

# **Draft (11/3/14) - Spent Potliner Investigation**

## **Badin Area - Stanly County**

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### **Introduction**

Alcoa operated an aluminum smelting plant in Badin North Carolina from around 1916 until 2010. Several past employees and local residents are concerned about the disposal of spent potliner and other wastes from the smelting process that occurred over the years around the Badin area. First cut spent potliner is classified as a K088 hazardous waste; however this classification did not occur until the late 1980s. Before this time, it was considered a solid waste and it was not uncommon for the spent potliner to be used as fill for a variety of purposes. Spent potliner contains metals that can possibly leach into the soil and groundwater. Cyanide, fluoride and arsenic are among the list of metals. Due to the fact that this area of the state has high background levels of arsenic, monitoring will focus on cyanide and fluoride. The goal of our project is to document and map the possible potliner disposal sites; and investigate the pathways of concern, which currently are residential drinking water wells.

### **Summary of Investigation**

In May 2014 I was asked to conduct the investigation and to compile a report of my work and the work done by others regarding this issue. The steps taken in this investigation were:

1. Conduct interviews with as many people as possible to get a complete list of all possible disposal sites.
2. Tour the area with willing witnesses to locate the disposal sites in order to create a GIS based map.
3. Locate all residential wells located near the identified disposal sites and sample them to determine if they have been impacted.
4. Compile a history of all of the past investigations conducted to assess the potential impact of spent potliner in the Badin Area.

### **Interviews**

#### **Macy Hinson**

On May 15, 2014 I spoke with Mr. Macy Hinson. Mr. Hinson grew up in Badin and is aware of two locations where Alcoa disposed of potliner waste. He said the old waste water treatment plant and the old trash dump are locations where the potliner was disposed of. The old trash dumps is located near intersection of Wood and Lee Streets.

I asked if he knew of others in the area that could assist in locating disposal sites. Mr. Hinson suggested I speak with Valerie Tyson, Ernest Peoples and Ryke Longest. Ms. Tyson and Mr. Peoples are citizens that grew up in the area. Mr. Longest is with Duke Law and he has a map that may help. Mr. Hinson was driving out of state when we talked. We agreed that I would call him next Tuesday to try to get more details on contacts and specifics on disposal locations.

On May 20<sup>th</sup> I called Mr. Hinson to see if he could provide more details regarding contacts. He gave me Valerie Tysons phone number 704-422-3559. He said she would be fine with talking about disposal sites. He did not give me Ernest Peoples' number. He said he would prefer to ask him first. I asked that he give Mr. Peoples my contact information. Mr. Hinson and others are part of a group called the West Badin Concerned Citizens. They meet every 2<sup>nd</sup> Tuesday of the

month. Mr. Hinson does not feel that the dump (the one owned and operated by Alcoa at Wood and Lee) was correctly cleaned up. It was not lined.

On 7/7/14 I called Mr. Hinson to ask if he had heard from Roger Dick and if he was planning to join us on 7/10 to look for disposal sites. He said he was not going to be able to attend, but that Valerie Tyson is going to be there. He suggested I speak with her. Macy also asked for me to look into a sample event that occurred in early May. He had told Alcoa about concerns he had regarding the old waste water treatment plant in West Badin. They had hired a firm to conduct soil sampling and they collected 10-12 samples. To date, he has not seen the results of that sample event. He said that Qu Qi would know about this. I said I would ask Qu to see if he had received any information regarding the sample event.

### **Roger Dick**

On May 19<sup>th</sup> I spoke with Mr. Roger Dick. I explained that I was interested in talking to people that had first-hand knowledge of where the potliner was disposed of that I was working to map the areas outside of Alcoa's property that may have received the potliner in the past. Once the locations are mapped I will look for all wells in the area that had the potential to be impacted by the disposal sites. Mr. Dick provided the following information:

The Albemarle City Landfill was full of potliner.

Bill Moore has hauled and dumped potliner in the past.

Tony Dennis' family has a concrete business and they may have hauled the waste for Alcoa at times. Tony will probably be willing to talk.

Jimmy Dick (Roger's brother) has information and is willing to talk. His cell is 704-985-5170.

Ken Honeycutt will also talk, however Roger did not have his number. Said he would email me names and numbers.

On 6/9/14 Roger Dick and I spoke again. I explained that I was planning to conduct a site visit in mid-July and would like help locating disposal sites. He provided three sites: Yadkin Brick yard, Albemarle City Landfill and Fran Way's property on Kirk Lane that need to be investigated. He said he would be willing to go out with me and show me the areas. He gave me Ken Honeycutt's number and also suggested I speak with the Stanly County HD, Dennis Joyner, he will know of wells with arsenic problems.

I told Mr. Dick that I would call him soon to set up a date and time to meet.

On 6/30/14 Roger Dick confirmed that he, Jimmy, Ken and possibly Macy meet me on 7/10 to take me to some disposal site locations. We will meet at the boat near Falls Drive and 740.

### **Ryke Longest**

On 5/19/14 I spoke with Ryke Longest, Duke Law. Mr. Longest explained that he represents the Yadkin Riverkeeper and has done a lot of research on the environmental issues related to Alcoa. He was concerned about the boat ramp just north east of the Alcoa property near the railroad. He is concerned that the pot liner was dumped in the area and then covered with gravel to create the boat ramp area. He stated that he has a lot of documents and a map that he will share with me. He also recommended that I contact Shandra Taylor with the Southern Environmental Law Center to request info from her.

6/30/14 emailed Ryke to let him know when we were going to travel. He replied that he is not able to attend, however will call later to discuss.

### **Jimmy Dick**

On May 22<sup>nd</sup> I spoke with Mr. Jimmy Dick. I explained that I was looking specifically for sites where spent pot liner has been disposed and that have not been previously investigated or already remediated. I told him that his brother Roger suggested I call him. Jimmy Dick is the Chairman of the County Commissioners. Also, years ago Alcoa used his family

trucks to haul and dispose of waste around the county. He said there was a map that has been created by the county. I asked him who to contact regarding the map. He recommended Andy Lucas, who is the county manager.

I told Jimmy that I understood that many of the sites that were mapped have already been investigated; it is my intention to locate any sites that have not already been identified. He said he knew of at least 2 others that were not on the map. I stated that I wanted to come to Stanly County to try to look for these sites. Jimmy is willing to show me the locations. He said one was along a road right away and the other is in a housing development. I explained that I would need permission to go on private property; he did not think we would have to do that. Jimmy also offered the County offices if I needed a meeting location.

We agreed I would talk to several other folks and set up a time in late June/early July to come to Stanly County to start the investigation.

### **Valerie Tyson**

Spoke with Ms. Tyson on May 22, 2014. I explained what I was doing and that Macy Hinson suggested I call her. She said there are several people on the Concerned Citizens group that could help local disposal sites. I reiterated that I am looking for sites that are not on Alcoa's property, but looking for ones in the county that have not previously identified. She said she understood. She took my name and number and said she would call me once she had a chance to talk to the members of her group. We would then schedule a meeting. I told her I was also working with Jimmy Dick and others with the County to do the same thing.

On 7/7/14 I called Valerie Tyson, left a message letting her know I was coming to Badin on July 10<sup>th</sup> and wanted to meet with her. She did not return my call.

### **Ken Honeycutt**

On 6/27/14 I called Ken Honeycutt. Mr. Honeycutt worked for and retired from Alcoa. He is willing to meet and help identify disposal locations. Of the possible dates that I gave him (July 7<sup>th</sup>, 10<sup>th</sup>, 14<sup>th</sup> or 15<sup>th</sup>) he prefers the 7<sup>th</sup> but can do the 10<sup>th</sup> too.

### **Andy Lucas**

On 5/29/14 I spoke with Andy Lucas, Stanly County Manager. Mr. Lucas helped me locate data that had been gathered by Stanly County on arsenic and bacteria in residential wells. He referred me to Paul Reynolds, Stanly County's GIS Administrator for further help. I was able to get shapefiles representing arsenic and bacteria sampling that Stanly County did in the late 1990s and early 2000s. A map of these results is contained in Appendix A.

### **David Ezzell**

7/2/14 spoke with David Ezzell, Stanly County Health Department about my investigation.

Mr. Ezzell said that they had done some sampling for Cyanide several years ago, will send me the data if he can find it. He also believes he has more recent Arsenic sample analysis than the data I have (mine is from 1991 to 2005), will send that also if he can find.

When a well is put in, they sample Inorganics (including heavy metals) and bacteriological. If there is a problem with high levels of inorganics, they offer to resample annually. However, not all citizens will accept because they have to pay.

The Health Department uses the Tax record ID to track sample analysis because it rarely changes. The only time it would change is if the parcel is split. The tax record id would stay with the original owner and a new tax record id would be assigned to the part that was split from the original parcel.

All residents in Badin proper should be on public water. Most outside of the city will be on private wells. However, there are areas of the county that are on public water because they found high levels of naturally occurring arsenic and the county was able to put in water lines. I should be able to download the water line layer from the GIS website to determine who is on public water.

The DWQ, APS did an intensive study on Ar levels in gw in Stanly Co. Should get that report. The outcome was that most of the Ar was found south of Morrow Mt (which is an extinct volcano).

David would like to know when we come to sample people's wells, he may even go out with us. Its good to let him know because he may get calls about it. He also suggested I speak with Dennis Joyner, County Health Director.

### **Dennis Joyner**

7/2/14 Called Dennis Joyner, Stanly County Health Director. He was very supportive and happy to hear that we were conducting the investigation. He felt the community would benefit from this investigation. He asked that I email him with my contact info in case he finds information to share with me.

### **Cheryl Marks**

On 5/20/14 I spoke with Cheryl Marks, Supervisor of the Pre-Regulatory Landfills & Dumps program. In 2007 she and staff investigated complaints regarding the disposal of potliner and other waste in the Stanly County area. They worked with county officials, citizens and Alcoa to investigate a list of possible sites (referred to sites A through M). The Alcoa landfill (E) is being managed by DWM, Hazardous Waste Section. There was an area behind the dam that was predominantly contaminated with Pb and some PCBs. Alcoa remediated this area with Cheryl's oversight. The old waste water treatment plant that is being demolished is not in the RCRA remediation plan. It is on the IHSB inventory list and Alcoa has been advised to enter it into the REC program.

Cheryl provided me a list of people that were involved when she conducted her investigation:

Jerry Myers, Stanly County Manager

Roger Dick, CEO Uwharri Capital Corp.

George Izenhour, property owner

Mandi Rogers, property owner

Mr. Floyd, property owner

Mary Elizabeth Chinington, citizen who claimed she saw buried drums, but was unable to locate area.

Cheryl said many of the documents are in CARA. Look for Pine Rd, Alcoa and also NONCD0001177. Cheryl also provided me with copies of the reports that she wrote as she investigated complaints. All of Cheryl's reports are in appendix D.

## July 10, 2014 Site Visit

On July 10, 2014, Melanie Bartlett and I meet with Roger Dick, Jimmy Dick and Ken Honeycutt. Jimmy and Ken worked for Alcoa and stated that they had first-hand knowledge of disposal locations. Roger (Jimmy's brother) stated that he had played in disposal site locations as a child. All three grew up and have worked in the Badin area most of their lives. Roger, Jimmy and Ken drove us around the area and pointed out areas that they feel received waste over the last 30 years from the Alcoa plant in Badin. The following is a summary of their tour.

Figure 1 is an overview map that shows the area that we covered. Each number on the overview map represents the locations where the citizens pointed out areas of concern. The following sections have a description, map and photos that document what we were told by the Roger, Jimmy and Ken. Each map also shows intersecting roads, parcel boundaries and the parcel owner's name.



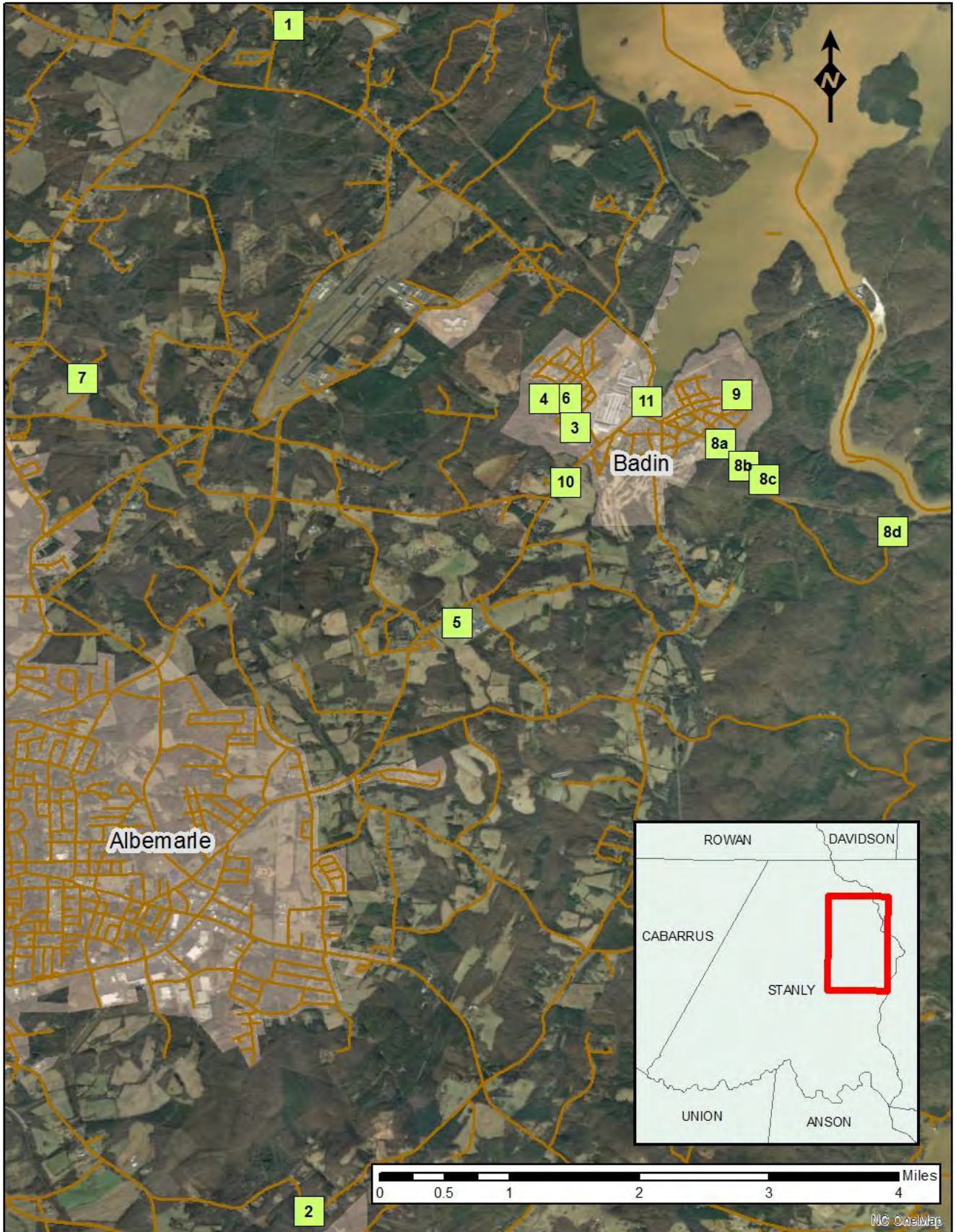


Figure 1



Stop 1. The old Yadkin Brick Yard was owned by Jerry Jordan in the early 1990s. He was taking hazardous waste from all over and turning it into brick (44180). The brick yard also received waste from Alcoa.

Directly across Moss Road from the brick yard, is an old quarry. It was used to dig clay for the brick making process. The quarry was filled with spent potliner. It is buried 10-15 feet deep.







Stop 1 - Entrance to old Quarry across from Yadkin Brick Yard



Stop 1 - Yadkin Brick Yard

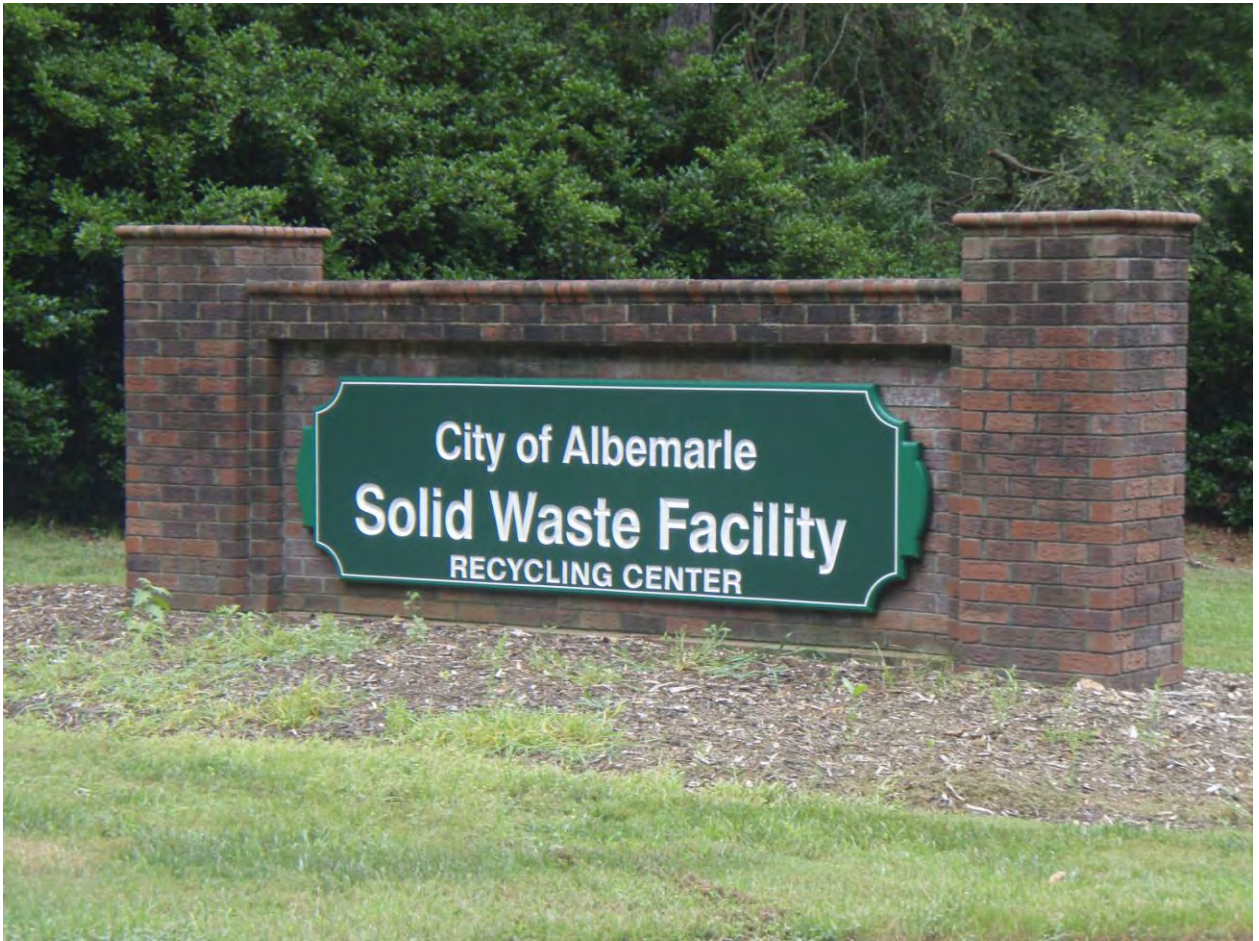


Stop 2. For many years Alcoa sent their waste from their bag house operations to the Albemarle City landfill, which is unlined.

Bag house waste is generated from fumes rising from the melting pots. It is a gray/black powder. It comes from the filter system and is called a 398. They don't know if potliner is buried there but the black powder was taken there for years. Dumpsters from the plant containing carbon dust, tar pitch, and calcine coat were hauled to the landfill. Note: the gps reading was taken at the entrance road to the landfill. The actual landfill is south of the point on the map.







Point 2 - Entrance to Albemarle's Solid Waste Facility



Stop 3. The old Alcoa dump, located at the intersection of Lee and Wood Streets received tons of spent potliner. It is unlined and bordered by Little Mountain Creek. The landfill leaches into the creek and is causing high levels of arsenic in the creek and the river system downstream.





Stop 4. Behind the West Badin community, along Jackson, Sherman, and Lincoln Streets, spent potliner was buried for years. The area has been reforested now and is owned by Alcoa.





Stop 5. Bill Moore was a local hauler. He used to haul waste from Alcoa and dump it on his property, which was 1000+ acres around the area surrounded by Kirk Rd, Mountain View Church Rd and NC 740. Mr. Moore is deceased and much of his property is now owned by his children. Some of the acreage has been sold outside of the family. Chuck Way owns a plot of land that used to be owned by Bill Moore and at one time potliner was dumped there. We spoke with Mr. Way while we were out touring the area and he agreed to have his well tested. Mr. Way's number is (704) 422-5012 and he lives at 34474 Kirk Ave. A neighboring piece of property, 34457 Kirk Ave is owned by Ray Compelo, He owns Albemarle Carpet Cleaning. It was suggested that I contact him to ask if he would agree to having his water sampled. Roger Dick lives nearby, at 32362 NC 740 HWY, and he is willing to have his well tested too.







CARTERS ACRES

LITTLE HEATHER S

MOORE J W JR

DAVIS

MOUNTAIN VIEW CHURCH

TAXIDERMIST

DEESE JERRY R

MOORE MYRA ELAINE

MOORE MYRA ELAINE

KIRK

HARWARD EVELYN M

BOLEN MICHAEL M

MOORE WILLIAM T

BYRD

SHAVER

IVY

NC-740

KIRK

COX BRENDA S

GUARD

5

PAULA

UWHARRIE CAPITAL CORP





Stop 5 - Chuck Way's backyard and Well head



Stop 5 - Ray Compello's back yard



Stop 6. Macy Hinson, who was unable to attend our meeting, spoke with Roger and asked that the old waste water treatment plant be added to the list of sites where potliner was disposed of. The plant was located off of Jackson, near where Sherman intersects. The road that leads to the old plant is roped off and is overgrown. The property is owned by Alcoa.







Stop 6 - Entrance to Road Leading to Old WWTP



Stop 6 - Entrance to Road Leading to Old WWTP



Stop 7. Capital Wood Products is an operating sawmill. In the past graphite and cathode blocks were sawed on this site and was pushed around on the property. The sawing was done back behind the main building.







Stop 7 - Capital Wood Products



Stop 7 - Capital Wood Products



Stop 8. Along Falls Road, beginning at the intersection with Stanly Road until it ends at the lake, spent potliner was dumped on both sides of the road on property owned by Alcoa. In the map, there are 4 locations noted with the number 8. Point 8a is the starting point, 8b and 8c are where old roads intersect with Falls Road. These roads were used to haul waste back onto Alcoa's property.







Stop 8a - Storm Drain at Falls Road and Stanly Street Made from Furnace Brick



Stop 8a - Storm Drain at Falls Road and Stanly Street Made from Furnace Brick





Stop 8a - Wall at Falls Road and Stanly Street Made of Furnace Brick



Stop 8a – Looking Down Falls Road





Stop 8b – Entrance to Hog Pen Road



Stop 8b – Near Entrance to Hog Pen Road





Stop 8c – Entrance to Unnamed Road to Old Dump on Alcoa Property



Stop 8d – End of Falls Road



Stop 9. At the end of Ash Street Roger Dick remembers, as a boy, playing in the piles of dumped potliner. It was dumped from the end of the street to about 300 yards back.







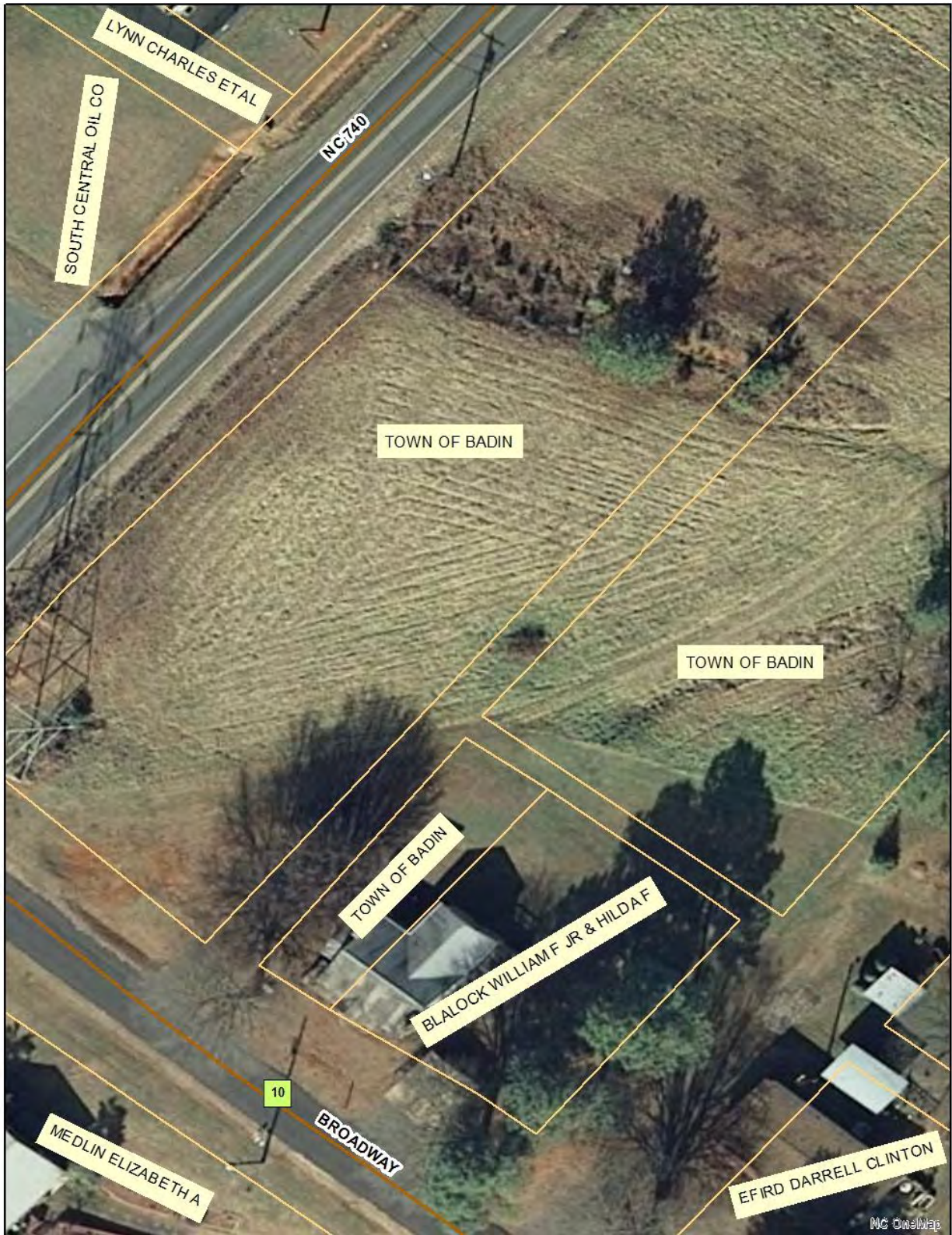
Stop 9 – End of Ash Street



Stop 9 – End of Ash Street



Stop 10. The house and well house located at 45631 Broadway Rd, were built using fire brick from Alcoa's carbon kilns. The brick is permeated with arsenic. The owner is William Blalock.







Stop 10 – House Built of Furnace Brick



Stop 11. To the east of the parking lot for the boat ramp, there is a flat area that used to be a ball park. Jimmy Dick stated that he dumped loads of brick and spent potliner in that area before it was used as a park.

