



February 29, 2016

Ms. Carolyn Callihan
Remedial Project Manager
U.S. Environmental Protection Agency (EPA), Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Approved 3/10/16

**Subject: Well Survey and Sampling Letter Report, Revision 1
SouthChem Site Inspection
Durham, Durham County, North Carolina
Contract Number: EP-S4-14-03
TDD Number: TT-05-013**

Dear Ms. Callihan:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) submits this report summarizing the well survey, conducted from October 12 to 14, 2015, at the SouthChem site in Durham, Durham County, North Carolina. In addition, this report summarizes the analytical results for the drinking water well sampling conducted by the North Carolina Department of Environmental Quality (NCDEQ) on February 3, 2016. This report includes two enclosures and two attachments. Enclosure 1 contains a figure depicting the parcels that were surveyed. Enclosure 2 contains a table listing the ownership information for each of the parcels surveyed. Attachment 1 contains the fact sheet provided to residents. Attachment 2 provides the analytical data package and associated letters for the residential well that was sampled.

BACKGROUND

The SouthChem site is located at 722 E. Markham Avenue in an industrial area of northeastern Durham, Durham County, North Carolina. The 4.19-acre SouthChem site includes four buildings currently used for storage and an inactive landfill that received chemical wastes from the 1960s through the 1970s. The buildings were leased to various chemical firms from 1946 through 2006. Cardinal Products leased the property from about 1946 to 1970. After a 1966 fire, demolished buildings and chemical stock were bulldozed eastward into the landfill. SouthChem, a distributor of industrial solvents, leased the property from 1970 to 1980. A second fire occurred in 1978, which initiated an investigation by EPA. The investigation identified numerous drums containing unspecified chemicals in the landfill. Prior to the EPA investigation, SouthChem used the landfill area for a drum and truck washing operation, dumping wash water directly onto the ground. The landfill stopped receiving waste in 1978.

From 1982 to 2006, the site was leased to several businesses, including Carolina Aerosol, Major Chemical Co., and Carochem. Business operations from 1982 to 2006 included distribution of janitorial chemicals, cleaning solutions, and pesticide production. The property is currently owned by JT & Associates, LLC and is used to store automobiles and tires.

Ground water samples collected on site in 1989 contained volatile organic compounds (VOC) trichloroethene (TCE) at 82,000 micrograms per liter ($\mu\text{g/L}$), tetrachloroethene (PCE) at 15,000 $\mu\text{g/L}$, and other chlorinated solvents. The samples were collected on behalf of the site owner as part of a Notification and Site Data Requirements of Inactive Hazardous Substance Site Reports submitted to the North Carolina Department of Environment and Natural Resources (NCDENR) (now NCDEQ).

Surface water and sediment samples collected in March 2014 as part of a NCDENR Site Inspection (SI) documented an observed release of 1,1-dichloroethane (DCA), trans-1,2-dichloroethene (DCE), PCE, TCE, cadmium, chromium, DDD, DDT, and *gamma*-chlordane at the point where landfill runoff and leachate enter the adjacent wetlands and creek. A release of PCE, DDD, DDT, and *gamma*-chlordane was documented downstream of the site, in western Goose Creek. During this SI, the Durham County Environmental Health Department provided NCDENR with a map of parcels with water connections within a 1,500-foot radius of the SouthChem site. Using Google Earth street view, NCDENR viewed all parcels without a water connection and did not identify any potential residential drinking water wells. NCDENR also confirmed that the residence located at 1601 Camden Avenue, which is about 0.75 mile northeast of the SouthChem site, is the closest residential well.

In 2015, NCDEQ conducted an Expanded Site Inspection (ESI) to document sources for the surface water migration pathway. NCDEQ collected soil, ground water, surface water, and sediment samples. Metals and pesticides were detected in on-site soil samples at elevated concentrations. NCDEQ collected ground water samples from three existing on-site monitoring wells. Ground water samples contained TCE (up to 65,000 µg/L), PCE (up to 32,000 µg/L), methylene chloride (up to 27,000 µg/L), and toluene (up to 10,000 µg/L), among others. Surface water samples contained elevated concentrations of 1,1-DCA, trans-1,2-DCE, PCE, and TCE. Sediment samples contained 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, carbazole, and fluorine at elevated concentrations. During the ESI, NCDEQ visited the residence located at 1601 Camden Avenue, which is the closest residential drinking water well to the SouthChem site (about 0.75 mile northeast), and determined that the residence is boarded up and vacant.

WELL SURVEY

Because of the VOC contamination in ground water underlying the site, EPA determined that a well survey of the surrounding area was needed to ensure that nearby residents were not drinking contaminated well water. EPA tasked Tetra Tech with evaluating each parcel within a 0.75-mile radius (about 2,271 parcels) of the SouthChem site to identify parcels that may have a drinking water well. Using geographic information system (GIS) data provided by the Durham County Tax Assessor's Office, Tetra Tech narrowed down the list of properties to survey.

Parcels were retained based on the following land use (LU) classes (resulting in 544 parcels):

- All Residential (LU classes: 111, 11102, 11142, 112, 113, 122, and 180)
- Vacant land (LU classes: 300, 310, 311, 31102, 31104, 312, 360, and 368)
- Commercial Residential (LU classes: 411, 41142, and 413)
- Community Services (LU classes: 600, 621, 622, and 623)

Using GIS data provided by the City of Durham Water Department, Tetra Tech evaluated the remaining 544 parcels and eliminated those properties that were connected to the city's municipal water system. In addition, the following assumptions were made:

- Side/Back vacant residential parcels that shared the same property owner as an adjoining parcel, and had confirmed water service, were eliminated. Google Earth 2015 aerial imagery also was used for confirmation of vacancy.
- Vacant community service parcels confirmed to be parking spaces or adjoining parcels were eliminated.



- Vacant community service parcels owned by the city/government (i.e. City of Durham, NC Department of Transportation, etc.) with no confirmed property or housing feature on the parcel were eliminated. Google Earth 2015 aerial imagery was used for additional confirmation.
- Residential properties that had no address listed in the location field of the data provided by Durham County GIS, but had apparent water meters along the street or on the parcel itself, were eliminated. Parcels were also reviewed/confirmed using Google Earth 2015 aerial imagery. Also, in cases where a parcel had adjacent parcels on either side with confirmed water service, they were reviewed, confirmed through Google Earth 2015 aerial imagery, and eliminated.

If there was any question as to whether a parcel did not have water service, it was retained. Based on Tetra Tech's evaluation, a total of 121 parcels were retained, including 30 residential, 1 commercial residential, 5 community services, and 85 vacant land (see Enclosures 1 and 2).

SURVEY RESULTS

From October 12 to 14, 2015, EPA, NCDEQ, and Tetra Tech personnel conducted a well survey of the 121 retained properties. Vacant properties were confirmed as vacant. Two properties listed as vacant had new construction and were connected to the city's municipal water system. The residence at 1601 Camden Avenue, identified by NCDEQ as the closest known residential drinking water well, is still boarded up and vacant. Field personnel confirmed that all but four of the residential, commercial residential, and community services properties were connected to the city's municipal water system (see Enclosure 2). EPA left a fact sheet (see Attachment 1), an access agreement form, and contact information at each of the four residences that could not be confirmed. EPA followed up with these residents in writing. Three residents (1614 Cheek Road, 1707 Cheek Road, and 412 Edward Street) responded that they are connected to the city's municipal system. The resident at 1811 Cheek Road confirmed that the property is not connected to the city's municipal system and the resident's primary source of drinking water is from a ground water well located on the property.

WELL SAMPLING RESULTS

NCDEQ sampled the drinking water well located at 1811 Cheek Road on February 3, 2016 to determine whether the drinking water has been impacted by the SouthChem site. The drinking water sample was analyzed for VOCs, semivolatile organic compounds (SVOC), pesticides, and metals. Barium (0.80 milligrams per liter [mg/L]), copper (0.023 mg/L), iron (1.1 mg/L), magnesium (38 mg/L), manganese (0.046 mg/L), and zinc (0.23 mg/L) were detected in the drinking water sample; however, only iron exceeded its NCDEQ groundwater standard of 0.30 mg/L. An environmental toxicologist with the North Carolina Division of Waste Management reviewed the analytical results and concluded that no restrictions for use of this water are recommended at this time (see Attachment 2).



Ms. C. Callihan
February 29, 2016
Page 4

If you have any questions or need additional copies of this report, please call me at (678) 775-3101.

Sincerely,



Quinn Kelley
Tetra Tech START IV Project Manager



Andrew F. Johnson
Tetra Tech START IV Program Manager

Enclosures (2)

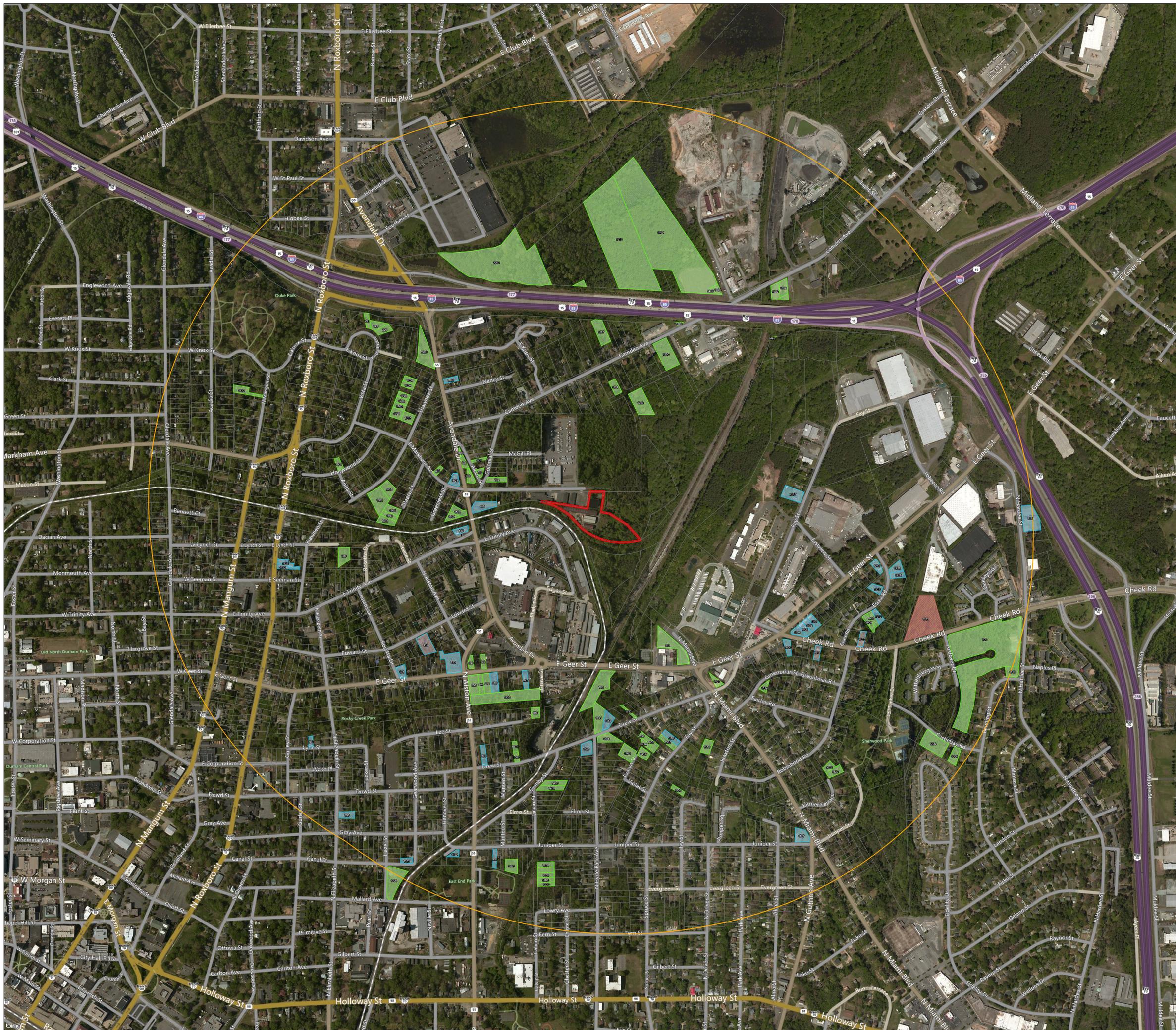
Attachments (2)

cc: Katrina Jones, EPA Project Officer
Angel Reed, Tetra Tech START IV Document Control Coordinator



ENCLOSURE 1
FIGURE OF SURVEYED PROPERTIES
(One Map)



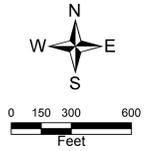


Legend

- SouthChem Site
- 3/4 Mile Buffer
- Parcel Boundary
- 123 House Number

Verification Status

- Verified, Public Water
- Verified, Vacant
- Verified, Drinking Water



Map Source:
 Bing Aerial Imagery, 2015; Parcel boundary layer, NC One Map,
 July 2015; NC City of Durham, 2014-2015; NC Durham County, 2015.



**United States
 Environmental Protection Agency
 Region 4**

FIGURE 1
Surveyed Properties

TDD Name: SouthChem Site Inspection
TDD No.: TT-05-013

City: Durham **County:** Durham **State:** North Carolina

TETRA TECH

Date: 1/25/2016
Analyst: helen.mayoral

ENCLOSURE 2
TABLE OF SURVEYED PROPERTIES
(Two Pages)



**SOUTHCHEM SITE INSPECTION
TABLE OF SURVEYED PROPERTIES**

Parcel Number	Land Use Code	Parcel Use Description	Owner Name	Owner Mailing Address	Mailing Address City	Mailing Address State	Mailing Address Zipcode	Site Address	Site Address City	Site Address State	Site Address Zipcode	Status
0831-06-49-1927	311	VAC RES/ LOT-SML TRACT	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1300 GROVE ST	Durham	NC	27701	Verified, Vacant
0831-06-49-4812	311	VAC RES/ LOT-SML TRACT	BOWDEN REGINA G	232 MONTICELLO AVE	DURHAM	NC	27707-3911	823 LEE ST	Durham	NC	27701	Verified, Vacant
0831-06-49-9424	600	COMMUNITY SVCS (UNDIFF)	HOUSING AUTHORITY OF THE CITY	330 E MAIN ST	DURHAM	NC	27702-1726	1521 N HYDE PARK AVE	Durham	NC	27701	Verified, Public Water
0831-07-59-0756	311	VAC RES/ LOT-SML TRACT	CREDLE INVESTMENTS LLC	604 HOLLYRIDGE DR	DURHAM	NC	27712-2762	1101 DREW ST	Durham	NC	27701	Verified, Vacant
0831-07-59-1534	311	VAC RES/ LOT-SML TRACT	SUMMIT CONNECTION LLC	248 WILLOW TER	STERLING	VA	20164-1628	1108 DREW ST	Durham	NC	27701	Verified, Vacant
0831-07-59-1753	11102	RES/ 1-FAMILY RENTAL	HABIBI LLC	DONNA MANSOUR NORRIS	CARY	NC	27511	1113 DREW ST	Durham	NC	27701	Verified, Public Water
0831-07-59-3339	311	VAC RES/ LOT-SML TRACT	HOLLOWAY ESTATE	200 E MAIN ST 1ST FLOOR	DURHAM	NC	27701	1400 EVELYN ST	Durham	NC	27701	Verified, Vacant
0831-07-59-3851	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1133 DREW ST	Durham	NC	27701	Verified, Vacant
0831-07-59-4398	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1412 EVELYN ST	Durham	NC	27701	Verified, Vacant
0831-07-59-4576	31102	VAC RES/ LOT-SML TR/REAR	UNKNOWN OWNER	200 E MAIN ST	DURHAM	NC	27701	1130 DREW ST	Durham	NC	27701	Verified, Vacant
0831-07-59-5418	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1416 EVELYN ST	Durham	NC	27701	Verified, Vacant
0831-07-59-5478	311	VAC RES/ LOT-SML TRACT	WHEELER SELENA WARREN TRUSTEE	C/O TAYLOR	CARY	NC	27519-7132	1400 EVELYN ST	Durham	NC	27701	Verified, Vacant
0831-07-59-7449	311	VAC RES/ LOT-SML TRACT	AIKEN HEIRS ARTHUR	905 SUBER ST	COLUMBIA	SC	29205	1507 FAY ST	Durham	NC	27701	Verified, Vacant
0831-07-59-7574	311	VAC RES/ LOT-SML TRACT	SUMMIT CONNECTION LLC	248 WILLOW TER	STERLING	VA	20164-1628	1509 FAY ST	Durham	NC	27701	Verified, Public Water
0831-07-69-1445	311	VAC RES/ LOT-SML TRACT	GREATER SAINT PAUL MISSIONARY	1102 JUNIPER ST	DURHAM	NC	27701-3541	1516 FAY ST	Durham	NC	27701	Verified, Vacant
0832-07-50-0044	360	VACANT COMMUNITY SERVICE	COUNTY OF DURHAM	200 E MAIN ST	DURHAM	NC	27701-3649	760 E GEER ST	Durham	NC	27701	Verified, Vacant
0832-14-32-0877	311	VAC RES/ LOT-SML TRACT	BELL LYNDA LEE	403 E MARKHAM AVE	DURHAM	NC	27701	1700 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-14-32-1894	311	VAC RES/ LOT-SML TRACT	BENT ESTHER A	405 E MARKHAM AVE	DURHAM	NC	27701	1707 SHAWNEE ST	Durham	NC	27701	Verified, Vacant
0832-14-32-1904	311	VAC RES/ LOT-SML TRACT	SOUTHERN REPAIR SERVICE INCORP	P O BOX 685	DURHAM	NC	27702	1700 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-14-33-1030	311	VAC RES/ LOT-SML TRACT	DINGS EMILY E	9514 SW CAPITOL HWY	PORTLAND	OR	97219	1700 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-14-33-1055	311	VAC RES/ LOT-SML TRACT	HARVIN WAYNE	1713 SHAWNEE ST	DURHAM	NC	27701	1700 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-14-33-1196	311	VAC RES/ LOT-SML TRACT	ZECK-BALDWIN STEPHANIE	1717 SHAWNEE ST	DURHAM	NC	27701	1700 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-14-33-2221	311	VAC RES/ LOT-SML TRACT	SCHIAVONE ANGELINA MARIA	402 E KNOX ST	DURHAM	NC	27701	1700 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-14-33-3479	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1900 AVONDALE DR	Durham	NC	27701	Verified, Vacant
0832-14-33-6221	311	VAC RES/ LOT-SML TRACT	INFINITO CHRISTIAN R	1800 AVONDALE DR	DURHAM	NC	27701	1802 AVONDALE DR	Durham	NC	27701	Verified, Public Water
0832-15-52-5942	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1200 CENTER ST	Durham	NC	27701	Verified, Vacant
0832-15-53-1655	312	VAC RES/ W/ SML IMPROV	RIGGSBEE ETHLENE B	1201 CAMDEN AVE	DURHAM	NC	27701-1426	1117 CAMDEN AVE	Durham	NC	27701	Verified, Vacant
0832-15-53-2089	311	VAC RES/ LOT-SML TRACT	MOSLEY BETTY C TRUSTEES	TRAIN & DEV RESOURCES	MINNEAPOLIS	MN	55417	1114 CAMDEN AVE	Durham	NC	27701	Verified, Vacant
0832-15-53-8403	311	VAC RES/ LOT-SML TRACT	KING KELLEY W	1701 CAMDEN AVE	DURHAM	NC	27704	1200 CAMDEN AVE	Durham	NC	27701	Verified, Vacant
0832-15-53-9742	360	VACANT COMMUNITY SERVICE	NC STATE HWY & PUBLIC WORK CO	331 WEST MAIN ST	DURHAM	NC	27701	1300 CAMDEN AVE	Durham	NC	27701	Verified, Vacant
0832-15-63-8575	360	VACANT COMMUNITY SERVICE	NC DEPT OF TRNSPRTN	815 STADIUM DR	DURHAM	NC	27704	2449 FAYE ST	Durham	NC	27701	Verified, Vacant
0832-18-21-9759	311	VAC RES/ LOT-SML TRACT	OVERTON COY L	2205 W YACHT DR	LONG BEACH	NC	28465	1601 PEACE ST	Durham	NC	27701	Verified, Vacant
0832-18-21-9884	311	VAC RES/ LOT-SML TRACT	OVERTON COY L	2205 W YACHT DR	LONG BEACH	NC	28465	1603 PEACE ST	Durham	NC	27701	Verified, Vacant
0832-18-22-8071	360	VACANT COMMUNITY SERVICE	DUKE PARK PRESERVATION	404 E MARKAM	DURHAM	NC	27701	1608 SHAWNEE ST	Durham	NC	27701	Verified, Vacant
0832-18-22-9171	311	VAC RES/ LOT-SML TRACT	WILKINSON JAMES B ESTATE	PO BOX 11293	DURHAM	NC	27703	1612 SHAWNEE ST	Durham	NC	27701	Verified, Vacant
0832-18-30-3524	111	RES/ 1-FAMILY	COPLEY ELIZABETH ANN	412 EDWARD	DURHAM	NC	27701	412 EDWARD ST	Durham	NC	27701	Verified, Public Water
0832-18-30-7373	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	600 E GEER ST	Durham	NC	27701	Verified, Vacant
0832-18-30-8102	311	VAC RES/ LOT-SML TRACT	FOWLER INC M M	4220 NEAL RD #415	DURHAM	NC	27705	600 E GEER ST	Durham	NC	27701	Verified, Vacant
0832-18-30-8173	311	VAC RES/ LOT-SML TRACT	GODWIN GUS T TRUSTEE	6606 BARBEE RD	DURHAM	NC	27713	604 E GEER ST	Durham	NC	27701	Verified, Vacant
0832-18-30-8394	311	VAC RES/ LOT-SML TRACT	DAYE DANNY M	607 E GEER ST	DURHAM	NC	27701	600 E GEER ST	Durham	NC	27701	Verified, Vacant
0832-18-30-9133	311	VAC RES/ LOT-SML TRACT	GODWIN GUS T TRUSTEE	6606 BARBEE RD	DURHAM	NC	27713	606 E GEER ST	Durham	NC	27701	Verified, Vacant
0832-18-31-0910	311	VAC RES/ LOT-SML TRACT	OVERTON COY L	2205 W YACHT DR	LONG BEACH	NC	28465	1605 PEACE ST	Durham	NC	27701	Verified, Vacant
0832-18-31-6697	111	RES/ 1-FAMILY	CANGAS GEORGE A	1605 LOGAN ST	DURHAM	NC	27704	517 E TRINITY AVE	Durham	NC	27701	Verified, Public Water
0832-18-31-6801	31102	VAC RES/ LOT-SML TR/REAR	FRANCIS EARL R ESTATE	1604 GREENLEAF ST	DURHAM	NC	27701	1600 GREENLEAF ST	Durham	NC	27701	Verified, Vacant
0832-18-31-6876	311	VAC RES/ LOT-SML TRACT	FRANCIS EARL R ESTATE	1604 GREENLEAF ST	DURHAM	NC	27701	1500 AVONDALE DR	Durham	NC	27701	Verified, Vacant
0832-18-31-9944	11102	RES/ 1-FAMILY RENTAL	YARBORO DONALD W	21 TWINLEAF PL	DURHAM	NC	27705-1956	606 COLONIAL ST	Durham	NC	27701	Verified, Public Water
0832-18-32-4289	311	VAC RES/ LOT-SML TRACT	SNEED WALTER T	443 NORTH POINTE DR	ROXBORO	NC	27574	605 E MARKHAM AVE	Durham	NC	27701	Verified, Vacant
0832-18-32-6149	621	CMNTY SVC/ CHURCH	COOKE WILLIAM B	907 CAMDEN AVE	DURHAM	NC	27701	1603 AVONDALE DR	Durham	NC	27701	Verified, Public Water
0832-18-32-7275	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	703 E MARKHAM AVE	Durham	NC	27701	Verified, Vacant
0832-18-32-7347	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	700 AVONDALE DR	Durham	NC	27701	Verified, Vacant
0832-18-32-7417	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1600 AVONDALE DR	Durham	NC	27701	Verified, Vacant
0832-18-32-8211	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	0 E MARKHAM AVE	Durham	NC	27701	Verified, Vacant
0832-18-32-8398	31104	VAC RES/ LOT-SML TR/SIDE	NELSON MINNIE LEE	1612 ALCOTT ST	DURHAM	NC	27701-1457	1610 ALCOTT ST	Durham	NC	27701	Verified, Vacant
0832-18-32-9207	31104	VAC RES/ LOT-SML TR/SIDE	DRAUGHON MICHELLE	510 GROVE AVE	RALEIGH	NC	27606-1608	700 COLONIAL ST	Durham	NC	27701	Verified, Vacant
0832-18-40-0104	112	RES/ 2-FAMILY	ADRIA VENTURES LLC	PO BOX 16261	CHAPEL HILL	NC	27516	610 E GEER ST	Durham	NC	27701	Verified, Public Water
0832-18-40-3116	112	RES/ 2-FAMILY	ALLEN RICKY G	624 EAST GEER ST	DURHAM	NC	27701	622 E GEER ST	Durham	NC	27701	Verified, Public Water
0832-18-42-0178	311	VAC RES/ LOT-SML TRACT	FEIGAL JACOB PAUL	702 COLONIAL ST	DURHAM	NC	27701	704 COLONIAL ST	Durham	NC	27701	Verified, Vacant
0832-19-60-2140	311	VAC RES/ LOT-SML TRACT	PARKER JOSEPH	P O BOX 14421	RTP	NC	27709	1407 DREW ST	Durham	NC	27701	Verified, Vacant
0832-19-60-7023	311	VAC RES/ LOT-SML TRACT	DENNIS CLEO EDWARD	2017 W B CLARK RD	CREEDMOOR	NC	27522	1614 GREENBRIAR RD	Durham	NC	27701	Verified, Vacant
0832-19-60-9462	311	VAC RES/ LOT-SML TRACT	PENA FERNANDO	2611 BARWICK DR	DURHAM	NC	27704	1600 CHEEK RD	Durham	NC	27701	Verified, Public Water
0832-19-70-2366	111	RES/ 1-FAMILY	CLARK LYDA F	1614 CHEEK RD	DURHAM	NC	27704	1614 CHEEK RD	Durham	NC	27701	Verified, Public Water
0831-05-28-4852	111	RES/ 1-FAMILY	GRANT ET TA JOYCE EST	2111 CONCORD ST	DURHAM	NC	27707	808 N ELIZABETH ST	Durham	NC	27701	Verified, Public Water

**SOUTHCHEM SITE INSPECTION
TABLE OF SURVEYED PROPERTIES**

Parcel Number	Land Use Code	Parcel Use Description	Owner Name	Owner Mailing Address	Mailing Address City	Mailing Address State	Mailing Address Zipcode	Site Address	Site Address City	Site Address State	Site Address Zipcode	Status
0831-05-29-1547	111	RES/ 1-FAMILY	BRIDGES LAWRENCY B	1517 FAIRFAX RD	DURHAM	NC	27701	309 LYRIC ST	Durham	NC	27701	Verified, Public Water
0831-06-28-9155	111	RES/ 1-FAMILY	CHAMBERS W L	23 PARK RD	ASHEVILLE	NC	28803	1000 HAZEL ST	Durham	NC	27701	Verified, Vacant
0831-06-38-0385	111	RES/ 1-FAMILY	CURRY WILLIAM LARRY	3101 SKYCREST DR	RALEIGH	NC	27604	1101 GEARWOOD AVE	Durham	NC	27701	Verified, Public Water
0831-06-38-5471	111	RES/ 1-FAMILY	JONES RODNEY	165 MICKLESON RIDGE DR	RALEIGH	NC	27603	1120 HANOVER ST	Durham	NC	27701	Verified, Public Water
0831-06-38-9376	111	RES/ 1-FAMILY	GADDY LAVERN	17481 E ARIZONA AVE	AURORA	CO	80017	908 JUNIPER ST	Durham	NC	27701	Verified, Public Water
0831-06-39-8482	111	RES/ 1-FAMILY	NNC INC	8437 CLINTON ST	WEST HOLLYWOOD	CA	90048	903 DREW ST	Durham	NC	27701	Verified, Public Water
0831-06-48-1238	311	VAC RES/ LOT-SML TRACT	MANNING ROBERT B HEIRS	1312 MANTEO ST	DURHAM	NC	27701-2649	1200 MANTEO ST	Durham	NC	27701	Verified, Vacant
0831-06-48-4088	311	VAC RES/ LOT-SML TRACT	NORTH CAROLINA MUTUAL LIFE IN	P O BOX 201	DURHAM	NC	27702	1200 CALVIN ST	Durham	NC	27701	Verified, Vacant
0831-06-48-4182	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1200 CALVIN ST	Durham	NC	27701	Verified, Vacant
0831-06-48-4187	311	VAC RES/ LOT-SML TRACT	BELL ALETHEA C	2006 STREBOR ST	DURHAM	NC	27705	1200 CALVIN ST	Durham	NC	27701	Verified, Vacant
0831-06-48-4283	311	VAC RES/ LOT-SML TRACT	FARMERS & MERCHANTS BANK THE	200 E MAIN ST	DURHAM	NC	27701	0 CALVIN ST	Durham	NC	27701	Verified, Vacant
0831-06-48-4288	311	VAC RES/ LOT-SML TRACT	EVANS JOHN HEIRS	200 E MAIN ST	DURHAM	NC	27701	1200 CALVIN ST	Durham	NC	27701	Verified, Vacant
0831-06-49-1499	311	VAC RES/ LOT-SML TRACT	WEAVER CHARLOTTE HEIRS	200 E MAIN ST	DURHAM	NC	27701	1005 DREW ST	Durham	NC	27701	Verified, Vacant
0831-06-49-2319	311	VAC RES/ LOT-SML TRACT	COUNTY OF DURHAM	200 E MAIN ST	DURHAM	NC	27701-3649	1007 DREW ST	Durham	NC	27701	Verified, Vacant
0831-06-49-5056	311	VAC RES/ LOT-SML TRACT	CREDLE INVESTMENTS LLC	604 HOLLYRIDGE DR	DURHAM	NC	27712-2762	1400 GRANBY ST	Durham	NC	27701	Verified, Vacant
0831-06-49-5191	311	VAC RES/ LOT-SML TRACT	CREDLE INVESTMENTS LLC	604 HOLLYRIDGE DR	DURHAM	NC	27712-2762	1400 GRANBY ST	Durham	NC	27701	Verified, Vacant
0831-07-59-8031	311	VAC RES/ LOT-SML TRACT	PAGE MARVENIA	2900 E PETTIGREW ST	DURHAM	NC	27703	1408 FAY ST	Durham	NC	27701	Verified, Vacant
0831-07-78-0562	621	CMNTY SVC/ CHURCH	FAITH BAPTIST CHURCH TRS	1507 JUNIPER ST	DURHAM	NC	27703	1507 JUNIPER ST	Durham	NC	27703	Verified, Public Water
0831-07-79-3261	311	VAC RES/ LOT-SML TRACT	DAVIS ROBERT THOMAS ESTATE	LINDA FAYE DAVIS	DURHAM	NC	27704	1622 KILMER TER	Durham	NC	27703	Verified, Vacant
0831-07-79-4127	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1620 KILMER TER	Durham	NC	27703	Verified, Vacant
0831-08-89-4414	310	VAC RES/ < 10 ACRES	WELLONS GENEELIA S	230 GUM SPRINGS RD	TAYLORS	SC	29687-6951	1200 CASTLEBAY RD	Durham	NC	27703	Verified, Vacant
0831-08-89-6321	311	VAC RES/ LOT-SML TRACT	WELLONS CHARLES R FOUNDATION	P O BOX 52328	DURHAM	NC	27717	1304 CASTLEBAY RD	Durham	NC	27703	Verified, Vacant
0832-13-13-5124	111	RES/ 1-FAMILY	MARLETTE WADE E JR	1423 N MANGUM ST	DURHAM	NC	27701	1423 N MANGUM ST	Durham	NC	27701	Verified, Vacant
0832-14-23-8788	311	VAC RES/ LOT-SML TRACT	HIGH WAKISHA A	3216 PHILMONT DR	RALEIGH	NC	27615	223 KNOX CIR	Durham	NC	27701	Verified, Vacant
0832-14-23-8802	31104	VAC RES/ LOT-SML TR/SIDE	HIGH WAKISHA A	3216 PHILMONT DR	RALEIGH	NC	27615	221 KNOX CIR	Durham	NC	27701	Verified, Vacant
0832-14-23-9772	311	VAC RES/ LOT-SML TRACT	HIGH WAKISHA A	3216 PHILMONT DR	RALEIGH	NC	27615	225 KNOX CIR	Durham	NC	27701	Verified, Vacant
0832-14-44-1377	360	VACANT COMMUNITY SERVICE	NC STATE HWY COMMISSION	320 E CLUB BLVD	DURHAM	NC	27704	2000 AVONDALE DR	Durham	NC	27704	Verified, Vacant
0832-15-44-9164	360	VACANT COMMUNITY SERVICE	NC STATE HWY COMMISSION	320 E CLUB BLVD	DURHAM	NC	27704	0 I-85	Durham	NC	27704	Verified, Vacant
0832-15-54-3569	360	VACANT COMMUNITY SERVICE	NC STATE HWY COMMISSION	320 E CLUB BLVD	DURHAM	NC	27704	1215 CAMDEN AVE	Durham	NC	27704	Verified, Vacant
0832-15-54-7694	360	VACANT COMMUNITY SERVICE	NC STATE HWY COMMISSION	320 E CLUB BLVD	DURHAM	NC	27704	1400 CAMDEN AVE	Durham	NC	27704	Verified, Vacant
0832-15-64-2094	360	VACANT COMMUNITY SERVICE	NC STATE HWY COMMISSION	320 E CLUB BLVD	DURHAM	NC	27704	1400 CAMDEN AVE	Durham	NC	27704	Verified, Vacant
0832-15-64-3035	360	VACANT COMMUNITY SERVICE	NC STATE HWY COMMISSION	320 E CLUB BLVD	DURHAM	NC	27704	1400 CAMDEN AVE	Durham	NC	27704	Verified, Vacant
0832-15-64-9012	368	VAC COMM SVC/ GRVL PRK LT	NC DEPT OF TRNSPRTN	PO BOX 15580	DURHAM	NC	27704	1502 CAMDEN AVE	Durham	NC	27704	Verified, Vacant
0832-15-64-9096	368	VAC COMM SVC/ GRVL PRK LT	NC DEPT OF TRNSPRTN	PO BOX 15580	DURHAM	NC	27704	1504 CAMDEN AVE	Durham	NC	27704	Verified, Vacant
0832-15-73-0916	360	VACANT COMMUNITY SERVICE	NC STATE HWY & PUBLIC WORK CO	331 WEST MAIN ST	DURHAM	NC	27701	0 I-85	Durham	NC	27704	Verified, Vacant
0832-17-11-9324	111	RES/ 1-FAMILY	FOWLER KENNETH	1412 N ROXBORO ST	DURHAM	NC	27701	1412 N ROXBORO ST	Durham	NC	27701	Verified, Public Water
0832-17-11-9338	111	RES/ 1-FAMILY	MAY HAROLD C III	1426 N ROXBORO ST	DURHAM	NC	27701	1426 N ROXBORO ST	Durham	NC	27701	Verified, Public Water
0832-18-21-5437	311	VAC RES/ LOT-SML TRACT	PICKETT STEWART M JR	P O BOX 148	SALTERPATH	NC	28575	200 E LYNCH ST	Durham	NC	27701	Verified, Vacant
0832-18-22-4387	312	VAC RES/ W/ SML IMPROV	PISTOR LORI ELLEN	1609 HOLLYWOOD ST	DURHAM	NC	27701	1600 HOLLYWOOD ST	Durham	NC	27701	Verified, Vacant
0832-18-30-0278	111	RES/ 1-FAMILY	WHITE ANGELICA	501 E GEER ST	DURHAM	NC	27701	501 E GEER ST	Durham	NC	27701	Verified, Public Water
0832-18-30-5394	111	RES/ 1-FAMILY	STAAB HOWARD	5401 FRIENDS SCHOOL RD	DURHAM	NC	27705	523 E GEER ST	Durham	NC	27701	Verified, Public Water
0832-19-50-8406	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	811 E GEER ST	Durham	NC	27704	Verified, Vacant
0832-19-70-0578	112	RES/ 2-FAMILY	JOHNSON WILLIE F	6637 SPEIGHT CIR	RALEIGH	NC	27616	1104 E GEER ST	Durham	NC	27704	Verified, Public Water
0832-19-70-1640	112	RES/ 2-FAMILY	LAMB VANESSA	16003 SOUTH THAMES CT	ACCOKEEK	MD	20607	1106 E GEER ST	Durham	NC	27704	Verified, Public Water
0832-19-70-1694	112	RES/ 2-FAMILY	SPEIGHT LARRY	1108 E GEER ST	DURHAM	NC	27704	1108 E GEER ST	Durham	NC	27704	Verified, Public Water
0832-19-70-2638	112	RES/ 2-FAMILY	KALAMBAKAL VICKY M	24065 OCEAN AVE APT 5	TORRANCE	CA	90505-6439	1110 E GEER ST	Durham	NC	27704	Verified, Public Water
0832-19-71-0947	11102	RES/ 1-FAMILY RENTAL	YOUNG HARRY L	1612 DELAWARE AVE	DURHAM	NC	27705	2107 FAY ST	Durham	NC	27704	Verified, Public Water
0832-20-70-7510	111	RES/ 1-FAMILY	GOVEA-SALAZAR MIGUEL	247 ROSALINE LN	DURHAM	NC	27713	1707 CHEEK RD	Durham	NC	27704	Verified, Public Water
0832-20-70-7697	360	VACANT COMMUNITY SERVICE	COUNTY OF DURHAM	200 E MAIN ST	DURHAM	NC	27701-3649	1908 ESSEX RD	Durham	NC	27704	Verified, Vacant
0832-20-70-8730	360	VACANT COMMUNITY SERVICE	CITY OF DURHAM	PROP AND FACILITY MGMT	DURHAM	NC	27701	1910 ESSEX RD	Durham	NC	27704	Verified, Vacant
0832-20-70-8783	11102	RES/ 1-FAMILY RENTAL	RAO KONERU R	7533 TEEWAY CR	CHATTANOOGA	TN	37416	1912 ESSEX RD	Durham	NC	27704	Verified, Public Water
0832-20-71-8070	111	RES/ 1-FAMILY	BULLOCK CALVIN L	PO BOX 72623	DURHAM	NC	27722	1919 ESSEX RD	Durham	NC	27704	Verified, Public Water
0832-20-71-8283	413	COM/ APARTMENT-DWG CONV	MELVIN HARTFORD JEFFREY	25 DAILE CT	DURHAM	NC	27712-3307	1212 E GEER ST	Durham	NC	27704	Verified, Public Water
0832-20-80-3751	111	RES/ 1-FAMILY	HARRIS EVERETT C JR ESTATE	ATTN HARRIS SHIRLEY	DURHAM	NC	27704-5005	1811 CHEEK RD	Durham	NC	27704	Verified, Drinking Water Well
0832-20-80-9237	621	CMNTY SVC/ CHURCH	700 HARDEE STREET LAND TRUST	KAREN MATTOCKS TRUSTEE	CLAYTON	NC	27520	700 HARDEE ST	Durham	NC	27703	Verified, Vacant
0832-20-81-0174	111	RES/ 1-FAMILY	DENNIS COLQUITT JR	1928 ESSEX RD	DURHAM	NC	27704	1928 ESSEX RD	Durham	NC	27704	Verified, Public Water
0832-20-81-0261	111	RES/ 1-FAMILY	FOOTMAN LOUIS	1930 ESSEX RD	DURHAM	NC	27703	1930 ESSEX RD	Durham	NC	27704	Verified, Public Water
0832-20-90-2114	311	VAC RES/ LOT-SML TRACT	GREATER JOY BAPTIST CHURCH	REVEREND JAMES DANIELS	DURHAM	NC	27703	1133 BENNING ST	Durham	NC	27703	Verified, Vacant
0832-20-91-4637	622	CMNTY SVC/ CHURCH PARS	CHEEK HEIGHTS BAPTIST CHURCH	826 HARDEE ST	DURHAM	NC	27703	826 HARDEE ST	Durham	NC	27703	Verified, Public Water

Residence served by a drinking water well

ATTACHMENT 1
EPA SOUTHCHEM FACT SHEET
(Two Sheets)





U.S. Environmental Protection Agency
Southchem Site
(Durham, Durham County, North Carolina)

Fact Sheet No. 1

October 2015

The United States Environmental Protection Agency (EPA) is committed to informing citizens affected by the Southchem Site of ongoing and future activities at the Site.

SITE LOCATION/BACKGROUND

The Southchem Site (“the Site”) is located at 722 E. Markham Ave., Durham, NC. The Site is approximately 4.19 acres and includes an inactive landfill, four warehouse buildings and two semi-trailers. From 1946 to 2006, the Site was leased to several businesses, including Carolina Aerosol, Major Chemical Company, Southchem and Carochem. In 1966, there was a fire in a warehouse on Site. After the fire, buildings were demolished and building debris and chemical stock were bulldozed eastward to the landfill. Southchem, a distributor of industrial solvents, leased the Site from 1970 to 1980. In 1978, it was discovered that wastewater was directly dumped onto the ground. From 1988 to 2006, the site was solely leased to Carochem, a Resource Conservation and Recovery Act (RCRA) Hazardous Waste CESQG Handler, which custom formulated and distributed cleaning solutions and produced pesticides. The Site is currently owned by JT & Associates LLC and is used to store automobiles and tires.

ACTIONS TO DATE

The North Carolina Department of Environment and Natural Resources (NCDENR), now the North Carolina Department of Environmental Quality (NCDEQ), conducted an initial investigation of the Site after a 1978 landfill fire and discovered that the Southchem facility was dumping wastewater directly onto the ground. The landfill received construction debris and drums with an unspecified amount of chemicals. The landfill stopped receiving waste in 1978. It was estimated that the landfill contained between 100 and 1,000 drums. A release of chlorinated solvents, petroleum constituents, lindane and dieldrin to the surface water pathway was documented in 1981.

A Preliminary Assessment (PA) was completed on March 7, 1985 and a Site Inspection (SI) was completed on March 25, 1986 by the NCDENR’s Superfund Section. In 1989, four monitoring wells were installed and sampled by the property trustee, Wachovia Bank and Trust, as part of Notification and Site Data Requirements of an Inactive or Hazardous Waste Disposal Site. Elevated concentrations of chlorinated volatile organic compounds (VOCs) were noted.

NCDENR completed a second SI on September 30, 2014. The purpose of the 2014 SI was to determine if the Site is discharging to the surface water pathway; wetlands and a fishery. An Expanded Site Inspection (ESI) groundwater and soil study was conducted in 2015 to investigate contamination of groundwater, establish if released contaminants are present in an on-site source, and determine if any private drinking water wells in the area are at risk of contamination from the Site. Results from the 2015 ESI show that groundwater levels of chlorinated solvents remain high and there are contaminants in on-site soils.



WHEN YOU TURN ON YOUR TAP, WHERE DOES YOUR WATER COME FROM?

A) PUBLIC WATER SYSTEM

B) PRIVATE DRINKING AND/OR HOUSEHOLD WELLS

C) UNCERTAIN

If your answer to the question above is either B or C, the EPA and NCDEQ invite you to take part in a sampling event that will allow crews to collect samples of water from your private wells, so that they may be analyzed to ensure the safety of the community’s private well water drinking source. **Please be assured that this is at no cost to you.** Crews will begin collecting access agreements during the week of October 13-16, 2015.

ACTIONS TO DATE (cont’d)

Based on findings, the Site is currently being evaluated to determine if the Site qualifies for inclusion on the National Priorities List (NPL) under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or more commonly, Superfund.

Superfund is the name given to the environmental program established to address abandoned hazardous waste sites. The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories.

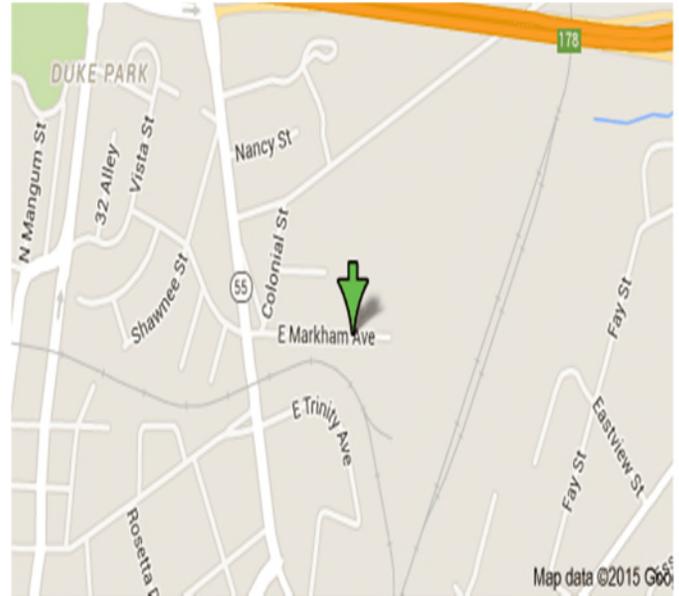
NEXT STEPS

PRIVATE WELL SURVEY

Representatives from the EPA and NCDEQ will be going door-to-door within a three-quarter-mile radius of the Site during the week of October 13-16, 2015 to:

- **Provide information to property owners who have been identified as potentially having a private well in use.**
- **Obtain permission to gain access to residents' private wells so that the wells may be sampled, which is at no cost to the property owners.**

Private well surveys conducted in the past have identified only one potential well in use (residence now vacant) within a ¾ mile radius of the site. This current effort is being conducted to confirm previous surveys. Well sampling is necessary to assess the safety of the community's private well drinking water source and to gain further site assessment data as part of the EPA's and NCDEQ's ongoing evaluation of the Site for potential inclusion on the NPL.



For additional information concerning cleanup efforts or should you have any questions, please feel free to contact one of the following:

Region 4 United States Environmental Protection Agency

Kerisa Coleman, Community Involvement Coordinator
Superfund Investigation and Community Engagement Section
(404) 562-8831 or Toll Free (877) 718-3752
coleman.kerisa@epa.gov

Carolyn Callihan
Remedial Project Manager
Superfund Restoration and Site Evaluation Section
(404) 562-8713
callihan.carolyn@epa.gov

U.S. Environmental Protection Agency
61 Forsyth Street, SW
11th Floor
Atlanta, GA 30303

North Carolina Department of Environmental Quality

Jeanette Stanley
Environmental Chemist
Superfund Section
Division of Waste Management
(919) 707-8376
jeanette.stanley@ncdenr.gov

ATTACHMENT 2
LETTERS AND ANALYTICAL DATA PACKAGE
(51 Sheets)





Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

LINDA CULPEPPER
Director

February 25, 2016

Carolyn Callihan
Superfund Restoration and Site Evaluation Section
Superfund Division
US EPA Region 4
61 Forsyth Street, 11th Floor
Atlanta, GA 30303-3104

Re: Private Well Sampling
1811 Cheek Road
Durham, Durham County, NC
Southchem, EPA ID# NCD980503148

Dear Ms. Callihan:

Based on the results of a well survey conducted by Tetra Tech, Inc in October 2015, one drinking water well was found with 0.75 miles of the Southchem site in Durham, Durham County, NC. North Carolina Superfund Section staff conducted sampling at 1811 Cheek Road as a follow-up to the well survey on February 3, 2016.

Results from the sampling showed the presence of six contaminants in the drinking water well. These results are summarized in the table below.

Sample ID	Contaminant	Concentration (µg/l)*	MCL (µg/l)	2L (µg/l)
RB04004-002	Barium	800	2,000	
	Copper	23	1,300	
	Iron	1,100		300**
	Magnesium	38,000	NA	NA
	Manganese	46		50***
	Zinc	230		1,000

* The abbreviation µg/l stands for micrograms of contaminant per liter of water and is roughly equivalent to parts per billion.

NA-Not Available

** This value is based on taste, the health based value is 2,500 ug/L.

*** This value is based on discoloration, the health based value is 200 ug/L.

The results were reviewed by an Environmental Toxicologist for the North Carolina Division of Waste Management. Based on the levels detected in the drinking water well, he recommended no restrictions

on the use of this water at this time because none of the contaminants detected exceeded the applicable water standards.

A copy of all the sample results along with the recommendation of the Environmental Toxicologist have been mailed to the homeowner. A copy of all documents associated with the private well sampling are attached to this letter.

If you have any questions, please contact me at (919) 707-8373.

Sincerely,



Melanie Bartlett, Environmental Engineer
Division of Waste Management, NCDEQ

Attachments

cc: File



PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

LINDA CULPEPPER
Director

February 25, 2016

Ms. Shirley Harris
1811 Cheek Road
Durham, NC 27704

SUBJECT: Well Sampling Results for 1811 Cheek Road
Southchem, EPA ID# NCD980503148
Durham, Durham County, NC

Dear Ms. Harris:

As you are aware, the NC Superfund Section collected a sample from your drinking water well on February 3, 2016. The sample was analyzed for all of the contaminants listed on the attached laboratory report sheets. Six contaminants were detected in your well water. The detected levels do not exceed any applicable health-based standards. Therefore, no restrictions on the use of this water are recommended at this time.

The six contaminants detected in your well water are listed in the summary table below, along with their detected concentrations and their applicable health standards. Concentrations are in micrograms per liter (ug/l).

Sample ID	Contaminant	Concentration (µg/l)*	MCL (µg/l)	2L (µg/l)
RB04004-002	Barium	800	2,000	
	Copper	23	1,300	
	Iron	1,100		300**
	Magnesium	38,000	NA	NA
	Manganese	46		50***
	Zinc	230		1,000

* The abbreviation µg/l stands for micrograms of contaminant per liter of water and is roughly equivalent to parts per billion.

NA-Not Available

** This value is based on taste, the health based value is 2,500 ug/L.

*** This value is based on discoloration, the health based value is 200 ug/L.

Again, these contaminants were measured at concentrations which are below the federal Maximum Contaminant Levels (MCLs) considered acceptable for public water supplies. The Environmental Toxicologist for the NC Division of Waste Management has reviewed the analytical results and has concluded that there are no restrictions for use of this water recommended at this time. A copy of the Environmental Toxicologist's evaluation is attached for your information.

If you have any questions regarding health concerns, please contact Mr. Dave Lilley, Environmental Toxicologist, NC Division of Waste Management, at (919) 707-8241. If you have any other questions, please contact me at (919) 707-8373.

Sincerely,



Melanie Bartlett, Environmental Engineer
Division of Waste Management, NCDEQ

Attachments

cc: Mr. Dave Lilley, letter only
File



PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

LINDA CULPEPPER

Director

February 24, 2016

TO: Melanie Bartlett
NC Superfund Section

RE: Health Risk Evaluation
NCD980503148
Southchem Well Sampling Results
Durham, NC

During this sampling event, six contaminants were detected in the well water. The standards used to determine if the water is suitable for drinking and cooking are the United States Environmental Protection Agency's Maximum Contaminant Levels (MCLs) or, if no MCLs exist, North Carolina Groundwater Standards (2L).

If any contaminant concentrations exceed applicable standards for using the water for drinking and cooking, those contaminant concentrations are further analyzed to determine if the water is suitable for other household uses, such as showering, bathing, washing dishes, flushing toilets, and hand washing. The chart below compares the detected contaminant concentrations with the applicable standards:

Sample ID	Contaminant	Concentration (µg/l)*	MCL (µg/l)	2L (µg/l)
RB04004-002	Barium	800	2,000	
	Copper	23	1,300	
	Iron	1,100		300**
	Magnesium	38,000	NA	NA
	Manganese	46		50***
	Zinc	230		1,000

* The abbreviation µg/l stands for micrograms of contaminant per liter of water and is roughly equivalent to parts per billion.

NA-Not Available

** This value is based on taste, the health based value is 2,500 ug/L.

*** This value is based on discoloration, the health based value is 200 ug/L.

RECOMMENDATION: None of the contaminants detected exceeded the applicable water standards. Therefore, no restrictions on the use of this water are recommended at this time.



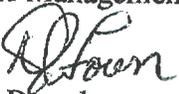
David Lilley, Environmental Toxicologist
Division of Waste Management, NCDEQ



February 22, 2016

MEMORANDUM

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

THROUGH: David Lown, Head 
Federal Remediation Branch

FROM: Melanie Bartlett, Environmental Engineer 
NC Superfund Section

Subject: Health Risk Evaluation Request
Southchem
EPA ID# NCD980503148
Durham, Durham County, NC

Please find attached a copy of the laboratory analyses for Sample ID **1811 Check**, collected by the Superfund Section at the subject site. Since this sample was collected from a private drinking water well, the Superfund Section requests a health risk evaluation and a recommendation on the continued use of this well. This information will be provided to the well owner. If you have any questions regarding this matter, please contact me at 707-8373.

Attachments

cc: File

Description: 1811 CHEEK

Matrix: Aqueous

Date Sampled: 02/03/2016 1010

Date Received: 02/04/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	02/04/2016 2249	KDB	02/04/2016 1638	95776
1	3005A	6010C	1	02/10/2016 1358	CJZ	02/04/2016 1906	95812

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Aluminum	7429-90-5	6010C	ND		0.20	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	mg/L	1
Barium	7440-39-3	6010C	0.80		0.025	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	mg/L	1
Chromium	7440-47-3	6010C	ND		0.010	mg/L	1
Copper	7440-50-8	6010C	0.023		0.010	mg/L	1
Iron	7439-89-6	6010C	1.1		0.10	mg/L	1
Lead	7439-92-1	6010C	ND		0.010	mg/L	1
Magnesium	7439-95-4	6010C	38		5.0	mg/L	1
Manganese	7439-96-5	6010C	0.046		0.015	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	mg/L	1
Zinc	7440-66-6	6010C	0.23		0.020	mg/L	1

P = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

If applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc.

1000 Antelope Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Page: 12 of 31

Client: NCDENR - DWM - DSCA	Laboratory ID: RB04004-002
Description: 1811 CHEEK	Matrix: Aqueous
Date Sampled: 02/03/2016 1010	
Date Received: 02/04/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/05/2016 2300	JJG		95904

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		10	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: NCDENR - DWM - DSCA

Laboratory ID: RB04004-002

Description: 1811 CHEEK

Matrix: Aqueous

Date Sampled: 02/03/2016 1010

Date Received: 02/04/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/05/2016 2300	JJG		95904

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **NCDENR - DWM - DSCA**

Laboratory ID: **RB04004-002**

Description: **1811 CHEEK**

Matrix: **Aqueous**

Date Sampled: **02/03/2016 1010**

Date Received: **02/04/2016**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	02/09/2016 1021	DRB1	02/07/2016 1631	95933

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acenaphthene	83-32-9	8270D	ND		5.0	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		5.0	ug/L	1
Acetophenone	98-86-2	8270D	ND		5.0	ug/L	1
Anthracene	120-12-7	8270D	ND		5.0	ug/L	1
Atrazine	1912-24-9	8270D	ND		5.0	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		25	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		5.0	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		5.0	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		5.0	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		5.0	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		5.0	ug/L	1
1,1'-Biphenyl	92-52-4	8270D	ND		5.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		5.0	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		10	ug/L	1
Caprolactam	105-60-2	8270D	ND		25	ug/L	1
Carbazole	86-74-8	8270D	ND		5.0	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		5.0	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		5.0	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		5.0	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		5.0	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		5.0	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		5.0	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		5.0	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		5.0	ug/L	1
Chrysene	218-01-9	8270D	ND		5.0	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		5.0	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		5.0	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		5.0	ug/L	1
Dibenzofuran	132-64-9	8270D	ND		5.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		25	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		5.0	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		5.0	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		5.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		5.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		25	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		25	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		10	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		10	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		5.0	ug/L	1
Fluoranthene	206-44-0	8270D	ND		5.0	ug/L	1
Fluorene	86-73-7	8270D	ND		5.0	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		5.0	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		5.0	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		25	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: NCDENR - DWM - DSCA

Laboratory ID: RB04004-002

Description: 1811 CHEEK

Matrix: Aqueous

Date Sampled: 02/03/2016 1010

Date Received: 02/04/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	02/09/2016 1021	DRB1	02/07/2016 1631	95933

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Hexachloroethane	67-72-1	8270D	ND		5.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		5.0	ug/L	1
Isophorone	78-59-1	8270D	ND		5.0	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		5.0	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		5.0	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		10	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		5.0	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		5.0	ug/L	1
Naphthalene	91-20-3	8270D	ND		5.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		10	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		10	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		10	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		5.0	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		10	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		25	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		25	ug/L	1
Phenanthrene	85-01-8	8270D	ND		5.0	ug/L	1
Phenol	108-95-2	8270D	ND		5.0	ug/L	1
Pyrene	129-00-0	8270D	ND		5.0	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		5.0	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2,4,6-Tribromophenol		87	41-144
2-Fluorobiphenyl		90	37-129
2-Fluorophenol		80	24-127
Nitrobenzene-d5		77	38-127
Phenol-d5		94	28-128
Terphenyl-d14		84	10-148

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: NCDENR - DWM - DSCA

Laboratory ID: RB04004-002

Description: 1811 CHEEK

Matrix: Aqueous

Date Sampled: 02/03/2016 1010

Date Received: 02/04/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8081B	1	02/16/2016 1102	MEM	02/09/2016 1515	96051

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Aldrin	309-00-2	8081B	ND		0.040	ug/L	1
gamma-BHC (Lindane)	58-89-9	8081B	ND		0.040	ug/L	1
alpha-BHC	319-84-6	8081B	ND		0.040	ug/L	1
beta-BHC	319-85-7	8081B	ND		0.040	ug/L	1
delta-BHC	319-86-8	8081B	ND		0.040	ug/L	1
Chlordane	57-74-9	8081B	ND		0.40	ug/L	1
cis-Chlordane	5103-71-9	8081B	ND		0.040	ug/L	1
trans-Chlordane	5103-74-2	8081B	ND		0.040	ug/L	1
4,4'-DDD	72-54-8	8081B	ND		0.040	ug/L	1
4,4'-DDE	72-55-9	8081B	ND		0.040	ug/L	1
4,4'-DDT	50-29-3	8081B	ND		0.040	ug/L	1
Dieldrin	60-57-1	8081B	ND		0.040	ug/L	1
Endosulfan I	959-98-8	8081B	ND		0.040	ug/L	1
Endosulfan II	33213-65-9	8081B	ND		0.040	ug/L	1
Endosulfan sulfate	1031-07-8	8081B	ND		0.040	ug/L	1
Endrin	72-20-8	8081B	ND		0.040	ug/L	1
Endrin aldehyde	7421-93-4	8081B	ND		0.040	ug/L	1
Endrin ketone	53494-70-5	8081B	ND		0.040	ug/L	1
Heptachlor	76-44-8	8081B	ND		0.040	ug/L	1
Heptachlor epoxide	1024-57-3	8081B	ND		0.040	ug/L	1
Methoxychlor	72-43-5	8081B	ND		0.16	ug/L	1
Toxaphene	8001-35-2	8081B	ND		0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits				
Decachlorobiphenyl		77	10-122				
Tetrachloro-m-xylene		93	46-119				

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Description: 1811 CHEEK

Matrix: Aqueous

Date Sampled: 02/03/2016 1010

Date Received: 02/04/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	02/04/2016 2249	KDB	02/04/2016 1638	95776
1	3005A	6010C	1	02/10/2016 1358	CJZ	02/04/2016 1906	95812

Parameter	CAS	Analytical	Result	Q	PQL	Units	Run
	Number	Method					
Aluminum	7429-90-5	6010C	ND		0.20	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	mg/L	1
Barium	7440-39-3	6010C	0.80		0.025	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	mg/L	1
Chromium	7440-47-3	6010C	ND		0.010	mg/L	1
Copper	7440-50-8	6010C	0.023		0.010	mg/L	1
Iron	7439-89-6	6010C	1.1		0.10	mg/L	1
Lead	7439-92-1	6010C	ND		0.010	mg/L	1
Magnesium	7439-95-4	6010C	38		5.0	mg/L	1
Manganese	7439-96-5	6010C	0.046		0.015	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	mg/L	1
Zinc	7440-66-6	6010C	0.23		0.020	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Report of Analysis

NCDENR - DWM - DSCA

217 West Jones St.
Raleigh, NC 27603
Attention: Melanie Bartlett

Project Name: **Southchem**

Project Number: **NCD980503148**

Lot Number: **RB04004**

Date Completed: **02/16/2016**



Nisreen Saikaly
Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative

NC DENR - DWM - DSCA

Lot Number: RB04004

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary NCDENR - DWM - DSCA Lot Number: RB04004

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	TRIP BLANK	Aqueous	02/03/2016	02/04/2016
002	1811 CHEEK	Aqueous	02/03/2016 1010	02/04/2016

(2 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary NCDENR - DWM - DSCA Lot Number: RB04004

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	TRIP BLANK	Aqueous	Carbon disulfide	8260B	0.51		ug/L	5
002	1811 CHEEK	Aqueous	Barium	6010C	0.80		mg/L	12
002	1811 CHEEK	Aqueous	Copper	6010C	0.023		mg/L	12
002	1811 CHEEK	Aqueous	Iron	6010C	1.1		mg/L	12
002	1811 CHEEK	Aqueous	Magnesium	6010C	38		mg/L	12
002	1811 CHEEK	Aqueous	Manganese	6010C	0.046		mg/L	12
002	1811 CHEEK	Aqueous	Zinc	6010C	0.23		mg/L	12

(7 detections)

Volatile Organic Compounds by GC/MS

Client: **NCDENR - DWM - DSCA**

Laboratory ID: **RB04004-001**

Description: **TRIP BLANK**

Matrix: **Aqueous**

Date Sampled: **02/03/2016**

Date Received: **02/04/2016**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/05/2016 2238	JJG		95904

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		10	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	0.51		0.50	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: NCDENR - DWM - DSCA	Laboratory ID: RB04004-001
Description: TRIP BLANK	Matrix: Aqueous
Date Sampled: 02/03/2016	
Date Received: 02/04/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/05/2016 2238	JJG		95904

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

 Client: **NCDENR - DWM - DSCA**

 Laboratory ID: **RB04004-002**

 Description: **1811 CHEEK**

 Matrix: **Aqueous**

 Date Sampled: **02/03/2016 1010**

 Date Received: **02/04/2016**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/05/2016 2300	JJG		95904

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acetone	67-64-1	8260B	ND		10	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: NCDENR - DWM - DSCA	Laboratory ID: RB04004-002
Description: 1811 CHEEK	Matrix: Aqueous
Date Sampled: 02/03/2016 1010	
Date Received: 02/04/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/05/2016 2300	JJG		95904

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Semivolatile Organic Compounds by GC/MS

Client: **NCDENR - DWM - DSCA**

Laboratory ID: **RB04004-002**

Description: **1811 CHEEK**

Matrix: **Aqueous**

Date Sampled: **02/03/2016 1010**

Date Received: **02/04/2016**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	02/09/2016 1021	DRB1	02/07/2016 1631	95933

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acenaphthene	83-32-9	8270D	ND		5.0	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		5.0	ug/L	1
Acetophenone	98-86-2	8270D	ND		5.0	ug/L	1
Anthracene	120-12-7	8270D	ND		5.0	ug/L	1
Atrazine	1912-24-9	8270D	ND		5.0	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		25	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		5.0	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		5.0	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		5.0	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		5.0	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		5.0	ug/L	1
1,1'-Biphenyl	92-52-4	8270D	ND		5.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		5.0	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		10	ug/L	1
Caprolactam	105-60-2	8270D	ND		25	ug/L	1
Carbazole	86-74-8	8270D	ND		5.0	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		5.0	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		5.0	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		5.0	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		5.0	ug/L	1
bis(2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		5.0	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		5.0	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		5.0	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		5.0	ug/L	1
Chrysene	218-01-9	8270D	ND		5.0	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		5.0	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		5.0	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		5.0	ug/L	1
Dibenzofuran	132-64-9	8270D	ND		5.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		25	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		5.0	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		5.0	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		5.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		5.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		25	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		25	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		10	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		10	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		5.0	ug/L	1
Fluoranthene	206-44-0	8270D	ND		5.0	ug/L	1
Fluorene	86-73-7	8270D	ND		5.0	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		5.0	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		5.0	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		25	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Semivolatile Organic Compounds by GC/MS

 Client: **NCDENR - DWM - DSCA**

 Laboratory ID: **RB04004-002**

 Description: **1811 CHEEK**

 Matrix: **Aqueous**

 Date Sampled: **02/03/2016 1010**

 Date Received: **02/04/2016**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	02/09/2016 1021	DRB1	02/07/2016 1631	95933

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Hexachloroethane	67-72-1	8270D	ND		5.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		5.0	ug/L	1
Isophorone	78-59-1	8270D	ND		5.0	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		5.0	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		5.0	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		10	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		5.0	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		5.0	ug/L	1
Naphthalene	91-20-3	8270D	ND		5.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		10	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		10	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		10	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		5.0	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		10	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		25	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		25	ug/L	1
Phenanthrene	85-01-8	8270D	ND		5.0	ug/L	1
Phenol	108-95-2	8270D	ND		5.0	ug/L	1
Pyrene	129-00-0	8270D	ND		5.0	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		5.0	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2,4,6-Tribromophenol		87	41-144
2-Fluorobiphenyl		90	37-129
2-Fluorophenol		80	24-127
Nitrobenzene-d5		77	38-127
Phenol-d5		94	28-128
Terphenyl-d14		84	10-148

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Organochlorine Pesticides by GC

Client: NCDENR - DWM - DSCA	Laboratory ID: RB04004-002
Description: 1811 CHEEK	Matrix: Aqueous
Date Sampled: 02/03/2016 1010	
Date Received: 02/04/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8081B	1	02/16/2016 1102	MEM	02/09/2016 1515	96051

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Aldrin	309-00-2	8081B	ND		0.040	ug/L	1
gamma-BHC (Lindane)	58-89-9	8081B	ND		0.040	ug/L	1
alpha-BHC	319-84-6	8081B	ND		0.040	ug/L	1
beta-BHC	319-85-7	8081B	ND		0.040	ug/L	1
delta-BHC	319-86-8	8081B	ND		0.040	ug/L	1
Chlordane	57-74-9	8081B	ND		0.40	ug/L	1
cis-Chlordane	5103-71-9	8081B	ND		0.040	ug/L	1
trans-Chlordane	5103-74-2	8081B	ND		0.040	ug/L	1
4,4'-DDD	72-54-8	8081B	ND		0.040	ug/L	1
4,4'-DDE	72-55-9	8081B	ND		0.040	ug/L	1
4,4'-DDT	50-29-3	8081B	ND		0.040	ug/L	1
Dieldrin	60-57-1	8081B	ND		0.040	ug/L	1
Endosulfan I	959-98-8	8081B	ND		0.040	ug/L	1
Endosulfan II	33213-65-9	8081B	ND		0.040	ug/L	1
Endosulfan sulfate	1031-07-8	8081B	ND		0.040	ug/L	1
Endrin	72-20-8	8081B	ND		0.040	ug/L	1
Endrin aldehyde	7421-93-4	8081B	ND		0.040	ug/L	1
Endrin ketone	53494-70-5	8081B	ND		0.040	ug/L	1
Heptachlor	76-44-8	8081B	ND		0.040	ug/L	1
Heptachlor epoxide	1024-57-3	8081B	ND		0.040	ug/L	1
Methoxychlor	72-43-5	8081B	ND		0.16	ug/L	1
Toxaphene	8001-35-2	8081B	ND		0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Decachlorobiphenyl		77	10-122
Tetrachloro-m-xylene		93	46-119

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

TAL Metals

Client: **NCDENR - DWM - DSCA**

Laboratory ID: **RB04004-002**

Description: **1811 CHEEK**

Matrix: **Aqueous**

Date Sampled: **02/03/2016 1010**

Date Received: **02/04/2016**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		7470A	1	02/04/2016 2249	KDB	02/04/2016 1638	95776
1	3005A	6010C	1	02/10/2016 1358	CJZ	02/04/2016 1906	95812

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Aluminum	7429-90-5	6010C	ND		0.20	mg/L	1
Arsenic	7440-38-2	6010C	ND		0.015	mg/L	1
Barium	7440-39-3	6010C	0.80		0.025	mg/L	1
Cadmium	7440-43-9	6010C	ND		0.0050	mg/L	1
Chromium	7440-47-3	6010C	ND		0.010	mg/L	1
Copper	7440-50-8	6010C	0.023		0.010	mg/L	1
Iron	7439-89-6	6010C	1.1		0.10	mg/L	1
Lead	7439-92-1	6010C	ND		0.010	mg/L	1
Magnesium	7439-95-4	6010C	38		5.0	mg/L	1
Manganese	7439-96-5	6010C	0.046		0.015	mg/L	1
Mercury	7439-97-6	7470A	ND		0.00010	mg/L	1
Nickel	7440-02-0	6010C	ND		0.040	mg/L	1
Silver	7440-22-4	6010C	ND		0.010	mg/L	1
Zinc	7440-66-6	6010C	0.23		0.020	mg/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the PQL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ95904-001

Matrix: Aqueous

Batch: 95904

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Acetone	ND		1	10	ug/L	02/05/2016 2111
Benzene	ND		1	0.50	ug/L	02/05/2016 2111
Bromodichloromethane	ND		1	0.50	ug/L	02/05/2016 2111
Bromoform	ND		1	0.50	ug/L	02/05/2016 2111
Bromomethane (Methyl bromide)	ND		1	0.50	ug/L	02/05/2016 2111
2-Butanone (MEK)	ND		1	10	ug/L	02/05/2016 2111
Carbon disulfide	ND		1	0.50	ug/L	02/05/2016 2111
Carbon tetrachloride	ND		1	0.50	ug/L	02/05/2016 2111
Chlorobenzene	ND		1	0.50	ug/L	02/05/2016 2111
Chloroethane	ND		1	0.50	ug/L	02/05/2016 2111
Chloroform	ND		1	0.50	ug/L	02/05/2016 2111
Chloromethane (Methyl chloride)	ND		1	0.50	ug/L	02/05/2016 2111
Cyclohexane	ND		1	0.50	ug/L	02/05/2016 2111
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	ug/L	02/05/2016 2111
Dibromochloromethane	ND		1	0.50	ug/L	02/05/2016 2111
1,2-Dibromoethane (EDB)	ND		1	0.50	ug/L	02/05/2016 2111
1,4-Dichlorobenzene	ND		1	0.50	ug/L	02/05/2016 2111
1,2-Dichlorobenzene	ND		1	0.50	ug/L	02/05/2016 2111
1,3-Dichlorobenzene	ND		1	0.50	ug/L	02/05/2016 2111
Dichlorodifluoromethane	ND		1	0.50	ug/L	02/05/2016 2111
1,2-Dichloroethane	ND		1	0.50	ug/L	02/05/2016 2111
1,1-Dichloroethane	ND		1	0.50	ug/L	02/05/2016 2111
cis-1,2-Dichloroethene	ND		1	0.50	ug/L	02/05/2016 2111
1,1-Dichloroethene	ND		1	0.50	ug/L	02/05/2016 2111
trans-1,2-Dichloroethene	ND		1	0.50	ug/L	02/05/2016 2111
1,2-Dichloropropane	ND		1	0.50	ug/L	02/05/2016 2111
cis-1,3-Dichloropropene	ND		1	0.50	ug/L	02/05/2016 2111
trans-1,3-Dichloropropene	ND		1	0.50	ug/L	02/05/2016 2111
Ethylbenzene	ND		1	0.50	ug/L	02/05/2016 2111
2-Hexanone	ND		1	10	ug/L	02/05/2016 2111
Isopropylbenzene	ND		1	0.50	ug/L	02/05/2016 2111
Methyl acetate	ND		1	1.0	ug/L	02/05/2016 2111
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	ug/L	02/05/2016 2111
4-Methyl-2-pentanone	ND		1	10	ug/L	02/05/2016 2111
Methylcyclohexane	ND		1	5.0	ug/L	02/05/2016 2111
Methylene chloride	ND		1	0.50	ug/L	02/05/2016 2111
Styrene	ND		1	0.50	ug/L	02/05/2016 2111
1,1,2,2-Tetrachloroethane	ND		1	0.50	ug/L	02/05/2016 2111
Tetrachloroethene	ND		1	0.50	ug/L	02/05/2016 2111
Toluene	ND		1	0.50	ug/L	02/05/2016 2111
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	ug/L	02/05/2016 2111
1,2,4-Trichlorobenzene	ND		1	0.50	ug/L	02/05/2016 2111
1,1,2-Trichloroethane	ND		1	0.50	ug/L	02/05/2016 2111
1,1,1-Trichloroethane	ND		1	0.50	ug/L	02/05/2016 2111

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ95904-001

Matrix: Aqueous

Batch: 95904

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Trichloroethene	ND		1	0.50	ug/L	02/05/2016 2111
Trichlorofluoromethane	ND		1	0.50	ug/L	02/05/2016 2111
Vinyl chloride	ND		1	0.50	ug/L	02/05/2016 2111
Xylenes (total)	ND		1	0.50	ug/L	02/05/2016 2111
Surrogate	Q	% Rec	Acceptance Limit			
Bromofluorobenzene		101	70-130			
1,2-Dichloroethane-d4		104	70-130			
Toluene-d8		102	70-130			

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ95904-002

Matrix: Aqueous

Batch: 95904

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	67		1	67	60-140	02/05/2016 2006
Benzene	50	43		1	86	70-130	02/05/2016 2006
Bromodichloromethane	50	50		1	100	70-130	02/05/2016 2006
Bromoform	50	58		1	116	70-130	02/05/2016 2006
Bromomethane (Methyl bromide)	50	39		1	79	60-140	02/05/2016 2006
2-Butanone (MEK)	100	94		1	94	60-140	02/05/2016 2006
Carbon disulfide	50	40		1	79	60-140	02/05/2016 2006
Carbon tetrachloride	50	42		1	84	70-130	02/05/2016 2006
Chlorobenzene	50	53		1	106	70-130	02/05/2016 2006
Chloroethane	50	34		1	69	60-140	02/05/2016 2006
Chloroform	50	40		1	80	70-130	02/05/2016 2006
Chloromethane (Methyl chloride)	50	39		1	79	20-158	02/05/2016 2006
Cyclohexane	50	38		1	77	70-130	02/05/2016 2006
1,2-Dibromo-3-chloropropane (DBCP)	50	53		1	106	70-130	02/05/2016 2006
Dibromochloromethane	50	57		1	113	70-130	02/05/2016 2006
1,2-Dibromoethane (EDB)	50	55		1	111	70-130	02/05/2016 2006
1,4-Dichlorobenzene	50	57		1	115	70-130	02/05/2016 2006
1,2-Dichlorobenzene	50	58		1	116	70-130	02/05/2016 2006
1,3-Dichlorobenzene	50	58		1	116	70-130	02/05/2016 2006
Dichlorodifluoromethane	50	46		1	92	60-140	02/05/2016 2006
1,2-Dichloroethane	50	45		1	89	70-130	02/05/2016 2006
1,1-Dichloroethane	50	41		1	81	70-130	02/05/2016 2006
cis-1,2-Dichloroethene	50	44		1	88	70-130	02/05/2016 2006
1,1-Dichloroethene	50	42		1	83	70-130	02/05/2016 2006
trans-1,2-Dichloroethene	50	41		1	83	70-130	02/05/2016 2006
1,2-Dichloropropane	50	47		1	94	70-130	02/05/2016 2006
cis-1,3-Dichloropropene	50	51		1	102	70-130	02/05/2016 2006
trans-1,3-Dichloropropene	50	51		1	102	70-130	02/05/2016 2006
Ethylbenzene	50	48		1	97	70-130	02/05/2016 2006
2-Hexanone	100	110		1	108	60-140	02/05/2016 2006
Isopropylbenzene	50	53		1	106	70-130	02/05/2016 2006
Methyl acetate	50	35		1	70	60-140	02/05/2016 2006
Methyl tertiary butyl ether (MTBE)	50	44		1	88	70-130	02/05/2016 2006
4-Methyl-2-pentanone	100	110		1	112	60-140	02/05/2016 2006
Methylcyclohexane	50	45		1	90	70-130	02/05/2016 2006
Methylene chloride	50	42		1	84	70-130	02/05/2016 2006
Styrene	50	55		1	109	70-130	02/05/2016 2006
1,1,2,2-Tetrachloroethane	50	57		1	114	70-130	02/05/2016 2006
Tetrachloroethene	50	54		1	108	70-130	02/05/2016 2006
Toluene	50	47		1	94	70-130	02/05/2016 2006
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	99	70-130	02/05/2016 2006
1,2,4-Trichlorobenzene	50	75	N	1	150	70-130	02/05/2016 2006
1,1,2-Trichloroethane	50	53		1	107	70-130	02/05/2016 2006
1,1,1-Trichloroethane	50	41		1	81	70-130	02/05/2016 2006

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ95904-002

Matrix: Aqueous

Batch: 95904

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	47		1	94	70-130	02/05/2016 2006
Trichlorofluoromethane	50	45		1	89	60-140	02/05/2016 2006
Vinyl chloride	50	40		1	79	60-140	02/05/2016 2006
Xylenes (total)	100	110		1	109	70-130	02/05/2016 2006
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		103	70-130				
1,2-Dichloroethane-d4		102	70-130				
Toluene-d8		104	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: RQ95933-001

Matrix: Aqueous

Batch: 95933

Prep Method: 3520C

Analytical Method: 8270D

Prep Date: 02/07/2016 1631

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
1,1'-Biphenyl	ND		1	5.0	ug/L	02/09/2016 0931
2,4,5-Trichlorophenol	ND		1	5.0	ug/L	02/09/2016 0931
2,4,6-Trichlorophenol	ND		1	5.0	ug/L	02/09/2016 0931
2,4-Dichlorophenol	ND		1	5.0	ug/L	02/09/2016 0931
2,4-Dimethylphenol	ND		1	5.0	ug/L	02/09/2016 0931
2,4-Dinitrophenol	ND		1	25	ug/L	02/09/2016 0931
2,4-Dinitrotoluene	ND		1	10	ug/L	02/09/2016 0931
2,6-Dinitrotoluene	ND		1	10	ug/L	02/09/2016 0931
2-Chloronaphthalene	ND		1	5.0	ug/L	02/09/2016 0931
2-Chlorophenol	ND		1	5.0	ug/L	02/09/2016 0931
2-Methylnaphthalene	ND		1	5.0	ug/L	02/09/2016 0931
2-Methylphenol	ND		1	5.0	ug/L	02/09/2016 0931
2-Nitroaniline	ND		1	10	ug/L	02/09/2016 0931
2-Nitrophenol	ND		1	10	ug/L	02/09/2016 0931
3+4-Methylphenol	ND		1	10	ug/L	02/09/2016 0931
3,3'-Dichlorobenzidine	ND		1	25	ug/L	02/09/2016 0931
3-Nitroaniline	ND		1	10	ug/L	02/09/2016 0931
4,6-Dinitro-2-methylphenol	ND		1	25	ug/L	02/09/2016 0931
4-Bromophenyl phenyl ether	ND		1	5.0	ug/L	02/09/2016 0931
4-Chloro-3-methyl phenol	ND		1	5.0	ug/L	02/09/2016 0931
4-Chloroaniline	ND		1	5.0	ug/L	02/09/2016 0931
4-Chlorophenyl phenyl ether	ND		1	5.0	ug/L	02/09/2016 0931
4-Nitroaniline	ND		1	10	ug/L	02/09/2016 0931
4-Nitrophenol	ND		1	25	ug/L	02/09/2016 0931
Acenaphthene	ND		1	5.0	ug/L	02/09/2016 0931
Acenaphthylene	ND		1	5.0	ug/L	02/09/2016 0931
Acetophenone	ND		1	5.0	ug/L	02/09/2016 0931
Anthracene	ND		1	5.0	ug/L	02/09/2016 0931
Atrazine	ND		1	5.0	ug/L	02/09/2016 0931
Benzaldehyde	ND		1	25	ug/L	02/09/2016 0931
Benzo(a)anthracene	ND		1	5.0	ug/L	02/09/2016 0931
Benzo(a)pyrene	ND		1	5.0	ug/L	02/09/2016 0931
Benzo(b)fluoranthene	ND		1	5.0	ug/L	02/09/2016 0931
Benzo(g,h,i)perylene	ND		1	5.0	ug/L	02/09/2016 0931
Benzo(k)fluoranthene	ND		1	5.0	ug/L	02/09/2016 0931
bis (2-Chloro-1-methylethyl) ether	ND		1	5.0	ug/L	02/09/2016 0931
bis(2-Chloroethoxy)methane	ND		1	5.0	ug/L	02/09/2016 0931
bis(2-Chloroethyl)ether	ND		1	5.0	ug/L	02/09/2016 0931
bis(2-Ethylhexyl)phthalate	ND		1	5.0	ug/L	02/09/2016 0931
Butyl benzyl phthalate	ND		1	10	ug/L	02/09/2016 0931
Caprolactam	ND		1	25	ug/L	02/09/2016 0931
Carbazole	ND		1	5.0	ug/L	02/09/2016 0931
Chrysene	ND		1	5.0	ug/L	02/09/2016 0931
Di-n-butyl phthalate	ND		1	5.0	ug/L	02/09/2016 0931

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: RQ95933-001

Matrix: Aqueous

Batch: 95933

Prep Method: 3520C

Analytical Method: 8270D

Prep Date: 02/07/2016 1631

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Di-n-octylphthalate	ND		1	5.0	ug/L	02/09/2016 0931
Dibenzo(a,h)anthracene	ND		1	5.0	ug/L	02/09/2016 0931
Dibenzofuran	ND		1	5.0	ug/L	02/09/2016 0931
Diethylphthalate	ND		1	5.0	ug/L	02/09/2016 0931
Dimethyl phthalate	ND		1	5.0	ug/L	02/09/2016 0931
Fluoranthene	ND		1	5.0	ug/L	02/09/2016 0931
Fluorene	ND		1	5.0	ug/L	02/09/2016 0931
Hexachlorobenzene	ND		1	5.0	ug/L	02/09/2016 0931
Hexachlorobutadiene	ND		1	5.0	ug/L	02/09/2016 0931
Hexachlorocyclopentadiene	ND		1	25	ug/L	02/09/2016 0931
Hexachloroethane	ND		1	5.0	ug/L	02/09/2016 0931
Indeno(1,2,3-c,d)pyrene	ND		1	5.0	ug/L	02/09/2016 0931
Isophorone	ND		1	5.0	ug/L	02/09/2016 0931
N-Nitrosodi-n-propylamine	ND		1	5.0	ug/L	02/09/2016 0931
N-Nitrosodiphenylamine (Diphenylamine)	ND		1	5.0	ug/L	02/09/2016 0931
Naphthalene	ND		1	5.0	ug/L	02/09/2016 0931
Nitrobenzene	ND		1	5.0	ug/L	02/09/2016 0931
Pentachlorophenol	ND		1	25	ug/L	02/09/2016 0931
Phenanthrene	ND		1	5.0	ug/L	02/09/2016 0931
Phenol	ND		1	5.0	ug/L	02/09/2016 0931
Pyrene	ND		1	5.0	ug/L	02/09/2016 0931

Surrogate	Q	% Rec	Acceptance Limit
2,4,6-Tribromophenol		98	41-144
2-Fluorobiphenyl		89	37-129
2-Fluorophenol		85	24-127
Nitrobenzene-d5		83	38-127
Phenol-d5		97	28-128
Terphenyl-d14		91	10-148

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: RQ95933-002

Matrix: Aqueous

Batch: 95933

Prep Method: 3520C

Analytical Method: 8270D

Prep Date: 02/07/2016 1631

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,1'-Biphenyl	50	41		1	82	42-120	02/09/2016 0956
2,4,5-Trichlorophenol	50	42		1	83	56-118	02/09/2016 0956
2,4,6-Trichlorophenol	50	45		1	91	55-121	02/09/2016 0956
2,4-Dichlorophenol	100	87		1	87	55-117	02/09/2016 0956
2,4-Dimethylphenol	50	35		1	69	36-170	02/09/2016 0956
2,4-Dinitrophenol	50	41		1	82	47-133	02/09/2016 0956
2,4-Dinitrotoluene	50	44		1	89	59-127	02/09/2016 0956
2,6-Dinitrotoluene	50	45		1	89	59-126	02/09/2016 0956
2-Chloronaphthalene	50	39		1	78	46-100	02/09/2016 0956
2-Chlorophenol	50	43		1	85	50-117	02/09/2016 0956
2-Methylnaphthalene	50	44		1	87	57-115	02/09/2016 0956
2-Methylphenol	50	39		1	78	56-119	02/09/2016 0956
2-Nitroaniline	50	43		1	86	60-124	02/09/2016 0956
2-Nitrophenol	50	43		1	86	51-118	02/09/2016 0956
3+4-Methylphenol	50	38		1	75	53-119	02/09/2016 0956
3,3'-Dichlorobenzidine	50	39		1	79	10-126	02/09/2016 0956
3-Nitroaniline	50	43		1	86	43-123	02/09/2016 0956
4,6-Dinitro-2-methylphenol	50	43		1	87	56-128	02/09/2016 0956
4-Bromophenyl phenyl ether	50	42		1	84	55-121	02/09/2016 0956
4-Chloro-3-methyl phenol	50	48		1	97	58-125	02/09/2016 0956
4-Chloroaniline	50	57		1	114	10-128	02/09/2016 0956
4-Chlorophenyl phenyl ether	50	42		1	83	55-121	02/09/2016 0956
4-Nitroaniline	50	42		1	84	60-135	02/09/2016 0956
4-Nitrophenol	100	76		1	76	53-130	02/09/2016 0956
Acenaphthene	50	41		1	83	54-118	02/09/2016 0956
Acenaphthylene	50	42		1	85	48-155	02/09/2016 0956
Acetophenone	50	41		1	82	52-125	02/09/2016 0956
Anthracene	50	42		1	85	55-122	02/09/2016 0956
Atrazine	50	37		1	75	25-121	02/09/2016 0956
Benzaldehyde	50	44		1	87	45-115	02/09/2016 0956
Benzo(a)anthracene	50	40		1	80	56-123	02/09/2016 0956
Benzo(a)pyrene	50	44		1	89	54-124	02/09/2016 0956
Benzo(b)fluoranthene	50	47		1	94	55-136	02/09/2016 0956
Benzo(g,h,i)perylene	50	53		1	107	42-129	02/09/2016 0956
Benzo(k)fluoranthene	50	45		1	91	53-132	02/09/2016 0956
bis (2-Chloro-1-methylethyl) ether	50	45		1	90	42-124	02/09/2016 0956
bis(2-Chloroethoxy)methane	50	42		1	84	44-127	02/09/2016 0956
bis(2-Chloroethyl)ether	50	42		1	83	46-120	02/09/2016 0956
bis(2-Ethylhexyl)phthalate	50	33		1	66	56-128	02/09/2016 0956
Butyl benzyl phthalate	50	44		1	88	54-135	02/09/2016 0956
Caprolactam	50	51		1	102	44-152	02/09/2016 0956
Carbazole	50	42		1	84	47-140	02/09/2016 0956
Chrysene	50	39		1	79	54-120	02/09/2016 0956
Di-n-butyl phthalate	50	43		1	86	60-131	02/09/2016 0956

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: RQ95933-002

Matrix: Aqueous

Batch: 95933

Prep Method: 3520C

Analytical Method: 8270D

Prep Date: 02/07/2016 1631

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Di-n-octylphthalate	50	37		1	74	50-136	02/09/2016 0956
Dibenzo(a,h)anthracene	50	47		1	95	50-127	02/09/2016 0956
Dibenzofuran	50	42		1	85	58-118	02/09/2016 0956
Diethylphthalate	50	44		1	89	60-125	02/09/2016 0956
Dimethyl phthalate	50	43		1	86	60-122	02/09/2016 0956
Fluoranthene	50	41		1	83	58-124	02/09/2016 0956
Fluorene	50	41		1	81	57-119	02/09/2016 0956
Hexachlorobenzene	50	39		1	78	55-118	02/09/2016 0956
Hexachlorobutadiene	50	43		1	86	53-116	02/09/2016 0956
Hexachlorocyclopentadiene	250	130		1	51	16-96	02/09/2016 0956
Hexachloroethane	50	35		1	71	31-110	02/09/2016 0956
Indeno(1,2,3-c,d)pyrene	50	49		1	98	48-126	02/09/2016 0956
Isophorone	50	40		1	81	57-123	02/09/2016 0956
N-Nitrosodi-n-propylamine	50	37		1	74	54-127	02/09/2016 0956
N-Nitrosodiphenylamine (Diphenylamine)	50	44		1	87	35-146	02/09/2016 0956
Naphthalene	50	41		1	83	52-109	02/09/2016 0956
Nitrobenzene	50	43		1	87	51-122	02/09/2016 0956
Pentachlorophenol	100	100		1	102	42-131	02/09/2016 0956
Phenanthrene	50	42		1	84	56-119	02/09/2016 0956
Phenol	50	41		1	82	49-117	02/09/2016 0956
Pyrene	50	43		1	85	55-127	02/09/2016 0956

Surrogate	Q	% Rec	Acceptance Limit
2,4,6-Tribromophenol		89	41-144
2-Fluorobiphenyl		81	37-129
2-Fluorophenol		73	24-127
Nitrobenzene-d5		82	38-127
Phenol-d5		81	28-128
Terphenyl-d14		81	10-148

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Organochlorine Pesticides by GC - MB

Sample ID: RQ96051-001

Matrix: Aqueous

Batch: 96051

Prep Method: 3520C

Analytical Method: 8081B

Prep Date: 02/09/2016 1515

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
4,4'-DDD	ND		1	0.040	ug/L	02/16/2016 1032
4,4'-DDE	ND		1	0.040	ug/L	02/16/2016 1032
4,4'-DDT	ND		1	0.040	ug/L	02/16/2016 1032
Aldrin	ND		1	0.040	ug/L	02/16/2016 1032
alpha-BHC	ND		1	0.040	ug/L	02/16/2016 1032
beta-BHC	ND		1	0.040	ug/L	02/16/2016 1032
Chlordane	ND		1	0.40	ug/L	02/16/2016 1032
cis-Chlordane	ND		1	0.040	ug/L	02/16/2016 1032
delta-BHC	ND		1	0.040	ug/L	02/16/2016 1032
Dieldrin	ND		1	0.040	ug/L	02/16/2016 1032
Endosulfan I	ND		1	0.040	ug/L	02/16/2016 1032
Endosulfan II	ND		1	0.040	ug/L	02/16/2016 1032
Endosulfan sulfate	ND		1	0.040	ug/L	02/16/2016 1032
Endrin	ND		1	0.040	ug/L	02/16/2016 1032
Endrin aldehyde	ND		1	0.040	ug/L	02/16/2016 1032
Endrin ketone	ND		1	0.040	ug/L	02/16/2016 1032
gamma-BHC (Lindane)	ND		1	0.040	ug/L	02/16/2016 1032
Heptachlor	ND		1	0.040	ug/L	02/16/2016 1032
Heptachlor epoxide	ND		1	0.040	ug/L	02/16/2016 1032
Methoxychlor	ND		1	0.16	ug/L	02/16/2016 1032
Toxaphene	ND		1	0.40	ug/L	02/16/2016 1032
trans-Chlordane	ND		1	0.040	ug/L	02/16/2016 1032
Surrogate	Q	% Rec	Acceptance Limit			
Decachlorobiphenyl		85	10-122			
Tetrachloro-m-xylene		91	46-119			

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Organochlorine Pesticides by GC - LCS

Sample ID: RQ96051-002

Matrix: Aqueous

Batch: 96051

Prep Method: 3520C

Analytical Method: 8081B

Prep Date: 02/09/2016 1515

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
4,4'-DDD	0.80	0.86		1	108	70-130	02/16/2016 1047
4,4'-DDE	0.80	0.84		1	105	70-130	02/16/2016 1047
4,4'-DDT	0.80	0.98		1	123	70-130	02/16/2016 1047
Aldrin	0.80	0.79		1	98	70-130	02/16/2016 1047
alpha-BHC	0.80	0.83		1	103	70-130	02/16/2016 1047
beta-BHC	0.80	0.78		1	98	70-130	02/16/2016 1047
cis-Chlordane	0.80	0.81		1	102	70-130	02/16/2016 1047
delta-BHC	0.80	0.84		1	105	70-130	02/16/2016 1047
Dieldrin	0.80	0.86		1	107	70-130	02/16/2016 1047
Endosulfan I	0.80	0.78		1	98	70-130	02/16/2016 1047
Endosulfan II	0.80	0.82		1	102	70-130	02/16/2016 1047
Endosulfan sulfate	0.80	0.84		1	104	70-130	02/16/2016 1047
Endrin	0.80	0.83		1	104	70-130	02/16/2016 1047
Endrin aldehyde	0.80	0.88		1	110	70-130	02/16/2016 1047
Endrin ketone	0.80	0.89		1	111	70-130	02/16/2016 1047
gamma-BHC (Lindane)	0.80	0.84		1	105	70-130	02/16/2016 1047
Heptachlor	0.80	0.82		1	102	70-130	02/16/2016 1047
Heptachlor epoxide	0.80	0.81		1	101	70-130	02/16/2016 1047
Methoxychlor	0.80	0.92		1	115	70-130	02/16/2016 1047
trans-Chlordane	0.80	0.83		1	104	70-130	02/16/2016 1047
Surrogate	Q	% Rec	Acceptance Limit				
Decachlorobiphenyl		87	10-122				
Tetrachloro-m-xylene		94	46-119				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Organochlorine Pesticides by GC - MS

Sample ID: RB04004-002MS

Matrix: Aqueous

Batch: 96051

Prep Method: 3520C

Analytical Method: 8081B

Prep Date: 02/09/2016 1515

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Aldrin	ND	0.80	0.79		1	99	70-130	02/16/2016 1117
gamma-BHC (Lindane)	ND	0.80	0.85		1	106	70-130	02/16/2016 1117
alpha-BHC	ND	0.80	0.83		1	104	70-130	02/16/2016 1117
beta-BHC	ND	0.80	0.79		1	99	70-130	02/16/2016 1117
delta-BHC	ND	0.80	0.86		1	108	70-130	02/16/2016 1117
cis-Chlordane	ND	0.80	0.83		1	104	70-130	02/16/2016 1117
trans-Chlordane	ND	0.80	0.85		1	106	70-130	02/16/2016 1117
4,4'-DDD	ND	0.80	0.89		1	111	70-130	02/16/2016 1117
4,4'-DDE	ND	0.80	0.86		1	107	70-130	02/16/2016 1117
4,4'-DDT	ND	0.80	0.93		1	116	70-130	02/16/2016 1117
Dieldrin	ND	0.80	0.88		1	110	70-130	02/16/2016 1117
Endosulfan I	ND	0.80	0.80		1	100	70-130	02/16/2016 1117
Endosulfan II	ND	0.80	0.84		1	105	70-130	02/16/2016 1117
Endosulfan sulfate	ND	0.80	0.87		1	109	70-130	02/16/2016 1117
Endrin	ND	0.80	0.86		1	107	70-130	02/16/2016 1117
Endrin aldehyde	ND	0.80	0.94		1	117	70-130	02/16/2016 1117
Endrin ketone	ND	0.80	0.95		1	119	70-130	02/16/2016 1117
Heptachlor	ND	0.80	0.83		1	104	70-130	02/16/2016 1117
Heptachlor epoxide	ND	0.80	0.83		1	104	70-130	02/16/2016 1117
Methoxychlor	ND	0.80	0.91		1	114	70-130	02/16/2016 1117
Surrogate	Q	% Rec	Acceptance Limit					
Decachlorobiphenyl		88	10-122					
Tetrachloro-m-xylene		93	46-119					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Organochlorine Pesticides by GC - MSD

Sample ID: RB04004-002MD

Matrix: Aqueous

Batch: 96051

Prep Method: 3520C

Analytical Method: 8081B

Prep Date: 02/09/2016 1515

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date	
Aldrin	ND	0.80	0.78	1		97	2.2	70-130	30	02/16/2016 1131	
gamma-BHC (Lindane)	ND	0.80	0.83	1		104	1.8	70-130	30	02/16/2016 1131	
alpha-BHC	ND	0.80	0.82	1		102	1.6	70-130	30	02/16/2016 1131	
beta-BHC	ND	0.80	0.78	1		98	1.3	70-130	30	02/16/2016 1131	
delta-BHC	ND	0.80	0.84	1		105	2.4	70-130	30	02/16/2016 1131	
cis-Chlordane	ND	0.80	0.81	1		102	2.1	70-130	30	02/16/2016 1131	
trans-Chlordane	ND	0.80	0.83	1		104	2.3	70-130	30	02/16/2016 1131	
4,4'-DDD	ND	0.80	0.87	1		109	2.5	70-130	30	02/16/2016 1131	
4,4'-DDE	ND	0.80	0.84	1		105	2.0	70-130	30	02/16/2016 1131	
4,4'-DDT	ND	0.80	1.0	1		128	9.8	70-130	30	02/16/2016 1131	
Dieldrin	ND	0.80	0.86	1		107	2.3	70-130	30	02/16/2016 1131	
Endosulfan I	ND	0.80	0.78	1		98	2.3	70-130	30	02/16/2016 1131	
Endosulfan II	ND	0.80	0.82	1		102	2.8	70-130	30	02/16/2016 1131	
Endosulfan sulfate	ND	0.80	0.85	1		106	2.7	70-130	30	02/16/2016 1131	
Endrin	ND	0.80	0.83	1		103	3.8	70-130	30	02/16/2016 1131	
Endrin aldehyde	ND	0.80	0.89	1		112	4.7	70-130	30	02/16/2016 1131	
Endrin ketone	ND	0.80	0.92	1		115	4.0	70-130	30	02/16/2016 1131	
Heptachlor	ND	0.80	0.81	1		101	3.2	70-130	30	02/16/2016 1131	
Heptachlor epoxide	ND	0.80	0.81	1		101	2.3	70-130	30	02/16/2016 1131	
Methoxychlor	ND	0.80	1.0	1		125	9.4	70-130	30	02/16/2016 1131	
Surrogate	Q	% Rec	Acceptance Limit								
Decachlorobiphenyl		84	10-122								
Tetrachloro-m-xylene		91	46-119								

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TAL Metals - MB

Sample ID: RQ95812-001

Matrix: Aqueous

Batch: 95812

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 02/04/2016 1906

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Aluminum	ND		1	0.20	mg/L	02/05/2016 1537
Arsenic	ND		1	0.015	mg/L	02/05/2016 1537
Barium	ND		1	0.025	mg/L	02/05/2016 1537
Cadmium	ND		1	0.0050	mg/L	02/05/2016 1537
Chromium	ND		1	0.010	mg/L	02/05/2016 1537
Copper	ND		1	0.010	mg/L	02/05/2016 1537
Iron	ND		1	0.10	mg/L	02/05/2016 1537
Lead	ND		1	0.010	mg/L	02/05/2016 1537
Magnesium	ND		1	5.0	mg/L	02/05/2016 1537
Manganese	ND		1	0.015	mg/L	02/05/2016 1537
Nickel	ND		1	0.040	mg/L	02/05/2016 1537
Silver	ND		1	0.010	mg/L	02/05/2016 1537
Zinc	ND		1	0.020	mg/L	02/05/2016 1537

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TAL Metals - LCS

Sample ID: RQ95812-002

Matrix: Aqueous

Batch: 95812

Prep Method: 3005A

Analytical Method: 6010C

Prep Date: 02/04/2016 1906

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Aluminum	20	21		1	107	80-120	02/05/2016 1542
Arsenic	0.40	0.41		1	102	80-120	02/05/2016 1542
Barium	2.0	2.0		1	102	80-120	02/05/2016 1542
Cadmium	0.40	0.41		1	102	80-120	02/05/2016 1542
Chromium	2.0	2.2		1	108	80-120	02/05/2016 1542
Copper	2.0	2.1		1	107	80-120	02/05/2016 1542
Iron	20	22		1	108	80-120	02/05/2016 1542
Lead	0.40	0.42		1	105	80-120	02/05/2016 1542
Magnesium	40	45		1	113	80-120	02/05/2016 1542
Manganese	2.0	2.2		1	108	80-120	02/05/2016 1542
Nickel	2.0	2.1		1	105	80-120	02/05/2016 1542
Silver	0.40	0.43		1	107	80-120	02/05/2016 1542
Zinc	2.0	2.1		1	103	80-120	02/05/2016 1542

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TAL Metals - MB

Sample ID: RQ95776-001

Matrix: Aqueous

Batch: 95776

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/04/2016 1638

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	ND		1	0.00010	mg/L	02/04/2016 2153

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TAL Metals - LCS

Sample ID: RQ95776-002

Matrix: Aqueous

Batch: 95776

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/04/2016 1638

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0020	0.0021		1	103	80-120	02/04/2016 2155

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TAL Metals - MS

Sample ID: RB04004-002MS

Matrix: Aqueous

Batch: 95776

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/04/2016 1638

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	ND	0.0020	0.0022		1	108	85-115	02/04/2016 2251

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TAL Metals - MSD

Sample ID: RB04004-002MD

Matrix: Aqueous

Batch: 95776

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 02/04/2016 1638

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	ND	0.0020	0.0022		1	110	1.8	85-115	20	02/04/2016 2254

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the PQL

J = Estimated result < PQL and \geq MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

**Chain of Custody
and
Miscellaneous Documents**

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: MED013C-03

Page 1 of 1
Effective Date: 01/16/2016
Expiry Date: 01/16/2021

Sample Receipt Checklist (SRC)

Client: NCDENR Cooler Inspected by/date: mam / 2/4/16 Lot #: 28304004

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	1. Were custody seals present on the cooler?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?
pH strip ID: <u>15-1440</u> CI strip ID: _____		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>13.8/3.2 °C</u> / _____ °C / _____ °C / _____ °C		
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0.0 °C</u>		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM was notified by: <u>phone / email / face-to-face</u> (circle one).
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	5a. Were samples relinquished by client to commercial courier?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	6. Were sample IDs listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	7. Were sample IDs listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	8. Was collection date & time listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	9. Was collection date & time listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	11. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	12. Did all samples arrive in the proper containers for each test?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	13. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	14. Was adequate sample volume available?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	15. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	16. Were any samples containers missing?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	17. Were there any excess samples not listed on COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	18. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	20. Were all cyanide and/or sulfide samples received at a pH >12?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	22. Were collection temperatures documented on the COC for NC samples?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	23. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	24. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR # _____.		
Sample(s) <u>00115</u> were received with bubbles >6 mm in diameter.		
Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No)		
SC Drinking Water Project Sample(s) pH verified to be >2 by _____ Date: _____		
Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>mam</u> Verified by: _____ Date: <u>2/4/16</u>		

Comments:

Well Log Sheet

Site Name: Southchem
 Site Id #: NCD980503148
 Owner Name: Shirley Harris
 Well Address: 1811 Cheek Rd
 Well ID #: 1811 Cheek
 Coordinates: 36.004694 N
 -78.870314 E

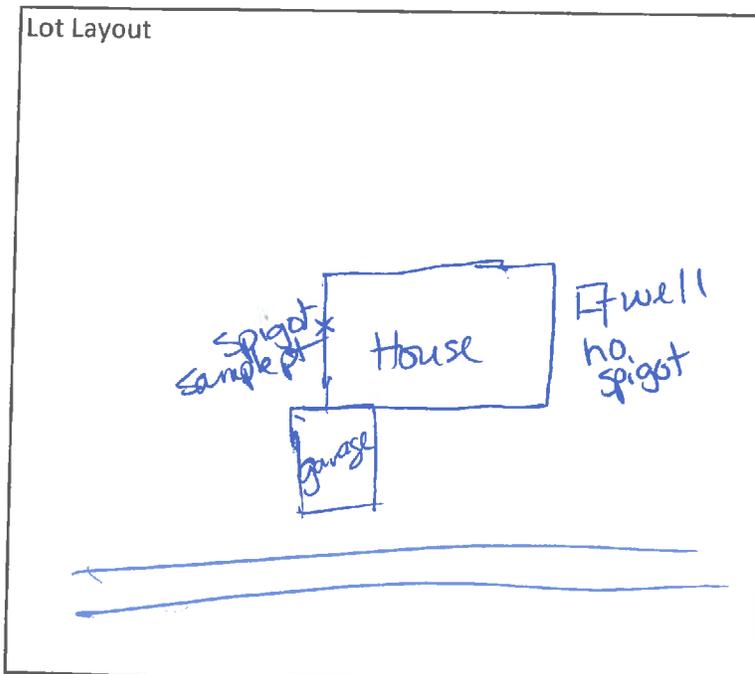
Weather
 Temp: 55°F
 Wind: light precip
 Percip: misty
 Date: 2/3/16
 Sample Team: Melanie Bartlett
 Bonnie Ware

Comments (well construction, etc.) deep well- lots of iron in water

	9:57	10:02	10:07		
Time Interval	5 Min	10 Min	15 Min	20 Min	25 Min
Temp (°C)	<u>15.7</u>	<u>16.0</u>	<u>16.1</u>	_____	_____
pH	<u>6.74</u>	<u>6.96</u>	<u>7.09</u>	_____	_____
S.C.	<u>872.5</u>	<u>860.9</u>	<u>843.2</u>	_____	_____
Turbidity	<u>35.7</u>	<u>21.4</u>	<u>7.2</u>	_____	_____

Time Sample Collected: 10:10

Water Condition (turbidity, color, odor): rusty to clear



- Samples Collected:
- VOCs 8260 (3 - 40ml vials)
 - 1,4 Dioxane (3 - 40ml vials)
 - SVOCs/PCBs (2 - 1L Amber bottle)
 - Metals (1 - 1L HDPE bottle)
 - Dioxin (1 - 1L bottle)
 - Pest./Herb. (2 - 1L Amber bottle)
 - Base Neutral & Acid Extractables (2 - 1L Amber bottle)

Comments: _____

Turbidity meter S/N 070700024507

pH meter S/N 2369223

**SOUTHCHEM SITE,
DURHAM, NORTH CAROLINA**

PRIVATE WELL ACCESS AUTHORIZATION
(please fill in blanks)

1. I, Shirley S Harris, am the owner, () tenant, or () authorized representative of the owner of the properties with the following Address(es):

Address: 1811 Cheek Road, Durham, NC 27704

(hereinafter "Properties"), and as such I have the authority to sign this authorization.

2. I grant authorization to the United States Environmental Protection Agency (EPA), its officers, employees, contractors and other authorized representatives to enter the Properties. The Properties are currently owned by Shirley S Harris. This authorization allows EPA, its officers, employees, contractors and other authorized representatives to have access to the Properties to conduct sampling and other related response activities. EPA's activities at the Properties will include, but not be limited to, the following:

- a. collection of well water sample
- b. transporting equipment onto and about the Property as necessary to accomplish the above activities.

3. The consent for access and use granted herein will commence on **February 3, 2016**, and will continue until EPA completes the response activities.

4. I have been notified that these actions by EPA are undertaken pursuant to its response authority under Section 104(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), 42 U.S.C. Section 9604(a).

5. I have been notified that parties found responsible pursuant to Section 107(a) of CERCLA, 42 U.S.C. Section 9607(a), may be liable for all costs EPA incurs in connection with the response which are not inconsistent with the National Contingency Plan (NCP), at 40 CFR Part 300.

I grant access to my properties. I do not grant access to my properties.

Shirley Harris
(Signature)

2/3/16
(Date)

Shirley S Harris
(Printed Name)

919-682-8562
(Daytime Phone Number)

(Title, if signing as authorized representative of owner)

(Mailing address including City, State, and Zip Code)

Do you currently live at the property?

Yes

No

If not, is anyone living at the property?

Yes

No

If owner is not living at the property, please provide the following information regarding residents at the property:

Name: _____ Phone: _____

Other contact information: _____

E-Mail Address: _____