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Site Name (Subject): STARLING DAVID PROPERTY

Site ID (Document ID): NCD003185311

Document Name (DocType): Preliminary Assessment/Site Inspection (PA/SI)

Report Segment:

Description: Preliminary Assessment Re-Assessment

Date of Document: 4/21/1989

Date Received:

Box: *Enter SF and # with no spaces* SF10,625

Access Level: PUBLIC

Division: WASTE MANAGEMENT

Section: SUPERFUND

Program (Document Group): SERB (SERB)

Document Category: FACILITY

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NORTH CAROLINA

DHR/DHS

David Starling Property
NCD003185311
Preliminary Assessment Reassessment

April 1989

CERCLA

By D. Mark Durway
Hydrogeologist
SUPERFUND BRANCH
SOLID WASTE MANAGEMENT SECTION



North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
David T. Flaherty, Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

April 21, 1989

Mr. Robert Morris
EPA NC CERCLA Project Officer
US EPA Region IV Waste Division
345 Courtland Street, NE
Atlanta, GA 30365

SUBJECT: Preliminary Assessment Reassessment

SITE: David Starling Property
NCD 003185311
Highway 258
Farmville, Pitt County, NC 27828

Dear Mr. Morris:

From 1-6-71 until 3-31-71, a burial area at the David Starling property was used for disposal of 10,000 gallons of barium chromate, barium carbonate, and chromic acid. This waste was generated by the Union Carbide plant in Greenville, NC. The site is now inactive as a waste disposal area.

The David Starling property is located midway between the towns of Fountain and Farmville in an area which is largely rural. Based on the town populations and a USGS map house count, population distribution around the site has been estimated as follows:

25 persons within 0.25 miles
40 persons within 0.50 miles
160 persons within 1 mile
517 persons within 2 miles
1484 persons within 3 miles
7078 persons within 4 miles

Mr. Robert Morris
April 21, 1989
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The David Starling site is located in the Coastal Plain Physiographic Province and is underlain by sedimentary deposits to a depth of approximately 400 feet, where crystalline basement rock is encountered. These sedimentary deposits from the land surface down include: surficial sands of post-Pliocene age; gray marine clays and interbedded shell beds of the Pliocene Yorktown Formation; and interbedded sands and clays of the lower Cretaceous. Hydrologic connection throughout this sedimentary aquifer system is assumed because of the discontinuous nature of the lenses which comprise it. The sandy clay loam and loam clay soils on site belong to the Norfolk-Exum-Goldsboro soil association, and typically have permeabilities greater than $10E-3$ centimeters/second. Depth to the seasonal high water table at the site is less than 10 feet.

The nearest drinking well to the site is located within 2000 feet at the Starling residence. Based on information gathered during a visit to the site vicinity on 8-2-88, NC Public Water Supply Branch records, and a USGS map house count, it has been estimated that approximately 6606 persons use ground water derived from within three miles of the David Starling Property for their domestic needs.

The David Starling Property is situated in the Neuse River Basin, and the nearest surface water body to the site, Jacob Branch, is located 2500 feet to the south. Jacob Branch has been classified by the NC NRCD Division of Environmental Management as a Class C surface water body suitable for fish and wildlife propagation, secondary recreation, agriculture and other uses requiring waters of lower quality. There are no surface water intakes within 15 miles downstream of the site.

It is recommended that a site investigation be conducted at this site. Please contact me at (919) 733-2801, if additional information is required.

Sincerely,

D. Mark Durway

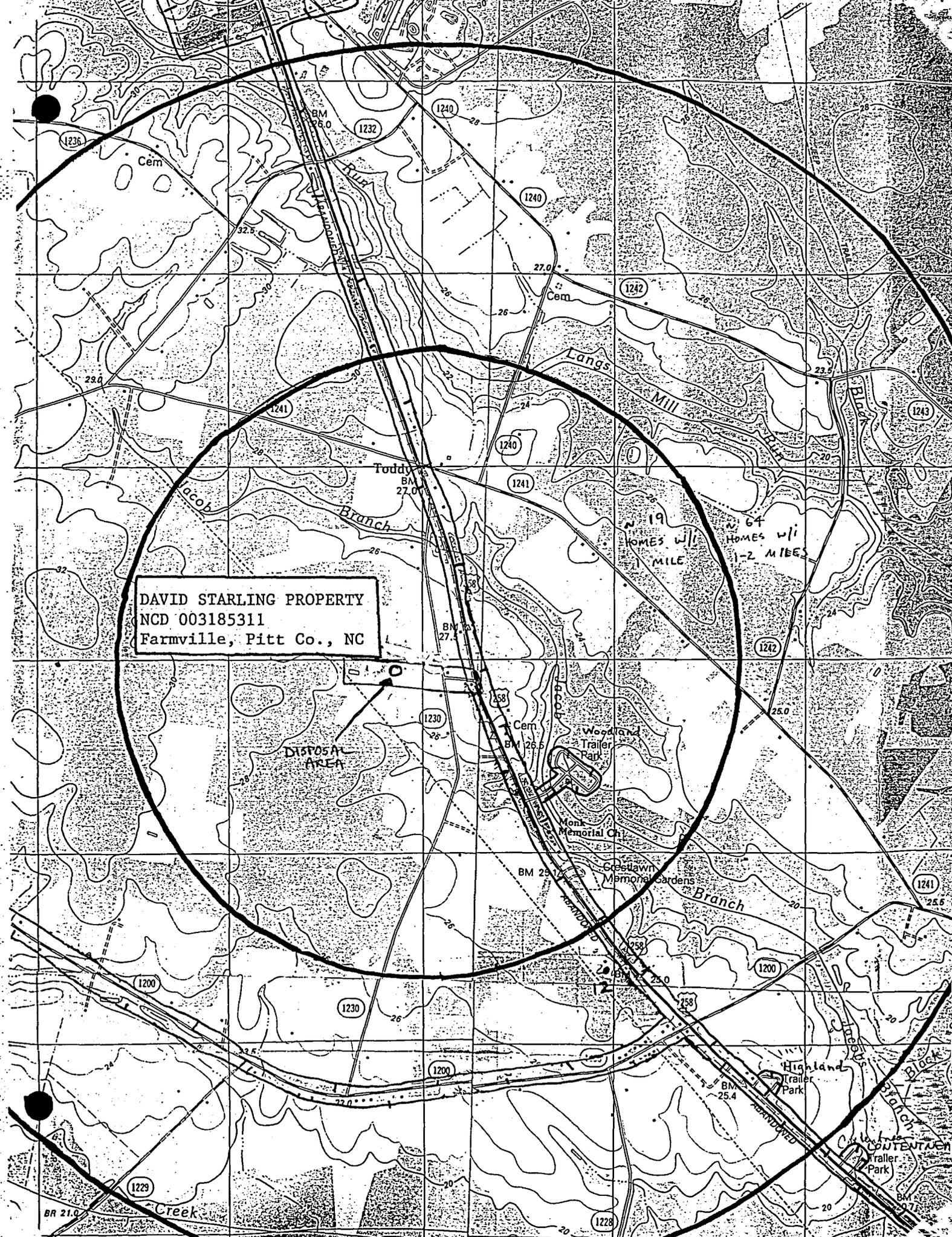
D. Mark Durway, Hydrogeologist
NC Superfund Branch
Solid Waste Management Section

DMD/starl.par

cc: Kelly Cain

DAVID STARLING PROPERTY
NCD 003185311
Farmville, Pitt Co., NC

DISPOSAL
AREA





POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: NC 02 SITE NUMBER: D003185311

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): David Starling Property
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Route 2, Box 246 (Hwy. 258N)
03 CITY: Farmville
04 STATE: NC 05 ZIP CODE: 27828 06 COUNTY: Pitt
07 COUNTY CODE: 074 08 CONG DIST: 01
09 COORDINATES: LATITUDE: 35° 38' 29" N LONGITUDE: 077° 37' 45" W

10 DIRECTIONS TO SITE (Starting from nearest public road): From Farmville, take Hwy. 258N for approximately 2 to 3 miles. At the entrance to Woodland Hills Mobile Homes Estates (on right), continue an additional 0.25 miles. At Starling's address (Box 246) go left 0.1 mile; go right 100', go left (west) 100' to site (Map attached).

III. RESPONSIBLE PARTIES

01 OWNER (If known): David Starling
02 STREET (Business, mailing, residential): Route 2, Box 246 (Hwy. 258 N)
03 CITY: Farmville
04 STATE: NC 05 ZIP CODE: 27828 06 TELEPHONE NUMBER: (919) 753-4124
07 OPERATOR (If known and different from owner): Union Carbide Corporation
08 STREET (Business, mailing, residential): P.O. Box 1547 Evans Street Extension
09 CITY: Greenville
10 STATE: NC 11 ZIP CODE: 27834 12 TELEPHONE NUMBER: (919) 756-2171
13 TYPE OF OWNERSHIP (Check one):
 A. PRIVATE B. FEDERAL: _____ (Agency name) C. STATE D. COUNTY E. MUNICIPAL
 F. OTHER: _____ (Specify) G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
 A. RCRA 3001 DATE RECEIVED: ____/____/____ MONTH DAY YEAR B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: 6, 9, 81 MONTH DAY YEAR C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION BY (Check all that apply)
 YES DATE: ____/____/____ MONTH DAY YEAR NO
 A. EPA B. EPA CONTRACTOR C. STATE D. OTHER CONTRACTOR
 E. LOCAL HEALTH OFFICIAL F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one): A. ACTIVE B. INACTIVE C. UNKNOWN
03 YEARS OF OPERATION: BEGINNING YEAR: 1-6-71 ENDING YEAR: 3-31-71 UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED: Barium carbonate, barium chromate & chromic acid were disposed of at the site. Wastes from sources other than Union Carbide Corporation are unknown of. Alleged possibility of various heavy metals.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION: Law Engineering Testing Co. (Marietta, Georgia) completed a hydrogeological assessment of the David Starling disposal site in 1983, and concluded that waste "does not represent an environmental hazard for surface or ground-water resources outside the immediate disposal area."

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
 A. HIGH (Inspection required promptly) B. MEDIUM (Inspection required) C. LOW (Inspect on time available basis) D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Albert M. Nash
02 OF (Agency/Organization): Union Carbide Corporation
03 TELEPHONE NUMBER: (216) 333-0500
04 PERSON RESPONSIBLE FOR ASSESSMENT: O.W. Strickland
05 AGENCY: DHR
06 ORGANIZATION: S&HW
07 TELEPHONE NUMBER: (919) 733-2178
08 DATE: 11, 21, 84 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER
NC | D003185311

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)		02 WASTE QUANTITY AT SITE <i>(Measures of waste quantities must be independent)</i>		03 WASTE CHARACTERISTICS (Check all that apply)		
<input type="checkbox"/> A. SOLID	<input type="checkbox"/> E. SLURRY	TONS _____	CUBIC YARDS <u>10,000 gals.</u>	<input checked="" type="checkbox"/> A. TOXIC	<input checked="" type="checkbox"/> E. SOLUBLE	<input type="checkbox"/> I. HIGHLY VOLATILE
<input type="checkbox"/> B. POWDER, FINES	<input checked="" type="checkbox"/> F. LIQUID	NO. OF DRUMS <u>542</u>		<input checked="" type="checkbox"/> B. CORROSIVE	<input type="checkbox"/> F. INFECTIOUS	<input checked="" type="checkbox"/> J. EXPLOSIVE
<input checked="" type="checkbox"/> C. SLUDGE	<input type="checkbox"/> G. GAS	and containers		<input type="checkbox"/> C. RADIOACTIVE	<input type="checkbox"/> G. FLAMMABLE	<input type="checkbox"/> L. INCOMPATIBLE
<input type="checkbox"/> D. OTHER _____ <i>(Specify)</i>				<input checked="" type="checkbox"/> D. PERSISTENT	<input checked="" type="checkbox"/> H. IGNITABLE	<input type="checkbox"/> M. NOT APPLICABLE

II. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	10,000	gal.	
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	Unknown		
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
D005	Barium Chromate	-	Burial in drums	40-50%	% volume
D005	Barium Carbonate	-	and containers	50-60%	"
D002	Chromic Acid	11115745	"	Unknown	-
D009	Mercury	7439976	"	"	-
D008	Lead	7439921	"	"	-

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Cercla Notification, 6-9-81, from F.M. Charles.
2. Albert M. Nash, Environmental Coordinator, Union Carbide Corp., Rocky River, OH
3. Lab Analysis Results from: Union Carbide Corporation; Environment I, Inc. (Greenville, NC); N.C. Div. of Health Services State Lab of Public Health.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE: NC 02 SITE NUMBER: D003185311

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: None 04 NARRATIVE DESCRIPTION

None detected in nearby drinking wells. Possible g-w contamination directly beneath site.

01 B. SURFACE WATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Lead: Exceeded EPA drinking water standards at surface puddle near site.
Barium: Exceeded EPA drinking water standards at surface puddle and drainage ditch near site.

01 C. CONTAMINATION OF AIR 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: None 04 NARRATIVE DESCRIPTION

01 D. FIRE/EXPLOSIVE CONDITIONS 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

Chromic acid may explode on contact with reducing agents, and may ignite upon contact with organic materials.

01 E. DIRECT CONTACT 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

Material is buried in drums or containers; accidental unearthing of these could occur in future.

01 F. CONTAMINATION OF SOIL 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 AREA POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION
(Acres)

01 G. DRINKING WATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: None 04 NARRATIVE DESCRIPTION

None detected in nearby drinking wells to date.

01 H. WORKER EXPOSURE/INJURY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 WORKERS POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

No known danger at present.

01 I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

No known danger at present



**POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT**
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NC	D003185311

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

Unknown

01 K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

Unknown

01 L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

Unknown

01 M. UNSTABLE CONTAINMENT OF WASTES
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

10,000 gallons of sludge, and possibly liquids, are buried in 542 drums and containers. In time, drums and containers will leak or deteriorate.

01 N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

Unknown

01 O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

Unknown

01 P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

Presumed legal during time period that site was active.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

It is unknown as to whether wastes, other than those generated by Union Carbide Corporation, were ever buried on the site, or at other locations on David Starling's property.

III. TOTAL POPULATION POTENTIALLY AFFECTED: Unknown

IV. COMMENTS

Lab analysis results, which were achieved by a number of different independent labs, are often contradictory; thus their validity and usefulness is questionable.

V. SOURCES OF INFORMATION *(Cite specific references, e. g., state files, sample analysis, reports)*

1. Hydrogeological assessment report for David Starling Disposal Site by Law Engineering Testing Co., prepared for Union Carbide Corp., 1983.
2. The Condensed Chemical Dictionary, 10th edition, 1981.
3. As previously sited.

REFERENCES

- 1) Preliminary Assessment form, David Starling Property, 11-21-84.
- 2) Durway, DM, memo re. Farmville water system, 4-21-89.
- 3) Durway, DM, memo re. Farmville area water supply, 4-21-89.
- 4) Durway, DM, memo re. PAU site area visits for the David Starling Property and American Petrofina.
- 5) Soil Survey of Pitt County, North Carolina, USDA SCS, November 1984.
- 6) Parker, WT, letter to P DeRosa, 6-21-85, and attachments.
- 7) Classifications and Water Quality Standards Assigned to the Waters of the Neuse River Basin, NC NRCD Division of Environmental Management, current through 9-1-81.
- 8) Uncontrolled Hazardous Waste Site Ranking System: A Users Guide, originally published in the 7-16-82 Federal Register, US EPA, 1984.
- 9) Nash, AM, letter to DM Durway, 11-16-84.
- 10) Final Report of Hydrogeological Assessment, David Starling Disposal Site, Pitt County, NC for Union Carbide Corporation, prepared by Law Engineering Testing Company, November 1983.
- 11) Starling property ground water analyses, NC NRCD Division of Environmental Management for well #7 (analyzed 7-28-86) and well #1 (reported 12-2-86).