145SERBSF10,610

145SERBSF10,610

Site Name (Subject):	OLD STAKE ROAD
Site ID (Document ID):	NCSFN0406906
Document Name (DocType):	Correspondence (C)
Report Segment:	
Description:	General Correspondence, 1999 - 2000
Date of Document:	9/7/2000
Date Received:	
Box: *Enter SF and # with no spaces*	SF10,610
Access Level:	PUBLIC
Division:	WASTE MANAGEMENT
Section:	SUPERFUND
Program (Document Group):	SERB (SERB)
Document Category:	FACILITY

Print Report for Record | Go to New Blank Record | Go to New Record - (default to last record values) | Delete Record

OLD STAKE RD. SITE

NCSFN 0406 906

Folders

1. General Correspondence file, 1999—

Bound Reports

1. Photographs
2. Preliminary Assessment/Site Inspection: October 2002
3. Preliminary Assessment/Site Inspection—Volume 2, References: October 2002

U.S. Environmental Protection Agency

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Superfund Site Information

Site Documents

Data Element Dictionary (DED)

Order Superfund Products

Superfund Site Information

OLD STAKE ROAD SITE

Site Information

Site Info | Aliases | Operable Units | Contacts
Actions | Contaminants | Site-Specific Documents

Site Name: OLD STAKE ROAD SITE
Street: 4786 OLD STAKE ROAD
City / State / ZIP: CHADBOURN, NC 284318028

NPL Status: Not on the NPL
Non-NPL Status: Referred to Removal - NFRAP

EPA ID: NCSFN0406906
EPA Region: 04
County: COLUMBUS

Federal Facility Flag: Not a Federal Facility

Return to Search Results

Return to Search Superfund Site Information

DISCLAIMER: Be advised that the data contained in these profiles are intended solely for informational purposes use by employees of the U.S. Environmental Protection Agency for management of the Superfund program. They are not intended for use in calculating Cost Recovery Statutes of Limitations and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. EPA reserves the right to change these data at any time without public notice.

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U.S. Environmental Protection Agency

Superfund Information Systems

Superfund Site Information

Site Documents

Data Element Dictionary (DED)

Order Superfund Products

Superfund Site Information

OLD STAKE ROAD SITE

Actions

Site Info | Aliases | Operable Units | Contacts
Actions | Contaminants | Site-Specific Documents

OU	Action Name	Qualifier	Lead	Actual Start	Actual Completion
00	DISCOVERY		F		02/11/1999
00	ADMINISTRATIVE RECORDS		F	07/06/1999	07/06/1999
00	REMOVAL	C	F	05/10/1999	11/12/1999
00	NON-NATIONAL PRIORITIES LIST POTENTIALLY RESPONSIBLE PARTY SEARCH		FE	04/04/2000	05/03/2001
00	PRELIMINARY ASSESSMENT	W	S		09/19/2001
00	SITE INSPECTION	W	S		09/19/2001

Return to Search Results

Return to Search Superfund Site Information

DISCLAIMER: Be advised that the data contained in these profiles are intended solely for informational purposes use by employees of the U.S. Environmental Protection Agency for management of the Superfund program. They are not intended for use in calculating Cost Recovery Statutes of Limitations and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. EPA reserves the right to change these data at any time without public notice.

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

September 7, 2000

Mr. Earl Nealy
4788 Old Stake Rd
Chadbourn, NC 28431

Debbie (910) 654-4407
Nealy

SUBJECT: **Well Sampling Results**
Old Stake Road, NCSFN 0406 906
Chadbourn, Columbus County, NC

Dear Mr. Nealy:

As you are aware, the NC Superfund Section collected water samples from your drinking water well on July 26, 2000 as part of an environmental assessment of the subject site. Samples were analyzed by the State Laboratory of Public Health for the chemicals listed on the attached sheets. The contaminants listed below were detected in your well water sample. Concentrations are in parts per billion (ppb).

Contaminant	Concentration (ppb)	NC Groundwater Standard (ppb)	MCL (ppb)
Barium	30	2,000	2,000
Lead	9	15	15

These contaminants were measured at concentrations which are below applicable NC Groundwater Standards and below Maximum Contaminant Levels (MCLs) considered acceptable for public water supplies. The Industrial Hygiene Consultant for the NC Superfund Section has reviewed the analytical results and has concluded that your water is safe for normal usage. A copy of his evaluation is attached for your information.

If you have any questions regarding health concerns, please contact Mr. Dave Lilley, Industrial Hygienist, NC Division of Waste Management, Superfund Section at (919) 733-2801 ext. 286. If you have any other questions, please contact me at (919) 733-2801 ext. 298.

Sincerely,

Mike Deaton

Mike Deaton
Site Evaluation and Removal Branch
Superfund Section

attachments

cc: Dr. Dave Lilley, letter only
File ✓
Donna Keith

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER - 50% RECYCLED/10% POST-CONSUMER PAPER

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

September 7, 2000

TO: Mike Deaton
Environmental Engineer
NC Superfund Section

FROM: David Lilley, CIH,CSP DBL
Industrial Hygiene Consultant
NC Superfund Section

RE: Health Risk Evaluation
Drinking Water Well Samples
Old Stake Road Site
NCSFN 0406 906
Chadbourn, Columbus County, NC

Based on the analytical results from Drinking Water Well Samples OSR-014-PW, OSR-015-PW, OSR-016-PW, and OSR-017-PW, this water should be considered safe for normal use.

dl/DL/wpfiles/Health Risk Evaluations/Old Stake Road.wpd/1

NC SCHOOLS FIRST IN AMERICA 2010

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER - 50% RECYCLED/10% POST-CONSUMER PAPER

Department of Environment, Health, & Natural Resources
Solid Waste Management Division

ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406-906 Sample ID Number/Name 50358

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA Date Collected 7/26/00 Time 17:00

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-015-PW
___ Surface Water (2)	___ Liquid (6)	HRS-NEARY WELL
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/kg)~~
___ antimony	
X arsenic	<0.001
X barium	0.03
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
X lead	0.009
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received

Date Extracted

Date Analyzed

Reported By DOM

Date Reported 8/25/00

Lab Number 7-27-2000 013985

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 020949

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NC Date Collected 7/26/00 Time 1700

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-015-PW
___ Surface Water (2)	___ Liquid (6)	HRS TARGET WELL
___ Soil (3)	___ Sludge (7)	NEALY WELL
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	
___	
___	
___	
___	

Organic Chemistry

Parameter	Results (mg/l)
✓ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___	
___	
___	
___	

Inorganic Chemistry

Parameter	Results(mg/l)(mg/kg)
___ antimony	
___ arsenic	
___ barium	
___ beryllium	
___ cadmium	
___ chloride	
___ chromium	
___ cobalt	
___ copper	
___ fluoride	
___ iron	
___ lead	
___ manganese	
___ mercury	
___ nickel	
___ nitrate	
___ selenium	
___ silver	
___ sulfates	
___ thallium	
___ vanadium	
___ zinc	
___ pH	
___ conductivity	
___ TDS	
___ flash point	
___	
___	
___	
___	
___	
___	

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received JUL 27 2000 BC

Date Extracted

Date Analyzed 8-16-00 TJ

Reported By

Date Reported

Lab Number 003614

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003609	003610	003611	003612	003613	003614
	FIELD NO						
COMPOUND	TYPE	(2)	(3)	(3)	(3)	(1)	(1)
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
CHLOROMETHANE	2.0	u	u	u	u	u	u
VINYL CHLORIDE	↓	↓	↓	↓	↓	↓	↓
BROMOMETHANE	↓	↓	↓	↓	↓	↓	↓
CHLOROETHANE	↓	↓	↓	↓	↓	↓	↓
TRICHLOROFLUOROMETHANE	↓	↓	↓	↓	↓	↓	↓
1,1-DICHLOROETHENE	0.5	↓		↓		↓	
ACETONE	2.0	8.2 K		7.8 K		7.7 K	
IODOMETHANE	0.5	u		u		u	
CARBON DISULFIDE	↓	↓	↓	↓	↓	↓	↓
METHYLENE CHLORIDE	↓	↓	↓	↓	↓	↓	↓
ACRYLONITRILE	↓	↓	↓	↓	↓	↓	↓
TRANS-1,2-DICHLOROETHENE	↓	↓	↓	↓	↓	↓	↓
METHYL-t-BUTYL-ETHER	↓	↓	↓	↓	↓	↓	↓
1,1-DICHLOROETHANE	↓	↓	↓	↓	↓	↓	↓
ISOPROPYL ETHER	↓	↓	↓	↓	↓	↓	↓
CIS-1,2-DICHLOROETHENE	↓		↓			↓	
2-BUTANONE	2.0		trace C			trace C	
TETRAHYDROFURAN	↓		u			u	
CHLOROFORM	0.5	↓	↓	↓	↓	↓	↓
1,1,1-TRICHLOROETHANE	↓	↓	↓	↓	↓	↓	↓
CARBON TETRACHLORIDE	↓	↓	↓	↓	↓	↓	↓
BENZENE	↓	↓	↓	↓	↓	↓	↓
1,2-DICHLOROETHANE	↓	↓	↓	↓	↓	trace	↓
TRICHLOROETHENE	↓	↓	↓	↓	↓	u	↓
1,2-DICHLOROPROPANE	↓	↓	↓	↓	↓	↓	↓
DIBROMOMETHANE	↓	↓	↓	↓	↓	↓	↓

C - Possible lab contamination or background
E - Estimated value
K - Actual value is known to be less than value given. → low level lab background present
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
J/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

trace = present but below MDL

DHHS 3065-1 (1/98)

PURGCOM2.ORG

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003609	003610	003611	003612	003613 (SULLIVAN WELL)	003614 (NEALY WELL)
	FIELD NO						
COMPOUND	TYPE	(2)	(3)	(2)	(3)	(1)	(1)
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
BROMODICHLOROMETHANE	0.5	u	u	u	u	u	u
CIS-1,3-DICHLOROPROPENE							
4-METHYL-2-PENTANONE							
TOLUENE						trace[c]	
TRANS-1,3-DICHLOROPROPENE						u	
1,1,2-TRICHLOROETHANE							
TETRACHLOROETHENE							
2-HEXANONE							
DIBROMOCHLOROMETHANE							
ETHYLENE DIBROMIDE							
CHLOROBENZENE							
1,1,1,2-TETRACHLOROETHANE							
ETHYL BENZENE							
XYLENES							
STYRENE							
BROMOFORM							
1,1,2,2-TETRACHLOROETHANE							
1,2,3-TRICHLOROPROPANE							
1,4-DICHLOROBENZENE							
1,2-DICHLOROBENZENE							
1,2,-DIBROMO-3-CHLOROPROPANE	2.0						
Hexane	(+)/(−)	(−)	(−)	(−)	(−)	(−)	(−)

trace = present but below MDL

C - Possible lab contamination or background.
J - Estimated value
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 020976

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NC Date Collected 7/26/00 Time 17:00

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-015-PW
___ Surface Water (2)	___ Liquid (6)	HRS-NEALY WELL
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
✓ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results(mg/l)(mg/kg)
___ antimony	
___ arsenic	
___ barium	
___ beryllium	
___ cadmium	
___ chloride	
___ chromium	
___ cobalt	
___ copper	
___ fluoride	
___ iron	
___ lead	
___ manganese	
___ mercury	
___ nickel	
___ nitrate	
___ selenium	
___ silver	
___ sulfates	
___ thallium	
___ vanadium	
___ zinc	
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received JUL 27 2000 BD

Date Extracted BNA 8-1-2000

Date Analyzed 8-2-00BD

Reported By

Date Reported

Lab Number 003641

STATE LABORATORY OF PUBLIC HEALTH

P.O. [redacted] 28047 - 306 N. WILMINGTON, ST., RALEI[redacted] N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003636	003637	003638	003639	003640	003641
	FIELD #	020971	020972	020973	020974	020975	020976
						Sullivan well	Neely well
COMPOUND	TYPE	(2)	(3)	(2)	(3)	(1)	(1)
	UNITS	(ug/l) ~~mg/kg~~	~~mg/l~~ (ug/kg)	(ug/l) ~~mg/kg~~	~~mg/l~~ (ug/kg)	(ug/l) ~~mg/kg~~	(ug/l) ~~mg/kg~~
N-nitrosodimethylamine	10/330	U	U	U	U	U	U
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether	↓						
diethyl phthalate	↓						
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene	↓						
4-bromophenylphenylether	↓						
hexachlorobenzene	↓						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene	↓						
dibutyl phthalate	↓	✓	✓	✓	✓	✓	✓
fluoranthene	↓	✓	✓	✓	✓	✓	✓

MDL
H_2O/SOIL

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

STATE LABORATORY OF PUBLIC HEALTH

P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003636	003637	003638	003639	003640	003641
	FIELD #	020971	020972	020973	020974	020975	020976
COMPOUND	TYPE	(2)	(3)	(2)	(3)	(1)	(1)
	UNITS	µg/l ~~µg/kg~~	~~µg/l~~ µg/kg	µg/l ~~µg/kg~~	~~µg/l~~ µg/kg	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~
pyrene	10/330	U	U	U	U	U	U
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene	↓						
chrysene	↓						
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene	↓						
benzo(a)pyrene	↓						
indeno(1,2,3-cd)pyrene	↓						
dibenzo(a,h)anthracene	↓						
benzo(g,h,i)perylene	↓						
aniline	50/1650						
benzoic acid	↓						
benzyl alcohol	↓						
4-chloroaniline	↓						
dibenzofuran	10/330						
2-methylnaphthalene	↓						
2-methylphenol	↓						
4-methylphenol	↓						
2-nitroaniline	50/1650						
3-nitroaniline	↓						
4-nitroaniline	↓	✓	✓	✓	✓	✓	✓
2,4,5-trichlorophenol	↓	✓	✓	✓	✓	✓	✓

MDL

H_2O / 501L

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

September 7, 2000

Mr. Michael Nealy 4986 - (910)-654-5488
4704 Old Stake Road
Chadbourn, NC 28431

SUBJECT: **Well Sampling Results**
Old Stake Road, NCSFN 0406 906
Chadbourn, Columbus County, NC

Dear Mr. Nealy:

As you are aware, the NC Superfund Section collected water samples from your drinking water well on July 26, 2000 as part of an environmental assessment of the subject site. Samples were analyzed by the State Laboratory of Public Health for the chemicals listed on the attached sheets. The contaminants listed below were detected in your well water sample. Concentrations are in parts per billion (PPB).

Contaminant	Concentration (PPB)	NC Groundwater Standard (PPB)	MCL (PPB)
Barium	30	2,000	2,000

These contaminants were measured at concentrations which are below applicable NC Groundwater Standards and below Maximum Contaminant Levels (MCLs) considered acceptable for public water supplies. The Industrial Hygiene Consultant for the NC Superfund Section has reviewed the analytical results and has concluded that your water is safe for normal usage. A copy of their evaluation is attached for your information.

If you have any questions regarding health concerns, please contact Mr. Dave Lilley, Industrial Hygienist, NC Division of Waste Management, Superfund Section at (919) 733-2801 ext. 286. If you have any other questions, please contact me at (919) 733-2801 ext. 298.

Sincerely,

Mike Deaton

Mike Deaton
Site Evaluation and Removal Branch
Superfund Section

attachments

cc: Mr. Dave Lilley, letter only
File
Donna Keith

NC SCHOOLS FIRST IN AMERICA 2010

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605
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NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

September 7, 2000

TO: Mike Deaton
Environmental Engineer
NC Superfund Section

FROM: David Lilley, CIH,CSP DBL
Industrial Hygiene Consultant
NC Superfund Section

RE: Health Risk Evaluation
Drinking Water Well Samples
Old Stake Road Site
NCSFN 0406 906
Chadbourn, Columbus County, NC

Based on the analytical results from Drinking Water Well Samples OSR-014-PW, OSR-015-PW, OSR-016-PW, and OSR-017-PW, this water should be considered safe for normal use.

dl/DL/wpfiles/Health Risk Evaluations/Old Stake Road.wpd/1

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
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The Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 50359

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA Date Collected 7/26/00 Time 17:39

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-016-PW
___ Surface Water (2)	___ Liquid (6)	HRS / PUBLIC HEALTH
___ Soil (3)	___ Sludge (7)	CONCERN
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/kg)~~
___ antimony	
X arsenic	<0.001
X barium	0.03
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
X lead	<0.005
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received

Date Extracted

Date Analyzed

Reported By DM

Date Reported 8/25/00

Lab Number 07-27-2000 013986

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 020950

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBURN, COLUMBUS COUNTY, NC Date Collected 7/26/00 Time 17:39

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-016-PW
___ Surface Water (2)	___ Liquid (6)	HEALTH CONCERN
___ Soil (3)	___ Sludge (7)	
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
✓ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results(mg/l)(mg/kg)
___ antimony	
___ arsenic	
___ barium	
___ beryllium	
___ cadmium	
___ chloride	
___ chromium	
___ cobalt	
___ copper	
___ fluoride	
___ iron	
___ lead	
___ manganese	
___ mercury	
___ nickel	
___ nitrate	
___ selenium	
___ silver	
___ sulfates	
___ thallium	
___ vanadium	
___ zinc	
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received JUL 27 2000

Date Extracted

Date Analyzed 8-16-00 TJ

Reported By

Date Reported

Lab Number 003815

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003615	003616	003617			
	FIELD NO						
COMPOUND	TYPE	(/)	(/)	TRIP BLANK ( )	( )	( )	( )
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
CHLOROMETHANE	2.0	u	u	u			
VINYL CHLORIDE	↓	↓	↓	↓			
BROMOMETHANE	↓	↓	↓	↓			
CHLOROETHANE	↓	↓	↓	↓			
TRICHLOROFLUOROMETHANE	↓	↓	↓	↓			
1,1-DICHLOROETHENE	0.5	↓	↓	↓			
ACETONE	2.0	↓	↓	4.8 K			
IODOMETHANE	0.5	↓	↓	u			
CARBON DISULFIDE	↓	↓	↓	↓			
METHYLENE CHLORIDE	↓	↓	↓	↓			
ACRYLONITRILE	↓	↓	↓	↓			
TRANS-1,2-DICHLOROETHENE	↓	↓	↓	↓			
METHYL-t-BUTYL-ETHER	↓	↓	↓	↓			
1,1-DICHLOROETHANE	↓	↓	↓	↓			
ISOPROPYL ETHER	↓	↓	↓	↓			
CIS-1,2-DICHLOROETHENE	↓	↓	↓	↓			
2-BUTANONE	2.0	↓	↓	trace C			
TETRAHYDROFURAN	↓	↓	↓	trace			
CHLOROFORM	0.5	↓	↓	1.1			
1,1,1-TRICHLOROETHANE	↓	↓	↓	u			
CARBON TETRACHLORIDE	↓	↓	↓	↓			
BENZENE	↓	↓	↓	↓			
1,2-DICHLOROETHANE	↓	↓	↓	↓			
TRICHLOROETHENE	↓	↓	↓	↓			
1,2-DICHLOROPROPANE	↓	↓	↓	↓			
DIBROMOMETHANE	↓	↓	↓	↓			

C - Possible lab contamination or background
J - Estimated value
K - Actual value is known to be less than value given. → low level lab background present
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

trace = present but below MDL

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003615	003616	003617			
	FIELD NO						
COMPOUND	TYPE	(/)	(/)	TRIP BLANK	( )	( )	( )
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
BROMODICHLOROMETHANE	0.5	u	u	u			
CIS-1,3-DICHLOROPROPENE							
4-METHYL-2-PENTANONE							
TOLUENE				trace			
TRANS-1,3-DICHLOROPROPENE				u			
1,1,2-TRICHLOROETHANE							
TETRACHLOROETHENE							
2-HEXANONE							
DIBROMOCHLOROMETHANE							
ETHYLENE DIBROMIDE							
CHLOROBENZENE				trace			
1,1,1,2-TETRACHLOROETHANE				u			
ETHYL BENZENE							
XYLENES				trace			
STYRENE				u			
BROMOFORM							
1,1,2,2-TETRACHLOROETHANE							
1,2,3-TRICHLOROPROPANE							
1,4-DICHLOROBENZENE							
1,2-DICHLOROBENZENE							
1,2,-DIBROMO-3-CHLOROPROPANE	2.0						
Hexane	(+)/(−)	(−)	(−)	(−)			

trace = present but below MDL

C - Possible lab contamination or background.
J - Estimated value
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 020977

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NC Date Collected 7/26/00 Time 17:39

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-016-PW
___ Surface Water (2)	___ Liquid (6)	HRS/PUBLIC HEALTH
___ Soil (3)	___ Sludge (7)	CONCERN
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
✓ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results(mg/l)(mg/kg)
___ antimony	
___ arsenic	
___ barium	
___ beryllium	
___ cadmium	
___ chloride	
___ chromium	
___ cobalt	
___ copper	
___ fluoride	
___ iron	
___ lead	
___ manganese	
___ mercury	
___ nickel	
___ nitrate	
___ selenium	
___ silver	
___ sulfates	
___ thallium	
___ vanadium	
___ zinc	
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received JUL 27 2000 BQ

Date Extracted BA 8-1-00 Cm

Date Analyzed 8-2-00 BQ

Reported By

Date Reported

Lab Number 003642

(9)

STATE LABORATORY OF PUBLIC HEALTH

P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003642	003643				
	FIELD #	020977	020978				
COMPOUND	TYPE	(/)	(/)	( )	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
N-nitrosodimethylamine	10/330	U	U				
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether	↓						
diethyl phthalate	↓						
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene	↓						
4-bromophenylphenylether	↓						
hexachlorobenzene	↓						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene	↓						
dibutyl phthalate	↓						
fluoranthene	↓	↓	↓				

MDL
H_2O/50/L

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

STATE LABORATORY OF PUBLIC HEALTH

P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003642	003643				
	FIELD #	020977	020978				
COMPOUND	TYPE	(/)	(/)	( )	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/k
pyrene	10/330	L	L				
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene	↓						
chrysene	↓						
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene	↓						
benzo(a)pyrene	↓						
indeno(1,2,3-cd)pyrene	↓						
dibenzo(a,h)anthracene	↓						
benzo(g,h,i)perylene	↓						
aniline	50/1650						
benzoic acid	↓						
benzyl alcohol	↓						
4-chloroaniline	↓						
dibenzofuran	10/330						
2-methylnaphthalene	↓						
2-methylphenol	↓						
4-methylphenol	↓						
2-nitroaniline	50/1650						
3-nitroaniline	↓						
4-nitroaniline	↓						
2,4,5-trichlorophenol	↓	✓	✓				

MDL

J - Estimated value. H_2O/501L
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

September 7, 2000

Mr. Billy Butler
6116 Old Stake Road
Clarendon, NC 28432

SUBJECT: **Well Sampling Results**
Old Stake Road, NCSFN 0406 906
Chadbourn, Columbus County, NC

Dear Mr. Butler:

As you are aware, the NC Superfund Section collected water samples from your drinking water well on July 26, 2000 as part of an environmental assessment of the subject site. Samples were analyzed by the State Laboratory of Public Health for the chemicals listed on the attached sheets. The contaminants listed below were detected in your well water sample. Concentrations are in parts per billion (ppb).

Contaminant	Concentration (ppb)	NC Groundwater Standard (ppb)	MCL (ppb)
Barium	40	2,000	2,000

These contaminants were measured at concentrations which are below applicable NC Groundwater Standards and below Maximum Contaminant Levels (MCLs) considered acceptable for public water supplies. The Industrial Hygiene Consultant for the NC Superfund Section has reviewed the analytical results and has concluded that your water is safe for normal usage. A copy of his evaluation is attached for your information.

If you have any questions regarding health concerns, please contact Mr. Dave Lilley, Industrial Hygienist, NC Division of Waste Management, Superfund Section at (919) 733-2801 ext. 286. If you have any other questions, please contact me at (919) 733-2801 ext. 298.

Sincerely,

Mike Deaton

Mike Deaton
Site Evaluation and Removal Branch
Superfund Section

attachments

cc: Mr. Dave Lilley, letter only
File
Donna Keith

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605
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NCDENR

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

September 7, 2000

TO: Mike Deaton
Environmental Engineer
NC Superfund Section

FROM: David Lilley, CIH,CSP DBL
Industrial Hygiene Consultant
NC Superfund Section

RE: Health Risk Evaluation
Drinking Water Well Samples
Old Stake Road Site
NCSFN 0406 906
Chadbourn, Columbus County, NC

Based on the analytical results from Drinking Water Well Samples OSR-014-PW, OSR-015-PW, OSR-016-PW, and OSR-017-PW, this water should be considered safe for normal use.

dl/DL/wpfiles/Health Risk Evaluations/Old Stake Road.wpd/1

NC SCHOOLS FIRST IN AMERICA 2010

1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605
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The Department of Environment,
Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 503660

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA Date Collected 7/26/00 Time 18:12

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-017-PW
___ Surface Water (2)	___ Liquid (6)	BACKGROUND -
___ Soil (3)	___ Sludge (7)	BUTLER WELL
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/kg)~~
___ antimony	
X arsenic	<0.001
~~X barium~~	~~0.04~~
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
X lead	<0.005
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received

Date Extracted

Date Analyzed

Reported By DOM

Date Reported 8/25/00

Lab Number 27-2000 013987

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-2047

Site Number NCSFN 0406 906 Sample ID Number/Name 020951

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBORN, COLUMBUS COUNTY, NC Date Collected 7/26/00 Time 18:12

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-017-PW
___ Surface Water (2)	___ Liquid (6)	BACKGROUND
___ Soil (3)	___ Sludge (7)	(BUTLER WELL)
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
✓ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results(mg/l)(mg/kg)
___ antimony	
___ arsenic	
___ barium	
___ beryllium	
___ cadmium	
___ chloride	
___ chromium	
___ cobalt	
___ copper	
___ fluoride	
___ iron	
___ lead	
___ manganese	
___ mercury	
___ nickel	
___ nitrate	
___ selenium	
___ silver	
___ sulfates	
___ thallium	
___ vanadium	
___ zinc	
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received JUL 27 2000

Date Extracted

Date Analyzed 8-16-00 MJ

Reported By

Date Reported

Lab Number 003616

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003615	003616	003617			
	FIELD NO						
COMPOUND	TYPE	(/)	(/)	TRIP BLANK ( )	( )	( )	( )
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
CHLOROMETHANE	2.0	u	u	u			
VINYL CHLORIDE							
BROMOMETHANE							
CHLOROETHANE							
TRICHLOROFLUOROMETHANE							
1,1-DICHLOROETHENE	0.5						
ACETONE	2.0			4.8 K			
IODOMETHANE	0.5			u			
CARBON DISULFIDE							
METHYLENE CHLORIDE							
ACRYLONITRILE							
TRANS-1,2-DICHLOROETHENE							
METHYL-t-BUTYL-ETHER							
1,1-DICHLOROETHANE							
ISOPROPYL ETHER							
CIS-1,2-DICHLOROETHENE							
2-BUTANONE	2.0			trace[c]			
TETRAHYDROFURAN				trace			
CHLOROFORM	0.5			1.1			
1,1,1-TRICHLOROETHANE				u			
CARBON TETRACHLORIDE							
BENZENE							
1,2-DICHLOROETHANE							
TRICHLOROETHENE							
1,2-DICHLOROPROPANE							
DIBROMOMETHANE							

C - Possible lab contamination or background
J - Estimated value
K - Actual value is known to be less than value given. → low level lab background present
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
I/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

trace = present but below MDL

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003615	003616	003617			
	FIELD NO						
COMPOUND	TYPE	(I)	(I)	TRIP BLANK	(-)	( )	( )
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
BROMODICHLOROMETHANE	0.5	u	u	u			
CIS-1,3-DICHLOROPROPENE							
4-METHYL-2-PENTANONE							
TOLUENE				trace			
TRANS-1,3-DICHLOROPROPENE				u			
1,1,2-TRICHLOROETHANE							
TETRACHLOROETHENE							
2-HEXANONE							
DIBROMOCHLOROMETHANE							
ETHYLENE DIBROMIDE							
CHLOROBENZENE				trace			
1,1,1,2-TETRACHLOROETHANE				u			
ETHYL BENZENE							
XYLENES				trace			
STYRENE				u			
BROMOFORM							
1,1,2,2-TETRACHLOROETHANE							
1,2,3-TRICHLOROPROPANE							
1,4-DICHLOROBENZENE							
1,2-DICHLOROBENZENE							
1,2,-DIBROMO-3-CHLOROPROPANE	2.0						
Hexane	(+)/(-)	(-)	(-)	(-)			

trace = present but below MDL

C - Possible lab contamination or background.
E - Estimated value
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
T/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

DHHS 3065-2 (1/98)

PURGCOM2.ORG

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-2047

Site Number NCSFN 0406 906 Sample ID Number/Name 020978

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NC Date Collected 7/26/00 Time 18:12

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-017-PN
___ Surface Water (2)	___ Liquid (6)	BUTLER WELL
___ Soil (3)	___ Sludge (7)	(BACKGROUND)
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results(mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
✓ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results(mg/l)(mg/kg)
___ antimony	
___ arsenic	
___ barium	
___ beryllium	
___ cadmium	
___ chloride	
___ chromium	
___ cobalt	
___ copper	
___ fluoride	
___ iron	
___ lead	
___ manganese	
___ mercury	
___ nickel	
___ nitrate	
___ selenium	
___ silver	
___ sulfates	
___ thallium	
___ vanadium	
___ zinc	
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results(mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received JUL 27 2000 BQ

Date Extracted BNA 8-1-00 BQ

Date Analyzed 8-2-00 BQ

Reported By

Date Reported

Lab Number 003643

STATE LABORATORY OF PUBLIC HEALTH

P.O. BO[redacted]3047 - 306 N. WILMINGTON, ST., RALEIGH[redacted].C. 27611

Health Center well, Butler well

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003642	003643				
	FIELD #	020977	020978				
COMPOUND	TYPE	(/)	(/)	( )	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
N-nitrosodimethylamine	10/330	—	—				
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether	↓						
diethyl phthalate	↓						
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene	↓						
4-bromophenylphenylether	↓						
hexachlorobenzene	↓						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene	↓						
dibutyl phthalate	↓	✓	✓				
fluoranthene	↓	↓	↓				

MDL
H_2O/SOIL

- Estimated value.
- Actual value is known to be less than value given.
- Actual value is known to be greater than value given.
- Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
- Not analyzed.
- Tentative identification.
- On NRDC List of Priority Pollutants.

STATE LABORATORY OF PUBLIC HEALTH

P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003642	003643				
	FIELD #	020977	020978				
COMPOUND	TYPE	(/)	(/)	( )	( )	( )	( )
	UNITS	µg/l ~~mg/kg~~	µg/l ~~mg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
pyrene	10/330	L	L				
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene							
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene							
aniline	50/1650						
benzoic acid							
benzyl alcohol							
4-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							
2-methylphenol							
4-methylphenol							
2-nitroaniline	50/1650						
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol		✓	✓				

MDL

H_2O/501L

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

September 7, 2000

MEMORANDUM

TO: Mr. Dave Lilley, Industrial Hygienist
NC Division of Waste Management, Superfund Section

THROUGH: Dan LaMontagne, Branch Head
Superfund Section

FROM: Michael S. Deaton, Environmental Engineer
NC Superfund Section

SUBJECT: Health Risk Evaluation Request
Old Stake Road Site, NCSFN 0406 906
Chadbourn, Columbus County, NC

Please find attached a copy of the laboratory analyses for well samples collected by the Superfund Section around the subject site. Since these samples were collected from drinking water wells, the Superfund Section requests a health risk evaluation and a recommendation on the continued use of these wells. This information will be provided to the affected well users. The hazardous contaminants that were detected in the drinking water samples were barium and lead. The following table summarizes their concentrations and applicable standards.

Sample I.D.	Contaminant	Concentration (ppb)	NC GW Standard (ppb)	MCL (ppb)
OSR-014-PW	Barium	40	2000	2000
OSR-015-PW	Barium	30	2000	2000
	Lead	9	15	15
OSR-016-PW	Barium	30	2000	2000
*OSR-017-PW	Barium	40	2000	2000
* Sample represented background conditions.				

If you have any questions regarding this matter, please contact me at 733-2801 ext. 298.

Attachments

Cc: File
Donna Keith

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 50360

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA Date Collected 7/26/00 Time 18:12

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-017-PW
___ Surface Water (2)	___ Liquid (6)	BACKGROUND
___ Soil (3)	___ Sludge (7)	BUTLER WELL
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/L)~~
___ antimony	
X arsenic	<0.001
~~X barium~~	~~0.01~~
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
X lead	<0.005
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received

Date Extracted

Date Analyzed

Reported By DOM

Date Reported 8/25/00

Lab Number 27-2000 013987

Department of Environment, Health, & Natural Resources
Solid Waste Management Division

ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 0406 906 Sample ID Number/Name 50359

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY NORTH CAROLINA Date Collected 7/26/00 Time 17:39

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental	Concentrate	Comments
X Ground Water (1)	___ Solid (5)	OSR-016-PW
___ Surface Water (2)	___ Liquid (6)	HRS / PUBLIC HEALTH
___ Soil (3)	___ Sludge (7)	CONCERN
___ Other (4)	___ Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/kg)~~
___ antimony	
X arsenic	<0.001
X barium	0.03
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
X lead	<0.005
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received

Date Extracted

Date Analyzed

Reported By DM

Date Reported 8/25/00

Lab Number 07-27-2000 013985

Environment, Health, & Natural Resources
Solid Waste Management Division

ANALYSIS REQUEST

State Laboratory of Public Health
P.O. Box 28047, 306 N. Wilmington St.
Raleigh, North Carolina 27611-8047

Site Number NCSFN 04016-906 Sample ID Number/Name 50358

Name of Site OLD STAKE ROAD SITE Collected By MIKE DEATON ID#

Site Location CHADBOURN, COLUMBUS COUNTY NORTH CAROLINA Date Collected 7/26/00 Time 17:00

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental		Concentrate		Comments
X	Ground Water (1)	___	Solid (5)	OSR-015-PW
___	Surface Water (2)	___	Liquid (6)	HRS-NEALY WELL
___	Soil (3)	___	Sludge (7)	
___	Other (4)	___	Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/kg)~~
___ antimony	
X arsenic	<0.001
~~X barium~~	~~0.03~~
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
~~X lead~~	~~0.009~~
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received

Date Extracted

Date Analyzed

Reported By DOM

Date Reported 8/25/00

Lab Number 7-27-2000 013985

NC Department of Environment, Health, & Natural Resources
Solid Waste Management Division

SAMPLE ANALYSIS REQUEST

State Laboratory of Public Health, P.O. Box 28047, 306 N. Wilmington St. Raleigh, North Carolina 27611-8047

Site Number: NCSFN 04016 906 Sample ID Number/Name: 50357

Name of Site: OLD STAKE ROAD SITE Collected By: MIKE DEATON ID #:

Site Location: CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA Date Collected: 7/26/00 Time: 16:20

Agency: ___ Hazardous Waste ___ Solid Waste X Superfund

Sample Type

Environmental		Concentrate		Comments
X	Ground Water (1)	___	Solid (5)	OSR-014-PW
___	Surface Water (2)	___	Liquid (6)	HRS-SULLIVAN WELL
___	Soil (3)	___	Sludge (7)	
___	Other (4)	___	Other (8)	

TCLP Compounds

Inorganic Compounds	Results (mg/l)
___ arsenic	
___ barium	
___ cadmium	
___ chromium	
___ lead	
___ mercury	
___ selenium	
___ silver	

Organic Chemistry

Parameter	Results (mg/l)
___ P&T:GC/MS	
___ Acid:B/N Ext.	
___ 2,4-D	
___ 2,4,5-TP(Silvex)	
___ chlordane	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	

Inorganic Chemistry

Parameter	Results (mg/l) ~~(mg/kg)~~
___ antimony	
X arsenic	<0.001
X barium	0.04
___ beryllium	
X cadmium	<0.005
___ chloride	
X chromium	<0.01
___ cobalt	
___ copper	
___ fluoride	
___ iron	
X lead	<0.005
___ manganese	
X mercury	<0.0005
___ nickel	
___ nitrate	
X selenium	<0.01
X silver	<0.01
___ sulfates	
___ thallium	
___ vanadium	
X zinc	<0.05
___ pH	
___ conductivity	
___ TDS	
___ flash point	

Organic Compounds

Organic Compounds	Results (mg/l)
___ benzene	
___ carbon tetrachloride	
___ chlordane	
___ chlorobenzene	
___ chloroform	
___ o-cresol	
___ m-cresol	
___ p-cresol	
___ cresol	
___ 1,4-dichlorobenzene	
___ 1,2-dichloroethane	
___ 1,1-dichloroethylene	
___ 2,4-dichloroethylene	
___ heptachlor	
___ hexachlorobenzene	
___ hexachlorobutadiene	
___ hexachloroethane	
___ methyl ethyl ketone	
___ nitrobenzene	
___ pentachlorophenol	
___ pyridine	
___ tetrachloroethylene	
___ trichloroethylene	
___ 2,4,5-trichlorophenol	
___ 2,4,6-trichlorophenol	
___ vinyl chloride	
___ endrin	
___ lindane	
___ methoxychlor	
___ toxaphene	
___ 2,4-D	
___ 2,4,5-TP (Silvex)	

FOR LAB USE ONLY

Date Received: ___

Date Extracted: ___

Date Analyzed: ___

Reported By: DJM

Date Reported: 8/25/00

Lab Number: 07-27-2000. 013984

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003609	003610	003611	003612	003613	003614
	FIELD NO						
COMPOUND	TYPE	(2)	(3)	(3)	(3)	(1)	(1)
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
CHLOROMETHANE	2.0	U	U	U	U	U	U
VINYL CHLORIDE	↓	↓	↓	↓	↓	↓	↓
BROMOMETHANE	↓	↓	↓	↓	↓	↓	↓
CHLOROETHANE	↓	↓	↓	↓	↓	↓	↓
TRICHLOROFLUOROMETHANE	↓	↓	↓	↓	↓	↓	↓
1,1-DICHLOROETHENE	0.5	↓	↓	↓	↓	↓	↓
ACETONE	2.0	8.2 K	↓	7.8 K	↓	7.7 K	↓
IODOMETHANE	0.5	U	↓	U	↓	U	↓
CARBON DISULFIDE	↓	↓	↓	↓	↓	↓	↓
METHYLENE CHLORIDE	↓	↓	↓	↓	↓	↓	↓
ACRYLONITRILE	↓	↓	↓	↓	↓	↓	↓
TRANS-1,2-DICHLOROETHENE	↓	↓	↓	↓	↓	↓	↓
METHYL-t-BUTYL-ETHER	↓	↓	↓	↓	↓	↓	↓
1,1-DICHLOROETHANE	↓	↓	↓	↓	↓	↓	↓
ISOPROPYL ETHER	↓	↓	↓	↓	↓	↓	↓
CIS-1,2-DICHLOROETHENE	↓	↓	↓	↓	↓	↓	↓
2-BUTANONE	2.0	↓	trace C	↓	↓	trace C	↓
TETRAHYDROFURAN	↓	↓	U	↓	↓	U	↓
CHLOROFORM	0.5	↓	↓	↓	↓	↓	↓
1,1,1-TRICHLOROETHANE	↓	↓	↓	↓	↓	↓	↓
CARBON TETRACHLORIDE	↓	↓	↓	↓	↓	↓	↓
BENZENE	↓	↓	↓	↓	↓	↓	↓
1,2-DICHLOROETHANE	↓	↓	↓	↓	↓	trace	↓
TRICHLOROETHENE	↓	↓	↓	↓	↓	U	↓
1,2-DICHLOROPROPANE	↓	↓	↓	↓	↓	↓	↓
DIBROMOMETHANE	↓	↓	↓	↓	↓	↓	↓

C - Possible lab contamination or background
E - Estimated value
K - Actual value is known to be less than value given. → low level lab background present
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
J/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

trace = present but below MDL

DHHS 3065-1 (1/98)

PURGCOM2.ORG

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003609	003610	003611	003612	003613 (SULLIVAN WELL)	003614 (NEALY WELL)
	FIELD NO						
COMPOUND	TYPE	(2)	(3)	(2)	(3)	(1)	(1)
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
BROMODICHLOROMETHANE	0.5	u	u	u	u	u	u
CIS-1,3-DICHLOROPROPENE							
4-METHYL-2-PENTANONE							
TOLUENE						trace[c]	
TRANS-1,3-DICHLOROPROPENE						u	
1,1,2-TRICHLOROETHANE							
TETRACHLOROETHENE							
2-HEXANONE							
DIBROMOCHLOROMETHANE							
ETHYLENE DIBROMIDE							
CHLOROBENZENE							
1,1,1,2-TETRACHLOROETHANE							
ETHYL BENZENE							
XYLENES							
STYRENE							
BROMOFORM							
1,1,2,2-TETRACHLOROETHANE							
1,2,3-TRICHLOROPROPANE							
1,4-DICHLOROBENZENE							
1,2-DICHLOROBENZENE							
1,2,-DIBROMO-3-CHLOROPROPANE	2.0						
Hexane	(+)/(−)	(−)	(−)	(−)	(−)	(−)	(−)

trace = present but below MDL

C - Possible lab contamination or background.
J - Estimated value
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003615	003616	003617			
	FIELD NO						
COMPOUND	TYPE	(/)	(/)	TRIP (BLANK)	( )	( )	( )
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
CHLOROMETHANE	2.0	u	u	u			
VINYL CHLORIDE	↓	↓	↓	↓			
BROMOMETHANE	↓	↓	↓	↓			
CHLOROETHANE	↓	↓	↓	↓			
TRICHLOROFLUOROMETHANE	↓	↓	↓	↓			
1,1-DICHLOROETHENE	0.5	↓	↓	↓			
ACETONE	2.0	↓	↓	4.8 K			
IODOMETHANE	0.5	↓	↓	u			
CARBON DISULFIDE	↓	↓	↓	↓			
METHYLENE CHLORIDE	↓	↓	↓	↓			
ACRYLONITRILE	↓	↓	↓	↓			
TRANS-1,2-DICHLOROETHENE	↓	↓	↓	↓			
METHYL-t-BUTYL-ETHER	↓	↓	↓	↓			
1,1-DICHLOROETHANE	↓	↓	↓	↓			
ISOPROPYL ETHER	↓	↓	↓	↓			
CIS-1,2-DICHLOROETHENE	↓	↓	↓	↓			
2-BUTANONE	2.0	↓	↓	trace c			
TETRAHYDROFURAN	↓	↓	↓	trace			
CHLOROFORM	0.5	↓	↓	1.1			
1,1,1-TRICHLOROETHANE	↓	↓	↓	u			
CARBON TETRACHLORIDE	↓	↓	↓	↓			
BENZENE	↓	↓	↓	↓			
1,2-DICHLOROETHANE	↓	↓	↓	↓			
TRICHLOROETHENE	↓	↓	↓	↓			
1,2-DICHLOROPROPANE	↓	↓	↓	↓			
DIBROMOMETHANE	↓	↓	↓	↓			

C - Possible lab contamination or background
J - Estimated value
K - Actual value is known to be less than value given. → low level lab background present
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

trace = present but below MDL

STATE LABORATORY OF PUBLIC HEALTH
PO BOX 28047 - 306 N. WILMINGTON ST., RALEIGH, NC 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	LAB NO	003615	003616	003617			
	FIELD NO						
COMPOUND	TYPE	(/)	(/)	TRIP BLANK	( )	( )	( )
	MDL (ppb)	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm	ppb ppm
BROMODICHLOROMETHANE	0.5	u	u	u			
CIS-1,3-DICHLOROPROPENE							
4-METHYL-2-PENTANONE							
TOLUENE					trace		
TRANS-1,3-DICHLOROPROPENE					u		
1,1,2-TRICHLOROETHANE							
TETRACHLOROETHENE							
2-HEXANONE							
DIBROMOCHLOROMETHANE							
ETHYLENE DIBROMIDE							
CHLOROBENZENE					trace		
1,1,1,2-TETRACHLOROETHANE					u		
ETHYL BENZENE							
XYLENES					trace		
STYRENE					u		
BROMOFORM							
1,1,2,2-TETRACHLOROETHANE							
1,2,3-TRICHLOROPROPANE							
1,4-DICHLOROBENZENE							
1,2-DICHLOROBENZENE							
1,2-DIBROMO-3-CHLOROPROPANE	2.0						
Hexane	(+)/(−)	(−)	(−)	(−)			

trace = present but below MDL

C - Possible lab contamination or background.
J - Estimated value
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit.
NA - Not analyzed.
1/ - Tentative identification.
D - SAMPLE DILUTED. MDL'S DO NOT APPLY.

STATE LABORATORY OF PUBLIC HEALTH

P.O. B[redacted]28047 - 306 N. WILMINGTON, ST., RALEIG[redacted].C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003636	003637	003638	003639	003640	003641
	FIELD #	020971	020972	020973	020974	020975	020976
COMPOUND	TYPE	(2)	(3)	(2)	(3)	(1)	(1)
	UNITS	(ug/l) ~~mg/kg~~	~~mg/l~~ (ug/kg)	(ug/l) ~~mg/kg~~	~~mg/l~~ (ug/kg)	(ug/l) ~~mg/kg~~	(ug/l) ~~mg/kg~~
						Sullivan well	Neal's well
N-nitrosodimethylamine	10/330	U	U	U	U	U	U
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene	↓						
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether	↓						
diethyl phthalate	↓						
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene	↓						
4-bromophenylphenylether	↓						
hexachlorobenzene	↓						
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene	↓						
dibutyl phthalate	↓	✓	✓	✓	✓	✓	✓
fluoranthene	↓	✓	✓	✓	✓	✓	✓

MDL
H_2O/SOIL

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

STATE LABORATORY OF PUBLIC HEA

P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003636	003637	003638	003639	003640	00364
	FIELD #	020971	020972	020973	020974	020975	020976
COMPOUND	TYPE	(2)	(3)	(2)	(3)	(1)	(1)
	UNITS	µg/l ~~µg/kg~~	~~µg/l~~ µg/kg	µg/l ~~µg/kg~~	~~µg/l~~ µg/kg	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~
pyrene	10/330	u	u	u	u	u	u
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene	↓						
chrysene	↓						
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene	↓						
benzo(a)pyrene	↓						
indeno(1,2,3-cd)pyrene	↓						
dibenzo(a,h)anthracene	↓						
benzo(g,h,i)perylene	↓						
aniline	50/1650						
benzoic acid	↓						
benzyl alcohol	↓						
4-chloroaniline	↓						
dibenzofuran	10/330						
2-methylnaphthalene	↓						
2-methylphenol	↓						
4-methylphenol	↓						
2-nitroaniline	50/1650						
3-nitroaniline	↓						
4-nitroaniline	↓	✓	✓	✓	✓	✓	✓
2,4,5-trichlorophenol	↓	✓	✓	✓	✓	✓	✓

MDL

H_2O/501L

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

STATE LABORATORY OF PUBLIC HEALTH

P.O. BO[redacted]047 - 306 N. WILMINGTON, ST., RALEIGH, [redacted]C. 27611

Health well, Butler well

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003642	003643				
	FIELD #	020977	020978				
COMPOUND	TYPE	(/)	(/)	( )	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
N-nitrosodimethylamine	10/330	U	U				
bis(2-chloroethyl)ether							
2-chlorophenol							
phenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
1,2-dichlorobenzene							
bis(2-chloroisopropyl)ether							
hexachloroethane							
N-nitroso-di-n-propylamine							
nitrobenzene							
isophorone							
2-nitrophenol							
2,4-dimethylphenol							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
naphthalene							
hexachlorobutadiene							
4-chloro-m-cresol							
hexachlorocyclopentadiene							
2,4,6-trichlorophenol							
2-chloronaphthalene							
acenaphthylene							
dimethyl phthalate							
2,6-dinitrotoluene							
acenaphthene							
2,4-dinitrophenol	50/1650						
2,4-dinitrotoluene	10/330						
4-nitrophenol	50/1650						
fluorene	10/330						
4-chlorophenylphenylether							
diethyl phthalate							
4,6-dinitro-o-cresol	50/1650						
diphenylamine	10/330						
azobenzene							
4-bromophenylphenylether							
hexachlorobenzene							
pentachlorophenol	50/1650						
phenanthrene	10/330						
anthracene							
dibutyl phthalate		/	/				
fluoranthene							

MDL
H_2O/501L

- Estimated value.
- Actual value is known to be less than value given.
- Actual value is known to be greater than value given.
- Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
- Not analyzed.
- Tentative identification.
- On NRDC List of Priority Pollutants.

STATE LABORATORY OF PUBLIC HEALTH

P.O. BOX 28047 - 306 N. WILMINGTON, ST., RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

BASE/NEUTRAL AND ACID EXTRACTABLES	LAB NO	003642	003643				
	FIELD #	020977	020978				
COMPOUND	TYPE	(/)	(/)	( )	( )	( )	( )
	UNITS	µg/l ~~µg/kg~~	µg/l ~~µg/kg~~	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg	µg/l µg/kg
pyrene	10/330						
benzidine	50/1650						
butyl benzyl phthalate	10/330						
benz(a)anthracene							
chrysene							
3,3-dichlorobenzidine	50/1650						
bis(2-ethylhexyl)phthalate	10/330						
di-n-octyl phthalate	10/330						
benzo(b)fluoranthene	50/1650						
benzo(k)fluoranthene							
benzo(a)pyrene							
indeno(1,2,3-cd)pyrene							
dibenzo(a,h)anthracene							
benzo(g,h,i)perylene							
aniline	50/1650						
benzoic acid							
benzyl alcohol							
4-chloroaniline							
dibenzofuran	10/330						
2-methylnaphthalene							
2-methylphenol							
4-methylphenol							
2-nitroaniline	50/1650						
3-nitroaniline							
4-nitroaniline							
2,4,5-trichlorophenol							

MDL

H_2O/ 50/L

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected. The number is the Minimum Detection Limit. MDL
NA - Not analyzed.
1/ - Tentative identification.
2/ - On NRDC List of Priority Pollutants.

Federal
Trip Notification & Authorization

Prepared by: MIKE DEATON

Today's Date: 7/10/00

*Use Black Ink or Typewriter only-Staff to fill out first 2 blocks only.

Site Trip

Date of Trip: 7/26/00

If trip date changed or cancelled note below:
Trip Date Changed To: _____ Cancelled: ___

NCD#: NCSFN 0406 904 Site Name: OLD STAKE ROAD
City: CHADBOURN County: COLUMBUS

Reason for Trip: SITE INSPECTION

Name of Hotel (Overnight Trip): _____ Hotel Telephone Number: ( ) ___ - _____

Authorized by: _____
Industrial Hygienist

Project Team Leader: MIKE DEATON

Assistants: STEPHANIE GRUBBS, MELANIE BRYSON, SCOTT RYALS

Attach To Notification Form: 1 copy each:
Submit to the
Industrial Hygienist

Preliminary Assessment Form (First page only)
Site Map
PA Transmittal Letter

(Please list appropriate County Health Department contact person to call to advise of trip)
Environmental Supervisor or Health Director to call: William Horne Title: Program Super Env. Health
(Note if Dr., M.P., etc.)
Telephone Number: (910)640-6617

Notes: Health Department Official Contacted: William Horne
Back Up Letter Required: Yes ___ No ✓
Notified Mr. Horne on 7-10-00 (DBL)

Note: Signed original to Data Manager

file

NCDENR

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT

June 22, 2000

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

WILLIAM L. MEYER
DIRECTOR

Ms. Jennifer Wendel
NC Site Management Section
EPA Region IV Waste Division
61 Forsyth Street S.W., 11th Floor
Atlanta, Georgia 30303

RE: Sampling and Analysis Plan/Quality Assurance Project Plan
Old Stake Road Site
Preliminary Assessment/Site Inspection (PA/SI)
Chadbourn, Columbus County, North Carolina

Dear Ms. Wendel:

Enclosed is the proposed Sampling and Analysis/Quality Assurance Project Plan (SAP/QAPP) for the Old Stake Road (OSR) Site PA/SI sampling event, tentatively scheduled for the week of July 24, 2000. Upon reviewing the available file information, previous reports, and conducting on and off-site reconnaissance on March 15 and June 8, 2000, it has been determined that sampling is required in order to fully characterize and document the surface water, groundwater, and soil exposure pathways.

The OSR property is located on Old Stake Road (State Road 1300), about 4.5 miles south-southwest of the town of Chadbourn, Columbus County, North Carolina. The site is located in a rural area along Old Stake Road southwest of the Wards community. Two residences (Sullivan's and Nealey's) are located adjacent to the site. The eastern part of the site is open with sparse grass cover. The western part of the site is wooded with small open areas. The current owner of the site is Mr. David Soles. The site was reportedly used in the past by Mr. Soles' stepfather as part of a battery-cracking operation.

During EPA site investigations performed in February and June of 1999, the EPA encountered several areas at the site where the ground surface was covered with battery casing parts and other debris. Samples collected during the site characterization revealed lead concentrations significantly above the EPA cleanup standard of 400 milligrams per kilograms (mg/kg) on the OSR property. Concentrations of lead above the EPA cleanup standard were also discovered in samples collected from the Sullivan property, located just north of the OSR site. The EPA subsequently coordinated removal activities at the OSR site and the Sullivan property, in which approximately 1,311 tons of lead contaminated soil was removed.

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The Sullivan and Nealey residences near the site use groundwater for drinking. The surface water pathway is an accumulation of drainage ditches that border the property and meander down gradient to Beaver Dam Swamp, which is lined with Hazard Ranking System (HRS) qualifying wetland frontage. Site access is not restricted. Recent evidence of access and recreational use of the property, which included tire tracks from a four-wheel all-terrain vehicle, was discovered during the March 15, 2000 on-site reconnaissance.

On-Site Sampling

Composite surface soil samples (OSR-001 through 004-SL) will be collected in areas where qualifying removal efforts did not take place or were not completed due to inclement weather as stated in Tetra Tech's *Cercla Removal Action Report,* dated November 19, 1999. Groundwater samples (OSR-014-PW and OSR-015-PW) will be obtained from private water wells (Sullivan and Nealey). A surface water and sediment sample (OSR-006-SW/SD) will be collected at the convergence of drainage ditches surrounding the site in an attempt to document an observed release to surface water by overland flow.

Off-Site Sampling

The off-site sampling will consist of collecting surface water and sediment samples to document observed releases at the following locations: At two probable points of entry (PPE-1 and PPE-2) to Beaver Dam Swamp (OSR-007-SW/SD and OSR-012-SW/SD), at the intersection of Old Stake Road (SR 1300) and Beaver Dam Swamp (OSR-011-SW/SD), and just below 0.1 miles of Palustrine forested wetland frontage (OSR-013-SW/SD). Two background surface water and sediment samples (OSR-008-SW/SD and OSR-009-SW/SD) will be collected immediately upstream of PPE-1. One attribution surface water and sediment sample (OSR-010-SW/SD) will be taken just beyond two small tributaries, which drain from the north and west. A background groundwater sample (OSR-017-PW) will be collected at the Butler residence located at 6116 Old Stake Road, approximately 0.9-miles south of the OSR site. The private well used at the residence located at 4704 Old Stake Road, just north of the Sullivan's residence will be sampled (OSR-016-PW) due to the immediate public health potential of lead in their drinking water. A composite background surface soil sample (OSR-005-SL) will be obtained from an area of similar soil and cover not believed to be impacted by the OSR site.

This SAP/QAPP has been developed and sampling will be performed in accordance with the NC Superfund Section Quality Assurance Program Plan (Program Plan) and Quality Assurance Standard Operating Procedures (QASOP). The QASOP adopts by reference the Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, May 1996, U. S. Environmental Protection Agency, Region 4. The Program Plan is derived directly from the EPA-Approved NC Department of Environment and Natural Resources QA Plan for Data, 1999.

The attached table clearly identifies the samples and the rationale for taking these samples. Maps of the proposed on-site and off-site sampling locations are also attached. If you have any questions regarding the proposed SAP/QAPP, please call me at (919) 733-2801 ext. 298.

Sincerely,

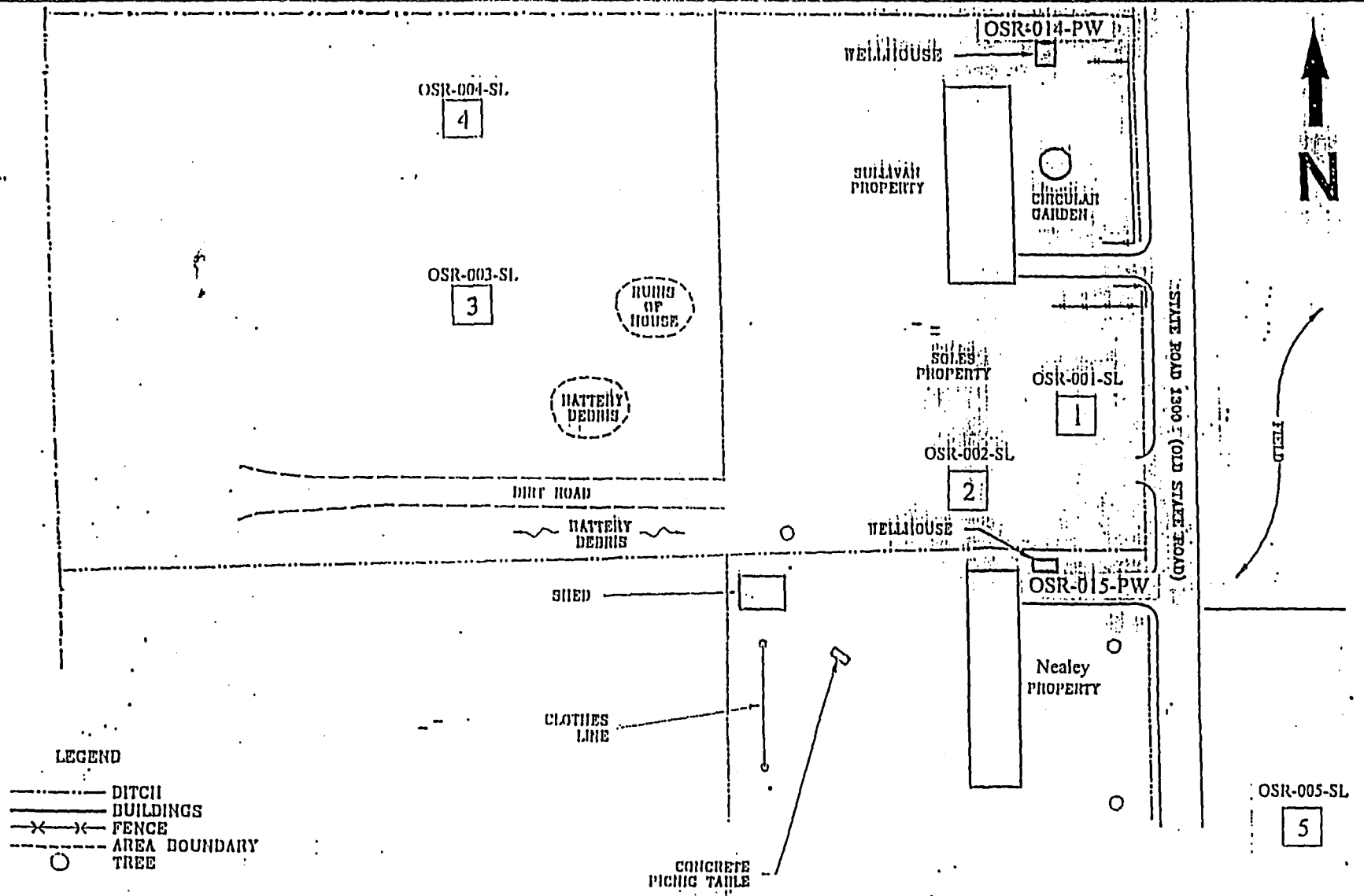
Michael S. Deaton
Environmental Engineer
NC Superfund Section

Approved: _____, Date:
Ms. Jennifer Wendel
NC Site Management Section

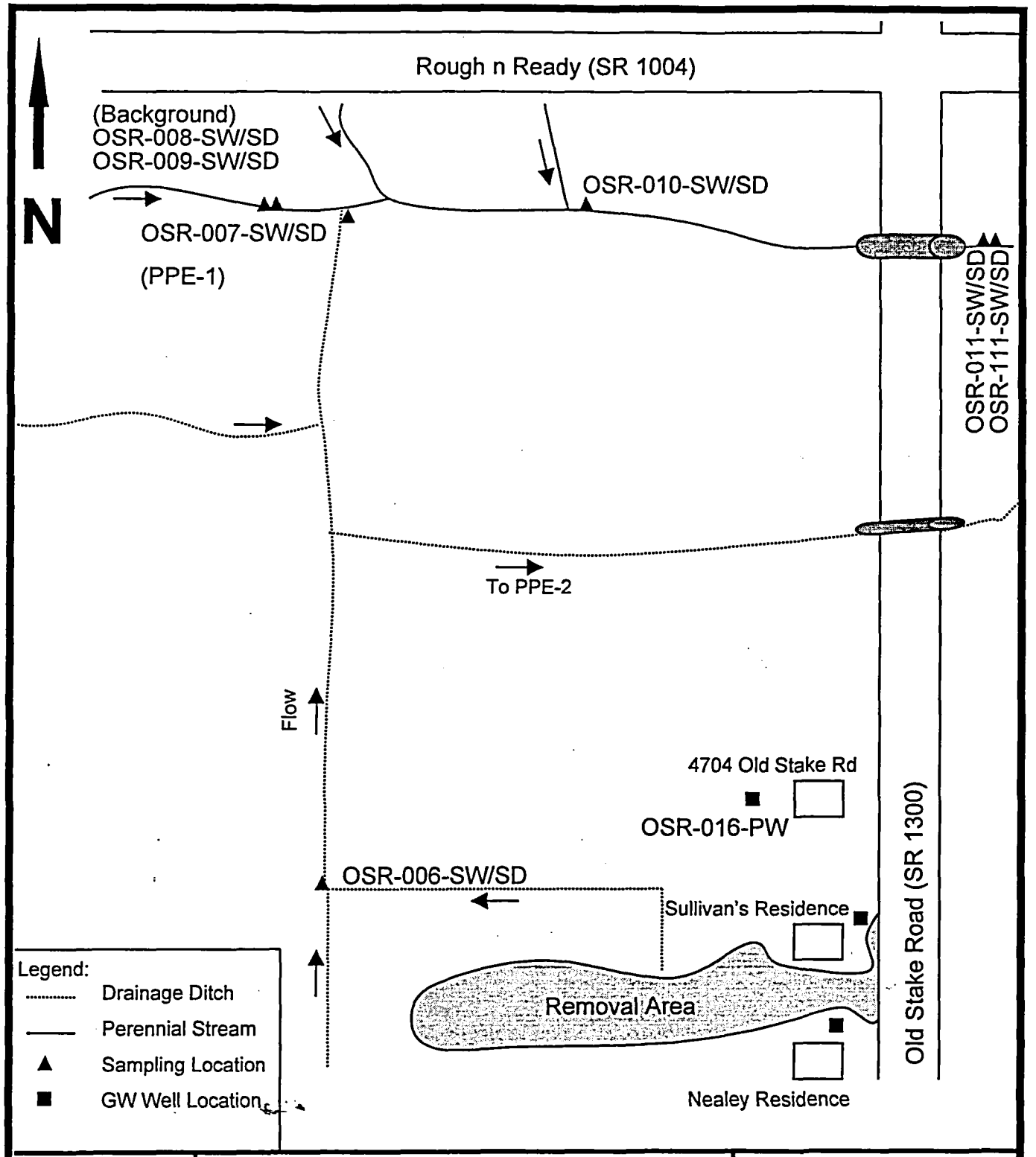
Sample Locations and Descriptions
Site Inspection - Old Stake Road Site
Chadbourn, Columbus County, North Carolina
NCSFN 0406 906

Sample Number	Location	Justification	Analyses
OSR-001-SL	Surface soil sample from source	Source sample (soil exposure/overland flow)	V, S, I
OSR-002-SL	Surface soil sample from source	Source sample (soil exposure/overland flow)	V, S, I
OSR-003-SL	Surface soil sample from source	Source sample (soil exposure/overland flow)	V, S, I
OSR-004-SL	Surface soil sample from source	Source sample (soil exposure/overland flow)	V, S, I
OSR-005-SL	Surface soil sample (off site, across street and upgradient)	Background surface soil sample	V, S, I
OSR-006-SW OSR-006-SD	Water and sediment sample at convergence of drainage ditches	Establish a release to surface water by overland flow	V, S, I
OSR-007-SW OSR-007-SD	Water and sediment at PPE-1	Establish a release to Beaver Dam Swamp	V, S, I
OSR-008-SW OSR-008-SD	Water and sediment sample	Background sample	V, S, I
OSR-009-SW OSR-009-SD	Water and sediment sample	Background sample	V, S, I
OSR-010-SW OSR-010-SD	Water and sediment sample	To attribute contamination off site	V, S, I
OSR-011-SW OSR-011-SD	Water and sediment sample collected downstream of SR 1300 intersection with Beaver Dam Swamp	To attribute contamination from SR 1300 and show release to fishery	V, S, I
OSR-111-SW OSR-1'11-SD	Water and sediment sample collected in same location as OSR-011-SW & OSR-011-SD	Duplicate samples of OSR-011-SW & OSR-012-SD	V, S, I
OSR-012-SW OSR-012-SD	Water and sediment sample at PPE-2	Establish a release to Beaver Dam Swamp	V, S, I
OSR-013-SW OSR-013-SD	Water and sediment sample	Release to 0.1-miles of PFO1A wetland frontage	V, S, I
OSR-014-PW	Sullivan Well	Public Health Concern/ HRS Target	V, S, I
OSR-015-PW	Earl Nealey Well	Public Health Concern/ HRS Target	V, S, I
OSR-016-PW	Michael Nealey Well	Public Health Concern/ HRS Target	V, S, I
OSR-017-PW	Billy Butler Well	Background groundwater sample	V, S, I
OSR-018-TB	Trip blank	QA/QC sample	V (water)
OSR-019-PB	Preservative blanks	QA/QC sample	I (water)

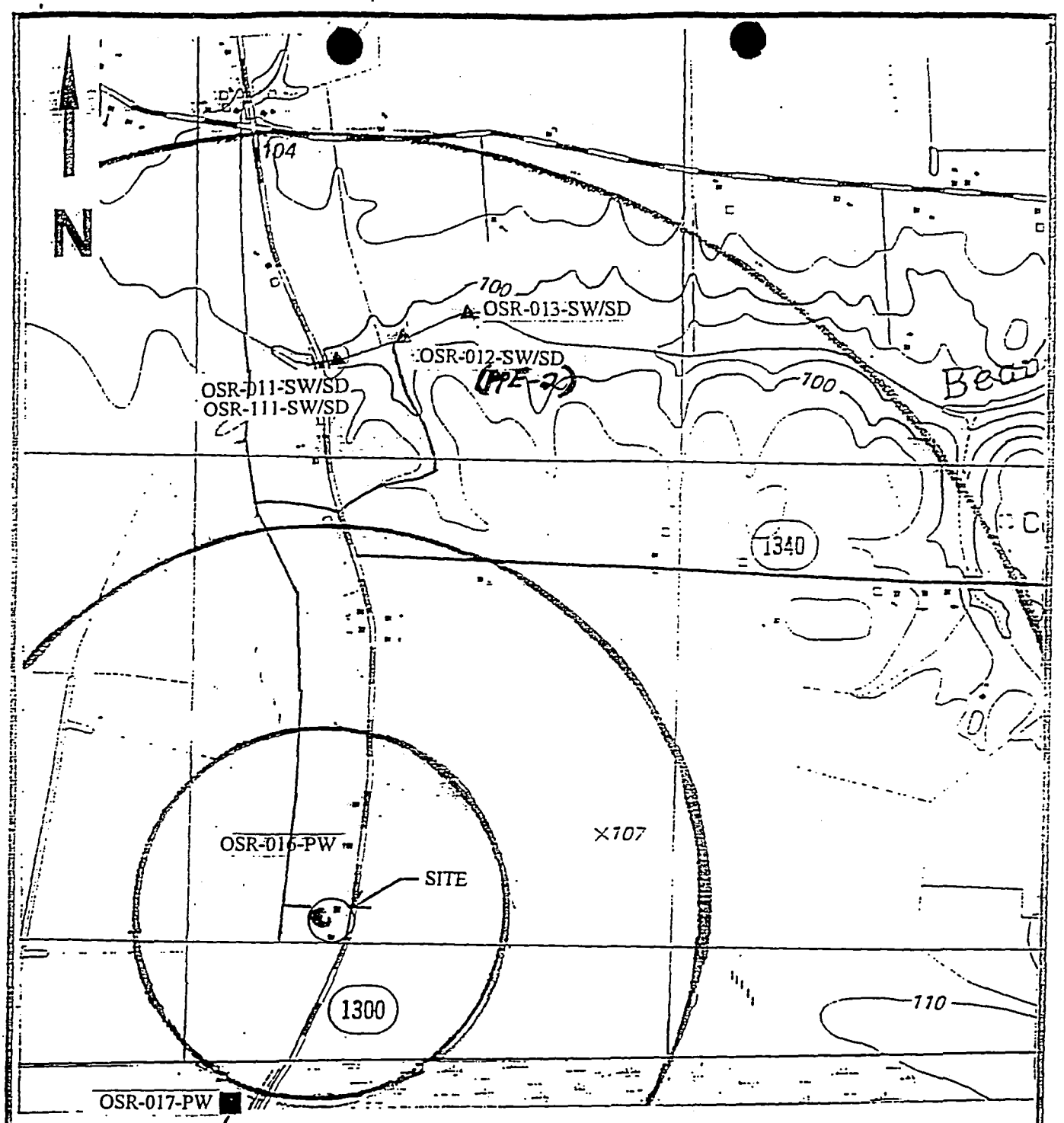
V= Volatile organics, S= Semi-volatile organics, I= Inorganic



NCDENR	TITLE: Onsite Sampling Locations for Site Inspection SITE NAME: Old Stake Road LOCATION: Chadbourn, Columbus County, NC US EPA ID #: NCSFN 0406 906	DRAWN BY: Mike Deaton SCALE: not to scale DATE: 04/19/00	FIGURE 1



NCDENR	TITLE: Off-site SW/SD Sampling Locations for Site Inspection	DRAWN BY: Mike Deaton SCALE: Not to Scale DATE: 06/20/00
	SITE NAME: Old Stake Road LOCATION: Chadbourn, Columbus County, NC US EPA ID # NCSFN 0406 906	FIGURE 2



SOURCE: MODIFIED FROM USGS, TABOR CITY EAST, NORTH CAROLINA-SOUTH CAROLINA QUADRANGLE, 1962, AND CHADBOURNE, NORTH CAROLINA QUADRANGLE, 1982.

NCDENR

TITLE: Off-site SW/SD Sampling Locations for Site Inspection (Cont'd)

DRAWN BY: Mike Deaton
SCALE: 1"=1000'
DATE: 06/15/00

SITE NAME: Old Stake Road
LOCATION: Chadbourn, Columbus County, NC
US EPA ID # NCSFN 0406 906

FIGURE 3

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CERCLA REMOVAL ACTION REPORT

OLD STAKE ROAD SITE

CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA

EPA Contract No.: 68-W5-0021

Final Report

Prepared for

U.S. Environmental Protection Agency
Region 4 Emergency Response and Removal Branch
61 Forsyth Street, SW
Atlanta, Georgia 30303

TDD No.	:	04-9905-0014
Date Prepared	:	November 19, 1999
Contract No.	:	68-W5-0021
Prepared by	:	Tetra Tech EM Inc.
START Project Manager	:	Heather Caudill
Telephone No.	:	(404) 225-5508
EPA Task Monitor	:	Tony Moore
Telephone No.	:	(404) 562-8756

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3.0	SITE CHARACTERIZATION	4
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CERCLA REMOVAL ACTION REPORT
OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA

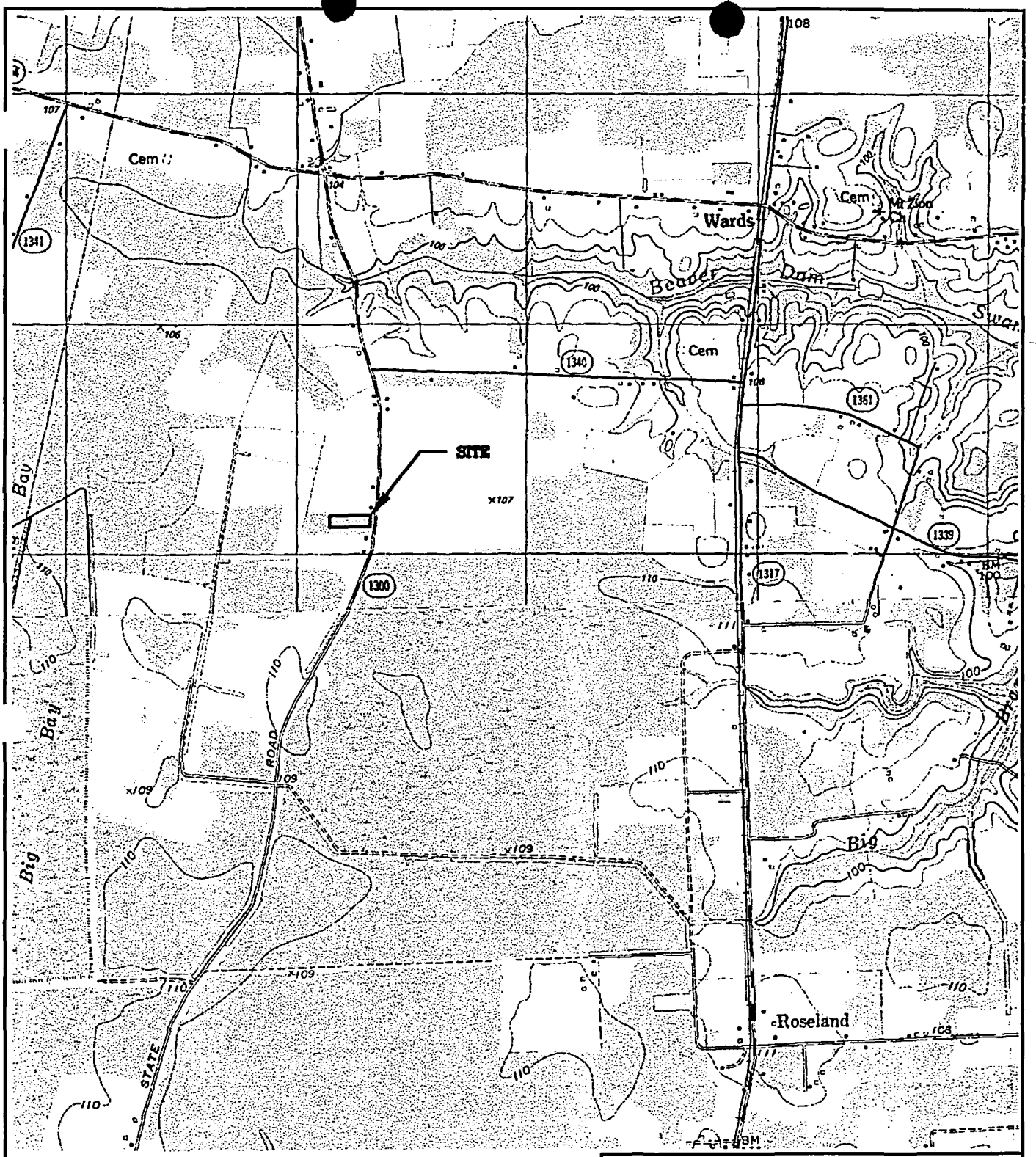
1.0 INTRODUCTION

This report has been prepared under the provisions of Technical Direction Document (TDD) No. 04-9905-0014. Under that TDD, the U.S. Environmental Protection Agency (EPA) Region 4 tasked the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START) to assist the Emergency and Rapid Response Services (ERRS) contractor with a site investigation and removal oversight that included soil sampling, air monitoring activities, written documentation of site activities (see Appendix A), photographic documentation of site conditions (see Appendix B), sample documentation activities, generation of site maps, and preparation of a removal report. Prior to mobilization, START also prepared a site health and safety plan. The Old Stake Road (OSR) Site is located on Old Stake Road (State Road 1300), about 4.5 miles south-southwest of Chadbourn, Columbus County, North Carolina. Figure 1 shows the general site location.

2.0 BACKGROUND

The OSR property is owned by David Soles. The site, which according to Mr. Soles is not associated with the nearby Guyton Battery Site (TDD No. 04-9901-0515), may have been used in the past by Mr. Soles' stepfather for battery-cracking operations. The site is located in a rural area along Old Stake Road; two residences are located adjacent to the site. The eastern part of the site is open, with sparse grass cover. The western part of the site is more wooded, with small open areas. The ruins of an old house are located in the central portion of the site.

During the site visit on February 19, 1999, and subsequent visits on June 7 and August 17, 1999, the ground surface in several areas at the site was covered with battery casing parts and other debris. A large pile of battery casings was located on the western portion of the site. A boat, a pile of asphalt shingles and metal roofing material, metal debris, broken glass, and other debris were also found on the site (see Figure 2).



0 1000 2000
SCALE IN FEET

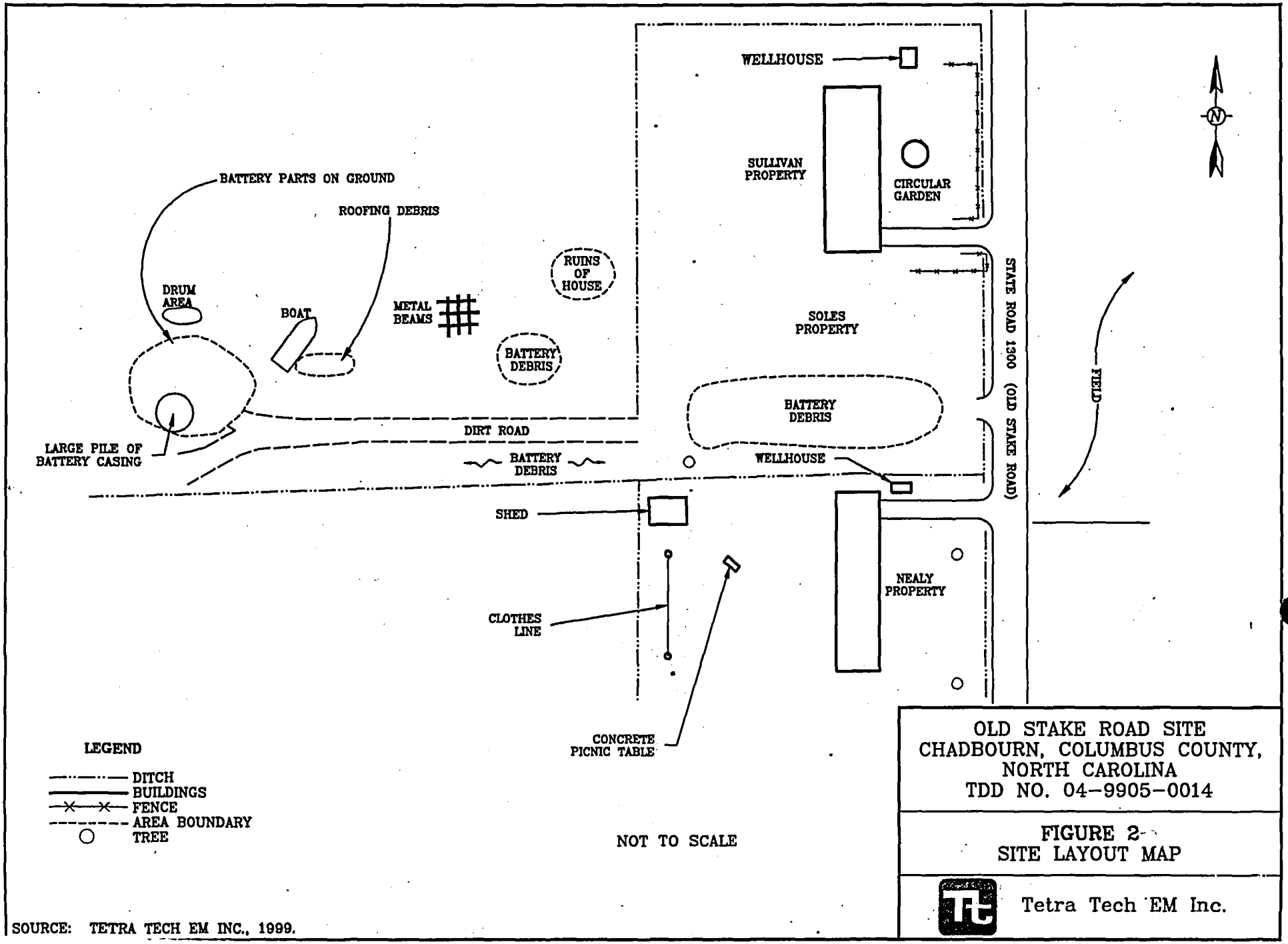
N

OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY,
NORTH CAROLINA
TDD NO. 04-9905-0014

FIGURE 1
SITE LOCATION MAP

Tetra Tech EM Inc.

SOURCE: MODIFIED FROM USGS, TABOR CITY EAST, NORTH CAROLINA-SOUTH CAROLINA QUADRANGLE, 1962, AND CHADBOURNE, NORTH CAROLINA QUADRANGLE, 1982.



SOURCE: TETRA TECH EM INC., 1999.

In February 1999, EPA and START mobilized to the OSR site and collected surface and subsurface soil samples from locations both on and off site. Because past uses for the property appeared to be limited to battery-cracking operations, the EPA On-Scene Coordinator (OSC), Warren Dixon, determined that soil samples would be sampled for inorganics only. Samples were submitted for inorganic analysis. Lead concentrations in several of the composite samples collected from the site were significantly above background concentrations. Concentrations of lead, above background concentrations, were also discovered in samples collected from the Sullivan property, located north of the OSR Site. EPA subsequently initiated removal activities at the OSR Site.

3.0 SITE CHARACTERIZATION

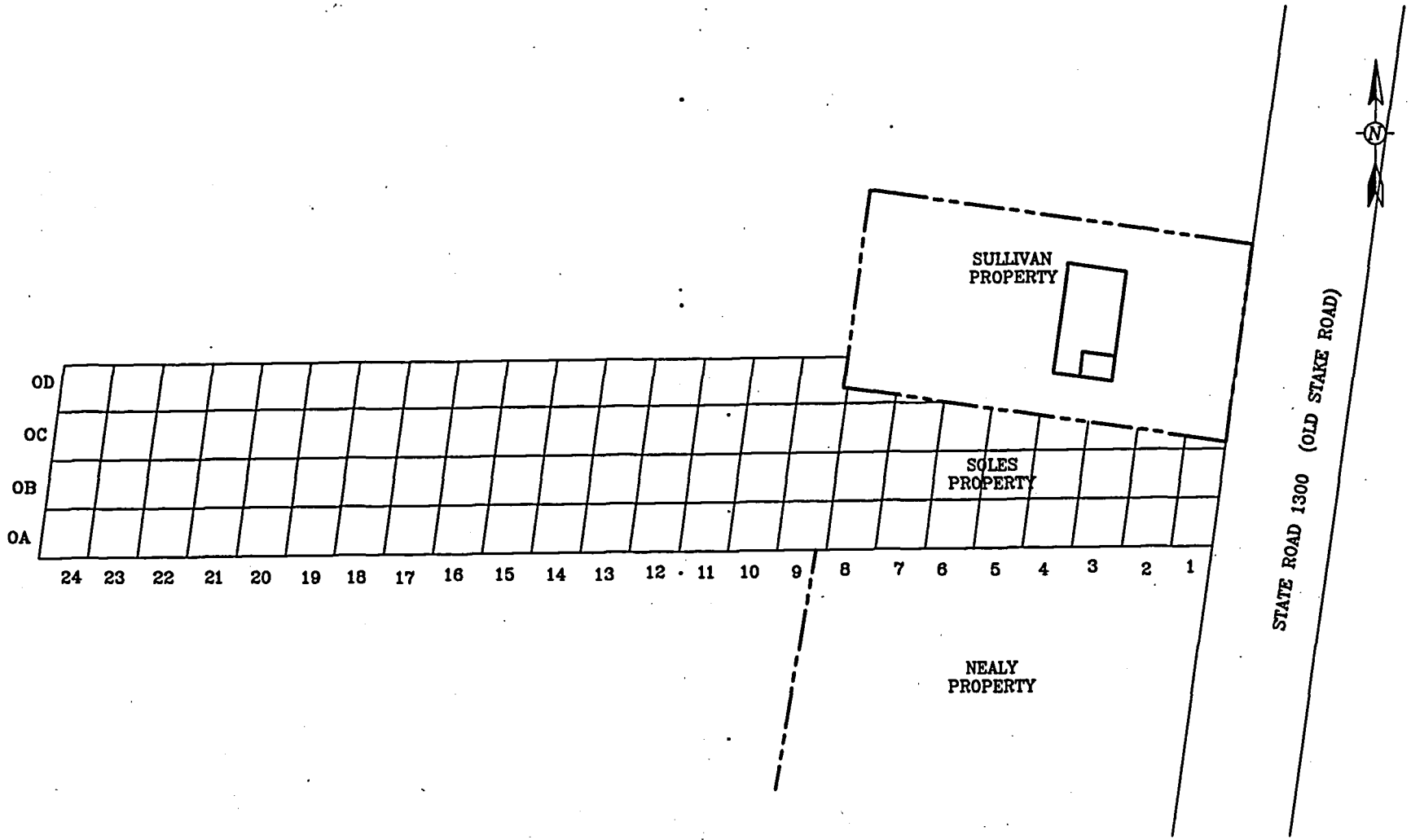
In June 1999, OSC Tony Moore, tasked START to assist the ERRS contractor with a sampling investigation at the OSR Site. The purpose of the investigation was to delineate the extent of soil contamination at the OSR Site. The ERRS contractor arranged for the site to be surveyed on a 25- by 25-foot grid scheme. START assisted the the ERRS Contractor with sample collection, sample documentation, site activity documentation, and air monitoring. The ERRS contractor procured the laboratory for the soil sample analysis. Soil samples collected from the OSR Site and surrounding properties, which includes the Sullivan property to the north and the Nealy property to the south, were analyzed for metals only. Because lead was the driver for the site, only the lead analytical results for the soil samples are discussed in this report.

Sampling activities were conducted between June 7 and 11, 1999. During this week, surface and subsurface soil samples were collected from the OSR Site and from two off-site locations. A total of 251 samples were collected on site and off site. In addition, background surface and subsurface soil samples were collected from an off-site location that was believed not to be impacted by the OSR Site. The following narrative describes activities conducted during this sampling event, as well as some of the observations made during the work.

On June 7, 1999, START representative Heather Caudill met on site with ERRS contractor representative Rodney Swinney. This group conducted a reconnaissance of the OSR Site. On June 8, 1999, representatives from START, ERRS, and EPA (OSC Moore) met to discuss the surveyed sampling grid and to finalize sampling locations and protocol for the site characterization. EPA notified the neighbors, the Sullivan and Nealy families, of impending sampling activities and requested access to their respective properties for sampling.

From June 9 through 11, 1999, START, ERRS sampling crews, and EPA set up decontamination and support areas and performed soil sampling activities. There were two sampling teams, which included the ERRS and START members. Sampling activities commenced started on the sampling grid at the Sullivan property. Grab samples were taken from each 25- by 25- foot grid. Samples were collected at the surface (0 to 3 inches) and at 1- and 2-foot intervals. Sampling activities were conducted in Level C, personal protective equipment (PPE), and START maintained air monitoring stations at three locations on the site (See Appendix A). Water obtained from the Sullivan's private well was used for dust suppression during site activities. Details of sampling procedures that were used by START during this work are provided in the logbook notes (see Appendix A). START relinquished samples to the ERRS contractor for delivery to the laboratory (Chain-of-Custody documentation is presented in Appendix C).

Separate sampling grids were established for the Sullivan and the Soles properties. Individual sampling points were established for the Soles property (see Figure 3) and the Sullivan property (see Figure 4). The Sullivan grids were designated with the "J" prefix and the Soles grids were designated with the "O" prefix. These prefixes were followed by alphabetical letters (A,B,C, or D) to reflect the column, and then a number to reflect the row, and finally an A, B, or C to depict sample depth. Surface soil samples (A) were collected from the ground surface to about 3 inches below land surface (bls). Subsurface soil samples were collected from about 1 (B) and 2 feet (C) bls. A table summarizing analytical results from the June 1999 sampling event are in Appendix C.



LEGEND

STRUCTURES
PROPERTY LINE
SAMPLING GRID

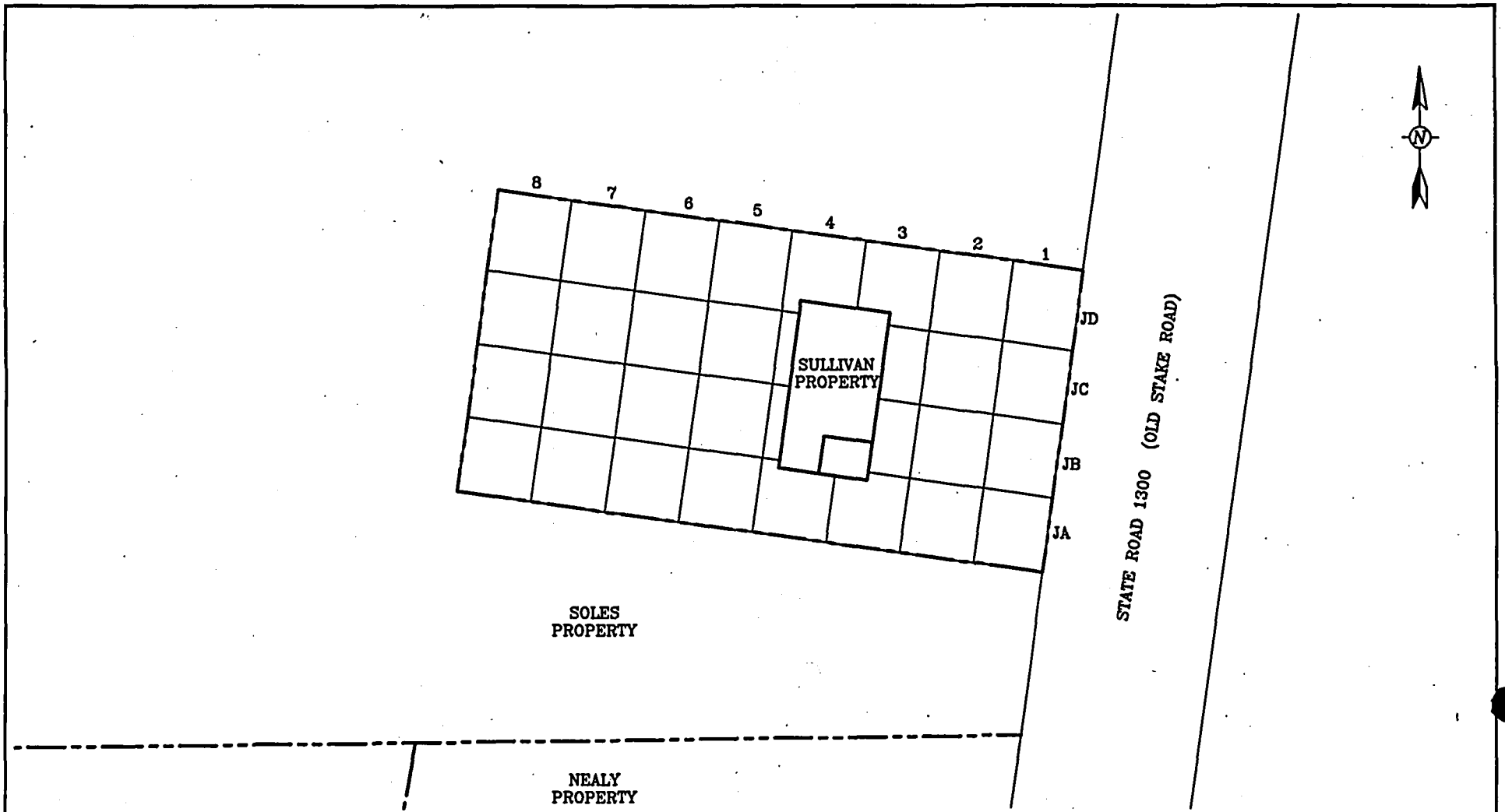
0 40 80
SCALE IN FEET

OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY,
NORTH CAROLINA
TDD NO. 04-9905-0014

FIGURE 3
SOLES SAMPLING GRID

Tetra Tech EM Inc.

SOURCE: MODIFIED FROM EARTHTECH, 1999.



LEGEND

STRUCTURES
PROPERTY LINE
SAMPLING GRID

0 25 50
SCALE IN FEET

SOURCE: MODIFIED FROM EARTHTECH, 1999.

OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY,
NORTH CAROLINA
TDD NO. 04-9905-0014

FIGURE 4
SULLIVAN SAMPLING GRID

Tetra Tech EM Inc.

In addition to samples collected from the gridded areas on the Soles and Sullivan properties, samples were collected from the ditch line along Old Stake Road and from the Nealy property. Fifteen grab surface samples were collected at 25-foot intervals from the ditch line along Old Stake Road. Surface samples were also collected from the Nealy property. Sampling locations are shown in Figure 5. Each of these samples were analyzed for lead only. These analytical results are presented in Appendix C

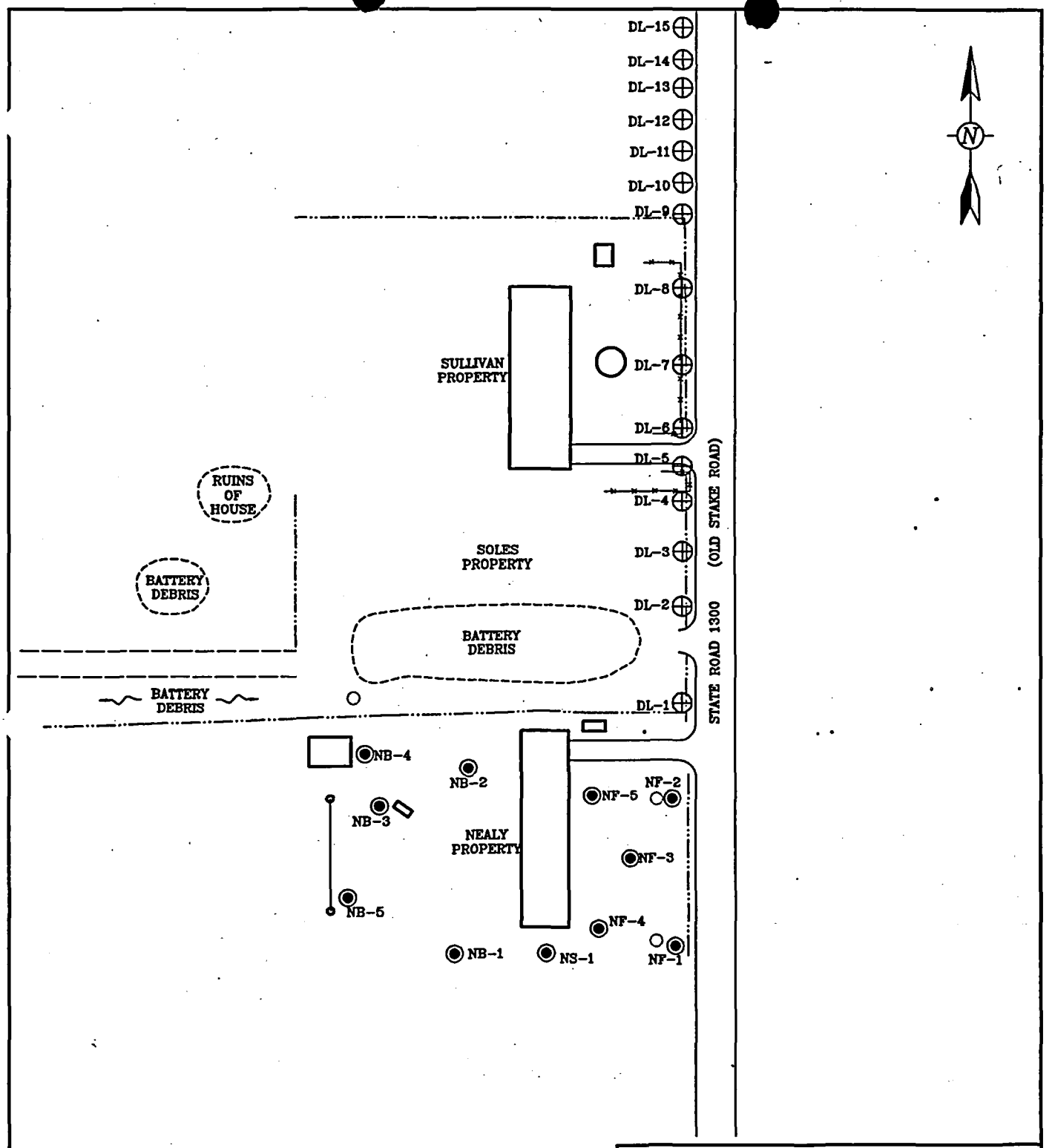
More detailed explanations of field activities conducted during the site characterization phase of the removal action can be found in Appendix A. Sample results were provided by the ERRS contractor and submitted to EPA under separate cover. A summary of the analytical results are attached in Appendix C. Documentation of site activity witnesses is included in Appendix D.

Sampling activites were completed on June 11, 1999, and ERRS and START demobilized from the site. Surface and subsurface soil sampling indicated that 48 grids and 175 feet ditch line on the Sullivan and Soles properties exceeded the EPA cleanup standard for lead of 400 milligrams per kilograms (mg/kg). Impacted grids and the ditch line will be excavated during the removal phase of field activities. These activites are described in the next section.

4.0 REMOVAL ACTIVITIES

On August 16, 1999, START returned to the site to provide confirmation sampling and removal oversight of the ERRS contractor under TDD No. 04-9905-0014. The ERRS contractor mobilized to the site on August 16, 1999, to begin removal operations of contaminated grids.

Prior to implementing removal activities, the ERRS response manager and START collected a water sample from the Sullivan's well at the request of OSC Moore. In addition, the ERRS field crew cleared vegetation from affected grids. Waste material on the OSR property not associated with battery-cracking (such as tires, shingles, metal sheets, and other debris) was moved to noncontaminated areas of the site. Any waste material that could not be separated from contaminated soil, including PPE, was removed from site with contaminated soil and debris. The removal consisted of excavating soil from grids from



LEGEND

- DITCH
- BUILDINGS
- FENCE
- AREA BOUNDARY
- TREE
- DL-1 DITCH LINE SURFACE SAMPLING LOCATIONS
- NF-1 NEALY SURFACE SAMPLING LOCATIONS

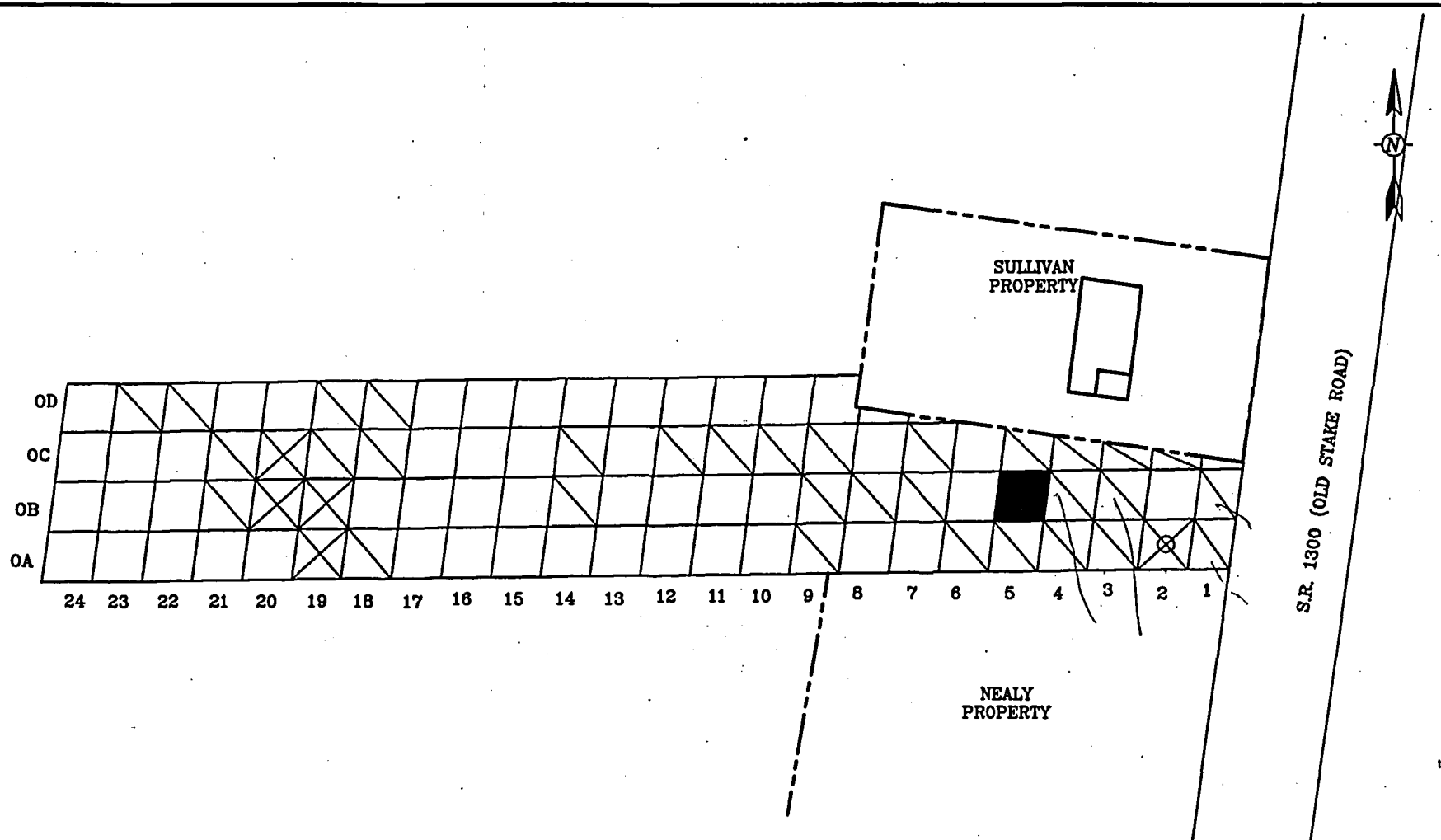
NOT TO SCALE

SOURCE: TETRA TECH EM INC., 1999.

OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA
TDD NO. 04-9905-0014

FIGURE 5
NEALY AND DITCH LINE SAMPLING LOCATIONS

Tetra Tech EM Inc.



LEGEND

- STRUCTURES
- PROPERTY LINE
- SAMPLING GRID
- 0.5-FOOT EXCAVATION
- 1.0-FOOT EXCAVATION
- 1.5-FOOT EXCAVATION
- 2.0-FOOT EXCAVATION

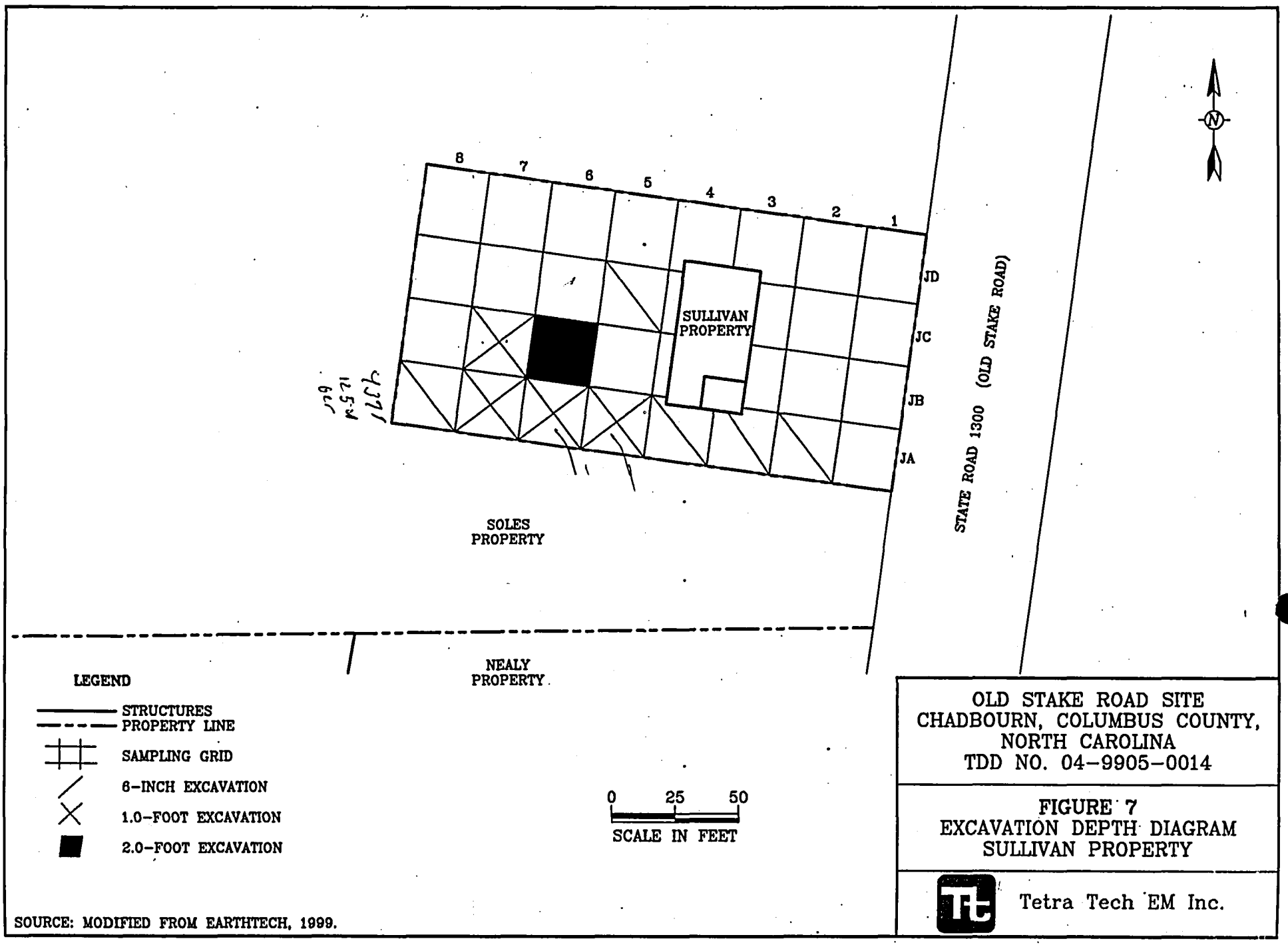
0 40 80
SCALE IN FEET

SOURCE: MODIFIED FROM EARTHTECH, 1999.

OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY,
NORTH CAROLINA
TDD NO. 04-9905-0014

FIGURE 6
EXCAVATION DEPTH DIAGRAM
SOLES PROPERTY

Tetra Tech EM Inc.



SOURCE: MODIFIED FROM EARTHTECH, 1999.

the Sullivan and Soles properties (see Figures 6 and 7) that exceeded the EPA cleanup standard for lead of 400 mg/kg. Excavation depths, shown in Figures 6 and 7, varied based on analytical results collected in the site characterization phase of removal activities (discussed in the previous section and in Appendices C and D). In addition, the ditch line was excavated about 175 feet along Old Stake Road. The excavated area, between DL-1 and DL-7 in Figure 5, extended north from the boundary between the Soles and the Nealy properties.

During removal activites, ERRS used water from the City of Chadbourn for dust suppression. In addition, polyethylene sheets were draped across both the Sullivan's and Nealy's carports to protect personal belongings from lead-impacted dust. The soil was stockpiled on the eastern portion of the Soles property in preparation for transportation and disposal activities. START collected confirmation samples from excavated grids. The laboratory for confirmation samples was contracted by ERRS for a 2-day turnaround. Section 5.0 of this report discusses sample collection methods, procedures, and analytical results. Analytical results for confirmation samples are provided in Appendix C. The ERRS contractor backfilled and graded excavated areas and spread grass seed and fertilizer in backfilled areas. Removal activities concluded on September 2, 1999.

The ERRS contractor transported 64 truck loads (approximately 1,311.66 tons) of contaminated soil and debris from the 48 contaminated grids and 175 feet of contaminated ditch line at the OSR Site for final disposal at the Pinewood Landfill in Pinewood, South Carolina. Based on the disposal profile and analytical results, contaminated soils and debris were shipped and disposed of with hazardous EPA waste codes.

5.0 ANALYTICAL RESULTS

START collected 47 confirmation composite soil samples from the 48 excavated grids and one water sample from the Sullivan's well. Confirmation samples were three-point surface composites that were collected, packaged, and shipped according to the EPA Region 4 Science and Ecosystems Support Divisions Environmental Investigation Manual (1996). Paradigm Analytical Laboratories, Inc. was contracted by the ERRS contractor to analyze the 47 composite soil samples for total lead and one water sample for pH and metals. Lead was not detected in the water sample obtained from the Sullivan's well. All confirmation soil samples analyzed exhibited lead levels below the EPA-established cleanup goal of 400 mg/kg or parts per million (ppm) except COA-1, COB-1, COB-3, COB-4, COB-20, CJA-5, CJA-6, and CJB-6. Grids OB-20, JA-5, JA-6, and JB-6 were excavated an additional 6 inches to the final depth shown in Figures 6 and 7 to meet the above- mentioned cleanup standard. The cleanup depth was

confirmed by previous analytical data from the site characterization phase (June 1999). The remaining grids, OA-1, OB-1, OB-3, and OB-4, were not excavated to greater depths, at OSC Moore's discretion. Because of inclement weather conditions (Hurricane Dennis) and delayed job schedules, these grids were backfilled, graded, and seeded prior to receiving confirmation sample results. START attached copies of the confirmation sampling analytical data from the ERRS contractor and summarized the results in Appendix C.

6.0 CONCLUSION

Under TDD No. 04-9905-0014, START was tasked to assist in the site characterization and removal activities of the OSR. In June 1999, OSC Moore, tasked START to assist the ERRS contractor with a sampling investigation at the OSR Site. The purpose of the investigation was to delineate the extent of soil contamination at the OSR Site. Based on the analytical results of this site investigation, START returned to the site on August 16, 1999, to perform confirmation sampling and removal oversight of the ERRS contractor.

The excavated contaminated soil and debris (approximately 1,311.66 tons) was excavated and disposed of as hazardous waste at the Pinewood Landfill in Pinewood, South Carolina. All confirmation samples analyzed exhibited lead levels below the EPA-established cleanup goal of 400 mg/kg (ppm), except COA-1, COB-1, COB-3, COB-4, COB-20, CJA-5, CJA-6, and CJB-6. Grids OB-20, JA-5, JA-6, and JB-6 were excavated an additional 6 inches to the final depth shown in Figures 6 and 7 to meet the above-mentioned cleanup standard. The cleanup depth was confirmed by previous analytical data from the site characterization phase. The remaining grids, OA-1, OB-1, OB-3, and OB-4, were not excavated to greater depths, at OSC Moore's discretion. Because of inclement weather conditions (Hurricane Dennis) and delayed job schedules, these grids were backfilled, graded, and seeded prior to receiving confirmation sample results.

By September 2, 1999, ERRS, START, and EPA had completed all planned removal activities and had demobilized from the OSR Site.

APPENDIX C

ANALYTICAL REPORTS AND DATA

June 1999 Sampling Event

August through September 1999 Confirmation Sampling Event

(102 Pages)

Tetra Tech EM INC. (formerly PRC Environmental Management, Inc.)
285 Peachtree Center Avenue, Suite 900 ♦ Atlanta, Georgia 30303 ♦ (404) 522-2867 ♦ (404) 577-4070 (fax)

MEMO

To: Start File

From: Heather Caudill

Date: 11/18/99

RE: ERRS Analytical Report for the June 1999 Sampling Event

TDD# 04-9905-00148

☐ **Urgent** X **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

Comments:

Paradigm Analytical Laboratories, Inc. was procured by the Emergency and Rapid Response (ERRS) contractor to perform the following analysis on soil samples: target analyte list (TAL) for metals and TAL for lead only. Analytical data and chains of custody for sampling activities performed in June 1999 were submitted to Environmental Protection Agency by ERRS prior to initiation of removal activities at Old Stake Road. Summary tables depicting the lead results and the chains of custody for Old Stake Road are attached on the following pages.

SUMMARY OF SAMPLE RESULTS FOR LEAD ON THE SOLES PROPERTY

OLD STAKE ROAD SITE TDD# 04-9905-00148

JUNE 1999

SAMPLE ID	RESULT (MG/L) A (0 – 3 INCHES)	RESULT (MG/L) B (1 FOOT)	RESULT (MG/L) C (2 FEET)
OA-1	**1,090**	12.5	8.02
OA-2	**10,100**	**804**	**1,120**
OA-3	**6,610**	9.75	5.16
OA-4	**1,730**	6.14	6.00
OA-5	**811**	11.60	2.83
OA-6	**1,140**	27.2	3.2
OA-7	59.7	6.0	5.2
OA-8	107	61	18
OA-9	**1,450**	4.33	2.18
OA-10	163	5.9	3.8
OA-11	104	5.3	3.7
OA-12	78.3	5.0	4.7
OA-13	33.1	5.8	4.1
OA-14	35.6	9.1	3.1
OA-15	9.0	8.0	2.8
OA-16	13.6	3.9	3.6
OA-17	32.4	29.8	7.5
OA-18	**1,760**	206	25.1
OA-19	**635**	393	18.0
OA-20	68.8	5.3	5.3
OA-21	41.8	4.0	6.5

Notes:

Bolded and shaded - Analytical results exceeded the EPA cleanup standard of 400 mg/kg for lead

SUMMARY OF SAMPLE RESULTS FOR LEAD ON THE SOLES PROPERTY
OLD STAKE ROAD SITE TDD# 04-9905-00148
JUNE 1999

SAMPLE ID	RESULT (MG/L) A (0 – 3 INCHES)	RESULT (MG/L) B (1 FOOT)	RESULT (MG/L) C (2 FEET)
OA-22	38.4	6.0	4.9
OB-1	**4,580**	4.18	4.50
OB-2	243	10.3	27.5
OB-3	**6,050**	58.0	81.4
OB-4	**17,300**	111	19.5
OB-5	**24,000**	26.8	**3,600**
OB-6	14.5	6.07	7.9
OB-7	**1,260**	9.8	5.1
OB-8	**1,160**	9.1	4.0
OB-9	**417**	30.1	9.09
OB-10	224	4.9	4.1
OB-11	188	9.06	6.84
OB-12	106	12.6	9.9
OB-13	40.0	4.1	6.2
OB-14	705	4.1	3.1
OB-15	43.7	30.3	4.9
OB-16	41.5	4.4	4.7
OB-17	32.2	3.5	5.2
OB-18	308	12.0	10.4
OB-19	**83,700**	**593**	34.1

Notes:

Bolded and shaded - Analytical results exceeded the EPA cleanup standard of 400 mg/kg for lead

SUMMARY OF SAMPLE RESULTS FOR LEAD ON THE SOLES PROPERTY
OLD STAKE ROAD SITE TDD# 04-9905-00148
JUNE 1999

SAMPLE ID	RESULT (MG/L) A(0 – 3 INCHES)	RESULT (MG/L) B (1 FOOT)	RESULT (MG/L) C (2 FEET)
OB-20	**1,510**	199	197
OB-21	**548**	84.8	7.61
OB-22	202	7.06	5.33
OB-23	17.7	10.8	10.3
OC-1	277	4.2	3.3
OC-2	**2,780**	5.0	6.5
OC-3	**1,080**	3.5	8.8
OC-4	**1,960**	14.1	4.7
OC-5	**10,200**	8.8	7.3
OC-6	**972**	10.1	3.7
OC-7	**1,110**	3.6	3.4
OC-8	223	2.6	3.4
OC-8	**1,430**	4.2	6.4
OC-10	**4,900**	3.2	3.9
OC-11	**550**	2.9	5.1
OC-12	**2,030**	4.2	4.6
OC-13	60.3	3.2	8.6
OC-14	**539**	1.9	5.2
OC-15	98.8	13.2	6.4

Notes:

Bolded and shaded - Analytical results exceeded the EPA cleanup standard of 400 mg/kg for lead

SUMMARY OF SAMPLE RESULTS FOR LEAD ON THE SOLES PROPERTY
OLD STAKE ROAD SITE TDD# 04-9905-00148
JUNE 1999

SAMPLE ID	RESULT (MG/L) A (0 – 3 INCHES)	RESULT (MG/L) B (1 FOOT)	RESULT (MG/L) C (2 FEET)
OC-16	293	2.8	2.3
OC-17	61.2	1.8	4.1
OC-18	**2,840**	29.6	9.6
OC-19	**6,960**	136	273
OC-20	**52,600**	**884**	188
OC-21	**41,500**	17	31.4
OC-22	57.6	10.4	12.4
OC-23	86.6	5.9	21.9
OC-24	188	4.96	4.97
OD-18	**1,200**	12.4	4.92
OD-19	**658**	4.33	BQL
OD-20	237	12.4	9.88
OD-21	53.0	2.97	5.72
OD-22	**975**	19.9	13.3
OD-23	**425**	7.99	9.10

Notes:

Bolded and shaded - Analytical results exceeded the EPA cleanup standard of 400 mg/kg for lead

SUMMARY OF SAMPLE RESULTS FOR LEAD IN THE DITCHLINE
AND ON THE NEALY PROPERTY
OLD STAKE ROAD SITE TDD# 04-9905-00148
JUNE 1999

SAMPLE ID	RESULT (MG/L)	SAMPLE ID	RESULT (MG/L)
DL-1	**4,940**	NF-1	29.1
DL-2	**1,580**	NF-2	103
DL-3	**1,160**	NF-3	24.3
DL-4	**1,080**	NF-4	21.3
DL-5	**819**	NF-5	68.2
DL-6	**505**	NS-1	13.9
DL-7	**967**	NB-1	8.3
DL-8	216	NB-2	5.9
DL-9	168	NB-3	6.3
DL-10	131	NB-4	6.3
DL-11	95.7	NB-5	6.3
DL-12	107		
DL-13	136		
DL-14	118		
DL-15	117		

Notes:

Bolded and shaded - Analytical results exceeded the EPA cleanup standard of 400 mg/kg for lead

COA = 1 = Composite Grid OA 1

SUMMARY OF CONFIRMATION SAMPLE RESULTS FOR LEAD
SOLES PROPERTY - OLD STAKE ROAD SITE
TDD# 04-9905-00148

SAMPLE ID	RESULT (MG/L)	SAMPLE ID	RESULT (MG/L)
COA-1**	**755**	COB-21	7.11
COA-2	102	COC-2	NT
COA-3	180	COC-3	60.5
COA-4**	**780**	COC-4	2.28
COA-5	10.0	COC-5	17.2
COA-6	164	COC-7	NT
COA-9	25.5	COC-9	3.27
COA-18	55.3	COC-10	29.7
COA-19	7.53	COC-11	4.26
COB-1**	**1280**	COC-12	2.58
COB-2	24.0	COC-14	3.45
COB-3**	**444**	COC-18	3.28
COB-4	68.8	COC-19	28.9
COB-5	61.6	COC-20	9.99
COB-7	120	COC-21	3.37
COB-8	47.7	COD-18	5.14
COB-9	11.1	COD-19	12.7
COB-14	13.8	COD-22	64.2
COB-19	8.63	COD-23	27.2
COB-20*	**539**		

Notes:

Bolded – sample results exceeded the EPA cleanup standard of 400 mg/kg

* - Based on analytical data collected during the June 1999 sampling event, grids were excavated an additional 6 inches to meet the EPA cleanup standard of 400 mg/kg (ppm)

** - Confirmation samples exceeded the EPA cleanup standard, but additional excavation was not performed due to inclement weather and scheduling at the On Scene Coordinator's discretion.

NT – confirmation sample was not collected

SUMMARY OF CONFIRMATION SAMPLE RESULTS FOR LEAD
SULLIVAN PROPERTY - OLD STAKE ROAD SITE
TDD# 04-9905-00148

SAMPLE ID	RESULT (MG/L)
CJA-2	3.95
CJA-3	4.25
CJA-4	356
CJA-5*	**1270**
CJA-6*	**743**
CJA-7	110
CJA-8	50.1
CJB-6*	**493**
CJB-7	59
CJC-5	353

343

Notes:

Bolded – sample results exceeded the EPA cleanup standard of 400 mg/kg

* - Based on analytical data collected during the June 1999 sampling event, grids were excavated an additional 6 inches to meet the EPA cleanup standard of 400 mg/kg (ppm)

** - Confirmation samples exceeded the EPA cleanup standard, but additional excavation was not performed due to inclement weather and scheduling at the On Scene Coordinator's discretion.

NT – confirmation sample was not collected

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12461

Page 1 of ___ of ___

Client: EarthTech
Address: 2161 New Market Parkway, #101
Address: Marietta, GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-RC6
Contact: G. Mick, R. Swing
Phone: (770) 850-0777

Date: 6/9/99
Turnaround: 5 days
Job Number: 3560

Report To: G. Mick @ EarthTech
Invoice To: Address in Schedule

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL Pb only										Comments: Please specify any special reporting requirements	g	porting
JA-1A	6/9	9:30	Soil	✓				✓										229 MG/KG		
JA-1B	6/9	9:30	"	✓				✓										2.13		
JA-1C	6/9	9:30	"	✓				✓										4.39		
JA-2A	6/9	9:40	"	✓				✓										400		
JA-2B	6/9	9:40	"	✓				✓										5.84		
JA-2C	6/9	9:40	"	✓				✓										4.32		
JA-3A	6/9	10:15	"	✓				✓										706		
JA-3B	6/9	10:15	"	✓				✓										3.32		
JA-3C	6/9	10:15	"	✓				✓										3.74		

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[signature]	6/9/99	1825	[signature]	6/9/99	1825		[signature]		

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2627 Northchase Parkway SE, Wilmington, NC 28405
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Chain-of Custody Record & Analytical Request

COC# 12-32

Page 2 of

Client: EarthTech
Address: 2161 New Market Pkwy
Address: Marietta,
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-RCB
Contact: G-Mick, RSainsel
Phone:

Date: 6/9/99
Turnaround: 5 days
Job Number: 35640

Report To: G-Mick @ EarthTech
Invoice To: Address in Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE	Analyses: TALC (Phony)	Comments: Please specify any special reporting requirements
JB-1A	6/9	0930	Soil	✓	✓	108 mg/kg
JB-1B	6/9	0930	"	✓	✓	7.27
JB-1C	6/9	0930	"	✓	✓	5.29
JB-2A	6/9	0950	"	✓	✓	210
JB-2B	6/9	0950	"	✓	✓	3.42
JB-2C	6/9	0950	"	✓	✓	3.83
JB-3A	6/9	1025	"	✓	✓	275
JB-3B	6/9	1025	"	✓	✓	5.51
JB-3C	6/9	1025	"	✓	✓	3.89

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
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Chain-of Custody Record & Analytical Request

COC#. 12 3

Page 3 of

Client: Earth Tech
Address: 2101 New Market Pkwy
Address: Marietta GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-ACB
Contact: G. Mick, Rswin
Phone: (770) 850-0775

Date: 6/9/99
Turnaround: 5 day
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To: Address in Submittal

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (Barium)										Comments: Please specify any special reporting requirements
JC-1A	6/9	0940	Soil	✓				✓										136 mg/kg
JC-1B	6/9	0940	"	✓				✓										3.99
JC-1C	6/9	0940	"	✓				✓										3.53
JC-2A	6/9	1000	"	✓				✓										250
JC-2B	6/9	1000	"	✓				✓										2.65
JC-2C	6/9	1000	"	✓				✓										3.02
JC-3A	6/9	1005	"	✓				✓										79.4
JC-3B	6/9	1005	"	✓				✓										344
JC-3C	6/9	1005	"	✓				✓										4.26

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Chain-of Custody Record & Analytical Request

COC# 12404

Page 4 of

Client: EarthTech
Address: 2161 New Market Pkwy
Address: Murrietta GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-R6
Contact: G Mick, R Swinel
Phone: (770)850-0777

Date: 6/9/99
Turnaround: 5 days
Job Number: 35610

Report To: G Mick @ EarthTech
Invoice To: [illegible]

Sample ID	Date	Time	Matrix	Preservatives: Ice	Analyses: TRC (Boron)	Comments: Please specify any special reporting requirements
JD-1A	6/9	0950	Soil	✓	✓	18.2 MG/KG
JD-1B	6/9	0950	"	✓	✓	3.87
JD-1C	6/9	0950	"	✓	✓	3.68
JD-2A	6/9	1005	"	✓	✓	123
JD-2B	6/9	1005	"	✓	✓	6.51
JD-2C	6/9	1005	"	✓	✓	2.92
JD-3A	6/9	1020	"	✓	✓	107
JD-3B	6/9	1020	"	✓	✓	9.00
JD-3C	6/9	1020	"	✓	✓	3.80

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2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12 57

Page 5 of

Client: Earth Tech
Address: 2101 New Market PKWY
Address: Marietta, GA
Quote #:

Project ID: Old Stakeboard
P.O. Number: 995-0468-RCB
Contact: G. Mick / R. Swim
Phone: (770) 850-077

Date: 6/9/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech

Invoice To: Per-Contract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL Cd only									Comments: Please specify any special reporting requirements
JA-4A	6/9	1100	Soil	✓				✓									535 mg/kg
JA-4B	6/9	1100	"	✓				✓									2.41
JA-4C	6/9	1100	"	✓				✓									3.23
JD-4A	6/9	1100	"	✓				✓									162
JD-4B	6/9	1100	"	✓				✓									4.31
JD-4C	6/9	1100	"	✓				✓									3.88
JA-5A	6/9	1110	"	✓				✓									507
JA 5B	6/9	1110	"	✓				✓									5.82
JA 5C	6/9	1110	"	✓				✓									4.88

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Chain-of Custody Record & Analytical Request

COC# 12.06

Page 6 of

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marietta GA
Quote #:

Project ID: Old State Road
P.O. Number: 995-0462-R46
Contact: G. Mick, R. Surrey
Phone: (770) 850-0777

Date: 6/9/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To: for Contract

Sample ID	Date	Time	Matrix	Preservatives: ICE	Preservatives: HNO3			Analyses: TAL (Pb)								Comments: Please specify any special reporting requirements
JB-5A	6/9	1145	Soil	✓				X								204 MG/KG
JB-5B	6/9	1145	"	✓				X								56.4
JB-5C	6/9	1145	"	✓				X								30.0
JC-5A	6/9	1120	"	✓				X								255
JC-5B	6/9	1120	"	✓				X								580
JC-5C	6/9	1120	"	✓				X								5.20
JD-5A	6/9	15:15	"	✓				X								109
JD-5B	6/9	15:15	"	✓				X								4.58
JD-5C	6/9	15:15	"	✓				X								6.52
Rinsate-01	6/9	4:40PM	water	✓	✓			X								BQL

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[signature]	6/9/99	1835	[signature]	6/9/99	1835		[signature]	

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Chain-of Custody Record & Analytical Request

COC# 124 4

Page 1 of 4

Client: Earth Tech
Project ID: Old Stake Rd
Date: 6/ 199
Report To: George Mick @ Earth Tech
Address: 2161 New Market Parkway
P.O. Number: 995-0462-RCb
Turnaround: 5 days
Address: Suite 262, Marietta, GA 30067
Contact: G. Mick R. Swiney
Job Number: 356
Quote #:
Phone: (770) 850-0777
Invoice To: Per Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (AO only)	Tall Bee								Comments: Please specify any special reporting requirements
JA-8C	6/9/199	1515	Soil	✓				X									336 MG/KG
JA-8A	6/9/199	1515	"	✓				X									641 MG/KG
JA-8B	6/9/199	1515	"	✓				X									163 MG/KG
JB-8A	6/9/199	1525	"	✓				X									105 MG/KG
JB-8C	6/9/199	1525	"	✓				X									7.0 MG/KG
JB-8B	6/9/199	1525	"	✓				X									4.97 MG/KG
JC-8A	6/9/199	1535	"	✓				X									50.1
JC-8B	6/9/199	1535	"	✓				X									DC ~~4.16~~ 4.16
JC-8C	6/9/199	1535	"	✓				X									3.91
	6/ 199		"	✓													

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[signature]	6/10/99	0950	[signature]	6/10/99	0945		[signature] Tom Hodge	
[signature]	6/10/99	12:20	Heath Andrews	6/10/99	12:15			
Heath Andrews	6/10/99	12:30	[signature]	6/10/99	13:30	OH ICE	0.4°C	

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EARTH TECH OLD ATC
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Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12416

Page 2 of 4

Client: Earth Tech
Address: 2161 New Market Parkway
Address: Suite 262, Marietta, GA 30067
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-R06
Contact: G. Mick, R. Swiney
Phone: (770) 850-0777

Date: 6/ /99
Turnaround: 5 days
Job Number: 356

Report To: George Mick @ Earth Tech
Invoice To: for Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (Boron)	BE	TPH							Comments: Please specify any special reporting requirements
JD-8A	6/9/99	1600	Soil	✓				X									27.6 mg/kg
JD-8B	6/9/99	1600	"	✓				X									4.50
JD-8C	6/9/99	1600	"	✓				X									9.86
JD-7A	6/9/99	1540	"	✓				X									48.5
JD-7C	6/9/99	1540	"	✓				X									3.78
JD-7B	6/9/99	1540	"	✓				X									2.89
JC-7A	6/9/99	1545	"	✓				X									153
JC-7B	6/9/99	1545	"	✓				X									5.18
JC-7C	6/9/99	1545	"	✓				X									4.70

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/10/99	0850	[illegible]	6/10/99	0945		[illegible]	
[illegible]	6/10/99	1220	[illegible]	6/10/99	1220			
[illegible]	6/10/99	1530	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903; FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12 3

Page 3 of 4

Client: Earth Tech
Address: 2161 New Market Parkway
Address: Suite 262, Marietta, GA 30067
Quote #:

Project ID: Old Stake Rd
P.O. Number: 995-0462-RC6
Contact: Mick R. Swiney
Phone: (770) 850-0777

Date: 6/ /99
Turnaround: 5 days
Job Number: 356

Report To: George Mick @ Earth Tech
Invoice To: Pei Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (Pb only)	TAL Hg								Comments: Please specify any special reporting requirements
JA-7A	6/9/99	1145	Soil	✓				X									591 mg/kg
JA-7B	6/9/99	1145	"	✓				X									1410
JA-7C	6/9/99	145	"	✓				X									8.69
JB-7A	6/9/99	1155	"	✓				X									
JB-7B	6/9/99	1155	"	✓				X									944
JB-7C	6/9/99	1155	"	✓				X									220
7A-6A	6/9/99	1120	"	✓				X									620
JA-6B	6/9/99	1120	"	✓				X									14.0
JA 6C	6/9/99	1120	"	✓				X									3.23
	6/ /99		"	✓				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
	6/10/99	0950		6/10/99	0945			
	6/10/99	1220		6/10/99	1215			
	6/10/99	15:30		6/10/99	15:30	OK	0.48	

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 124.8

Page 4 of 4

Client: EarthTech
Address: 2161 New Market Pkwy.
Address: Suite 262, Marietta, GA 30067
Quote #:

Project ID: Old Stake Rd.
P.O. Number: 995-0462-RC6
Contact: G Mick, R. Swiney
Phone: (770) 850-0777

Date: 6/ 199
Turnaround: 5 days
Job Number: 356

Report To: George Mick @ Earth Tech
Invoice To: Per Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (90 only)	FAL							Comments: Please specify any special reporting requirements
JB-6A	6/9/99	1130	Soil	✓				X								492 MG/KG
JB-6B	6/9/99	1130	"	✓				X								1950
JB-6C	6/9/99	1130	"	✓				X								8.53
JD-6C	6/9/99	1525	"	✓				X								4.10
JD-6B	6/9/99	1525	"	✓				X								2.66
JD-6A	6/9/99	1525	"	✓				X								162
~~JD-6A~~ JC-6A	6/ 199		"	✓												
JC-6A	6/9/99	1600	"	✓				X								302
JC-6B	6/9/99	1600	"	✓				X								9.83
JC-6C	6/9/99	1600	"	✓				X								182

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/10/99	0950	G.W. Swiney	6/10/99	0945		[signature]	
R.W.	6/10/99	1220	[signature]	6/10/99	1215			
[signature]	6/10/99	1330	[illegible]	6/10/99	1330	[illegible]	[illegible]	

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12,77

Page 1 of 4

Client: Earth Tech
Project ID: Old Stake Rd.
Date: 6/10/99
Report To: George Mick @ Earth Tech
Address: 2161 New Market Pkwy
P.O. Number: 995-0462-RC6
Turnaround: 5 days
Address: Suite 262, Marietta, GA 30067
Contact: G. Mick, R. Swiney
Job Number: 356
Quote #:
Phone: (770) 850-0777
Invoice To: Per Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE	Analyses: TAL (100 only)	Analyses: TAL	Comments: Please specify any special reporting requirements
OB-1A	6/10/99		Soil	✓			NA
OB-1B	6/10/99		"	✓			
OB-1C	6/10/99			✓			
OB-2A	6/10/99	0700	"	✓		X	
OB-2B	6/10/99	0703	"	✓		X	
OB-2C	6/10/99	0703	"	✓		X	
OB-3A	6/10/99	0705	"	✓		X	
OB-3B	6/10/99	0709	"	✓		X	
OB-3C	6/10/99	0710	"	✓		X	
OX-1C	6/10/99	0940	"	✓		X	

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/10/99	1100	On Ice	[signature]	
[signature]	6/12/99	1830	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1545			

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2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12-79

Page 2 of 4

Client: Earth Tech
Address: 2161 New Market Pkwy.
Address: Suite 262, Marietta, GA 30067
Quote #:

Project ID: Old Stake Rd
P.O. Number: 995-0462-RC6
Contact: G Mick, R. Sniney
Phone: (770) 850-0777

Date: 6/10/99
Turnaround: 5 days
Job Number: 356

Report To: George Mick @ Earth Tech
Invoice To: Per Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE	Analyses: TAL (PO only)	TAL	Comments: Please specify any special reporting requirements
OB-14A	6/18/99	0720	Soil	✓		X	
OB-14B	6/10/99	0723	"	✓		X	
OB-14C	6/18/99	0726	"	✓		X	
OB-15A	6/10/99	0735	"	✓		X	
OB-15B	6/10/99	0738	"	✓		X	
OB-15C	6/10/99	0740	"	✓		X	
OB-13A	6/18/99	0750	"	✓		X	
OB-13B	6/10/99	0755 0750	"	✓		X	
OB-13C	6/10/99	0800	"	✓		X	
	6/10/99		"	✓			

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill
[illegible]	6/11/99	2130	[illegible]	6/12/99	1830	On Ice	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/16/99	1545	[illegible]	[illegible]	[illegible]			

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7 Northchase Parkway SE, Wilmington, NC 28405
ne: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12410

Page 3 of 4

nt: Earth Tech
Project ID: Old Stakeroad
Date: 6/10/99
Report To: George Mick @ Earth Tech

dress: 2161 New Market Pkwy
P.O. Number: 995-0462-R6
Turnaround: 5 days

dress: Suite 262 Marietta, GA 30067
Contact: G. Mick, R. Swaney
Job Number: 356

ote #:
Phone: (770) 850-0777
Invoice To: Per Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PB)	TAL							Comments: Please specify any special reporting requirements
																G2204-84
OB-10A	6/10/99	0840	Soil	X				X								
OB-10B	6/10/99	0845	"	X				X								
OB-10C	6/10/99	0840	"	X				X								
OB-11A	6/10/99	0850	"	X					X							
OB-11B	6/10/99	0855	"	X					X							
OB-11C	6/10/99	0900	"	X					X							
OB-12A	6/10/99	0910	"	X				X								
OB-12B	6/10/99	0915	"	X				X								
OB-12C	6/10/99	0920	"	X				X								
OX-1A	6/10/99	0925	"	X					X							

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/10/99	2130	[signature]	6/10/99	1100	On Ice	[signature]	
[signature]	6/12/99	1830	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1541			

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EARTH TECH OLD ATC
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Jul-01-99 13:38
Jul-01-99 11:48am

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2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12412

Page 4 of 4

Client: Earth Tech
Address: 2161 New Market Parkway
Address: Suite 262, Marietta, GA 30067
Quote #:

Project ID: Old Stake Rd.
P.O. Number: 995-0462-RC6
Contact: G Mick, R. Swiney
Phone: (770) 850-0777

Date: 6/ /99
Turnaround: 5 days
Job Number: 356

Report To: George Mick @ Earth Tech
Invoice To: Per Subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PO only)	TAL								Comments: Please specify any special reporting requirements
OB-7A	6/10/99	0805	Soil	✓				X									
OB-7B	6/10/99	0807	"	✓				X									
OB-7C	6/10/99	0810	"	✓				X									
OB-8A	6/10/99	0815	"	✓				X									
OB-8B	6/10/99	0820	"	✓				X									
OB-8C	6/10/99	0825	"	✓				X									
OB-9A	6/10/99	0830	"	✓					X								
OB-9B	6/10/99	0835	"	✓					X								
OB-9C	6/10/99	0840	"	✓					X								
OX-1B	6/10/99	0930	"	✓					X								

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/11/99	2130	[illegible]	6/11/99	8:00	on Ice	[illegible]	
[illegible]	6/12/99	1630	[illegible]	6/11/99	2130			
[illegible]	6/11/99	1500	[illegible]	[illegible]	[illegible]			

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2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12 35

Page 1 of 4

Client: EarthTech
Address: 2161 New Market Parkway
Address: Marietta GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-R6
Contact: G. Mick, R Swinel
Phone: (770) 550-0773

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ EarthTech
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE	Analyses: TAL (Pb)	Analyses: TAL	Comments: Please specify any special reporting requirements
		0635					
OB-20A	6/11/99	0640	SOIL	X		X	
OB-20B		0638		X		X	
OB-20C		0640		X		X	
OB-21A		0645		X		X	
OB-21B		0650		X		X	
OB-21C		0654		X		X	
OB-22A		0700		X		X	
OB-22B		0700		X		X	
OB-22C		0700		X		X	

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill#
[illegible]	6/11/99	2130	[illegible]	6/11/99	2130	On Ice	[illegible]	
[illegible]	6/12/99	1630	[illegible]	6/11/99	2130			
[illegible]	6/16	1545	[illegible]	6/16/99	1545			

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Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12012

Page 2 of 4

Client: Earth Tech
Address: 2161 New Market
Address: Marietta GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 945-0462-RC6
Contact: G. Mick, M. Swaney
Phone: 770 850-0770

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL	TAL (PB)								Comments: Please specify any special reporting requirements
OB-23A	6/11/99	0900	SOIL	X				X									
OB-23B		0900		X				X									
OB-23C		0900		X				X									
OC-23A		0845		X				X									
OC-23B		0845		X				X									
OC-23C		0845		X				X									
OD-23B		1505		X				X									
OD-23C		1505		X				X									
OD-23A		1505		X				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/11/99	2130	On Ice	[signature]	
[signature]	6/12/99	1830	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1545			

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2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12014

Page 3 of 4

Client: EARTH TECH
Address: 2161 NewMarket Parkway
Address: Marietta GA
Quote #:

Project ID: Old Stake Rd
P.O. Number: 995-0462-RC6
Contact: G Mick, R Swiney
Phone: (770) 850-0227

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G Mick@ Earth Tech
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL	TAL (Pb)								Comments: Please specify any special reporting requirements
OC-21A	6/11/99	0830	SOIL	X				X									
OC-21B		0830		X				X									
OC-21C		0830		X				X									
OC-22A		0840		X				X									
OC-22B		0840		X				X									
OC-22C		0840		X				X									
OC-24A		0850		X				X									
OC-24B		0850		X				X									
OC-24C		0850		X				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/12/99	1880	On Ice	[signature]	
[signature]	6/12/99	1880	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1545			

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07/01/1999 13:38

PARADIGI NALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12513

Page 4 of 4

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marrietta GA
Quote #:

Project ID: Old Stake Rd
P.O. Number: 995-0462-RC6
Contact: G Mick, R Swinney
Phone: (770) 850-0777

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G Mick @ Earth Tech
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL	TAL (PB)								Comments: Please specify any special reporting requirements
OC-18A	6/11/99	0820	SOIL	X					X								
OC-18B		0820		X					X								
OC-18C		0820		X					X								
OC-19A		0820		X					X								
OC-19B		0820		X					X								
OC-19C		0820		X					X								
OC-20A		0830		X				X									
OC-20B		0830		X				X									
OC-20C		0830		X				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/11/99	2130	[illegible]	6/11/99	[illegible]	[illegible]	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/12/99	1545	[illegible]	[illegible]	[illegible]			

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2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12-15

Client: Earth Tech
Address: 2161 Nea Ralket Pkwy
Address: Marrietta, GA
Quote #:

Project ID: Old Stake Rd
P.O. Number: 35640
Contact: G. Mick, R Swing
Phone: (770) 850-0777

Date: 6/10/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech

Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (Pb only)	TAL									Comments: Please specify any special reporting requirements
OC-4A	6/10/99	0705	soil	"				X										
OC-4B	6/10/99	0710	"	"				X										
OC-4C	6/10/99	0715	"	"				X										
OC-5A	6/10/99	0720	"	"				X										
OC-5B	6/10/99	0722	"	"				X										
OC-5C	6/10/99	0728	"	"				X										
OC-6A	6/10/99	0730	"	"				X										
OC-6B	6/10/99	0735	"	"				X										
OC-6C	6/10/99	0740	"	"				X										
	6/ /99		"	"														

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/11/99	2130	[illegible]	6/11/99	[illegible]	On Ice	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/15/99	1545	[illegible]	6/15/99	1545			

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EARTH TECH OLD ATC
9102510313
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Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1[illegible]10

Page 2 of 4

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marrietta, GA
Quote #:

Project ID: Old Stake Rd
P.O. Number: 35640
Contact: G. Mick, R. Swine
Phone: (770) 850-0779

Date: 6/10/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PBOnly)	TAL									Comments: Please specify any special reporting requirements
OC-7A	6/10/99	0750	soil	"				X										
OC-7B	6/10/99	0755	"	"				X										
OC-7C	6/10/99	0800	"	"				X										
OC-8A	6/10/99	0810	"	"				X										
OC-8B	6/10/99	0815	"	"				X										
OC-8C	6/10/99	0815	"	"				X										
OC-9A	6/10/99	0825	"	"				X										
OC-9B	6/10/99	0825	"	"				X										
OC-9C	6/10/99	0825	"	"				X										
	6/ /99		"	"														

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/10/99	1830	On Ice	[signature]	
[signature]	6/10/99	1837	[signature]	6/11/99	2130			
[signature]	6/11/99	1545	[signature]	6/11/99	1545			

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9102510313
07/01/1999 13:38

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 North Lake Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1 08

Page 3 of 4

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marrietta, GA
Quote #:

Project ID: Old Stake Rd.
P.O. Number: 35640
Contact: G. Mick, R. Swiney
Phone: (770) 850-0377

Date: 6/10/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech

Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PB only)	TAL									Comments: Please specify any special reporting requirements
OA-6A	6/10/99	1050	soil	"				X										
OA-6B	6/10/99	1055	"	"				X										
OA-6C	6/10/99	1100	"	"				X										
OA-7A	6/10/99	1055	"	"				X										
OA-7B	6/10/99	1058	"	"				X										
OA-7C	6/10/99	1103	"	"				X										
OA-8A	6/10/99	1105	"	"				X										
OA-8B	6/10/99	1110	"	"				X										
OA-8C	6/10/99	1115	"	"				X										
O	6/ /99		"	"														

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/10/99	1830	[illegible]	6/10/99	1830	On Ice	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/15/99	1045	[illegible]	6/15/99	1045			

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Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12022

Page 4 of 4

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marietta, GA
Quote#:

Project ID: Old Stake Rd.
P.O. Number: 35640
Contact: G. Mick, R. Swiney
Phone: (770) 850-0777

Date: 6/10/99
Turnaround: 5 days
Job Number: 33640

Report To: G. Mick @ Earth Tech

Invoice To: pel subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PB Only)	TAL								Comments: Please specify any special reporting requirements
OA-9A	6/10/99	1115	soil	"					X								1450 MG/KG LEAD
OA-9B ~~OA-10A~~	6/10/99	1115	"	"					X								4.33
OA-9C	6/10/99	1120	"	"					X								2.18
OA-10A	6/10/99	1125	"	"				X									
OA-10B	6/10/99	1128	"	"				X									
OA-10C	6/10/99	1130	"	"				X									
OA-11A	6/10/99	1133	"	"				X									
OA-11B	6/10/99	1137	"	"				X									
OA-11C	6/10/99	1140	"	"				X									
	6/10/99		"	"													

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/10/99	1830	On Ice	[signature]	
[signature]	6/12/99	1530	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1545			

EARTH TECH OLD ATC 9102510313 07/01/1999 13:38

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northeast Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12 18

Page 1 of 4

Client: EarthTech
Address: 2101 New Market Parkway
Address: Marietta, GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 35640
Contact: G. Mick, R Surney
Phone: (770) 850 0777

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ EarthTech

Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TPH (Modified)	TCL								Comments: Please specify any special reporting requirements
~~OS~~ OC-3A	6/11/99	1430	soil	"				X									
OC-3B	6/11/99	1430	"	"				X									
OC-3C	6/11/99	1430	"	"				X									
OC-2A	6/11/99	1445	"	"				X									
OC-2B	6/11/99	1445	"	"				X									
OC-2C	6/11/99	1445	"	"				X									
NF-5	6/11/99	1110	"	"				X									
NF-4	6/11/99	1105	"	"				X									
NF-3	6/11/99	1050	"	"				X									
NF-2	6/11/99	1052	"	"				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/12/99	1830	on Ice	[signature]	
[signature]	6/12/99	1830	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1545			

EARTH TECH OLD ATC 9102510313 07/01/1999 13:38

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12017

Page 2 of 4

Client: Earth Tech
Address: 2161 NewMarket Parkway
Address: ~~Atlanta, GA~~ Marietta, GA
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-RU6
Contact: G. Mick, R Swincy
Phone: (770) 850-0777

Date: 6/8/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: HCL				Analyses: TPH (Bottle)	TPH									Comments: Please specify any special reporting requirements
NF-1	6/11/99	1045	Soil	"				X										
NS-1	6/11/99	1115	"	"				X										
NB-1	6/11/99	1120	"	"				X										
NB-2	6/11/99	1125	"	"				X										
NB-3	6/11/99	1130	"	"				X										
NB-4	6/11/99	1140	"	"				X										
NB-5	6/11/99	1145	"	"				X										
DL-1	6/11/99	1045	"	"				X										
DL-2	6/11/99	1048	"	"				X										
DL-3	6/11/99	1055	"	"				X										

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/12/99	1830	On Ice	[signature]	
[signature]	6/12/99	1830	[signature]	6/11/99	2130			
[signature]	6/15/99	1575	[signature]	6/15/99	1541			

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 North...ase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1[illegible]16

Page 3 of 4

Client: Earth Tech
Address:
Address: 2161 New Market Parkway
Quote #:

Project ID: Old Stake Road
P.O. Number: 995-0462-R66
Contact: G Mick, R Swiney
Phone: (770) 850-0777

Date: 6/10/99
Turnaround: 5 day
Job Number: 35640

Report To: G Mick @ Earth Tech
Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TPH (8 ORG)	TAL									Comments: Please specify any special reporting requirements
DL-4	6/8/99	1100	Soil	✓				X										
DL-5	"	1104	"	✓				X										
DL-6	"	1108	"	✓				X										
DL-7	"	1111	"	✓				X										
DL-8	"	1115	"	✓				X										
DL-9	"	1118	"	✓				X										
DL-10	"	1121	"	✓				X										
DL-11	"	1125	"	✓				X										
DL-12	"	1128	"	✓				X										
DL-13	"	1131	"	✓				X										

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/10/99	2130	[illegible]	6/10/99	1830	On Ice	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/15/99	1545	[illegible]	6/15/99	1545			

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1[illegible]11

Page 4 of 4

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marietta, GA
Quote #:

Project ID: Old Stake Rd
P.O. Number: 35640
Contact: G. Mick, R. Swing
Phone: (770) 850-0777

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PB)	TAL									Comments: Please specify any special reporting requirements
DL-14	6/11/99	1135	Soil	X				X										
DL-15	6/11/99	1140	"	X				X										
DC-10A	6/11/99	0705	"	X				X										
DC-10B	6/11/99	0710	"	X				X										
DC-10C	6/11/99	0715	"	X				X										
DC-11A	6/11/99	0720	"	X				X										
DC-11B	6/11/99	0725	"	X				X										
DC-11C	6/11/99	0730	"	X				X										
DC-12A	6/11/99	0735	"	X				X										
			"	X														

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/11/99	1830	ambient	[signature]	
Heath [signature]	6/12/99	1830	Heath [signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	1541			

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12..9

Page 1 of

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marrietta, GA
Quote #:

Project ID: Old Stake Rd
P.O. Number: 35640
Contact: G. Mick, R. Swinson
Phone (770) 850-0777

Date: 6/10/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech

Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: Ref				Analyses: TAL (PB only)	TAL								Comments: Please specify any special reporting requirements
OA-16A	6/10/99	1400	soil	"				X									
OA-16B	6/10/99	1400	"	"				X									
OA-16C	6/10/99	1400	"	"				X									
OA-17A	6/10/99	1420	"	"				X									
OA-17B	6/10/99	1420	"	"				X									
OA-17C	6/10/99	1420	"	"				X									
OA-18A	6/10/99	1445	"	"				X									
OA-18B	6/10/99	1445	"	"				X									
OA-18C	6/10/99	1445	"	"				X									
OA-19A	6/10/99	1400	"	"				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/10/99	2130	[signature]	6/10/99	1830	On Ice	[signature]	
[signature]	6/11/99	1830	[signature]	6/11/99	2130			
[signature]	6/10/99	1540	[signature]	6/11/99	1541			

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12[illegible]0

Page 2 of

Client: Earth Tech
Address: 2161 Kennesaw Market Parkway
Address: Marietta, GA
Quote #:

Project ID: 35640
P.O. Number: 995-0462 RCC
Contact: G. Mick, R Swiney
Phone: (770) 850-0777

Date: 6/10/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick, ~~R Swiney~~ @ Earth Tech
Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL Metals	TAL								Comments: Please specify any special reporting requirements
OA-19B	6/10/99	1400	Soil	✓				X									
OA-19C	6/10/99	1400	"	✓				X									
OA-20A	6/10/99	1415	"	✓				X									
OA-20B	6/10/99	1415	"	✓				X									
OA-20C	6/10/99	1415	"	✓				X									
OA-21A	6/10/99	1430	"	✓				X									
OA-21B	6/10/99	1430	"	✓				X									
OA-21C	6/10/99	1430	"	✓				X									
OA-22A	6/10/99	1445	"	✓				X									
OA-22B	6/10/99	1445	"	✓				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	6/11/99	2130	[signature]	6/11/99	1830	On Ice	[signature]	
[signature]	6/12/99	1830	[signature]	6/11/99	2130			
[signature]	6/15/99	1545	[signature]	6/15/99	15:45			

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 12 21

Page 3 of ____

Client: Earth Tech
Address: 2161 New Market Pkwy
Address: Marrietta, GA
Quote #:

Project ID: Old Stake Rd.
P.O. Number: 35640
Contact: B. Mick, R. Sovinag
Phone: (770) 850-0777

Date: 6/10/99
Turnaround: 5 days
Job Number: 35640

Report To: B. Mick @ Earth Tech

Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PB Only)	TAL								Comments: Please specify any special reporting requirements
OA-22C	6/10/99	1445	soil	"				X									
OA-12A	6/10/99	1145	"	"				X									
OA-12B	6/10/99	1147	"	"				X									
OA-12C	6/10/99	1148	"	"				X									
OA-13A	6/10/99	1150	"	"				X									
OA-13B	6/10/99	1155	"	"				X									
OA-13C	6/10/99	1205	"	"				X									
OA-14A	6/10/99	1330	"	"				X									
OA-14B	6/10/99	1335	"	"				X									
OA-14C	6/10/99	1340	"	"				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/11/99	2130	[illegible]	6/10/99	1039	On Ice	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/12/99	1545	[illegible]	6/12/99	1545	"		

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07/01/1999

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

EARTH TECH
2161 New Market Pkwy
Marietta GA

P.O. No 356
Contact G. Mick, R. Swinney
phone: (770) 850-0777

6/14/99
5 day turnaround
Report to: G Mick

PROJ. NO. 35640
PROJECT NAME Old State Road

SAMPLERS (Signature)

Circle/add Parameters Desired ( ) - Indicates Separate Containers

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater	Soil/Sed/Sldg	Waste	Misc/Soil	REMARKS/TAG NUMBERS
OA-1C	6/10/99	1015		X	SOIL	1				✓	6.02 MG/KG LEAD
OA-3C	6/10/99	1033		X		1				✓	5.16
OA-4A	6/10/99	1035		X		1				✓	1730
OA-4B	6/10/99	1040		X		1				✓	6.14
OA-4C	6/10/99	1045		X		1				✓	6.00
OA-5A	6/10/99	1040		X		1				✓	811
OA-5B	6/10/99	1043		X		1				✓	
OA-5C	6/10/99	1045		X		1				✓	
Rinsate	6/10/99	1100		X	Rinsate	1				✓	
Rinsate	6/10/99	1100		X	Rinsate	1				✓	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
	6/11/99 2130			6/12/99 1830		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
	6/12/99 1545					

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy returned by laboratory; Yellow copy retained by samplers. Blue copy extra copy as needed.

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U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROA
ATHENS, GEORGIA 30613

EARTH TECH
2161 New Market Pkwy
Marietta GA

P.O. No. 35640
Contact: G. Mick, R. Swinney
Phone: (770) 850-0777

6/16/99
5 day turnaround

Report to G. Mick @ Earth Tech

PROJ. NO.	PROJECT NAME
35640	Old Stake Road

SAMPLERS (Signature): [signature] Sample tour leader

Water/Wastewater | Soil/Sed/Sludg | Waste | Misc

Circle/add Parameters Desired ( ) - Indicates Separate Containers

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext-org, Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS) G, Fl, Sol, etc)	N G (phenol) (TOC G) (oil)	N P (nitr, hard) / Tcc (COD, N.P. etc)	0.5-NP (S)	% pH by N P (CN)	Amber G (ext org, pest, herb) (insec) (EP)	4 oz G (VOA)	P by G (CN, S, N) P (COD) etc)	8 oz G (ext org, pest, benz, VOA)	4 oz G (EP) (met, CN, S, FA (FP, BTU)	TAL (PB ONLY)	TAL	REMARKS/TAG NUMBERS
OB-14A	6/16/99	0958		X	SOIL	1														✓		
OB-14B		1005		X		1														✓		
OB-14C		1010		X		1														✓		
OB-15A		1010		X		1														✓		
OB-15B		1015		X		1														✓		
OB-15C		1017		X		1														✓		
OB-16A		1020		X		1														✓		
OB-16B		1022		X		1														✓		
OB-16C		1027		X		1														✓		
OB-17A		1015		X		1														✓		
OB-17B		1020		X		1														✓		
OB-17C		1023		X		1														✓		
OB-18A		1025		X		1														✓		
OB-18B		1028		X		1														✓		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[signature]	6/17/99 1730	[signature]	[signature]	6/17/99 1830	[signature]	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
[signature]	6/17/99 1945	[signature]				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers. Blue copy extra copy as needed.

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U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

Earth Tech
2161 New Market Pkwy
Marietta, GA

P.O. No. 35640
Contact: G. Mick, M. Swinney
Phone: (770) 850-0777

6/10/99
5 day Turnaround

Report To G. Mick @ Earth Tech

PROJECT NAME: OU Stake Road
PROJ. NO.: 35640
SAMPLERS (Signature): [signature]
Sample from leachate

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater	Soil/Sed/Sdg	Waste	Misc	REMARKS/TAG NUMBERS
OB-13A	6/10/99	0945		X	SOIL	1		✓			
OB-13B		0950		X		1		✓			
OB-13C		0952		X		1		✓			
OB-18C		1030		X		1		✓			
OB-19A		1035		X		1			✓		83700 MG/KG LEAD
OB-19B		1040		X		1			✓		593
OB-19C		1040		X		1			✓		34.1
OA-1A		1010		X		1			✓		1090 MG/KG LEAD
OA-1B		1012		X		1			✓		12.5
OA-2A		1012		X		1			✓		10,100
OA-2B		1017		X		1			✓		804
OA-2C		1020		X		1			✓		1120
OA-3A		1030		X		1			✓		6610
OA-3B		1030		X		1			✓		9.75

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[signature]	6/11/99 1730	[signature]	[signature]	6/12/99 1630	[signature]	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
[signature]	6/12/99 1545	[signature]				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory, Pink copy retained by laboratory; Yellow copy retained by samplers, Blue copy extra copy as needed.

T4-9532

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PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 11 19

Page 4 of

Client: Earth Tech
Address: 2161 NewMarket Pkwy
Address: Marrietta, GA
Quote #:

Project ID: Old Stake Rd.
P.O. Number: 35640
Contact: G. Mick, R Swiaey
Phone: (770)850-0777

Date: 6/11/99
Turnaround: 5 days
Job Number: 35640

Report To: G. Mick @ Earth Tech
Invoice To: per subcontract

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (Pb Only)	TAL								Comments: Please specify any special reporting requirements
																	-10
OA-15A	6/10/99	1350	soil	"				X									
OA-15B	6/10/99	1355	"	"				X									
OA-15C	6/10/99	1355	"	"				X									
OB-1A	6/11/99	1450	"	"					X								4580 MG/KG / LEAD
OB-1B	6/11/99	1450	"	"					X								4.18
OB-1C	6/11/99	1450	"	"					X								4.50
OC-1A	6/11/99	1435	"	"				X									
OC-1B	6/11/99	1435	"	"				X									
OC-1C	6/11/99	1435	"	"				X									
	6/ /99		"	"													

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	6/11/99	2130	[illegible]	6/12/99	1855	On Ice	[illegible]	
[illegible]	6/12/99	1830	[illegible]	6/11/99	2130			
[illegible]	6/15/99	1545	[illegible]	6/15/99	15:45	"		

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13:38
07/01/1999

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

Earth Tech
2161 New Market Pkwy
Marietta GA

CHAIN OF CUSTODY RECORD

Old Stake Rd
number 995-0462-RC6
contact G. Mick, R. Swinney

6/11/99
5 days
35640

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION RC
ATHENS, GEORGIA 30613

G. Mick @ Earth Tech

PROJ. NO.

PROJECT NAME: OLD STAKE ROAD

SAMPLERS (Signature): [signature] Terry Cook

Water/Wastewater | Soil/Sed/Sdg | Waste | Misc

Circle/add Parameters Desired [ ] - Indicates Separate Containers

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Sol G (Pst, org. Pest, N, (EP) (herb)	40 ml vial (VOA)	250 ml G (NOX)	P (BOD, TSS, Cl, F, SO4 etc)	2 G (phenol) (O&G) (pest)	NP (hom. herb)	0.5 NP (S2-)	1 gal or 1L (CN)	8 oz G (herb, org. pest, herb) (herb) (EP)	4 oz G (NOX)	P or G (CN, S=, N, P, COD, etc)	8 oz G (ext. org. pest, herb, VOA)	8 oz G (EP) (met, CN, S=, FP) (PP, BTU)	TBL (PB)	TBL (PB)	REMARKS/TAG NUMBERS
OD-22C	6/11/99	0800		X	SOIL	1														X		13.3 MG/KG Pb
OC-15A		0805		X		1														X		
OC-15B		0805		X		1														X		
OC-15C		0805		X		1														X		
OC-16A		0810		X		1														X	X	
OC-16B		0810		X		1														X	X	
OC-16C		0810		X		1														X	X	
OC-17A		0815		X		1														X	X	
OC-17B		0815		X		1														X	X	
OC-17C		0815		X		1														X	X	
OC-14A		0800		X		1														X	X	
OC-14B		0800		X		1														X	X	
OC-14C		0800		X		1														X	X	
OC-BA		0745		X		1														X	X	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[signature]	6/11/99 7:30	[signature]	[signature]	6/12/99 18:30	[signature]	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
[signature]	6/11/99 1545	[signature]				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory; Yellow copy retained by samplers, Blue copy extra copy as needed.

T4-9537

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EARTH TECH OLD ATC
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07/01/1999 13:38

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 4 TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION RO/
ATHENS, GEORGIA 30613

Earth Tech
2161 New Malkot Pkwy
Marietta GA

Old Stake Rd
number 995-0462-RC6
contact G. Mick, R. Swinney

6/11/99
5 days
35640

G.Mick@Earth Tech

PROJ. NO.	PROJECT NAME
	OLD STAKE RD

SAMPLERS (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater	Soil/Sed/Sldg	Waste	Misc	REMARKS/TAG NUMBERS
OD-18A	6/11/99	0720		X	SOIL			X			4200 mg/kg LEAD
OD-18B		0720		X				X			12.4
OD-18C		0720		X				X			4.92
OD-19A		0730		X				X			658
OD-19B		0730		X				X			4.33
OD-19C		0730		X				X			BQL
OD-20A		0735		X				X			237
OD-20B		0735		X				X			12.4
OD-20C		0735		X				X			9.88
OD-21A		0745		X				X			53.9
OD-21B		0745		X				X			2.97
OD-21C		0745		X				X			5.72
OD-22A		0800		X				X			975
OD-22B		0800		X				X			19.9

Circle/add Parameters Desired ( ) - Indicates Separate Containers: (Gal G (text org. pest) (EP) (herb)); 40 ml Vial (VOA); 250 ml G (TOX); 1 P Rpod. TSS, Cl, Fl, SO4, etc); 1 G (phenol) (R&G) (pest); 1 L (inst. herb) (TOC, COD, N, P, etc); 0.5 L ILP (S); 1 gal or ILP (CN); 8 oz G (text org. pest, herb) (inst) (EP); 4 oz G (VOA); 4 oz G (CN, S, N, P, COD, etc); 8 oz G (text inst. pest, herb, VOA); 8 oz G (EP) (inst, CN, S, FP) (FP, BTU); TAL (Pb); TAL

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
	6/11/99 2130			6/12/99 1830		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
	6/12/99 1515					

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory, Pink copy retained by laboratory. Yellow copy retained by samplers, Blue copy extra copy as needed.

T4- 9538

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EARTH TECH OLD ATC
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U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION TAT

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION RO/
ATHENS, GEORGIA 30613

Earth Tech
2161 New Market Pkwy
Marietta GA

Old Stake Rd
number 995-0462-RC6
contact G. Mick, R. Swinney

6/11/99
5 days
35640

G Mick @ Earth Tech

PROJ. NO.	PROJECT NAME
	OLD STAKE ROAD

SAMPLERS (Signature) Terr Tech

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater	Soil/Sed/Sldg	Waste	Misc	REMARKS/TAG NUMBERS
OC-13B	6/11/99	0750		X	SOIL	1				X	
OC-13C	6/11/99	0755		X	↓	1				X	
OC-12B	6/11/99	0740		X	↓	1				X	
OC-12C	6/11/99	0742		X	↓	1				X	

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[signature]	6/11/99 2130	[signature]	[signature]	6/12/99 1830	[signature]	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
[signature]	6/14/99 1545	[signature]				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory, Pink copy retained by laboratory; Yellow copy retained by samplers, Blue copy extra copy as needed.

T4- 9536

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EARTH TECH OLD ATC
9102510313
07/01/1999 13:38

Tetra Tech EM INC. (formerly PRC Environmental Management, Inc.)
285 Peachtree Center Avenue, Suite 900 ♦ Atlanta, Georgia 30303 ♦ (404) 522-2867 ♦ (404) 577-4070 (fax)

MEMO

To: Start File

From: Heather Caudill

Date: 11/18/99

RE: ERRS Confirmation Sample Analytical Report

TDD# 04-9905-00148

☐ **Urgent** X **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

Comments:

The confirmation analytical results and chains of custody for the Old Stake Road removal activities are attached to this memorandum. Paradigm Analytical Laboratories, Inc. was procured by the Emergency and Rapid Response (ERRS) contractor to perform the following analysis on soil samples: target analyte list (TAL) for metals and TAL for lead only. Summary tables depicting lead results for Old Stake Road are attached on the following pages.

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 11543

Page 1 of

Client: EARTH TECH
Address: 2161 NEW MKT PKY
Address: MARIETTA GA 30067
Quote #:

Project ID: OLD STAKE ROAD
P.O. Number:
Contact: BILL HAYNES
Phone: 678-427-0510

Date: 8/20/99
Turnaround:
Job Number: 35640.01

Report To: BILL HAYNES
801 SURRY ST
WILMINGTON NC 2840
Invoice To: EARTH TECH WILMINGTON

Sample ID	Date	Time	Matrix	Preservatives: HNO3	Preservatives: ICE			Analyses: pH	Analyses: TAL	Analyses: TAL (Pb)						Comments: Please specify any special reporting requirements
SPW-1	8/20/99	0900	GW	X	X			X	X							G204-116
COD-18		1645	SOIL		X					X						
COD-19		1640			X					X						
COD-22		1630			X					X						
COD-23		1620			X					X						
CJC-5		1700			X					X						
CJB-6		1710			X					X						
CJB-7		1720			X					X						

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	8/20/99	1800	[illegible]	8/20/99	1800			
[illegible]	8/22/99	2100	[illegible]	8/20/99				
[illegible]	8/23/99	0828	[illegible]	8/23/99	828	ON ICE	WALK IN	

ORIGINAL

Aug-25-99 03:42pm From-PARADIGM LABS 9103501557 T-134 P.09/18 F-313

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID: SPW-1
Client Project ID: Old Stake Road
Lab Sample ID: 70980
Lab Project ID: G204-116
Matrix: Water

Date Collecte 8/20/99
Date Receive 8/23/99
Analyzed By: EKR

Parameter	Result	Date Analyzed
pH	7.79	8/27/99

Comments:
Per NCDENR, pH measurements taken more than 15 minutes after sample collection are non-reportable for NPDES compliance monitoring.
This analysis was performed outside of the 15 minute holding time.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	SPW-1	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70980	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Water

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Aluminum	BQL	0.200	MG/L	6010B	8/26/99
Antimony	BQL	0.0600	MG/L	6010B	8/26/99
Arsenic	BQL	0.0100	MG/L	6010B	8/26/99
Barium	BQL	0.100	MG/L	6010B	8/26/99
Beryllium	BQL	0.0100	MG/L	6010B	8/26/99
Cadmium	BQL	0.0100	MG/L	6010B	8/26/99
Calcium	**34.4**	0.100	MG/L	6010B	8/26/99
Chromium	BQL	0.0100	MG/L	6010B	8/26/99
Cobalt	BQL	0.0100	MG/L	6010B	8/26/99
Copper	**0.0641**	0.0100	MG/L	6010B	8/26/99
Iron	**0.459**	0.100	MG/L	6010B	8/26/99
Lead	BQL	0.0100	MG/L	6010B	8/26/99
Magnesium	**9.23**	0.100	MG/L	6010B	8/26/99
Manganese	**0.0459**	0.0100	MG/L	6010B	8/26/99
Mercury	BQL	0.0002	MG/L	7470	8/26/99
Nickel	BQL	0.0400	MG/L	6010B	8/26/99
Potassium	**7.87**	0.100	MG/L	6010B	8/26/99
Selenium	BQL	0.0100	MG/L	6010B	8/26/99
Silver	BQL	0.0100	MG/L	6010B	8/26/99
Sodium	**9.16**	0.100	MG/L	6010B	8/26/99
Thallium	BQL	0.0100	MG/L	6010B	8/26/99
Vanadium	BQL	0.0500	MG/L	6010B	8/26/99
Zinc	**0.141**	0.0200	MG/L	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: JW

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COD-18	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70981	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil

Solids 89.80

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	5.14	1.08	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [illegible]

Results for Inorganics

Client Sample ID:	COD-19	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70982	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil

Solids 91.03

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	12.7	1.10	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By:

Results for Inorganics

Client Sample ID:	COD-22	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70983	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil

Solids 88.65

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**64.2**	1.10	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: JW

Results for Inorganics

Client Sample ID:	COD-23	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70984	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil
	Solids 85.24		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	27.2	1.14	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [illegible]

Results for Inorganics

Client Sample ID:	CJC-5	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70985	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil

Solids 96.53

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	353	1.02	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: JW

Results for Inorganics

Client Sample ID:	CJB-6	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70986	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil

Solids 93.65

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	493	1.07	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJB-7	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/20/99
Lab Sample ID:	70987	Date Received:	8/23/99
Lab Project ID:	G204-116	Matrix:	Soil

Solids 90.77

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	59.0	1.10	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [signature]

PARADIGM / ALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1

Page 1 of 1

Client: EARTH TECH
Address: 801 SURRY ST
Address: WILMINGTON NC
Quote #:

Project ID: 35640.01
P.O. Number:
Contact: BILL HAYNES
Phone: 678 427 0510

Date: 8/24/99
Turnaround: 2 days
Job Number:

Report To: Bill Haynes
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: Tel (pb)										Comments: Please specify any special reporting requirements
																		G204-118
COA-19	8/24/99	1550	SOIL	X				X										
COB-19	↓	1600	↓	X				X										
COC-19	↓	1610	↓	X				X										
COC-20	↓	1620	↓	X				X										

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	8/24/99	1635	William H Hagan	8/24/99	1635			
William H Hagan	8/24/99	2030	Elizabeth A Rhodes	8/24/99	2030			
Elizabeth G. Fuchs	8/25/99	0820	Bruce Prelic	8/25/99	0820	on ice		

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-19	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/24/99
Lab Sample ID:	71080	Date Received:	8/25/99
Lab Project ID:	G204-118	Matrix:	Soil

Solids 94.29

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**7.53**	1.05	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-19	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/24/99
Lab Sample ID:	71081	Date Received:	8/25/99
Lab Project ID:	G204-118	Matrix:	Soil
	Solids 92.54		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**8.63**	1.07	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-19	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/24/99
Lab Sample ID:	71082	Date Received:	8/25/99
Lab Project ID:	G204-118	Matrix:	Soil

Solids 92.54

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**28.9**	1.03	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-20	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/24/99
Lab Sample ID:	71083	Date Received:	8/25/99
Lab Project ID:	G204-118	Matrix:	Soil

Solids 92.48

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	9.99	1.04	MG/KG	6010B	8/26/99

Comments
BQL = Below Quantitation Limits

Reviewed By: JW

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-21	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	70999	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil

Solids 92.42

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**3.37**	1.08	MG/KG	6010B	8/25/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-21	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71000	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 85.88		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**7.11**	1.16	MG/KG	6010B	8/25/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-20	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71001	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 88.88		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	539	1.12	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-18	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71002	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 92.29		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**55.3**	1.07	MG/KG	6010B	8/25/99

Comments

BQL = Below Quantitation Limits .

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-8	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71003	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 95.38		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**50.1**	1.04	MG/KG	6010B	8/25/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-7	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71004	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 90.19		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**110**	1.09	MG/KG	6010B	8/25/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-6	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71005	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 92.98		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**743**	1.05	MG/KG	6010B	8/25/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-5	Analyzed By:	JMF
Client Project ID:	Old Stake Road 25640.01	Date Collected:	8/23/99
Lab Sample ID:	71006	Date Received:	8/24/99
Lab Project ID:	G204-117	Matrix:	Soil
	Solids 96.11		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**1270**	1.01	MG/KG	6010B	8/25/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1 46

Page 1 of 1

Client: EARTH TECH
Address: 801 SURRY ST
Address: WILMINGTON NC
Quote #:

Project ID: 35640.01
P.O. Number:
Contact: BILL HAYNES
Phone: 678 427 0570

Date: 8/25/99
Turnaround: 48 hr
Job Number:

Report To: Bill Haynes

Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE	Analyses: TAL (pb)	Comments: Please specify any special reporting requirements
						G204-119
COC-18	8/25/99	1800	SOIL	X	X	
COC-14		1845	SOIL	X	X	
COB-14		1740	SOIL	X	X	
COC-12		1900	SOIL	X	X	
COC-11		1910	SOIL	X	X	
COC-10	8/25/99	1915	SOIL	X	X	

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	8/25/99	2000	William Hay	8/25/99	20:00			
[illegible]	8/25/99	2220	Elizabeth A. Tucker	8/25/99	22:20			
Elizabeth A. Tucker	8/26/99	08:30	Erica L. Bruce	8/26/99	08:30			

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-18	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/25/99
Lab Sample ID:	71154	Date Received:	8/26/99
Lab Project ID:	G204-119	Matrix:	Soil
	Solids 72.14		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**3.28**	1.33	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: JJ

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-14	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/25/99
Lab Sample ID:	71155	Date Received:	8/26/99
Lab Project ID:	G204-119	Matrix:	Soil

Solids 69.54

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**3.45**	1.37	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-14	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/25/99
Lab Sample ID:	71156	Date Received:	8/26/99
Lab Project ID:	G204-119	Matrix:	Soil

Solids 91.00

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**13.8**	1.09	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-12	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/25/99
Lab Sample ID:	71157	Date Received:	8/26/99
Lab Project ID:	G204-119	Matrix:	Soil
	Solids	89.08	

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**2.58**	1.09	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-11	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/25/99
Lab Sample ID:	71158	Date Received:	8/26/99
Lab Project ID:	G204-119	Matrix:	Soil

Solids 90.13

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**4.26**	1.09	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-10	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/25/99
Lab Sample ID:	71159	Date Received:	8/26/99
Lab Project ID:	G204-119	Matrix:	Soil
	Solids 89.61		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**29.7**	1.12	MG/KG	6010B	8/26/99

Comments

BQL = Below Quantitation Limits

Reviewed By: JW

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 11547

Page 1 of 1

Client: EARTH TECH
Address: 801 SURREY ST
Address: WILMINGTON NC 28401
Quote #:

Project ID: 35640.01
P.O. Number:
Contact: B. HAYNES
Phone: 678 427 0510

Date: 8/26/99
Turnaround: 2 Days
Job Number:
Invoice To:

Report To: B. Haynes

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TOL (pb)								Comments: Please specify any special reporting requirements
																G204-170
COA-9	8/26/99	1410	SOIL	X				X								
COB-9	8/26/99	1428	SOIL	X				X								
COC-9	8/26/99	1930	SOIL	X				X								

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[illegible]	8/26/99	1945	[illegible]	8/26/99	1945			
[illegible]	8/26/99	2200	Elizabeth C. Jucker	8/26/99	2200			
Elizabeth C. Jucker	8/27/99	0715	[illegible]	8/27/99	0715			

Aug-31-99 03:58pm From-PARADIGM LABS 9103501557 T-237 P.05/05 F-468

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-9	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/26/99
Lab Sample ID:	71312	Date Received:	8/27/99
Lab Project ID:	G204-120	Matrix:	Soil

Solids 89.38

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	25.5	1.06	MG/KG	6010B	8/31/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [signature]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-9	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/26/99
Lab Sample ID:	71313	Date Received:	8/27/99
Lab Project ID:	G204-120	Matrix:	Soil

Solids 89.64

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	11.1	1.12	MG/KG	6010B	8/31/99

Comments
BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COC-9	Analyzed By:	JMF
Client Project ID:	35640.01	Date Collected:	8/26/99
Lab Sample ID:	71314	Date Received:	8/27/99
Lab Project ID:	G204-120	Matrix:	Soil

Solids 90.11

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	3.27	1.10	MG/KG	6010B	8/31/99

Comments
BQL = Below Quantitation Limits

Reviewed By: JN

PARADIGM ANALYTICAL LABORATORIES, INC.
1627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 1154

Page 1 of 1

Client: EARTH TECH
Address: 801 SURREY ST
Address: WILMINGTON NC
Quote #:

Project ID: OLD STATE ROAD
P.O. Number:
Contact:
Phone: 678-427-0510

Date: 8/31/99
Turnaround: 1 WK
Job Number: 35640.01

Report To: BILL HAYES
801 SURREY ST
WILMINGTON NC
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: none				Analyses: TAL (Pb only)									Comments: Please specify any special reporting requirements
																	G204-125
COB-5	8/30/99 182	1820	S	X				X									
COC-5	8/30/99	1825	S	X				X									
COC-4	8/30/99	1830	S	X				X									
COB-4	8/30/99	1835	S	X				X									
COA-4	8/30/99	1840	S	X				X									
COC-3	8/30/99	1845	S	X				X									
COB-3	8/30/99	1850	S	X				X									

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
J-PL	8/30/99	1910	William Hilliard	8/31/99	19:10		J-PL	
William H Hilliard	8/31/99	2130	Elizabeth Tucker	8/31/99	2130			
Elizabeth G. Tucker	9/2/99	0900	Elizabeth Tucker	9/2/99	0900			

11/05/99 12:28 FAX 770 956 9960 EARTH TECH
Sep-20-99 05:27pm From-PARADIGM ANALYTICAL 9103501557 T-452 P.09/13 F-826
025

Results for Inorganics

Client Sample ID:	COB-3	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71608	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 88.30

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	444	1.10	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [illegible]

Results for Inorganics

Client Sample ID:	COC-3	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71607	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 88.34

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	60.5	1.09	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By: _____

Results for Inorganics

Client Sample ID:	COA-4	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71606	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 88.79

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	780	1.12	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By: _____

Results for Inorganics

Client Sample ID:	COB-4	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71605	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 89.94

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	68.8	1.11	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By:

Results for Inorganics

Client Sample ID:	COC-4	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71604	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 90.94

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	2.28	1.10	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By: _____

Results for Inorganics

Client Sample ID:	COC-5	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71603	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 94.34

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	17.2	1.06	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By:

Results for Inorganics

Client Sample ID:	COB-5	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/30/99
Lab Sample ID:	71602	Date Received:	9/2/99
Lab Project ID:	G204-125	Matrix:	Soil

Solids 87.05

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	61.6	1.13	MG/KG	6010B	9/8/99

Comments
BQL = Below Quantitation Limits

Reviewed By:

PARADIGM A LYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 11 49
Page 1 of 1

Client: EARTH TECH
Address: 801 SURRY ST
Address: WILMINGTON NC
Quote #:

Project ID: 35640.00 STALE RD.
P.O. Number:
Contact: B. Haynes
Phone: 678 427 0510

Date: 8/28/99
Turnaround: 48 HR
Job Number:

Report To: B. Haynes
Invoice To:

Sample ID	Date	Time	Matrix	Preservatives: ICE				Analyses: TAL (PB)	TAL (PB)								Comments: Please specify any special reporting requirements
																	G204-121
COB-8.	8/28/99	1410	SOIL	X					X								
COB-7	8/28/99	1400	SOIL	X					X								
COA-6	8/28/99	1550	SOIL	X					X								
COA -5	8/28/99	1540	SOIL	X					X								
CJA - 4	8/28/99	1350 1355	SOIL	X					X								
CJA - 3	8/28/99	1745	SOIL	X					X								
CJA - 2	8/28/99	1755	SOIL	X					X								

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
[signature]	8/28/99	1820	WWHaynes	8/28/99	1820	ICE		
Elizabeth A. Jackson	8/30/99	1000	Chris Cornwell	8/30/99	10:00	ON ICE		

ORIGINAL

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-8	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71446	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil
	Solids 88.45		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**47.7**	1.11	MG/KG	6010B	9/1/99

Comments
BQL = Below Quantitation Limits

Reviewed By: [signature]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-7	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71447	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil

Solids 87.54

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**120**	1.11	MG/KG	6010B	9/1/99

Comments

BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-6	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71448	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil
	Solids 89.48		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**164**	1.06	MG/KG	6010B	9/1/99

Comments
BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-5	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71449	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil
	Solids 87.27		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**10.0**	1.14	MG/KG	6010B	9/1/99

Comments
BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-4	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71450	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil
	Solids 88.27		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**356**	1.13	MG/KG	6010B	9/1/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-3	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71451	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil
	Solids 88.99		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**4.25**	1.07	MG/KG	6010B	9/1/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	CJA-2	Analyzed By:	JMF
Client Project ID:	35640. Old Stake Rd.	Date Collected:	8/28/99
Lab Sample ID:	71452	Date Received:	8/30/99
Lab Project ID:	G204-121	Matrix:	Soil
	Solids 89.97		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**3.95**	1.09	MG/KG	6010B	9/1/99

Comments

BQL = Below Quantitation Limits

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 11150

Page 1 of 1

Client: EARTH TECH
Address: 801 SUMM ST
Address: WILMINGTON NC
Quote #:

Project ID: OLD STAUR ROAD
P.O. Number:
Contact: BILL HAYES
Phone: 678 427 0570

Date: 8/31/99
Turnaround: 1 WK
Job Number: 35640

Report To: BILL HAYES
801 SUMM ST
Invoice To: WILMINGTON NC

Sample ID	Date	Time	Matrix	Preservatives: none				Analyses: TAL (ML only)										Comments: Please specify any special reporting requirements
																		G2041-124
COA-3	8/31/99	0900	S	X				X										G2041-125
COA-2	8/31/99	0905	S	X				X										
COB-2	8/31/99	0910	S	X				X										
COB-1	8/31/99	1400	S	X				X										
COA-1	8/31/99	1405	S	X				X										

Relinquished By	Date	Time	Received By	Date	Time	Temperature	Sampled By	Airbill #
J PL	8/31/99	1800	William Hayes	8/31/99	1800	10C	J PL	
William Hayes	8/31/99	2000	Elizabeth Jacker	8/31/99	2000			
Elizabeth A Jacker	9/2/99	0900	Brent W Torres	9/2/99	0900			

Federal
Trip Notification & Authorization

Prepared by: MICHAEL DEATON

Today's Date: 3/13/00

*Use Black Ink or Typewriter only-Staff to fill out first 2 blocks only.

Site Trip

Date of Trip: 3/15/00

If trip date changed or cancelled note below:
Trip Date Changed To: _____ Cancelled: ___

NCD#: 0406 906 Site Name: OLD STAKE ROAD SITE
City: CHADBOURN County: COLUMBUS

Reason for Trip: SI - onsite Recon

Name of Hotel (Overnight Trip): _____ Hotel Telephone Number: ( ) ___ - _____

Authorized by: [signature]
Industrial Hygienist

Project Team Leader: MICHAEL DEATON

Assistants: DAN LAMONTAGNE , _____ , _____

Attach To Notification Form: 1 copy each:
Submit to the
Industrial Hygienist

Preliminary Assessment Form (First page only)
Site Map
PA Transmittal Letter

(Please list appropriate County Health Department contact person to call to advise of trip)
Environmental Supervisor or Health Director to call: William Horne Title: Env. Health Supervisor
(Note if Dr., M.P., etc.)
Telephone Number: (910) 640- 6617

Notes: Health Department Official Contacted: William Horne
Back Up Letter Required: Yes ___ No /
Notified Mr. Horne 3-13-00 (DBL)

Note: Signed original to Data Manager

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Bill Haynes
Earth Tech
801 Surry Street
Wilmington, NC 28401

Date 09/10/99

Report Number: G204-125

Client Project Name : Old Stake Road

Dear Mr. Haynes:

Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical service projects. We look forward to working with you again on any additional needs which you may have.

Sincerely,

Paradigm Analytical Laboratories

Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-3	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/31/99
Lab Sample ID:	71597	Date Received:	9/2/99
Lab Project ID:	G204-124	Matrix:	Soil
	Solids 89.26		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**180**	1.11	MG/KG	6010B	9/8/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-2	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/31/99
Lab Sample ID:	71598	Date Received:	9/2/99
Lab Project ID:	G204-124	Matrix:	Soil
	Solids 85.40		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**102**	1.12	MG/KG	6010B	9/8/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-2	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/31/99
Lab Sample ID:	71599	Date Received:	9/2/99
Lab Project ID:	G204-124	Matrix:	Soil
	Solids 89.04		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**24.0**	1.11	MG/KG	6010B	9/8/99

Comments

BQL = Below Quantitation Limits

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COB-1	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/31/99
Lab Sample ID:	71600	Date Received:	9/2/99
Lab Project ID:	G204-124	Matrix:	Soil
	Solids 90.84		

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	**1280**	1.05	MG/KG	6010B	9/8/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Inorganics

Client Sample ID:	COA-1	Analyzed By:	JMF
Client Project ID:	Old Stake Road	Date Collected:	8/31/99
Lab Sample ID:	71601	Date Received:	9/2/99
Lab Project ID:	G204-124	Matrix:	Soil

Solids 91.85

Metals	Result	Quantitation Limit	Units	Procedure	Date Analyzed
Lead	755	1.06	MG/KG	6010B	9/8/99

Comments

BQL = Below Quantitation Limits

Reviewed By: _____

APPENDIX D

TABLE OF WITNESSES

(One Page)

TABLE OF WITNESSES

OLD STAKE ROAD SITE
CHADBOURN, COLUMBUS COUNTY, NORTH CAROLINA

Mr. Tony Moore
On-Scene Coordinator
U.S. Environmental Protection Agency Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303
(404) 562-8739

Mr. Gerald Foree
On-Scene Coordinator
U.S. Environmental Protection Agency Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303
(404) 562-8739

Ms. Heather Caudill
Ms. Teri Pham
Superfund Technical Assessment and Response Team Region 4
1750 Corporate Drive, Suite 735
Norcross, Georgia 30093
(404) 225-5516

Mr. Dan La Montagne
Environmental Engineer
North Carolina Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
Superfund Section
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605
(919) 733-2801, Ext. 317

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

AUG 18 1999

RECEIVED
AUG 25 1999
SUPERFUND SECTION

4WD-ERRB

Mr. Jack Butler, Chief
Superfund Section
North Carolina Division of
Solid Waste Management
401 Oberline Road, Suite 150
Raleigh, North Carolina 27605

Dear Mr. Butler:

We are pleased to provide a copy of the Action Memorandum requesting and documenting an increase in the ceiling for the approved removal action at the Old Stake Road Lead Site located in Chadbourn, Columbus County, North Carolina. If you have any questions or comments concerning this document, please contact the On-Scene Coordinator at the following address:

De'Lyntoneus Moore
U.S. Environmental Protection Agency
4WD-ERRB
61 Forsyth Street, 11th Floor
Atlanta, Georgia 30303
(404) 562-8756

Sincerely,

Myron D. Lair, Chief
Emergency Response & Removal Branch

Enclosure

Federal
Trip Notification & Authorization

Prepared by: Dave Lilley

Today's Date: 8/30/99

*Use Black Ink or Typewriter only-Staff to fill out first 2 blocks only.

Site Trip

Date of Trip: ~~Old Stake Rd.~~ 8/30 to 9/30/99

If trip date changed or cancelled note below:

Trip Date Changed To: _____ Cancelled: ___

NCD#: NCD JBA Site Name: Old Stake Road

City: Chadbourn County: Columbus

Reason for Trip: Removal Evaluation: Site Visit

Name of Hotel (Overnight Trip): _____ Hotel Telephone Number: ( ) ___ - _____

Authorized by: [signature]
Industrial Hygienist

Project Team Leader: Dan LaMontagne

Assistants: _____, _____, _____

Attach To Notification Form: 1 copy each:
Submit to the
Industrial Hygienist

- Preliminary Assessment Form (First page only)
- Site Map
- PA Transmittal Letter

(Please list appropriate County Health Department contact person to call to advise of trip)

Environmental Supervisor or Health Director to call: William Horne Title: Env. Health Program Supervisor

(Note if Dr., M.P., etc.)

Telephone Number: (910) 640- 6617

Notes: Health Department Official Contacted: Sandra Tyler

Back Up Letter Required: Yes ___ No ✓

Notified Ms. Tyler for Mr. Horne on 9-1-99 (DBL)

Note: Signed original to Data Manager