated in the remedial programs for more than 30 NPL and RCRA projects and numerous industrial facilities. His responsibilities have included work plans, planning and supervising remedial investigations, authoring feasibility studies, preparation of remedial action plans, and technical negotiations with State and Federal agencies. He has prepared engineering designs, plans, specifications and cost estimates for numerous remedial construction projects. Mr. Smith has also provided on-site construction monitoring services at sites involving hazardous materials.

EDUCATION
Graduate Studies, Civil Engineering, University of Pittsburgh
B.S., Civil Engineering, University of Pittsburgh, 1982

REGISTRATIONS/CERTIFICATIONS
Professional Engineer: North Carolina, Pennsylvania, Delaware, and New York
Health and Safety Training in accordance with OSHA Regulations 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response"
Cardiopulmonary Resuscitation and First Aid, American Red Cross

PROFESSIONAL EXPERIENCE
AUGUST **1993 TO PRESENT** **PROJECT** MANAGER
CUMMINGS/RLTER CONSULTANTS, **INC.**

Mr. Smith serves Cummings/Riter as Project Manager on Remedial Design/Remedial Action Projects (RD/RA). He is responsible for assessment, investigation, design and construction monitoring/CQA activity. Mr. Smith is Project Manager and Project Coordinator for the RD/RA at the B & E Landfill. The project entailed design of a 30-acre geosynthetic landfill cap, value engineering, borrow area identification, and phytoremediation of groundwater seeps. Cummings/Riter provided Construction Management and Quality Assurance services on the project.

Mr. Smith managed the remedial design and remedial construction activity for the William Taylor Estate Site in Wheatland, PA. This project involved constructing soil covers over two former disposal areas, excavation of PCB impacted soil, excavation of petroleum impacted soils, excavation dewatering, on-site water treatment, and wetland replacement.

Mr. Smith managed the remedial design and remedial construction activity for the groundwater, soil and surface water remediations at the Koppers Company, Inc. Superfund Site. This project involved designing and permitting a groundwater treatment facility, treatment of surface water, pond closure, NPDES permitting, and wetlands reconstruction. Soil at this site was excavated and incinerated off site for the removal of pentachlorophenol and dioxin.

Mr. Smith managed the RD/RA for the Blosenski Landfill Superfund Site. This project involves both landfill capping and groundwater treatment. The landfill cap was designed by Cummings/Riter and was constructed with Cummings/Riter performing construction monitoring and CQA. The groundwater pump and treat system has been constructed and Cummings/Riter is monitoring the performance of the groundwater recovery system.

Mr. Smith was project manager for construction monitoring/quality assurance of the Delaware Sand and Gravel Superfund site remediation. This remediation consisted of a cap over the inert area and construction of a bioventing system and associated bioremediation treatment facility.

He recently conducted an independent audit of the slurry wall construction project at the Fresh Kills Landfill in Staten Island, New York. This project entailed constructing both soil bentonite and cement bentonite slurry walls. Approximately 39,000 linear feet of slurry wall was constructed to depths of 55 feet (an estimated 1.4 million square feet of wall). Mr. Smith reviewed contractor practices with respect to standard- and site-specific operating procedures, assessed contractor adherence to project requirements, and assessed on site testing and documentation procedures. Mr. Smith is also responsible for the RI/FS of a 70-acre Superfund landfill site in Kent County, Delaware. Mr. Smith managed the remediation of a petroleum contaminated former industrial facility in Wilmington, Delaware using low temperature thermal desorption and served as an in-house consultant for the feasibility study for the Former Westinghouse Transformer Plant Superfund site in Sharon, Pennsylvania.

1985 TO AUGUST 1993 — ASSISTANT PROJECT ENGINEER TO BRANCH MANAGER/PROJECT MANAGER
PAUL C, RIZZO ASSOCIATES, INC.

Mr. Smith served as the manager of Paul C. Rizzo Associates* Delaware Valley Operations located in Newark, Delaware. Mr. Smith was responsible for the development and supervision of substantial site characterization programs under both RCRA and CERCLA. These programs included soil and subsurface investigations and geophysics.

Mr. Smith was responsible for the RI/FS at the Tonolli Corporation Superfund site in eastern Pennsylvania. This site was one of the first Region IE RIZFS's to be performed as a streamlined RI/FS where RI and FS activities were undertaken simultaneously. This battery recycling/secondary lead smelter site has soils and/or groundwater impacted with lead, cadmium, and arsenic. The RI assessed potential impacts on and off site as well as in various materials stockpiled on site. The FS focused on removal of on and off site soil impacted with lead. The FS evaluated various removal action levels, solidification/stabilization and soil washing treatment techniques, passive groundwater treatment, and the use of the existing on site landfill for disposal. The FS was conducted in accordance with NCP criteria and included detailed cost estimates for multiple removal action levels, soil treatment techniques, and impacted media. During proposed plans and pre-ROD negotiations, Mr. Smith was responsible for technical input which permitted the use of the on site landfill for soil disposal and reduced substantially the amount of soil required to be treated prior to disposal. These changes were estimated to save the PRPs approximately $20 to $25 million in site remediation costs.

Mr. Smith was responsible for all aspects of the predesign investigations, slope stability analysis, and design activities for the Army Creek Landfill Superfund Site cap construction. This project involved a value engineering review of the government's design and resulted in a redesign of the cap and grading plan to save the PRPs approximately $3 million. This project consisted of a 52-acre multi-layer synthetic cap and associated E&S control structures, and approximately 350,000 cubic yards of engineered fill.

For the DS&G Superrund Site, Mr. Smith was responsible for all aspects for the design of the Inert Area cap and the Drum Disposal Area slurry wall including technical negotiations, value engineering reviews, predesign investigations, plans, specifications, design analysis report, and the cap construction work plan.

For the U.S. Army Corps of Engineers' Lackawanna Refuse Superrund Site capping project in Old Forge, Pennsylvania, Mr. Smith had a major role where he was responsible for the development of conceptual design costs and construction schedule. During the final design phase, he was involved with the cost estimating of the project and was also responsible for coordinating the engineering design and specifications preparation. Specifications were developed and written for construction activities unique to this project.

Mr. Smith supervised the site characterization, design, and prepared the permit application for a proposed 300-acre sanitary landfill expansion project in Salem, Ohio. This landfill expansion involved characterizing shallow underground mine voids beneath one of the expansion areas and developing a mine void remediation program such that the area could be utilized for landfill expansion. This project also involved designing transitions from older fill areas to new expansion cells, which were lined with leachate collection. The final capping configuration had to take into account that the landfill was located within the flight path of the local airport and had to meet FAA requirements for a clear flight path. The permit included data to support a technical equivalency application for liner material.

Mr. Smith was project engineer for several other sanitary landfill projects in Ohio. These projects included:

- Design of a 900-acre sanitary landfill in Poland, Ohio.

- Site characterization and design for a landfill expansion near Akron, Ohio. This project involved assessing adjacent properties for suitability in landfill expansion and the evaluation of shallow groundwater to meet liner separation regulations.

- A slurry wall investigation and design for the alignment of a proposed slurry wall at a sanitary landfill in Solon, Ohio.

- Preparation of explosive gas monitoring plans for the sanitary landfills in Solon, Akron, and Salem, Ohio.

Mr. Smith was project manager for a CERCLA removal of 1,000 cubic yards of lead contaminated soil from a packaging facility in a residential/light industrial area in Wheeling, West Virginia. This was a fast-track CERCLA removal project due to regulatory constraints. Of particular note is that within four months of project award USEPA Region IE approved the Remedial Action Work Plan, QAPP and Sampling and Analysis Plan, the remediation work was bid and a remediation contractor selected, delineation of excavation areas, approval was obtained for waste disposal, and contaminated soil was removed and disposed. Post-excavation samples documented lead levels remaining below action level, thus the site was restored and the closure report was submitted. Overall, the project proceeded smoothly with few regulatory comments or problems.

Other activities which he has been involved include:

- On-site supervision of remediation activities involving drum excavation and removal, conducting geophysical surveys, drum characterization, and approval of remediation contractor charges.

- Conducted environmental assessments of properties to determine potential environmental liabilities for several industrial clients. Mr. Smith coordinated the field activities and draft/final report preparation for these sites, including a confidential site in Attica, New York.

- Design and construction supervision of emergency methane cutoff trench and gas venting system for a Pittsburgh area landfill.

- Design and preparation of plans/specifications for a RCRA surface impoundment closure and cap in North Carolina.

- Supervised the investigation of a TCE-contaminated underground fire water reservoir in Ithaca, New York. The investigation involved drilling and analyzing core samples of the concrete walls to evaluate the extent of TCE penetration.

1982 TO 1985 ENGINEER
NUS CORPORATION

During his three years with NUS, Mr. Smith coordinated remedial investigations and feasibility studies and prepared reports for numerous abandoned hazardous waste sites under the USEPA's Superfund program. These studies identify applicable technologies and combine them into site-specific remedial alternatives. These alternatives undergo preliminary design and cost estimates and are then evaluated with the goal of determining which is the most cost-effective solution. Mr. Smith also worked in a soil laboratory performing geotechnical testing and compatibility tests to determine what effects various industrial wastes had on the permeability of proposed soil liners for waste disposal.

CONTINUING EDUCATION

Subsurface Monitoring Technology, Sanitary Landfill Gas and Leachate Management, University of Wisconsin, Extension.
Landfill Lining Systems: Design and Installation, Lehigh University,
Introduction to Professional Practice, ASFE-IPP

AFFILIATIONS

American Society of Civil Engineers

PUBLICATIONS

Mr. Smith co-authored three technical papers concerning the design and construction of remedial measures. These papers were presented at Superfund '87 and Superfund '88 in Washington, D.C. He co-authored and presented a technical paper at the 1992 Caribbean Haztech Conference in San Juan, Puerto Rico on the topic of resource recovery of lead from spent battery case material.

BRUCE GENO
PROJECT SUPERVISOR
CUMMINGS/RITER CONSULTANTS, INC.

Mr. Geno's educational background is in civil/geotechnical and environmental engineering. His eleven years of professional experience have focused in environmental design, corrective measures studies/feasibility studies, geotechnical design, cost estimating, and construction monitoring. He has provided field oversight for construction and subsurface investigation activities and has supervised multimedia sampling programs for numerous hazardous waste sites. Mr. Geno has also created work plans and design documents, erosion and sedimentation control plans, performed slope stability analyses, and has prepared construction specifications and drawings.

EDUCATION

M.S., Civil/Geotechnical Engineering, Massachusetts Institute of Technology, 1989
B.S., Environmental Science, Middlebury College, 1985

REGISTRATIONS/CERTIFICATIONS

Health and Safety Training in accordance with OSHA Regulations 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response"
Standard First Aid, including Cardiopulmonary Resuscitation - American Red Cross

PROFESSIONAL EXPERIENCE

DECEMBER 1994 TO PRESENT — **PROJECT SUPERVISOR**
CUMMINGS/RITER CONSULTANTS, **INC.**

Activities performed at Cummings/Riter include construction oversight for surface water, sediment, groundwater and soil remediation projects; preparation of work plans and design documents for soil, sediment, surface water, and groundwater remediation projects; preparation of NPDES permit applications for storm water discharges and surface discharge of treated groundwater. Most recently, Mr. Geno supervised closure activities in an abandoned manufacturing facility that required structural improvements to ensure worker safety. Mr. Geno provided construction oversight for removal of approximately 11,000 tons of glass fill characterized as hazardous waste due to concentrations of lead and cadmium from a residential neighborhood in southwestern Pennsylvania. He coordinated off-site disposal approvals, excavations activities, post-excavation verification sampling, and provided public relations with local township officials and residents. Mr. Geno was the resident engineer/construction manager for the installation of a 13-acre landfill cap that included placement of geosynthetic components and over 350,000 cubic yards of soil. Mr. Geno has provided construction oversight for two PCB remediation projects consisting of soil excavation and off-site disposal, and one interior PCB spill cleanup. Mr. Geno provided construction oversight for the removal of approximately 3,500 tons of PCB-impacted soil from seven residential properties adjacent to a former electric transformer manufacturing facility in New Jersey.

Mr. Geno has prepared construction packages and related sampling, quality assurance, and bid documents; prepared erosion and sedimentation control plans; and has provided construction monitoring and/or oversight for voluntary cleanup and state and USEPA-led Superfund projects in six states. Mr. Geno's responsibilities have included contract preparation and bid review/clarification; contractor procurement and scheduling; quality assurance inspection, documentation and reporting; coordination of field design changes with construction contractors and lead agencies; invoice and change order review, negotiation and approval; coordination of property access with private, corporate, and public entities; and scheduling and conducting construction and certification inspections with state and federal representatives. Mr. Geno has provided construction oversight and remedial action documentation for contracts with values up to $2.6 million involving excavation and off-site treatment, groundwater treatment system construction, in situ soil vapor extraction, earthmoving over soft sediments, and landfill cap construction. Several such projects have occurred in sensitive residential areas.

JULY 1993 TO DECEMBER 1994 TECHNICAL SPECIALIST - CIVIL ENGINEERING
ENSR CONSULTING AND ENGINEERING

While at ENSR Mr. Geno created plans and design documents for the excavation and on-site incineration of soil and sludge containing polynuclear aromatic hydrocarbons and polychlorinated biphenyl's at a Superfund site in Pennsylvania. Design documents included an erosion and sedimentation control plan, a sampling and analysis plan, an operation and maintenance plan, a field sampling plan, a construction quality assurance/quality control plan and a remedial action contingency plan. He evaluated groundwater constant-rate pump test results for hydrogeologic characterization and prepared an alternatives array document for a coal tar manufacturing facility feasibility study addressing soils, sediments, perched groundwater and a confined aquifer. Mr. Geno also prepared detailed cost estimates for the following projects:

- Various soil excavation and removal actions, including underground storage tank closures. Costs were all-inclusive, addressing analytical costs, water management, excavation, transportation, costs for several treatment and disposal options, and backfill.

- Groundwater pump and treat systems and a soil vapor extraction system for remediation of a deep sand aquifer. Estimate included breakdown of direct and indirect capital costs and operation and maintenance costs for a phased remedial approach. The design included a shallow SVE well for soil remediation and carbon treatment for organics removal.

- Remediation of a shallow fractured bedrock aquifer with artesian conditions. Extraction consisted of a groundwater cutoff trench parallel to a nearby stream. Groundwater flow was modeled to estimate flow rates and influent concentrations. Carbon treatment costs were compared to chemical oxidation with ultraviolet catalyzation.

JULY 1990 TO JULY 1993 — ASSISTANT PROJECT ENGINEER
PAUL C. RIZZO ASSOCIATES, INC.

Mr. Geno performed the following tasks while at Paul C. Rizzo Associates:

- ENVIRONMENTAL DESIGN
  - *Major CERCLA Landfill Cap Design - Pennsylvania:* Performed slope stability analyses of existing and proposed slopes, designed regraded slopes, selected cap components, designed seep collection systems and drainage layer collection and discharge, and prepared construction specifications and drawings. Construction was performed in stages, necessitating proper sequencing for erosion and sedimentation control and slope stability.

    CERCLA Land Disposal Design -Pennsylvania: Designed landfill for on-site disposal of industrial wastes at a former manufacturing facility, performed geotechnical analysis of a disposal unit, prepared geotechnical and geosynthetics construction quality control plans and geosynthetics construction specifications.

    Groundwater Treatment System Design - Maryland: Prepared construction specifications and drawings for groundwater extraction, treatment, and reinjection system. Groundwater was treated with an air-stripper with vapor phase carbon for off-gas treatment.

- CORRECTIVE MEASURES STUDIES/FEASIBILITY STUDIES
  - Feasibility study for an NPL site in central Pennsylvania. Soils and the fractured bedrock aquifer were impacted with volatile organic compounds (industrial solvents).

  - Feasibility study for an NPL site surface and subsurface soils, wetlands, surface water and groundwater impacted as a result of land disposal of industrial sludges and drummed wastes.

  - Feasibility study for a municipal waste landfill within the floodway of, and discharging leachate to, the Susquehanna River.

- Corrective measures study for an industrial waste landfill closed due to RCRA Part B permit denial. Groundwater and surface water were impacted by three unlined disposal units. Remedial measures evaluated included slurry walls, improved caps, gradient control wells with groundwater treatment, and excavation with redisposal in a lined landfill cell on site.

JULY 1989 TO JULY 1990 ENGINEER
GOLDBERG-ZOINO AND ASSOCIATES

While at Goldberg-Zoino and Associates Mr. Geno designed and performed geotechnical investigations for highways, new building construction, and renovations of existing construction. Designs included tieback walls with soldier piles and lagging, reinforced slopes, and building foundations. Analyses performed included settlement of new construction, settlement of existing foundations due to new construction, slope stability and bearing capacity. He also provided construction oversight for retail space, underground structures and general site work.

JEFFRY J. PYTLAK
PROJECT ENGINEER
CUMMINGS/RITER CONSULTANTS, INC.

Mr. Pytlak is an industrial engineer with experience in project management/project engineering related to environmental remediation at various CERCLA and RCRA sites, landfills and industrial sites. He has experience in groundwater pump and treat systems, contaminated soil removal, soil solidification/stabilization, storage tank removal/installation, facility decontamination, and waste sampling programs. Other experience includes work plan development, construction oversight, QA/QC, and health and safety compliance.

EDUCATION

B.S., Industrial Engineering, The Pennsylvania State University, 1991

REGISTRATIONS/CERTIFICATIONS

TROXLER NUCLEAR GAUGE CERTIFIED OPERATOR, 1995
CSR/Polypipe Butt Fusion Certified Welder, 1997
UST Removal/Abandonment Certified, Delaware, No. A8740
OSHA 40-Hour Hazardous Waste Operations and Emergency Response Training, 1993
OSHA 8-Hour Hazardous Waste Operations and Emergency Response Refresher Training, 2000
OSHA 8-Hour Supervisor Training, 1995
OSHA 8-Hour Confined Space Entry Training, 1994

PROFESSIONAL EXPERIENCE

FEBRUARY 1999 TO PRESENT — **PROJECT ENGINEER**
CUMMINGS/RITER CONSULTANTS, **INC.**

Mr. Pytlak has been responsible for assisting in implementing various landfill, groundwater, and environmental field investigations. His responsibilities and duties have included construction oversight, QA/QC plan development and implementation, work plan development, report preparation and conducting various field activities and procedures. Mr. Pytlak has been extensively involved in environmental remediation and investigations at several federal and industrial facilities and landfills located in Pennsylvania, Maryland, Delaware, New York and Pennsylvania.

Site Coordinator, Residential Water Supply System, Shriver's Corner Superfund Site, Gettysburg, Pennsylvania.
The site is a 10-acre area where industrial wastes were placed. The ROD issued by USEPA included the design and construction of a potable water supply system of affected residences at the Shriver's Corner Superfund Site in Adams County, Pennsylvania. Mr. Pytlak's responsibilities and duties included development of technical

design documents including engineering plans and specifications, and work plans, construction oversight and construction QA Officer, contractor submittal review; coordinating documentation of construction; and liaisons with technical representatives of regulatory agencies and residents. The project consisted of the installation of over 5,000 linear feet of 4-inch HDPE waterline with a portion of the waterline crossing a stream and bored under a state road; installation of a 1.5 HP, 20 gpm submersible pump in the 180 feet deep supply well; elimination of existing residential water supply connection and installation of new service connection to four residences; construction of a treatment building; installation of a chlorine feed system; disinfection of the water supply system; and system start-up and testing. Mr. Pytlak was also responsible for performing sampling of the water supply system in accordance with USEPA and PADEP drinking water standards.

Project Engineer, William Taylor Estate Site, Wheatland, Pennsylvania.
The William Taylor Estate Site is a former commercial and industrial waste landfill located in Wheatland Borough, Mercer County, Pennsylvania. Mr. Pytlak was responsible for construction monitoring of the project. The project included the removal of surface debris and placement of this material into the designated on-site waste disposal areas; excavation of approximately 9,000 cubic yards of petroleum and VOC impacted soils and consolidation of this material into the designated on-site waste disposal areas; collection, on-site treatment and disposal of over 100,000 gallons of VOC impacted groundwater; excavation and on-site disposal of over 1,000 cubic yards of PCB impacted soil; excavation and regrading of the disposal areas to establish the intermediate grades necessary to place the cap system and associated features of the design; construction of an engineered cover system, including grading, compaction, cover soil, topsoil and an access roadway; and the installation of a surface water management system. Mr. Pytlak was also responsible for performing PCB post-excavation sampling in accordance with ACT II guidelines and preparation of the Final Remedial Acton Report.

AUGUST **1996 TO FEBRUARY 1999** — **PROJECT MANAGER**
ENVIRO/CONSULTANTS GROUP, LTD.

Project Manager, Airfield Sanitary Landfill Cover Improvement, Fort Drum, NY.
This landfill was used, up until 1987, for the placement of municipal solid waste, paint wastes, solvent containers, pesticide containers and petroleum oil, and lubricant saturated wastes. Mr. Pytlak managed the recapping of this 41-acre landfill utilizing 90,000 cubic yards of on-site borrow material. Tasks included the construction of a surface water collection system consisting of 2,200 linear feet of six-inch diameter PVC pipe, geotextile filter fabric and stone, and two outfall structures. Other tasks included the modification of 18 existing PVC gas vents, construction of temporary haul roads, and construction surveys. Site restoration included placing 30,000 cubic yards of topsoil over the landfill and seeding, topsoil and seeding of the borrow source area, and seeding the on-site topsoil stockpile area.

Project Manager, Removal/Installation of Underground/Aboveground Storage Tanks, U.S. Army Reserve Centers, PA.
This $575,000 project consisted of six separate and active U.S. Army Reserve Centers throughout Pennsylvania. Mr. Pytlak managed the removal often fuel oil USTs ranging in size from 550 to 10,000 gallons, the installation of six fuel oil ASTs, including underground fuel piping, ranging in size from 2,000 to 10,000 gallons, excavation and disposal of contaminated soil, and the development of tank closure reports.

Project Manager, O-Field Permeable Infiltration Unit, Aberdeen Proving Grounds, Edgewood, MD.
Mr. Pytlak managed the installation of an aboveground fire suppression system consisting of over 3,000 linear feet of HDPE piping, pre-cast anchor slabs, spray risers and supports, and low joint drains. This work was complicated by the fact that the O-field area had been used by the U.S. Army as a disposal site for unexploded ordinance and chemical warfare agents and could safely support no more than 700 psi.

Project Manger, Aboveground Storage Tank Decontamination and Decommissioning, Naval Air Warfare Center, Trenton, NJ.
Mr. Pytlak managed the cleaning of fourteen 25,000-gallon jet fuel ASTs, over 6,000 linear feet of one to three inches in diameter aboveground fuel transfer piping, and the disposal of 30,000 gallons of product/waste water. Work was conducted in Level B using water/cleaning agent and vacuum trucks.

Project Manager, Remediation of Storm Sewer Outfall, Hancock Field Army Complex, Syracuse, NY.
Mr. Pytlak managed all field activities associated with the remediation of a petroleum and heavy metals impacted, 400-foot long storm sewer outfall. Tasks included pressure cleaning 1,000 linear feet of 24-inch diameter concrete storm sewer pipe, installation of a 6,000-gallon underground oil/water separator, installation of catch basins, installation of 300 linear feet of corrugated metal storm sewer pipe, construction of a stockpiling/dewatering area and storm water collection system, construction of a temporary storm water diversion piping system, and excavation and disposal of approximately 1,000 cubic yards of contaminated soil. Also collected, sampled and discharged to the on-site sanitary sewer system, 40,000 gallons of waste water associated with storm sewer decontamination and outfall dewatering. Performed field screening (PID) of soil during excavation, conducted post-excavation confirmation sampling, and developed project as-built drawings. In addition to backfilling, site restoration included placement of a stabilization mat, hydroseeding and replacement of an eight-foot high chain-link fence.

Project Manager, Asbestos Removal and Building Demolition, Delaware Air National Guard, Wilmington, DE.
Mr. Pytlak managed the demolition of 10,000 square feet of block, brick, metal and wood constructed administrative buildings, including underground concrete foundations, and the abatement of approximately 4,000 square feet of asbestos containing floor tiles and roofing materials. Other tasks included the construction of a 40,000 square foot, asphalt

parking lot over the demolished building's location, construction of concrete curbing and sidewalks, installation of 200 linear feet of storm water drainage pipe and catch basins, lowering 12 linear feet of a 6-inch diameter water main line, and the removal of a small amount of petroleum contaminated soil under one of the demolished buildings.

AUGUST **1993 TO AUGUST 1996** | **SITE QC & SAFETY OFFICER**
ENSR REMEDIATION AND CONSTRUCTION

Site QC & Safety Officer, Groundwater Remediation, Maryland Sand, Gravel and Stone Superfund Site, Elkton, MD.
This $2.2 million project, undertaken by the PRPs with Corps of Engineers oversight, was a former sand and gravel quarry that was used as a waste dumping area. Mr. Pytlak was responsible for developing and implementing the QA/QC plan and served as the project QC supervisor for the construction of three perimeter biopolymer collection trenches and a slurry wall over 420 linear feet long. Provided QC oversight for the installation of extraction and monitoring wells, installation of 2,750 linear feet of HDPE piping and manholes, construction of a 1,500 square foot treatment building and associated foundation wall, installation of an air striping system and process equipment/instrumentation, and the construction of a 500 linear foot rock-lined effluent channel. Also provided QC oversight for the sampling, characterization, bulking, overpacking and disposal of 250 drums containing flammable liquids, soil cuttings, and debris. Mr. Pytlak performed nuclear density testing on placed backfill and cast-in-Oplace concrete sampling and testing, reviewed subcontractor submittals to ensure conformance with contract requirements, and developed as-built drawings for the project. Mr. Pytlak also attended weekly meetings with representatives from the Army Corps of Engineers and the Maryland Department of Environment to provide verbal QC reports. Mr. Pytlak served as site supervisor for the "start-up" phase of the groundwater treatment plant. Mr. Pytlak's site safety officer responsibilities included perimeter and personal air monitoring/sampling, providing site orientations, and overall project health and safety compliance.

Site QC & Safety Officer, Impoundment Closure/Soil Stabilization, American Cyanimid Superfund Site, Boundbrook, NJ.
Mr. Pytlak was responsible for QC associated with the in-situ solidification/stabilization of approximately 12,000 cubic yards of contaminated soil/sludges, and the excavation and placement/compaction of the stabilized material in an on-site landfill. Duties included daily documentation of identification, volume, location and cure times of placed material; obtaining Shelby tube samples of placed material, performing on-site unconfined compressive strength testing (UCS) on the placed material, and comparing independent off-site laboratory UCS testing confirmations. His site safety officer responsibilities included perimeter and personal air monitoring/sampling, Level C health and safety compliance, and preparation of health and safety reports.

RICHARD P. HRENKO
DIRECTOR OF CONSTRUCTION SERVICES
CUMMINGS/RITER CONSULTANTS, INC.

Mr. Hrenko serves as Director of Construction Services for field environmental construction projects. He has over 26 years of experience in the fields of accounting and job costing, management of construction projects; supervising quality assurance/quality control; coordinating multiple shift contractors for municipal waste landfills in Alabama, Louisiana, Ohio, and Pennsylvania; and monitoring underground and above ground tank removals; and contaminated soil removals. He has prepared construction drawings and specifications, construction as-built drawings, certification reports, project schedules for material procurement and work activities, and cost estimates for construction, and has coordinated field cost tracking for budget control with site superintendents and project managers.

EDUCATION
B.S., History/Secondary Education, Appalachian State University, 1974

REGISTRATIONS/CERTIFICATIONS
Health and Safety Training in accordance with OSHA Regulations 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response"
Health and Safety Supervisory Training in accordance with OSHA Regulations 24 CFR 1910.120
OSHA 10-hour training course in Construction Safety & Health
Medic First Aid/CPR
Troxler Nuclear Density Gauge

PROFESSIONAL EXPERIENCE
JULY 22,1999 TO PRESENT — **DIRECTOR** OP **CONSTRUCTION SERVICES**
CUMMINGS/RLTER CONSULTANTS, **INC.**

Mr. Hrenko is responsible for costing, scheduling, analysis and management of construction projects. He assists in preparation of construction specifications and drawings, reviews contractor pay estimates and as-built construction drawings, and prepares project work schedules. He currently oversees construction oversight personnel and coordinates Quality Assurance activities on construction projects. He assisted in preparation of the Hunterstown Road Superfund site soil/sediment action plan, construction drawings and specifications, and contractor selection. He also provided contractor oversight of the Hunterstown Road Superfund soil/sediment action removal and conducted weekly progress meetings with the contractor and regulatory agencies. He has also coordinated excavation, sampling, and disposal of polychlorinated biphenyl contaminated soils at a commerce center, solicited and reviewed bids for paving, and provided part-time oversight for grading and paving of an eight-acre parking area.

1997 TO JULY 1999 SENIOR CONSTRUCTION TECHNICIAN
CIVIL AND ENVIRONMENTAL CONSULTANTS, INC.

Mr. Hrenko was responsible for performing and coordinating construction monitoring activities required to complete site construction and environmental restoration activities in accordance with project specifications. His responsibilities included monitoring several industrial and residential demolition projects with asbestos abatement activities involving multiple contractors. He conducted weekly progress meetings, reviewed progress schedules and contractor payment estimates, assisted in report preparation and monitored excavation and loading of contaminated soils and concrete for disposal as a hazardous waste.

Mr. Hrenko also momtored subgrade preparation of a three-story office building verifying soil placement in compliance with specifications, and foundation and footing preparation prior to concrete placement, prepared monthly progress reports and assisted in report preparation. Mr. Hrenko also monitored several landfill gas extraction system installations, assisted in report preparation, reviewed and prepared construction as-built drawings, prepared weekly progress reports and reviewed and approved contractor payment estimates. Mr. Hrenko monitored the cleaning and removal of 40 inactive above ground storage tanks. He monitored contractor activities to verify compliance with the health and safety plan, and performed air monitoring independently and with the contractor to confirm non-explosive and safe breathing atmospheres prior to entering and cutting of the tanks.

OCTOBER 1995 - JANUARY 1997 PROJECT ADMINISTRATOR
PDG ENVIRONMENTAL SERVICES

Mr. Hrenko managed PDGES* vehicles and assisted in the purchase of vehicles, warehouse, equipment, small tools and consumables inventories and construction mobilization. He coordinated field cost of tracking equipment and tools and project costs for budget control on various Navy contracts, prepared construction and purchasing schedules for equipment and materials, purchased small tools and consumable items and assisted in mobilization of site construction projects.

DECEMBER 1985 - SEPTEMBER 1995 SENIOR FIELD SUPERVISOR
PAUL C. RIZZO ASSOCIATES, INC.

Mr. Hrenko was responsible for costing, analysis, scheduling and management of construction projects. His activities included the selection of equipment to optimize field activities, quality assurance/quality control, and the coordination of multiple shift subcontractors. He provided field supervision and monitoring for the removal of underground storage tanks and contaminated soil. Mr. Hrenko was responsible for air monitoring, soil sampling, and direction of contractors and subcontractors. He provided field supervision and construction monitoring of municipal waste landfills in Alabama, Pennsylvania, and Ohio. His field supervision included organizing construction monitoring of soil, synthetics, piping, and protective cover placement and installation of gas extraction systems, as well as providing monitoring for the above. He also coordinated work and scheduling of various contractors during such construction.

JANUARY 1985 TO OCTOBER 1985 — CONTRACT COST AND BILLING ANALYST
DAVY MCKEE CORPORATION

Mr. Hrenko prepared quarterly costing reports for the financial performance of the Mills and Automation Division. He was also responsible for operations staffing, reviewing, and analyzing project costing and billing and preparing division financial status reports. He regularly met with management concerning contract profitability, new order intake and status of intercompany billing between the United Kingdom and Pittsburgh offices. He also prepared monthly contract status reports and provided contract manhour backlogs for contract engineers and management. He coordinated invoicing schedules on all contracts.

NOVEMBER 1975 TO DECEMBER 1984 — SUPERVISOR OF PROJECT COST ACCOUNTING AND COST ACCOUNTANT
D'APPOLONIA CONSULTING ENGINEERS

Mr. Hrenko was the main contact for staff, clients and outside agencies. He reviewed and analyzed project costing, forecasted revenues, and generated quarterly review information for the company president to review the financial performance of the office and its management.

BRAD A. MCCALLA
ENGINEER
CUMMINGS/RITER CONSULTANTS, INC.

Mr. McCalla received his Environmental Systems Engineering degree from the Pennsylvania State University. Mr. McCalla has since been involved in various aspects of environmental remediation including oversight at the Hunterstown Road Superfund Site. While working as the supervising contractor, he has overseen contaminated soil and stream sediment removal, drum removal and overpacking, on-site treatment of contaminated soil, and contaminated water disposal. Mr. McCalla also has experience in installing and downloading pressure transducer data loggers, and has work experience with groundwater/soil sampling and reporting.

EDUCATION
B.S., Environmental Systems Engineering, Pennsylvania State University, 2000

REGISTRATIONS/CERTIFICATIONS
Health and Safety Training in accordance with OSHA Regulations 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response"

PROFESSIONAL EXPERIENCE
JUNE 2000 TO PRESENT — **ENGINEER**
CUMMINGS/RLTER CONSULTANTS, INC.

Mr. McCalla's current activities include groundwater and soil sampling, O&M inspections, and project oversight. Mr. McCalla currently oversees work at the Hunterstown Road Superfund site soil/sediment remediation project. He is responsible for overseeing phases of the project which include; soil and sediment excavation, on site treatment of contaminated soil, soil disposal, capping, wetland excavation and reconstruction, underground drum excavation and disposal, and air monitoring.

MAY TO AUGUST — **RAW MATERIALS DEPARTMENT**
(SUMMERS OF 1998 AND **1999)** — **MAVERICK TUBE, INC.**

Mr. McCalla was responsible for the expedition and transportation of steel pipe from the raw materials department to other processing departments in the **mill.** Mr. McCalla also worked in the production and shipping departments of the company, learning how to operate/assist operators on machines such as roll straighteners, furnaces, and band saws. Mr. McCalla improved communication and safety skills by working in a production based company, and also familiarized himself with steel pickling procedures.

MAY TO AUGUST — **CONSTRUCTION ASSISTANT**
(SUMMERS OF 1996 AND 1997) — **TABAKA CONSTRUCTION**

Mr. McCalla assisted bricklayers and carpenters in developing housing. He learned the basics of the bricklaying and carpentry trades, while with working with a wide variety of tools. Mr. McCalla assisted in brick, block, and basement work at numerous housing developments.

APPENDIX B

FIELD DESIGN CHANGE REQUEST FORM

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FIELD DESIGN CHANGE REQUEST FORM
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Request No.

Type of Change:

Process Related Modification

Other Design Modification

Minor Modification

Contractor:
Work Scope:
Applicable Specification Section:
Applicable Drawing No.:

Subject:
Estimated Cost:

Design Change Request:

•

Reason for Design Change Request:

Accepted by:

Signature of Construction Manager

Date

Accepted by:

Signature of Contractor Representative

Date

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APPENDIX D

SAMPLING, ANALYSIS, AND MONITORING PLAN

i^UMMINGS
f&ITER
1V CONSULTANTS, INC.

SAMPLING, ANALYSIS, AND MONITORING PLAN
INDUSTRIAL DRAINAGEWAY REMEDIATION
KENTUCKY AVENUE WELLFIELD SITE
OPERABLE UNIT NO. 3

PREPARED FOR:

VIACOM INC.
11 ST ANWIX STREET
PITTSBURGH, PA 15222

PROJECT NO. 98245.30/02
APRIL 19,2001

339 Haymaker Road • Parkway Building • Suite 201 • Monroeville, PA 15146
(412) 373-5240 • FAX (412) 373-5242 • E-Mail: crc@cummingsriter.com

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OPERABLE UNIT NO. 3

1.0 INTRODUCTION

This Sampling, Analysis, and Monitoring Plan (SAMP) describes the methods and procedures to be employed for sampling activities to be conducted in conjunction with implementing the remedial action (RA) for Operable Unit No. 3 at the Kentucky Avenue Wellfleld site in Horseheads, New York. This SAMP has been prepared by Cummings/Riter Consultants, Inc. (Cummings/Riter) in accordance with the requirements of Paragraph VI of the Consent Decree between Viacom Inc. (Viacom), successor in interest to CBS Corporation (CBS), and the U.S. Environmental Protection Agency (USEPA), and Paragraph D.5.a of the Statement of Work attached thereto.

This SAMP contains a description of sampling and monitoring to be performed as part of the RA. It describes sample methods, frequency of sampling, and sample depths to be used. Table 1 provides a summary of media to be sampled, sample frequency, analytical parameters, sample containers, sample preservation requirements, and sample holding times.

This document incorporates, by reference, the RA Quality Assurance Project Plan (RA QAPP), which describes the analytical and quality assurance/quality control procedures for RA sampling and analysis. Table 4 of the RA QAPP provides a summary of analytical methods.

All figures referenced in this SAMP refer to figures in the Supplemental Design Report.

2.0 SAMPLING ACTIVITIES

This SAMP defines the methods to be used for collecting confirmation soil and sediment samples following excavation of industrial drainageway sediment and bank soil.

2.1 INDUSTRIAL DRAINAGEWAY

Based on the results of the supplemental design investigation, the approximate limits of sediment and bank soil exceeding the performance standard for polychlorinated biphenyls (PCBs) are depicted on Figures 16 through 20. These preliminary limits will be located by survey or measurement and marked with pin flags or survey stakes, and will serve as the initial excavation limits. During the topographic survey, several survey control points were established for use during removal activities. Control point coordinates and elevations are provided on Figure 1. Post-excavation verification soil samples will be collected to confirm attainment of applicable sediment and soil performance standards. Sample collection methodology is described in Section 3.0.

2.2 SEDIMENT SAMPLE LOCATIONS

Following excavation of the sediment and bank soil, post-excavation samples will be collected at mid-height along the excavation sidewall every 200 square feet to verify attainment of surface soil performance standards. Bottom samples will collected at a frequency of 1 per 100 lineal feet. Post-excavation samples will be collected from a depth of zero to six inches. Sample locations will be marked with pin flags or survey stakes.

Samples will be analyzed for PCB Aroclors.

If a sidewall sample exceeds a performance standard for PCBs, the midpoint between the failed sample and the nearest clean sidewall sample will be marked. The excavation will then be expanded approximately perpendicular to the existing sidewall between the two midpoints a distance of 1 foot. The new excavation sidewalls will then be sampled every 200 square feet.

Data quality objectives and analytical methods are provided in the RA QAPP.

2.3 BORROW MATERIAL

Following successful demonstration of attainment of the performance standard, the bank excavation will be backfilled. Off-site borrow material brought on site to backfill the excavation will be sampled for laboratory analysis. Representative grab samples will be collected from each source of fill and analyzed for full Target Compound List/Target Analyte List (TCL/TAL) parameters. TCL/TAL results will be compared to recommended cleanup objectives presented in the NYSDEC *Technical and Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup Levels.* Only soils that meet these standards will be acceptable as fill. One soil sample will be required for each source of off-site borrow. In this context, a "source" refers to a specific borrow pit stratum or location. Gravel or other granular materials with insufficient fine particles for laboratory analysis will not be sampled.

3.0 SAMPLE COLLECTION AND HANDLING PROCEDURES

Post-removal samples for PCB analysis will be collected using a stainless-steel hand trowel or disposable spatula. Samples will be mixed in stainless-steel bowls or disposable aluminum baking pans before placement into sample containers. Non-disposable sampling equipment will be cleaned prior to and between sampling locations following the decontamination procedures discussed in Section 4.0.

A summary of the recommended bottle types and preservation for the project is provided in Table 1. Sample bottles will be supplied by the laboratory. Sample containers will be chosen, cleaned, and quality controlled according to protocol in the OSWER Directive No. 9240.0-05A, *Specifications and Guidance for Contaminant-Free Sample Containers* (December 1992). Analytical proof of sample container quality will be available on site.

Preservation and holding times will follow the protocols established in the Contract Laboratory Program Statement of Work for Organic Analyses (OLM04.2). Aqueous samples will be placed in sample containers that have been laboratory prepared with the appropriate preservative, as indicated in Table 1. Reagents used for preservation will be of analytical grade and will be documented on the chain-of-custody records.

Once collected, each sample will be placed in an ice chest with frozen refrigerant packs and/or ice. Samples will be transported to the laboratory promptly to provide ample time for analyses to be conducted within applicable holding times (see Table 1).

3.1 SAMPLE LABELING

Preprinted sample labels will be affixed to sample bottles prior to delivery to the site. The following information is required on each sample label:

- Kentucky Avenue Wellfield OU3,
- Date and time of sample collection,
- Sampler's initials,
- Contractor/company name,
- Unique sample number,
- Preservative, and
- Analysis required.

Each sample will be given a unique identification name corresponding to the type of sample and the location from which it was taken. Sample names will consist of the following parts:

M-LOC-###

where, M = Sample Medium:
- S - soil
- W - water
- SD - sediment

LOC = Location
- IDWXB - Industrial Drainageway Post-Excavation Bottom
  IDWXS - Industrial Drainageway Post-Excavation Sidewall
- Others (as needed)

= Sample sequence number

For bottom samples collected as a result of a previously failed bottom sample, successive samples from within the same grid cell will be labeled with an alphabetical suffix. For example, if PXB-11 fails performance standards, upon re-excavation of the grid cell represented by PXB-11, the next sample from that cell will be labeled PXB-11 A.

Quality control samples will be labeled as follows:

- Rinse blank (equipment) identification numbers will have the prefix "RB" and will be numbered in the order in which they were taken during the specific sampling event and with the date of collection (e.g., RB1-3-15-00).

- Blind duplicate samples will be assigned an arbitrary designation by the sampler. The sampler will record in the field notebook the arbitrary designation along with the correct designation of the sample location from where the blind duplicate was obtained, the month, day, and year, and the suffix "DUP." The arbitrary designation submitted to the laboratory on sample bottle labels or on the chain-of-custody form will not include the suffix "DUP" or other indication that the sample is a duplicate.

Sample labels will be promptly completed upon collection.

3.2 SAMPLE PACKAGING AND SHIPPING

Sample packaging and shipping procedures are designed to ensure that the samples will arrive at the laboratory intact and with the proper chain-of-custody forms. Samples will be prepared for shipment as outlined below:

- Ensure that sample containers have the sample labels securely affixed to the container.

- Check the caps on the sample containers to ensure that they are properly sealed.

- Complete the chain-of-custody form with the required sampling information and ensure that the recorded information matches the sample labels. If the designated sampler relinquishes the samples to other sampling or field personnel for packing or other purposes, the sampler will complete the chain-of-custody prior to this transfer. The appropriate personnel will sign and date the chain-of-custody form to document the sample custody transfer.

  Using duct tape, secure the outside drain plug at the bottom of the cooler.

  Place one to two inches of cushioning material at the bottom of the cooler.

- Place the sealed sample containers into the cooler.

- Place ice in sealed plastic bags and place loosely in the cooler.

- Fill the remaining space in the cooler with cushioning material.

- Place chain-of-custody forms in a sealed plastic bag. Tape the forms to the inside of the cooler lid.

- Close the lid of the cooler and secure with tape.

All samples will be stored at 4° Celsius after collection and maintained at this temperature until arrival at the laboratory. Samples will be shipped to the laboratory within 24 hours of the time of collection via overnight courier. Shipments will be accompanied by a temperature blank and the chain-of-custody form identifying the contents. The original form will accompany the shipment; copies will be retained by the sampler for sampling office records.

4.0 DECONTAMINATION

Hand augers, stainless-steel spatulas, trowels, and sampling tools will be decontaminated between each use according to the following procedures:

- Wash and scrub with low phosphate detergent;
- Rinse with potable water;
- Rinse with 10 percent nitric acid;
- Rinse with deionized water;
- Rinse with acetone only or methanol, followed by hexane (all solvents must be pesticide-grade or better);
- Final rinse with deionized water (volume of water must be at least five times greater than the volume of solvents used);
- Air dry; and
- Wrap in aluminum foil (shiny side out) for transport.

Notes:

* Nitric acid rinse will only be used when samples are collected for inorganics.

** Solvent rinse is required when sampling for organics.

*** A sample of the demonstrated analyte-free water will be collected and submitted for chemical analysis. Analytical results will be kept on site. Determination of analyte-free water will be according to the USEPA Region IICERCLA Quality Assurance Manual.

Other sample handling tools (e.g., spatulas) will either be single-use disposable items or will be similarly decontaminated between each use.

5.0 SAMPLE CUSTODY AND DOCUMENTATION PROCEDURES

5.1 FIELD SAMPLE CUSTODY

Field sample custody assures that samples are not tampered with from sample collection through transport to the analytical laboratory. Persons will have custody of the sample when the samples are in their physical possession, in their view after being in their possession, or in their personal possession and secured. When samples are secured in a restricted area accessible only to authorized personnel, they will be deemed to be in the custody of such authorized personnel. Field custody documentation consists of both field logbooks and chain-of-custody forms.

5.2 CHAIN-OF-CUSTODY FORMS

A chain-of-custody form is a mechanism for tracing custody from the time of collection through reporting of results. The form is initiated by the sampler, who will note the sample location, sampling date and time, and sample matrix and parameters of interest. The sampler then signs the form, includes any pertinent remarks about the samples, and seals it in the sample cooler. Any transfer of samples from individual to individual must be noted on the chain-of-custody form.

5.3 FIELD LOG

Field logs will contain a daily record of events, observations, and measurements during sampling activities. Logs may include notebooks or forms. Information pertinent to sampling activities will be recorded in the log. Entries in the log will include the following:

- Name and title of author,
- Contractor/company name,
- Name(s) of field crew,
- Location of sampling activity,
- Sample matrix,
- Number/volume of samples,
- Date and time of collection,
- Preservatives used,
- Description of sample location,

- Sampling method,
- Sample identification numbers,
- Field observations, and
- Field measurements.

TABLE 1

SAMPLE QUALITY CONTROL SUMMARY TABLE

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TABLE 1
SAMPLE QUALITY CONTROL SUMMARY TABLE
INDUSTRIAL DRAINAGEWAY REMEDIATION

PROJECTED NUMBER								
MATRIX/DESCRIPTION	SAMPLE FREQUENCY	FIELD BLANKS	TRIP BLANKS	MS/MSD	DUPLICATES	PARAMETERS	CONTAINER'"	PRESERVATIVE'1"/ HOLDING TIME
Post-Excavation Sediment and Soil	Bottom - 1/100 lin. ft. Sidewall - 1/200 sq. ft.	1/20 samples	-	1/20 samples	1/20 samples	PCB	G/4 oz	—/14 days
Off-Site Borrow Soil	one per off-site source				"–	TCL/TAL	G/8oz	—/14 days Extract

a. G =;glass, T = Teflon®septum.
b. All,containers stored at 4°C.
c. See Table 4 of Remedial Action Quality Assurance Project Plan for analytical methods.

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APPENDIX E

REMEDIAL ACTION QUALITY ASSURANCE PROJECT PLAN

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REMEDIAL ACTION QUALITY ASSURANCE PROJECT PLAN
INDUSTRIAL DRAINAGEWAY REMEDIATION
KENTUCKY AVENUE WELLFIELD SITE
OPERABLE UNIT NO. 3
REVISION NO. 0

PREPARED FOR:
VIACOM INC.

PREPARED BY:
CUMMINGS/RLTER CONSULTANTS, INC.
339 HAYMAKER ROAD, SUITE 209
MONROEVILLE, PA 15146

»

PROJECT NO. 98245.30/02
APRIL 19,2001

Cummings/Riter Project Manager	Date
Cummings/Riter QA Officer	Date
Viacom Project Coordinator	Date
Project Quality Assurance Manager	Date
^^ USEPA Region II Remedial Project Manager	Date
USEPA Region II Quality Assurance Reviewer	Date

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OPERABLE UNIT NO. 3
REVISION NO. 0

1.0 INTRODUCTION

This Remedial Action (RA) Quality Assurance Project Plan (QAPP) describes the methods and procedures to be employed for analyses activities to be conducted in conjunction with RA for Operable Unit No. 3 at the Kentucky Avenue Wellfleld site in Horseheads, New York. This QAPP was prepared by Cummings/Riter Consultants, Inc. (Cummings/Riter) in accordance with the requirements of Paragraph VHI of the Consent Decree between Viacom Inc. (Viacom), successor in interest to CBS Corporation (CBS), and the U.S. Environmental Protection Agency (USEPA). The QAPP provides the quality assurance and quality control (QA/QC) requirements for environmental data collection activities as well as for the subsequent steps of data evaluation and management. This document is a companion to the Sampling, Analysis and Monitoring Plan (SAMP) which describes the sampling procedures. Portions of the RA QAPP incorporate corresponding parts of the USEPA approved Operable Unit No. 3 (OU3) Remedial Investigation (RI) QAPP prepared by Philip Environmental Services Corporation.

1.1 OVERVIEW OF ENVIRONMENTAL DATA COLLECTION AND MANAGEMENT ACTIVITIES

During RA at the Kentucky Avenue Wellfleld site, additional sediment and soil samples will be collected to demonstrate effective removal of affected Industrial Drainageway soil and sediment. Specifically, analytical results of post-excavation verification samples will be compared to performance standards to decide whether impacted soils have been sufficiently removed.

These data will be collected, analyzed, and managed using procedures that ensure the data can be reliably used in decision making. QC is defined as the routine application of procedures for obtaining prescribed standards of performance in the monitoring and measurement process. These procedures include the following:

- Collection of representative samples,
- Preservation of sample integrity,
- Calibration of sampling and analytical equipment,
- Duplication of sample analysis for precision,
- Spiking of samples to evaluate accuracy, and
- Decontamination of equipment.

QA is the review and oversight, at each of the planning, implementation, and completion stages, of an environmental data collection process to assure that the data generated meet the specified quality objectives. The primary QA objective is to develop and implement procedures for sampling, chain-of-custody, laboratory and field analyses, instrument calibration, data reduction and reporting, internal QC audits, preventative maintenance, and corrective action. A QA program is a system of documented checks that ensures the authenticity and validity of the environmental data. The QAPP is an assemblage of management policies, objectives, principles, and procedures by which an agency, laboratory, or company outlines its program to produce data of known and accepted quality.

The activities associated with the collection of physical and chemical data include sampling, analysis, and data manipulation that can affect the validity of data. The environmental data collection activities for the Kentucky Avenue Wellfield site will follow a formal QA program that adheres to the following USEPA guidance:

- *EPA Requirements for Quality Assurance Project Plans* USEPA QA/R-5, November 1999;

- *EPA Guidance for Quality Assurance Project Plans,* USEPA QA/G-5, 1998;

- *Guidance for the Data Quality Objectives Process,* USEPA QA/G-4, 1994;

- Guidance for the Preparation of Standard Operating Procedures for Quality -Related Documents, USEPA, QA/G-6,1995; and

- Guidance for Data Quality Assessment: Practical Methods for Data Analysis, USEPA QA/G-9,1998.

1.2 PROJECT ORGANIZATION AND RESPONSIBILITY

The individuals and organizations participating in the project QA include the Project Coordinator, the Supervising Contractor/Project QA Manager, and the field sampling teams. The roles and responsibilities of the key individuals are described below. A project organization chart is provided as Figure 1 of the Construction Quality Assurance Plan. A distribution list for the QAPP is provided as Table 1.

1.2.1 Project Coordinator

Mr. Richard K. Smith is the Viacom Project Coordinator. Mr. Smith's responsibilities and duties on behalf of Viacom related to the collection, analysis, and management of environmental data are the following:

- Define project objectives and establish project policy and procedures;
- Review and analyze task performance with respect to plan requirements and authorizations;
- Review and approve project deliverables prior to submittal to USEPA;
- Serve as the primary communication link between the USEPA and the Supervising Contractor;
- Supervise QA/QC audits of project activities;
- Approve corrective actions resulting from audits;
- Coordinate with the Supervising Contractor to ensure compliance with the QAPP; and
- Maintain the official, approved QAPP.

1.2.2 Supervising Contractor/Project QA Manager

Mr. Leo M. Brausch, P.E., is the Supervising Contractor and Project QA Manager. As Supervising Contractor and Project QA Manager, Mr. Brausch will conduct the following activities related to the collection, analysis, and management of environmental data:

- Ensure that the individuals involved with data collection listed in Table 1 have the most recent versions of the QAPP.

- Establish and maintain comprehensive project files;

- Review contractor sampling procedures for compliance with the SAMP;

- Review laboratory data packages for compliance with the SAMP; and

- Serve as the primary communication link among the RA construction contractors and the analytical laboratory.

1.2.3 Field Sampling Team

Cummings/Riter prepared the supplemental design for removal and off-site disposal of impacted sediment and bank soil from the Industrial Drainageway. Cummings/Riter will collect the RA data and document the effectiveness of removal activity. Mr. William C. Smith, P.E., of Cummings/Riter project manager providing construction management and QA coordination for field sampling activities.

1.2.4 Laboratory

Severn Trent Laboratories of Pittsburgh, Pennsylvania (Severn Trent) will provide analytical services for post-excavation verification samples from the Industrial Drainageway. A copy of the laboratory QA/QC plan is available and is maintained in the project files by Cummings/Riter.

1.3 DATA QUALITY OBJECTIVES

Data quality objectives (DQOs) are qualitative and quantitative statements that specify the quality of the data required to support decisions made during site-related activities, and are based on the end uses of the data to be collected. Different data uses may require different levels of data quality. Three analytical categories address various data uses and the QA/QC effort and methods required to achieve the desired level of quality. These categories are the following:

- **SCREENING DATA**
  Screening data afford a quick assessment of site characteristics or conditions. This DQO is applied to data collection activities that

involve rapid, non-rigorous methods of analysis and QA. It is generally applied to physical or chemical properties of samples, degree of contamination relative to concentration differences, and preliminary health and safety assessment.

- **SCREENING DATA WITH DEFINITIVE CONFIRMATION**
  Screening data will rapidly identify and quantify site conditions, although the quantitation can be relatively imprecise. Definitive confirmation can be applied to screening data to allow more precise interpretation of these data and to verify less rigorous laboratory-based methods. Quantitative verification is conducted for a select portion of screening sample findings (i.e., 10 percent or more).

- **DEFINITIVE** DATA
  Definitive data are generated using analytical methods, such as approved USEPA reference methods. Data are analyte-specific with confirmation of analyte identity and concentration. Methods produce raw data (e.g., chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Sampling and analysis of site soils are examples of this DQO at the Kentucky Avenue Wellfield site. All definitive data collected pursuant to this RA will be Level IV (soil/sediment) quality data, with comprehensive data validation performed in accordance with USEPA data validation guidelines and appropriate Region II modifications to those guidelines.

The intended use and DQOs are summarized in Table 2.

1.4 ORGANIZATION OF QAPP

Following this introduction, Section 2.0 describes analysis procedures, including laboratory procedures, sample analysis, calibration, QC, and data management. Section 3.0 describes data reporting. Section 4.0 presents the procedures for auditing and any resulting corrective actions. The methods and procedures to be used in field sample collection and handling are described in the SAMP.

2.0 ANALYTICAL PROCEDURES

2.1 LABORATORY SAMPLE CUSTODY

2.1.1 Laboratory Sample Receipt

Upon receipt at the laboratory, the sample custodian will inspect the samples for integrity, check the shipment against the chain-of-custody, and document any discrepancies on the chain-of-custody form. The laboratory will maintain samples under chain-of-custody at all times.

The laboratory will contact the firm that collected the samples (Cummings/Riter) to resolve discrepancies. After verifying that the shipment and the chain-of-custody are in agreement, the sample custodian will initiate an internal chain-of-custody.

The samples will be logged into the laboratory data system and a unique number will be assigned to each sample. A work order will be created, including a summary of the sample analyses to be completed. The analyses required will be specified by codes assigned to the sample at log-in.

2.1.2 Laboratory Sample Storage

After the samples are labeled, they will be moved to locked refrigerators where they will be maintained at 4° Celsius. Access to the refrigerators will be limited to authorized personnel.

Samples and sample extracts will be maintained in secure storage until disposal. Samples will be held for a minimum of 30 days after data submission. The sample disposal date will be noted on the laboratory chain-of-custody by the sample custodian.

2.1.3 Laboratory Document Control

The goal of document control is to assure that documents for a specified project will be accounted for when the project is complete. Document control will begin with the initial client contact and continue throughout the project to include correspondence, faxed information, and phone logs. This information will be kept by the laboratory project manager for the duration of the project. When the project is complete, the information will be filed in the project case file. Internal chain-of-custody forms will be maintained by the sample custodian until sample disposal. Upon sample disposal, the forms will be placed into the project file.

2.2 CALIBRATION PROCEDURES AND FREQUENCY

Standards used in the calibration of equipment will be traceable, directly or indirectly, to USEPA-approved reference materials. Standards received will be entered into standard logs. Each analytical group will maintain standard preparation logs that track the preparation of standards used for calibration and QC purposes.

2.2.1 Field Instruments

Field analytical equipment will be calibrated prior to each day's use in accordance with the manufacturer's instructions, and such calibration will be recorded in the field log. Instruction manuals for the operation of field analytical equipment will be available with the equipment.

2.2.2 Laboratory Equipment

Calibration of laboratory equipment will occur as specified for the analytical methods used during the project. Records of instrument calibrations will be maintained by the laboratory.

2.3 PREVENTATIVE MAINTENANCE

2.3.1 Field Instruments and Equipment

Prior to any field sampling, each piece of field equipment will be checked for proper operation. If the equipment is not operational, it will be serviced prior to use. Meters that require charging or batteries will be fully charged or have fresh batteries. Non-operational field equipment will be either repaired or replaced. Appropriate spare parts will be maintained for field meters. If instrument servicing is required, the appropriate task manager is responsible for following the maintenance schedule and arranging for prompt service.

2.3.2 Laboratory Instruments and Equipment

Instruments and equipment will be serviced only by qualified personnel. Repairs, adjustments, and calibrations will be documented in the appropriate logbook or data sheet.

Instrument Maintenance: preventative maintenance of laboratory equipment will follow the guidelines recommended by the manufacturer. A malfunctioning instrument will be repaired by in-house staff or through a service call to the manufacturer as appropriate.

The laboratory shall maintain a sufficient supply of spare parts for its instruments to minimize downtime. Whenever possible, backup instrumentation shall be retained.

Analytical equipment is often maintained under a service contract which allows for preventative system maintenance and repair on an "as-needed" basis. In any case, the laboratory shall have sufficient trained staff to allow for the day-to-day maintenance of equipment.

Equipment Monitoring: On a regular basis, the operation of balances, incubators, ovens, refrigerators, and water purification systems will be checked and documented. Any discrepancies will be immediately reported to the appropriate laboratory personnel for resolution.

2.4 ANALYTICAL PROCEDURES

Table 3 lists the RA contaminants of concern. The specific analytical methods to be employed to demonstrate attainment of performance standards are listed in Table 4. The analytical method for soil attainment demonstration is from SW846. Method 8082 will be used for PCB analysis with the following additional QC:

- Resolution check mix,
- Acid Cleanup,
- Confirm hits with second column, and
- Instrument blank in the run sequence.

2.5 QUALITY CONTROL CHECKS

Laboratory duplicates (splits), laboratory blanks, standards, MS/MSD, field duplicates, trip blanks, and rinse blanks will be analyzed to provide the means for assessing data quality from both the field and laboratory. Brief explanations of these QC samples follow:

- Laboratory duplicates will be used to measure analytical precision;
- Laboratory blanks will be used to assess reagent quality, background from analytical instruments, as well as analytical variability;
- Reference standards/materials will be used to assess analytical accuracy;
- Field duplicates will be used to assess the overall precision of environmental sampling and laboratory analysis;
- Equipment rinsate blanks (field blanks) will be used to determine the effectiveness of equipment cleaning procedures.

Detailed descriptions, including required frequencies and analytical parameters, of the QC checks for field and analytical data are provided below.

2.5.1 Field Operations

To assess the sample decontamination procedures and the effects of sample handling equipment rinsate blanks will be performed. Duplicate and replicate sampling will be performed to measure control within the sample collection system. Trip blanks will not be analyzed because VOCs are not a contaminant of interest.

The equipment rinsate will serve as a check on the equipment decontamination process. Analyte-free water will be passed through decontaminated sampling equipment, transferred to a sample bottle, and returned to the laboratory. Equipment rinsate samples will be collected at a frequency of one per 20 samples.

The analyte-free water to be used for equipment rinsate blanks and decontamination procedures will be demonstrated to be analyte-free water in accordance with the criteria or requirements set forth in USEPA guidance. Documentation confirming the analyte-free nature of each batch of water will be maintained in the project files.

Field duplicates are two samples collected independently at a sampling location during a single act of sampling. A replicate or split sample is a single sample collected then divided in two equal parts. Duplicate samples submitted for PCB analysis will be split from an aliquot of soil that has been homogenized by mixing. One duplicate sample will be submitted for each 20 samples, and will be analyzed for the same parameters as the corresponding sample. Duplicate samples will be identified uniquely such that the laboratory cannot recognize that the samples are duplicates.

In addition, MS/MSD samples will be collected in the field by submitting triple the normal sample volume from a single sample location. The MS/MSD samples will be spiked by the laboratory as described below, and analyzed for the same parameters as the corresponding sample. One set of MS/MSD samples will be submitted for each 20 samples, and at least one per 14 days of sampling.

2.5.2 Laboratory Operations

Method blanks will serve as a measure of contamination attributable to a variety of sources, including glassware, reagents, and instrumentation. The method blank will be initiated at the beginning of an analytical procedure and is carried through the entire process.

For MS/MSD analyses, predetermined quantities of stock solutions of certain analytes are added to the sample prior to digestion and/or analysis. Relative percent differences between the MS and MSD samples are used to assess analytical precision.

Surrogate spikes are organic compounds that have similar properties to those being tested, but are not normally found in environmental samples. They will serve as indicators of method performance and accuracy in organic analyses.

Analytical data will be assessed for accuracy, precision, and completeness. Procedures used to assess the data will be in accordance with the appropriate laboratory method. Laboratory duplicates will serve to measure method precision in inorganic and supplemental analyses.

2.6 QUALITY ASSURANCE OBJECTIVES

The QA objectives for the RA are the same as described in Sections 5.0 and 14.0 of the RI QAPP. Descriptions of accuracy, precision, completeness, representativeness and comparability are provided below, and accuracy and precision objectives are listed in Table 4. Quantitation limits are also provided in Table 4.

2.6.1 Accuracy

Accuracy is defined as the degree of agreement (nearness) of a measurement or the mean of a set of results with an accepted reference or true value. Accuracy is assessed by means of reference samples (spike and spike duplicates) and percent recoveries of these materials. The project objectives for accuracy are to provide data for percent recovery within the guidelines presented in Table 4.

2.6.2 Precision

Precision is the measure of mutual agreement of a set of replicate results among themselves without assumption of any prior information as to the true result. Precision is assessed by means of duplicate/replicate sample analysis and is best expressed in terms of the standard deviation derived under prescribed similar conditions. The project objectives are to generate data for percent variance within the guidelines presented in Table 4.

2.6.3 Completeness

Completeness is a measure of the amount of valid data obtained compared to the amount that was expected to be collected under normal operating conditions. Two completeness objectives will be calculated, one based on the total number of samples collected and the second based on those samples reaching the laboratories intact. The goal for this project is to generate valid data for at least 90 percent of the samples collected and 95 percent of the samples analyzed by the laboratories.

2.6.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of a population, a process condition, an environmental condition, or parameter variations at a sampling point. The field QA/QC procedures for sample handling, including chain-of-custody, will provide for sample integrity until the time of analysis. To make certain that the analytical results of this assessment are representative of true field conditions at the time of sampling, appropriate laboratory QA/QC procedures are prescribed.

2.6.5 Comparability

Comparability expresses the confidence with which one data set can be compared to another. To achieve comparability in this project, the data generated will be reported using consistent units for water and soil samples, respectively.

3.0 DATA REDUCTION, REVIEW, AND REPORTING

3.1 FIELD DATA REDUCTION, REVIEW, AND REPORTING

Information collected in the field through visual observation, manual measurement, or field instrumentation will be recorded in field notebooks, data sheets, or forms. Such data will be reviewed by the appropriate project manager for adherence to this QAPP and consistency of data. Any concerns identified as a result of this review will be discussed with field personnel, corrected if possible, and, as necessary, incorporated into the data evaluation process.

Field logs and related documents will contain:

- Site activities and names of field personnel;
- Date, time, and weather conditions;
- Photo and survey data;
- Sample identities, locations, and time/date of collection;
- Visual description of sampled media;
- Methods/equipment used for sample collection;
- Calibration procedures of field monitoring equipment;
- Readings of field monitoring equipment during sampling activities;
- Deviations from approved sampling or work plans; and
- Other comments and information as necessary.

Entries in field logs will be made in ink and no erasures will be made. If an incorrect entry is made, the information will be crossed out and the correction dated and initialed.

Field data calculations, transfers, and interpretations will be conducted by the field personnel and reviewed for accuracy by the appropriate project managers. Field documentation and data reduction prepared by field personnel will be reviewed by the appropriate project manager. Logs and documents will be checked for the following:

- General completeness,
- Readability,
- Use of appropriate procedures,

- Appropriate instrument calibration and maintenance,
- Reasonableness in comparison to present and past data collected,
- Correct sample locations, and
- Correct calculations and interpretations.

Where appropriate, field data forms and calculations will be processed and included in appendices to the appropriate report. The original field logs, documents, and data reductions will be kept in the project file at the appropriate contractor's office.

3.2 LABORATORY DATA REDUCTION, REVIEW, AND REPORTING

The calculations to be used for data reduction are specified in each of the analysis methods referenced previously. Whenever possible, analytical data will be transferred directly from the instrument to a computerized data system. Raw data will be entered into permanently bound laboratory notebooks. The data entered will be sufficient to document factors used to arrive at the reported value.

Concentration calculations for chromatographic analyses are based on response factors. Quantitation will be performed using either internal or external standards in accordance with the analytical method.

Inorganic analyses are based on regression analysis. Regression analysis will be used to fit a curve through the calibration standard data. The sample concentrations will be calculated using the resulting regression equations.

Soil values will be reported on a dry-weight basis. Unless otherwise specified, values will be reported uncorrected for blank contamination.

Raw data will be examined to assess compliance with QC guidelines. Surrogate, MS, and QC check sample recoveries will be reviewed, in addition to checking samples for possible contamination or interferences. Concentrations will be checked to ensure that the systems are not saturated; if necessary, dilutions will be performed.

Any deviations from the guidelines will call for corrective action. Those deviations determined to be caused by factors outside the laboratory's control, such as matrix interference, will be noted with an explanation in the report narrative. Calculations will be checked and the report reviewed for errors and oversights.

Once a report is complete, it will be reviewed for discrepancies, errors, or omissions. The data will then be submitted to the laboratory project manager for review. They will review the package, see that any necessary corrections are made, and a copy of the package will be filed in the laboratory project file.

The standard data package for the RA phase at the Kentucky Avenue Wellfield site includes, at a minimum, the following items:

- Narrative,
- Analytical results,
- Calibration and QC results, and
- Raw data.

Analytical results will be reported according to analysis type, and include the following information, as applicable:

- Sample ID,
- Laboratory ID,
- Date of collection,
- Date of receipt,
- Date of analysis,
- Results (corrected for dilution), and
- Detection limits.

Applicable QC results will be reported as follows:

Surrogate spike recoveries,
MS/MSD recoveries,
Control sample recoveries,
Duplicate sample results, and
Method and equipment blank results.

Data packages will include all raw data and related QC data necessary for the performance of data validation in accordance with USEPA guidelines, as modified by Region II.

3.3 REVIEW OF LABORATORY DATA PACKAGES

The project laboratory will perform a review of the data prior to submittal to the project coordinator. After laboratory review, QC data and sample results will be reviewed for validation purposes by an independent data validation service. Level IV soil attainment demonstration data will be validated. Data validation will be performed by an independent laboratory data validation service, and any inconsistencies or errors will be brought to the attention of the project coordinator for correction. (Please note that the following text is from Section 10.2 of the RIQAPP.)

Review of laboratory data packages will include an assessment of compliance with general method guidelines and project-specific requirements. Specifically, this data validation process will include review of the following specific items:

- Comparing data to QA/QC objectives,
- Collecting and reporting field blanks and duplicates,
- Performance results of all necessary field and laboratory instrument calibrations,
- Checking for data outliers,
- Checking for transcription errors,
- Maintenance of sample custody,
- Maintenance of document control,
- Proper preservation of all samples, and
- Sample holding times were observed whenever possible.

The principal criteria that will be used to validate the data integrity during collection and reporting of the data include:

- Verification by the QA/QC Coordinator that all raw data generated have been properly stored and documented in hard copy and the storage locations in the laboratory are coincident with chain-of-custody records;

  Examination of the raw data by the QA/QC Coordinator to verify adequacy of documentation and check the accuracy of calculations;

- Confirmation that calibration standards are within the expected values;
- Reporting of all associated blank, duplicate, spike, standard, and QC data compared with results for analyses of each batch of samples;
- Reporting of all analytical data for samples with no values rejected as outliers because of the completeness goal of 95 percent for the analytical support of this project;
- Data identification checks, including general consistency and outlier checks;
- Unusual event review, including checks for catastrophic events of significant perturbations that may affect accuracy of measurements;
- Deterministic relationship checks that in situ measurements are in agreement with other related data; and
- Data handling checks, including transcription errors.

Data validation will be performed utilizing the following reference materials:

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA 540/R-99/008, October 1999;
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition;
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Final Update I; and
- USEPA Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.
- USEPA Contract Laboratory Program Organics Data Review and Preliminary Review, Standard Operating Procedure (SOP) HW-6, rev. 11, June 1996.
- USEPA Evaluation of Metals Data for the Contract Laboratory Program, SOP HW-2, rev. 11, January 1992.

USEPA functional guidelines will provide direction in interpretation of questionable results and operating practices, indicating whether similar situations have resulted in estimated or rejected data points. Application of qualifiers will be determined by the degree of data usability with a comprehensive understanding of the intended project data uses.

The data will be judged by the QC criteria defined in the method of analysis. If a parameter is determined to be outside the method tolerance limit (recovery of a surrogate is less than method specified lower limit), the data will be qualified as recommended in the guidelines.

The laboratory will also be instructed to hold packages open as long as permissible to allow inclusion of as many samples as possible. Packages may contain multiple sets of field QC samples. The validator will be responsible for correlating QC (trip blanks, rinsates, etc.) to appropriate samples.

3.4 PROJECT FILE

Documentation will be placed in a single project file, which will be maintained by Cummings/Riter. This file will consist of the following components:

- Agreements (filed chronologically),
- Correspondence (filed chronologically),
- Memos (filed chronologically), and
- Notes and data (filed chronologically by topic).

Reports (including QA reports) will be filed with correspondence. Analytical laboratory documentation and field data will be filed with notes and data. Filed materials may be removed by authorized personnel on a temporary basis only.

3.5 QUALITY CONTROL REPORTS TO MANAGEMENT

QC reports will be submitted as documentation of compliance with QA/QC objectives. The reports also serve to update the status of the project and to indicate any changes or deviations from the initial plan. Items to be included in the reports include the following:

- Changes to this QAPP;
- Summary of QA/QC programs;
- Results of systems and performance audits;
- Significant QA/QC problems, recommended solutions, and results of corrective action;
- Data quality assessment;
- Evaluation of compliance with DQOs and the resulting impact on decision making; and
- Limitations on the use of measurement data.

3.6 USEPA REPORTING

A copy of results of laboratory analyses conducted as part of the RA will be provided to the USEPA Project Coordinator and the New York State Department of Environmental Conservation (NYSDEC) Project Coordinator within 21 days of receipt of final data by Viacom. In addition, the QA/QC reports which evaluate the laboratory data and sampling and analytical procedures used for each sample will also be provided to the USEPA Project Coordinator within 21 days of receipt by Viacom.

4.0 AUDITS AND CORRECTIVE ACTION

Laboratory and field work conducted as part of the project may be subject to performance and systems audits. Performance audits check the operation of a specific study component such as a sampling method or an analytical procedure. Systems audits are broader and include a thorough evaluation of both laboratory and field QA methods, such as data validation procedures, corrective action procedures, or sample custody procedures. Audits may be internal (conducted by QA personnel within the organization being audited) or external (conducted by the USEPA or another outside agency).

Audits are randomly scheduled by QA personnel and are generally not announced beforehand. If QA personnel find what seems to be a systematic problem with a particular component of the sampling and analysis program, they will normally perform a series of audits on related activities to identify and correct the problem. Audit results are incorporated into the project reporting system, normally in the monthly report.

4.1 LABORATORY AUDITS

Viacom may conduct an independent audit of the project laboratories to verify analytical capability and compliance with the QAPP. In addition, the project laboratories can demonstrate their capabilities through the analyses of performance evaluation samples supplied by the USEPA. The performance evaluation sample analyses will be performed at the request of the USEPA.

4.2 FIELD AUDITS

Internal performance and systems audits of field activities at the Kentucky Avenue Wellfield site will be coordinated by the Supervising Contractor. If the Supervising Contractor deems necessary, a field audit will be conducted to verify that the project sampling procedures are being correctly followed.

A checklist will be prepared based on information contained in the QAPP. Using the checklist, auditors will evaluate whether field personnel are operating in compliance with procedures specified in these plans, including:

- Equipment calibration,
- Field documentation,
- Sample collection,
- Sample labeling, handling, and custody,
- Data collection and record keeping, and
- Equipment and personnel decontamination.

Audit reports will be submitted to the USEPA and the NYSDEC. The report will summarize the audit findings, including deficiencies which adversely affect the data. Any corrective action taken will also be included in the report.

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TABLES

TABLE 1
DISTRIBUTION LIST
INDUSTRIAL DRAINAGEWAY REMEDIATION

INDIVIDUAL	ADDRESS	PHONE NUMBER
Mark D. Purcell USEPA Project Manager	U.S. Environmental Protection Agency Region II 290 Broadway, 20th Floor New York, NY 10007	(212) 637-4282
Richard K. Smith Viacom Project Coordinator	Viacom Inc. 11 Stanwix Street Pittsburgh, PA 15222	(412)642-3285
Leo M. Brausch Supervising Contractor/Project QA Manager	131 Wedgewood Drive Gibsonia, PA 15044	(724) 444-0377
William C. Smith Cummings/Riter Project Manager	Cummings/Riter Consultants, Inc. 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146	(412)373-5240
Kenneth J. Bird Cummings/Riter QA Officer	Cummings/Riter Consultants, Inc. 339 Haymaker Road Parkway Building, Suite 201 Monroeville, PA 15146	(412)373-5240

TABLE 2
SAMPLING SUMMARY AND DATA QUALITY OBJECTIVES
INDUSTRIAL DRAINAGEWAY REMEDIATION

SAMPLE MEDIUM	DESCRIPTION	PARAMETERS	DATA QUALITY OBJECTIVE
Soil/Sediment	Post-Excavation Soil and Sediment Sampling	PCBs	Definitive data

TABLE 3
REMEDIAL ACTION CONTAMINANTS OF CONCERN
INDUSTRIAL DRAINAGEWAY REMEDIATION

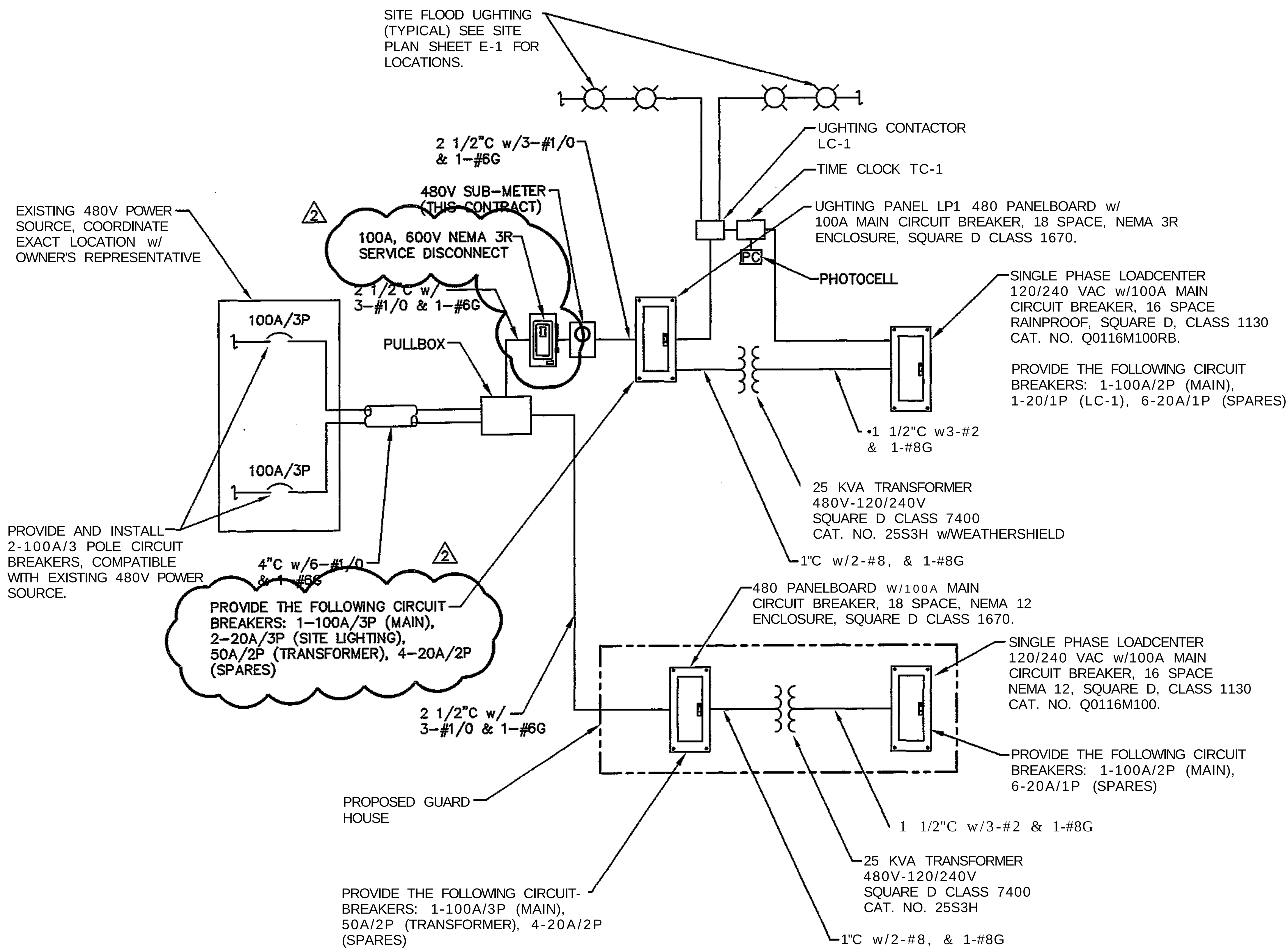
AREA	CATEGORY	PARAMETERS
Industrial Drainageway Sediment and Bank Soils	PCBs	All Aroclors

TABLE 4
ANALYTICAL METHODS, QUANTITATION LIMITS, AND DATA QUALITY OBJECTIVES
INDUSTRIAL DRAINAGEWAY REMEDIATION

Parameter	Analytical Method	Quantitation Limit	QC Limit Soil/Sediment	
	Soil/Sediment	Soil/Sediment (ug/kg)<a)	Precision	Accuracy
PCBs	8082w	33	30-150	25

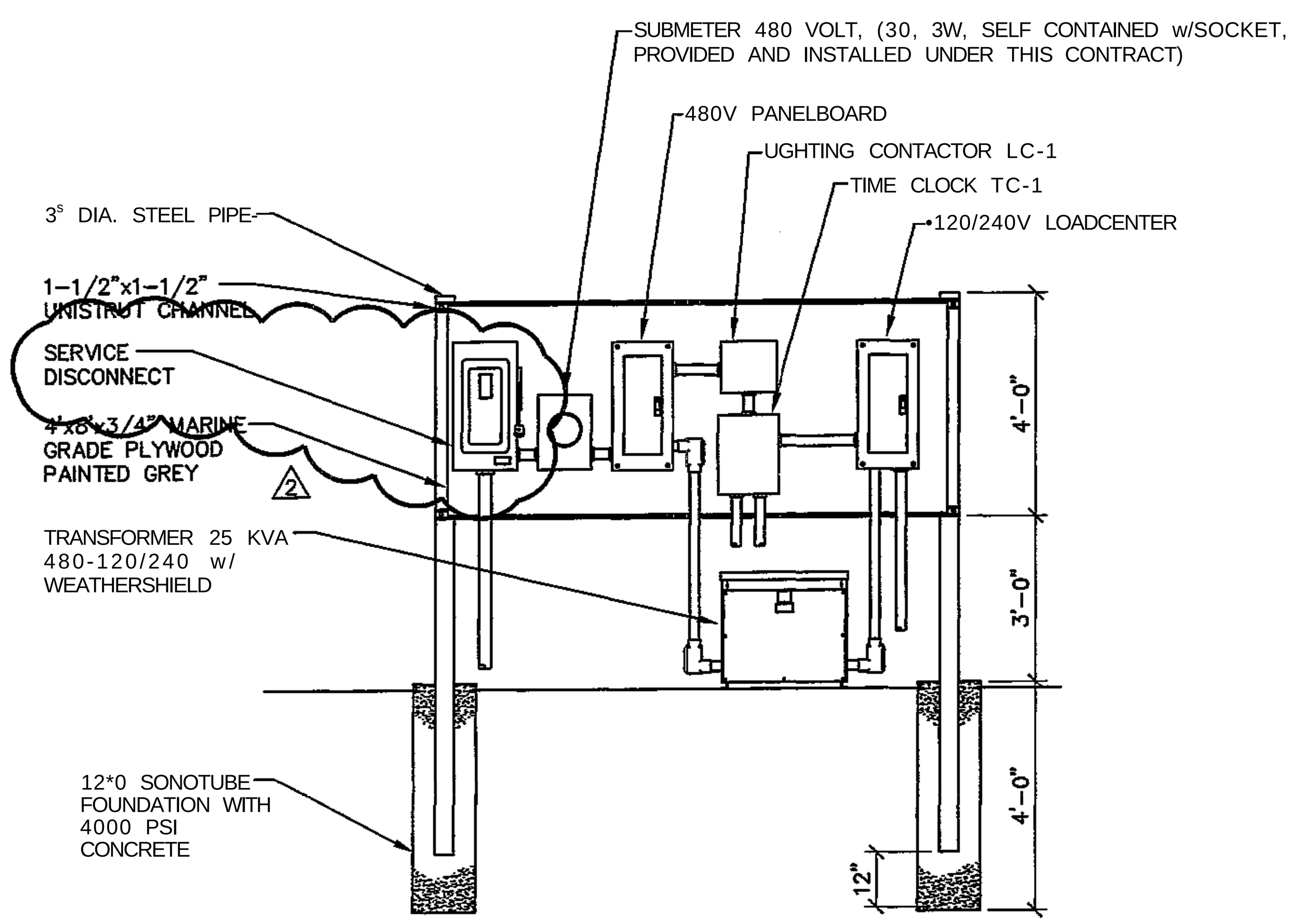
a. Soil quantitation limits listed are based on wet weight for low level concentrations. Actual quantitation limits will be based on dry weight and may be higher. Note that the RAO for PCBs is 1000 fig/kg.

b. Method 8082 with additional QC as follows:
   Resolution check mix
   - Acid cleanup
   - Confirm hits with second column
   Instrument blank in the run sequence.



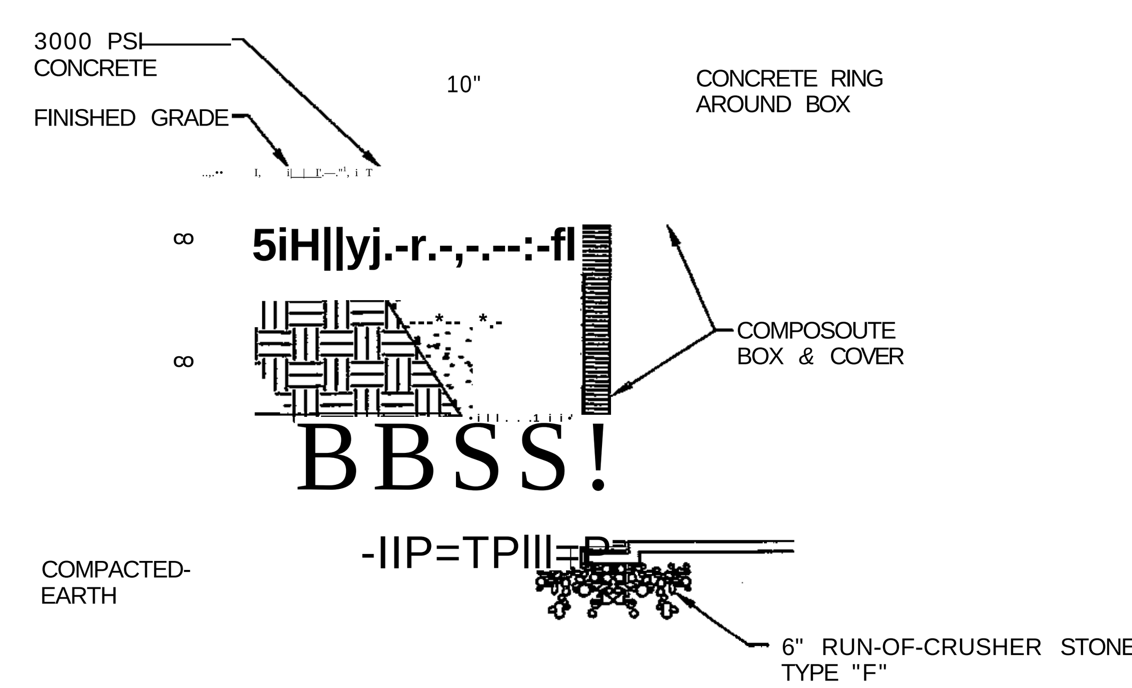
POWER SYSTEM ONE-LINE

NOT TO SCALE



ELECTRICAL EQUIPMENT ELEVATION

NOT TO SCALE



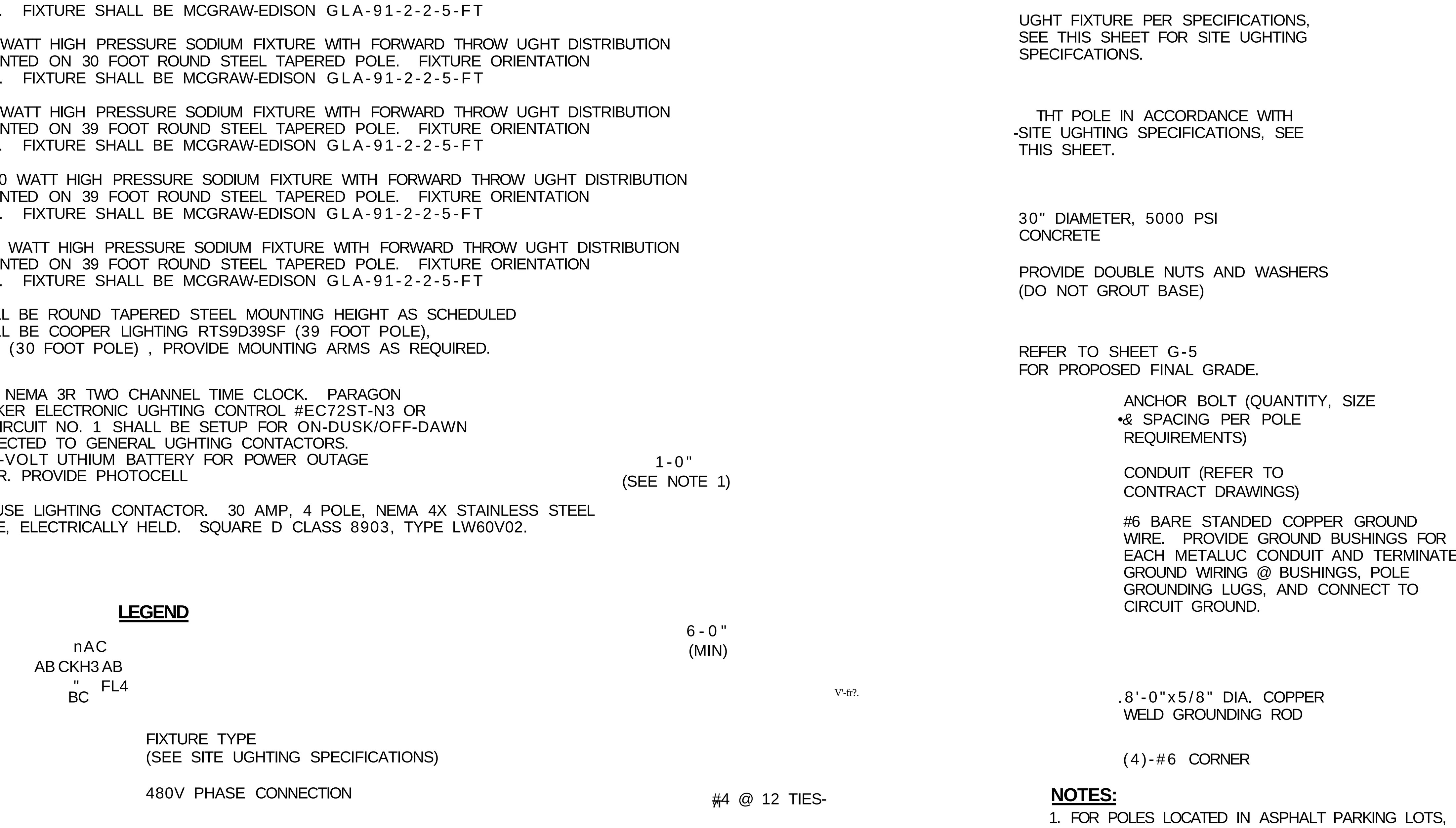
POLYMER CONCRETE PULLBOX

INSTALLATION DETAIL

NOT TO SCALE

SHE LIOHTINO SPECIFICATIONS;

FL1	SINGLE 1000 WATT HIGH PRESSURE SODIUM FIXTURE WITH FORWARD THROW UGHT DISTRIBUTION 480V, MOUNTED ON 30 FOOT ROUND STEEL TAPERED POLE. FIXTURE ORIENTATION AS SHOWN. FIXTURE SHALL BE MCGRAW-EDISON GLA-91-2-2-5-FT
FL1A	SINGLE 1000 WATT HIGH PRESSURE SODIUM FIXTURE WITH FORWARD THROW UGHT DISTRIBUTION 480V, MOUNTED ON 39 FOOT ROUND STEEL TAPERED POLE. FIXTURE ORIENTATION AS SHOWN. FIXTURE SHALL BE MCGRAW-EDISON GLA-91-2-2-5-FT
FL2	TWO 1000 WATT HIGH PRESSURE SODIUM FIXTURE WITH FORWARD THROW UGHT DISTRIBUTION 480V, MOUNTED ON 30 FOOT ROUND STEEL TAPERED POLE. FIXTURE ORIENTATION AS SHOWN. FIXTURE SHALL BE MCGRAW-EDISON GLA-91-2-2-5-FT
FL2A	TWO 1000 WATT HIGH PRESSURE SODIUM FIXTURE WITH FORWARD THROW UGHT DISTRIBUTION 480V, MOUNTED ON 39 FOOT ROUND STEEL TAPERED POLE. FIXTURE ORIENTATION AS SHOWN. FIXTURE SHALL BE MCGRAW-EDISON GLA-91-2-2-5-FT
FL3	THREE 1000 WATT HIGH PRESSURE SODIUM FIXTURE WITH FORWARD THROW UGHT DISTRIBUTION 480V, MOUNTED ON 39 FOOT ROUND STEEL TAPERED POLE. FIXTURE ORIENTATION AS SHOWN. FIXTURE SHALL BE MCGRAW-EDISON GLA-91-2-2-5-FT
FL4	FOUR 1000 WATT HIGH PRESSURE SODIUM FIXTURE WITH FORWARD THROW UGHT DISTRIBUTION 480V, MOUNTED ON 39 FOOT ROUND STEEL TAPERED POLE. FIXTURE ORIENTATION AS SHOWN. FIXTURE SHALL BE MCGRAW-EDISON GLA-91-2-2-5-FT
POLE	POLE SHALL BE ROUND TAPERED STEEL MOUNTING HEIGHT AS SCHEDULED POLE SHALL BE COOPER LIGHTING RTS9D39SF (39 FOOT POLE), RTS8A30SF (30 FOOT POLE) , PROVIDE MOUNTING ARMS AS REQUIRED.
TC-1	LOCKABLE NEMA 3R TWO CHANNEL TIME CLOCK. PARAGON SUN TRACKER ELECTRONIC UGHTING CONTROL #EC72ST-N3 OR EQUAL. CIRCUIT NO. 1 SHALL BE SETUP FOR ON-DUSK/OFF-DAWN AND CONNECTED TO GENERAL UGHTING CONTACTORS. PROVIDE 9-VOLT UTHIUM BATTERY FOR POWER OUTAGE CARRYOVER. PROVIDE PHOTOCELL
LC-1	GENERAL USE LIGHTING CONTACTOR. 30 AMP, 4 POLE, NEMA 4X STAINLESS STEEL ENCLOSURE, ELECTRICALLY HELD. SQUARE D CLASS 8903, TYPE LW60V02.



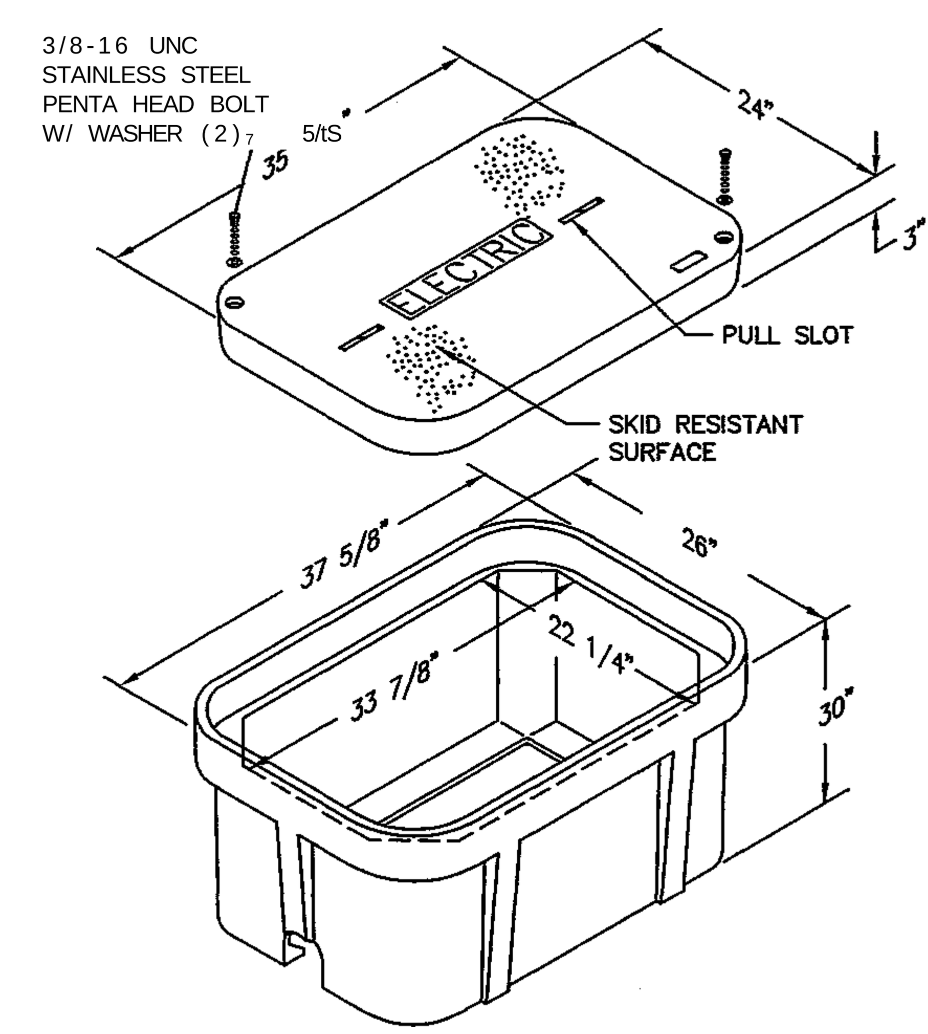
NOTES:

1. FOR POLES LOCATED IN ASPHALT PARKING LOTS, INCREASE EXPOSED DIMENSION TO 30".
2. FOR POLES THAT PENETRATE THE 40 MIL LLDPE GEOMEMBRANE, SEE SHEET G-8 FOR "TYPICAL FLEXIBLE MEMBRANE COVER PENETRATION BOOT DETAIL".
3. CONTRACTOR MAY UTIUZE PRECAST UGHTBASE AS MANUFACTURED BY LAKELANDS CONCRETE PRODUCTS, OR APPROVED EQUAL.

TYPICAL FLOOD LIGHT FIXTURE

& POLE BASE DETAIL

NOT TO SCALE



1. ALL PULLBOX COVER BOLTS SHALL BE VANDAL RESISTANT PENTA HEAD TYPE.

POWER PULLBOX (POLYMER CONCRETE

POLYMER CONCRETE PULLBOXES SHALL INCLUDE BOTTOM BASE AND SHALL BE STRONGWELL/QUAZITE TYPE PG2436DA30

PULLBOX DETAIL

NOT TO SCALE

NO.	DATE	REVISION	INIT.
£	5/14/03	MODIFICATION #1	
	6/26/01	ISSUED FOR CONSTRUCTION	
	8/7/01	ISSUED FOR NYSDEC REVIEW	

NOT TO SCALE

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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

ENGINEERS INC.

GENERAL MOTORS - FORMER IFG FACILITY

SYRACUSE, NEW YORK

FORMER LANDFILL IRM PROJECT

ELECTRICAL

POWER SYSTEM ONE-LINE ^#jD DETAILS

IN CHARGE OF

DESIGNED BY=*S? CHECKED BY

DRAWN BY *=*<hz^

RLE NO. 4966.21535.241

DATE JUNE 2002

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