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October 23, 1995

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Mr. Cesar Lee
Remedial Project Manager (3HW21)
U.S. Environmental Protection
Agency Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Metal Bank Cottman Avenue Site --
"Wish List" Items

Dear Mr. Lee:

In response to your letter to John Dobi and Joe Vitale dated September 27, 1995, setting forth a "Wish List" of items on the August test pit program, enclosed are five copies of the information that you requested. At your request, we are sending a copy to Jay Field, as well.

Please do not hesitate to contact Joe Vitale or me to discuss this.

Your truly,

Dan Jordanger

Dan J. Jordanger

Enclosures
cc: Mr. Jay Field (w/enclosures)
Cottman Avenue PRP Group
Technical Committee
Mr. Peter P. Swinick
Joseph P. Vitale, P.E.
Jeffrey N. Martin, Esquire

cc: From CLee
10/24/95 → E. BARTH, EPA - CINCINNATI (VIA FED-X)

AR303854

ORIGINAL (Red)

Photographic Documentation of Cottman Ave/Metal Bank Site Testpit Activities Conducted in August 1995

Prepared by

EARTH TECH

100 Pine Street

San Francisco, CA 94111

303855

DATE: August 7, 1995

Time: 7:20 - Arrived on site / Personnel Pete S. / Joe V. / Paul G. / Shaun D. / Tim M / Rick P.

Reviewed work plan for the first days work. Includes conducting 3 test pit (locations previously set) studies, sending samples to the lab for lead / TPH / PCBs, and taking a sediment sample (location also previously set) - samples lead / TPH / PCBs. Reviewed site conditions, site protocol and site health + safety. Meeting concluded approximately 8:05

Time: 9:15 Set up staging area and exclusion zone to conduct work / Backhoe arrived on site CAT-120

945 Begin Test Pit #1
Excavating 0-15' clean Material to
Set aside ~ 1.5' Thick

Micro T.P. reading @ 3.0' = 0 ppm

Pile from 0-4'
1003 micro T.P. Reading = 6.5 ppm
Ambient Air = 0 ppm

Oil at 4' horizon

1005 Removing 1 additional foot
of Soil down to 5.0' (3 Photos)
-Sampled S1 from Bucket TPH, Pb, PCB
1014 Stop excavating to increase
Staging area

1020 Ex. @ 7.0' BGS continuing to
10.0' To next Sample interval
-Ambient Air = ND

1025 Crushed empty Drum buried @ 5.0'
Photo (3 Total)

0.002
Northern Side

3 Photos of TP @ 10.0'

1 Photo of PCB Mixture @ 4-6" Thick
at 4.0'

1044 Continuing To Excavate from
10-15' To Next sample interval
Keeping Soil Separate from previous
interval

1105 Micro T.P. readings from 0-2 ppm
wavering at ≈ 0.5 ppm
Readings Taken from Bucket
at ≈ 13' Sample #3

TP-T-1-15 Sampled for
PCBs, TPH, Pb @ 1105 (50)

1126 Begin Backfilling TP-T-1
material being Backfilled in reverse order

with the last 5' of material at depth ect. material is Being Tamped down by operator every 3-5' as material is replaced into hole.

WAS SAM[illegible]
SECOND LOCATION 10-12 BATH [illegible]
LOCATION ON SOUTHERN PAD. THIRD WILL
BE PERFORMED FURTHER SOUTH.

Time 2:50 pm - STARTED THE THIRD HOLE

Time 3:05 pm - AT TWO FEET TOOK SAMPLE (TIME 3:08)
CONDITIONS - PID 15.8 ppm
Ambient < 0.5 ppm - Instructions
WAS TO READ UPWARD. MATERIAL
IS SPECKLED WITH MULTI-COLORED
PLASTIC MATERIAL.

THE HOLE 6-10" TOP MATERIAL
< 12" WHITISH SOILS
DARK MATERIAL THEREAFTER,
CONTAINING DEBRIS
BRICKS, INSULATING MAT.
AND WOOD.

TIME 3:22 TESTPIT AT 10 FT, TAKING SAMPLE, HIGH OF 10 PPM AT soil and <0.5ppm in Ambient, PROCEEDED TO THE NEXT 5 FT 3:30 ppm.

MATERIAL IS THE SAME, WOOD, PAPERS, PLASTIC DEBRIS, TIRES, ETC

MATERIAL IS DENSELY PACKED, ABLE TO DOE A STRAIGHT CUT.

TIME 3:40 STOPPED AT 12.0 FT DEPTH, GW WAS ENCOUNTERED. SAMPLE TAKEN. DOG HOLE WENT TO TEST PIT # 3 (DIGGER FIRST) WITH CLOSE INTER.

TESTPIT

SAME MATERIAL SITED 0-10" BROWN
10'-12.5' MILK GRAY
12.5'-14' DARK MATERIAL
14' DEBRIS

DEBRIS WAS ENCOUNTERED CONTINUOUSLY TO A DEPTH OF APPROXIMATELY 15-15.5 FEET BELOW GRADE. CLAY MATERIAL WAS ENCOUNTERED AT APPROXIMATELY 15-15.5 FEET. STOPPED THE EXCAVATION AT THIS DEPTH.

SAMPLES WERE TAKEN AT 5, 10, AND 15 FEET BELOW GRADE. ALL three SAMPLES WERE SENT FOR ANALYSIS TPH, PCBs, AND LEAD (% solids). THE SAMPLE TAKEN AT 15 FEET WAS ALSO ANALYZED FOR TCLP-VOC, SVOC, RCRA 8 METALS AND PCBs; TOTAL TOX; % SOLIDS; PAINT FILTER TEST; IGNITABILITY, CORROSIVITY; REACTIVITY.

AR303859

ONCE SAMPLES WERE TAKEN, THE TESTPIT WAS CLOSED. ~6:30 (1830)

LEFT SITE _____ TO SEND SAMPLES TO ATEC, Redex. SECURED SITE UPON LEAVING.

Pat O

AR303860

8/24 KS, TH

EARTH TECH.
Paul Graden
Joe Vitale
Dennis Lubinsen
Amit Banerjee

GILARDI:
Mike Page

NOAA
Tom O'Donnell

Weather: Sunny, slight breeze, 80°F in sun

0730 Earth Tech on site. Set up exclusion zone and decon area

0850 2 workers from metal recycling facility next door walk on site. They say that they have had a stinking problem and ask if we have seen new drums - we have seen nothing obvious

0915 Mike Page brings in the Cat and

levels, weeds at TP-4 location

0930 Review HASP. Personnel new to site sign off. AB exit for supplies

0950 Setting up plastic and plywood for TP-4

1000 AB returns

1040 All set up. Set up and commenced TP-4

0-6" Top soil + roots
6" - White silt size ash and concrete blocks, yellow, brown c-f SAND (fill) PID 0.0
3' P/A PID 0.0

(1055 - small generator in hole)
7' Gray, brown cinderblocks, concrete, brick gravel, coarse + fine SAND, faint organic odor PID 0.0

AR303861

35' Black stained med to fine SAND
misc cinder blocks, plastic, wood (Fill)
also tires, wire, brick

6.5' Grayish clayey SILT mixed in. Very
dense. get odor PID 15.0 when breaking
up 0.0 away from bucket

5' – Sample 49.5 ppm (1115)
2.5' ppm

10' – PID 0.0 ppm

11.5' – PID 0.0 ppm
Water @ 11.5'. Sheen

Sample @ 10' 0.0 ppm picture (11[illegible])

Grayish black c-f SAND, some black
silt, little brick, etc.
Greenish gray CLAY, some silt, little
mica

11.5' → Bottom Sample; picture (1155)
87.8 ppm in discrete areas

AR303862

Air PID 0.0 ppm

CLAY begins ~ 9.5'-10'

1200 Break

1220 Commence backfilling TP-4

1330 TP-4 backfilled

1430 Make levels grass at TP-1

1500 Steam cleaning bucket

1510 Loading plywood into Cat bucket

1545 Plywood + poly in place

1550 Commence TP-1

0-6" Topsoil, roots, red v dense Clay
and Shale

6" - "Ash layer" Gray ash

and trouble of gravel [illegible] concrete
little brick and other building debris.

2' 5" less dusty, generally darker
material / same as the rest.

5'-6' Varicolored shredded small
gauge wire insulation

8' 12' Metallic debris - slag (?)

Sample 5' 1645 PID 0.0 picture

Slag (?) debris is built size
w/ melted appearance, colors blend
also drum lids, buffing pads, wood

9' Black Gravel some Sandy Clay
moist, slight non organic odor
PID 0.0

10' Sample @ 1710 PID 0.0 Picture
Faint odor

12' [illegible]
off-gas.

Collect sample @ 1720 Picture PID 0.0

Sub. am brown coarse to fine SAND and
brown CLAY, some Gravel, trace root mat,
little wood lathe brick, 1 rubber sole
dry shoe shoe. Colored w/ black water
some with sheen

1735 TD @ 12' begin backfill

1830 Finish backfill. Clean up.

1900 Back site - JT + EARTH TECH - Chris
Hill & prepare sample for shipment
Site is secured when leaving. [illegible]

AR303863

Fri 8/25/95 EARTH TECH : Paul Graden
Dennis Liberman
Amit Banerjee

GLARDE : Mike Page

NORA : Tom O'Donnell

AM Weather: sunny, slight breeze, ~ 75°F

0800 All personnel on site. Enter site. Decon bucket. Clear area for test pit. Refill drums on site with water. Set up plywood and plastic at TP-7

0940 Respond to page from Cherry Hill and Concord. Joe Engels informs DL that the site owner's attorney has called Concord claiming that the double lock at the gate has been repeatedly violated by us. This claim is, at best, an exaggeration. The owner's lock was bypassed once

yesterday by accident. When the problem was observed a short time (~1-½ hours later) later, the mistake was corrected.

1050 AB exits site to obtain more supplies

1020 AB returns w/ some supplies. Exits for plywood Cal. Incl. P15

1045 Prepare to begin TP-8

1051 Begin TP-8

0-2" Topsoil and roots

2"-1' "Ash" layer

Grayish white (due to ash). Coarse to fine GRAVEL, sand Gray SILT. Weathered material predominately of matrix is brown

AR303864

Dark brown to black ~~[illegible]~~ SAND and GRAVEL, little Silt, common construction debris - blocks, brick, wood

PID 1.1 @ pick 0.0 in BZ

4.5' Brown CLAY layer

PID 0.2 @ pick 0.0 in BZ

Sample 5' @ 1115 PID 0.2ppm picture

Greenish brown firm CLAY, little Sand and Gravel, occ. mica

10' large concrete block PID 0.0

miscellaneous debris in Clay, including bottles + ceramic, wood

Sample 10' @ 1125 PID 0.0 picture
Faint organic odor

Rebars begin getting moist @ 11'

Water @ 14'. Very silty. Spots of brown stain. PID 0.0

Sample 15' @ 1140 PID 0.0 picture

17' Gray brown, little black coarse to fine SAND and fine GRAVEL, some Silt

Water has brown (poss organic) stain

1150 TD TP-8 @ 15'. Begin to backfill

1240 PID is backfilled.

1255 Decanning Cat bucket

1420 Levelling Vegetation at TP-7 location. Then set up plastic and plywood

1445 Begin TP-7

0-0.6' Topsoil, roots

AR303865

Reddish brown Silty CLAY, some Gravel

0.6-2' Ash layer
Greyish white coarse to fine SANDS and GRAVEL, some SILT. Color due to ash. Common construction debris - brick, stone

2'- Debris layer
Gray, brown SAND and GRAVEL, little Silt and Clay. Common construction debris

PID 0.1 @ P.L. 0.0 in BZ

PID 1.5 @ P.L. (from 35')
0.0 in BZ

Debris includes brick, metal strips, wood lathes, pipe gasket materials

Sample 5' @ 1505 PID 2.3
Picture

Greenish gray CLAY zone @ 3'
Debris above + below

All debris stained black

~11' Oily to stained stains
measure @ 10.6', Max PID 5.5 ppm

Sample 10' @ 1530. Also collected for TCLP.
Bucket PID 15.5'. Photo

Paint chip - yellow tyre

10' Black stained coarse to fine SAND, little Gravel, little Clay
moist with oily material

Water @ 11.5'

13' Sample @ 1540. Parameters include TCLP
Bucket PID 1.0, Photo

Black stained SAND and CLAY

AR303866

some Gravel

Water in pit is off-gassing

1535 TP @ 13'. Backfill pit

1600 A can of yellow paint (1 yellow, crushed, paint appears congealed) found in location, this was in the 5'-10' depth originally

Date 8/26/95 EARTH TECH: Paul G
Bill S
Tim M
Gilarde: ~~Mike~~ Rick P

AM. Weather: Sunny 75°

0800 All personnel on site. Enter site and begin to set up wood for first test pit (TP-18). Tim + Paul drive to NE corner of property to locate next test pit (TP-9)

0900 Paul calls fuel distributors to try and find someone that will deliver diesel for the track hoe.

0945 Begin TP-18. Brick + rock (fill) encountered at 6". Soil: dark brown black f.m. soil + c-f gravel some $
Reading Tip 3.7 BZ 0.0

0952 TP-18 @ 3' Reading 3.5 BZ 0.0
Same soil type / fill. Petroleum odor

1000 Collect 1st sample: Material Black m-f sand & c-f gravel tr $
Bricks, concrete, metal Tip 3.7 BZ 0.0

AR303867

1005 Tip 13.0 BZ 0.0
More debris (wood, trash, bricks, metal) @ 9'. Petroleum Odor

1010 Tip 21.0 BZ 1.5 Large piece metal excavated (photo taken)

1015 Tip 20.0 BZ 5.2 Oil observed on soil in pile. More metal excavated at 10'.

1020 Water encountered @ 12'.
Sample Collected from 10' Tip Reading 30 BZ 5.0.

1032 Collect last sample at 12'. Tip Reading 15.0 BZ 1.0.

1035 Rick backfills excavation. Soils encountered at 9 to 12 feet all similar consisting of Black c-f sand and f-c gravel to trace debris (wood, brick, concrete, metal throughout). Heavy Petroleum odor noted throughout (WFS) during 10' and 12' sampling events.

1040 Rick began to backfill excavation.

1120 Finished backfilling excavation. Bill + Paul cover excavation with plastic while Tim decon. trowels.

1130 Tim finished decon of trowels + decomm'd bucket of track hoe. Bill + Paul removed all particle board and stacked in a pile

1200 All take Lunch.

1300 Back on site. Tim waits at gate for fuel truck, Bill, Paul + Rick move wood to test Pit 9 Location. Bill + Paul lay out plastic, Rick goes to fuel up.

1415 Rick returns, Bill, Paul + Tim set up generator, etc.

1430 Begin Test Pit TP-9. Tim (WFS) wets down upper 3' of soil. Upper two feet of test pit contained a lot of rocks and boulders. At approximately 2' a layer of black soil and rubber tubing/piping was encountered. Soil: Dark brown-Black m-f sand some f-c gravel to 5.

1440 Debris (fire hose, pieces of drum, pieces of transformers, metal, plastic) encountered approx 4' below grade

AR303868

1445 7' Still pulling metal and debris from excavation. Got first reading on Tip at this depth of 15.0. BZ - 0.0.

1500 Paul collected 5' Soil sample. Material sampled was a soil/Slag mixture. Tip 0.0 BZ 0.0.

1505 Tip 23.0 ppm BZ 0.0

1510 Paul collects 10' soil sample. Material sampled was soil - Red Brown c-f SAND and c-f gravel tr $. Tip 0.0 BZ 0.0.

1530 (WFS) Water encountered @ 13.5'. Sample collected. Tip 0.0 BZ 0.0.

1545 (WFS) ~~1600~~ Rick begins to backfill excavation. No odor noted on water from track hoe bucket.

1615 Rick finished backfilling excavation. Tim decons, travels & (WFS) track hoe bucket while Bill + Paul remove plastic and wood from TP-9.

1630 Bill + Paul cover TP-9 with plastic and move wood up to TP-11 location.

1645 Bill + Paul lay plastic and wood for TP-11.

1700 Rick returns with Track hoe to TP-11. Tim + Paul load generator into van and meet at TP-11.

1705 Begin to advance TP-11. First two feet lot of boulders + (WFS) ~~rock~~ cobbles. Black soil encountered at approx 2' below grade. Tip 0.0 ppm BZ 0.0

1710 4' below grade slight Petroleum odor. Tip 4.0 BZ 0.0. Soil dark ~~brn~~ (WFS) black c-f sand some f-c gravel tr $.

1715 5' Wood and pieces of transformer encountered. Stronger petroleum odor.

1720 6' Tip 25.0 BZ 0.0

1725 5' Sample collected. Sampled material combination of soil and slag mixture. No Odors. Tip 0.0 BZ 0.0

1730 8' Tip 85.0 BZ 0.0

1732 8½' Tip 148 BZ 0.0

1735 8½ - 10' Wood fragment layer

AR303869

black very strong odor. Tip (3)

1739 12' Tip 69 ppm BZ 0.0.

1750 Went back to 10' and sampled black wood fragments/soil. Tip reading from soil 402 BZ 71.

1800 Water encountered at 13'.

1806 Sample collected at 13'. No sheen observed on water. No Noticable odor. Tip 20.0 BZ 0.0.

1810 Rick begins to back fill excavation. Tim, Bill + Paul clean up site and pack away equipment.

1840 Bill loaded van and left site to fill drums with water for next day. Rick, Paul + Tim remain to finish cleaning up area.

1900 Rick leaves site. Tim, Paul + remain to start packing samples.

2000 Paul and Tim leave site. Paul drops off samples at FED-Ex.

William Schuck
8-26-95

Weather Sun 8-27-95

EARTH TECH: Paul G.
Bill S.
Amit B
Gilarde Rick P

Weather Overcast: 78°

0800 Personnel arrive on site. Amit decons trackhoe bucket as Paul and Bill look for next test pit location.

0900 Paul + Bill set up wood at location of TP-12.

0930 Decon Bucket, Prepare to excavate

0955 Begin TP-12 excavation. First 0-6" is top soil brown vegitative with bricks pieces of concrete & coarse gravel. Reading of PID at 0.2 ppm. Classified coal like material at 2'3", reading of 0.7 ppm & slight ore like odor. Material is chipping off easily as it demonstrates good cleavage.

AR303870

1005 Trackhoe blows a tube restricting its mobility.

1015 Trackhoe is repaired with new tube. At 3' depth is found darker type soils with mixed bricks, wood, & coal pieces, two(2) concrete cylindrical (1' x 0.5') foundation pieces. Also a metal rope is found here. At 3.5' slight odor & a reading of 1.7 ppm. At 5' a crushed drum & more cylindrical pieces of concrete, wood, plastic wires, & rocks found. Reading of 8.7 ppm.

1030 At 7' some light greenish hard material (possible thicked paint), reading at 2.7 ppm. Sample at 9' reading of 0.9 ppm Black medium to fine sand with little clay mixed with brick chips, coal pieces, & wood & slight organic odor.

1035 Continue excavation find more trash materials, Moist soils at 11.2'

1040 At ~~11.2'~~ 10' AB. collect side sample reading of 0.7 ppm. Black med to fine sand with clay mixed in & gravel, wood & trash mixed in throughout (moist)

1040 Collect bottom sample at 11.2' soil mixed with water at this level & essentially similar materials as the 10' level. Reading of 0.7 ppm.

1045 Begin to back-fill test pit as this TP-12 is completed. Note: the cylindrical blocks previously seen is confirmed as concrete testing for compression strength.

1115 Begin setting up at TP-16.

1145 Begin decanning bucket. Problem with pressure washer unit. It is then repaired

200 Complete decanning bucket and prepare to excavate TP-16.

AR303871

1215 Begin TP-16 excavation. 0-6" top soil, brownish with (0.6 ppm) vegitative cover. At 1.5 - 2.0', there is present darker type stained soils (1.3 ppm) with bricks, concrete blocks, metallic parts & wood debris materials. At 2.5' a reading of 20.5 ppm. At 3.0' large sized concrete blocks, with coarse medium to fine sandy loamy soils (1.7 ppm); Breathing zone is 0.0 ppm sustained. At 4.0' shards of drums, bricks & soils stained with organic odors (17.5 ppm).

1230 Collected sample @ 5.0' (1.9 ppm) Moist dark soils, clayey silty with organic odors, bricks, gravels, & concrete blocks thoughout. Volume of bricks, cinder blocks, metallic parts & wood debris in ratio to soil is ≈ 70%. down to 8.5' where water is encountered (0.0 ppm).

1238 Collected side & bottom samples. Moist dark stained soils with organic odors. Gravelly with medium to coarse fine silt sands with little clay & 50% debris (wood, bricks, etc) mixed in.

1245 Excavate to 11.5' to investigate whether the 8.5' level was a perched water table zone or not. The ground water was indeed confirmed to rise to the 8.5' thereby negating the perched water table theory.

1340 Complete backfilling TP-16.

1400 Upon decanning & securing site we leave for the day.

W.O. [illegible]

Monday 8-28-95

Tim M.

Gilardi: Rick P.

0800 All site personnel arrive & prepare to continue with test pit activities. Decon all necessary equipments.

0900 Prepare to excavate TP-21 by setting poly, boards, & calibrating PID

1012 Begin excavating TP 21. Top 0-6" is topsoil with vegitative mass (grass, shrubs, roots). Tim M. is spraying down fugitive dust emissions. At 6"-to 1' level is darker soils with wood, bricks, concrete & organic odor. 1-1.5' Reading is 5.5. Also here is present coal or pieces. At 2.5' depth there are present two (2) large slabs of concrete. Reading is 15ppm. Down to 3.5' still larger slabs of concrete, crushed drum & generall, debris stream trash.

Down to 4.5', a tire, crushed drum, metallic fragments. Beyond 5' more clayey soils. Down to 6.5' & soils showing some moisture. At 7' water is encountered.

1032 Collect sample (side) at 5'. Soils are dark skinned, fine to medium sand with little clay mixed with debris (wood chips, brick chips). PID of 2.5 ppm.

1040 Collect bottom sample at 7'. Soils are sludge like with 25% water. Odoriferous organic with debris mixed in & similar soils as at 5'. PID reading is 1.1 ppm.

1050 Begin backfilling TP-21 excavation.

1140 Complete backfilling TP-21. TM assisting in putting in clean soils being delivered onsite today.

1215 Complete Decontamy bucket & prepare to set up at TP-14.

1245 Take a lunch break.

AR303873

1345 Begin TP-14 excavation.
0-6" interval is top soil
with vegitative cover. 1'-1.5'
Concrete slabs (large & small).
2' down is darker top soils
consistent with the site with
interspersed wood, cinder blocks,
bricks similar to fill material
found elsewhere onsite. PID
reading is 5.5 ppm. 4.5' down
is large pieces of wood &
stained soils.

1405 Side samples collected at 5' depth
PID reading of 0.5 ppm
Clayey silty moist soils.
Water seeping through at
7' depth (perched watertable).
Down to 11.5' depth (3 ppm.)
and greenish-gray clay with little
silt.

1427 Collect bottom sample at 7.5'.
PID reading is at 0.0 ppm.
Sample was collected at this
level due to heavy groundwater
infiltration. Soils in this area
are moist with organic odor.
Mainly clays with fine silt
& increased plasticity & staining.
Ground water infiltration stopped
at 7.5' level (where we initially
assumed a perched water table).

1440 Initiate backfill procedure.

1525 Complete backfill procedures.

1545 Begin to gather all particle boards
lying around on site & stacking
them in one pile.

1630 Complete particle board collection.

1640 Begin to decon bucket & entire
trackhoe machine. TM gathering all
drums in one area.

1715 Deconning completed, gather all trash.
Secure site & leave for the day.

1730 Arrive at the office (PG & AB)
Prepare to ship samples & decon
& unload van.

1800 Leave for the day.

AB

AR303874

Photographic Documentation of Cottman Ave/Metal Bank Site Testpit Activities Conducted in August, 1995

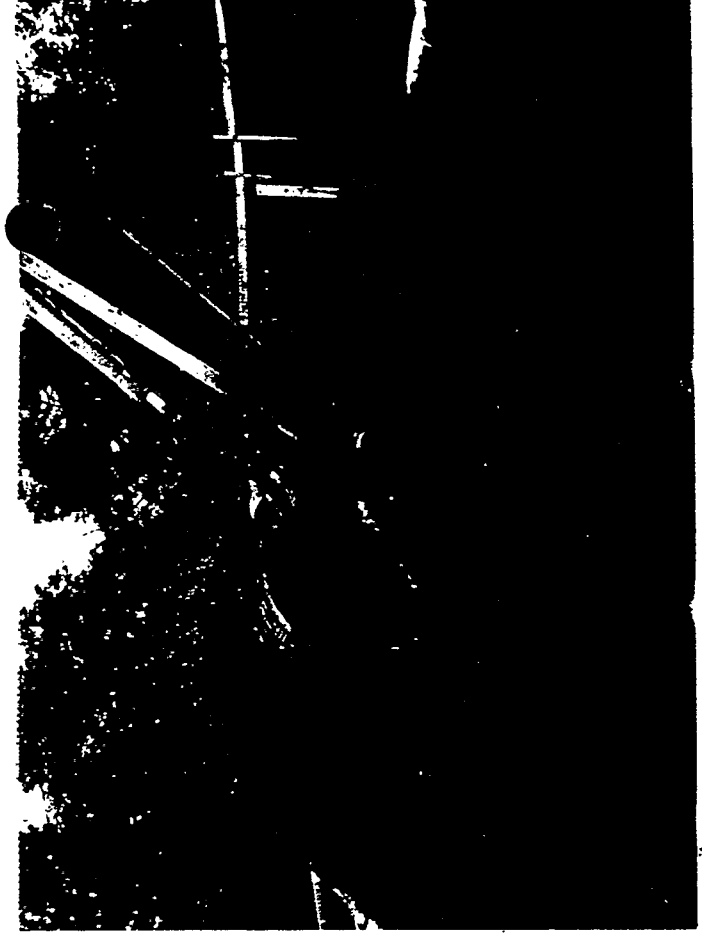
September, 1995

Prepared For:

Cottman Ave PRP Group

Prepared By:

EARTH TECH
196 Baker Avenue
Concord, MA 01742



Testpit TP-T-1

Testpit TP-T-1 activities conducted by EARTH TECH on August 7, 1995.

Testpit TP-T-1 is located on the southern side of the underground storage tank/concrete pad. Testpit TP-T-1 extended to a depth of approximately 15-feet below grade. It appears groundwater was not encountered.	Photo No. 1	Excavated material from testpit TP-T-1 was staged in two separate piles, on opposite sides of the excavation. The soil pile, located in the foreground, contains material excavated from 0 to approximately 2 feet below grade. This material was comprised of capping material (between 2 and 4 inches thick) and underlying material that contained between 10 and 20 percent debris. Debris consisted of ash, construction materials and cobbles. A second soil pile, located in the front, was designated for the darker underlying fill material excavated from approximately 2 feet below grade to the bottom of the testpit (approximately 15 feet below grade). This material contained construction debris, buried drums, wood, wire, electrical cord, and other electrical devices (15 to 30 percent debris).	Photo No. 2	Underlying fill material excavated from approximately 2 feet below grade to the bottom of the testpit (approximately 15 feet below grade). This material contained construction debris, buried drums, wood, wire, electrical cord, and other electrical devices (15 to 30 percent debris).
	Photo No. 3	Testpit TP-T-1 subsurface conditions, upper layer which extends from 0 to approximately 2 feet below grade and underlying material which extends from approximately 2 feet below grade to the bottom of the testpit. This underlying material contains construction debris, buried drums, wood, wire, electrical cord, and other electrical devices (15 to 30 percent debris).	Photo No. 4	Sample collected at approximately 15 feet below grade (analyzed for total PCBs, lead, and total petroleum hydrocarbons). This material contained some free liquid, but it appears that groundwater was not encountered. Samples were also collected at 5 and 10 foot intervals.

AR303877

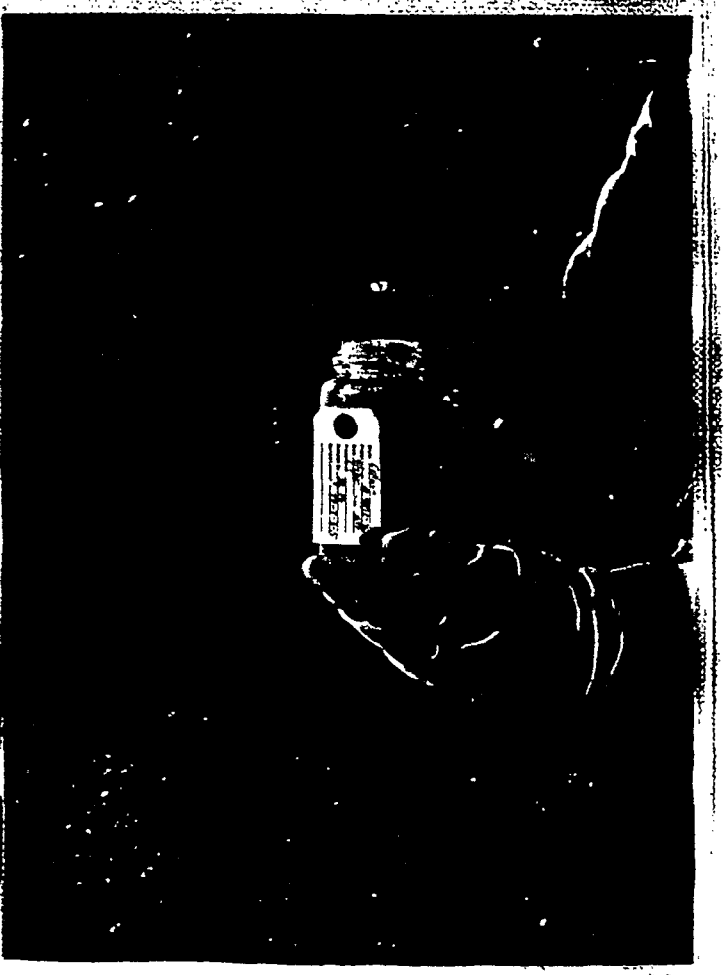
AR303878

Testpit TP-T-2

Testpit TP-T-2 activities conducted by EARTH TECH on August 7, 1995.

Testpit TP-T-2 is located on the southwestern side of the underground storage tank/concrete pad. Testpit TP-T-2 extended to a depth of approximately 12-feet below grade where groundwater was encountered.	Photo No. 5	Excavated material from testpit TP-T-2 was staged in two separate piles, on opposite sides of the excavation. The soil pile, located in the foreground, contains material excavated from 0 to approximately 2 feet below grade. This material was comprised of capping material (between 2 and 4 inches thick) and underlying material that contained between 10 and 15 percent debris. Debris consisted of ash, construction materials and cobbles. A second soil pile, located in the front, was designated for the darker underlying fill material excavated from approximately 2 feet below grade to the water table (approximately 12 feet below grade). This material contained construction debris, ground-up plastic, tires, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).	Photo No. 6	Underlying fill material excavated from approximately 2 feet below grade to the water table (approximately 12 feet below grade). This material contained construction debris, ground-up plastic, tires, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).
	Photo No. 7	Testpit TP-T-2 subsurface conditions, upper layer which extends from 0 to approximately 2 feet below grade and underlying material which extends from approximately 2 feet below grade to the bottom of the testpit. This underlying material contains construction debris, ground-up plastic, tires, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).	Photo No. 8	Sample collected at approximately 5 feet below grade (analyzed for total PCBs, lead, and total petroleum hydrocarbons). This material contained large amounts of ground-up plastic. Samples were also collected at 10 and 12 foot intervals.

AR303879

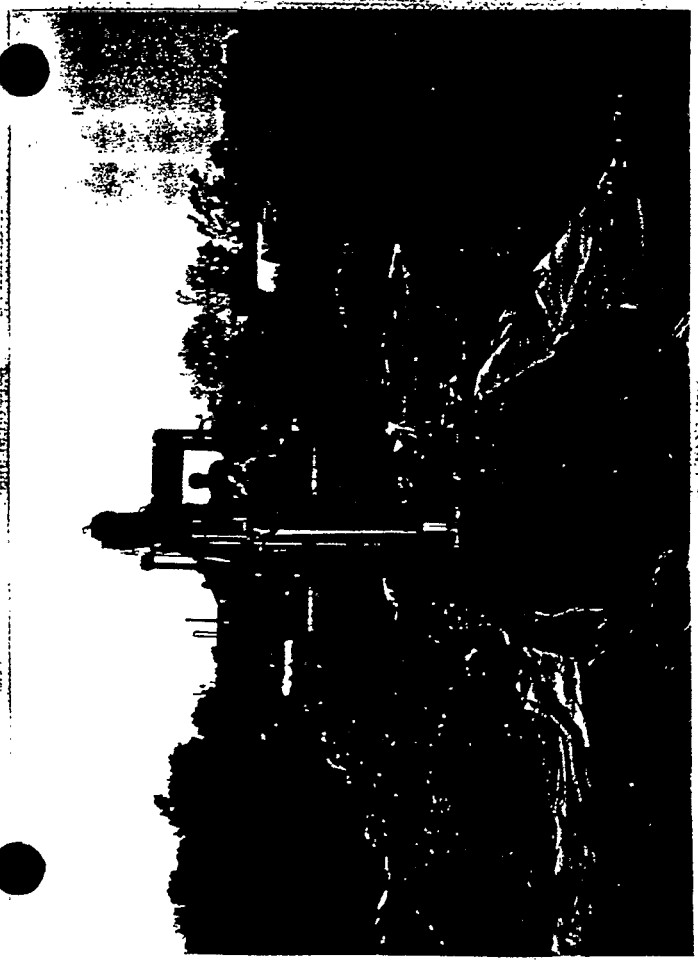


Testpit TP-T-3

Testpit TP-T-3 activities conducted by EARTH TECH on August 7, 1995.

Testpit TP-T-3 is located on the northern side of the underground storage tank/concrete pad. Testpit TP-T-3 extended to a depth of approximately 15-feet below grade. It appears groundwater was not encountered.	Photo No. 9	Excavated material from testpit TP-T-3 was staged in two separate piles, on opposite sides of the excavation. The soil pile, partial view - located on the righthand side, contains material excavated from 0 to approximately 2.5 feet below grade. This material was comprised of capping material (between 1 and 3 inches thick) and underlying material that contained between 5 and 15 percent debris. Debris consisted of ash,construction materials and cobbles. A second soil pile, located in the center of the photo, was designated for the darker underlying fill material excavated from approximately 2.5 feet below grade to the bottom of the testpit (approximately 15 feet below grade). This material contained construction debris, wood, wire, electrical cord, and other electrical devices (10 to 20 percent debris).	Photo No. 10	Underlying fill material excavated from approximately 2.5 feet below grade to the bottom of the testpit (approximately 15 feet below grade). This material contained construction debris, wood, wire, electrical cord, and other electrical devices (10 to 20 percent debris). At 15 feet below grade, a clay layer was encountered.
	Photo No. 11	Sample collected at approximately 5 feet below grade (analyzed for total PCBs, lead, and total petroleum hydrocarbons). Samples were also collected at 10 and 15 foot intervals.	Photo No. 12	Once testpit activities were complete, each testpit was backfilled with material (underlying material first and cleaner surface material placed on top), compacted, and covered with a polyethylene sheet. Each testpit was then covered with an additional 12 cubic yards of soil (certified as clean material) and hay.

AR303881



Testpit TP-4

Testpit TP-4 activities conducted by EARTH TECH on August 24, 1995.

Testpit TP-4 is located in the southwestern portion of the site. Testpit TP-4 extended to a depth of approximately 12-feet below grade, where groundwater was encountered.	Photo No. 13	Excavated material from testpit TP-4 was staged in two separate piles, on opposite sides of the excavation. The soil pile, located on the lefthand side, contains material excavated from 0 to approximately 2.5 feet below grade. This material was comprised of capping material (between 2 and 4 inches thick) and underlying material that contained between 5 and 15 percent debris. Debris consisted of ash, construction materials and cobbles. A second soil pile, located on the righthand side, was designated for the darker underlying fill material excavated from approximately 2.5 feet below grade to the water table (approximately 12 feet below grade). This material contained construction debris, ground-up plastic, plastic and rubber material, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).	Photo No. 14	Underlying fill material excavated from approximately 2.5 feet below grade to the water table (approximately 12 feet below grade). This material contained construction debris, ground-up plastic, plastic and rubber material, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).
	Photo No. 15	Testpit TP-4 subsurface conditions, upper layer which extends from 0 to approximately 2.5 feet below grade and underlying material which extends from approximately 2.5 feet below grade to the bottom of the testpit. This underlying material contains construction debris, ground-up plastic, plastic and rubber material, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).	Photo No. 16	Sample collected at approximately 12 feet below grade (analyzed for total PCBs, lead, and total petroleum hydrocarbons). Samples were also collected at 5 and 10 foot intervals.

Testpit TP-7

Testpit TP-7 activities conducted by EARTH TECH on August 25, 1995.

Testpit TP-7 is located in the western side of the site. Testpit TP-7 extended to a depth of approximately 13-feet below grade, where groundwater was encountered. Samples were taken at 5, 10 and 13 foot intervals, and analyzed for total PCBs, lead, and total petroleum hydrocarbons.	Photo No. 17	Excavated material from testpit TP-7 was staged in two separate piles, on opposite sides of the excavation. The soil pile, located in the center of the photo, was designated for the material excavated from approximately 2 feet below grade to the bottom of the testpit (approximately 13 feet below grade). The material contained construction debris, wood, metal piping/conduit, wire, electrical cord, and other electrical devices (10 to 20 percent debris). The top soil was stage in a separate pile, not presented in this view, contains material excavated from 0 to approximately 2 feet below grade. This material was comprised of capping material (between 1 and 3 inches thick) and underlying material that contained between 5 and 15 percent debris. Debris consisted of ash, construction materials and cobbles.	Photo No. 18	Underlying fill material excavated from approximately 2 feet below grade to the bottom of the testpit (approximately 13 feet below grade). This material contained construction debris, wood, wire, electrical cord, and other electrical devices (10 to 20 percent debris). At 13 feet below grade, a clay layer was encountered.

AR303885

Testpit TP-8

Testpit TP-8 activities conducted by EARTH TECH on August 25, 1995.

Testpit TP-8 is located in the western side of the site. Testpit TP-8 extended to a depth of approximately 15-feet below grade. It appears groundwater was not encountered.	Photo No. 19	Excavated material from testpit TP-8 was staged in two separate piles, on opposite sides of the excavation. The soil pile, not present in this view, but located to the left of the soil pile shown, contains material excavated from 0 to approximately 1 foot below grade. This material was comprised of capping material (between 1 and 2 inches thick) and underlying material that contained between 5 and 10 percent debris. Debris consisted of ash, construction materials and cobbles. A second soil pile, located in the center of the photo, was designated for the darker underlying fill material excavated from approximately 1 foot below grade to the bottom of the testpit (approximately 15 feet below grade). Material excavated between 1 foot below grade and 7.5 feet contained some construction debris (5 to 10 percent debris). A solid clay layer was encountered between 7.5 and 14 feet. At 14 feet below grade, a black layer comprised of coarse sand and gravel was encountered.	Photo No. 20	Underlying fill material excavated from approximately 1 foot below grade to the bottom of the testpit (approximately 15 feet below grade). Material excavated between 1 foot below grade and 7.5 feet contained some construction debris (5 to 10 percent debris). A solid clay layer was encountered between 7.5 and 14 feet. At 14 feet below grade, a black layer comprised of coarse sand and gravel was encountered.
	Photo No. 21	Sample collected at approximately 5 feet below grade (analyzed for total PCBs, lead, and total petroleum hydrocarbons). Samples were also collected at 10 and 15 foot intervals.	Photo No. 22	Sample collected at approximately 15 feet below grade (analyzed for total PCBs, lead, and total petroleum hydrocarbons). Samples were also collected at 5 and 10 foot intervals.

Testpit TP-9

Testpit TP-9 activities conducted by EARTH TECH on August 26, 1995.

Testpit TP-9 is located in the southeast corner of the site. Testpit TP-9 extended to a depth of approximately 13.5-feet below grade, where groundwater was encountered. Samples were taken at 5, 10 and 13 foot intervals, and analyzed for total PCBs, lead, and total petroleum hydrocarbons.	Photo No. 23	Excavated material from testpit TP-9 was staged in two separate piles, on opposite sides of the excavation. The soil pile, located on the righthand side, contains material excavated from 0 to approximately 0.5 feet below grade. This material was comprised of capping material (between 1 and 2 inches thick) and underlying material that contained ash, construction materials and cobbles. A second soil pile, located on the lefthand side, was designated for the darker underlying fill material excavated from approximately 0.5 feet below grade to the water table (approximately 13.5 feet below grade). This material contained construction debris, plastic and rubber material, buried metallic items, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).	Photo No. 24	Underlying fill material excavated from approximately 0.5 feet below grade to the water table (approximately 13.5 feet below grade). This material contained construction debris, plastic and rubber material, buried metallic items, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).
	Photo No. 25	Underlying fill material excavated from approximately 0.5 feet below grade to the water table (approximately 13.5 feet below grade). This material contained construction debris, plastic and rubber material, buried metallic items, wood, wire, electrical cord, and other electrical devices (15 to 25 percent debris).		

AR303889

Wish List Item #2

Available Backup Data from August Sampling Effort

Summary Table 1
August 1995 Test Pit Program
Sampling Results
Cottman Avenue/Metal Bank

Sample Identification	Laboratory Sample No.	TPH (mg/kg)	Total PCBs (mg/kg)	Total Lead (mg/kg)
TP-1-5'	113997	1400	<2	1160
TP-1-10'	113998	7000	22	323
TP-1-12'	113999	24000	10	671
TP-4-5'	113994	52000	36	541
TP-4-10'	113995	12000	45	2600
TP-4-11.5'	113996	28000	50	1900
TP-7-5'	114112	910	<2	429
TP-7-10'	114113	19100	<2	1800
TP-7-13'	104114	4200	<2	210
TP-8-5'	114109	180	<2	75
TP-8-10'	114110	27	<2	330
TP-8-15'	114111	1210	2	1780
TP-9-5'	114105	3040	35	22700
TP-9-10'	114104	630	<2	10600
TP-9-13'	114101	380	<2	356
TP-11-5'	114106	1630	<2	900
TP-11-10'	114107	6500	<2	1300
TP-11-13'	114108	8200	<2	1200
TP-12-5'	114216	1730	4.4	590
TP-12-10'	114217	2190	7.7	415
TP-14-5'	114212	2000	<2	82
TP-14-7.5'	114213	9000	<2	96
TP-16-5'	114218	2200	<2	264
TP-16-8.5'	114219	9200	<2	2150
TP-18-5'	114100	1020	<2	407
TP-18-10'	114102	1520	<2	1000
TP-18-12'	114103	930	<2	1720
TP-21-5'	114214	80	<2	38
TP-21-7.5'	114215	160	<2	750
TP-T-1-5'	124470	28900	108	572
TP-T-1-10'	124469	13300	10.5	359
TP-T-1-15'	124465	52800	57	485
TP-T-2-5'	124467	66100	230	673
TP-T-2-10'	124466	51200	150	384
TP-T-2-12'	124464	16000	77	346
TP-T-3-5'	124468	6420	0.77	574
TP-T-3-10'	124463	6170	<1	1460
TP-T-3-15'	124471	2240	0.87	243

Summary Table 2
August 1995 Test Pit Program
Waste Disposal Characterization
Sampling Results
Cottman Avenue/Metal Bank Site

Sample Identification Lab Sample No.	TP-1-12' 113999	TP-4-11.5' 113996	TP-7-10' 114113	TP-7-13' 104114	TP-8-15' 114111	TP-9-13' 114101	TP-11-13' 104108	TP-12-10' 114217	TP-16-8.5' 114219	TP-18-12' 114103	TP-T-2 114211	Detection Limit	Units
Parameter													
Volatile Organic Compounds (TCLP)													
Benzene	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Carbon Tetrachloride	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Chlorobenzene	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Chloroform	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
1,4-Dichlorobenzene	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
1,2-Dichloroethane	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
1,1-Dichloroethylene	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Methyl Ethyl Ketone	<1	<1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		mg/l
Tetrachloroethylene	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Trichloroethylene	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Vinyl Chloride	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/l
Acid/Base Neutrals (TCLP)													
Hexochlorobenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
Hexachlorobutadiene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
Hexachloroethane	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
Nitrobenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
Pyridine	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
2,4-Dinitrotoluene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
o-Cresol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
m,p-Cresol	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	mg/l
Pentachlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	mg/l
2,4,5-Trichlorophenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
2,4,6-Trichlorophenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
Total PCBs (TCLP)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.005	<0.005	<0.5	<0.005		mg/l
RCRA 8 Metals (TCLP)													
Arsenic	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	0.01	mg/l
Barium	0.6	1.3	0.9	2.7	2.9	1.7	4.1	1.2	2.9	2.2	0.6	0.2	mg/l
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	mg/l
Chromium	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	0.05	mg/l
Lead	<0.1	<0.1	0.4	0.2	0.1	0.2	3.3	<0.1	<0.1	<0.1	<0.1	0.1	mg/l
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	mg/l
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	mg/l
Silver	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	mg/l
Ignitability	not tested	not tested	>210	>210	>210	>210	>210	>210	>210	>210	>210		degrees F
Reactivity													
Reactive Cyanide	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	25	mg/kg
Reactive Sulfide	50	60	<30	56	<30	110	76	96	97	240	<30	30	mg/kg
pH	not tested	not tested	8.4	8.1	8.4	7.8	8.3	7.8	7.3	9	7		
Extractable Organic Halides (TOX)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	182	30	mg/kg
Paint Filter Test	Free Liquid	No Free Liquid	No Free Liquid	No Free Liquid	Free Liquid	No Free Liquid	Free Liquid	Free Liquid	No Free Liquid	Free Liquid	No Free Liquid		

AR303892

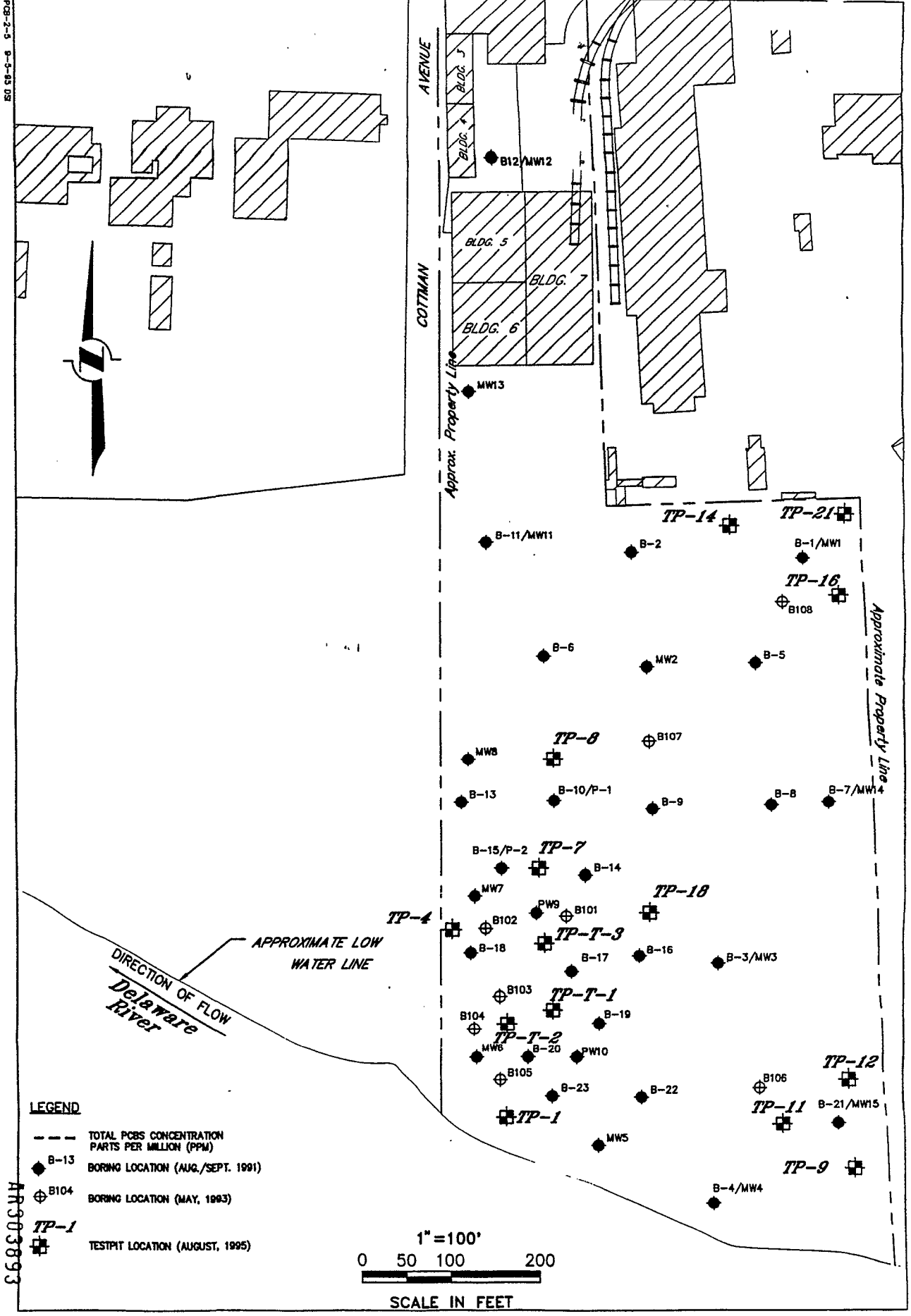


Figure 1
Site Base Map
Metal Bank/Cottman Avenue

EARTH TECH

AR303893

ATEC Associates, Inc.
1300 Williams Drive, Suite A
Marietta, Georgia 30066-6299
(770) 427-9456, FAX (770) 427-1907

ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-7420 DATE SAMPLE ANALYZED: 08/31/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/06/95

SAMPLE I.D.	STATION	DETECTION LIMIT	PARAMETER LEAD
114212	TP-14-5	5	82
114213	TP-14-7.5	5	96
114214	TP-21-5	5	38
114215	TP-21-7.5	50	750
114216	TP-12-5	50	590
114217	TP-12-10	5	415
114218	TP-16-5	5	264
114219	TP-16-8.5	50	2,150

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

AR303894

ATEC Associates, Inc.
1300 Williams Drive, Suite A
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/29/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 08/30/95

DATE REPORT: 09/06/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB:	114211	114217	114219
			STATION:	TP-T 2	TP-12 10	TP-16 8.5
Arsenic	6010	0.01		ND	0.04	ND
Barium	6010	0.2		0.6	1.2	2.9
Cadmium	6010	0.02		ND	ND	ND
Chromium	6010	0.05		ND	ND	0.06
Lead	6010	0.1		ND	ND	ND
Mercury	7471	0.001		ND	ND	ND
Selenium	6010	0.01		ND	ND	ND
Silver	6010	0.05		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoyi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

AR303895

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-8260 DATE SAMPLE ANALYZED: 09/01/95

UNITS: mg/L (ppm) DATE REPORT: 09/06/95
METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) - 1311

PARAMETER TCLP VOLATILES	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114211 TP-T 2	114217 TP-12 10	114219 TP-16 8.5
Benzene	0.2		ND	ND	ND
Carbon tetrachloride	0.2		ND	ND	ND
Chlorobenzene	0.2		ND	ND	ND
Chloroform	0.2		ND	ND	ND
1,4-Dichlorobenzene	0.2		ND	ND	ND
1,2-Dichloroethane	0.2		ND	ND	ND
1,1-Dichloroethylene	0.2		ND	ND	ND
Methyl Ethyl Ketone	2		ND	ND	ND
Tetrachloroethylene	0.2		ND	ND	ND
Trichloroethylene	0.2		ND	ND	ND
Vinyl chloride	0.2		ND	ND	ND

*SW846 Test Methods

ND-None Detected

Respectfully submitted,

CHEMISTRY LABORATORY DIVISION

Reviewed by: AT

AR303896

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1300 Williams Drive, Suite A
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/29/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 09/01/95

DATE REPORT: 09/06/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER BASE NEUTRAL & ACID EXTRACTABLES	METHOD*	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114211 TP-T 2	114217 TP-12 10	114219 TP-16 8.5
Hexachlorobenzene	8270	0.1		ND	ND	ND
Hexachlorobutadiene	8270	0.1		ND	ND	ND
Hexachloroethane	8270	0.1		ND	ND	ND
Nitrobenzene	8270	0.1		ND	ND	ND
Pyridine	8270	0.1		ND	ND	ND
2,4-Dinitrotoluene	8270	0.1		ND	ND	ND
o-Cresol	8270	0.1		ND	ND	ND
m,p-Cresol	8270	0.2		ND	ND	ND
Pentachlorophenol	8270	0.5		ND	ND	ND
2,4,5-Trichlorophenol	8270	0.1		ND	ND	ND
2,4,6-Trichlorophenol	8270	0.1		ND	ND	ND

*SW846 Test Methods
ND-None Detected

Respectfully submitted,

Xiaoyi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: [illegible]

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ATEC Associates, Inc.
1300 Williams Drive, Suite A
Marietta, Georgia 30066-6299
(770) 427-9456, FAX (770) 427-1907

ANALYTICAL REPORT

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INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 09/05/95

UNITS: mg/L (ppm) DATE REPORT: 09/06/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114211 TP-T 2	114217 TP-12 10	114219 TP-16 8.5
Aroclor-1016	0.005		ND	ND	ND
Aroclor-1221	0.005		ND	ND	ND
Aroclor-1232	0.005		ND	ND	ND
Aroclor-1242	0.005		ND	ND	ND
Aroclor-1248	0.005		ND	ND	ND
Aroclor-1254	0.005		ND	ND	ND
Aroclor-1260	0.005		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

ATEC Associates, Inc.
1300 Williams Drive, Suite A
Marietta, Georgia 30066-6299
(770) 427-9456, FAX (770) 427-1907

ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: EPA 418.1 DATE SAMPLE ANALYZED: 08/31/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/06/95

SAMPLE I.D.	STATION	DETECTION LIMIT	PARAMETER TOTAL PETROLEUM HYDROCARBONS
114212	TP-14-5	100	2,000
114213	TP-14-7.5	100	9,000
114214	TP-21-5	50	80
114215	TP-21-7.5	50	160
114216	TP-12-5	10	1,730
114217	TP-12-10	10	2,190
114218	TP-16-5	100	2,200
114219	TP-16-8.5	100	9,200

Respectfully submitted,

Xiaoyi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

AR303899

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 09/01/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/06/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114212 TP-14 5	114213 TP-14 7.5	114214 TP-21 5
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqin Che

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

AR303900

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 09/01/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/06/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB:	114215	114216	114217
		STATION:	TP-21 7.5	TP-12 5	TP-12 10
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	4.4	7.7

ND-None Detected

Respectfully submitted,

Xiao-Shu

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

AR303901

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 09/01/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/06/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: 114218 STATION: TP-16-5	114219 TP-16-8.5
Aroclor-1016	2	ND	ND
Aroclor-1221	2	ND	ND
Aroclor-1232	2	ND	ND
Aroclor-1242	2	ND	ND
Aroclor-1248	2	ND	ND
Aroclor-1254	2	ND	ND
Aroclor-1260	2	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: [illegible]

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: SW846-9095 DATE SAMPLE ANALYZED: 09/05/95

DATE REPORT: 09/06/95

SAMPLE I.D.	STATION	PARAMETER PAINT FILTER
114211	TP-T-2	No Free Liquid
114217	TP-12-10	Free Liquid
114219	TP-16-8.5	No Free Liquid

Respectfully submitted,

Xiang Che

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE SAMPLE ANALYZED: 09/05/95

DATE REPORT: 09/06/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114211 TP-T 2	114217 TP-12 10	114219 TP-16 8.5
Corrosivity**	9045A	----		7.0 pH Units	7.8 pH Units	7.3 pH Units
Reactivity Cyanide	7.3.3.2*	25		ND	ND	ND
Reactivity Sulfide	7.3.4.1*	30		ND	96	97
TOX	SW846-9020	30		182	ND	ND
Flashpoint**	1010	----		>210°F	>210°F	>210°F

*SW846 Methods
**Not Corrected for Dry Weight
ND-None Detected

Respectfully submitted,

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

AR303904

ATEC Associates, Inc.
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13665 DATE SAMPLED: 02/28-08/27/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/29/95

METHOD: EPA 160.3 DATE SAMPLE ANALYZED: 08/30/95

UNITS: % Solids DATE REPORT: 09/06/95

SAMPLE I.D.	STATION	PARAMETER % SOLIDS
114211	TP-T-2	80
114212	TP-14-5	78
114213	TP-14-7.5	65
114214	TP-21-5	92
114215	TP-21-7.5	68
114216	TP-12-5	87
114217	TP-12-10	70
114218	TP-16-5	81
114219	TP-16-8.5	61

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

ATEC Associates, Inc.
1300 Williams Drive, Suite A
Marietta, Georgia 30066-6299
(770) 427-9456, FAX (770) 427-1907

CLIENT: Earth Tech **LAB PROJECT #:** 13665

INVOICE PROJECT #: 32-08-94-00228

ANALYTICAL REPORT
CASE NARRATIVE

1. All samples were received at 4°C.
2. Methods utilized: EPA 40CFR Part 136, SW 846 and EPA Methods.
3. Spikes, blanks and duplicates analyses were performed with each batch of 20 samples.
4. 5 point calibrations were used, and 12 hour continuing calibrations were within the control limits.
5. Some samples had to be diluted so their concentrations would fall within the specified calibration curve.
6. TCLP data has not been corrected for spike recoveries. Matrix spike and spike duplicate data is available upon request.

NOTE: -The "Analytical Report" may not be reproduced, except in full, without the written approval of the laboratory.
-Results relate only to the items tested (see chain-of-custody).

Respectfully submitted,

CHEMISTRY LABORATORY DIVISION

13665

EARTH TECH
196 Baker Avenue
Concord, Massachusetts 01742-2167
(508) 371-40000 • Fax (508) 371-2468

CHAIN OF CUSTODY RECORD

Project No.: 9103-402
Project Name: Pittman Ave
Samplers: (Signature)

	Sta. No.	Date	Time	Comp.	Grab	Station Location	No. of Containers	Total Lead, Pb	TCLP-VOC, SVOC, pesticides, Pb	% solids	Total TOC	Total Filter	Toxicity, Corrosivity, Ignitability	Remarks
114211	TP-T-2	2/28	1600		X	TP-T-2	5		X	X	X	X	X	
12	TP-14	2/28	1605		X	TP-14-5	3	X		X				
13	TP-14	2/28	1627		X	TP-14-7.5	3	X		X				
14	TP-21	2/28	1632		X	TP-21-5	3	X		X				
15	TP-21	2/28	1640		X	TP-21-7.5	3	X		X				

Fax results to Joe Vitale
Fax [redacted]-371-2168
Phone [redacted]-371-4118

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	2/28/95						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AR303907

EARTH TECH
196 Baker Avenue
Concord, Massachusetts 01742-2167
(508) 371-40000 • Fax (508) 371-2468

CHAIN OF CUSTODY RECORD

Project No. 9103-402
Project Name: COTMAN AVE NPL

Samplers: (Signature) [illegible] / William Schmidt

	Sta. No.	Date	Time	Comp.	Grab	Station Location	No. of Containers	TCL (LEAD) RCRA	TCLP VOC + RCRA Metals	Sp. Solids	TCLP TOX	Paint Chips TCL	Reactive Cyanide Sulfide	Remarks
16	TP-12	8/27			X	TP-12-5	3	X						
17	TP-12	8/27			X	TP-12-10	5	X	X	X	X	X	X	
18	TP-16	8/27			X	TP-16-5	3	X						
19	TP-16	8/27			X	TP-16-8.5	0	X	X	X	X	X	X	

Fax results to Joe Vitale
Fax [illegible]-371-2468
Phone [illegible]-371-4113

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
[illegible]	8/27/95		[illegible] 8/27/95 12pm				
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AR303908

ATEC Associates, Inc.
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(404) 427-9456, FAX (404) 427-1907

ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/25/95

METHOD: SW846-7420 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) DATE REPORT: 09/01/95

By Dry Weight

SAMPLE I.D.	STATION	DETECTION LIMIT	PARAMETER LEAD
113994	TP-4 5'	5	541
113995	TP-4 10'	100	2,600
113996	TP-4 11.5'	100	1,900
113997	TP-1 5'	50	1,160
113998	TP-1 10'	5	323
113999	TP-1 12'	5	671

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: PS

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Consulting Environmental, Geotechnical and Materials Engineers

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/25/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 08/31/95

DATE REPORT: 09/01/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB:	113996	113999
			STATION:	TP-4 11.5'	TP-1 12'
Arsenic	6010	0.01		ND	ND
Barium	6010	0.2		1.3	0.6
Cadmium	6010	0.02		ND	ND
Chromium	6010	0.05		ND	ND
Lead	6010	0.1		ND	ND
Mercury	7471	0.001		ND	ND
Selenium	6010	0.01		ND	ND
Silver	6010	0.05		ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/25/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 08/31/95

DATE REPORT: 09/01/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER TCLP VOLATILES	METHOD*	DETECTION LIMIT	SAMPLE I.D. LAB:	113996	113999
			STATION:	TP-4 11.5'	TP-1 12'
Benzene	8260	1		ND	ND
Carbon tetrachloride	8260	1		ND	ND
Chlorobenzene	8260	1		ND	ND
Chloroform	8260	1		ND	ND
1,4-Dichlorobenzene	8260	1		ND	ND
1,2-Dichloroethane	8260	1		ND	ND
1,1-Dichloroethylene	8260	1		ND	ND
Methyl Ethyl Ketone	8260	1		ND	ND
Tetrachloroethylene	8260	1		ND	ND
Trichloroethylene	8260	1		ND	ND
Vinyl chloride	8260	1		ND	ND

*SW846 Test Methods
ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/25/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 08/31/95

DATE REPORT: 09/01/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER BASE NEUTRAL & ACID EXTRACTABLES	METHOD*	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	113996 TP-4 11.5'	113999 TP-1 12'
Hexachlorobenzene	8270	0.1		ND	ND
Hexachlorobutadiene	8270	0.1		ND	ND
Hexachloroethane	8270	0.1		ND	ND
Nitrobenzene	8270	0.1		ND	ND
Pyridine	8270	0.1		ND	ND
2,4-Dinitrotoluene	8270	0.1		ND	ND
o-Cresol	8270	0.1		ND	ND
m,p-Cresol	8270	0.2		ND	ND
Pentachlorophenol	8270	0.5		ND	ND
2,4,5-Trichlorophenol	8270	0.1		ND	ND
2,4,6-Trichlorophenol	8270	0.1		ND	ND

*SW846 Test Methods
ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/25/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/31/95

UNITS: mg/L (ppm) DATE REPORT: 09/01/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB:	113996	113999
		STATION:	TP-4 11.5'	TP-1 12'
Aroclor-1016	0.5		ND	ND
Aroclor-1221	0.5		ND	ND
Aroclor-1232	0.5		ND	ND
Aroclor-1242	0.5		ND	ND
Aroclor-1248	0.5		ND	ND
Aroclor-1254	0.5		ND	ND
Aroclor-1260	0.5		ND	ND

ND-None Detected

Respectfully submitted,

Xiaoyi Shu

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/25/95

METHOD: EPA 418.1 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) DATE REPORT: 09/01/95

By Dry Weight

SAMPLE I.D.	STATION	DETECTION LIMIT	PARAMETER TOTAL PETROLEUM HYDROCARBONS
113994	TP-4 5'	1000	52,000
113995	TP-4 10'	1000	12,000
113996	TP-4 11.5'	1000	28,000
113997	TP-1 5'	500	1,400
113998	TP-1 10'	1000	7,000
113999	TP-1 12'	1000	24,000

ND-None Detected

Respectfully submitted,

Xiaoyi Shu

CHEMISTRY LABORATORY DIVISION

Reviewed by: JS

AR303914

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/25/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/01/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB:	113994	113995	113996
		STATION:	TP-4 5'	TP-4 10'	TP-4 11.5'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		36	45	50

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/25/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 09/01/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	113997 TP-1 5'	113998 TP-1 10'	113999 TP-1 12'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	16	4
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	6	6

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

ATEC Associates, Inc.
1300 Williams Drive, Suite A
Marietta, Georgia 30066-6299
(404) 427-9456, FAX (404) 427-1907

ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/25/95

METHOD: 9095 DATE SAMPLE ANALYZED: 08/28/95

DATE REPORT: 09/01/95

SAMPLE I.D.	STATION	PARAMETER PAINT FILTER
113996	TP-4 11.5'	No Free Liquid
113999	TP-1 12'	Free Liquid

Respectfully submitted,

Xiaoyi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: PS

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Consulting Environmental, Geotechnical and Materials Engineers

ATEC Associates, Inc.
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Avenue; 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13634 DATE SAMPLED: 08/24/95

MATRIX: Soil DATE SAMPLE ANALYZED: 08/25/95

UNITS: mg/kg (ppm) DATE SAMPLE RECEIVED: 08/29/95

By Dry Weight DATE REPORT: 09/01/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB:	113996	113999
			STATION:	TP-4 11.5'	TP-1 12'
Reactivity Cyanide	7.3.3.2*	25		ND	ND
Reactivity Sulfide	7.3.4.1*	30		60	50
TOX	SW846-9020	30		ND	ND
Total Solids	EPA 160.3	1%		96%	70%

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

ATEC Associates, Inc.
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CLIENT: Earth Tech **LAB PROJECT #:** 13634

INVOICE PROJECT #: 32-08-94-00228

ANALYTICAL REPORT
CASE NARRATIVE

1. All samples were received at room temperature.
2. Methods utilized: EPA 40CFR Part 136, SW 846 and EPA Methods.
3. All holding times were met and no QA problems were encountered.
4. Spikes, blanks and duplicates analyses were performed with each batch of 20 samples.
5. 5 point calibrations were used, and 12 hour continuing calibrations were within the control limits.
6. Some samples had to be diluted so their concentrations would fall within the specified calibration curve.
7. TCLP data has not been corrected for spike recoveries. Matrix spike and spike duplicate data is available upon request.

NOTE: -The "Analytical Report" may not be reproduced, except in full, without the written approval of the laboratory.
-Results relate only to the items tested (see chain-of-custody).

Respectfully submitted,

CHEMISTRY LABORATORY DIVISION

94-00228

1363

A5-L

EARTH TEC

196 Baker Avenue
Concord, Massachusetts 01742-2167
(508) 371-40000 • Fax (508) 371-2468

CHAIN OF CUSTODY RECORD

Project No. 9103-402

Project Name: COTTMAN AVE NPL

Samplers: (Signature) - DENNIS LIBENSON

	Sta. No.	Date	Time	Comp.	Grab	Station Location	No. of Containers	TPH	LEAD	PCB	TCLP VO, TCLP SVOC	TCLP RCRA METALS	TCLP PCB	SOLIDS	TOC	PAINT FILTER	REACTIVITY	Remarks
113	TP-4	8/24/95	1115		x	TP-4 5'	3	x	x	x								
994	TP-4	8/24/95	1140		x	TP-4 10'	3	x	x	x								
95	TP-4	8/24/95	1155		x	TP-4 11.5'	5	x	x	x	x	x	x	x	x	x	x	
96	TP-1	8/24/95	1645		x	TP-1 5'	3	x	x	x								
97	TP-1	8/24/95	1710		x	TP-1 10'	3	x	x	x								
98	TP-1	8/24/95	1720		x	TP-1 12'	5	x	x	x	x	x	x	x	x	x	x	
99																		

Please fax results by Thursday, Aug 31, 1995 to Joe Vitale at 508-371-2468 — Personal Phone 508-371-9115

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	8/24/95	7:15 pm					
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks VIA FED EX	
				8/25/95	10 am		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AR303920

ATEC Associates, Inc.
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Marietta, Georgia 30066-6299
(770) 427-9456, FAX (770) 427-1907

ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25-26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-7420 DATE SAMPLE ANALYZED: 08/30/95

UNITS: mg/kg (ppm) DATE REPORT: 08/31/95

By Dry Weight

SAMPLE I.D.	STATION	DETECTION LIMIT	PARAMETER TOTAL LEAD
114100	TP-18-5'	5	407
114101	TP-9-13'	5	356
114102	TP-18-10'	50	1,000
114103	TP-18-12'	50	1,720
114104	TP-9-10'	250	10,600
114105	TP-9-5'	250	22,700
114106	TP-11-5'	50	900
114107	TP-11-10'	50	1,300
114108	TP-11-13'	50	1,200
114109	TP-8-5'	5	75
114110	TP-8-10'	5	330
114111	TP-8-15'	50	1,780
114112	TP-7-5'	5	429
114113	TP-7-10'	50	1,800
114114	TP-7-13'	5	210

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

AR303921

ATEC Associates, Inc.
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Marietta, Georgia 30066-6299
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 08/30/95

DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER TCLP METALS	METHOD*	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114101 TP-9-13'	114103 TP-18-12'	104108 TP-11-13'
Arsenic	6010	0.01		ND	ND	ND
Barium	6010	0.2		1.7	2.2	4.1
Cadmium	6010	0.02		0.03	ND	ND
Chromium	6010	0.05		ND	ND	ND
Lead	6010	0.1		0.2	ND	3.3
Mercury	7471	0.001		ND	ND	ND
Selenium	6010	0.01		ND	ND	ND
Silver	6010	0.05		ND	ND	ND

*SW846 Test Methods

ND-None Detected

Respectfully submitted,

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/L (ppm) DATE SAMPLE ANALYZED: 08/30/95

DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER TCLP METALS	METHOD*	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114111 TP-8-15'	114113 TP-7-10'	104114 TP-7-13'
Arsenic	6010	0.01		0.02	ND	ND
Barium	6010	0.2		2.9	0.9	2.7
Cadmium	6010	0.02		ND	ND	ND
Chromium	6010	0.05		ND	ND	ND
Lead	6010	0.01		0.1	0.4	0.2
Mercury	7471	0.001		ND	ND	ND
Selenium	6010	0.01		ND	ND	ND
Silver	6010	0.05		ND	ND	ND

*SW846 Test Methods

ND-None Detected

Respectfully submitted,

Xiang She

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

AR303923

ATEC Associates, Inc.
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

METHOD: EPA 8260 DATE SAMPLE ANALYZED: 08/30/95

UNITS: mg/L (ppm) DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER VOLATILES	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114101 TP-18-9-13'	114103 TP-18-12'	104108 TP-11-13'
Benzene	0.2		ND	ND	ND
Carbon tetrachloride	0.2		ND	ND	ND
Chlorobenzene	0.2		ND	ND	ND
Chloroform	0.2		ND	ND	ND
1,4-Dichlorobenzene	0.2		ND	ND	ND
1,2-Dichloroethane	0.2		ND	ND	ND
1,1-Dichloroethylene	0.2		ND	ND	ND
Methyl Ethyl Ketone	2.0		ND	ND	ND
Tetrachloroethylene	0.2		ND	ND	ND
Trichloroethylene	0.2		ND	ND	ND
Vinyl chloride	0.2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi Che

CHEMISTRY LABORATORY DIVISION

Reviewed by: gw

AR303924

ATEC Associates, Inc.
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Marietta, Georgia 30066-6299
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

METHOD: EPA 8260 DATE SAMPLE ANALYZED: 08/30/95

UNITS: mg/L (ppm) DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER VOLATILES	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114111 TP-8-15'	114113 TP-7-10'	104114 TP-7-13'
Benzene	0.2		ND	ND	ND
Carbon tetrachloride	0.2		ND	ND	ND
Chlorobenzene	0.2		ND	ND	ND
Chloroform	0.2		ND	ND	ND
1,4-Dichlorobenzene	0.2		ND	ND	ND
1,2-Dichloroethane	0.2		ND	ND	ND
1,1-Dichloroethylene	0.2		ND	ND	ND
Methyl Ethyl Ketone	2.0		ND	ND	ND
Tetrachloroethylene	0.2		ND	ND	ND
Trichloroethylene	0.2		ND	ND	ND
Vinyl chloride	0.2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: RW

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

METHOD: EPA 8270 DATE SAMPLE ANALYZED: 08/31/95

UNITS: mg/L (ppm) DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER BASE NEUTRAL/ EXTRACTABLES	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114101 TP-18-5'	114103 TP-18-12'	104108 TP-11-13'
Hexachlorobenzene	0.1		ND	ND	ND
Hexachlorobutadiene	0.1		ND	ND	ND
Hexachloroethane	0.1		ND	ND	ND
Nitrobenzene	0.1		ND	ND	ND
Pyridine	0.1		ND	ND	ND
2,4-Dinitrotoluene	0.1		ND	ND	ND
o-Cresol	0.1		ND	ND	ND
m,p-Cresol	0.2		ND	ND	ND
Pentachlorophenol	0.5		ND	ND	ND
2,4,5-Trichlorophenol	0.1		ND	ND	ND
2,4,6-Trichlorophenol	0.1		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoyi Shen

CHEMISTRY LABORATORY DIVISION

Reviewed by: [illegible]

AR303926

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

METHOD: EPA 8270 DATE SAMPLE ANALYZED: 08/31/95

UNITS: mg/L (ppm) DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE(TCLP)-1311

PARAMETER BASE/NEUTRAL EXTRACTABLES	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114111 TP-8-15'	114113 TP-7-10'	104114 TP-7-13'
Hexachlorobenzene	0.1		ND	ND	ND
Hexachlorobutadiene	0.1		ND	ND	ND
Hexachloroethane	0.1		ND	ND	ND
Nitrobenzene	0.1		ND	ND	ND
Pyridine	0.1		ND	ND	ND
2,4-Dinitrotoluene	0.1		ND	ND	ND
o-Cresol	0.1		ND	ND	ND
m,p-Cresol	0.2		ND	ND	ND
Pentachlorophenol	0.5		ND	ND	ND
2,4,5-Trichlorophenol	0.1		ND	ND	ND
2,4,6-Trichlorophenol	0.1		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiang Shu

CHEMISTRY LABORATORY DIVISION

Reviewed by: [illegible]

AR303927

ATEC Associates, Inc.
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/L (ppm) DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) - 1311

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114101 TP-18-5'	114103 TP-18-12'	104108 TP-11-13'
Aroclor-1016	0.5		ND	ND	ND
Aroclor-1221	0.5		ND	ND	ND
Aroclor-1232	0.5		ND	ND	ND
Aroclor-1242	0.5		ND	ND	ND
Aroclor-1248	0.5		ND	ND	ND
Aroclor-1254	0.5		ND	ND	ND
Aroclor-1260	0.5		ND	ND	ND

ND-None Detected

Respectfully submitted,

Reviewed by: fw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Leachate DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/L (ppm) DATE REPORT: 08/31/95

METHOD: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) - 1311

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114111 TP-8-15'	114113 TP-7-10'	104114 TP-7-13'
Aroclor-1016	0.5		ND	ND	ND
Aroclor-1221	0.5		ND	ND	ND
Aroclor-1232	0.5		ND	ND	ND
Aroclor-1242	0.5		ND	ND	ND
Aroclor-1248	0.5		ND	ND	ND
Aroclor-1254	0.5		ND	ND	ND
Aroclor-1260	0.5		ND	ND	ND

ND-None Detected

Respectfully submitted,

Reviewed by: gw

CHEMISTRY LABORATORY DIVISION

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25-26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 08/31/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114100 TP-18-5'	114101 TP-9-13'	114102 TP-18-10'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiang She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 08/31/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114103 TP-18-12'	114104 TP-9-10'	114105 TP-9-5'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	35
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Reviewed by:

CHEMISTRY LABORATORY DIVISION

AR303931

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 08/31/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114106 TP-11-5'	114107 TP-11-10'	114108 TP-11-13'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

AR303932

ATEC Associates, Inc.
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/29/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 08/31/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114109 TP-8-5'	114110 TP-8-10'	114111 TP-8-15'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	2
Aroclor-1260	2		ND	ND	ND

ND-None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: BW

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: SW846-8081 DATE SAMPLE ANALYZED: 08/20/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 08/31/95

PARAMETER POLYCHLORINATED BIPHENYLS	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114112 TP-7-5'	114113 TP-7-10'	114114 TP-7-13'
Aroclor-1016	2		ND	ND	ND
Aroclor-1221	2		ND	ND	ND
Aroclor-1232	2		ND	ND	ND
Aroclor-1242	2		ND	ND	ND
Aroclor-1248	2		ND	ND	ND
Aroclor-1254	2		ND	ND	ND
Aroclor-1260	2		ND	ND	ND

ND None Detected

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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Consulting Environmental, Geotechnical and Materials Engineers

ATEC Associates, Inc.
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Marietta, Georgia 30066-6299
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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25-26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: EPA 418.1 DATE SAMPLE ANALYZED: 08/31/95

UNITS: mg/kg (ppm) By Dry Weight DATE REPORT: 08/31/95

SAMPLE I.D.	STATION	DETECTION LIMIT	PARAMETER TOTAL PETROLEUM HYDROCARBONS
114100	TP-18-5'	10	1,020
114101	TP-9-13'	30	380
114102	TP-18-10'	10	1,520
114103	TP-18-12'	10	930
114104	TP-9-10'	10	630
114105	TP-9-5'	30	3,040
114106	TP-11-5'	10	1,630
114107	TP-11-10'	100	6,500
114108	TP-11-13'	100	8,200
114109	TP-8-5'	10	180
114110	TP-8-10'	10	27
114111	TP-8-15'	10	1,210
114112	TP-7-5'	10	910
114113	TP-7-10'	200	19,100
114114	TP-7-13'	300	4,200

ND-None Detected

Respectfully submitted,

Xiaoqin Che

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25-26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

METHOD: 9095 DATE SAMPLE ANALYZED: 08/28/95

DATE REPORT: 08/31/95

SAMPLE I.D.	STATION	PARAMETER PAINT FILTER
114101	TP-9-13'	No Free Liquid
114103	TP-18-12'	Free Liquid
114108	TP-11-13'	Free Liquid
114111	TP-8-15'	Free Liquid
114113	TP-7-10'	No Free Liquid
114114	TP-7-13'	No Free Liquid

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: QW

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/kg (ppm) By Dry Weight DATE SAMPLE ANALYZED: 08/28/95

DATE REPORT: 08/31/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114101 TP-9-13'	114103 TP-18-12'	114108 TP-11-13'
Extractable Organic Halides	9020*	30		ND	ND	ND

*SW846 Method
ND-None Detected

Respectfully submitted,

Xiaoqi Shi
CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/25/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/kg (ppm) By Dry Weight DATE SAMPLE ANALYZED: 08/28/95

DATE REPORT: 08/31/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB:	114111	114113	114114
			STATION:	TP-8-15'	TP-7-10'	TP-7-13'
Extractable Organic Halides	9020*	30		ND	ND	ND

*SW846 Methods
ND-None Detected

Respectfully submitted,

Xiaoqi She

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Reviewed by: gw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/kg (ppm) By Dry Weight DATE SAMPLE ANALYZED: 08/28-30/95

DATE REPORT: 08/31/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114101 TP-9-13'	114103 TP-18-12'
Flashpoint	Pensky-Martens	----		>210°F	>210°F
Reactivity Cyanide	7.3.3.2*	25		ND	ND
Reactivity Sulfide	7.3.4.1*	30		110	240
pH	SW846-9045	----		7.8 pH Units	9.0 pH Units
Total Solids	EPA 160.3	1%		67%	66%

ND-None Detected

*SW-846 Methods

Respectfully submitted,

Virginia Shea

CHEMISTRY LABORATORY DIVISION

Reviewed by: Gw

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/kg (ppm) By Dry Weight DATE SAMPLE ANALYZED: 08/28-30/95

DATE REPORT: 08/31/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114108 TP-11-13'	114111 TP-8-15'
Flashpoint	Pensky-Martens	----		>210°F	>210°F
Reactivity Cyanide	7.3.3.2*	25		ND	ND
Reactivity Sulfide	7.3.4.1*	30		76	ND
pH	SW846-9045	----		8.3 pH Units	8.4 pH Units
Total Solids	EPA 160.3	1%		79%	87%

ND-None Detected
*SW-846 Methods

Respectfully submitted,

Xiaoqi She

CHEMISTRY LABORATORY DIVISION

Reviewed by: [illegible]

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ANALYTICAL REPORT

CLIENT: Earth Tech

ATTENTION: Joe Vitale

CLIENT PROJECT #: Cottman Ave. NPL - 9103-402

INVOICE PROJECT #: 32-08-94-00228

GEORGIA CERTIFICATION I.D. #1000

LAB PROJECT #: 13646 DATE SAMPLED: 08/26/95

MATRIX: Soil DATE SAMPLE RECEIVED: 08/28/95

UNITS: mg/kg (ppm) By Dry Weight DATE SAMPLE ANALYZED: 08/28-30/95

DATE REPORT: 08/31/95

PARAMETER	METHOD	DETECTION LIMIT	SAMPLE I.D. LAB: STATION:	114113 TP-7-10'	114114 TP-18-12'
Flashpoint	Pensky-Martens	----		>210°F	>210°F
Reactivity Cyanide	7.3.3.2*	25		ND	ND
Reactivity Sulfide	7.3.4.1*	30		ND	56
pH	SW846-9045	----		8.4 pH Units	8.1 pH Units
Total Solids	EPA 160.3	1%		77%	89%

ND-None Detected
*SW-846 Methods

Respectfully submitted,

Xiaoqin She

CHEMISTRY LABORATORY DIVISION

Reviewed by: fw

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CLIENT: Earth Tech **LAB PROJECT #:** 13646

INVOICE PROJECT #: 32-08-94-00228

ANALYTICAL REPORT
CASE NARRATIVE

1. All samples were received at room temperature.
2. Methods utilized: EPA 40CFR Part 136, SW 846 and EPA Methods.
3. All holding times were met and no QA problems were encountered.
4. Spikes, blanks and duplicates analyses were performed with each batch of 20 samples.
5. 5 point calibrations were used, and 12 hour continuing calibration were within control limits.

NOTE:
-The "Analytical Report" may not be reproduced, except in full, without the written approval of the laboratory.
-Results relate only to the items tested (see chain-of-custody).
-TCLP analysis has not been corrected for spike recovery. TCLP spike and spike duplicate recoveries are available upon request.

Respectfully submitted,

CHEMISTRY LABORATORY DIVISION

52-08-1 00228 15446M
13646

EARTH TEC
196 Baker Avenue
Concord, Massachusetts 01742-2167
(508) 371-40000 • Fax (508) 371-2468

CHAIN OF CUSTODY RECORD

Project No.: 9103-402
Project Name: Cottman Ave NPL
Samplers: (Signature) J. McNulty

	Sta. No.	Date	Time	Comp.	Grab	Station Location	No. of Containers	TPH	Lead	PCB	TAL Pest Sved	TAL RCRA Metals	TAL PCB	Solids	TOX	Paint Filter Reactivity Corrosivity	Remarks
114100	TP-18	8-26-95	1000		X	TP-18-5'	3	X	X	X							
101	TP-9	8-26-95	1530		X	TP-9-13'	5	X	X	X	X	X	X	X	X	X	
102	TP-18	8/26/95	1020		X	TP-18-10'	3	X	X	X							
103	TP-18	8/26/95	1030		X	TP-18-12'	5	X	X	X	X	X	X	X	X	X	
104	TP-9	8/26/95	1517		X	TP9-10'	3	X	X	X							
105	TP-9	8/26/95	1500		X	TP-9-5'	3	X	X	X							
106	TP-11	8/26/95	1725		X	TP-11-5'	3	X	X	X							
107	TP-11	8/26/95	1750		X	TP-11-10'	3	X	X	X							
108	TP-11	8/26/95	1806		X	TP-11-13'	5	X	X	X	X	X	X	X	X	X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
[signature]	8/26/95						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks
			[signature]	8/26/95	10:00 AM	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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32-08-94-00228

+ 16M
13646

EARTH TEC
196 Baker Avenue
Concord, Massachusetts 01742-2167
(508) 371-40000 • Fax (508) 371-2468

CHAIN OF CUSTODY RECORD

Project No. 9103-402
Project Name: COTTAGE AVE NPL
Samplers: (Signature)

	Sta. No.	Date	Time	Comp.	Grab	Station Location	No. of Containers	TPH	LEAD	PCB	TCLP VOC	TCLP SVOC	TCLP RCRA METALS	TCLP PCB	SOLIDS	TOC	PAINT FILTER	REACTIVITY	Remarks
109	TP-8	8/25/95	1115		X	TP-8 5'	3	X	X	X									
10	TP-8	8/25/95	1125		X	TP-8 10'	3	X	X	X									
11	TP-8	8/25/95	1140		X	TP-8 15'	6	X	X	X	X	X	X	X	X	X	X		
12	TP-7	8/25/95	1505		X	TP-7 5'	3	X	X	X									
13	TP-7	8/25/95	1530		X	TP-7 10'	5	X	X	X	X	X	X	X	X	X	X		
14	TP-7	8/25/95	1540		X	TP-7 13'	5	X	X	X	X	X	X	X	X	X	X		

FAX RESULTS TO JOE VITALE
BY 8/31/95 THURSDAY
FAX # 508-371-2468
PHONE # 508-371-4113

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	8/25/95						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AR303944

EARTH TECH

ANALYTICAL SERVICES

32927- 2

STATEMENT OF DATA QUALIFICATIONS

Analysis: Polychlorinated Biphenyls
Organochlorine Pesticides & Pcb's
SOIL USEPA-8080

Qualification:

Surrogate results are unavailable due to positive results in the sample extract resulting in a dilution of greater than 1:5 of the sample extract.

Sample(s) Qualified:

124466	TP-T-2-10
124467	TP-T-2-5
124468	TP-T-3-5
124469	TP-T-1-10
124470	TP-T-1-5
124471	TP-T-3-15

Page 1 - End of Statement of Data Qualifications

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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EARTH TECH

ANALYTICAL SERVICES

ANALYTICAL REPORT

Earth Tech-Formerly HMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples

Submittal Number: 32927- 2
Location:
CCS Number 11111.10
CCS Manager: Joe Vitale

	TP-T-2-10	TP-T-2-5	TP-T-3-5	Reporting Limit	Units
Lab Sample No:	124466	124467	124468		
Polychlorinated Biphenyls USEPA Method 8080	* Enclosed	* Enclosed	* Enclosed		
Petroleum Hydrocarbons	51200	66100	6420	50	mg/kg
Lead, Total	384	673	574	1.0	mg/kg
Percent Solids	66	90	83	0.1	%
Sampled by:	Vitale	Vitale	Vitale		
Date Sampled:	08/07/95	08/07/95	08/07/95		
Time Sampled:	15:22	15:08	15:47		
Date Received:	08/08/95	08/08/95	08/08/95		
Time Received:	11:00	11:00	11:00		

* See attached Statement of Data Qualifications.

Page 1

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EARTH TECH

ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly EMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-2-10

Submittal Number 32927- 2
Date Sampled: 08/07/95 Time: 15:22
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/20/95
Lab Sample No: 124466

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<20	PCB-1248	<20
PCB-1221	<20	PCB-1254	<20
PCB-1232	<20	PCB-1260	150
PCB-1242	<20		

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EARTH TECH

ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly EMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-2-5

Submittal Number 32927- 2
Date Sampled: 08/07/95 Time: 15:08
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/20/95
Lab Sample No: 124467

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<30	PCB-1248	<30
PCB-1221	<30	PCB-1254	<30
PCB-1232	<30	PCB-1260	230
PCB-1242	<30		

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EARTH TECH

ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly EEM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-3-5

Submittal Number 32927- 2
Date Sampled: 08/07/95 Time: 15:47
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/18/95
Lab Sample No: 124468

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	0.77
PCB-1242	<0.33		

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EARTH TECH

ANALYTICAL SERVICES

ANALYTICAL REPORT

Earth Tech-Formerly EMX
Proj: Cottman Ave. Site

Subm: Aug 7 Samples

Submittal Number: 32927- 2
Location:
CCS Number 11111.10
CCS Manager: Joe Vitale

	TP-T-1-10	TP-T-1-5	TP-T-3-15	Reporting Limit	Units
Lab Sample No:	124469	124470	124471		
Polychlorinated Biphenyls USEPA Method 8080	* Enclosed	* Enclosed	* Enclosed		
Petroleum Hydrocarbons	13300	28900	2240	50	mg/kg
Lead, Total	359	572	243	1.0	mg/kg
Percent Solids	87	88	80	0.1	%
Sampled by:	Vitale	Vitale	Vitale		
Date Sampled:	08/07/95	08/07/95	08/07/95		
Time Sampled:	10:36	10:05	17:30		
Date Received:	08/08/95	08/08/95	08/08/95		
Time Received:	11:00	11:00	11:00		

* See attached Statement of Data Qualifications.

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EARTH TECH

ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly EMK
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-1-10

Submittal Number 32927- 2
Date Sampled: 08/07/95 Time: 10:36
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/20/95
Lab Sample No: 124469

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<1.9	PCB-1248	<1.9
PCB-1221	<1.9	PCB-1254	<1.9
PCB-1232	<1.9	PCB-1260	7.0
PCB-1242	3.5		

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EARTH TECH

ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly EMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-1-5

Submittal Number 32927- 2
Date Sampled: 08/07/95 Time: 10:05
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/30/95
Lab Sample No: 124470

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<7.4	PCB-1248	<7.4
PCB-1221	<7.4	PCB-1254	<7.4
PCB-1232	<7.4	PCB-1260	66
PCB-1242	42		

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EARTH TECH

ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly EMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-3-15

Submittal Number 32927- 2
Date Sampled: 08/07/95 Time: 17:30
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/18/95
Lab Sample No: 124471

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<0.33	PCB-1248	<0.33
PCB-1221	<0.33	PCB-1254	<0.33
PCB-1232	<0.33	PCB-1260	0.87
PCB-1242	<0.33		

Page 8 - End of Analytical Report

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EARTH TECH

ANALYTICAL SERVICES

32927- 2

QUALITY CONTROL REPORT

Parameter: Lead, Total
Method: Atomic Absorption-Flame, Lead USEPA-7420 WTR
Units: ug/l

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
08/10/95	89496	DWJ	<50

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
/10/95	89496	DWJ	1000	1063	106	74-123

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EARTH TECH

ANALYTICAL SERVICES

32927-

QUALITY CONTROL REPORT

Parameter: Lead, Total
Method: Atomic Absorption-Flame, Lead USEPA-7420 SOIL
Units: mg/kg

Method Preparation Blank

Test Date	QC Batch #	Blank Analyst	Conc
08/10/95	11137	DWJ	<1.0

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
9/10/95	11137	DWJ	100	96.6	97	80-120

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EARTH TECH

ANALYTICAL SERVICES

32927- 2

QUALITY CONTROL REPORT

Parameter: Percent Solids
Method: Residue-Gravimetric, Dried @ 103-105°C USEPA-160.3 SOIL
Units: %

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
08/08/95	89264	GRH	<0.1

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ANALYTICAL SERVICES

32927-

QUALITY CONTROL REPORT

Parameter: Petroleum Hydrocarbons
Method: Spectrophotometric, Infrared USEPA-418.1 WTR
Units: mg/l

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
08/18/95	89968	SAJ	<50

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
08/18/95	89968	SAJ	138	134	97	80-121

Method Preparation Blank

Test Date	QC Batch #	Blank Analyst	Conc
08/17/95	11417	SAJ	<50

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
08/17/95	11417	SAJ	138	133	96	83-122

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ANALYTICAL SERVICES

32927- 2

QUALITY CONTROL REPORT

METHOD PREPARATION BLANK

Fraction: Polychlorinated Biphenyls USEPA Method 8080
Method: Organochlorine Pesticides & Pcb's
Analyst: James P. O'Keefe Test Date: 08/10/95
Units: mg/kg
QC Batch: 11179-110

Parameter	Blank Concentration	Reporting Limit
PCB-1016	<0.33	0.33
PCB-1221	<0.33	0.33
PCB-1232	<0.33	0.33
PCB-1242	<0.33	0.33
PCB-1248	<0.33	0.33
PCB-1254	<0.33	0.33
PCB-1260	<0.33	0.33

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ANALYTICAL SERVICES

32927-

QUALITY CONTROL REPORT

LABORATORY FORTIFIED BLANK

Fraction: PCB Scan USEPA-8080 Scan
Method: Organochlorine Pesticides & Pcb's
Analyst: Mariano A. Vanegas Test Date: 08/10/95
Units: mg/kg
QC Batch: 11179-209

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
PCB-1254	0.0199	0.0204	103	54 - 137

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ANALYTICAL SERVICES

32927- 2

QUALITY CONTROL REPORT

INSTRUMENT BLANK

Fraction: QC PEST/PCB'S II-608 WTR
Method: Organochlorine Pesticides & Pcb's
Analyst: Mariano A. Vanegas
Units: ug/l
Analytical Batch: 89783

Test Date: 08/17/95

Parameter	Blank Concentration	Reporting Limit
PCB-1016	ND	0.10
PCB-1221	ND	0.10
PCB-1232	ND	0.10
PCB-1242	ND	0.10
PCB-1248	ND	0.10
PCB-1254	ND	0.10
PCB-1260	ND	0.10

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32927-

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Sample Number: MPB

Method: Organochlorine Pesticides & Pcb's USEPA-8080 SOIL
QC Batch: 11179

Surrogate Compound	Analysis Date	Percent Recovery	Control Limits
Tetrachloro-M-xylene	08/10/95	74	26 - 141
Decachlorobiphenyl	08/10/95	93	48 - 163

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ANALYTICAL SERVICES

32927- 2

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Sample Number: LFB

Method: Organochlorine Pesticides & Pcb's USEPA-8080 SOIL
QC Batch: 11179

Surrogate Compound	Analysis Date	Percent Recovery	Control Limits
Tetrachloro-M-xylene	08/10/95	74	26 - 141
Decachlorobiphenyl	08/10/95	92	48 - 163

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ANALYTICAL SERVICES

32927-

METHODS PAGE

Parameter: PCB Extraction
Method: Sonication Extraction
Application: SOIL Reference Citation: USEPA-3550
Analyst: Rhonda S. Pikaart (RSP) Date Analyzed: 08/10/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89312	-110
124467	TP-T-2-5	89312	-110
124468	TP-T-3-5	89312	-110
124469	TP-T-1-10	89312	-110
124470	TP-T-1-5	89312	-110
124471	TP-T-3-15	89312	-110

Parameter: Inorganic Pretreatment
Method: Spectrophotometric, Infrared
Application: SOIL Reference Citation: USEPA-418.1
Analyst: Shelly A. Jewell (SAJ) Date Analyzed: 08/17/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89800	
124467	TP-T-2-5	89800	
124468	TP-T-3-5	89800	
124469	TP-T-1-10	89800	
124470	TP-T-1-5	89800	
124471	TP-T-3-15	89800	

Parameter: Lead, Total
Method: Atomic Absorption-Flame, Lead
Application: SOIL Reference Citation: USEPA-7420
Analyst: David W. Johnson (DWJ) Date Analyzed: 08/10/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89496	11137
124467	TP-T-2-5	89496	11137
124468	TP-T-3-5	89496	11137
124469	TP-T-1-10	89496	11137
124470	TP-T-1-5	89496	11137
124471	TP-T-3-15	89496	11137

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ANALYTICAL SERVICES

32927- 2

METHODS PAGE

Parameter: Digestion Method-3050 Flame-AA/ICP (Soils)
Method: Acid Digestion for Flame AA-ICP
Application: SOIL Reference Citation: USEPA-3050
Analyst: Linda A. Harrison (LAH) Date Analyzed: 08/10/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89319	
124467	TP-T-2-5	89319	
124468	TP-T-3-5	89319	
124469	TP-T-1-10	89319	
124470	TP-T-1-5	89319	
124471	TP-T-3-15	89319	

Parameter: Polychlorinated Biphenyls USEPA Method 8080
Method: Organochlorine Pesticides & Pcb's
Application: SOIL Reference Citation: USEPA-8080
Analyst: Mariano A. Vanegas (MAV) Date Analyzed: 08/18/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124468	TP-T-3-5	89783	11179-110
124471	TP-T-3-15	89783	11179-110

Parameter: Polychlorinated Biphenyls USEPA Method 8080
Method: Organochlorine Pesticides & Pcb's
Application: SOIL Reference Citation: USEPA-8080
Analyst: Mariano A. Vanegas (MAV) Date Analyzed: 08/20/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89936	11179-110
124467	TP-T-2-5	89936	11179-110
124469	TP-T-1-10	89936	11179-110
124470	TP-T-1-5	89936	11179-110

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ANALYTICAL SERVICES

32927- 2

METHODS PAGE

Parameter: Percent Solids
Method: Residue-Gravimetric, Dried @ 103-105*C
Application: SOIL Reference Citation: USEPA-160.3
Analyst: Gretchen Housekeeper (GEH) Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89264	11073
124467	TP-T-2-5	89264	11073
124468	TP-T-3-5	89264	11073
124469	TP-T-1-10	89264	11073
124470	TP-T-1-5	89264	11073
124471	TP-T-3-15	89264	11073

Parameter: Petroleum Hydrocarbons
Method: Spectrophotometric, Infrared
Application: SOIL Reference Citation: USEPA-418.1
Analyst: Shelly A. Jewell (SAJ) Date Analyzed: 08/18/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124466	TP-T-2-10	89968	11417
124467	TP-T-2-5	89968	11417
124468	TP-T-3-5	89968	11417
124469	TP-T-1-10	89968	11417
124470	TP-T-1-5	89968	11417
124471	TP-T-3-15	89968	11417

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Chain of Custody Record

Analytical Services

COC No. 112 [illegible]

Project Manager: [illegible]

Project Name: [illegible] Ave

Project No.: 9103-[illegible]

Sampler (Print): [illegible]

Sample Signature: [illegible]

No's Correspond to Bottle Packing List

Standard Turnaround Time

For Lab Use Only

Rack/Tray No.:

Lab Project # 32927-2

Date Sampled	Time Sampled	Matrix*			Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
8/7/95	3:25 pm	Soil	X		TP-T-2-10	2P, 1A		TPH, Lead, PCBs	12441	
8/7/95	3:05 pm	Soil	X		TP-T-2-5	1A, 2P		TPH, Lead, PCBs	12442	
8/7/95	4:47 pm	Soil	X		TP-T-3-5	2P, 1A		TPH, Lead, PCBs	12446	
8/7/95	10:36 am	Soil	X		TP-T-1-10	1A, 2P		TPH, Lead, PCBs	12449	
8/7/95	10:05 AM	Soil	X		TP-T-1-5	2P, 1A		TPH, Lead, PCBs	12450	
8/7/95	5:30 PM	Soil	X		TP-T-3-15	1A, 2P		TPH, Lead, PCBs	12451	

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
[illegible]	8/7/95 7:26	FED EX	[illegible]	8/8/95 11:[illegible]	[illegible]	[illegible]

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

AR303966

10-09-1995 11:40 6188404470 EARTHTECH P.38

ANALYTICAL REPORT

Earth Tech-Formerly HMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples

Submittal Number: 32927- 1
Location:
CCS Number 11111.10
CCS Manager: Joe Vitale

	TP-T-3-10	TP-T-2-12	TP-T-1-15	Reporting Limit	Units
Lab Sample No:	124463	124464	124465		
Polychlorinated Biphenyls USEPA Method 8080	Enclosed	Enclosed	Enclosed		
Petroleum Hydrocarbons	6170	16000	52800	50	mg/kg
Percent Solids	79	77	63	0.1	%
Lead, Total	1460	346	485	1.0	mg/kg
Sampled by:	Joe Vitale	Joe Vitale	Joe Vitale		
Date Sampled:	08/07/95	08/07/95	08/07/95		
Time Sampled:	17:04	15:40	11:05		
Date Received:	08/08/95	08/08/95	08/08/95		
Time Received:	11:00	11:00	11:00		

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POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly HMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-3-10

Submittal Number 32927- 1
Date Sampled: 08/07/95 Time: 17:04
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/08/95
Lab Sample No: 124463

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<1.0	PCB-1248	<1.0
PCB-1221	<1.0	PCB-1254	<1.0
PCB-1232	<1.0	PCB-1260	<1.0
PCB-1242	<1.0		

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POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly HMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-2-12

Submittal Number 32927- 1
Date Sampled: 08/07/95 Time: 15:40
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/09/95
Lab Sample No: 124464

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<11	PCB-1248	<11
PCB-1221	<11	PCB-1254	<11
PCB-1232	<11	PCB-1260	77
PCB-1242	<11		

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ANALYTICAL SERVICES

POLYCHLORINATED BIPHENYLS
USEPA METHOD 8080

Earth Tech-Formerly NMM
Proj: Cottman Ave. Site

Subm: Aug 7 Samples
Sample: TP-T-1-15

Submittal Number 32927- 1
Date Sampled: 08/07/95 Time: 11:05
Date Received: 08/08/95 Time: 11:00
Analysis Date: 08/09/95
Lab Sample No: 124465

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<6.6	PCB-1248	<6.6
PCB-1221	<6.6	PCB-1254	<6.6
PCB-1232	<6.6	PCB-1260	41
PCB-1242	16		

Page 4 - **End of Analytical Report**

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METHODS PAGE

Parameter: PCB Extraction
Method: Sonication Extraction
Application: SOIL
Reference Citation: USEPA-3550
Analyst: Rhonda S. Pikaart (RSP)
Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	88852	-108
124464	TP-T-2-12	88852	-108
124465	TP-T-1-15	88852	-108

Parameter: Inorganic Pretreatment
Method: Spectrophotometric, Infrared
Application: SOIL
Reference Citation: USEPA-418.1
Analyst: Shelly A. Jewell (SAJ)
Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	89211	
124464	TP-T-2-12	89211	
124465	TP-T-1-15	89211	

Parameter: Lead, Total
Method: Atomic Absorption-Flame, Lead
Application: SOIL
Reference Citation: USEPA-7420
Analyst: David W. Johnson (DWJ)
Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	89273	11079
124464	TP-T-2-12	89273	11079
124465	TP-T-1-15	89273	11079

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METHODS PAGE

Parameter: Digestion Method-3050 Flame-AA/ICP (Soils)
Method: Acid Digestion for Flame AA-ICP
Application: SOIL Reference Citation: USEPA-3050
Analyst: Marge A. Scott (MSS) Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	89241	
124464	TP-T-2-12	89241	
124465	TP-T-1-15	89241	

Parameter: Polychlorinated Biphenyls USEPA Method 8080
Method: Organochlorine Pesticides & Pcb's
Application: SOIL Reference Citation: USEPA-8080
Analyst: Mariano A. Vanegas (MAV) Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	89263	11070-108

Parameter: Polychlorinated Biphenyls USEPA Method 8080
Method: Organochlorine Pesticides & Pcb's
Application: SOIL Reference Citation: USEPA-8080
Analyst: Mariano A. Vanegas (MAV) Date Analyzed: 08/09/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124464	TP-T-2-12	89263	11070-108
124465	TP-T-1-15	89263	11070-108

Parameter: Percent Solids
Method: Residue-Gravimetric, Dried @ 103-105*C
Application: SOIL Reference Citation: USEPA-160.3
Analyst: Shelly A. Jewell (SAJ) Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	89265	11074
124464	TP-T-2-12	89265	11074

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32927- 1

METHODS PAGE

Parameter: Percent Solids
Method: Residue-Gravimetric, Dried @ 103-105*C
Application: SOIL Reference Citation: USEPA-160.3
Analyst: Shelly A. Jewell (SAJ) Date Analyzed: 08/08/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124465	TP-T-1-15	89265	11074

Parameter: Petroleum Hydrocarbons
Method: Spectrophotometric, Infrared
Application: SOIL Reference Citation: USEPA-418.1
Analyst: Shelly A. Jewell (SAJ) Date Analyzed: 08/09/95

Sample Number	Sample Description	Analytical Batch	QC Batch
124463	TP-T-3-10	89254	11071
124464	TP-T-2-12	89254	11071
124465	TP-T-1-15	89254	11071

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e 3 - **End of Methods Page**

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24 Hour Turnaround Time

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Chain of Custody Record

Analytical Services

COC No. 112 22197

Project Manager	Project Name	Project No.	Sampler (Print)	Sampler Signature
Joe Vitale	Cottman Ave	9103	Joe Vitale	Joseph Vitale

Date Sampled	Time Sampled	Matrix*			Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
8/7/95	17:07	S.D	X		TP-T-3-12	2P 1A		TPH, PCBs, Lead	32927-1	
8/7/95	15:40	Soil	X		TP-T-2-12	1P 2P		TPH, PCBs, Lead	32927-2	
8/7/95	11:03	Soil	X		TP-T-1-15	2P 1A		TPH, PCBs, Lead	32927-3	

Nos Correspond to Bottle Packing List

24 Hour Turnaround
Fax Results
To Joe Vitale
(503) 371-4113

For Lab Use Only
Rack/Tray No:
Lab Project # 32927-1

Relinquished By:	Date/Time	Received By:	Received by Lab By:	Date/Time	Logged in By:	Date/Time
Joseph Vitale	8/7/95 3:25	Fed EX	[illegible]	8/8 11:00	[illegible]	8/8 11:15

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

HR303974

10-09-1995 11:39 8169404470 EARTHTECH P.35

Wish list Item #3

Calculations concerning volumes

Volume Calculations for Revised Cost Estimates
Cottman Avenue/Metal Bank Site

ID for the Outlined Area	Area (CAD Calculated) (sq. ft.)	Area used in the calculations (sq. ft.)	Depth (feet)	Volume (cubic feet)	Volume (cubic yards)
TPH 2'-5'	73865	74000	3	222000	8222
TPH 5' - 10'	66554	66700	5	333500	12352
TPH 10' - 15'	49447	50000	5	250000	9259
TPH 15' - 21'	49447	50000	6	300000	11111
	TOTAL VOLUME FOR 2 TO 15 FEET			805500	**29833**
	TOTAL VOLUME FOR 2 TO 21 FEET			1105500	**40944**

ID for the Outlined Area	Location of Area	Area (CAD Calculated) (sq. ft.)	Area used in the calculations (sq. ft.)	Depth (feet)	Volume (cubic feet)	Volume cubic feet
PCB 2'-5'	B-21	1926	2000	3	6000	222
PCB 5' - 10'	B-10/P-1	992	1000	5	5000	185
PCB 10' - 15'	B-1/MW1	812	1000	13	13000	481
PCB 15' - 21'	B-1/MW1	812	1000	6	6000	222
	TOTAL VOLUME FOR 2 TO 15 FEET				**24000**	**888**
	TOTAL VOLUME FOR 2 TO 21 FEET				**30000**	**1110**

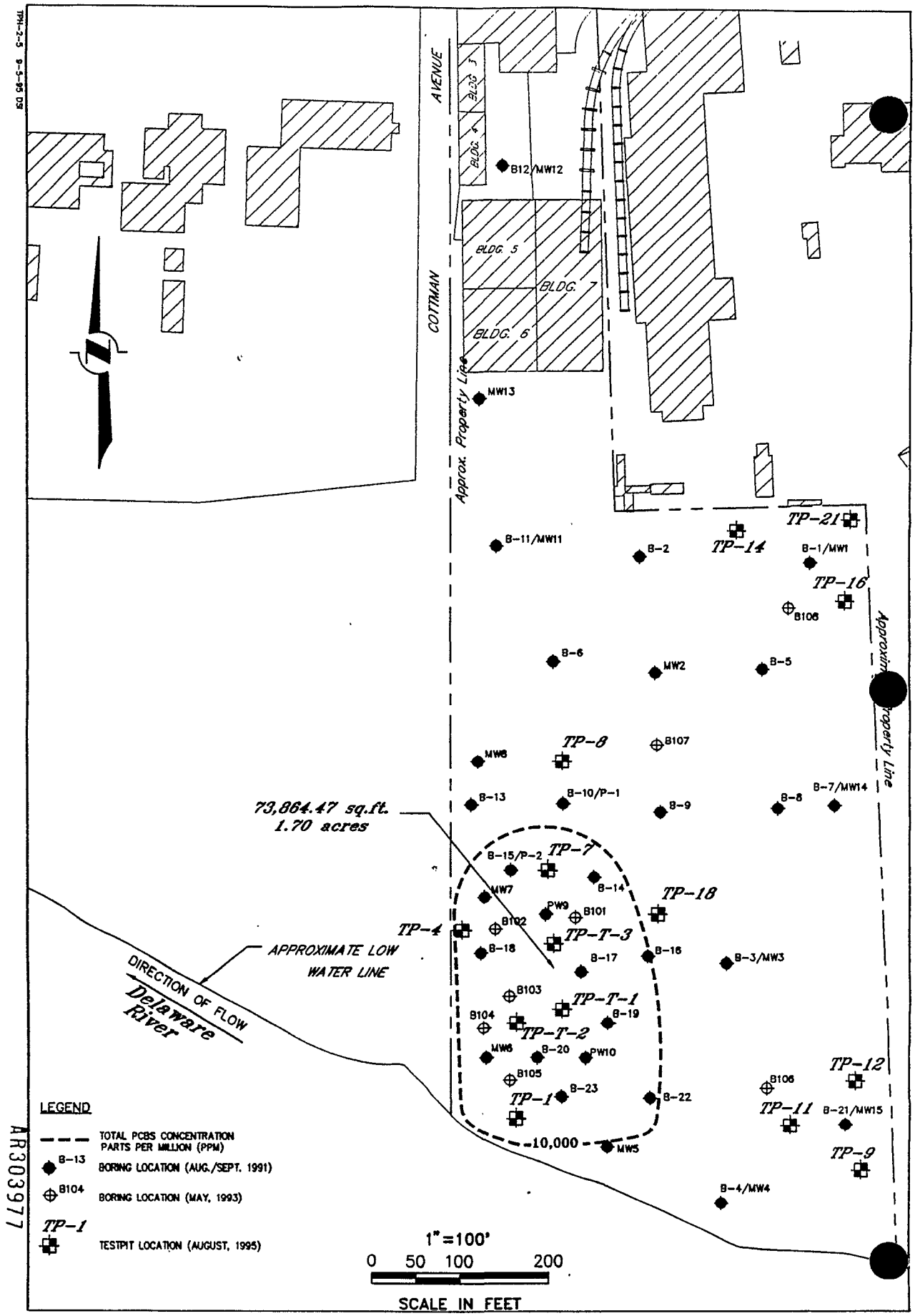

Figure 1
TPH Concentration 2-5 Feet
Metal Bank/Cottman Avenue

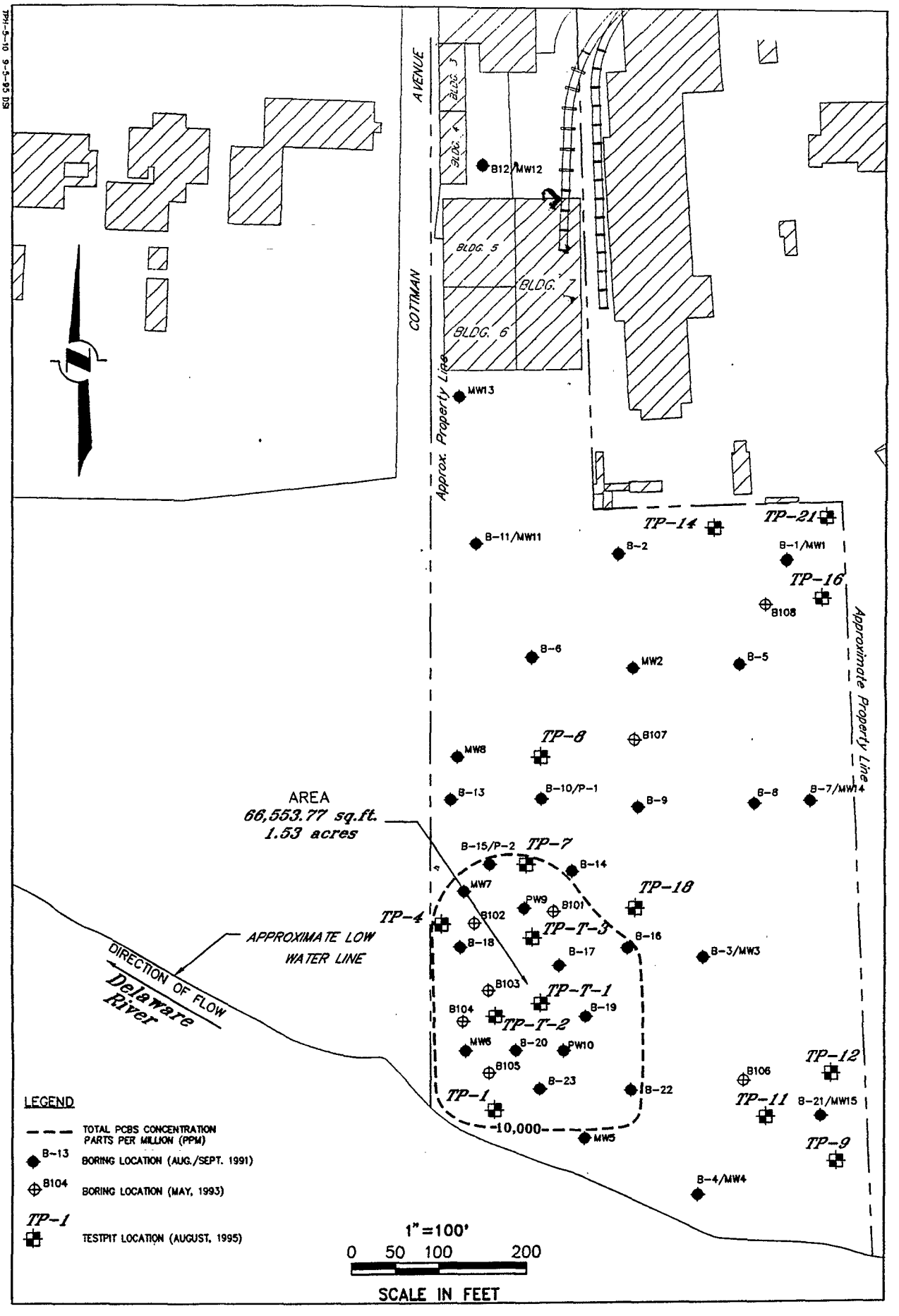

Figure 2
TPH Concentration 5-10 Feet
Metal Bank/Cottman Avenue

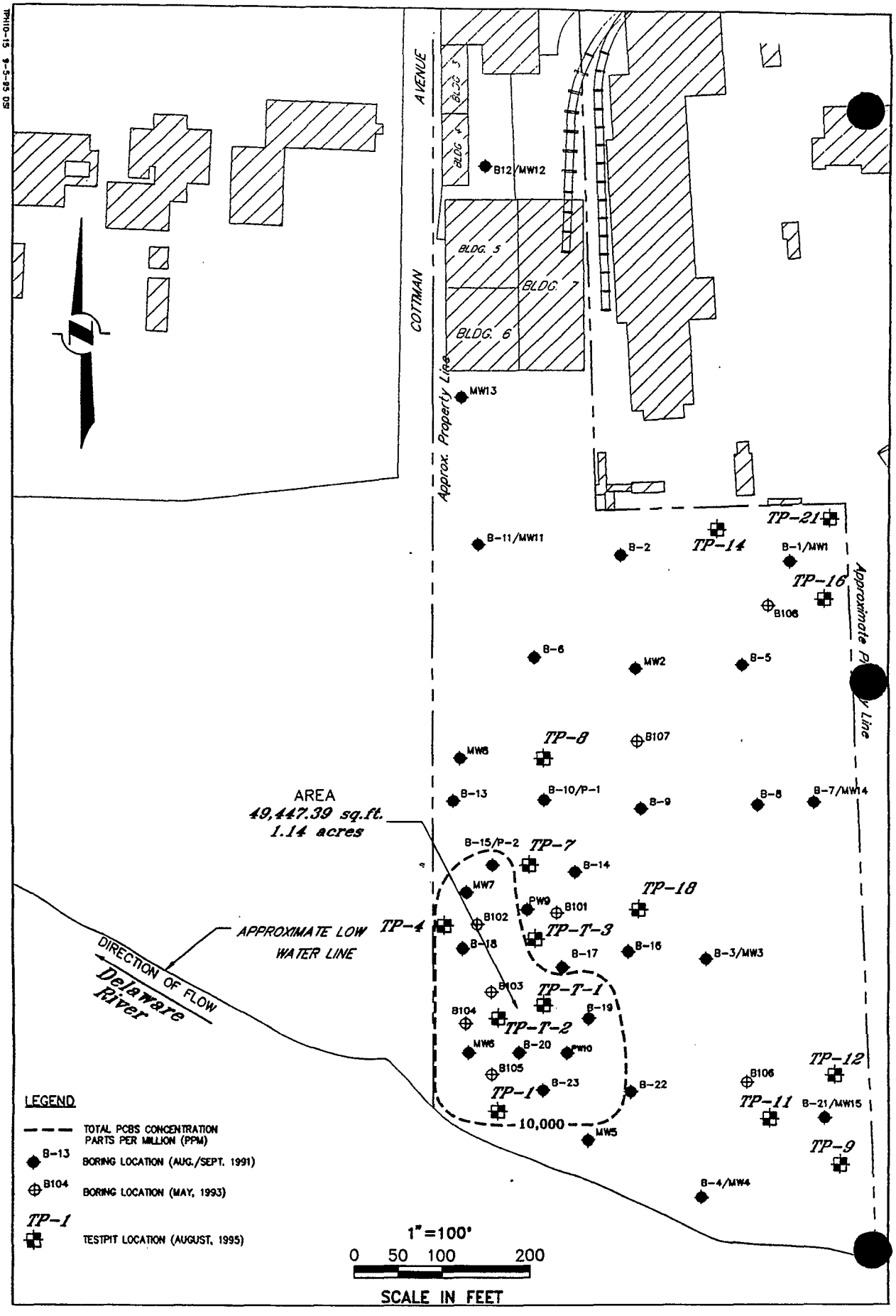

Figure 3
TPH Concentration 10-15 Feet
Metal Bank/Cottman Avenue

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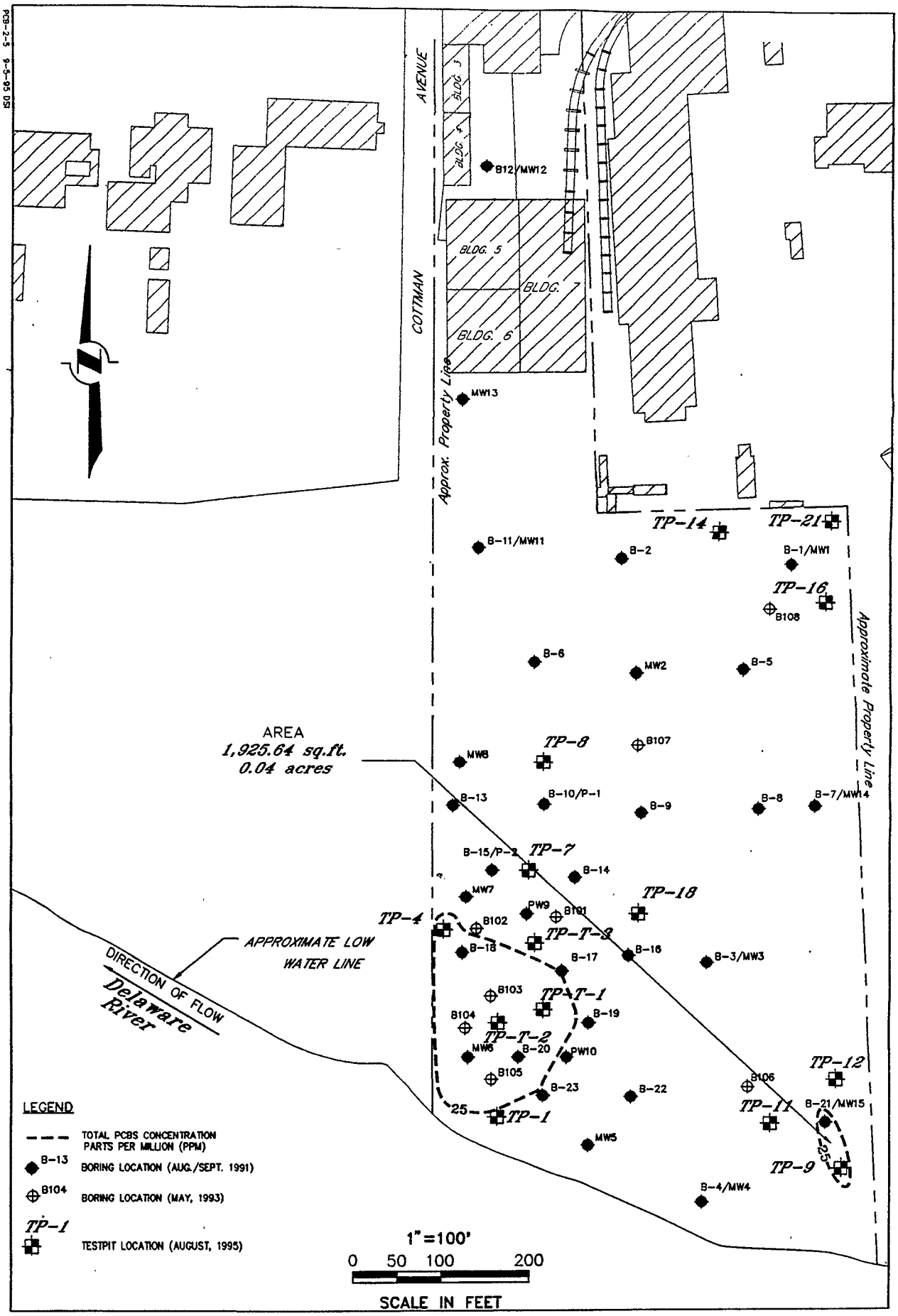

Figure 4
PCB Concentrations 2-5 Feet
Metal Bank/Cottman Avenue

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AR303980

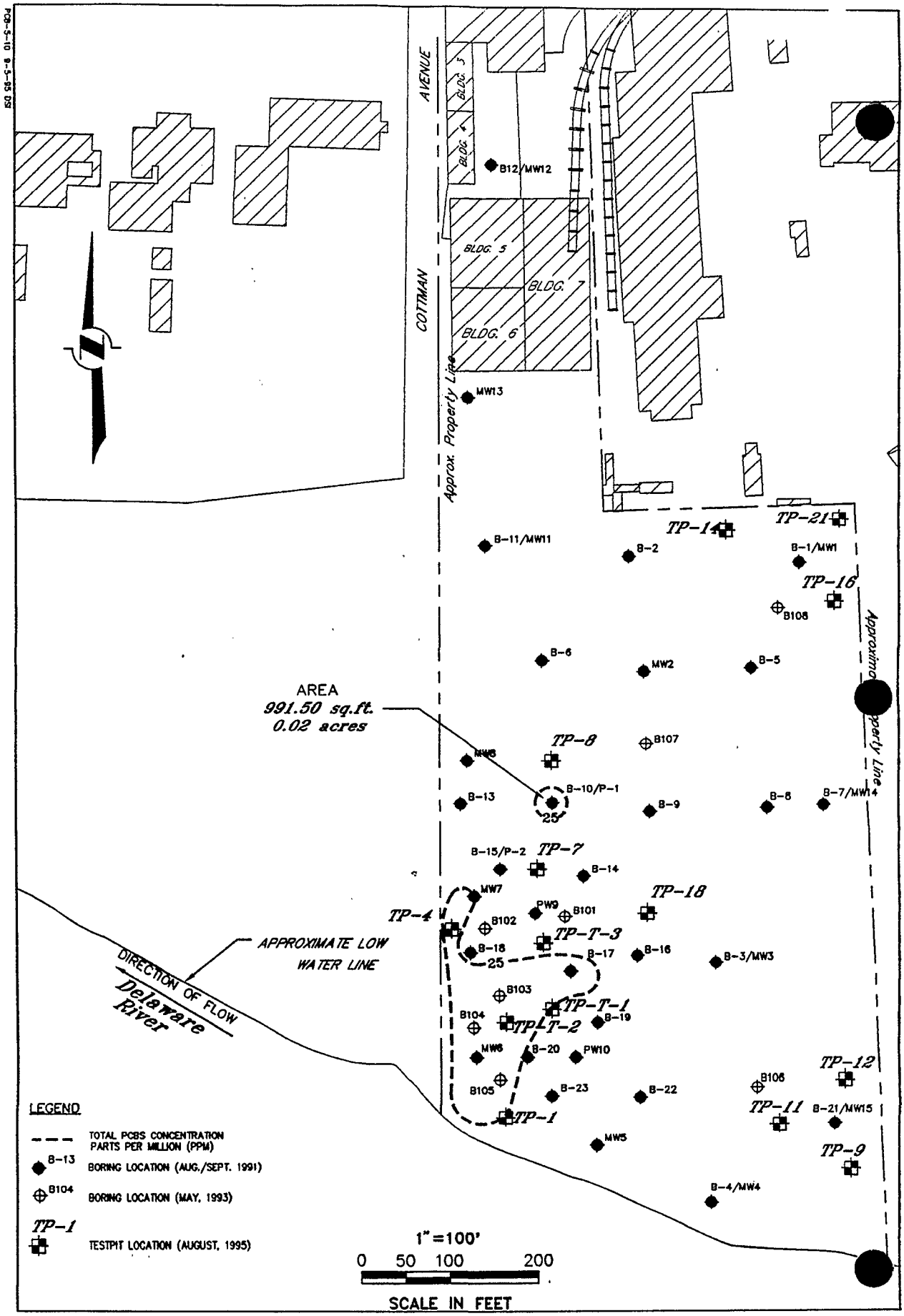


Figure 5
PCB Concentration 5-10 Feet
Metal Bank/Cottman Avenue

EARTH TECH

AR303981

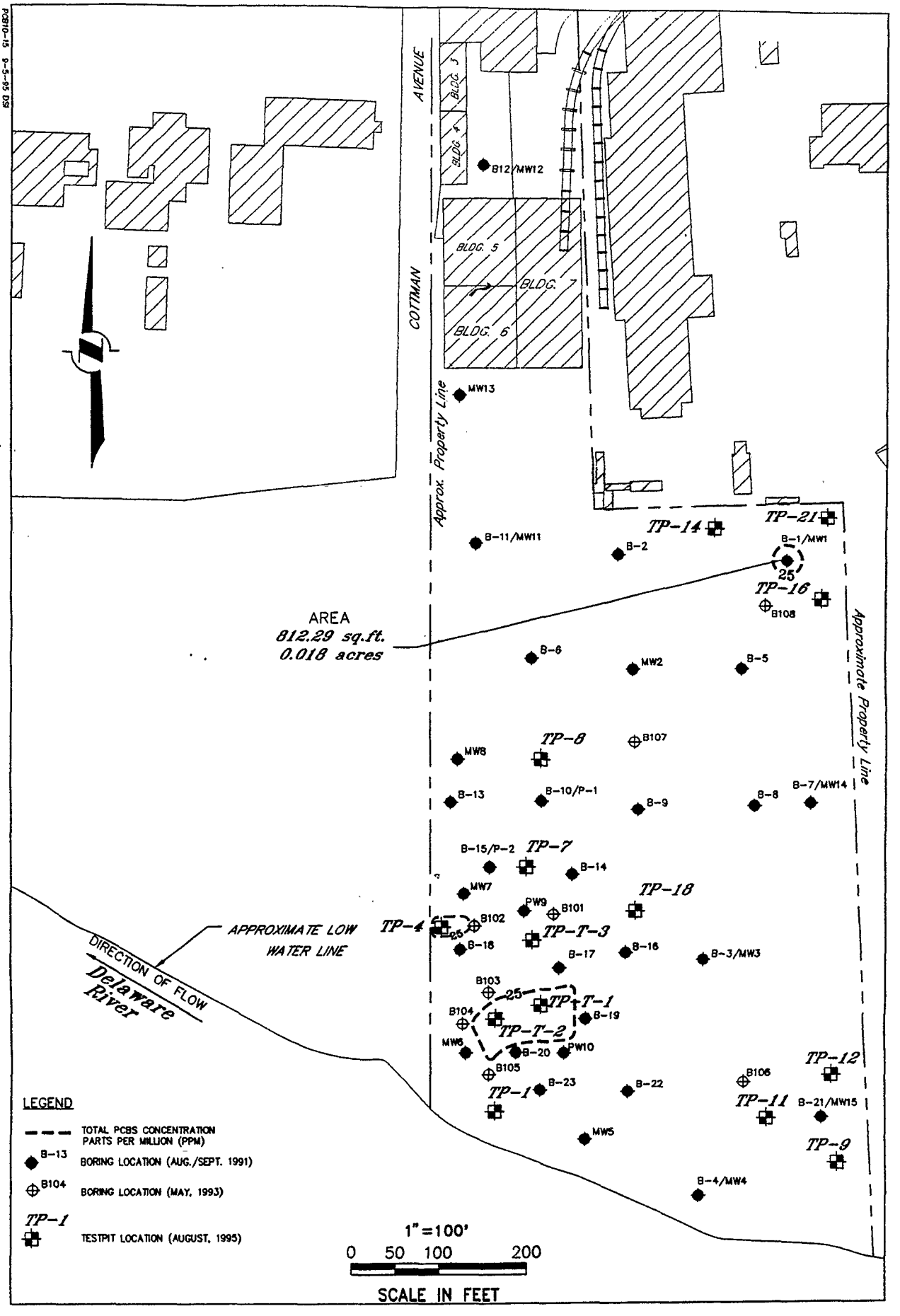


Figure 6
PCB Concentration 10-15 Feet
Metal Bank/Cottman Avenue

EARTH TECH

AR303982

Wish List Item #4

Ex-situ Stabilization Description

Ex situ Solidification/Stabilization

The ex situ solidification/stabilization (S/S) process involves the excavation of contaminated soil for treatment. Equipment used typically consists of a pugmill or other mixer equipped with systems for reagent and admix addition. In the first step, the waste material is excavated and prescreened to remove large pieces of debris. Next, the material is transferred to the mixing unit, where it is mixed with a bonding agent. Conventional and/or proprietary bonding agents and water are applied within the mixing unit. The specific reagents used are custom-selected based on the characteristics of the waste material and contaminants to be treated. Typical bonding agents used in the S/S process include Portland cement, cement kiln dust, silica fume, fly ash, clay and zeolites. After treatment in the mixing unit, the material can be returned to the excavation. As a result of treatment, the treated waste material becomes a high-strength, non-leaching monolith. The overall process for stabilizing soil is shown in the attached Figure 1.

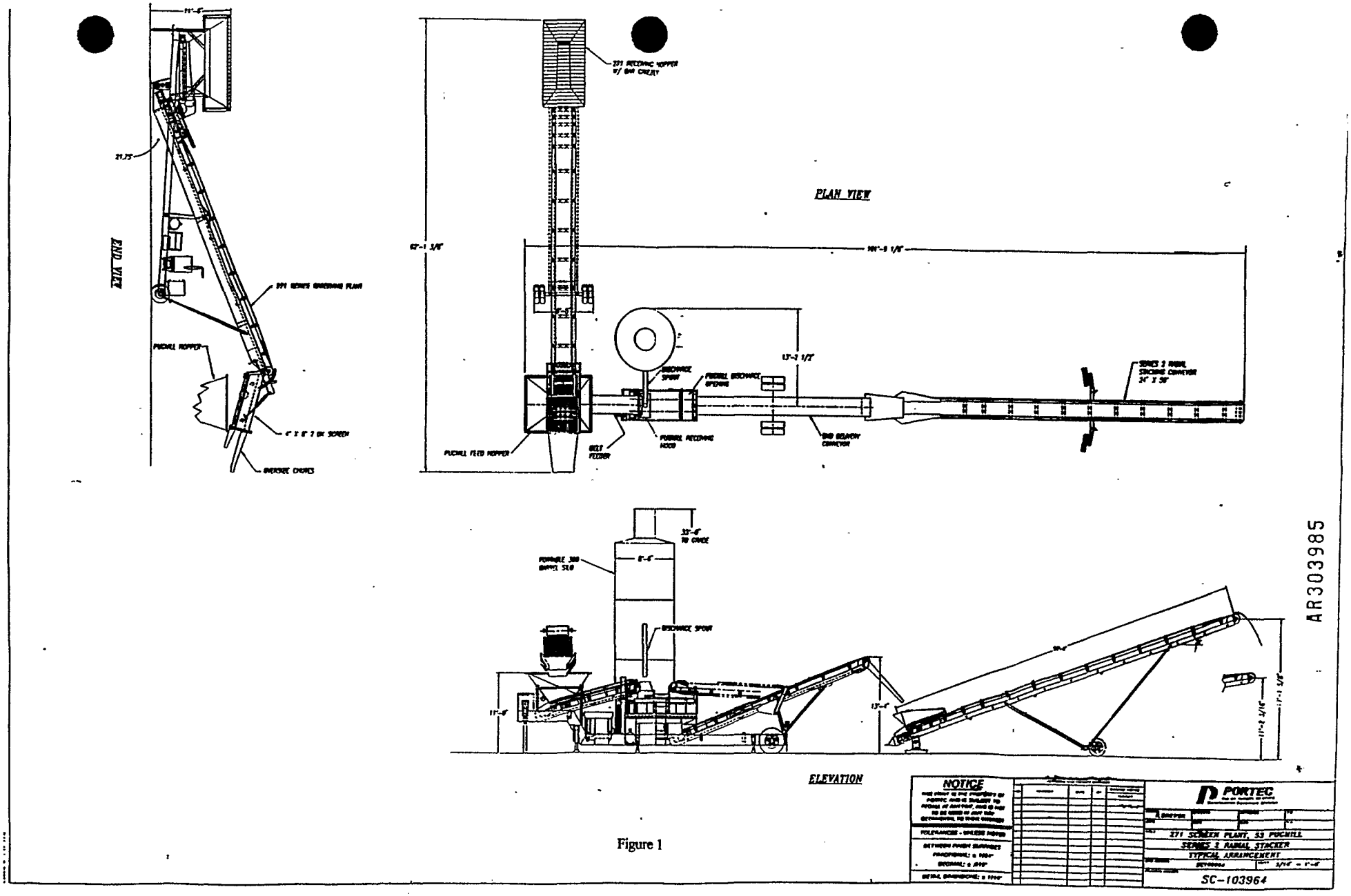


Figure 1

AR303985

Wish List Item #5

Calculate Volume using EPA Contours

196 Baker Avenue, Concord, Massachusetts 01742-2167

g:\hsw\9103\clee6.doc

October 20, 1995

Mr. Cesar Lee (3HW21)
US EPA Region III
841 Chestnut Building
Philadelphia, PA 19107

Subject: "Wish List" Item #5 dated September 27, 1995
Metal Bank/Cottman Avenue NPL Site

Dear Mr. Lee:

Telephone
508.371.4000
Facsimile
508.371.2468

Attached are the TPH and PCB "Hot Spot" calculations, as you requested in you Wish List" memorandum to John Dobi and me dated September 27, 1995. EARTH TECH has calculated the volumes of soils with PCBs and/or TPH levels greater than EPA's cleanup goals based on the areas that EPA delineated on Figures 1 through 6 dated September 13, 1995, and attached to your "Wish List." We are providing you this information despite the fact that the PRP Group does not agree with EPA's approach. That approach greatly underestimates the volume of soil with PCB and/or TPH concentrations above EPA's goals. The flaw in EPA's approach is its assumption that large areas of the Site are not contaminated simply because no chemical analysis of soil samples has been undertaken for those areas. The Group believes that the volume of soil containing PCBs and/or TPH above EPA's cleanup goals is substantially greater than the attached calculations based on EPA's approach. The Group estimates the volume of soil exceeding EPA's TPH cleanup goal to be approximately 31,500 cubic yards, and the volume of soil exceeding the PCB cleanup goal to be approximately 10,840 cubic yards.

If you have any questions, please call me at (508)371-4113.

Very truly yours,
EARTH TECH

Joseph Vitale

Joseph Vitale
FS Task Manager

cc: Cottman Ave PRP Technical Committee
D. Jordanger, Hunton & Williams
J. Marten, Hunton & Williams
P. Swinick, EARTH TECH

AR303987

EPA TPH and PCBs Hot Spots

EPA's TPH Hot-Spot Volumes (subsurface soils containing 10,000 ppm or more of TPH)

Figure No./ Description	Hotspot ID	Area (sq. ft.)	Depth (feet)	Volume (cubic feet)	Volume (cubic yards)
1/TPH 2'-5'					
	A	2363	3	7089	263
	B	2827	3	8481	314
	C	6750	3	20250	750
	D	4388	3	13164	488
	E	2827	3	8481	314
	Subtotal	**19155**		**57465**	**2129**
2/TPH 5' - 10'					
	A	1969	5	9845	365
	B	4050	5	20250	750
	C	6300	5	31500	1167
	D	2827	5	14135	524
	E	1590	5	7950	294
	Subtotal	**16736**		**83680**	**3100**
3/TPH 10' - 15'					
	A	3094	5	15470	573
	B	2165	5	10825	401
	C	4388	5	21940	813
	D	4388	5	21940	813
	Subtotal	**14035**		**70175**	**2600**
None/ TPH 15' - 21'	same as TPH 10'-15'	**14035**	6	**84210**	**3119**

TOTAL VOLUME FOR 2 TO 15 FEET (cubic yards)	**7829**
TOTAL VOLUME FOR 2 TO 21 FEET (cubic yards)	**10948**

These volumes have been calculated based on the EPA's delineation of TPH and PCBs Hot Spots. The Cottman Avenue PRP Group does not agree with the EPA's approach, and, therefore, believes the volumes of impacted soil are underestimated.

EPA TPH and PCBs Hot Spots

EPA's PCBs Hot-Spot Volumes (subsurface containing 10,000 or more of TPH)

Figure No./ Description	Hotspot ID	Area (sq. ft.)	Depth (feet)	Volume (cubic feet)	Volume (cubic yards)
1/PCB 2'-5'					
	A	1105	3	3315	123
	B	3375	3	10125	375
	C	2025	3	6075	225
	Subtotal	**6505**		**19515**	**723**
2/PCB 5' - 10'					
	A	707	5	3535	131
	B	1590	5	7950	294
	C	1590	5	7950	294
	Subtotal	**3887**		**19435**	**719**
3/PCB 10' - 15'					
	A	1013	5	5065	188
	B	6525	5	32625	1208
	C	707	5	3535	131
	Subtotal	**8245**		**41225**	**1527**
None/ PCB 15' - 21'	same as PCB 10'-15'	**8245**	6	**49470**	**1832**

TOTAL VOLUME FOR 2 TO 15 FEET (cubic yards)	**2969**
TOTAL VOLUME FOR 2 TO 21 FEET (cubic yards)	**4801**

These volumes have been calculated based on the EPA's delineation of TPH and PCBs Hot Spots. The Cottman Avenue PRP Group does not agree with the EPA's approach, and, therefore, believes the volumes of impacted soil are underestimated.

EARTH TECH

PROJECT COTTMAN AVENUE
SUBJECT EPA HOT SPOT CALCULATIONS

JOB NO. 9103 403
SHEET NO. 1 OF 6
DATE 10 OCT 95
COMP. PJM CHECK

FIGURE 1 TPH 2-5 FT

A

AREA = LENGTH × WIDTH
= 0.35" × 0.3" × (150 FT/IN)^2 = 2363 FT^2
= 2363 FT^2

B

AREA = $\pi/4$ (DIAMETER)^2
= $\pi/4$ (0.4 IN)^2 (150 FT/IN)^2
= 2827 FT^2

C

AREA = LENGTH × WIDTH
= 1.0" × 0.3" × (150 FT/IN)^2
= 6750 FT^2

D AREA = LENGTH × WIDTH
= 0.65" × 0.30" × (150 FT/IN)^2
= 4388 FT^2

E AREA = $\pi/4$ (DIAMETER)^2
= $\pi/4$ (0.40")^2 (150 FT/IN)^2
= 2827 FT^2

TOTAL AREA (FT^2) = 2363 + 2827 + 6750 + 4388 + 2827
= 19155 FT^2

EARTH TECH

PROJECT COTTMAN AVENUE
SUBJECT EPA HOT SPOT CALCULATIONS

JOB NO. 9103 403
SHEET NO. 2 OF 6
DATE 10 OCT 95
COMP. PJM CHECK

FIGURE 2 TPH 5-10 FT

A AREA = LENGTH × WIDTH
= 0.35" × 0.25" × (150 FT/IN)^2
= 1969 FT^2

B AREA = LENGTH × WIDTH
= 0.60" × 0.30" × (150 FT/IN)^2
= 4050 FT^2

C AREA = LENGTH × WIDTH
= 0.80" × 0.35" × (150 FT/IN)^2
= 6300 FT^2

D AREA = $\pi/4$ (DIAMETER)^2
= $\pi/4$ (0.40")^2 (150 FT/IN)^2
= 2827 FT^2

E AREA = $\pi/4$ (DIAMETER)^2
= $\pi/4$ (0.3")^2 (150 FT/IN)^2
= 1590 FT^2

TOTAL AREA (FT^2) = 1969 + 4050 + 6300 + 2827 + 1590
= 16,736 FT^2

EARTH TECH

JOB NO. 9103 403
SHEET NO. 3 OF 6
DATE 10 OCT 95
COMP. PJM CHECK

PROJECT COTTMAN AVENUE
SUBJECT EPA HOT SPOT CALCULATIONS

FIGURE 3 TPH 10-15 FT

A AREA = LENGTH × WIDTH
= 0.55" × 0.25 × (150 FT/IN)^2
= 3094 FT^2

B AREA = $\pi/4$ (DIAMETER)^2
= $\pi/4$ (0.35 IN)^2 (150 FT/IN)^2
= 2165 FT^2

C AREA = LENGTH × WIDTH
= 0.65" × 0.3" × (150 FT/IN)^2
= 4388 FT^2

D AREA = LENGTH × WIDTH
= 0.65" × 0.3" × (150 FT/IN)^2
= 4388 FT^2

TOTAL AREA (FT^2) = 3094 + 2165 + 4388 + 4388
= 14,035 FT^2

EARTH TECH

JOB NO. 9103 403
SHEET NO. 4 OF 6
DATE 10 OCT 95
COMP. RJM CHECK

PROJECT COTTMAN AVENUE
SUBJECT EPA HOT SPOT CALCULATIONS

FIGURE 4 PCBs 2-5 FT

A AREA = $\pi/4$ (DIAMETER)^2
= $\pi/4$ (0.25")^2 (150 FT/IN)^2
= 1,105 FT^2

B AREA = LENGTH × WIDTH
= 0.50" × 0.30" × (150 FT/IN)^2
= 3,375 FT^2

C AREA = LENGTH × WIDTH
= 0.60" × 0.15" × (150 FT/IN)^2
= 2,025 FT^2

TOTAL AREA (FT^2) = 1,105 + 3,375 + 2,025
= 6,505 SQ. FT

EARTH TECH

JOB NO. 9103 403
SHEET NO. 5 OF 6
DATE 10 OCT 95
COMP. PJM CHECK

PROJECT COTTMAN AVENUE
SUBJECT EPA HOT SPOT CALCULATIONS

FIGURE 5 PCBs 5-10

A

$$\text{AREA} = \pi/4\,(\text{DIAMETER})^2$$
$$= \pi/4\,(0.20'')^2\,(150\ \text{FT/IN})^2$$
$$= 707\ \text{FT}^2$$

B

$$\text{AREA} = \pi/4\,(\text{DIAMETER})^2$$
$$= \pi/4\,(0.30'')^2\,(150\ \text{FT/IN})^2$$
$$= 1590\ \text{FT}^2$$

C

$$\text{AREA} = \pi/4\,(\text{DIAMETER})^2$$
$$= \pi/4\,(0.30'')^2\,(150\ \text{FT/IN})^2$$
$$= 1590\ \text{FT}^2$$

$$\text{TOTAL AREA (FT}^2) = 707 + 1590 + 1590$$
$$= 3887\ \text{FT}^2$$

EARTH TECH

JOB NO. 9103 403
SHEET NO. 6 OF 6
DATE 10 OCT 95
COMP. ATM CHECK

PROJECT COTTMAN AVENUE
SUBJECT EPA HOT SPOT CALCULATIONS

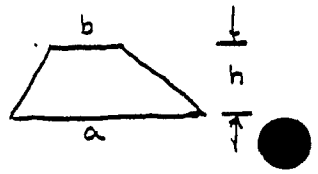
FIGURE 6 PCBs 10-15 FT

THERE ARE NOT MARK UPS ON THIS FIGURE THEREFORE EARTH TECH IS ASSUMING THE CONTOURS SHOWN ON THIS FIGURE AGREE WITH EPA'S INTERPRETATION.

A

$$\text{AREA} = \text{LENGTH} \times \text{WIDTH}$$
$$= 0.30'' \times 0.15'' \times (150\ \text{FT}/\text{IN})^2$$
$$= 1013\ \text{FT}^2$$

B



$$\text{AREA} = \tfrac{1}{2}\, h\,(a+b)$$
$$= \tfrac{1}{2}\,(0.4'')(0.8'' + 0.65'')(150\ \text{FT}/\text{IN})^2$$
$$= 6525\ \text{FT}^2$$

C

$$\text{AREA} = \pi/4\,(\text{DIAMETER})^2$$
$$= \pi/4\,(0.20'')^2\,(150\ \text{FT}/\text{IN})^2$$
$$= 707\ \text{FT}^2$$

$$\text{TOTAL AREA (FT}^2) = 1{,}013 + 6{,}525 + 707$$
$$= 8{,}245\ \text{SQ. FT}$$

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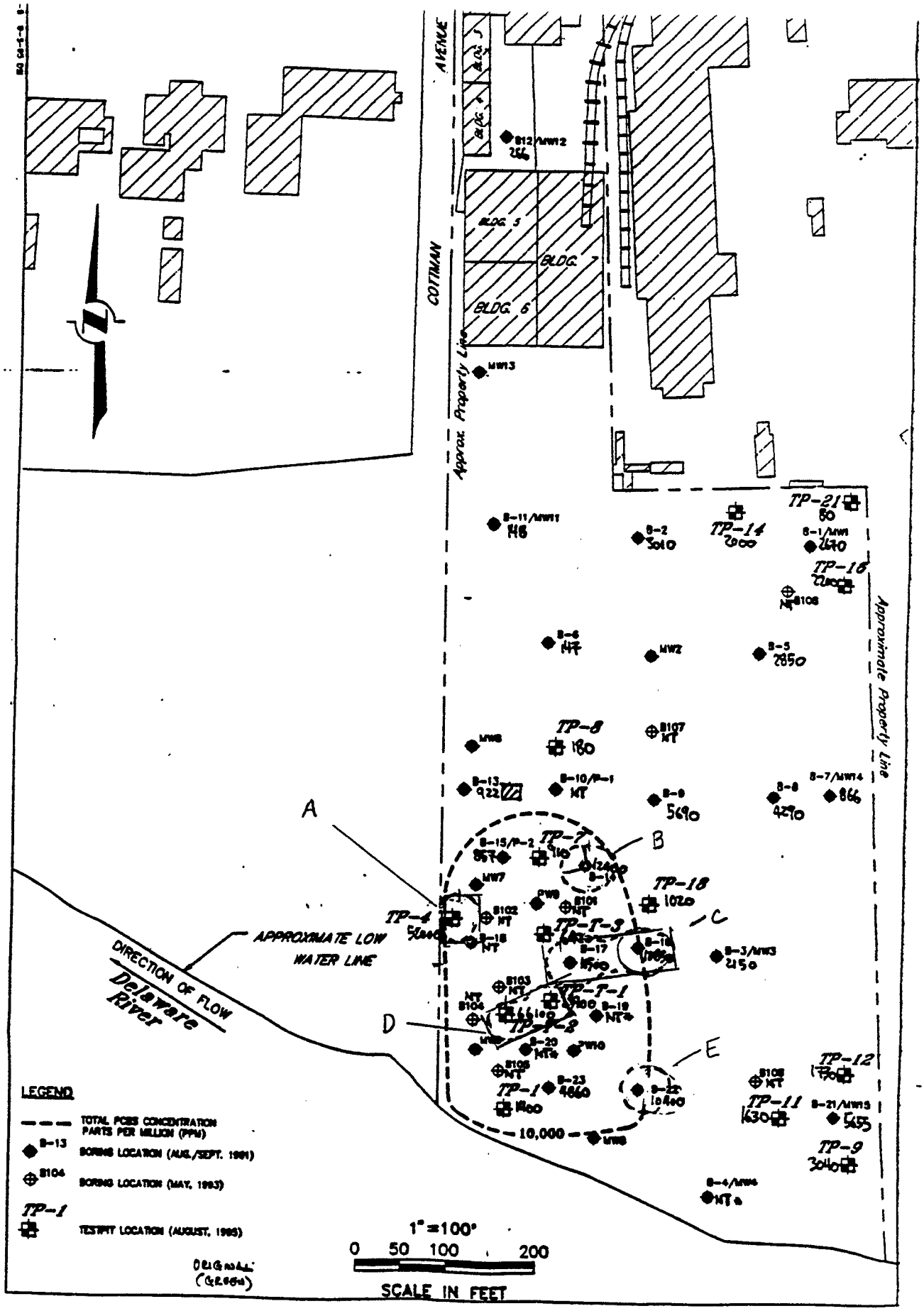

Figure 1
TPH Concentration 2-5 Feet
Metal Bank/Cottman Avenue

EARTH TECH

CL 9/13/95

AR303996

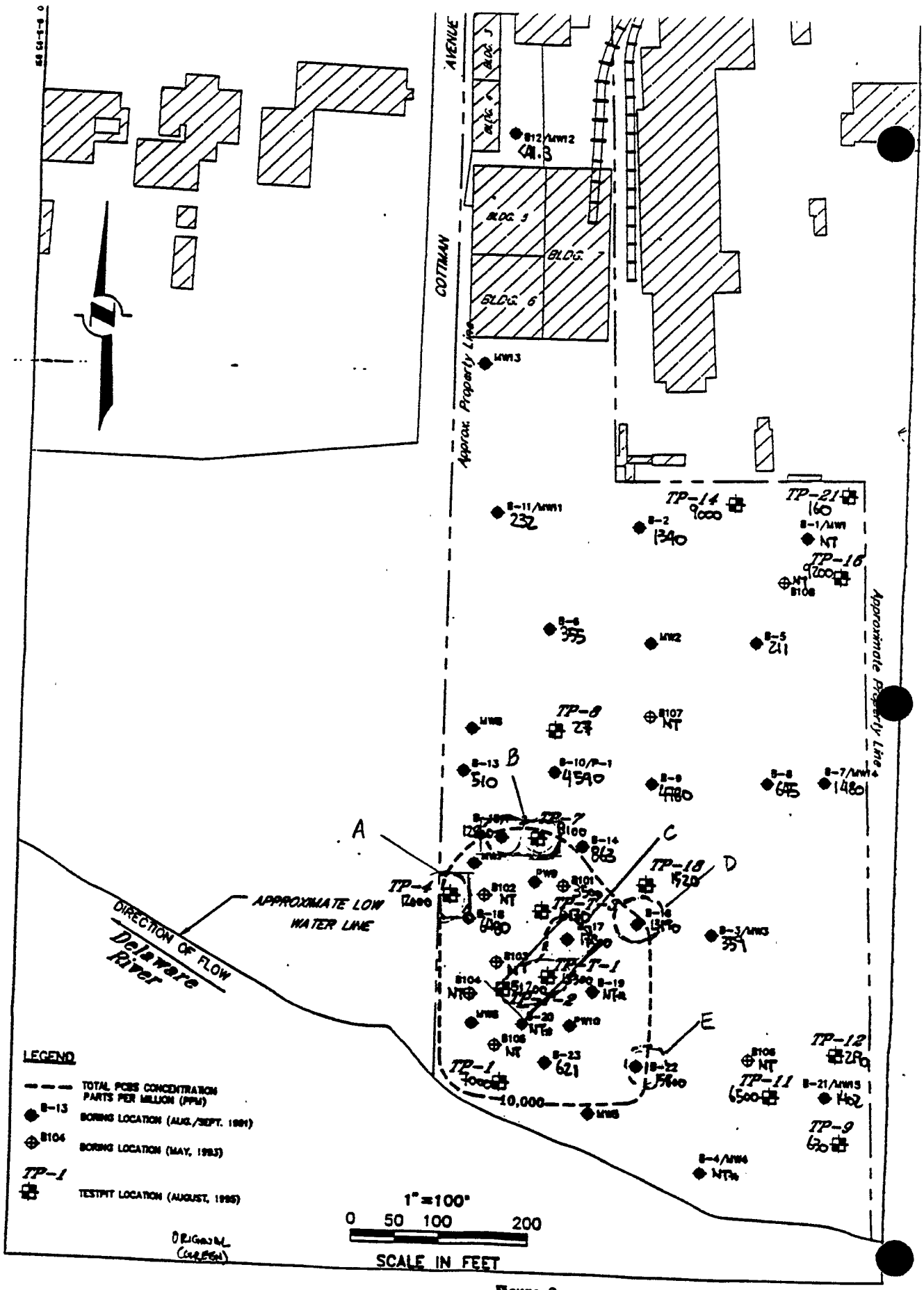

Figure 2
TPH Concentration 5-10 Feet
Metal Bank/Cottman Avenue

CL 9/13/95

AR303997

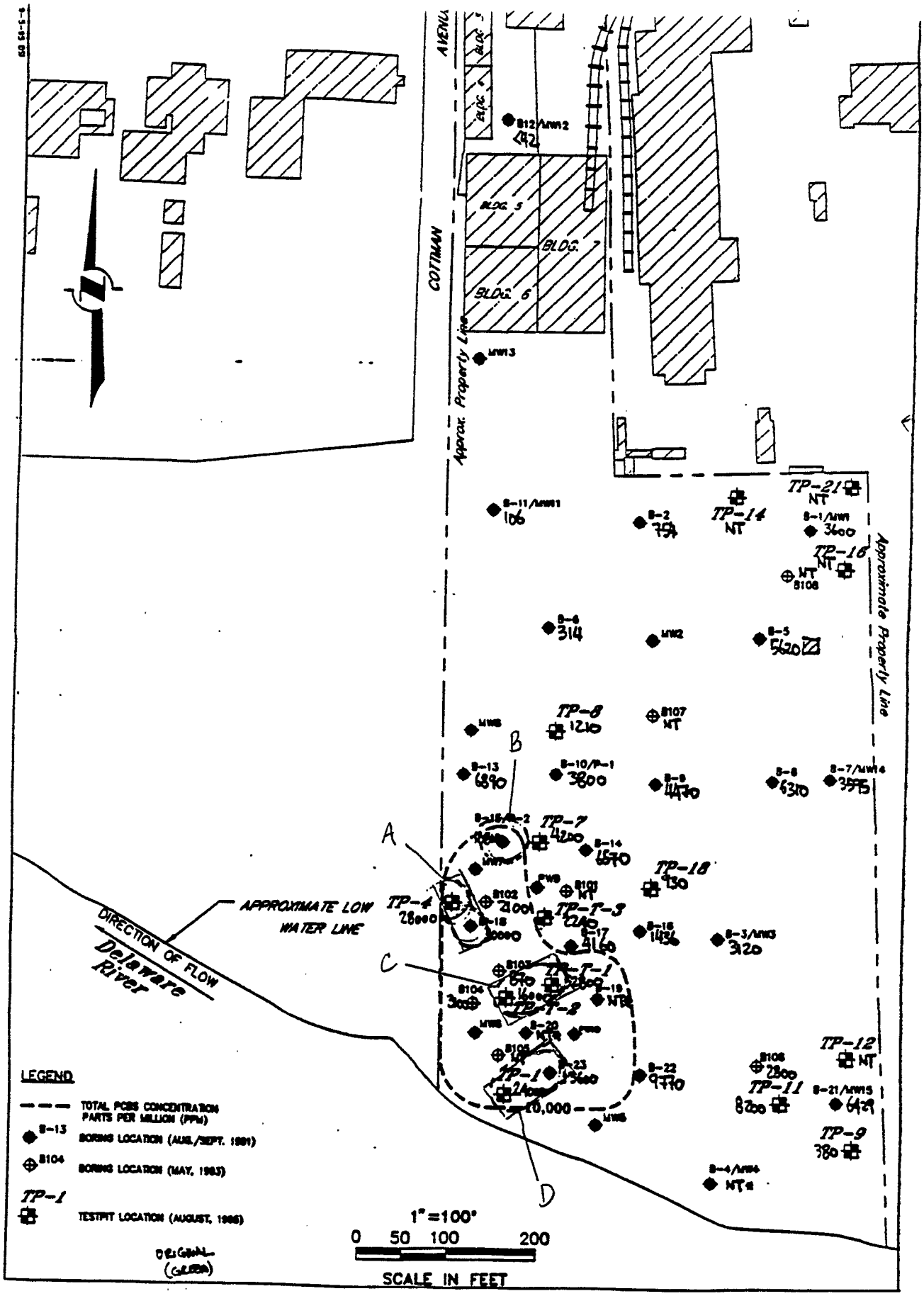

Figure 3
TPH Concentration 10-15 Feet
Metal Bank/Cottman Avenue

EARTH TECH

CL 9/13/95

AR303998

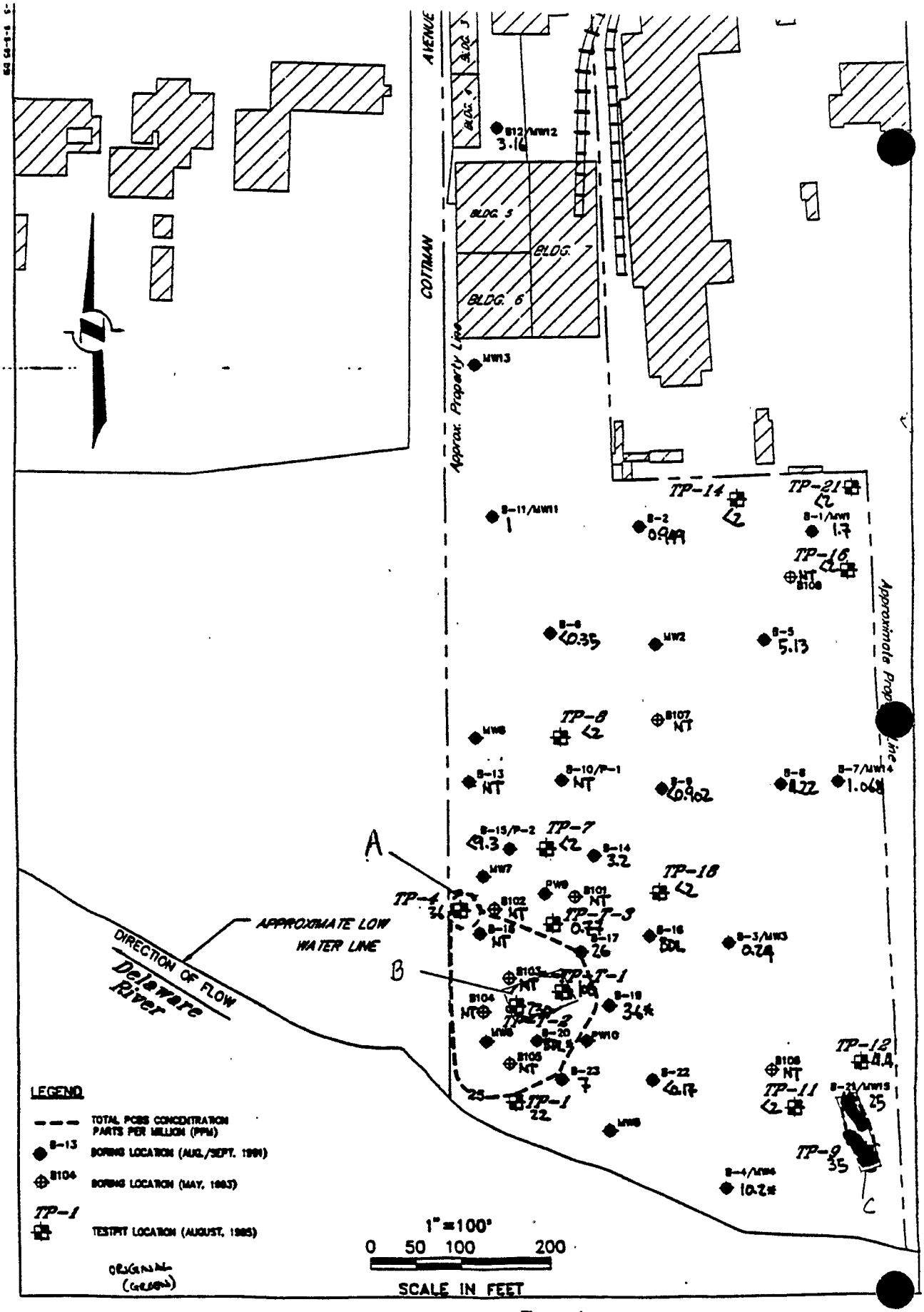

Figure 4
PCB Concentrations 2-5 Feet
Metal Bank/Cottman Avenue

CL 9/13/95

EARTH TECH

AR303999

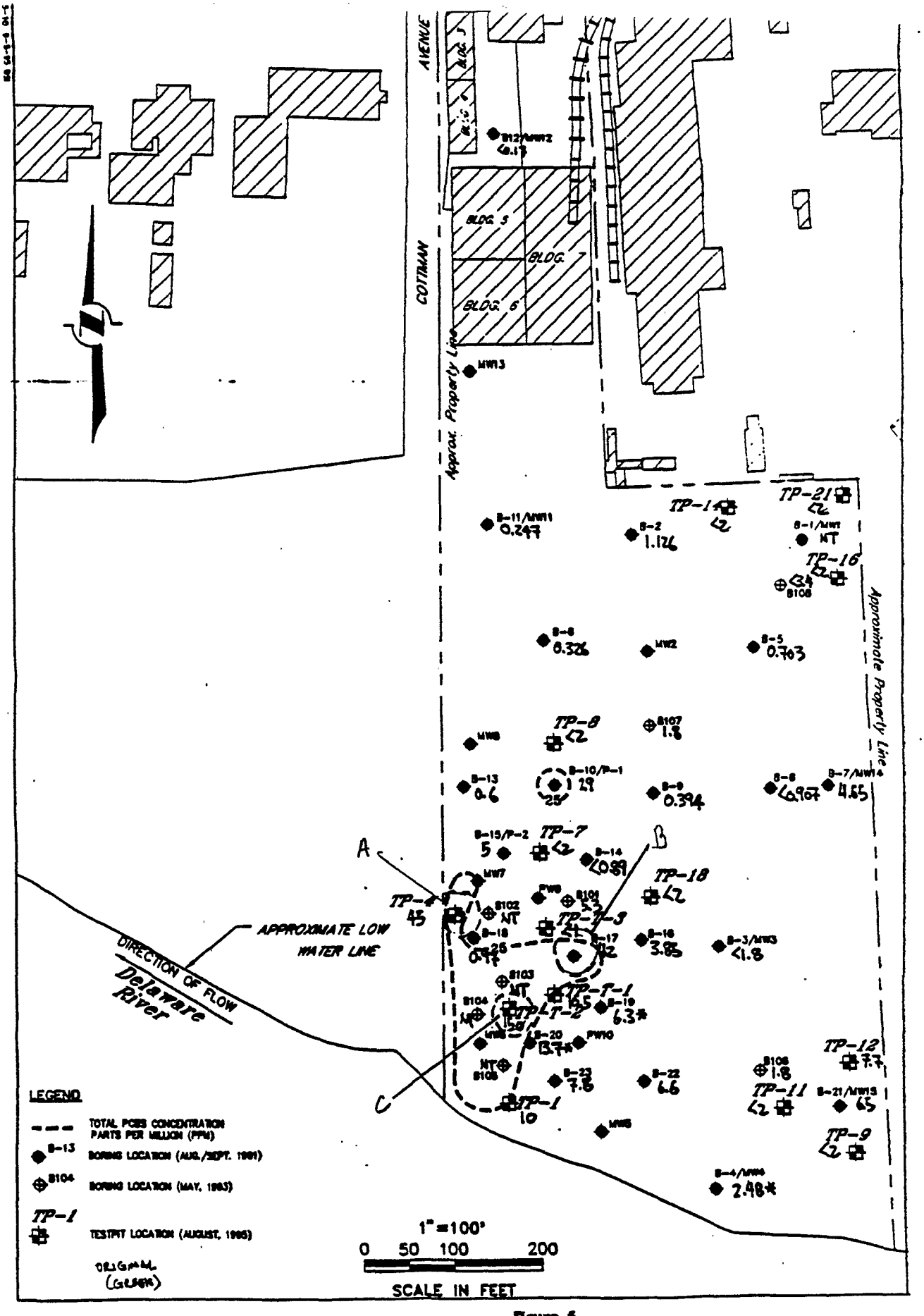

Figure 5
PCB Concentration 5-10 Feet
Metal Bank/Cottman Avenue

9/13/95

EARTH TECH

AR304000

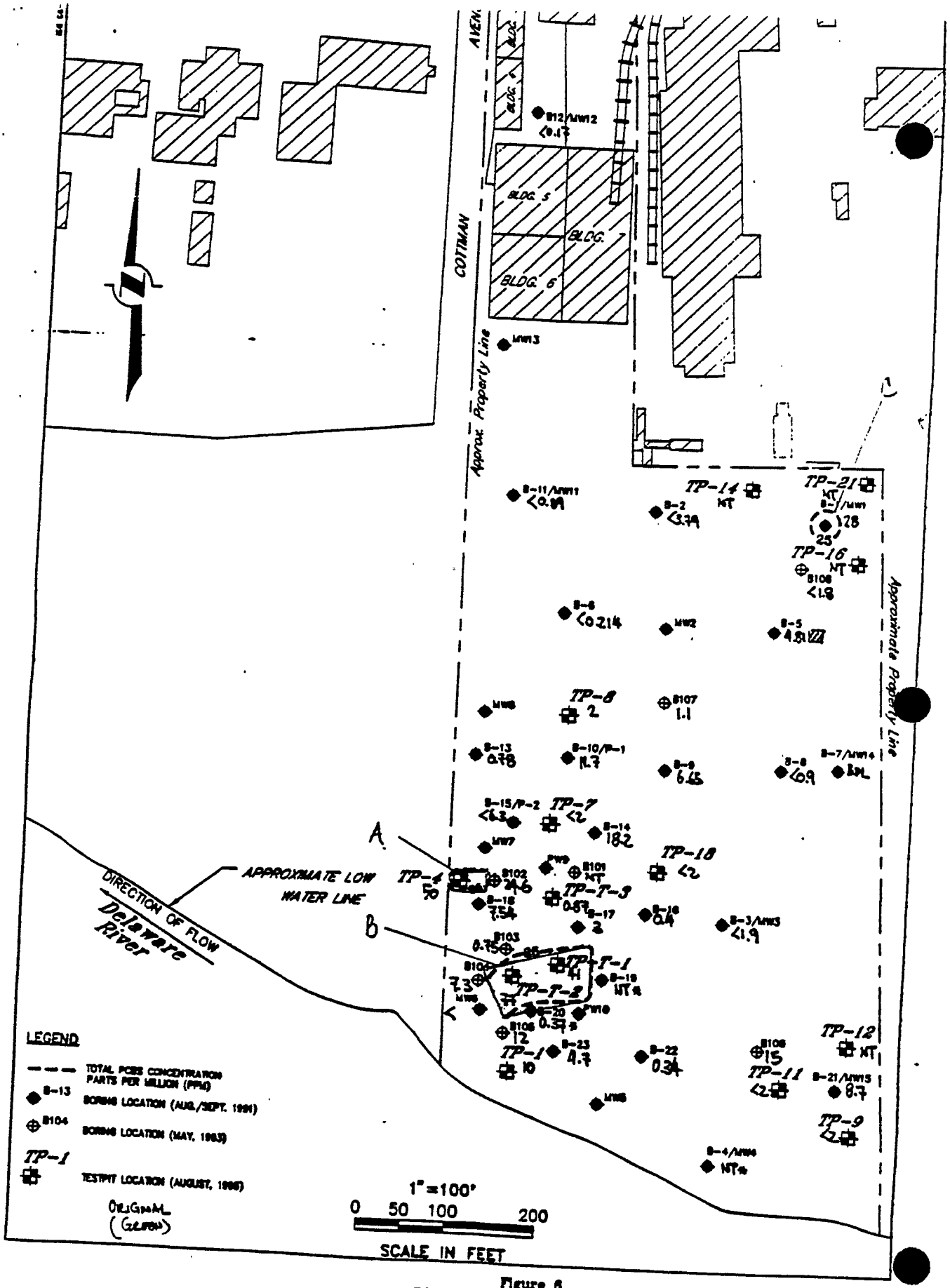

Figure 6
PCB Concentration 10-15 Feet
Metal Bank/Cottman Avenue

EARTH TECH

AR304001

Wish List Item #6

Re-formatted Cost Tables

Cost Summary for Remedial Alternative : Containment
(Addressing soil above the water table)

Item No.	Component	Quantity	Unit	Unit Cost	Extension	Capital Cost	O & M Cost	O & M Totals
4A	Short Term Monitoring (quarterly - 2 years)							$301,900
4B	Long Term Monitoring (annually yrs 3 -30)							$75,600
4C	Deed Restrictions					$10,000		
4D	Access Restrictions					$27,900		$2,500
4E	Warning Signs					$1,000		
4F	Public Education Program					$35,000		$4,000
4G	Excavation and Disposal of Courtyard Soil					$245,100		
	Excavation	600	cy	$8	$4,800			
	Transportation and Disposal of Soil	900	tons	$255	$229,500			
	Backfill	600	cy	$10	$6,000			
	Compaction	600	cy	$3	$1,800			
	Grading and Seeding	600	cy	$5	$3,000			
4H	Removal and Disposal of UST					$319,130		
	Removal of Slab	30	cy	$150	$4,500			
	Excavation/Removal of Tank (Removed Below)							
	Removal/Disposal of tank contents	10000	gal	$16	$160,000			
	Backfill	180	cy	$10	$1,800			
	Compaction	180	cy	$3	$540			
	Steam-cleaning tank surfaces	4	hr	$375	$1,500			
	Collection/Disposal of cleaning mat'l	2500	gal	$16	$40,000			
	Transportation and Disposal of Soil	290	tons	$255	$73,950			
	Miscellaneous				$36,840			
4I	Containment System (Sheet Pile Wall and Leachate Collection)					$1,708,150		$45,575
4J	Excavate Sediment and Restore Mudflats					$3,961,000		
4K	Permeable Cap					$427,000		$4,000
	Sand & Gravel Borrow	8700	cy	$12	$104,400			
	Grading	8700	cy	$8	$69,600			
	Compaction	8700	cy	$3	$26,100			
	Geogrid	48400	sy	$2	$96,800			
	Loam/Topsoil	4100	cy	$18	$73,800			
	Grading and Seeding	4100	cy	$5	$20,500			
	Monitoring Wells	5	ea	$1,200	$6,000			
	Miscellaneous				$30,000			
	Annual Maintenance						$4,000	
4L	Removal and Disposal of Affected Soil					$12,420,220		
	Excavation (UST area only)	30000	cy	$8	$240,000			
	Replacement Soil (Backfill in UST area only)	18070	cy	$10	$180,700			
	Compaction	18070	cy	$3	$54,210			
	Handling/Screening of Excavated Material	30000	cy	$5	$150,000			
	Transportation and Disposal of Soil (UST only)	35710	tons	$255	$9,106,050			
	Transportation and Disposal of Debris	6030	cy	$286	$1,726,100			
	Miscellaneous				$963,160			
4M	Replacement Material for the Removed Affected Soil					$959,000		
	Sand & Gravel Borrow	25500	cy	$12	$306,000			
	Grading	25500	cy	$8	$204,000			
	Compaction	25500	cy	$3	$76,500			
	Loam/Topsoil	12000	cy	$18	$216,000			
	Grading and Seeding	12000	cy	$5	$60,000			
	Miscellaneous				$96,000		$4,000	

Subtotal Alternative C-4	$20,113,500
Engineering @10%	$2,011,000
Contingency @15%	$3,017,000
Total	$25,141,500
Total Present Worth(n=30, i=0.5%)	$27,954,000

Cost Summary for Remedial Alternative : Containment
(Addressing soil from 0 to 21 feet)

Item No.	Component	Quantity	Unit	Unit Cost	Extension	Capital Cost	O & M Cost	O & M Totals
4A	Short Term Monitoring (quarterly - 2 years)							$301,900
4B	Long Term Monitoring (annually yrs 3 -30)							$75,600
4C	Deed Restrictions					$10,000		
4D	Access Restrictions					$27,900		$2,500
4E	Warning Signs					$1,000		
4F	Public Education Program					$35,000		$4,000
4G	Excavation and Disposal of Courtyard Soil					$245,100		
	Excavation	600	cy	$8	$4,800			
	Transportation and Disposal of Soil	900	tons	$255	$229,500			
	Backfill	600	cy	$10	$6,000			
	Compaction	600	cy	$3	$1,800			
	Grading and Seeding	600	cy	$5	$3,000			
4H	Removal and Disposal of UST					$319,130		
	Removal of Slab	30	cy	$150	$4,500			
	Excavation/Removal of Tank (Removed Below)							
	Removal/Disposal of tank contents	10000	gal	$16	$160,000			
	Backfill	180	cy	$10	$1,800			
	Compaction	180	cy	$3	$540			
	Steam-cleaning tank surfaces	4	hr	$375	$1,500			
	Collection/Disposal of cleaning mat'l	2500	gal	$16	$40,000			
	Transportation and Disposal of Soil	290	tons	$255	$73,950			
	Miscellaneous				$36,840			
4I	Containment System (Sheet Pile Wall and Leachate Collection)					$1,708,150		$45,575
4J	Excavate Sediment and Restore Mudflats					$3,961,000		
4K	Permeable Cap					$427,000		$4,000
	Sand & Gravel Borrow	8700	cy	$12	$104,400			
	Grading	8700	cy	$8	$69,600			
	Compaction	8700	cy	$3	$26,100			
	Geogrid	48400	sy	$2	$96,800			
	Loam/Topsoil	4100	cy	$18	$73,800			
	Grading and Seeding	4100	cy	$5	$20,500			
	Monitoring Wells	5	ea	$1,200	$6,000			
	Miscellaneous				$30,000			
	Annual Maintenance						$4,000	
4L	Removal and Disposal of Affected Soil					$19,489,470		
	Excavation (UST area only)	41000	cy	$8	$328,000			
	Excavation (clean fill)	600	cy	$8	$4,800			
	Sheet pile walls	16500	sf	$15	$247,500			
	Dewatering	1	ls	$2,500,000	$2,500,000			
	Replacement Soil (Backfill in UST area only)	29070	cy	$10	$290,700			
	Compaction	40820	cy	$3	$122,460			
	Handling/Screening of Excavated Material	41000	cy	$5	$205,000			
	Transportation and Disposal of Soil (UST only)	48910	tons	$255	$12,472,050			
	Transportation and Disposal of Debris	8230	cy	$286	$2,355,800			
	Miscellaneous				$963,160			
4M	Replacement Material for the Removed Affected Soil					$959,000		
	Sand & Gravel Borrow	25500	cy	$12	$306,000			
	Grading	25500	cy	$8	$204,000			
	Compaction	25500	cy	$3	$76,500			
	Loam/Topsoil	12000	cy	$18	$216,000			
	Grading and Seeding	12000	cy	$5	$60,000			
	Miscellaneous				$96,000		$4,000	

Subtotal Alternative C-4	$27,182,750
Engineering @10%	$2,718,000
Contingency @15%	$4,077,000
Total	$33,977,750
Total Present Worth(n=30, i=0.5%)	$36,790,000

Cost Summary for Remedial Alternative : Ex Situ Stabilization with Containment
(Addressing soil above the water table)

Item No.	Component	Quantity	Unit	Unit Cost	Extension	Capital Cost	O & M Cost	O & M Totals
7A	Short Term Monitoring (quarterly - 2 years)							$301,900
7B	Long Term Monitoring (annually yrs 3 -30)							$75,600
7C	Deed Restrictions					$10,000		
7D	Access Restrictions					$27,900		$2,500
7E	Warning Signs					$1,000		
7F	Public Education Program					$35,000		$4,000
7G	Excavation and Disposal of Courtyard Soil					$245,100		
	Excavation	600	cy	$8	$4,800			
	Transportation and Disposal of Soil	900	tons	$255	$229,500			
	Backfill (courtyard soil only)	600	cy	$10	$6,000			
	Compaction	600	cy	$3	$1,800			
	Grading and Seeding	600	cy	$5	$3,000			
7H	Removal and Disposal of UST					$233,490		
	Removal of Slab	30	cy	$150	$4,500			
	Excavation/Removal of Tank (Removed Below)							
	Removal/Disposal of tank contents	10000	gal	$16	$160,000			
	Compaction	180	cy	$3	$540			
	Steam cleaning tank surfaces	4	hr	$375	$1,500			
	Collection/Disposal of cleaning mat'l	2500	gal	$16	$40,000			
	Miscellaneous				$26,950			
7I	Containment System (Sheet Pile Wall and Leachate Collection)					$1,708,150		$41,575
7J	Excavate Sediment and Restore Mudflats					$3,961,000		
7K	Ex Situ Stabilization					$4,569,050		
	Mobilization/Setup/Decon./Demob.	1	ls	$137,500	$137,500			
	Excavation (PCB areas only)	890	cy	$8	$7,120			
	Handling/Screening of Excavated Material	890	cy	$5	$4,450			
	Solidification/Stabilization Process	24700	cy	$120	$2,964,000			
	Handling of Stabilized Material	30900	cy	$5	$154,500			
	Transportation and Disposal of Debris (PCB areas only)	180	cy	$286	$51,480			
	Regulatory Compliance				$250,000			
	Miscellaneous				$1,000,000			
7L	Permeable Cap					$427,000		$4,000
7M	Removal and Disposal of Affected Soil					$2,477,460		
	Excavation (UST area only)	30000	cy	$8	$240,000			
	Compaction	11570	cy	$3	$34,710			
	Handling/Screening of Excavated Material	30000	cy	$5	$150,000			
	Transportation and Disposal of Debris (UST area only)	6030	cy	$286	$1,726,100			
	Miscellaneous				$326,650			
7N	Replacement Material for the Removed Affected Soil					$959,000		

Subtotal Alternative C-7	$14,654,150
Engineering @10%	$1,465,000
Contingency @15%	$2,198,000
Total	$18,317,150
Total Present Worth(n=30, i=0.5%)	$21,059,000

Cost Summary for Remedial Alternative : Ex Situ Stabilization with Containment
(Addressing soil from 0 to 21 feet)

Item No.	Component	Quantity	Unit	Unit Cost	Extension	Capital Cost	O & M Cost	O & M Totals
7A	Short Term Monitoring (quarterly - 2 years)							$301,900
7B	Long Term Monitoring (annually yrs 3 -30)							$75,600
7C	Deed Restrictions					$10,000		
7D	Access Restrictions					$27,900		$2,500
7E	Warning Signs					$1,000		
7F	Public Education Program					$35,000		$4,000
7G	Excavation and Disposal of Courtyard Soil					$245,100		
	Excavation	600	cy	$8	$4,800			
	Transportation and Disposal of Soil	900	tons	$255	$229,500			
	Backfill (courtyard soil only)	600	cy	$10	$6,000			
	Compaction	600	cy	$3	$1,800			
	Grading and Seeding	600	cy	$5	$3,000			
7H	Removal and Disposal of UST					$233,490		
	Removal of Slab	30	cy	$150	$4,500			
	Excavation/Removal of Tank (Removed Below)							
	Removal/Disposal of tank contents	10000	gal	$16	$160,000			
	Compaction	180	cy	$3	$540			
	Steam cleaning tank surfaces	4	hr	$375	$1,500			
	Collection/Disposal of cleaning mat'l	2500	gal	$16	$40,000			
	Miscellaneous				$26,950			
7I	Containment System (Sheet Pile Wall and Leachate Collection)					$1,708,150		$41,575
7J	Excavate Sediment and Restore Mudflats					$3,961,000		
7K	Ex Situ Stabilization					$6,268,100		
	Mobilization/Setup/Decon./Demob.	1	ls	$137,500	$137,500			
	Excavation (PCB areas only)	1110	cy	$8	$8,880			
	Sheet pile walls	3250	sf	$15	$48,750			
	Dewatering	1	ls	$500,000	$500,000			
	Handling/Screening of Excavated Material	1110	cy	$5	$5,550			
	Solidification/Stabilization Process	33700	cy	$120	$4,044,000			
	Handling of Stabilized Material	42100	cy	$5	$210,500			
	Transportation and Disposal of Debris (PCB areas only)	220	cy	$286	$62,920			
	Regulatory Compliance				$250,000			
	Miscellaneous				$1,000,000			
7L	Permeable Cap					$427,000		$4,000
7M	Removal and Disposal of Affected Soil					$7,029,110		
	Excavation (UST area only)	41000	cy	$8	$328,000			
	Excavation (clean)	600	cy	$8	$4,800			
	Sheet pile walls	16500	sf	$15	$247,500			
	Dewatering	1	ls	$2,500,000	$2,500,000			
	Replacement soil (excavation less sediments)	29250	cy	$10	$292,500			
	Compaction	40820	cy	$3	$122,460			
	Handling/Screening of Excavated Material	41000	cy	$5	$205,000			
	Transportation and Disposal of Debris (UST area only)	8230	cy	$286	$2,355,800			
	Miscellaneous				$973,050			
7N	Replacement Material for the Removed Affected Soil					$959,000		

Subtotal Alternative C-7	$20,904,850
Engineering @10%	$2,090,000
Contingency @15%	$3,136,000
Total	$26,130,850
Total Present Worth(n=30, i=0.5%)	$28,872,000

Cost Summary for Remedial Alternative : Off Site Disposal with Containment
(Addressing soil above the water table)

Item No.	Component	Quantity	Unit	Unit Cost	Extension	Capital Cost	O & M Cost	O & M Totals
12A	Short Term Monitoring (quarterly - 2 years)							$301,900
12B	Long Term Monitoring (annually yrs 3 -30)							$75,600
12C	Deed Restrictions					$10,000		
12D	Access Restrictions					$27,900		$2,500
12E	Warning Signs					$1,000		
12F	Public Education Program					$35,000		$4,000
12G	Excavation and Disposal of Courtyard Soil					$245,100		
12H	Removal and Disposal of UST					$235,530		
	Removal of Slab	30	cy	$150	$4,500			
	Excavation/Removal of Tank (Removed Below)							
	Removal/Disposal of tank contents	10000	gal	$16	$160,000			
	Backfill	180	cy	$10	$1,800			
	Compaction	180	cy	$3	$540			
	Steam cleaning tank surfaces	4	hr	$375	$1,500			
	Collection/Disposal of cleaning mat'l	2500	gal	$16	$40,000			
	Miscellaneous				$27,190			
12I	Containment System (Sheet Pile Wall and Leachate Collection)					$1,708,150		$45,575
12J	Excavate Sediment and Restore Mudflats					$3,961,000		
12K	Removal and Disposal of Affected Soil					$12,539,070		
	Excavation (UST area only)	30000	cy	$8	$240,000			
	Replacement Soil (Backfill for UST area)	18070	cy	$10	$180,700			
	Compaction	29820	cy	$3	$89,460			
	Handling/Screening of Excavated Material	30000	cy	$5	$150,000			
	Transportation & Disposal of Soil (UST only)	36000	tons	$255	$9,180,000			
	Transportation & Disposal of Debris (UST only)	6030	cy	$286	$1,726,100			
	Miscellaneous				$972,810			
12L	Off-Site Disposal (TSDF - PCB areas only)					$584,863		
	Excavation(PCB areas only)	890	cy	$8	$7,120			
	Handling/Screening of Soil	890	cy	$5	$4,450			
	Transportation and Disposal of Soil	1068	ton	$255	$272,340			
	Transporation and Disposal of Debris	178	cy	$286	$50,953			
	Permitting of disposal				$250,000			
12M	Replacement of Soil (PCB areas only)					$18,690		
	Backfill (PCB areas only)	890	cy	$10	$8,900			
	Grading	890	cy	$8	$7,120			
	Compaction	890	cy	$3	$2,670			
12N	Permeable Cap					$427,000		$4,000
12O	Replacement Material for Removed Affected Soil					$959,000		

Subtotal Alternative C-12	$20,752,303
Engineering @10%	$2,075,000
Contingency @15%	$3,113,000
Total	$25,940,303
Total Present Worth(n=30, i=0.5%)	$28,753,000

Cost Summary for Remedial Alternative : Off Site Disposal with Containment
(Addressing soil from 0 to 21 feet)

Item No.	Component	Quantity	Unit	Unit Cost	Extension	Capital Cost	O & M Cost	O & M Totals
12A	Short Term Monitoring (quarterly - 2 years)							$301,900
12B	Long Term Monitoring (annually yrs 3 -30)							$75,600
12C	Deed Restrictions					$10,000		
12D	Access Restrictions					$27,900		$2,500
12E	Warning Signs					$1,000		
12F	Public Education Program					$35,000		$4,000
12G	Excavation and Disposal of Courtyard Soil					$245,100		
12H	Removal and Disposal of UST					$235,530		
	Removal of Slab	30	cy	$150	$4,500			
	Excavation/Removal of Tank (Removed Below)							
	Removal/Disposal of tank contents	10000	gal	$16	$160,000			
	Backfill	180	cy	$10	$1,800			
	Compaction	180	cy	$3	$540			
	Steam cleaning tank surfaces	4	hr	$375	$1,500			
	Collection/Disposal of cleaning mat'l	2500	gal	$16	$40,000			
	Miscellaneous				$27,190			
12I	Containment System (Sheet Pile Wall and Leachate Collection)					$1,708,150		$45,575
12J	Excavate Sediment and Restore Mudflats					$3,961,000		
12K	Removal and Disposal of Affected Soil					$19,573,070		
	Excavation (UST area only)	41000	cy	$8	$328,000			
	Excavation (clean)	600	cy	$8	$4,800			
	Sheet pile wall	16500	sf	$15	$247,500			
	Dewatering	1	ls	$2,500,000	$2,500,000			
	Replacement Soil (Backfill for UST area)	29070	cy	$10	$290,700			
	Compaction	40820	cy	$3	$122,460			
	Handling/Screening of Excavated Material	41000	cy	$5	$205,000			
	Transportation & Disposal of Soil (UST only)	49200	tons	$255	$12,546,000			
	Transportation & Disposal of Debris (UST only)	8230	cy	$286	$2,355,800			
	Miscellaneous				$972,810			
12L	Off-Site Disposal (TSDF - PCB areas only)					$1,216,388		
	Excavation(PCB areas only)	1110	cy	$8	$8,880			
	Sheet pile wall	3250	sf	$15	$48,750			
	Dewatering	1	ls	$500,000	$500,000			
	Handling/Screening of Soil	1110	cy	$5	$5,550			
	Transportation and Disposal of Soil	1332	ton	$255	$339,660			
	Transporation and Disposal of Debris	222	cy	$286	$63,548			
	Permitting of disposal				$250,000			
12M	Replacement of Soil (PCB areas only)					$23,310		
	Backfill (PCB areas only)	1110	cy	$10	$11,100			
	Grading	1110	cy	$8	$8,880			
	Compaction	1110	cy	$3	$3,330			
12N	Permeable Cap					$427,000		$4,000
12O	Replacement Material for Removed Affected Soil					$959,000		

Subtotal Alternative C-12	$28,422,448
Engineering @10%	$2,842,000
Contingency @15%	$4,263,000
Total	$35,527,448
Total Present Worth(n=30, i=0.5%)	$38,340,000

Wish List Item #7

Disposal Contractor Cost Estimate

WMX

Chemical Waste Management, Inc.

A WMX Technologies Company Phone 708.218.1500
3003 Butterfield Road
Oak Brook, IL 60521

October 10, 1995

Lauren Diamond
EARTH TECH
2231 Tomlynn Street
Richmond, Va 23230

RE: Superfund Site
Cottman Ave Project
Philadelphia, Pa

Dear Ms. Diamond,

Please accept this letter as a quote for the transportation and disposal on the waste listed below.

I. 40,000/ton of soils contaminated with PCB (TSCA).

Disposal Site: Model City Landfill, Model City, NY

$195/ton - Transportation, disposal and all applicable taxes. 22/ton minimum loads.

Demurrage after 2 hours - $85/hr.

II. 40,000/ton of soils contaminated with PCB (TSCA) and Lead (D008).

Disposal Site: Model City Landfill, Model City, NY

$255/ton - Transportation, stabilization, disposal and all applicable taxes. 22/ton minimum loads.

Demurrage after 2 hours - $85/hr.

III. 10,000/ton of debris contaminated with PCB (TSCA) and Lead (D008).

Disposal Site: Model City Landfill, Model City, NY.

$215/cyd - Microencapsulation, disposal and all applicable taxes. Note! Three (3) feet maximum length for microencapsulation.

$1425 - Transportation Charge on a per trip or per load basis.

Demurrage after 2 hours - $85/hr.

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Special Conditions - Waste must meet acceptability criteria at the site and comply with local, state and federal regulations, as well as the site's permit requirements.

Also if EPA is not listed as the generator on the Waste Profile Sheet, additional taxes which EPA is exempt from paying, will be added to the quoted price.

Please feel free to call if you should have any questions.

Sincerely,

CHEMICAL WASTE MANAGEMENT, INC.

Edward J. Eylink
Senior Accounts Manager

cc: Pat McNabb - Earth Tech