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CH2MHILL

July 9, 2003

175041.FI.01

EPA Region 5 Records Ctr.
362856

Mr. Dion Novak
Remedial Project Manager (SR-6J)
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd
Chicago, IL 60604-3590

Subject: WA No. 136-RSBD-B5Y7, Contract No. 68-W6-0025
Eagle Zinc Site, Hillsboro, Illinois
Additional Phase 2 RI Field Oversight Deliverables

Dear Dion:

As requested, enclosed are copies of CH2M HILL's field notes and photographs generated during our field oversight of the additional Phase 2 RI Sampling Program conducted by ENVIRON from June 13 through June 20, 2003 at the Eagle Zinc Site in Hillsboro, Illinois.

Please call if you have any questions regarding this information.

Sincerely,

CH2M HILL

Tim Biggs
Site Manager

Eagle Zinc Ph 2 Additional Field Oversight Deliverables Cover Letter.doc

c: Stephen Nathan, PO/U.S. EPA, Region 5 (w/o enclosure)
Marshall McReynolds, CO/U.S. EPA, Region 5 (c/o Thomas Harrison, CS) (w/o enclosure)
Ike Johnson, PM/CH2M HILL, MKE
Dan Plomb, DPM/CH2M HILL, MKE
Lauri Gorton, QAM/CH2M HILL, MKE
Cathy Barnett/CH2M HILL, STL
Cherie Wilson/CH2M HILL, MKE

Additional Phase II Remedial Investigation Field Oversight
Eagle Zinc Site, Hillsboro, Illinois

Photo Log (6/13/2003 - 6/20/2003)

Picture Number	Date	Time	Subject
60	6-13-2003	11:25	Facing west, temporary well TW-7 near Hillsboro City Park
61	6-13-2003	11:30	Facing northeast, water level of Mid-Fork East Shoal Creek
62	6-13-2003	11:36	Facing southwest, collecting surface water sample SW-WD-12 from Mid-Fork East Shoal Creek
63	6-13-2003	11:36	Facing southwest, collecting surface water sample SW-WD-12 from Mid-Fork East Shoal Creek
64	6-13-2003	11:50	Facing west, collecting surface water sample SW-WD-6 from the unnamed tributary of Mid-Fork East Shoal Creek
65	6-13-2003	12:15	Facing east, collecting surface water sample SW-WD-11 from Mid-Fork East Shoal Creek
66	6-19-2003	10:50	Facing north, mobilizing 6610 DT Geoprobe to permanent well MW-11
67	6-19-2003	12:05	Facing north, Geoprobe is stuck during mobilization to proposed well location MW-11
68	6-19-2003	12:05	Facing north, Geoprobe is stuck during mobilization to proposed well location MW-11
69	6-19-2003	12:10	Facing down, saturated surface conditions near proposed permanent well location MW-11
70	6-19-2003	12:53	Facing northeast, temporary well TW-5 located south of the Eagle Zinc property
71	6-19-2003	13:03	Facing east, soil core collected from 4 to 8 feet below ground surface in temporary well TW-5
72	6-19-2003	13:05	Facing east, extruding soil core at temporary well TW-5
73	6-19-2003	13:35	Facing east, installing casing in temporary well TW-5
74	6-19-2003	13:50	Facing east, soil core collected from 12 to 14 feet below ground surface in temporary well TW-5
75	6-19-2003	14:05	Facing south, deconning soil tubes at temporary well TW-5
76	6-19-2003	14:12	Facing down, temporary well TW-5 after completion

Additional Phase II Remedial Investigation Field Oversight
Eagle Zinc Site, Hillsboro, Illinois

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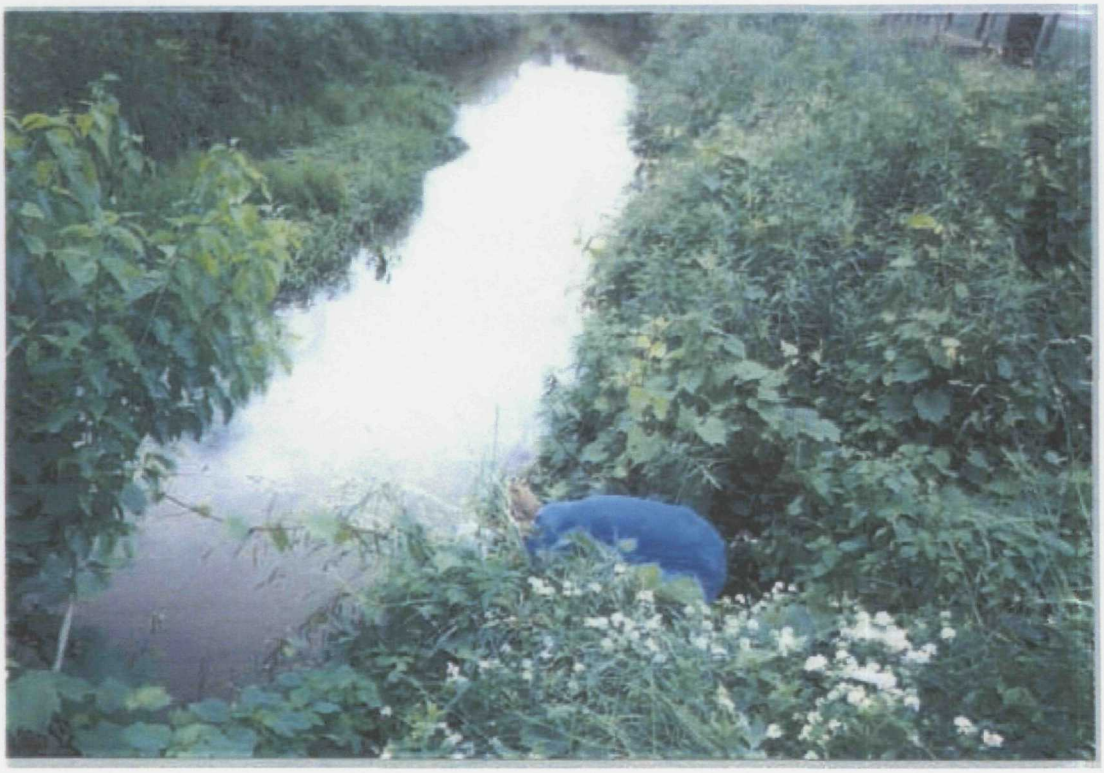
77	6-19-2003	15:50	Facing north, permanent well MW-11 was moved roughly 125 feel east of the intended location, to a tailings pile, due to saturated surface conditions
78	6-19-2003	15:52	Facing south, modified location of permanent well MW-11
79	6-19-2003	16:15	Facing south, using hollow stem augers to advance the borehole for permanent well MW-11
80	6-19-2003	16:30	Facing northwest, location of permanent well MW-11
81	6-19-2003	18:00	Facing south, installing sand filter pack in permanent well MW-11
82	6-19-2003	18:01	Facing down, sand-filter pack material (10/20) used for completing permanent well MW-11
83	6-19-2003	18:06	Facing south, placing bentonite seal in permanent well MW-11
84	6-19-2003	18:53	Facing south, collecting soil core at temporary well TW-6 west of the Eagle Zinc property
85	6-19-2003	19:00	Facing southwest, temporary well TW-6 location on the Fuller Brothers' property (west of Eagle Zinc Property)
86	6-19-2003	19:15	Facing south, temporary well TW-6 after completion
87	6-19-2003	19:45	Facing north, temporary well TW-7 after completion
88	6-20-2003	07:55	Facing north, preparing to purge permanent well MW-11
89	6-20-2003	13:52	Facing north, sampling permanent well MW-11 with a peristaltic pump
90	6-20-2003	15:10	Facing northwest, preparing to sample temporary well TW-7

PICTURE 60 **6-13-03 11:25**
Facing west, temporary well TW-7 near Hillsboro City Park

PICTURE 61 **6-13-03 11:30**
Facing northeast, water level of Mid-Fork East Shoal Creek

PICTURE 62 **6-13-03 11:36**
Facing southwest, collecting surface water sample SW-WD-12 from Mid-Fork East Shoal Creek



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PICTURE 65 **6-13-03 12:15**

Facing east, collecting surface water sampleSW-WD-11 from Mid-Fork East Shoal Creek

PICTURE 66 **6-19-03 10:50**
Facing north, mobilizing 6610 DT Geoprobe to permanent well MW-11

PICTURE 67 **6-19-03 12:05**
Facing north, Geoprobe is stuck during mobilization to proposed well location MW-11

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Facing down, saturated surface conditions near proposed permanent well location MW-11

PICTURE 70 **6-19-03 12:53**
Facing northeast, temporary well TW-5 located south of the Eagle Zinc property

PICTURE 71 **6-19-03 13:03**
Facing east, soil core collected from 4 to 8 feet below ground surface in temporary well TW-5

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Facing south, deconning soil tubes at temporary well TW-5

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Facing down, temporary well TW-5 after completion

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Facing southwest, temporary well TW-6 location on the Fuller Brothers' property (west of Eagle Zinc Property)

PICTURE 86 **6-19-03 19:15**
Facing south, temporary well TW-6 after completion

PICTURE 87 **6-19-03 19:45**
Facing north, temporary well TW-7 after completion

PICTURE 88 **6-20-03 07:55**
Facing north, preparing to purge permanent well MW-11

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Facing north, sampling permanent well MW-11 with a peristaltic pump

PICTURE 90 **6-20-03 15:10**

Facing northwest, preparing to sample temporary well TW-7

3-19-03

1300 PCBs + sulfates

1308 @ SW-WD-07 to collect PCBs + sulfates plus Duplicate.

1330 Finished with SW sampling, @ Eagle office.

(1020) collect MW-9 sample - 5 gals purged for Tot. + Diss Metals + sulfates

(1405) collect MW1 for TCL - 4 gals purged VOCs, SVOCs, PCBs Tot + Diss Metals + sulfate

1357 @ G107. Purged ≈ 3 gals earlier before well went dry, back to purge + collect sample

1400 collect G107 sample for Tot. + Diss Metals + sulfates

1430 Finished @ Eagle Zinc lease site

Jobs 110 miles

Eagle Zinc site 6-13-03

Purpose: IEPA oversite @ Eagle Zinc

Team: Bryce Behnke STL

0845-D. Bryce Behnke (BB) on site

expected tasks: 3 - additional surface water samples in Western Drainage way, inspection of proposed offsite temporary well locations & 1 onsite permanent well location, utility clearance for drilling.

Weather: Highs in the 70s to low 80s

Scattered showers & thunderstorms all day

* Note - upon arrival found facility closed & gates locked - IEPA Public Notice / Fact sheet on gate stating termination of stormwater permit for site due to company closure - dated 5-23-03

0905- waiting for Environ representatives - seeing if there is access to SE part of site from another road.

0927- back @ Eagle Zinc gate waiting for Environ

0939- attempted to call Environ to make sure that we were meeting @ plant -

0950- met Dan Ryan (Environ) - waiting for Driller (Phillips Environmental)

D. B. Bell 6-13-03

Eagle Zinc site 6-13-03

1025- phillips is onsite - walking well locations
1st location by pond (well not
finished last shift - Area very
wet

1100 - Site walkover on Fuller Bro Const.
property -

1110 - looking @ 2nd Fuller location
- entire area is fill w/ large chunks
of concrete - maybe a problem -
will need to Pic probe

1120 - arrive @ third site Near park @
Corner of E. Wood & Welch st.s
New Creek site has moved ~
100' NW to park Property - out of Residential

1130 - SWND12 (Down stream sample)
is where we will start sampling
Water level in Creek seems Normal

1140 - Collect SWND-12 for TAL metals
using a clean glass Container to pull sample
from Creek - water is then transferred to
a 500ml poly with HNO_3 as preservative

1150 - Collect SWND-6 re sample -
water in tributary is clear - seems @
a Normal level - sampled same as above

DB BL 6-13-03

Eagle Zinc site 6-13-03

1150 - Cont - Duplicate & MS/MSD were taken
@ this location

1215 - Collect sample SWND-11 (upper stream)
sample for TAL metals

1240 - offsite demob on

DB BL 6-13-03

DOB 6-13-03

Eagle Zinc site 6-19-03

Purpose: Field oversite - installation of 1 permanent well & 3 temporary piezometers

Weather: wind out of N ~ 5mph overcast - high 60's in AM

0800 - mob to site

1000 - meet Don Ryan (Environ) & phillips H&S Briefing - begin to hand Augers by hand to well site (Near the small creek East of Pond in - depression on Eagle Zinc site.

1050 - start mobing rig to site (MW-1) Rig is a 6610D (Geoprobe) Push 4 1/4" Augers (5ft flights) - the rig is heavy

1100 - track rig is stuck - attempting to get rig out - informed by Don Ryan - will not today 04

1205 - Wrecker dispatched to pull rig out

1230 - w/ tow truck still on site - make a 2nd attempt to gain access - idler pulley on rig throws - the rubber track - will fix & tow out of depression.

site is too wet for access - will attempt location at a different date

D. B. [illegible] 6-19-03

Eagle Zinc site 6-19-03

1240 - While repairs are being made to track rig - VAN mounted Geoprobe is mobed to Piezometer location TW-5 - on Fuller Brothers - lot

1257 - Begin probing 4 ft intervals

0-4 full recovery Dark gray topsoil 0 ppm starting a lean Brown clay @ .6'

1301 4-8' lt gray lean clay 0 ppm

1312 - 8-12 - same as above -

1320 - refusal @ 14' - even - will install piezometer w/ 6' ft of screen. material for piezometer is schedule 40 PVC - 10 slot screen 1" ID

1331 - PVC was dropped in borehole annulus - small amount of collapse or clay squeezing annulus to a smaller diameter - PVC ~~with rods~~ was pushed by hand to 11 ft - a few 1" geoprobe rods were used to push piezometer setup to TD (14' BGS)

1340 - Complete piezometer for TW-5

DTW: 8.79 TD: 13.12

No sand pack - No Bentonite seal

Eagle Zinc Hillsboro IL 6-19-03

1350 - extract 12-14' from soil tube (TW-5) tube is filled by stuff (over 2 ft)
- None of the intervals used a piston-stop pin to take sample discretely - the macro core tube was open as each interval. 12-14' very-wet - impossible to tell what is stuff & what is not.

1355 - decanning soil tubes for next location using alconox & DI Rinse

1415 - finished decanning mobilizing from TW-5 - back to MW-11 to see if track rig is fixed before lunch.

1515 - Back on site Environ moved MW-11 location ~ 120' SE of original site - on tailings pile
- Now moving to site - Contact Tim Biggs STL - & inform him of situation

1547 - Begin initial Boring for MW-11 using Geoprobe in 5ft intervals

1605 - Drilled to 13ft BGS @ MW-11 - saturated Area @ 7' ft BGS w/ clay the following 6ft - Environ
Well will be set @ 14' & screened to 4ft BGS - Augers are 4¼" ID - 8¼" OD

Eagle Zinc Hillsboro IL 6-19-03

1610 - While well completion is occuring @ MW-11 - type Van mounted Geoprobe is going to 2nd temporary piezometer on Fuller Brothers site (TW-6) to preprobe - since the area is expected to be fill w/ large Concrete chunks & may be difficult to probe through Dan Ryan & B. Behalek remain w/ well installation.

1635 - Drillers hit auger refusal @ ~12' BGS Because of stiff clay - well will be 6ft of screen - screened from 5.5 - 11.0' 2" schedule 40 PVC 10 slot screen w/ slip cap @ bottom - Drillers do not have slip cap - waiting for slip cap

1730 - have slip cap for bottom of screen putting well together - & installing. using 10/20 sand filter sil sand taking sand to ~4½' BGS - 11.5' BGS

1810 - well totals - 3.5 Bags of sand
5 gallon Bucket of Bentonite chips

Sand - 4.0' - 11.0' BGS
Bentonite 2.0' - 4.0' BGS
hydrated Bentonite w/ 2.0 gallons of DI water

DB. Ble 6-19-03

Eagle Zinc Hillsboro Il 6-19-03

1820- After 9 seperate pre probe refusals ~~from~~ @ TW-6 location Daller calls & say he is able to go to 20' BGS ~ 100' west of original TW-6 location - driller was advised to pre-probe to 24' & collect sample 24-28' - while drillers finish well completion (concrete & protection cover @ MW-11 - Dan Ryan & B. Behnke move to Fuller Brothers Property - site TW-6

1900- Collecting ~~soil tube~~ macro core from 24-28' BGS @ TW-6 - sample tube (acetate liner) is stuck in macro core sampling tube - Beating the soil out in handfulls

1905- Finished @ MW-11 site - drillers decanning truck rig to mob offsite

1910 - TW-6 - install temporary piezometer - nine ft of screen (19' to 28' BGS)

1940- finish setting TW-6

DTW: 19.16 BGS TD: 27.90 BGS

1945- tamp soil around casing of TW-5 & TW-6 & Backfill with Bentonite.

2000 - setting up ON TW-7

D.B. Behnke 6-19-03

Eagle Zinc TW-7 Hillsboro 6-19-03

2020- 12' deep - 6' of screen

No PID hits - silty clay - small amount of fine sand

TD: 11.93 BGS DTW: Dry - slow recharger - will wait until tomorrow - @ soil saturated ~ 9' BGS to 12 ft BGS

2045- picking up around sites

2100 - offsite 13 hrs +1.5 mob

6-19-03

DBB

D.B. Behnke 6-19-03

Engle Zinc Hillsboro IL 6-20-03

0630 - mob to site

0700 - arrive onsite in Hillsboro - meet w/ Dan Ryan
- will begin by purging (developing wells) starting
@ MW-11 DTW- 8.38 TOC TD- 13.76
Purging 3 annulus volumes - removing 16.12
gallons - development, purging & sampling
* Correction * - 16.12 is per well volume.

0753 - Well Dry @ 5.5 gallons - moving off of
MW-11 - to TW-5.

0810 - setting up to develop TW-5
DTW - 6.50 TOC TD: 14.35 TOC
1.3 gallons per annulus volume - 3.9 gallons total
for development.

0820 - TW-5 - dry @ .75 gallons - moving to
TW-6

0826 - Setting up on TW-6
DTW: 21.29 (TOC) TD: 29.82 (TOC)
1.4 gallons per annulus 4.2 gallons total

0840 - unable to use a peristaltic to develop TW-6
resorting to using check valve & tubing to
remove water. - water is very thick w/ silt
& sand - pumping is proving difficult

1010 - still struggling w/ development of TW-6
tubing still silting up.

D. B. Bl 6-20-03

Engle Zinc Hillsboro IL 6-20-03

1140 - Finish developing TW-6 @ 4.5 gallons
moving equipment to TW-7

1145 - surveyors onsite - & are shown various
wells

1207 - set up @ TW-7 - piezometer is
dry - will set up to re-probe TW-7
& set a new piezometer. New
probe location is ~ 2 ft East of
the original location. - will push
past intervals where we have seen
the Lithology - to 12-16' BGS

1230 - pull 12-16 bgs 1 small wet area around
14' - decide to push another interval

1240 16-20 bgs - very saturated from 16-
18' - will set piezometer from
14' - 20' BGS.

1252 - Set piezometer
DTW: 15.35 TD: 20.80 (BGS)
DTW: 15.50 TD: 20.95 (TOC)

1300 - Begin well Development
5.45 ft .88 gals is 1 well volume
(Annulus) 2.65 - 3 well volumes.

1303 - TW-7 - is dry. @ .88 gallons

1308 - Lunch

Eagle Zinc Hillsboro IL 6-20-03

1320 - back to Eagle Zinc site - Gates have been locked by Former employee - who would not give me his name - walking over to MW-11 to get key from Dow who got onto site before gate was locked.

1340 - Setting up on MW-11 to sample
DTW: 10.07 TOC
TD: 13.76 TOC 3 well Vol 1.8

1352 - sampling MW-11 - collecting Duplicate & MS/MSD
Collecting sample Total & Dissolved metals (TAL)

1425 - Setting up on TW-5
DTW: 6.11 TD: 14.35
Well Volume = 0.34 gal 3 well Volume = 1.1 gal

1428 - TW-5 purged Dry @ 0.35 gal moving to TW-6

1432 - setting up on TW-6
DTW - 21.33 TD: 29.82
1 well Volume = .35 3 well volume = 1.1

1503 - sample TW-6 for TAL metals - Total & dissolved.

1510 - sample TW-5 for TAL metals - Total & dissolved.

D B Bl 6-20-03

Eagle Zinc Hillsboro IL 6-20-03

1515 - set up on TW-7
DTW: 15.01 TD: 20.95' - TOC
1 - well Volume - .24 gal 3 well volumes - .73 gal

1520 - Well dry @ ~ .50 gallons - will wait to recharge

1530 - Sample TW-7 for TAL metals Both total & Dissolved

1540 - Back on site for disposal (Draining) of water & water levels wells (Temporary piezometers) will be abandoned @ a later date.

1620 - offsite

D. Bryan Bl 6-20-03