

The Martin County Project

*Researching Issues
And Building Civic Capacity
after an Environmental Disaster*

**Project funded through: The Flex-E-Grant Program
of the Appalachian Regional Commission and
Eastern Kentucky University**

FINAL REPORT

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Acknowledgement

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¹ The following program offices at Eastern Kentucky have lent support with the startup of the Martin County project. These offices include: The Office of the President, the Office of the Provost, the Appalachian Studies Center, the Student Success Institute, the Honors program, the College of Arts and Sciences, the College of Justice and Safety, the Department of Biological Sciences, the Department of Geography, and the Department of Anthropology, Sociology and Social Work. In December 2000, our project team received an internal grant award through the University Research Council, Eastern Kentucky University. This grant award provided the funding base for travel to Martin County with our student field team during the Spring 2001 semester. The project team would also like to acknowledge the Institutional Review Board at Eastern Kentucky University for holding several outside sessions to review and make recommendations to approve our human subjects protocols.

² The Kentucky *Flex-E-Grant* Program is financed through the Appalachian Regional Commission and administered through the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor. The *Flex-E-Grant* program provides short-term financial assistance for projects that help communities in economically distressed Appalachian Counties respond effectively to factors that contribute to economic distress. *Taken from: The Kentucky Flex-E-Grant Program for Economically Distressed Appalachian Counties. Guidelines and Operations Plan.*

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Acronyms

ATSDR	Agency for Toxic Substances and Disease Registry
BSEC	Big Sandy Environmental Coalition
CAC	Citizen Advisory Committee to Project Team
CAG	Citizen Advisory Group to EPA
CBR	Community Based Research
CERCLA	Comprehensive Environmental Recovery Compensation and Liability Act
DOW	Division of Water, Kentucky
DES	Division of Environmental Services, Kentucky
EJ	Environmental Justice
EPA	Environmental Protection Agency
EQC	Environmental Quality Commission
FOIA	Freedom of Information Act
HELP	Health, Environment and Life Preservation Organization
MCCC-Massey	Martin County Coal Corporation, a Subsidiary of Massey Energy
MSDS	Material Safety Data Sheet
MCWD	Martin County Water District
MSHA	Mine Safety Health Administration
NCP	National Contingency Plan
NREPC	Natural Resources and Environmental Protection Cabinet, Kentucky
NRC	National Research Council
NEPA	National Environmental Policy Act
NOV	Notice of Violation
OSC	On-Scene Coordinator, EPA
RCRA	Resource Conservation and Recovery Act
RI/ FS	Remedial Investigation / Feasibility Study
SACS	Stream Assessment Cleanup and Survey Team
SARA	Superfund Amendments and Reauthorization Act
START	Superfund Technical Assistance and Response Team
TAG	Technical Assistance Grants
TSS	Total Suspended Solids
UCS	Unified Command Structure

Executive Summary

In June of 2001, approximately eight months after the start of our project efforts in Martin County, our team at Eastern Kentucky University submitted a proposal to the Kentucky Appalachian Commission, the Department for Local Government and the Office of the Governor under the *Flex-E-Grant* program initiative. In our submitted proposal, our university team sought funding to stay in the field in Martin and Perry County. In accordance with the charges outlined in the Flex-E-Grant initiative, we proposed to address specific issues of ‘civic capacity’ in our social impact assessment.

In our *Flex-E-Grant* proposal, we stated that we would address civic capacity issues at two levels:

1. First, we would complete our survey, interviews and field research. With our research complete, we argued, we would be in a position to empirically compare and contrast civic issues and civic concerns in both Martin and Perry County. This comparison and contrast, we argued, would allow us to understand and explain differences in civic capacity across two coal economies. In our submitted proposal to the *Flex-E-Grant* program, we argued that Perry County would serve as our “control community” and that this comparative analysis between sites, would allow Our research team to objectively evaluate the impact that the coal waste disaster might have had on civic life and civic capacity in Martin County.
2. Second, we proposed to develop a series of recommendations on improving civic capacity in Martin County. In accordance with our community based research design, we proposed to develop this set of recommendations in close consultation with a citizen advisory committee. On this dimension, we requested funding to establish an advisory committee of area citizens. We argued that the CAC would assist us in forming our set of recommendations on building civic capacity in Martin County since the coal waste spill of October 2000.

Flex-E-Grant Funding

In August of 2001, the Kentucky Appalachian Commission, the Department for Local Government and the Office of the Governor approved our *Flex-E-Grant* proposal. Flex-E-Grant funding has allowed our university team to complete our survey and field interview work in both Martin and Perry County. It has also allowed our team to establish a citizen advisory committee (CAC). Through consulting with the CAC, we have developed our project recommendation. Based on CAC testimony, we have also conducted a careful review of the public record and an extensive review of regulatory agency documents. As a consequence, our team has been able to develop a series of pointed recommendations on how to improve civic and community life in Martin County since the environmental disaster of 2000.

Recommendations

RECOMMENDATION #1: Community Involvement in Recovery and Reclamation: We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **explore channels of public involvement in environmental recovery and reclamation in Martin County, Kentucky**. We encourage the above law-makers and their staff of associates, to review the public participation provisions contained under CERCLA and RCRA and legally review how these provisions could be re-invoked, in some form, in providing Martin County citizens with the appropriate civic mechanisms to participate in rebuilding their environment and community since the 2000 October coal waste spill.

SUBRECOMMENDATION: In providing Martin County citizens with the necessary civic mechanisms in becoming more involved in community affairs since the disaster, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **act on recommendations set out by the State Environmental Quality Commission (EQC) in January 2001:** After Hearings on the Martin County coal waste disaster, the EQC recommended to state and federal lawmakers that a citizen advisory committee of Martin County citizens be established to oversee cleanup and reclamation activities in Martin County. We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **act on this central EQC recommendation of establishing a citizen advisory committee.**

SUBRECOMMENDATION: In supporting a citizen advisory committee to oversee and provide input on community and environmental recovery, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **hold EPA Region 4 to its formal commitments to its citizen advisory group (CAG) of Martin County citizens.**

SUBRECOMMENDATION: In holding EPA Region 4 to its commitments to its citizen advisory group, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **review EPA Region 4 statements and actions surrounding the final submitted stream and reclamation plan.** Testimony from Martin County citizens suggests that citizens were assured by Region 4 officials of a public comment period on the final plan but were, in the end, denied a period for public comment. Further testimony suggests that Martin County citizens, as formal CAG representatives, were not provided opportunity to participate in conference sessions with company and other agency personnel on environmental recovery and stream mitigation strategies.

RECOMMENDATION #2: Community Involvement in Watershed Management: We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor as well as the Kentucky State Public Service Commission to **explore channels for public involvement in water quality and water treatment issues in Martin County, Kentucky.** We encourage the above lawmakers and Public Service Commission to involve a team or taskforce of local citizens in addressing long-term water quality and water treatment issues in Martin County.

SUBRECOMMENDATION: In involving a team or taskforce of local citizens in addressing long-term water quality and watershed management issues in Martin County, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to act on the central recommendation contained in this report to **support independent water quality testing with full citizen oversight over the sampling and testing methods.** We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to act on this central recommendation of our report and involve a team of local citizens and technical experts in water quality testing and monitoring of the local watershed.

SUBRECOMMENDATION: In building an independent action team of citizens and technical experts to monitor and test water quality in Martin County, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **pursue compensation for laboratory, technical assistance and consulting costs that will be incurred.** Many Martin County citizens are of the view that the coal company should be financially responsible for such independent testing and monitoring of the local watershed. However, the project team, upon recommendation from of its own citizen advisory committee, recommends that the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor aggressively explore methods to ensure that citizen testing and monitoring be objective and independent of outside influences and financial ties.

SUBRECOMMENDATION: In ensuring independent and objective testing of the local watershed with citizen oversight, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to pursue the prospect of applying for technical assistance grants under CERCLA. As outlined in the *Civic Capacity* and *Water Quality* sections of this report, under CERCLA local citizen groups in impacted areas are able to apply for technical assistance grants (TAG) to assist them in their own independent assessment of the short and long term impact of a chemical contamination on their local environment and community. And, as also outlined in this report, because EPA did not respond under CERCLA in Martin County, such TAG grants were never made available to Martin County citizens in their own bid to independently evaluate the impact to the sludge spill on the local watershed and area soils. But, as also outlined in this report, there appears to have been initial agency maneuvers on the part of EPA Region 4 to respond to the disaster by invoking its authority under CERCLA. Rather than recommending a review of the set of exchanges leading to the shift to CERCLA to the Clean Water Act, this report recommends that, as a corrective measure in fulfilling its statute obligations to citizens and the Commonwealth, the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor **request that the federal EPA make federal TAG grants available to Martin County citizens.**

Section One: An Overview to the Report

Problem Statement

1. On Tuesday, October 11, 2000 at midnight, a coal company employee for Martin County Coal, a subsidiary of Massey Energy (MCCC-Massey) is working the belt near the west mine portal. He notices that the belt has stopped. Based on events documented in another report, the employee radios the dispatcher to report his observation.¹
2. Company employees then travel to the north mine portal and on arrival observe slurry flowing out of the drift opening at a high velocity. They report their findings to the radio dispatcher. According to the next set of reported events, company employees travel next to a south mine portal. They observe slurry flowing out of the south opening at an even higher velocity.
3. By 2:00 in the morning, based on reported events, dozer operators are brought to the impoundment. They begin pushing materials (soil and rock) into the impounding area where the breakthrough has occurred.
4. An hour later at 3:00 a.m. the company safety manager calls the supervisor of the Mine Safety Health Administration (MSHA) field office. He reports a breakthrough of slurry from the Big Branch Coal Waste Impoundment. The company safety manager also reports that slurry has flowed out of the north and south portals and into the waters of Coldwater Fork and Wolf Creek.
5. By 3:30 a.m. the Company notifies the Emergency Services Director for Martin County of the incident. After contacting local emergency personnel, the Company contacts the Kentucky Division of Emergency Management. The Kentucky Division of Emergency Management calls the on duty officer for the Kentucky Division of Water (DOW). The DOW discharges an Environmental Response Team to the site.

Meanwhile, Martin County citizens living on Coldwater and Wolf Creek are unaware of the activity and communications between company and agency people that is occurring through the early morning hours. They are unaware that there has been a massive release of slurry and sludge materials that have ruptured through the bottom of the 72-acre coal waste impoundment upstream from their homes and properties. Citizens on Cold Water and Wolf Creek will comment on these events in their later interviews with our project team. Some citizens will be openly hostile to the fact that residents living downstream were never notified of the impending disaster upstream. Several area citizens in later interviews would comment,²

- No one had notified anyone downstream that this was coming and at that time it wasn't even down here. It was just in the process of coming. And at their security check up there at the county road crossing it was about 10 ft. deep there at the time. But you know it was just like a big, gooey glob. It was a whole lot like watching lava. You know the flow of it and it just kept accumulating deeper and deeper. But this has been one of my biggest concerns since the spill happened, is that no one notified anyone downstream that it was coming. No warning, absolutely no warning, at any time! And during one of the community meetings I asked [the coal company president] as to why and who made that decision and he said he made that decision. I don't want [the coal company president] making that decision with my life and my family's life you know...but that was their answer to it. They made that decision.
- I feel that the minute the coal company knew that it happened they should have come down Wolf Creek and where I live warning the people.
- We first learned –just by people in the area – that the impoundment had failed. And that is why of a lot of people in this area –people are kind of angered. The fact that you had 300 million gallons of slurry that came out of this impoundment. MCCC could not have known it could break into two watersheds. It could have easily broken, all out into Coldwater or all out into Wolf Creek. [...] All these homes in the area near the streams would have been taken out.

¹ The events chronology reported in this section are taken from: United States Department of Labor. Mine Safety and Health Administration Coal Mine Safety and Health. (October 17, 2001) Report of Investigation. Surface Impoundment Facility Underground Coal Mine. Non-Injury Impoundment Failure/ Mine Inundation Accident. Pp.3-5.

² February. 2001. Field Interviews.

After the Martin County coal waste spill of October 2000, a series of agency reports were produced that address vital aspects of impoundment safety, impoundment regulations and agency enforcement over coal waste impoundments. These reports are summarized below in the following footnote³ for the reader's benefit and reference. Several of these reports speak to emergency preparedness and notification procedures for communities living downstream from coal waste impoundments. Because impoundment regulations, enforcement and safety issues have been covered elsewhere in these other reports, this report focuses less on impoundment risk, stability and safety issues.⁴ Rather, this report focuses more on the after effects of the spill on Martin County. Specifically, this report focuses more on the social and environmental impact of the spill on community and civic life in Martin County. Unlike other agency reports that have been produced since the Martin County coal waste spill, this report does not focus on the impoundment, rather on the impacted community. Unlike other reports, the following report is a community impact report that documents the impact of the October disaster on life among citizens in Martin County, Kentucky.

A Community Impact Report

The Martin County coal waste spill appears to have had a significant impact on the local environment and subsequently, on the local community. However, there persists debate between citizens and agencies on the extent to which the impact of the spill will have chronic long-term impacts. This report attempts to document that debate. In assessing the community impact of the spill, the following report addresses water treatment issues, water quality testing and monitoring and cleanup and reclamation activities as reported by both agencies and the local citizenry. By addressing issues of water treatment, water quality monitoring and reclamation, this report attempts to outline some of the issues that still confront the community since the spill.

As the next section on *Research Design and Project Methodology* will explain, this social impact report takes a community-based research (CBR) approach. That is, this project report attempts to understand the impact of the coal waste spill on life in Martin County from the perspective of the local citizenry. In understanding the citizens' perspective, it is also important to note that this project employs traditional scientific research methodologies. These methods are explained in the following section. Based on our methods, this report will show that many citizens have expressed concerns over water treatment and water quality as well as cleanup and reclamation plans. Thus, with a report focus on environmental issues that confront the county, from a citizens' perspective, this report will provide some insight into the impact of the coal waste disaster on community and civic life in Martin County.

³ See for example:

1. Triad Engineering, Inc. (March 2001) Subsurface Investigation Big Branch Slurry Impoundment Martin County, Kentucky. Triad Project No. C 00553 Submitted to: United States Department of Labor Mine Safety and Health Administration. Available online: <http://www.msha.gov/impoundments/martincounty/triad.pdf>
2. United States Department of Labor. Mine Safety and Health Administration Coal Mine Safety and Health. (October 17, 2001) Report of Investigation. Surface Impoundment Facility Underground Coal Mine. Non-Injury Impoundment Failure/ Mine Inundation Accident. Available online: <http://www.msha.gov/impoundments/martincounty/martincountya.pdf>
3. National Research Council. (October 2001.) Coal Waste Impoundments: Risks, Responses and Alternatives. (Prepublication Copy) Washington D.C. National Academy Press. Available online: <http://www.nap.edu/books/030908251X/html/>
4. United States Department of Interior. Office of Surface Mining. (March 2002). Report on October 2000 Breakthrough at the Big Branch Slurry Impoundment. Available online: <http://www.osmre.gov/martincounty030402.htm>

⁴ Though this report will focus on the environmental and social impact of the spill, our university team has also collected information on impoundment safety regulations and emergency preparedness. For example, our survey results report that 94 % of Martin County citizens strongly agree (58%) or agree (36%) that the coal company should provide the community with an emergency safety plan. Likewise, in Perry County, a similar 91 % of citizens strongly agree (33%) or agree (58%) with the need for emergency preparedness plans to protect communities downstream from coal waste impoundments. Upon request, our project team could readily provide a supplementary report to the Kentucky Appalachian Commission, Department for Local Government and the Office of the Governor on emergency response and preparedness, based on field interviews and survey responses and other primary source documentation that we have collected since being in the field in Martin County.

Background to the Project Prior to Flex-E-Grant Funding

Our research team at Eastern Kentucky University has been in the field in Martin County since the October 2000 coal waste disaster. For the reader's quick review, we provide a timeline of our research efforts in Martin County. The timeline is summarized below. These stages are discussed more fully in the section on *Research Design and Methodology*.

1. October 11, 2000 Big Branch Impoundment ruptures at bottom break points and slurry and coal waste empty into two local watersheds: Wolf Creek and Coldwater Creek

2. Early November 2000, our university field team conducts initial site visits to Martin County and establishes key contacts with local citizens.

3. Mid November 2000, our team sets up formal meetings with key contact persons in the community and with spokespersons for MCCC-Massey. Our project team also begins to explore funding opportunities to finance our field research in Martin County.

4. Mid December 2000, our team receives internal university grant support from Eastern Kentucky University to begin our field efforts in Martin County.

5. In early January 2001, our team establishes a field course and recruits over 20 upper-division university students as members of our research team. This team will begin a social impact of assessment of the impact of the coal waste spill on community and civic life in Martin County.

6. End of February 2001, our university field team completes intensive field interviews with over thirty Martin County citizens.

7. Mid March 2001, our university field team conducts a systematic residential survey of Martin County citizen views since the October 2000 coal waste spill. Our team collects 290 surveys (response rate =62%).

8. End of April 2001, Our team reports the results of the social impact survey to citizens at the Sheldon Clark High School, Martin County

9. Mid May 2001, our team begins to survey areas of Perry County as our identified control community site.

10. June 2001, our university team applies for outside *Flex-E-Grant* funding through the Kentucky Appalachian Commission, Department of Local of Government and the Governor's Office.

A Proposal to Evaluate Civic Capacity since the Disaster

In June of 2001, approximately eight months after the start of our project efforts in Martin County, our team at Eastern Kentucky University submitted a proposal to the Kentucky Appalachian Commission, the Department for Local Government and the Office of the Governor under the *Flex-E-Grant* program initiative. In our submitted proposal, our university team sought funding to stay in the field in Martin and Perry County. In accordance with the charges outlined in the Flex-E-Grant initiative, we proposed to address specific issues of ‘civic capacity’ in our social impact assessment.

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Report Outline

- **Section Two: Research Design Project Methodologies:** In this section, we summarize the field interview methods that our team used in collecting interviews with over thirty Martin County citizens. We then summarize our survey methodologies by explaining how our survey was developed. We then discuss the sampling methods that were used to distribute and collect surveys in both Martin and Perry County with Perry County being described as our control community site. In this section, we also speak to the development of the citizen advisory committee. We end with a discussion on our content analysis of newspapers articles, agency documents and other public records. These other reports and other agency documentation are heavily cited in the body of this report.
- **Section Three: Defining Civic Capacity:** In this section, we provide a working definition of ‘civic capacity.’ After defining civic capacity, we then proceed to evaluate the civic sphere in Martin County since the coal waste disaster. Based on a timeline of events that have occurred since the spill, we argue that the civic sphere in Martin County has been seriously constricted. Events presented in this section, suggest that area citizens have not been given opportunity to participate in environmental assessment and recovery decisions. This section explains that there are statutes that provide for citizen involvement in disaster recovery. We review these statutes in this section as well.

- **Section Four: Emergency Water Provisions and Water Treatment:** In section four we speak directly to one of the prime issues of civic concern in Martin County as identified in our survey findings. This section addresses water supply and water treatment since the October 2000 coal waste disaster. The section outlines first, emergency water response as an emergency water line was established in Martin County approximately ten days after the spill. Second, this section then outlines other water quality and water treatment issues surrounding these two events.
- **Section Five: Water Quality Testing and Monitoring:** In this section, based on the concerns expressed by the citizen advisory committee, our project team reviews water testing and monitoring and other environmental impact assessments conducted under the Unified Command Structure (UCS). This section is both framed by the citizen advisory community and our survey findings. Based on our survey results, a large majority of citizens either agree or strongly agree that an independent citizen’s committee should monitor water quality in Martin County. This section, based on a review of coal company and agency water quality tests conducted under the UCS, provides empirical justification for an independent citizens’ committee to monitor water quality in Martin County.
- **Section Six:** Cleanup and Reclamation and Civic Capacity since the Disaster: In the prior section (Section Five), we start to review the environmental statutes and regulations that were applied and not applied in responding to the coal waste disaster in Martin County. These statutes are also reviewed in the Civic Capacity section of this report. In this section, we outline some of the public participation provision in several environmental statutes. After outlining events surrounding cleanup and reclamation activities, we refer back to these statutes and their provisions for public involvement and public comment.
- **Section Seven:** Recommendation on Improving Civic Capacity in Martin County: We set our recommendations in full in the final section of this report. We provide two principal recommendations to the Kentucky Appalachian Commission, the Department for Local Government and the Office of the Governor:

1. Increase community involvement in cleanup and reclamation strategies
2. Increase community involvement in watershed management

These two recommendations are central in rebuilding civic capacity in Martin County since the coal waste disaster. We offer evidence for our position in this section of the report. In this section, we also offer a series of sub recommendations to assist the above governing bodies in implementing the above recommendations.

- **Appendix A: Field interview schedule**
- **Appendix B: Survey Results**
- **Appendix C: Survey District Maps**
- **Appendix D: Martin County Water District Maps**

Section Two: Research Design and Project Methodologies

After preliminary site visits,⁵ our project team formally began to study the impact of the coal waste disaster on community life in Martin County in January of 2001. In January of 2001, less than three months after the disaster, faculty from the sociology program at Eastern Kentucky University, recruited a team of over twenty university students into a field course to begin a social impact study in Martin County, Eastern Kentucky. Many of the student recruits, from sociology, anthropology, social work and geography had already been well trained in traditional research methodologies and were already prepared for an intensive research push in the impacted community. Though university students were already well versed in traditional research and statistical methodologies, more training was in order to prepare them for this community-based field project. In late January 2001, the university field team spent an intensive weekend in a workshop training session. During this two-day workshop, our project team invited a key informant from the community to lecture and discuss with the student and faculty field team on issues confronting Martin County since the spill. Along with this local expert, the project team also invited a regional expert from the University of Kentucky to discuss and lecture on field interview methods and techniques to apply when conducting open-ended interviews with area citizens.⁶ During this workshop, the project team in consultation with both experts, began to develop the set of open-ended questions that would be used in Martin County when interviewing area citizens on their after-thoughts after the spill. Having now provided our field team with intensive workshop training, we began to prepare for the “field interview phase” of our research design.

Field Interview Phase

Faculty on the project team soon began to make contact with area citizens based on several contact lists compiled from newspapers and key informants. Key informants provided us with lists that represented a cross-section of area citizens. One of our key informants in the community provided us with several lists of citizens that “*we should probably talk to*” even though they themselves did not always “*agree with their politics.*” Thus, in our initial field contact stage, the project team was able to make contact with local citizens that held various positions and various perspectives on the spill.

By February 2001, one of the faculty members on our project team began making telephone contact with Martin County citizens to schedule interviews between citizens and university students. Out of approximately 50 telephone contacts, our project team was able to line-up 36 field interviews with area citizens. During the last two weekends of February, the student-faculty field team traveled to Martin County to conduct these scheduled interviews. These interviews between students and citizens typically ranged from 20 minutes to 40 minutes in length. It was during these sessions that citizens, in their homes, were asked to comment on the spill and community and environmental recovery. The open-ended semi-structured interview schedule that was used in the field in Martin County is provided in Appendix A of this report (see Appendix A). Along with these scheduled interviews, while in the field, the project team was able to secure several more interviews with area citizens. These citizens were also willing to share their points of view and perspective on the spill with the university field team.

During this field interview phase, each university student was responsible for conducting approximately two taped field interviews with area residents. In addition, as part of their project obligations, students then transcribed these tape-recorded sessions and coded the interviews for content. The project team has since heavily referenced these transcripts. The transcripts have assisted the project team in understanding events surrounding the coal waste disaster in Martin County from a citizen’s perspective. In this report, our project team quotes and references this transcript database.

⁵ Prior to January 2001, the project team consulted with subject experts and wrote small mini-grants to fund our field efforts. The project team would like to acknowledge, at the start of this report, the help in project startup that Duane Gill, Mississippi State University provided faculty and students at Eastern Kentucky University. Gill, an expert on communities and technological disaster, traveled to Eastern Kentucky University to consult with students and faculty on matters of research design and human subject protocols when studying disaster-impacted communities. Gill’s visit was funded through the Appalachian Studies Center and various other programs and departments at Eastern Kentucky University.

⁶ The project team would like to also acknowledge the help in project startup that Shauna Scott, University of Kentucky provided faculty and students at Eastern Kentucky University. Scott has since begun to develop a similar field component offering at the University of Kentucky. Scott’s visit was funded through the Appalachian Studies Center, Eastern Kentucky University. We also want to formally acknowledge the help of all our citizen contacts in assisting the project team in project development. Without their help and early confidence in our project, the success of our field efforts in Martin County would have been far less. Other programs and internal grants at Eastern Kentucky University have funded other stages of this project prior to the current funding source: The Flex-E-Grant Initiative: Funded through the Kentucky Appalachian Commission, Department for Local Government and the Governor’s Office allowed us to establish and consult regularly with our citizen advisory committee.

Survey Development

It soon became apparent to the student-and-faculty research team, in our seminar discussions, that certain themes and concerns were consistently being repeated and expressed in our field interviews with area citizens: It appeared, for example, that many citizens were generally concerned over the long-term impact of the coal waste spill on the area environment and local watershed. Others expressed more specific concern over the public water system and water testing and monitoring. Also in our discussions, it appeared that many citizens were speaking to how disaster response and cleanup activities were being handled by the coal company, government and various state and federal regulatory agencies. Based on these interviews, our project team of faculty and students began to identify the themes that were being expressed in our field conversations with area citizens. These repeated themes, issues and concerns then informed the development of our survey questionnaire. In developing the survey, questions from standard community impact surveys⁷ were modified to reflect the themes being expressed in Martin County. Over several working sessions, the student-faculty research team modified standard inventory questions to reflect local issues and local concerns. The survey was then pilot-tested. Through various stages of its development, the survey was pilot-tested across twelve sociology classes at Eastern Kentucky University. Based on the commentary and feedback of more university students and faculty, provided during the pilot-testing, further modifications were made to the survey instrument. A copy of the survey along with percentage reports on each question for Martin County and the control community is provided in *Appendix B* of this report (see *Appendix B*).

Sampling Methodology

Although this project is often referred to as the “Martin County project,” it is important to explain that not all of Martin County was surveyed during the survey phase of our research design. Our project team surveyed the more populated areas of the county between the city of Inez and the town of Warfield. This area was defined as the ‘direct impact zone’ by the project team. [See: *Map Appendix C. Map 1: Primary Survey Routes in Impact Zone, Martin County, Kentucky*]. Our project team was mostly interested in surveying Inez and Warfield citizens living between these two watersheds. Essentially, our team was mostly interested in understanding the views of citizens that lived in closer proximity to the impacted area than citizens that lived in other, further removed, areas of the county. It is typical practice in community and disaster research, and in environmental-community- health impact assessments to define population boundaries differently than based on standard county or town boundaries. Typically not all persons in a town, city, county or even neighborhood confront the same environmental impacts. This is specially the case when geo-physical conditions such as topography, ground and surface water flow, soil composition and wind direction are considered.

Having decided on the population parameters, the project team then made decisions on sampling methodology. The project team devised a sample method that reflected settlement patterns with a higher proportion of surveys being distributed in higher density areas and route districts within the impact zone. Based on a systematic review of residential addresses listed in the telephone directory, the project team made decisions on the proportion of surveys to distribute along each county road. Surveys were then bundled accordingly. A set number of surveys were bundled for delivery on each route. The project team then decided to treat each route as a sub-sample frame: Based on the house count on each route and the number of surveys to distribute, the student-faculty survey team would deliver a survey to every “nth” house on that particular road or route area. Along with this systematic residential sample design, the project team decided to use a “drop-off/ pick-up” method. The project team agreed that arrangements would be made with local citizens to pick up the completed survey the following day.

To survey the impacted area, the team used three student survey teams (each team with a faculty driver) in the field at the same time. Each survey team was responsible for separate survey districts. See *Map Appendix C*⁸ of the three survey districts within the impact zone.

Student-faculty survey teams were assigned to each of the three survey districts. Student-faculty survey teams distributed and collected surveys over the course of a week –*the March 2001 Spring Break Week*. Three survey teams were in the field for three working days and another three field teams (with the same three faculty drivers on each sweep) completing

⁷ The project team is thankful to Duane Gill, Mississippi State University, for sharing with our project team, community impact surveys that were distributed in impacted and control communities in Alaska after the *Exxon-Valdez* oil spill in 1991, 1992 and 2001. Other questions from other risk perception surveys were taken from: Freudenberg, William. (1993) Risk and Recreancy: Weber, the Division of Labor, and the Rationality of Risk Perceptions. *Social Forces*. June 1993. 71 (4) pp.909-932; Freudenburg, William and Timothy Jones (1991) Does an Unpopular Facility Cause Stress? A Test of the Supreme Court Hypothesis. *Social Forces* 69: 1143-68.

⁸ See: *Map 1: Primary Survey Routes in Impact Zone, Martin County, Kentucky*.

the survey work within each survey district over the course of the remaining three Spring Break vacation days. By the week's end, 290 surveys were collected from Martin County citizens living in the impacted area with a response rate of 62 percent.

Sample Representativeness

Our research team designed a sampling method that would result in a sample representative of settlement patterns in the impact area. A higher proportion of surveys were distributed to higher density areas within the impact zone. It appears that the sample ($n=290$) is not only representative of settlement patterns in the area, but appears relatively representative of some broader population characteristics in Martin County based on a review of county employment, income and education data. A review of Table 2.A, for example, suggests that the sample matches general employment characteristics for the county. For example, 7 percent of those surveyed reported being unemployed in March 2001, while official state statistics report a similar 6 % unemployment rate for the county in March 2001. Aside from unemployment, the project team had wanted to compare occupational patterns between our sample and the county population based on coal mining. However, the project team was unable to make this comparison due to question measurement differences between our survey report and data compiled through the U.S. Department of Labor Statistics. Whereas, our survey findings report 32 percent of Martin County citizens reporting either themselves, *or a family member involved*⁹ in the mining industry. Labor statistics for the region report approximately 10 percent of the county workforce employed either full-time or part-time in the mining sector.¹⁰ Differences in how mine employment and mine sector involvement are measured make these percentages not comparable.

Table 2.A. Assessing Sample Representativeness based on Employment, Income and Education Characteristics		
	Sample Percentages ^a	County Population Reports
Unemployment	7%	8% ^b
Income	\$20, 000 (median)	\$22, 000 (median) ^d
Education		
<High School	28%	55%
High School	59%	38%
College	13%	6%

- a. Martin County sample ($n=290$, response rate=62%)
- b. Kentucky Department for Employment Services: Labor Market Information. Available online: <http://www.kycwd.org/des/lmi/labor/clf/annual00.htm>
- c. U.S. Census Bureau. State and County Quick Facts. Available online: <http://quickfacts.census.gov/qfd/states/21/21159.html>
- d. **Note:** High School category includes persons with some college as well as an Associates Degree while College category includes persons with a Bachelors or Professional Degree. Regional Economic Information System (2000) GEOSTAT – Geospatial Statistical Data Center. Available online: http://factfinder.census.gov/servlet/BasicFactsTable?_lang=en&_vt_name=DEC_1990_STF3_DP2&_geo_id=05000US21159

With respect to income levels, the U.S. Census for 2000 reported the median household income in Martin County at \$22,000.00 (\$22,497.00) per year. In our sample, near half (47%) of those residents surveyed reported household incomes less than \$20,000 in 2000. On education, based on U.S. 2000 Census comparisons, our sample appears to be slightly more educated than is typical in Martin County with 13 percent of those persons surveyed reporting more than 16 years of education (a Bachelors Degree or Professional Degree). In contrast, U.S. Census data compiled on Martin County for 2000 reports 6 percent of the county workforce (over the age of 25) holding at least a Bachelor's Degree.

⁹ Survey percentages are reported on the following survey question: "Is any person in your household involved in the mining industry – either through being employed, the sale of mineral rights or through other business-related activities?" See Appendix B for the survey question and percentage breakdowns for both Martin and Perry County.

¹⁰ Taken from: Regional Economic Information System (2000). GEOSTAT: Geo Spatial and Statistical Data Center. Available online: <http://fisher.lib.virginia.edu/cgi-local/reisbin/county2.cgi>

Control Community

Soon after the survey was distributed in Martin County, our project team began to make plans to survey a control community. A comparison of Martin County citizen views with citizen views in a comparable community would allow us to infer on the impact that the coal waste spill had on citizen and civic attitudes. Both being defined by the Kentucky Appalachian Commission as “core coal producing” counties,¹¹ our project team selected an area in Perry County as a comparable community site for comparisons with Martin County. As in the case of Martin County, not all of Perry County would be surveyed. Our team decided to distribute a similar survey to citizens living along the Kentucky River basin between two large coal waste impoundments: The Brushy Fork Impoundment in Knott County, rated by the Mine Safety Health Administration (MSHA) as ‘moderate’ breakthrough potential, and the Four Seams Impoundment in Perry County rated by MSHA as of “low”¹² potential for breakthrough. Under breakthrough conditions, based on MSHA definitions, populations living downstream in this catchment area would be directly impacted through property loss and loss of public services and/ or damage to the environment.

Other county factors, aside from proximity to coal waste impoundments, were also considered in deciding on Perry County as the control community site: For one, Perry County, like Martin County, is categorized by the Appalachian Regional Commission as a “Distressed County.” Like Martin County, approximately 30 percent of the Perry County population falls below the federal poverty line. Like Martin County, a very small percentage of young adults went on to complete college. According to 1990 Census reports, less than 7.0 percent of the adult workforce was college educated in Perry County which was similar to Martin County with only 6 percent of the adult workforce holding a college degree in 1990.¹³ Though it is worth noting that in our survey sweep of Perry County, as in Martin County, a higher proportion of college-educated persons were surveyed. Twenty-one percent of Perry County citizens report 16 or more years of formal schooling in 2000 (See Survey Appendix B).

Our project team initiated the survey sweep of the control community during the summer of 2001. During the summer of 2001, our team used two student-faculty field teams and applied the same drop-off/ pick-up method and proportionate sampling design. That is, the potential impact area was stratified by route area with a higher proportion of surveys being distributed along higher density route areas as was done during the Martin County survey sweep. During the summer of 2001, our project team started the survey on the outskirts of Hazard and in Vicco with a summer field team of faculty and students collecting 100 surveys. By the fall of 2001, with funded support from the *Flex-E-Grant* program, our team recruited a new field team of university students to complete the control community phase of the research design. *Flex-E-Grant* funding allowed the project team to survey parts of the Hazard municipality within the defined impact zone. (See *Map Appendix C. Map 2: Primary Survey Routes in Projected Impact Zone, Perry County, Kentucky.*) Over two three-day weekends in September 2001, the student-faculty research team divided into four survey teams, mapped and then surveyed four survey districts in the Hazard municipal area of the Kentucky River basin. Our project team collected an additional 150 surveys with Flex-E-Grant funding. Across both the summer and fall survey sweeps, our team collected 250 surveys from the “potential impact zone” in Perry County with a standard 50% response rate for a survey control site. Comparable case bases for Perry ($n=259$) and Martin ($n=292$) County allow for valid comparisons between places.

Data Comparisons

Throughout this report, we compare the results between Martin and Perry County citizens from our social impact survey. This comparison of citizen attitudes, among relatively similar communities, allows us to infer on the impact of the coal waste disaster on shifts in public and civic attitudes in Martin County. We believe that some of the reported shifts in public opinion between communities are likely due to the coal waste spill. Our project team believes this is a sound assumption considering, not only the above community parallels, but also the match on demographic and household characteristics between samples. These household parallels between samples are reported next.

¹¹ U.S. Census figures were quoted from: Kentucky Appalachian Commission. (2000) Pursuing the Potential of Appalachian Kentucky: Kentucky’s Appalachian Development Plan.

¹² **Note:** MSHA rating on the Four Seam Slurry impoundment rates it as ‘low’ breakthrough potential with breakthrough being contained within underground mines. For rating system: See: <http://www.msha.gov/impoundments/asp/impoundments.asp>
MSHA rating on the Brushy Fork impoundment rates with ‘moderate’ breakthrough potential with potential breakthrough damage to miners, property and the environment. See: <http://www.msha.gov/impoundments/asp/impoundments.asp>

¹³ U.S. Census figures were quoted from: Kentucky Appalachian Commission. (2000) Pursuing the Potential of Appalachian Kentucky: Kentucky’s Appalachian Development Plan.

Household and Demographic Characteristics between Samples: Most citizens in both counties rely on their county’s public water system. When asked to report on their water source, 85 percent of Martin County citizens say that they rely on the public water system, compared to 89 percent of Perry County citizens, while only 14 and 8 percent of Martin and Perry county citizens respectively report using a private water source or private well. In terms of homeownership, in Martin County 85 percent of those surveyed report owning their homes, while in Perry County 69 percent report being homeowners; the larger number of apartment complexes and rental units in the Hazard municipality could possibly account for the differences in homeownership rates between counties.

Income levels between counties, as reflected in our samples, appear to be comparable: In Martin County, 20 percent of those surveyed report a salary under \$10,000 per year in comparison to 19 percent in Perry County. Forty-seven percent of Martin County citizens report an income less than \$20,000 while 38 percent of Perry County citizens report within the same income range. Other income comparison across other income categories are reported in Table 2.B. In terms of gender, in Martin County, 39 percent of the survey case base report being male and 61 percent report being female compared to 40 percent male and 60 percent female in Perry County. In both samples, there was an approximate 2 to 3 ratio of men to women.

Another noteworthy comparison between communities was on the question, “Did you vote in the last local election?” The percentage of voters in the last local election for both Martin and Perry County was 75 percent while 25 percent in both chose not to vote in the last local election. It appears, therefore, based on these survey percentages, that our survey results represent more so the voting public in both counties. Finally, the average length of residence in both counties is relatively similar based on survey reports. The typical survey respondent, in Martin County, reported living in the community approximately 37 years, while the typical survey respondent, in Perry County, reported living 38 years, on average, in Perry County. These percentages are summarized in Table 2.B.

Table 2.B. Martin County and Perry County Household and Demographic Comparisons		
	Martin County (n=290)	Perry County (n= 250)
<i>Gender</i>		
Male	39%	40%
Female	61%	60%
Average years spent living in County	37 yrs.	38 yrs.
Homeownership	85%	69%
Water Source		
Public Water	85%	89%
Private Well	14%	8%
Income		
Less than \$10,000	20%	19%
Less than \$20,000	47% <i>cumulative</i>	38% <i>cumulative</i>
Voted in last local Election? Yes	75%	75%

Note: Other demographic comparisons between Martin and Perry County households are presented in Survey Appendix B of this report.

Community and Quality of Life Questions between Samples: Though there are broad parallels between households at both sites, it appears based on a review of other survey questions presented in *Survey Appendix B*, that citizens in Martin County and Perry County are thinking differently on various issues related to their communities. Again, we infer that some of these attitude differences between similar households in similar communities might be due to the impact of the coal waste disaster in one of them. For example, on the community/ quality of life scale, 62 percent of Martin County citizens rate the quality of the natural environment in their community as “*poor- to- very poor*” compared to only 23 percent in Perry County. On outdoor recreational opportunities, 79 percent of Martin County citizens rate outdoor recreational opportunities “*poor- to-very poor*” in comparison to only 35 percent in Perry County.

On another community scale, presented in full in *Survey Appendix B*, Martin and Perry County citizens were asked to rate their community concerns on the following scale: *not a problem, a slight problem, a moderate problem, a serious problem*. Based on our results, it appears that Martin County citizens report greater concern with city, county and state government than citizens in Perry County. Thirty-six percent of Martin County citizens report a serious problem with city government, 45 percent with county government and 29 percent with state government. These percentages more than double reports in Perry County: In rating city, county and state government a ‘*serious problem*’, Perry County citizens report 14, 19 and 12 percent respectively. These results are reported in Table 2.C.

Continuing with this inventory of community questions, in Perry County, 3 out of 4 (74 percent) of those surveyed report crime and drugs as their greatest concern compared to 51 percent of Martin County citizens. Unemployment was the second highest rated concern in Perry County with 45 percent of citizens rating it a serious problem. In Perry County, crime and drugs and unemployment appear to be the principal local issues among citizens.

Whereas crime and drugs is the highest rated problem among Perry County citizens, Martin County citizens report drinking water as their number one concern. Eighty percent *-or 8 out of 10-* Martin County citizens compared to only 24 percent *-or 2 out of 10-* Perry County citizens rate drinking water ‘*a serious problem*.’ Based on survey percentages, drinking water appears to be of the highest priority among Martin County citizens. As in Perry County, unemployment is also rated a serious community problem among Martin County citizens. But whereas 45 percent of Perry County citizens rate unemployment a serious problem in their community, 71 percent *-or 7 out of 10-* Martin County citizens report unemployment as a serious issue facing their community. Along with unemployment, coal waste is also rated high as ‘*a serious problem*’ in Martin County. Like unemployment, an approximate 7 out of 10 of Martin County citizens (69 percent) rate coal waste a serious issue facing their community versus 12 percent of Perry County citizens rating coal waste the same way. These percentages are also reported in Table 2.C.

Table 2.C. Martin County and Perry County Community / Quality of Life Comparisons

	Martin County (n=292)	Perry County (n=292)
<i>Quality of Community Life (Poor to Very Poor)</i>		
Natural Environment	62%	23 %
Outdoor Recreation	79%	35%
<i>Community Problems (A Serious Problem)</i>		
	36%	14%
City Government		
County Government	45%	19%
State Government	29%	12%
Unemployment	71%	45%
Local Environment	41%	16%
Coal Waste	69%	12%
Drinking Water	80%	20%

Note: Other Demographic Comparisons between Martin and Perry County households are presented in Survey Appendix B of this report.

Significant differences between communities are also found on the dimensions of health, sewage, garbage, economic growth and the environment. When asked, for example, to rate the environment in their community, 41 percent of Martin County citizens rate it a serious problem in comparison to only 16 percent of Perry County citizens. These percentages are summarized in Table 2.C below. Survey percentages for the full question inventory on community satisfaction are reported in *Survey Appendix B* of this report. A review of table and appendix percentages suggest that Martin County citizens report a greater number of problems in their community than Perry County citizens with the exception of crime and drugs, -which citizens report as the number one issue in Perry County. In contrast, in Martin County, citizens rate drinking water as the number one problem facing their community.

In summary, it appears based on survey comparisons on standard community, quality of life and livability scales that Martin County citizens tend to think differently about their environment, watershed, public water system and government than other citizens. Further ahead, we report on other percentage differences on other questions between Perry and Martin County. These percentage differences have helped frame the set of recommendations offered in this report.

Citizen Advisory Committee

In fine-tuning our set of report recommendations, our project team has consulted heavily with area citizens. *Flex-E-Grant* funding allowed our project team in the fall of 2001 to establish a citizen advisory committee (CAC). University students involved in the fall 2001 phase conducted field interviews with area citizens that had agreed to participate on the citizen advisory committee. In these interviews, the CAC was asked to discuss issues confronting the community since the spill. The CAC also discussed with the student-faculty research team environmental response and how the coal company, various branches of government and various regulatory agencies had handled the response. During these interviews, CAC members were asked to fine-tune, develop and critique the set of report recommendations *in progress*. CAC interviews were then transcribed, tagged and coded for content. As a result, the project team has another store of citizen commentary along with the February 2001 interviews with 30 Martin County citizens to draw upon in writing this report. These CAC transcripts, and other consultation sessions with the CAC, have been heavily referenced in developing the recommendations in this report. (See: Corresponding footnote and the project team's acknowledgement to the CAC).¹⁴

Content Analysis on News Events

Over a four-month period, the local county newspapers, the *Mountain Citizen* and the *Martin County Sun* as well as the regional newspaper, the *Lexington Herald Leader*, were content-coded for the following themes: 1. Emergency water provisions, 2. Water treatment, 3. Water quality, testing and monitoring and 4. Cleanup and reclamation.¹⁵ Content-coding for each of these themes was done using traditional content-analysis methods: Each news article was coded separately on each of the above themes. For example, local and regional news reports were coded and notes were taken on all articles related to water quality and water testing. This information was then compiled into a database. The database represents now a spreadsheet of notes on newspaper events related to water testing and water quality monitoring in Martin County. The project team has compiled separate databases for each of the above content themes. News accounts of events in the field, and how they have unfolded, frame and set the context for the comments and analysis of events provided by area citizens. In the following report, citizen and CAC commentary, as well as survey percentages, are set in the context of a timeline of events as recorded by the regional and local press. It is worth stressing that local news reporting by the *Martin County Sun* and the *Mountain Citizen*¹⁶ serves as much of the backdrop of this report. The work of county reporters, and their extensive and investigative reporting on the spill and state and federal agency actions in responding to the spill, are fully acknowledged here.

Review of Primary Source (Agency) Documentation

Towards the end of our content review of news reports, the student-faculty research team initiated a review of primary source documentation on the spill. In mid December 2001, our team submitted a formal request to review regulatory records on file at the Division of Water (DOW). One-month later, the DOW made available the public access files regarding the spill.¹⁷ During sessions at the DOW, the research team reviewed enforcement, test data and the daily

¹⁴ Due to the length of time it has taken to compile this report and considering the 'consent to continue' protections that were built into our research protocol, at various stages of our research design, members of the citizen advisory committee (CAC) have since left the project. The project team anticipated that this would occur as the project moved towards completion of its final report. As part of our human subject protocol of 'no coercion in research,' we provided citizens with several opportunities to opt off the CAC at several junctures in our research. Though citizens were unable to make a public commitment to the final report as public representatives of the CAC, the project team wants to thank the CAC for their contributions to this research project.

¹⁵ Although not being reported here, local and regional news accounts of the spill were also coded on mine regulations, impoundment safety, emergency preparedness and coal waste alternatives.

¹⁶ The *Martin County Sun* has since incorporated into the *Big Sandy Area News* and the *Mountain Citizen* has faced other issues related to incorporation since the May 2002 writing of this report. See: Roger Alford, AP (May 22, 2002). Judge orders newspaper not to print under name: Newspaper loses right to use its copyrighted name. *Richmond Register*.

¹⁷ **FREEDOM OF INFORMATION REQUESTS:** The project team made its first records request to the Division of Water (DOW) Records Division in mid-December (December 19 2002). It is worth noting that the DOW legal team first reviewed file materials on the Martin County coal waste spill before being released for our inspection and public review. *Email Correspondence:* To: Stephanie McSpirit From: DOW Records Division (January 11, 2002)

incident reports on file in the Records Division. With regard to enforcement actions, our team reviewed the enforcement files in order to formally outline regulatory actions, violations, and exchanges between the state DOW and the Martin County Coal Corporation (MCCC). We also reviewed Federal EPA enforcement records on file at the DOW.

Our student-faculty research team then completed a review of water quality tests on file with the DOW. Division of Water files contained water monitoring and water test reports filed by Martin County Coal and its subcontracting firms as well as water test data completed by the DOW- Drinking Water Branch. With copies of water quality analyses, the team then consulted with three separate water quality experts at Eastern Kentucky University in separate consultation sessions.¹⁸ Based on these consultation sessions, our research team compiled a database of DOW and Coal Company water test data done on the Martin County watershed since the October 2000 spill. This database of water testing and watershed monitoring forms much of the basis of the documentation cited in the *Water Quality Testing and Monitoring Section* of this report.

The student-faculty research team also reviewed federal EPA and EPA Region 4 regulatory records based on a review of the *EPA Administrative Record* publicly available on CD-Rom.¹⁹ Aside from this software search, the project team also corresponded electronically with EPA Region 4 officials and were able to obtain other EPA information and documentation on the spill. Our team has since received from EPA Region 4 teleconference minutes between Region 4 and Martin County citizens²⁰ as well as copies of final reclamation plans. Transcripts (January 29, 2002) between EPA, the state and company officials on final reclamation strategies for Martin County have also been forwarded for our team's review by Region 4.

Summary of Project Method

Our student-faculty research team has applied a community-based, multi-method approach in assessing the impact of the coal waste spill on community life and civic capacity in Martin County. By applying several research methodologies, the project team has lent validity to the perspective of Martin County citizens. Our survey and our content analysis of news events and agency records seems to reinforce the position of Martin County citizens and our citizen advisory committee. For this reason, we are confident in the recommendations that are set out in this report. The project recommendations on rebuilding Martin County's civic capacity since the coal waste disaster are recommendations that have been developed out of several research methodologies and in careful consultation with our citizen advisory committee.

At the time, several of the project team's CAC members expressed concern with this DOW protocol and wanted to know whether any documents had been removed from public inspection and if any documents had been, which documents, and the reasons for withholding release. In March 2001, the project team followed up on this CAC request and posted to the DOW a request for a listing of all documents removed from the Martin County Coal file and requested the reasons for their removal. This list is still pending.
Email Correspondence: From: Stephanie McSpirit. To: DOW Records Division. (April 16, 2002)

The project team also recognizes some advantages to agency review of documentation before release to the public insofar as the documentation that has been made available has been pre-approved for public release. We feel confident citing extensively from the DOW Records file.

The project team has also filed a Freedom of Information (FOI) request with EPA Region 4 regarding past response actions in the field pertaining to Eastern Coal Company in Hardy, Pike County, Kentucky (1985). The project team believes that this 1985 case would help the project team frame EPA response actions in Martin County. After some correspondence on the prospects of a full fee waiver (denied), the project team is waiting to hear from EPA Region 4 with regard to the status of this 1985 Eastern Coal Corporation request.
Email Correspondence: From: Stephanie McSpirit. To: EPA FOIA (June 1, 2002)

¹⁸ Our project team would like to acknowledge the technical assistance that Drs. Guenter Schuster (Biological Sciences), Barbara Ramey (Biological Sciences) and Melissa Dieckmann (Earth Sciences), Eastern Kentucky University provided the project team in reading water quality reports. The final interpretation and framing of the water and soils data that appears in this report, however, lies solely with the research team in consultation with the CAC.

¹⁹ Administrative Record: Martin County: To Obtain: AR Coordinator: U.S. EPA Region IV, 61 Forsyth Street SW. Atlanta, GA 30303. (404) 562-8862

²⁰ The minute record on teleconference sessions between EPA officials and Martin County citizens that the project team has been able to review is incomplete. The project team has only been able to secure meeting minutes for June 14 2001, June 26 2001, September 4 2001, September 4 2001, and January 8, 2002 though the project team is aware that EPA Region 4 has held nearly regular (every first Tuesday of the Month) teleconference sessions. The project team has requested that EPA Region 4 provide remaining transcripts so that our team can review the complete record of EPA Region 4- and Martin County citizen dialogue on recovery issues facing the county. However, the full transcript set was unavailable through the regional office. *Email Correspondence:* To: EPA Region 4 From: StephanieMcSpirit (June 1, 2002).

In assessing the credibility of our recommendations, a summary of our research design follows:

1. Our student-faculty research team began to identify the issues confronting citizens in February of 2001, when university students conducted semi-structured, taped interviews with over thirty Martin County citizens.
2. Based on the themes that the research team heard emerging from these field interviews, our team then developed a survey that reflected these themes.
3. Martin County citizens were then surveyed through systematic residential sample methods. Our survey resulted in 290 Martin County citizens (response rate=62%) reporting their opinion on the spill and how it had been handled by federal and state agencies.
4. For comparison purposes, the survey was administered in a similar coal community soon after. *Flex-E-Grant* funding allowed our project team to survey citizens in Perry County. A comparison of percentages, suggests that Martin County citizens are thinking differently about the issues confronting their community since the October 2000 coal waste spill.
5. Based on survey percentages, the student-faculty research team then assembled a citizen advisory committee of area citizens to fine-tune report recommendations and assist the research team in writing the final report. This was in accord with our community-based approach as our team intended to deliver a community impact assessment that was reflective of citizen concerns from a citizen's perspective. Establishing the CAC was also financed through the *Flex-E-Grant* initiative.
6. To frame and add context for what we heard citizens in Martin County expressing, the research team then began a content review of secondary and primary source documentation on the spill. The research team used traditional content-analysis methods to catalogue and document news events and regulatory agency documentation and water test reports (both agency tests and company tests) in Martin County.

Through these multiple methods, the student-faculty research team is confident that the following report catalogues events in Martin County, emphasizing events from a citizen's perspective. The report, our research team believes, highlights many of the events and many of the issues confronting citizens and civic capacity since the coal waste spill in Martin County. For this reason, we encourage the Kentucky Appalachian Commission, the Department for Local Government and the Office of the Governor to consider thoughtfully the contents of the report and then act on the recommendations contained at the end of this report.

Section Three:

Evaluating Civic Capacity in Martin County

Civil society is often referred to as the sphere where representatives of government, industry and the general public engage in a public exchange over rights and claims.²¹ The term “civil society” usually refers to the public discourse that occurs at the nation-state level. On the other hand, the concept “civic capacity” is often reserved for the public exchanges that occur at the local level. Naturally, the national and local civic spheres are linked as national politics, federal statutes and constitutional frameworks influence civic developments and civic exchanges locally. These national and local linkages are, hopefully, reflected in this report as this report often refers to federal regulations and statutory provisions in order to make sense of local events in order to set the context behind civic capacity issues in Martin County. But ultimately, the charge of this report, under the Flex-E-Grant initiative, is to evaluate local civic capacity, at the local level in Martin County since the coal waste disaster of 2000. Based on this evaluation, this report is then charged with providing recommendations on rebuilding civic life and increasing civic capacity since the disaster. Before this report can evaluate ‘civic capacity’ and make recommendations on rebuilding it, it seems necessary to start with an operating definition. What is meant by ‘civic capacity?’ How has it been defined? What are the components elements to it? In the following subsection, we address these questions and begin to work towards an operating definition of ‘civic capacity.’

Civic Capacity: A Working Definition:

The civic sphere, as said, is often described as the place where citizens as either representatives of industry, government or the general public exercise their rights or claims over some public issue or public good. While the civic sphere is often described as the place where citizens exercise their rights and claims, it is also equally worth noting, that citizens, when entering the civic arena, also exercise certain responsibilities. It could be argued that the typical citizen possesses little power in influencing local affairs as a single disparate voice; that is why citizens, when placing issues on the civic agenda, typically enter the civic sphere as members of community groups, local associations, coalitions or committees. In joining a civic group or civic organization, the local citizen is able to advance his or her private concerns as public issues. As citizens enter the civic sphere, as organization members and group participants, they assume certain added *responsibilities* to the group or organization to which they belong: Now they must keep abreast of the issue, attend meetings and fulfill other obligations needed by the group. It is much easier to be a consumer than a civic-minded member of a community. Granted, not all citizens are as civically involved as other citizens and levels of civic responsibility, therefore, vary by levels of group commitment and participation among citizens. The point worth noting, however, is that while the civic sphere is often noted as the arena where citizens attempt to exercise and advance their rights, it is equally important to note, that citizens also accept certain added responsibilities when they enter the civic arena as group members. For this reason, the civic sphere has by formal definition, been considered the place where citizens exercise their rights as well as their responsibilities (Janoski 1998). One Martin County citizen captured it best:

- You know, you have rights. I think that is the biggest change in attitudes. People have finally realized that. They have a group -a citizens’ group ... It is just citizens... I mean it is just citizens across the county that are pulling together, and they want to make sure that this is all cleaned up and also to deal with other issues. They want to make sure we have safe water ... and so, not only is the attitude, “well, I want to get out of here,” though there are a lot of people that have that attitude. There are also a lot of people that are true to this County and they want to stick around and they want to tackle this. They know that this county is their home and they want to make it better. I think that is most important.²²

With an equal emphasis on responsibilities as well as rights, a community’s civic sphere is dependent on the extent to which local citizens, through membership in civic organizations, assume certain civic responsibilities, e.g. *stay true to their community* and begin to involve themselves in the affairs of their community. This basic tenet helps build our working definition of civic capacity. A community’s civic capacity is dependent on the number of citizens, in active citizen groups participating in a democratic exchange over the direction and the affairs of the community. Some communities have more ‘civic capacity’ than others. Communities that have a more developed civic sphere have more citizens, active in civic groups, organizations and civic action teams, participating in community affairs. These communities have more capacity to be proactive with regard to the issues that might be facing them. On the other hand, communities with low levels of civic capacity have fewer civic-minded citizens with fewer civic organizations; these

²¹ Thomas Janoski. 1998. *Citizenship and Civil Society: A Framework of Rights and Obligations in Liberal, Traditional and Social Democratic Regimes*. Cambridge University Press.

²² February. 2001. Field Interviews.

communities, invariably, are weaker communities. Such communities have less local capacity to be proactive and aggressively confront local issues and problems. In evaluating civic capacity, this is one dimension to check: Does the local civic sphere invite opportunity and chance for citizens in civic organizations, and civic groups, to actively participate in a meaningful and democratic debate over the direction of the community?

Civic Capacity and Public Participation

Historically, the civic sphere has expanded from citizen claims and organizing efforts over voting rights to more active participatory rights. Each right, be it voting rights, civil rights or participation rights requires a level of commitment and responsibility on the part of the citizenry to ensure that these civic gains and civil liberties stay protected and are not retracted. Maintaining, and protecting, and advancing each right requires responsibility and constant vigilance on the part of citizens and citizen groups. Increasingly, citizens have organized, mobilized and have legally pressured to have more input and say in community decisions and decision-making processes. Thus, over the decades, citizen participation rights have steadily advanced. One of the areas where citizens have pressed for more input and participation is in the area of environmental planning and environmental decision-making. As early as 1969, under the National Environmental Policy Act (NEPA), mechanisms were developed at the federal level, to increase public participation in federal planning initiatives. As a consequence of this Act, all federal and state permitting agencies, -the Environmental Protection Agency, the Army Corps of Engineers, the Department of Surface Mining Reclamation and Enforcement- among others, are each compelled by law, to file all environmental impact statements (EIS) on federal project applications for public review and public comment.²³

Citizen Involvement in Environmental Planning

There are more federal statutes in place today that provide citizens with channels for input in community environmental decision-making. Since the passage of NEPA, similar mechanisms for increased public participation and public comment have been amended to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as well as added to the Resource Conservation Recovery Act (RCRA). These two environmental statutes are described in the section on *Water Quality Testing and Monitoring* more thoroughly. In this section on *Civic Capacity*, it is important only to note that both environmental statutes now include mechanisms for public participation in environmental disaster response (CERCLA) and in regulating hazardous wastes (RCRA).

With CERCLA, for example, often better known as “Superfund,” passage of the 1986 *Superfund Amendments and Reauthorization Act* (SARA) resulted in more effective channels for public participation in each stage of environmental disaster response. In responding to the release of chemical contaminants into the environment, CERCLA now mandates that the EPA include provisions for public participation in the initial stages of preliminary site assessment, through to remedial investigation (RI), to the feasibility study (FS), through to the record of decision (ROD) on appropriate cleanup options and remedial actions. Under the amended CERCLA, citizen groups are eligible for site characterization grants, which are small technical assistance grants (TAG) of approximately fifty thousand dollars.²⁴ Local citizen groups can use these TAG grants to hire independent consultants to evaluate the extent of the contaminant release and independently assess the environmental impact on the local community. Along with public involvement in the initial environmental impact assessment, 1986 amended CERCLA, as outlined above, provides other mechanisms for citizen participation at other stages of disaster response and cleanup. For example, in developing a site cleanup and reclamation plan, under the amended CERCLA, prior to initiating reclamation activities on a Superfund site, the EPA must submit its proposed work plan to a thirty-day public comment period. This thirty-day public comment period is similar to the public participation provisions originally set out under NEPA.²⁵

²³ See: National Environmental Policy Act (NEPA) provides for and requires public participation in federal actions significant affecting the quality of the human environment. See 42 USC sec. 4332. The regulations implementing NEPA promulgated by the President’s Council on Environmental Quality (CEQ) at 40 CFR Part 1501.7(a)(1). The state requires: “invite the participation of affected Federal, State and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds).” See: NEPA Call-in: Why is public participation important? http://hydra.gsa.gov/pbs/pt/call-in/factsheet/0298/02_98_2.htm

²⁴ Public Participation provisions under CERCLA: CERCLA: 42 U.S.C. 9601 et. seq., 26 U.S.C. 4611, 4612, 4661, 4662, 4671, 4672 Available online: National Response Center: <http://www.nrc.uscg.mil/cercla.htm> SEE: [§ 111(a) revised by PL 99-499; amended by PL 101-508] 5. Grants for technical assistance. -- The cost of grants under section 117(e) (relating to public participation grants for technical assistance).

²⁵ United States Environmental Protection Agency, SARA Overview. Available online: [HTTP://www.epa.gov/superfund/actions/law/sara.htm](http://www.epa.gov/superfund/actions/law/sara.htm)

The Resource Conservation and Recovery Act (RCRA), the environmental statute that regulates hazardous waste, now also contains several mechanisms for increased community input and involvement in regulating hazardous industries. Under the amended RCRA, there are now provisions for citizen involvement in remedial investigations and feasibility studies (RI/FS).²⁶ In addition, under both RCRA and CERCLA there are several right-to-know provisions that provide area citizens with information on the chemical hazards being used by local industry. Under the amended order, the EPA and industry must provide Material Safety Data Sheets (MSDS) that list the hazardous chemicals used in production or mining to area citizens upon their request.²⁷

Citizen Participation and Environmental Justice

While the above amendments have led to increased public involvement in community environmental planning, these public participation provisions have been somewhat restrictive in that not all citizens have been able to fully participate in the public hearings and public comment periods provided through NEPA, CERCLA and RCRA. Case research has shown that socio-economic constraints have restricted poor groups and poor communities from participating fully in public hearings and comment periods. Subsequently, poor groups and poor communities have not been as involved in local environmental / industrial planning decisions.²⁸ As a consequence, some case research has shown that, over the past twenty years, polluting firms have tended to relegate site feasibility decisions to mostly low-income, poorly educated communities, where citizens lack resources to attend hearings, participate in public comment periods, organize and perhaps exercise their countervailing claims.²⁹ Thus, some of the case research has suggested that the *Not In My Backyard Movements* that have proliferated since NEPA have tended to have the unanticipated effect of pushing pollution into poorer communities and states. This has become the principal organizing theme for members of local Environmental Justice (EJ) movements and their advocates. Members of the EJ movement have argued that the environments and watersheds of economically distressed places have become disproportionately more heavily polluted than the local environments of other communities.³⁰ As a consequence, EJ advocates argue that citizens in poor communities face greater short-term and long-term risks of toxic and heavy metal exposure than citizens in other more affluent areas, where citizens' have the organizational resources to protect their stakes, protect their environments and protect their local communities.

In 1994, due to mounting pressures from EJ groups in rural communities in the South and Southwest and in urban neighborhoods in the North and in California, an Executive Order, establishing the *Environmental Justice Act* was signed under presidential order. The Executive Order established several mechanisms within the EPA, and in other agencies, to better involve minority and poor citizens in local environmental decisions. Section 2-2 of the Executive Order reads,

²⁶ Resource Conservation and Recovery Act (Pub. L. 94-580), PART 25: Public Participation in Programs under the Resource Conservation and Recovery Act and the Clean Water Act. SEE: Electronic Code of Federal Regulations: Available online: http://www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_40/40cfr25_00.html

²⁷ Congressional Research Service Report. Summaries of Environmental Laws Administered by the EPA. Emergency Planning and Community Right-to-Know Act. Available online: http://www.cnie.org/crsreports/briefing_books/m.cfn. Note: "EPA promulgated a rule May 1, 1997 requiring reports on toxic releases from seven additional industrial categories: including some metal mining, coal mining, commercial electric utilities, petroleum bulk terminals, chemical wholesalers, and solvent recovery facilities (62 Federal Register 23834)."

²⁸ See: Robert Bullard (1994) *Dumping in Dixie: Race, Class and Environmental Quality*. Boulder: Westview Press.

²⁹ See: Charles Lee. *Toxic Waste and Race in the United States in Race and the Incidence of Environmental Hazards: A Time for Discourse* (1992) editors Bunyan Bryant and Paul Mohai. Boulder: Westview Press. See: Harvey White. *Hazardous Waste Incineration and Minority Communities in Race and the Incidence of Environmental Hazards: A Time for Discourse* (1992) editors Bunyan Bryant and Paul Mohai. Boulder: Westview Press

³⁰ See for example: Chapter 8. Broader Political Implications? *Environmental Populism and the Reconstitution of Progressive Politics* in Andrew Szasz. (1995) *Ecopopulism: Toxic Waste and the Movement for Environmental Justice*. Minneapolis: University of Minnesota Press. See: Robert Bullard. *Anatomy of Environmental Racism and the Environmental Justice Movement in Confronting Environmental Racism: Voices from the Grassroots* (1992) editor Robert Bullard. Boston: South End Press. See: Robert Bullard (1994) *Dumping in Dixie: Race, Class and Environmental Quality*. Boulder: Westview Press. See: Dorceta Taylor. *Environmentalism and the Politics of Inclusion in Confronting Environmental Racism: Voices from the Grassroots* (1992) editor Robert Bullard. Boston: South End Press.

- Each federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies and activities do not have the effect of excluding persons (including populations) from participation, [...] ³¹

Thus, there is now a presidential order in place providing citizens in poor communities with channels for input in environmental decision-making. In the end, citizen participation and public involvement, whether it is in poor or in more affluent communities often leads to more sound and more balanced decisions on local environmental planning initiatives. Sound environmental planning through public participation might partially explain why public involvement provisions in environmental regulations have steadily expanded over the years: In planning decisions, citizens, as stakeholders are often promoting their claims as property holders and community residents with a long-term investment and/or stake in their community. With an eye on long-term planning, citizen input and citizen participation in environmental planning, often leads to more considered decisions on a community's future development path, or in the case of Martin County, its *recovery path...*

Martin County: Citizen Involvement after the October 2000 Coal Waste Disaster

The above overview suggests that there are many agency mechanisms, and federal statutes, in place, to ensure citizen involvement in environmental planning. Since NEPA, several important environmental regulations have been amended to include provisions for citizen involvement in environmental regulatory, management and planning decisions. In 1994, under Presidential Executive Order, public participation provisions were expanded further to include more mechanisms for public involvement in poor and minority communities. It would seem ironic, that with numerous provisions for citizen input, that very few of these mechanisms have been applied in Martin County since the October 2000 coal waste disaster. Based on extensive field interviews and a review of the public record, it seems safe to say, that Martin County citizens have been systematically excluded from agency and company actions on environmental assessment and recovery decisions. In the following timeline, some of the events that have led our student-faculty research team to these conclusions are chronicled and highlighted. A review of this timeline should provide evidence that: despite statutory protections and guarantees, public citizens in Martin County have *not* been readily invited into the civic sphere to discuss and participate in decisions on environmental response and mitigation since the October disaster. But as the bottom timeline should also reveal, these obstacles have not prevented area citizens from organizing and pressing their civic claims to be involved participants in community recovery decisions; the bottom timeline documents these citizen-organizing efforts as well.

Timeline of Agency and Citizen Actions since the Disaster 

October 11, 2000

The Big Branch Impoundment, a 72-acre coal waste impoundment, owned and operated by the Martin County Coal Corporation, a subsidiary of Massey Energy (MCCC-Massey) ruptures at a bottom breakpoint. Coal sludge, slurry and black water drop down into underground mine shafts. The sludge then escapes through two mine portals on opposite sides of the mountain. The massive slurry release inundates two major creeks in Martin County.

Upon surveying the situation, the City Mayor declares a State of Emergency for the County seat town of Inez. The Mayor encourages the Governor of the State of Kentucky to do the same for all of Martin County. In his open letter to the Governor, the Mayor writes.

- Due to the recent mining disaster at Martin County Coal and the following repercussions, as Mayor of the City of Inez, I am declaring a state of emergency for the City of Inez. I am also requesting that you do the same.

After touring the site of destruction on Coldwater Creek, which also runs through the middle of Inez. I was amazed to see the effect that this catastrophe has created on the lives of many people as well as on all wildlife that reside in the area. I feel that the only thing that it could be compared to is the Exxon Valdez oil spill in Alaska in the 1980s.

Not only am I concerned about our water supply, residents and wildlife, I am also concerned with the environmental impact and economic damage that this disaster will cause to Inez and Martin County. This could possibly set Martin County back for many years to come. The economy in Martin County is already bleak but this could be the straw that broke the camel's back.

³¹ Executive Order. February 11, 1994. Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations. Available online: <http://www.epa.gov/swerosps/ej/html-dic/execurdr.htm/>

Also, the potentials for present and future health concerns are raised due to the chemicals and such that are contained in this spill.

Therefore, Governor Patton, I am requesting that you take this all into consideration in determining that state and federal assistance, on all levels is needed for Inez and Martin County to aid us to overcome this catastrophe. [The full text of the Mayor's letter is presented in the footnote.]³²

Soon after, the Governor of Kentucky, under Executive Order declares Martin County and surrounding counties in a *State of Emergency*. The Emergency Order states,³³

- Whereas, beginning on October 11, 2000, the catastrophic failure of a slurry impoundment in Martin County caused the rapid release of millions of gallons of slurry into the watershed of the Big Sandy River, resulting in the contamination of water resources vital to the citizens of the Commonwealth; and
- Whereas, these conditions endanger the public health and safety, threaten the public welfare and result in potential environmental damages and,
- Whereas, these threats require the balancing of the water rights and the availability of water among users and,
- Whereas, state and local governments share responsibility for protection of public health, safety and security as well as taking appropriate actions to ensure the provision of essential public services;

Under the Emergency Order, the State Division of Emergency Management is ordered to execute *Kentucky's Emergency Operations Plan*. Under this plan, the Order directs Emergency Management personnel to coordinate the response and relief activities of all state agencies and private relief organizations. The Order also directs the Division of Emergency Management to request such federal assistance as may be available. But in the weeks and months ahead, Martin County will never receive any federal disaster relief. However, Congress does appropriate 1.6 million dollars to the National Academy of Science to study coal waste impoundments.³⁴ Martin County citizens will comment on the lack of direct federal assistance to the community. Citizens will openly question why the area was never declared a federal disaster area and why the area never qualified for federal (FEMA) relief monies. Citizens will continue to ask,

³² Dear Governor Patton,

Due to the recent mining disaster at Martin County Coal and the following repercussion, as Mayor of the City of Inez, I am declaring a state of emergency for the City of Inez. I am also requesting that you do the same.

As I'm sure that you are aware, on October 10,2000, Martin County Coal Corporation experienced a 'blowout' of a sludge holding site releasing approximately two hundred million gallons of a thick, oily type of sludge into Coldwater Creek which runs into Rockcastle creek and also Wolf Creek which empties into the Tug River.

Martin County uses the Tug River as a source of fresh water, pumping it into the Martin County Reservoir. Pumping of such water has been suspended due to this disaster. Martin County has approximately a 28-day supply of water for the residents. Considering the range and scope of the disaster, I feel that our water supply will be gone before pumping can continue.

After touring the site of destruction on Coldwater Creek, which also runs through the middle of Inez. I was amazed to see the effect that this catastrophe has created on the lives of many people as well as on all wildlife that reside in the area. I feel that the only thing that it could be compared to is the Exxon Valdez oil spill in Alaska in the 1980s.

Not only am I concerned about our water supply, residents and wildlife, I am also concerned with the environmental impact and economic damage that this disaster will cause to Inez and Martin County. This could possibly set Martin County back for many years to come. The economy in Martin County is already bleak but this could be the straw that broke the camel's back.

Also, the potentials for present and future health concerns are raised due to the chemicals and such that are contained in this spill.

Therefore, Governor Patton, I am requesting that you take this all into consideration in determining that state and federal assistance, on all levels is needed for Inez and Martin County to aid us to overcome this catastrophe. I would also like to invite you to come to Martin County and view this disaster on a first hand basis.

I want to thank you in advance for any assistance that you are able to provide.

* Richard Penix (October 18, 2000) Inez Mayor asks Governor for help in sludge crisis. The Martin County Sun. p.7.

³³ Office of the Governor. Governor Paul Patton. (October 16, 2000) Executive Order. State of Emergency. Secretary of State. Frankfort. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan.

³⁴ Peter Banlak and Bill Estep (October 21, 2000) Rogers seeks slurry ponds study: Second violation notice issues over spill. The Lexington Herald Leader.

- Why wasn't the area declared a federal disaster area?³⁵

In our field interviews, other citizens added further comment:³⁶

- It's a disaster. It's a disaster, - a plain emergency disaster.
- You didn't see [any public official] come out and ask for a federal declaration that declared a federal disaster area. That would have brought in federal teams that would have assisted the people that were affected, and done things to help them, but this was never even asked for.
- [Public and company officials] were like, 'this is just a little accident. We're going to clean this up and everything will be okay.' But the people, you know, seen this first-hand. And they could see that this is a thing that is not going to be cleaned up over night.
- Many people have made this statement, if this would have happened anywhere besides Eastern Kentucky, this would have been declared a federal disaster area.

Final estimates will report that 306 million gallons³⁷ of coal waste being released from the Big Branch coal waste Impoundment on October 11, 2000.³⁸ Notably, ten million gallons of crude oil were released into Prince William Sound during the Exxon-Valdez disaster. Seemingly, Martin County was recipient to thirty-times that amount.³⁹ In conversation, Martin County citizens would continue to draw the same parallel as the town Mayor and would compare the spill to the 'Exxon Valdez oil spill in Alaska in the 1980s.' One Martin County citizen, quoted in the Lexington Herald Leader, would make this comparison for the regional record, "This is a disaster like the Valdez oil spill."⁴⁰ In our February field interviews with local residents, one citizen would comment:⁴¹

- This has been the nation's largest spill. And, of course, the same time it happened you had the presidential election: big, big national news. I figured that, after the election, you would have the media coming, a lot of media attention. Of course you know what happened after the election: we didn't know who the President was going to be for quite some time. Why this thing hasn't received national press is kind of a shocker. I know there were no lives that were lost, but this was a big, a huge environmental disaster. I think it is a shame that if this had happened in Lexington or Louisville or, you know, in some nicer place, even Pikeville, Kentucky, it may have generated some publicity. But it happened in Martin County, maybe ten, eleven thousand people living here. The coal communities, you know, we're kind of forgotten anyway. So, that's something that bothers me.

³⁵ Mark Grayson (October 25, 2000) Martin Countians blindsided by spill. The Martin County Sun. p.13. See also: Mark Grayson: Editorial:

- Has [name of elected representative] asked that Martin County be declared a national disaster site so our people could be eligible for low interest loans and other benefits? Actually he told the Lexington Herald last week that he doesn't know if Martin County will get federal disaster assistance. We think he needs to find out. *Taken from:* Mark Grayson (October 25, 2000) Watchdogs? Martin Countians want answer, media access. The Martin County Sun. p. 5.

Project Note: A spokesman for the Kentucky Division of Emergency Management offers an explanation, in the regional press, on why the area never receives federal assistance: 1. Basically since there is a party responsible, I don't think there would be any call for federal assistance on our part. 2. There shouldn't be the need for federal assistance unless the company cannot manage the event. *Taken from:* AP Wire Report. (October 27, 2000) Sierra club pointing fingers in spill. Lexington Herald Leader.

³⁶ February. 2001. Field Interviews.

³⁷ **Note:** On-the-ground and in-the-air estimates have estimated the release at closer to one billion gallons. Field notes: April 11, 2002. Consultation session with Citizen Advisory Committee.

³⁸ United States Department of Labor Mine Safety and Health Administration. (October 17, 2001) Report of Investigation: Surface Impoundment Facility Underground Coal Mine.

³⁹ Andy Mead. (October 24,2000). Here comes da sludge: Spill fuels coal protest. Lexington Herald Leader.

⁴⁰ AP (October 18, 2000) 45 ponds deemed at higher risk than the one that failed. Lexington Herald Leader.

⁴¹ February. 2001. Field Interviews.

The National Response Center that handles disaster response during environmental emergencies immediately contacts EPA's regional office, Region 4. EPA Region 4 dispatches On Scene Coordinators (OSCs) to the Spill. In responding to the disaster, the OSCs for **Region 4 EPA set up their command post on MCCC Property**. Their rationale, according to a CAC project team member, is that MCCC-Massey "has computers and fax machines available for their use."⁴² Over the next several days, the OSCs begin to coordinate response actions with MCCC-Massey through a Unified Command Structure (UCS); the EPA invokes the 1968 law that establishes a National Contingency Plan (NCP) that allows a unified command post of state, federal and company officials to be used in disaster response, relief and mitigation.⁴³ Under the UCS, other federal agencies assist in coordination and response activities: The Superfund Technical Assessment and Response Team (START) provides support with operations, water treatment and logistics. The United States Coast Guard (USCG) Strike team also provides support with planning, communication and operations.⁴⁴ In addition, the Kentucky Division of Emergency Management starts and its coordinating efforts are subsumed under the UCS, National Contingency Plan. Likewise, other state agencies, the Kentucky State Division of Water and the Department of Environment Protection also coordinate their efforts within this command structure. A year later, EPA will summarize its emergency response actions, within the Unified Command Structure, in its October 2001 Taskforce Report. The Report reads:

- The OSC held numerous meetings with the other federal and state agencies to explain EPA's authority under the National Contingency Plan. Once the concepts of the NCP were better understood by MCCC and the other agencies, the cleanup proceeded as smoothly as was possible for a spill of this magnitude.⁴⁵

In the days and weeks ahead, under the UCS, emergency water systems are installed to provide impacted residents with drinking water.⁴⁶ The UCS will also carry out a series of environmental impact assessments of the disaster and will also develop and carryout mitigation and reclamation strategies to remove sludge from impacted creeks. But residents still wonder why the command post has been set up on Martin County Coal property and not located in the county courthouse on Main Street, where Mine Safety Health and Administration personnel have set up a temporary outpost.⁴⁷ Why didn't EPA Region 4 do the same?⁴⁸ One citizen asks the same general question:

- The Command Headquarters set up by Disaster and Emergency Services and the EPA is located on Martin County Coal property, not in the courthouse where residents and others have access. Why?"⁴⁹

⁴² Field Note: (October 27, 2001) Martin County, Kentucky.

⁴³ Lee Mueller (November 1, 2000). "Coal Company abandons roadblock in spill area." Lexington Herald Leader.

⁴⁴ **Project Note:** EPA makes clear in its taskforce report, and in its later teleconference sessions with local residents that assessment and response in Martin County did not fall under Superfund CERCLA jurisdiction. This point will be revisited in the remaining sections of this report. Many citizens, in their field interviews with our team, will take issue with this decision. See: United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Taskforce Report. Available online: <http://www.epa.gov/region4/martincs.pdf>

⁴⁵United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. P. 7

⁴⁶ Stephanie McSpirit (November 11, 2000) Field notes: Martin County. Interviews with State Emergency Management Personnel and MCCC-Massey persons.

⁴⁷ Gary Ball (October 18, 2000) Sludge: County 'slimed' by sludge pond failure Gov. Patton declares state of emergency. The Mountain Citizen. P.1. 2.

⁴⁸ **Project Note:** MSHA sets up an outpost a week after the disaster, after a query from a local reporter. See: Mark Grayson (October 25, 2000) Martin Countians blindsided by spill. Martin County Sun, p.13.

- [The MSHA Commissioner] said he did not realize that there had been no temporary MSHA office set up in Inez since the incident. Instead a command center had been located at the mine site by county and state emergency officials.
- "We will contact the judge/ executive right now (last Friday) and see if we can get a space in the courthouse." By Monday morning MSHA had set up an office in the old courthouse, "we need a presence there," said [the MSHA Commissioner].⁴⁸

⁴⁹ Stephanie McSpirit(November 11 2000) Field Notes: Martin County. **Project Note:** This question is reiterated among several citizens in their formal February interviews, as well as in editorials and letters to the editor in both local presses.

Under the Unified Command Structure (UCS), **MCCC-Massey starts working with Federal, State and Local Agencies** to develop a response and recovery strategy. MCCC officials remark that this *Mitigation & Recovery Plan* “is a dynamic, living document that will be constantly changed and updated as events unfold and as conditions change.”⁵⁰ The president of Martin County Coal Corporation meets regularly with agency officials. He states, in his first public meeting, with community citizens:

- We have contacted a lot of agencies and we are working with them and talking with them daily. We have a meeting each day at 8:00 am and again at 5:00 pm to see what progress is being made.⁵¹

Under the UCS, MCCC submits daily progress reports (*Incident Action Plans*) on cleanup strategies and cleanup activities. MCCC is also directed to submit daily water test reports from sampling posts on Coldwater, Wolf Creek and the Tug River. Water tests include pH, acidity, alkalinity, total iron, total manganese, total solid suspended solids (TSS), sulfates, turbidity, flow, temperature, field pH and acrylamide monitoring. The Martin County Coal Corporation subcontracts with a local testing laboratory to collect daily samples. They subcontract with several other firms to conduct water tests.⁵² These tests will form much of the basis for EPA’s assessment of the impact of the coal waste spill on area soils and the area watershed.

Along with this testing and monitoring, under the UCS, the State DOW also monitors the watershed, through its Division of Environmental Services (DES). State DOW -DES *Analytical Data* is on file in the DOW Records Division for public review. Under the Open Public Records Act, our team was able to obtain an electronic file of the DOW-DES analytical data. This data is summarized in the *Water Testing and Monitoring* section of this report. From our review of DOW records, it is unclear if some DOW testing and monitoring is also relying on MCCC subcontracting firms to collect surface water samples and to conduct some of the testing and monitoring of area waters.⁵³ In the end, many Martin County citizens will take issue with the testing and environmental monitoring structure set up under the UCS. This report will return, in more detail, to the history of events on water testing, monitoring and environmental assessment in the *Water Quality Testing and Monitoring* section of this report. Suffice to say, for now, that many residents, become somewhat suspicious of water testing and monitoring methods being carried out under the Unified Command Structure, with MCCC-Massey seemingly taking the lead role in water monitoring and assessing the environmental impact of the coal waste spill on area streams and the area watershed. As one resident mentioned:

- It’s like the fox guarding the chicken coop.⁵⁴

Aside from water testing and monitoring, under the Unified Command Structure, MCCC-Massey is required to submit precipitation plans to respond to and prepare for a substantial rain event, as well as health and safety plans to protect and ensure the safety of the workforce involved in cleanup and reclamation activities. MCCC-Massey is also required, under the command structure, to submit a “public information plan”⁵⁵ to apprise local citizens of its activities. Over the next several months, MCCC will hold several public informational meetings with residents living on Coldwater Creek and other meetings with residents living on the Wolf Creek side of the mountain. The president of MCCC will conduct these meetings to update local residents on how the cleanup is progressing.

⁵⁰ Martin County Coal Training Center (October 15, 2000) Initial Response Action Plan. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan: October 2000. DOW File: 0054810-680-8002. Martin County Coal.

⁵¹ Lilly Adkins (October 18, 2000). Martin County Coal officials, ‘face the public’ at meeting: Hundreds attend meeting held at high school. The Martin County Sun, p.20.

⁵² Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (March 5, 2001). Letter to Bruce Scott, KY Division of Water KPDES Branch from Randall Johnson, Martin County Coal. DOW File: 0054810-680-8002. Martin County Coal. Miscellaneous. (Letter includes pages from Environmental Unit activities to which the letter references).

⁵³ The project team requested clarification on DOW sampling and test methods. However, the DOW was unable to comment. Electronic Correspondence. (February 16 2002, February 19, 2002). Division of Water. Records Division.

⁵⁴ February, 2001. Field Notes.

⁵⁵ Martin County Coal Training Center. (October 18, 2000). Initial Response Action Plan. Daily Incident Action Plan: October 2000. DOW File: 0054810-680-8002. Martin County Coal.

October 17 2000

First Public Meeting: Hundreds of Local Citizens Attend a crowded public meeting set up by county officials and coal company leaders at the local High School in Inez. Besides citizens, the president of MCCC, the County Judge Executive, the Secretary of the State Cabinet of Natural Resources and Environmental Protection, the Congressional State Representative and representatives of EPA Region 4 are present at this first meeting. One of the major concerns being expressed at this first public meeting is the content of the slurry that spilled into local waters. One citizen states openly,

- You say its just sludge, what about the poisons they use to wash coal? ⁵⁶

The subcontracting engineer acknowledges that magnetite and flocculants help the wastes settle. Other citizens want to know when test results on the contents of the sludge will be released to the public. EPA officials inform citizens that it might be another week though State officials tentatively report that DOW investigators detected manganese and iron but officials state that neither is toxic. Citizens are dismayed to learn that federal EPA officials have not yet initiated any testing and monitoring of their own and it seems that the federal EPA has no plans to. One citizen asks,

- Will you be doing your own testing? ⁵⁷

The On-Scene Coordinator responds that the EPA will be evaluating the findings by the state DOW in formulating its assessment. ⁵⁸

October 18 2000

Agency officials, the night before, state to the public in Martin County that it would take another week before chemical tests on the sludge would be complete, though the next day, and through the following days, **a Series of Agency Press Statements appear in the Regional Newspaper**, -the *Lexington Herald Leader*. These agency statements report detectable levels of heavy metals and other compounds in the sludge but not in harmful amounts. Some of those press statements read,

- We're saying right now the water is safe. If we determine there is a long-term problem we will let people know. ⁵⁹ -*Press statement*: Spokesperson for the State Division of Water, October 18th
- We found "no acute toxicity levels in aquatic organisms used in the test." ⁶⁰
-*Press release*: US EPA, October 18th
- There were some metals in the sludge, but the amounts were below drinking water standards.
-*Press statement*: Consultant, Martin County Coal. October 18th ⁶¹
- The metals pose no hazard to public water supplies with full treatment ⁶²
-*Press release*: U.S. Coast Guard petty officer and spokesman for unified command post, October 21st

⁵⁶Lilly Adkins (October 18, 2000). Martin County Coal officials, 'face the public' at meeting: Hundreds attend meeting held at high school. The Martin County Sun, p.20-21

⁵⁷Lilly Adkins (October 18, 2000). Martin County Coal officials, 'face the public' at meeting: Hundreds attend meeting held at high school. The Martin County Sun, p.20-21

⁵⁸ Based on a review of documents on file with the DOW, there appears to be one test conducted by U.S. E.P.A. United States. Environmental Protection Agency. Environmental Response Team Center. (November 8, 2000) U.S.E.P.A. Analytical Data. DOW File: 0054810-680-8002. Martin County Coal. On file is a fax transfer and incomplete document. Requests to EPA Region 4 resulted in the EPA Administrative File on CD Rom, but not this particular set of test results dated November 8, 2000.

⁵⁹ Roger Alford (October 18, 2000). Industries to bill coal firm for losses in sludge spill. The Lexington Herald Leader.

⁶⁰ Roger Alford (October 18, 2000). Industries to bill coal firm for losses in sludge spill. The Lexington Herald Leader.

⁶¹ Lee Mueller (October 18, 2000) Coal firm says it's working on spill: Residents worry about harm from sludge. Lexington Herald Leader.

⁶² Associated Press (October 21, 2000) Groundwater feared threatened by sludge. Lexington Herald Leader.

Mid October 2000

Meanwhile **MCCC-Massey and the Emergency Response Team Construct Roadblocks** on Coldwater and Wolf Creek.⁶³ Citizens who live on these roads receive an access pass to put in their car window, while others are kept out of the area. While some citizens agree that these measures are probably necessary to protect the public and crews working in the area, other citizens see this as a strategy to keep the media and other interested persons out of the impacted area.⁶⁴ These roadblocks don't dissuade the local press. Local newsmen rely on the County Sheriff and local residents to get beyond the guard posts where they are able to cover and report on events as they unfold.⁶⁵ In the end, some citizens want to know who approved of these roadblocks and why company guards and local emergency response personnel are stationed on public roads that lead to and from coal company property. The local press reports that county officials approved the blockade.⁶⁶

November 1 2000

Allegations appear in the *Lexington Herald Leader*⁶⁷ that MCCC is Editing Press Releases being sent out under the Unified Command Structure (UCS). A spokesman for MCCC-Massey acknowledges that the local company president might have made the final edits on a press release last week. Another federal official, quoted in the Herald, explains that the 1968 law National Contingency plan, which sets up a command post of agency and company officials after a disaster, stipulates that the company can have 'input' into news releases. The EPA On-scene coordinator, however, admits that MCCC-Massey should not have had final word in the release that was sent out last week. The OSC explains that he, along with a representative from the U.S. Coast Guard and a MCCC-Massey representative usually wrote the press releases, together, and explains the process:

- We let the company start the press release because they have all the previous information. Everybody looks at it. We have the last say – the state and the feds – before it goes out.

The EPA OSC admits that he was not in Martin County when last week's press statement that reported no acute toxicological levels identified in the sludge was released. The OSC concedes that the release did not report that the toxic effect of metals, found in the sludge, on aquatic life, had not yet been fully determined.

Mid November 2000

Hearings Before the Environmental Quality Commission (EQC): The EQC, a seven member citizen advisory board that advises the Governor and the Cabinet of Natural Resources and Environmental Protection on environmental matters, calls a hearing, in November, to review and make recommendations on coal waste impoundments. Officials from the Kentucky Department of Surface Mining, Reclamation and Enforcement, the State Division of Water, the US EPA are called before the Commission to present their testimony. In its testimony, the US EPA acknowledges that it is not only basing its environmental assessment on water reports from the state arm of the EPA, the DOW, but also is relying on data being supplied through the Martin County Coal Corporation. The EPA On-Scene Coordinator, explains to the EQC:

- Based on the analysis that was provided to us by the Coal Company and data that EPA generated from our own independent sampling we have concluded that there are no health risk associated with exposure to the slurry material. Slurry contains higher elevations of naturally occurring materials than exists in the geology there.

⁶³ Lee Mueller. (November 1, 2000) Coal Company abandons roadblock in spill area. Lexington Herald Leader.

⁶⁴ Lilly Adkins (November 15, 2000) Sun Poll. The Martin County Sun. p.5.

⁶⁵ Stephanie McSpirit(December 16, 2000). Field notes: Martin County.

⁶⁶ Mark Grayson. (October 25, 2000) Region's economy will feel effect. The Martin County Sun. p.16.

Note: Under the Governor's State of Emergency Order : "Transportation on and access to any and all public roadways in the affected area may be restricted or prohibited in the interest of public health and safety." However, residents question whether coal company guards should be restricting public access to public roads. " *Excerpt taken from:* Office of the Governor. Governor Paul Patton. (October 16, 2000) Executive Order. State of Emergency. Secretary of State. Frankfort. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan.

⁶⁷ Lee Mueller (November 1, 2000) Coal company abandons roadblock in spill area. Lexington Herald Leader. A12.

There are no toxic chemicals and no metals at concentrations that would warrant any consideration for concern with respect to exposure.⁶⁸

Early January 2001

About 150 people attend a meeting at the Martin County Courthouse. **Citizens form a Community Group -the Health, Environment and Life Preservation (HELP) organization** which is made up of local citizens to study and address the impact of the sludge spill on water quality and the environment.⁶⁹ Several days after, members of the newly formed HELP organization attend an evening fiscal court session to demand safe drinking water.⁷⁰

Late January 2001

County Judge/ Executive Assembles a Committee of Community Religious Leaders (Preachers Committee) to conduct water quality tests on the local water supply. The committee is charged by the judge to check into the community's current water problem. Area Pastors from the community are appointed as members of this oversight committee.⁷¹ The Committee will report their findings to the fiscal court in another week.⁷²

The next week, the Committee reports "the water showing no signs of bacteria" and that it "met all state and EPA guidelines for safe drinking water." One-citizen, in attendance, notes that Committee tests were done to check for bacteria only. They explain that these are the same set of tests done routinely by the local Water Treatment plant. The citizen further explains that the Committee did not conduct any chemical analyses or chemical tests on drinking water.⁷³ There is some exchange between the citizen representative and members of the Preacher's Committee on doing follow-up chemical tests and analyses on the local drinking water, though there is no follow-up on this exchange.⁷⁴ However, a review of the public record shows no follow-up actions on this exchange.

February 7 2001

HELP Organization Reports Preliminary Test Results:⁷⁵ Independent test findings are reported at the HELP meeting held at the County Court House. A New York Law firm, assisting some residents in their civil suit, reports preliminary sludge test results to interested citizens. The outside firm reports to local citizens that preliminary tests detect harmful levels of toxic chemicals and heavy metal compounds present in the sludge. There is much discussion between citizens and outside persons on what to do next. There ensues a discussion among citizens on possible ways to independently monitor the drinking water supply and monitor activities at the local water treatment plant. Citizens discuss the logistics, the technical/ lab resources and financial resources necessary to independently monitor water quality and water treatment. Some citizens, in attendance, volunteer to look into this and a subcommittee of local citizens is formed to address this issue.⁷⁶ Along with this discussion, representatives of the *Ohio Valley Environmental Coalition* and *Kentuckians for the*

⁶⁸ Environmental Quality Commission. Cabinet of Natural Resources and Environmental Protection. (November, 28 2000). Hearing Minutes. Martin County Coal Slurry Spill. Division of Water: Records Division.

⁶⁹ Lee Mueller. (January 21, 2001) Lawsuits following flow of coal slurry. Lexington Herald Leader.

⁷⁰ Lilly Adkins (January 24, 2001). H.E.L.P to demand safe drinking water. Martin County Sun. p.2.

⁷¹ **Project Note:** In recalling these events, over a year later, one citizen remarks that the Committee's oversight functions were limited to overseeing the collection of water samples from area taps and that the Committee was not involved in any oversight evaluation of the water testing and analyses itself. Stephanie McSpirit(March 18, 2002) Field Notes: Inez, Martin County.

⁷² Mark Grayson. (January 31, 2001) "Lafferty asks preachers to check out city water." The Martin County Sun. p.1.

⁷³Lilly Adkins (February 14, 2001) "Preachers attest to safety of county water." The Martin County Sun. p.2.

⁷⁴ Field Notes: (March -2002): Consultation with Citizen Advisory Committee.

⁷⁵ Lilly Adkins (February 14, 2001) Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14-15

⁷⁶ Stephanie McSpirit(February 7, 2001) Field Notes: HELP organization meeting. Martin County Court House. 6:00-9:00 pm. See Also: Lilly Adkins (February 14, 2001) Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14-15 *Technical Advisory Committee* formed.

Commonwealth are also on hand. They are given the opportunity to talk about the spill and their organizations' position. After the meeting, some local citizens are recruited into these regional coalitions.

March 7 2001

US EPA and the Martin County Coal Corporation enter into an Administrative Order on Consent for Compliance.⁷⁷ In a closed conference session, EPA officials meet for four hours with Coal Company representatives at Jenny Wiley State Park. The EPA and company representatives talk about how reclamation work will go forward in the area. A SACS team –*Stream Assessment and Cleanup Survey (SACS) Team* is established to make decisions on cleanup and restoration of the area. Though there are no citizen representatives, the SACS Team consists of the following state and federal personnel:

- An EPA staff person, EPA's Scientific Support Coordinator (or equivalent), qualified members of EPA's Environmental Response team –ERT- contractors that are experts in stream cleanup and restoration, Representative(s) from the Commonwealth of Kentucky, Representatives from the State of West Virginia.

Under the Administrative Order on Consent for Compliance, MCCC –Massey assumes responsibility for remaining cleanup and reclamation activities in Martin County. The Administrative Order states that though the EPA is the 'lead agency' that MCCC-Massey will carry out a sustained and appropriate level of clean up and will carry out all remaining recovery and reclamation activities:⁷⁸ The Administrative Consent Order reads,

- Respondent shall perform all work required by this Order itself or retain a lead contractor to perform the Work....⁷⁹

Under the Consent Order, MCCC–Massey must within 30 days of the signed date of the Order submit to EPA Region 4 for approval, a draft work plan for performing the reclamation work. It is also settled in conference negotiations that MCCC-Massey will reimburse the EPA for all response costs the Agency has incurred as a result of the spill. This agreement will apply to state agencies as well. Later, in August 2001, the Division of Water will submit an itemized bill to MCCC-Massey for \$457,910.09 to cover the costs of DOW actions in responding to the spill in Martin County.⁸⁰

In a press statement, after negotiations on the Consent Order, an EPA Official announces that EPA has ordered MCCC to restore areas that were affected by the spill and disturbed by cleanup activities. The official also announces that MCCC has been told to examine the long-term impact of the spill on fish and other aquatic species. A Martin County citizen, in response, also makes a press statement, and repeats an earlier metaphor:

- That would be like putting the fox in charge of the henhouse⁸¹

⁷⁷ Lee Mueller (March 14, 2001) Drinking water safe after sludge, feds say. Lexington Herald Leader.

⁷⁸ United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Task Force Report. Available online: [Note to include link]

⁷⁹ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

⁸⁰ Kentucky Natural Resources and Environmental Protection Cabinet. Office of Legal Services (July 2 2001). Letter to George Seay, Esq. Wyatt, Tarrant & Combs from Kathryn Hargraves, Manager. Environmental Protection Legal Branch. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

Project Note: In the Enforcement file there was no follow-up to this correspondence from MCC and so it remains unclear to the public on whether there was any final payment made. Note: It is unlike that this payment amount marks settlement on DOW fines levied against MCCC in its October 19th and December 15th *Notice of Violations*, -as a full administrative hearing on the matter is set to start on August 12th 2002.

See: Martin County Coal Corporation vs. Natural Resources and Environmental Protection Cabinet. (September 13, 2001). Order Rescheduling Administrative Hearing. Filed September 18th. Office of Administrative Hearings. DOW File: 0054810-680-8002. Martin County Coal. Enforcement File.

⁸¹ Lee Mueller (April 19, 2000) Drinking water safe after sludge, feds say. Lexington Herald Leader.

The following day, in a memorandum sent from EPA-Region 4 to MCCC-Massey's attorney, the EPA sends a copy of the Consent Order and mentions that it will soon notify the public of this agreement at its up-and-coming public meeting in March. The memorandum reads,

- Enclosed please find the above referenced Administrative Order on Consent, which has been signed by both EPA Regions 3 and 4. Pursuant to Paragraph 65 of the Order, it becomes effective 3 days from the date it has been signed by the Administrators, therefore, the effective date is March 9, 2001. EPA plans to hold a public meeting on March 13th to respond to the public's concerns and questions.⁸²

Martin County citizens will be told in a week that the US EPA has yielded local jurisdiction on issues of community environmental recovery, to the responsible party, MCCC-Massey.

March 12 2001

HELP Organization Reports its Test Results on Water Quality at a public meeting in Inez. Based on further analyses commissioned from an outside New York law firm, water test results report heavy metals and fuel oils. They are detected above acceptable levels in tap water samples and samples taken from one local elementary school. At this March HELP meeting, the Mayor's Committee (Mayor of Inez) also presents water test data that report aluminum levels three-times over safe standard amounts.⁸³ There is much discussion among citizens on what these tests ultimately mean; many residents in attendance express concern over the long and short-term health consequences that drinking potentially contaminated water might have on themselves and mostly their children and grandchildren. Our project team found similar concerns being expressed in our February field interviews with local residents.⁸⁴

March 13 2001

US EPA reports its test results on water quality at a public meeting in Inez. EPA officials report that the water is safe to drink. A spokesperson (toxicologist) for the Agency for Toxic Substances and Disease Registry is present at the meeting and publicly states that ...

- [...] Our results are based on the data that was sent to us. We have reviewed the information provided to us and found no contaminants in any concentration. [With] the data provided to us, we have reason to believe that it is good quality. We don't think there is a problem.⁸⁵

Citizens react and respond that they would like to see copies of the test results. An EPA official states that they will get the information together and will make it available to everyone. Later, when documents are deposited for public review at the newly opened EPA Outreach Office on Main Street, local citizens, the first day, obtain and review an earlier correspondence between the US EPA and the ATSDR. Citizens find that the US EPA, commissioned the ATSDR, in February, to review tests and water analyses done through the Unified Command Structure in preparation for the March public meeting. Citizens discover that the ATSDR had reviewed water analyses and test results and had originally reached conclusions that were counter to ATSDR public statements made at the March Public Meeting. Based on a review of the original ATSDR February report, citizens find that ATSDR had earlier determined that several metals (copper, vanadium, manganese, barium, arsenic and cobalt) were above "levels of health concern."⁸⁶ These conclusions were not reported at the March public meeting.⁸⁷ In the *Water Quality Testing and Monitoring* section of this report, the ATSDR February report is more fully summarized.

⁸² United States Environmental Protection Agency. (March 7, 2001). Letter to Shane Harvey, Esq. Massey Coal Services Inc. from Wilda Cobb, Associate Regional Counsel and Philip Mancusi-Ungaro, Associate Regional Council. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

⁸³ Cletus Turner (March 14, 2001). Aluminum three times too high in drinking water. The Martin County Sun. p.7.

⁸⁴ February. 2001. Field Interview.

⁸⁵ Lilly Adkins. (March 14, 2001) Citizens outrages when EPA says water 'Safe' and MCC won't be fined. Martin County Sun. p.3

⁸⁶ Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117.

⁸⁷ Cletus Turner (May 9, 2001) Water test study shows health issues: No reference to concerns made at March Meeting. The Martin County Sun. p.1,16.

While most of the March public meeting focuses on the safety of the public water supply, during the March public meeting, citizens in Martin County are told of the Administrative Order on Consent for Compliance that the EPA reached early last week with MCCC-Massey. US EPA officials explain to the public that the Agreed Order assigns MCCC final responsibility for the remaining cleanup and reclamation activities in the area.

The public is also informed that the US EPA has no intent to fine MCCC-Massey. The EPA Attorney states,

- They have been fined enough for having to pay for the cleanup. It will cost fifty million to clean all this up.⁸⁸

Another EPA official states,

- They haven't been fined and they won't be fined. Martin County Coal has already reimbursed the treasury about one million dollars for the response so far.⁸⁹

Martin County citizens attending this March public meeting grow outraged. One local citizen yells

- Have you been bought off?⁹⁰

Late April 2001

Our student-faculty research team holds a public meeting at Sheldon Clark High School.⁹¹ At the public meeting, our research team reports our survey findings to area citizens. **Survey findings report high levels of distrust in the EPA and other state agencies among Martin County Citizens.** Below levels of citizen distrust in Martin County are compared with levels of government and agency distrust among citizens in Perry County. Levels of trust/ distrust are reported in Table 3.A. on the EPA and state agencies. Table findings indicate that Martin County citizens outweigh Perry County citizens on strong levels of agency distrust at a ratio of 3 to 1. Martin County citizens are more likely to strongly disagree (35%) that they 'have trust in the Environmental Protection Agency' in comparison to Perry County citizens (12%). Likewise, Martin County citizens (31%) are more likely to report strongly disagree they 'have trust in state agencies' in comparison to citizens in Perry County (11%).

Table 3.A. Reported Levels of Trust in the EPA and State Agencies: ^a Martin and Perry County Compared

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have trust in the Environmental Protection Agency... (n=463, X ² =37 p=.000)	Martin County	35%	25%	20%	16%	4%
	Perry County	12%	26%	29%	29%	4%
I have trust in state agencies... (n=473, X ² =48 p=.000)	Martin County	31%	30%	22%	14%	4%
	Perry County	11%	25%	24%	37%	3%

e. Other percentages on the Trust Inventory are reported in the *Survey Appendix* to this report.

⁸⁸ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. Martin County Sun. p.3.

⁸⁹ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. Martin County Sun. p.3

⁹⁰ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. Martin County Sun. p.3

⁹¹ Lilly Adkins (May 2, 2001). Martin County Sun. p.1. .

Gary Ball (May 2, 2001). The 'pulse' of the community. Results of ECU survey shared in public meeting. The Mountain Citizen. p.1.

Our student-faculty research team included the above standard inventory questions on levels of government and agency trust in our March survey sweep. We included these standard trust questions after hearing what citizens were expressing in field interviews with the student-faculty research team. In field interviews, many citizens expressed anger and frustration with how the disaster response was handled by federal and state agencies. Some of this citizen commentary is provided below.⁹²

- Well, generally things have unfolded sort of densely, as far as the public was concerned, the company and its officials tried to keep everything under the lid, under the cover, not letting any information out. So speculation was running wild among the public and I thought that was no way to handle it. Distrust began to set in about the coal company, the officials, and whoever the hierarchy are that we look up to, we automatically grew a gray cloud of distrust of what they were telling us, of what they were saying, -that's my opinion and I would say the opinion of several other people that you may or may not have interviewed.
- But we both know, that folks will know better than that. It's just very, very confusing. The coal company isn't telling us the facts and they know it. I guess one of the main things that people were more troubled about more than anything else, they thought that because of taxpayers' money that MSHA, the EPA, those agencies were in here to protect the citizens. But really the EPA set their command station up behind MCC guards who guarded the EPA to keep the people away from them and it is my understanding that the EPA either did not or could not release a press statement or any information without the permission of MCC. Now, that's, that's very disturbing. That they would try to hide behind MCC and let MCC approve any release that they would want to make, very disturbing.
- I'm still very, very wary, as a lot of people are. I want to know what's in this sludge. I've read the EPA reports, the Kentucky Department of Environmental Protection, the West Virginia Department of Environmental Protection. They've done all this testing and analysis. We want to make sure that they did enough tests, that they've checked everything out, and continue to monitor this situation.
- The only people satisfied with the cleanup are the EPA.⁹³
- In my opinion, the coal company is not the problem. The coal company has done what it has been told to do. The problem is EPA and MSHA. The people who are supposed to be working for us and protecting us are acting like they work for the coal company. Protecting the coal company. If the coal company were forced to do it, they would do it. They are not being forced to do it because well, I don't know...
- The EPA is the controlling agency. They can override MSHA and the Army Corp of Engineers or any state, federal agency. The EPA should have been the driving force. It's their responsibility to uphold the law. They were in denial and are continually telling us that nothing harmful is in the water or the soil that wasn't there before. They think that because we are mountain people that we are ignorant. They are the ignorant ones -to think that we are going to believe that.
- And I cannot believe that the agencies have allowed them to do what they have done. They have probably cleaned up about 80% of it, the rest of it they just covered up and left. And you know, they are calling this a cleanup and it is beyond me that any of our regulatory agencies allowed them to call this cleaned up. I mean that's just unreal to me
- They started pumping water from the sludge river into the clean water supply 10 miles away. And when we asked EPA about that they said, "Everything is fine, everything is fine." And the Division of Water, they said, "don't worry about it," "everything is fine." Well, about the same time, that we were hearing from them that everything was fine, a neighbor has a paper from the Division of Water that wrote the plant: You're not passing this test, you don't have what you need to clean the water, you don't even test your chlorine, you're not doing what you're supposed to be doing. Yet, they're telling the public that everything is fine. So then, finally in March, EPA has a meeting with us, up here. When they had that meeting, someone said, "what about the fact that the water is being taken out of there (the Tug). The EPA said, "it's not being taken out of there -you have a

⁹² February. 2001. Field Interviews; October 2001. Field Interviews.

⁹³ Student field notes (February 16, 2001). Student notes on the interview report that the citizen "expressed anger at the fact that they were not questioned by the state or EPA."

line running down through here.” But that line broke in December and EPA acted like they didn’t even know that we were getting our water from the Tug.

- I can speak how I feel. I know a lot of people in the area –feel the way I do. They seem to have taken the side of the Coal Company. They, when the slurry disaster first happened, they went back there behind the guard gate where nobody could get to them. Just with the coal company. The residents in the area had no input in the decision-making process. We couldn’t contact them. They were back there behind the guard gates behind MCC and every decision they made –it appears to us–was with MCC. I don’t know why other than this is Eastern Kentucky, and they thought the people here –whatever, we got –we should be thankful for. We should have been just glad. Even to the point that the MSHA Report –they said it would be out in 90 days [...] it still is not out a year later. So, I mean, what are these people doing? Most people in this area believe they are doing nothing but trying to help the coal company.

The Mountain Citizen, one of the two county’s local newspapers, places the following editorial on Wednesday, the day after the March EPA public meeting. It reads,

- It didn’t look right. This stuff can’t be healthy. But whom can we look to? The EPA? The Mine Safety Health Administration? The Natural Resource Cabinet? Division of Water? County Officials? Water board members? A group of local ministers who took upon themselves the task of assuring us our water is safe. [...] Local leaders have gone out of their way, even enlisting the aid of religious leaders, to assure us nothing is wrong with our water. ... With the exception of two county magistrates, no one from the above-mentioned group attended Monday’s meeting. Either they didn’t care or they couldn’t refute results of the latest samples [...] Our health and that of our children, grandchildren and future generations depends on how we unite to approach today’s problems.⁹⁴

At our project team’s April public meeting, an EPA Region 4 representative is present and hears the survey findings from the ECU survey. After the public meeting, in an informal conversation with the project director, the Official admits that the EPA has “made mistakes” in how it has handled things in Martin County so far, and they are hopeful about the new EPA Outreach Office that has recently opened on Main Street.⁹⁵

Late April 2001

The US EPA establishes a Community Outreach Office in Martin County on Main Street.⁹⁶ The EPA Outreach Coordinator envisions the Office as building a “communications bridge” between the community and the EPA. The office will have records and documents available for area citizens to come in and inspect and will be staffed by an EPA representative two days a week: Mondays from 1:00-7:00pm and Tuesdays from 9:00 –5:00pm.

The EPA outreach plan is to organize a community advisory board as well as conduct a survey. The survey, according to the Outreach Coordinator, will allow the Outreach Office to determine what the issues are among residents and it will also serve as a ballot where citizens can write-in who they want as their citizen representatives on the community advisory board. In turn, the officer explains, that the community advisory board will choose someone that they trust to represent them at the meetings between the EPA and MCCC-Massey.

- We will be doing a survey and we will be asking for the top five concerns people have about the slurry spill. We will also ask them who they think would be a good representative to have at the meeting to ask questions on their behalf and relay their findings back to the community.
- This is something that will help get a good communication going between everyone and help to develop a trust.

When asked why it has taken so long for the EPA to open an outreach office, the Coordinator responds. .⁹⁷

⁹⁴ Gary Ball (March 14, 2001) Editorials: Unity big key to resolving sludge/ water-related issues. The Mountain Citizen. p.6.

⁹⁵ Stephanie McSpirit(April 30, 2001) Field Notes: Martin County.

⁹⁶ Quotes taken from: Lilly Adkins (May 2, 2001) EPA opens office in Inez to address spill concerns. Martin County Sun. See also: Gary Ball (May 2, 2001). EPA opens office in Inez. The Mountain Citizen. p.1.

⁹⁷ Quotes taken from: Lilly Adkins (May 2, 2001) EPA opens office in Inez to address spill concerns. Martin County Sun.

- For one thing, we were waiting on Martin County Coal to sign an order agreeing to pay for us being here. We realized after the meeting (in March) that people had a lot of concerns.
- So far Martin County Coal has been very cooperative with everything I have asked them to do. They are paying for us to be here.

Based on field notes, citizens are surprised with the opening of the outreach office and with who the outreach coordinator is. According to testimony from our own citizen advisory committee, the outreach coordinator has been in the field in Martin County since the October sludge spill but had apparently never before identified themselves as an EPA representative. At earlier public informational meetings, it was always assumed that the unidentified person was a public relations person for MCCC-Massey.⁹⁸

May through June 2001

Citizens review the documents repository at the Outreach Center and obtain a copy of the ATSDR report. (See: previous March 13 time block, *US EPA reports its test results on water quality* for background on ATSDR report). Meanwhile Martin County citizens begin to question other EPA outreach activities: Citizens ask when the survey will be distributed or mailed-out and why not use the survey percentages from the EKV survey? The Outreach Coordinator responds that the EPA will conduct its own survey and that the survey has been mailed out, though few in the community report receiving one.⁹⁹ Over the next several weeks, citizens will continue to press on the whereabouts and status of the survey.¹⁰⁰

Citizens also report the Office being inadequately staffed with the assigned outreach coordinator only present for several of the six weeks that the Outreach Center is open. Citizens explain that other staff replacement persons are unable to answer any questions or provide any answers to their questions. Citizens also report the Center being closed during its scheduled hours. Citizens recount often going to the Center to find the Office closed. Some citizens in their field conversations with the project team recall suggesting to the EPA Outreach Coordinator that a comment box be placed outside the Outreach Center; the Outreach Coordinator responds that they wouldn't then be able to protect citizen confidentiality.¹⁰¹

Through the Outreach Center, several citizens request a copy of the Materials Safety Data Sheets of the chemicals used in coal preparation at the MCCC-Massey preparation plant. Each time, the Coordinator responds that they have been "too busy" to get up to Martin County Coal property to obtain the data sheet.¹⁰² By June, the EPA Coordinator announces that the Outreach Center will likely close at the end of June; the reason, there is not enough public interest.¹⁰³ As one citizen advisory committee member explains, if not enough public interest, then the outreach coordinator should have had enough time to go on site on Martin County Coal property and obtain the MSDS sheets.¹⁰⁴

June, July, August 2001

With the Outreach Office scheduled to close, the **EPA initiates a series of teleconference sessions with area citizens** that have organized into the Big Sandy Environmental Coalition (BSEC). A representative of the mother organization - the Ohio Valley Environmental Coalition is also involved in these teleconference meetings. Based on **June 4 Teleconference Minutes**,¹⁰⁵ minutes report that citizen representatives...

⁹⁸ Stephanie McSpirit (March – 2002). Field Notes: Martin County. Called for verification April 17, 2002.

⁹⁹ Stephanie McSpirit (October –Date- 2002) Field Notes: Martin County.

¹⁰⁰ Stephanie McSpirit (October 20 2001) Field Notes: Martin County.

¹⁰¹ Stephanie McSpirit (March 18, 2002) Field Notes: Martin County.

¹⁰² Stephanie McSpirit (March 18, 2002) Field Notes: Martin County.

¹⁰³ Stephanie McSpirit (March 18, 2002) Field Notes: Martin County.

¹⁰⁴ Stephanie McSpirit (March – 2002). Field Notes: Martin County.

¹⁰⁵ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

- Express concern that the Community Relations Center in Inez stay open.
- Express concern that the EPA double check (such as making phone calls) to see if the targeted recipients actually received a public survey.
- Ask on the status of the Citizen Advisory Group proposed by the EPA. The plan is to have at least five (5) impacted citizens to be on this multi-stakeholder panel. It was recognized that CAG members should be impartial, open-minded as possible and preferably not engaged in a lawsuit.

In addition, based on June 4 teleconference minutes, citizen representatives...

- Request that the EPA supply the Material Safety Data Sheets (MSDS) for chemicals that the coal company uses in coal preparation.
- Want to know what is the basis for EPA and ATSDR giving a ‘clean bill of health’ on drinking water. Note that this teleconference exchange will be presented more thoroughly in the *Water Quality Testing and Monitoring Section* of this Report.
- Want to know the status of the cleanup. They want to know what kinds of activities are being undertaken by the Martin County Coal Corp and why –stream pumps are being turned off. They express their opinion that not enough information on the status of the clean up is being provided. Note that this teleconference exchange will be presented more thoroughly in the *Cleanup and Reclamation Section* of this report.

Citizens will repeat their claims on cleanup status, drinking water, the Citizen Advisory Panel, the EPA survey and the Materials Safety Data Sheet in a series of other teleconferences throughout the summer, into the fall and late winter.¹⁰⁶ Based on citizen advisory committee comment, these summer teleconference sessions typically result in little agency movement on citizen claims, with EPA representatives consistently promising to ‘provide follow-up.’ For example, citizen representatives continue to request the Material Safety Data Sheets of the chemicals used in coal treatment. For some reason, EPA outreach representatives are not able to reproduce this document for citizen review and comment, over an extended period of several months, though one of the MSDS sheets is on file with the State Division of Water and could be made available through an agency facsimile.¹⁰⁷ Citizens, however, later comment upon reviewing one MSDS sheet, provided to them through the student-faculty research team, that there are other chemical inputs used in coal treatment that also need to be accounted for under standard *Community Right to Know* laws. But EPA Region 4 does not provide these MSDS sheets to citizens though repeatedly requested.¹⁰⁸

Despite what seems to be bureaucratic stone walling, citizen representatives, in their first teleconference sessions with EPA Region 4, express some apprehension with the local Outreach Center scheduled to close at the end of June. Citizens encourage the EPA to keep the Outreach Center open at least several days per month and encourage the EPA to maintain its scheduled teleconference sessions. Based on June 26 Teleconference Minutes,¹⁰⁹

- The community participants expressed grave concern that this center was planned to close at the end of June. They encouraged EPA to reconsider to keep this open, at least a few days per month in order to help resolve their concerns. They encouraged EPA also to maintain these regular conference calls, which they believe to be useful and essential.

These June 26 teleconference minutes then summarize the EPA attorney’s response to citizens. The attorney explains a recent conversation they had with an MCCC attorney on keeping the Center open. The minutes summarize this conversation as the Attorney explains to citizens,

¹⁰⁶ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1; U.S. Environmental Protection Agency (June 26, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

¹⁰⁷ West Virginia. Department of Health and Human Services (October 16 2000) Facsimile Transmittal Sheet. CYTEC. Material Safety Data. Product Name: Superfloc A-1885 RS Flocculant. DOW File: 0054810-680-8002. Martin County Coal. Miscellaneous.

¹⁰⁸ April 11 (check date) Teleconference Session with CAC member.

¹⁰⁹ U.S. Environmental Protection Agency (June 26, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

- The company was open to setting up a special trust fund, in which the EPA may use to draw funds to support expenses for travel and costs associated with the Community Relations Center. Since this was a new development and had not been tried before, [there] is not much more to say about the details of this proposal and if it would be approved.

By the end of June, the Outreach Center closes completely with no monthly openings scheduled or planned. The EPA, however, does continue to hold teleconference sessions as its sole vehicle for citizen input and participation in environmental recovery in Martin County.

Late Summer and Early Fall 2001

Discussions between citizens and EPA Region 4 on establishing a citizen advisory group (CAG) continue in teleconference sessions through the summer. CAG Negotiations between Region 4 and citizens on the CAG are handled not through the EPA on-scene coordinator for Martin County but rather through a person in the Environmental Justice (EJ) Division for Region 4. The EJ Coordinator provides area citizens with contact information of a person in Washington. Citizens call the Washington Office in early fall and talk with a federal EPA person.¹¹⁰ The contact person sends citizens a working kit on establishing a CAG. The EPA Citizen's manual on establishing a citizen advisory group reads in places,

- EPA is committed to bringing all players to the table in the beginning and working together toward the common goal of cleaning up the site. EPA must and will listen to your opinion and recommendations about the hazardous waste site in your community. Community Advisory Groups promote effective two-way communication between Superfund personnel and community residents ensuring that every one has a chance to share his or her ideas and concerns. This is an important and sensitive job that calls for dedication and hard work. Consider this, if you don't participate? Who will?
- You can make a tremendous difference in community and environmental decisions. The United States Environmental Protection Agency –EPA- is committed to early and direct and meaningful public involvement in the Superfund process. One of the ways that communities can participate in site cleanup decisions is forming a citizen advisory group.
- EPA believes this is time well spent and that active and early effective community involvement will actually save time in the long run.¹¹¹

The above quotes and their reference to citizen involvement in disaster recovery will be referred to again in the final section of this report, when our research team concludes our final set of recommendations on establishing an independent citizens' committee to monitor water quality and reclamation activities in Martin County, Kentucky.

September 19 2001

In a teleconference session area citizens are prepared to establish a formal partnership with EPA Region 4. **Citizens have done the necessary background preparation and are ready to form a Citizen Advisory Group (CAG)** to EPA Region 4 on matters related to Martin County. The Washington EPA representative that sent citizens the citizen tool kit is present on the line during this teleconference session. The teleconference minutes read,

- It was reported that the starting core group for the CAG will be five member s: The Core Group will be the Mayor, the Big Sandy Environmental Coalition and the Ohio Valley Environmental Coalition. .¹¹²

During the teleconference session, the newly formed CAG makes plans to address the following issues first. The teleconference minutes read,

¹¹⁰ Stephanie McSpirit (June 2, 2002) Field Notes: Conference Call with CAC contact: Martin County. See also: U.S. Environmental Protection Agency (September 4, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

¹¹¹ United States Environmental Protection Agency. (December 1995). EPA Guidance for Community Groups at Superfund Sites.p.1

¹¹² U.S EPA Region 4. (September 19, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

- Issues to accomplish, the core group decided to take small actions to ensure success such as review EPA's up and coming question and answer sheet | technical assistance project monies| bus tour of spill areas and restoration areas.¹¹³

EPA Region 4 agrees to meet formally with the CAG in another teleconference session soon. The teleconference minutes read,

- First CAG meeting [citizen representatives] will contact EPA when this is determined. The [next] conference call with EPA to help decide on proposed agenda items.¹¹⁴

October 2001

A year after the disaster, **EPA –Region 4 releases its *Taskforce Report on its Response Actions in Martin County***. The Taskforce report is a short eight-page report.¹¹⁵ In its section on *Community Involvement*, the Taskforce Report states on several mechanisms that have been used in the field to increase citizen participation and community involvement in environmental recovery. The section reads,

- After the signing of the Administrative Order, EPA coordinated a public meeting to discuss the Administrative Order, the Agency's role in the cleanup of the spill, provide information, and to answer questions. Subsequently, an EPA Community Relations Center was opened between May and June 2001, in Inez, Kentucky. This was in response to the high level of public interest in the MCCC slurry spill. During that time, two Community Involvement Coordinators (CICs) and one Environmental Justice (EJ) person were used to man this office for 2 days per week. In addition, a survey form was mailed out to solicit community-based questions and concerns. (p.4)

It appears, based on the Taskforce Report, that EPA Region 4 has developed several mechanisms to invite citizen and community involvement in environmental recovery in Martin County. According to the EPA Taskforce Report: An EPA outreach office is opened in Martin County to field citizen concerns and questions and a survey questionnaire is developed to identify the major concerns in the community. On the latter count, based on field testimony, it remains unclear whether a community assessment survey was ever widely distributed and whether survey responses were ever fully compiled. On the first count, based on field testimony, it remains unclear whether the EPA Outreach Center was effective in fielding and responding to citizen concerns.

EPA Region 4 also mentions, in its year-after Taskforce Report, the development of a Citizen Advisory Group in Martin County to invite community input.

- Currently, EPA Region 4 staff is in the early stages of working with the mayor, other local stakeholders and EPA Headquarters to establish a Community Advisory Group (CAG). A CAG offers the community a public form for community members to present and discuss their needs and concerns about the decision-making process. (p.4)

Finally, in its Taskforce section on community involvement, EPA Region 4 mentions its teleconference sessions with local citizens:

- EPA is continuing to respond to a variety of community concerns and inquiries. Examples are as follows: Superfund and Compliance Issues; Soil and Gardening Concerns; Groundwater, Surface Water and Drinking Water Sources; Remediation and Restoration Concerns; Ecological Concerns; Health/ Risk Issues. To continue

¹¹³ U.S EPA Region 4. (September 19, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Note: CAC member later comments that the EPA representative that was supposed to set up the bus tour never scheduled it nor did EPA Region 4 pursue any of the other 'small item' agenda items. Stephanie McSpirit(June 2, 2002) Field Notes on Conference Call with CAC. Martin County.

¹¹⁴ U.S EPA Region 4. (September 19, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

¹¹⁵ **Project Note:** The cursory length of the EPA Taskforce Report is surprising considering the magnitude of the spill and its environmental impact. See: United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Taskforce Report.

this dialogue, in the early summer, EPA started a series of teleconference calls with environmental groups (local/ regional), [elected officials] and other interested parties.

In later Fall 2001, less than three months after the Taskforce Report is issued, the Martin County CAG holds another teleconference session with EPA Region 4 Representatives. This teleconference exchange is summarized as the next set of event blocks below.

Late Fall 2001

The EPA CAG holds another teleconference session with EPA Region 4 representatives. Among items, citizens discuss the status of cleanup and reclamation activities. EPA mentions the status of the final progress report that MCCC-Massey is compelled to submit under the March Administrative Order.¹¹⁶ It is during these discussions, EPA Region 4 representatives promise CAG representatives that they will have an opportunity to review and comment on the final draft reclamation and restoration plan, submitted by MCCC-Massey.¹¹⁷

January 2002

It appears that **the provision for a public comment period on the final reclamation plan is bypassed** as the final draft restoration plan is submitted by MCCC-Massey in mid January to various regulatory bodies. A copy of the *Martin County Coal Corporation Sample Final Stream and Floodplain Restoration Plan*¹¹⁸ is placed on file at the Kentucky Division of Water for example. Thus, it appears that EPA Region 4 does not provide the CAG with a public comment period on the *sample* final recovery plan as originally assured in late fall teleconference session with the CAG.

January 29, 2002

In late January, **representatives from MCCC-Massey, EPA Region 4 and representatives meet in Lexington to discuss the details of the final reclamation plan.** Through teleconference communication, various other federal and state agencies from both West Virginia and Kentucky are represented at this meeting. Transcript records of the meeting suggest that the meeting is a daylong session that begins at 9:00 a.m. and closes out at 3:00 p.m. A review of those in attendance, based on the transcript, indicates that community representatives -neither local elected officials nor members of the EPA Citizen Advisory Group- have been invited to participate in the conference discussion on final reclamation plans for the community.¹¹⁹

May 10 2002

Four months later, the final reclamation plan for the county and the county watershed is submitted to EPA Region 4 by MCCC-Massey's environmental consulting firm. Based on checks with our own Citizen Advisory Committee, it appears that local citizens as representatives of the **EPA CAG are never consulted on the contents of the final recovery and reclamation plan.**¹²⁰

¹¹⁶ Under "Work to be Performed" See: United States. Environmental Protection Agency. Region 4. Administrative Order on Consent for Removal Action. In the Matter of: Martin County Coal Slurry Spill Site, Inez Kentucky. Martin County Coal Corporation (respondent). DOW File: 0054810-680-8002. Martin County Coal. Enforcement

¹¹⁷ Stephanie McSpirit(March 18, 2002) Field Notes: Martin County.

¹¹⁸ Ecology and Environment Inc. (January 15, 2002). Martin County Coal Corporation Sample Final Stream and Floodplain Restoration Plan, -prepared for Martin County Coal Corporation.

¹¹⁹ Martin County Coal Corporation / Regulatory Agency Meeting (January 29, 2002) Office of Surface Mining, 2675 Regency Road. Lexington Kentucky. Obtained through: EPA Region 4.

¹²⁰ Martin County Coal Corp Coal Slurry Release: Approved Plan (May 10, 2002) prepared for: Martin County Coal Corp by Ecology and Environment Inc. Obtained through: EPA Region 4.

Conclusions on Civic Capacity

After a reviewing the above timeline, the reader should have a better conception of the civic capacity issues that confront Martin County and its citizens. Recall that one of the dimensions to evaluate, in evaluating civic capacity, is the extent to which the civic sphere invites opportunity for citizens in civic groups to actively participate in a meaningful democratic discourse on the direction and affairs of their own community. The timeline of events seems to suggest that the civic sphere in Martin County has been constricted since the coal waste spill. It seems that the Coal Company and EPA Region 4 have tended to manage environmental disaster response, cleanup and recovery with little (if any) opportunity for civic input in environmental planning, assessment and recovery decisions. It appears, based on the timeline of events, that Martin County citizens have been denied opportunities to discuss and actively participate in decisions on community and environmental recovery. Again, this is ironic since there are several public participation provisions within several environmental statutes that should have been applied in Martin County. In addition, the 1994 Environmental Justice Executive Order sets up clear provisions for inviting public input in poor, economically distressed communities such as in Martin County. But it appears, however, based on extensive field interviews and a review of the public record that channels for citizen input in recovery decisions were never effectively provided to local citizens by EPA Region 4. A review of the EPA Taskforce Report would seem to suggest that EPA Region 4 had developed several mechanisms – the outreach center, a survey, a citizen advisory group, teleconference sessions – to invite citizen input in environmental decision-making. Yet, a more careful review of citizen testimony and a review of the public record, suggests that EPA Region 4 has been largely deficient in carrying out its statutory responsibilities of providing channels for citizen input in remediation and recovery since the spill in Martin County.¹²¹ EPA Region 4 failures in providing mechanisms for citizen involvement in community and environmental recovery are enumerated below in summary form:

- 1) At the time of the disaster, EPA Region 4 sets up a command and communications post on Coal Company property. It appears from field testimony and a review of the public record, that the Unified Command Structure prevented Martin County citizens from obtaining reliable information on the disaster's impact, as roadblocks kept area newsmen out of the impact areas. Allegations soon followed that under the Unified Command Structure (UCS) the responsible party –MCCC-Massey- is editing EPA press statements.
- 2) Information on the extent of the damage and environmental impact of the coal waste spill also seems to have been managed under the UCS, with MCCC-Massey taking the lead role in site characterization of the disaster and environmental impact assessments. It seems that citizens have a legitimate reason in expressing suspicion with a testing, monitoring and assessment structure that places the responsible party in charge of monitoring the spill's impact on the local environment and area watershed. This is discussed more in the section on *Water Quality, Testing and Monitoring*. Though there are statutory provisions that allow for citizen input in environmental assessment after an environmental disaster, it appears that Martin County citizens have not been provided with opportunity to be involved in environmental assessments of the spill's impact on their own community.
- 3) The March Administrative Order on Consent for Compliance marks another event where citizens have been denied an opportunity to meaningfully participate in environmental recovery. It appears that EPA Region 4 reached an administrative agreement with MCCC-Massey, in a closed-door session, on a final recovery plan without mechanisms for citizen input, public involvement or public comment.
- 4) The failure of EPA Region 4 to release the ATSDR Report for public comment and review, at the March Public Meeting marks another event where EPA Region 4 might have blocked information on environmental impact from local citizens. Blocking information may have prevented area citizens from participating in a meaningful and intelligent discourse and exchange on the future environmental well being of their community.
- 5) EPA Region 4 outreach activities, based upon field testimony from area citizens and a review of the public record, suggests that these outreach mechanisms have been largely deficient in involving citizens in environmental recovery decisions.
- 6) The failure of the EPA Region 4 outreach coordinator to provide citizens with the Material Safety Data Sheets on the chemical inputs used in coal treatment appears to be a violation of public participation provisions under a

¹²¹ It might be important to again mention that, in 1986, CERCLA provisions were updated under the *Superfund Amendments and Reauthorization Act* (SARA).¹²¹ 1986 CERCLA provided more mechanisms for citizen participation in site cleanup and reclamation decisions; under the amended CERCLA, prior to initiating reclamation activities on a Superfund site, the EPA must submit its proposed work plan to a thirty-day public comment period, -similar to the public participation provisions originally set out under NEPA 1968. United States Environmental Protection Agency. SARA Overview. Available online: [HTTP://www.epa.gov/superfund/actions/law/sara.htm](http://www.epa.gov/superfund/actions/law/sara.htm).

Community's *Right-to-Know* that guarantees concerned citizens information on chemicals used in local industrial and mining processes.¹²²

- 7) The EPA fails in its December commitment to provide its Citizen Advisory Group with a thirty-day public comment period on the final reclamation plan marks yet another documented incident of EPA negligence. The 1986 SARA Amendment to CERCLA provides citizens with a thirty-day comment period on EPA reclamation and remediation plans of Superfund sites.¹²³ Though CERCLA, in the end, is not invoked as the response statute in guiding EPA Region 4 actions in the field in Martin County, these public participation provisions should have been invoked in keeping with formal obligations to its Citizen Advisory Group of Martin County citizens.

To address past failures on the part of EPA Region 4 in responding to the disaster in Martin County, we provide several broad recommendations on increasing community involvement in environmental recovery and reclamation strategies. We also offer a series of sub recommendations to assist the Kentucky Appalachian Commission, Department for Local Government and to the Office of the Governor in acting on our recommendations. In the final section of this report, we present our recommendations on addressing past public involvement failures.

¹²² Emergency Planning and Community Right-to-know Act: CRS Report RL 30022: Summaries of Environmental Laws Administered by the EPA. Available online: <http://www.cnie.org/nle/crsreports/briefingbooks/laws/m.cfm>.

¹²³ United States Environmental Protection Agency. SARA Overview. Available online: <HTTP://www.epa.gov/superfund/actions/law/sara.htm>.

Section Four:

Emergency Water Provisions and Water Treatment

October 11, 2000

The Big Branch Impoundment is a 72-acre coal waste impoundment, owned and operated by the Martin County Coal Corporation a subsidiary of Massey Energy (MCCC-Massey). The impoundment ruptures at its base. Based on official estimates, the rupture releases three hundred million gallons of sludge and black water into underground mine shafts below the impoundment; the sludge snakes through underground mine works and finally escapes out two mine portals and discharges into local surface waters on opposite sides of the mountain. (See Map 4.A. Appendix D).

On one side of the mountain, Coldwater Creek is slowly inundated with heavy black coal sludge. Local properties at the Creek's head on Mullett Branch are slowly covered with heavy, tar-like, coal waste material. The sludge slowly suffocates this small four-mile creek and then travels into Rockcastle Creek. Rockcastle Creek flows through the middle of Inez, the county seat town, and meets up with the Tug Fork of the Big Sandy River. (See Map 4.A) In our February field interviews, several citizens recall this first event and comment on the sludge spill on Coldwater Creek,¹²⁴

- The coal company and the EPA like to call it slurry. A slurry is a fast moving substance. What came down Coldwater...was very, very slow moving. [...] Very thick, thicker than any mud you'll ever see.
- The reason why I say it's amazing, maybe that's the wrong word to use, I never seen anything like that and hopefully I will never see anything like that again...but it was, it looked like an ocean. It was almost like -this is up Cold Water- as far as you could see, it was black, but it was thick. It looked like black lava. Almost like chocolate pudding. And it was just a mess. It looked like when you stand on a beach and look at an ocean and it's just ocean as far as you can see. That's what this looked like. It was like looking at a black ocean. Except it was really thick.
- Now that sludge, it was so thick, it looked like pudding. You know how pudding is? It was so thick.
- I received a phone call early that morning from my neighbor and they basically told me that something bad had happened. They had been to work and called me and said that something had happened and that the creek looked like black pudding -- I think that was their response at the time -- and they said that according to their report that it was going to keep rising and that the impoundment had failed. So then I got out and looked at the situation and there it was, I mean the creek was just fluid like a chocolate milkshake, I think that is the best description. I mean it was that thick and it looked like oil on top of it. So I drove up the road to my neighbors and I am sure you have seen pictures, I mean it was unbelievable, the people realized right then the danger that they actually were in. The residents feel that their lives were put in danger that night.
- It probably took five days for the black water to get here from there.
- Well at 7:25 when I left and I got out there. It was daylight by then. And then I looked at that and I thought that's not water, you know. It was all...just like... it was all puffed up in the creek. It was coming straight up like, it looked like a pudding or something, you know, and the creek almost looked like a big soufflé, you know how a soufflé just rises up and just sort of expands well that's the way it looked and I thought, my goodness and I got out of the car then and I went over to the edge of the bridge and I looked down at it. And you couldn't, you couldn't even see it move it was just, you know, it was just... it was just there ...
- It was unbelievable. Something like you never seen before. The current --you could see leaves and things. It was the fall of the year. It was in October. You could see a leaf and then you might see it, -you might see it over the course of 10 to 15 minutes move just a few inches. It was flowing that slow.

¹²⁴ February, 2001. Field Interviews.

On the other side of the mountain, most of the black water from the impoundment spills into the 17-mile length of Wolf Creek, which is a creek above Martin County's water intake on the Tug Fork of the Big Sandy River. (See Map 4.A.) At the time of the spill, the county's intake system is closed as the county has switched to drawing water from its Tug River reserves stored at Crum Reservoir.¹²⁵ Reservoir reserves are low. The county, in the days ahead, will be on emergency water alert to conserve water resources. While Martin County's water intake is closed at the time of the spill, Kermit, W.V. is pulling water from the Tug and is forced to shut down its Tug River intake by 8:00 a.m. that morning.¹²⁶ (See Map 4.A) In the days after the spill, based on state official estimates, nearly 28,000 people are without water in town water systems along the Tug Fork.¹²⁷

As towns in Martin County and Kermit West Virginia are in a *State of Emergency*, other towns along the Tug are in a heightened *State of Alert*. With the sludge plume moving slowly downriver, other municipal water systems prepare to close their intakes. In the days immediately after the disaster, water turbidity is reported at unprecedented levels. Though the sludge plume would miss the Ashland plant,¹²⁸ one Ashland official would comment:

- Our river water is usually one in turbidity. We have treated 750 before during floods. That's dirty.

Hearing reports that turbidity at the peak of the sludge plume is being reported at 6,000,¹²⁹ the Ashland official comments:

- When it gets up into the thousands I can't even visualize how heavy that is. This is a totally different animal than we have ever seen.¹³⁰

Mid to Late October 2000

Temporary Water Systems: In Martin County reserves in the reservoir dwindle to lower and lower levels. In the days to follow, county residents are advised to conserve water.¹³¹ In order to preserve water, Martin County's public schools are closed for four days.¹³² Meanwhile, under the *Unified Command Structure (UCS)*, MCCC-Massey and State Emergency Management personnel, along with EPA Region 4 and other agency officials, develop a contingency plan to construct temporary water systems in the impacted areas in order to supply area towns with water.¹³³ In Martin County, MCCC provides forty thousand dollars for sixty-five hundred feet of pipeline that will extend from Middlefork Creek, a creek that was not impacted by the coal waste spill to the Martin County water treatment facility.¹³⁴ Under the UCS, the temporary water line from Middlefork is installed ten days later and is ready to draw water by the tenth day. With a temporary line in place and operational, the Martin County Water District (MCWD), shifts from its dwindling Crum reservoir reserves and begins pulling and treating water from Middlefork Creek.¹³⁵ (See Map 4.B. Appendix D.)

¹²⁵ Stephanie McSpirit(November 11 2000) Field Notes: Emergency Response Team –Unified Command Personnel. Martin County Courthouse; Field Interview –October 2001. Field notes: Corroborated: United States. Agency for Toxic Substances and Disease Registry. (February 6 2001). Record of Activity: Martin County Coal Slurry: ERS LOG #: 01-2117. p 2.

¹²⁶ Kermit. (October 18, 2000) Kermit water moving existing pump line. The Martin County Sun. p.22.

¹²⁷ Lee Mueller, (October 19, 2000) Spill Looks like on of worst in nation. Lexington Herald Leader.

¹²⁸ Lee Mueller (October 20, 2000) "At Ashland, rising Ohio River holds off sludge for now." Lexington Herald Leader

¹²⁹ Turbidity is often reported in -Nephelometric Turbidity Units or –NTUs. As mentioned by the Ashland official an NTU reading of 750 typically measures floodwater conditions.

¹³⁰ Lee Mueller (October 19, 2000). "Spill looks like one of the worst in nation." Lexington Herald Leader.

¹³¹ Cletus Turner (November 1, 2000) Cumbo asks Martin Countians 'conserve water' The Martin County Sun. p. 19.

¹³² Lee Mueller, (October 17, 2000) Towns downstream prepare for sludge. Lexington Herald Leader; Cletus Turner. (October 25, 2000) Martin Co. Schools on day-to-day basis during crisis. The Martin County Sun. p. 2.

¹³³ Stephanie McSpirit(November 11 2000) Field Notes: Emergency Response Team –Unified Command Personnel. Martin County Courthouse

¹³⁴ Kermit. (October 18, 2000) Kermit water moving existing pump line. The Martin County Sun. p.22.

¹³⁵ Cletus Turner. (October 25, 2000). EPA uncertain of spill's long-term effects, Smith says. The Martin County Sun. p.16; Lilly Adkins. (October 18, 2000) Coal Slurry spills, area devastated. The Martin County Sun, p.19.

Bottled Water Provisions: During the *State of Emergency*, towns along the Tug River are provided with bottled water. Though it is unclear from field interviews and news sources, whether the water is being paid for and distributed through MCCC-Massey or whether the Appalachian Christian Project is distributing cases that have been donated by the Perrier Corporation.¹³⁶ Based on interviews and news sources, it appears that the distribution of bottled water is sporadic and limited. Residents who report receiving bottled water report receiving only one case. Based on field interviews and news sources, school persons and elected officials are accused of hoarding water and county magistrates are accused of distributing “campaign water.”¹³⁷ The distribution of bottled water seems to become a source of tension among citizens in Martin County: Some Martin County residents, in their interviews with the student-faculty research team, comment on the distribution surrounding emergency bottled water provisions:¹³⁸

- Everybody is just concerned, very concerned. They want bottled water brought in and aren't getting it and they don't stand a chance. If you aggravate them, [as one public official did] [...] they got in -as far as I know- two truck and trailer loads since this has happened.
- I know we have to use bottled water. At first each house was given a case of water then only a 1/2 after it started. It came from the coal company but had a note in it from [one public official] where it looked like it was from him.
- I heard that the coal company paid for and brought in for the first week or so, bottled water. Yes, to certain people and to certain places but no more, [...]

Mid November 2000

White Powdery Crust shows up in Tap Water: Area citizens begin to report a white powdery substance in the drinking water. One local citizen comments,

- Every time we wash our dishes, there is a white powder left on them. I don't know what it is, but it leaves your skin feeling terrible.¹³⁹

The Kentucky Division of Water (DOW), Section Supervisor is quoted as having received reports from Martin County citizens, but says he cannot be sure about the white powder problem without doing a test to determine what the substance is. The DOW Section supervisor states,

- It could be chlorine, or hard water. I doubt that it would be anything harmful, but we can run a test.¹⁴⁰

The Martin County Water District (MCWD) plant supervisor soon issues a press statement that the white substance is lime, which is used to regulate the PH levels in water. The MCWD plant supervisor states,

- Martin County Water District uses lime in the treatment of water. It is used to control the PH level and also coats the inside of the water lines. Any time the water line is disturbed or de-pressurized it causes lime to break loose and start moving. This can create colored water and cause spotting on clothing and dishes.¹⁴¹

¹³⁶ Cletus Turner (November 1, 2000) Cumbo asks Martin Countians 'conserve water' The Martin County Sun. p. 19; Cletus Turner (November 8, 2000). Water donated, county delivers. The Martin County Sun. p. 15.

¹³⁷ Mark Grayson (January 31, 2001) Campaign Water? The Martin County Sun. p. 5.

¹³⁸ February. 2001. Field Interviews.

¹³⁹ Lilly Adkins (November 15, 2000) Water quality being questioned after sludge disaster. The Martin County Sun. p. 12

¹⁴⁰ Lilly Adkins (November 15, 2000) Water quality being questioned after sludge disaster. The Martin County Sun. p. 12

¹⁴¹ Lilly Adkins (November 15, 2000) Water quality being questioned after sludge disaster. The Martin County Sun. p. 12.

November 16 2000

DOW issues Boil Water Advisory: The State Division of Water (DOW) issues a boil water advisory for parts of Martin County after a line break. With the advisory, the DOW conducts tests for bacteria that might be present in the drinking water.¹⁴² According to the MCWD plant supervisor, the boil advisory is put into effect because of a broken water line and believes the line was broken during heavy cleanup and excavation activities on Coldwater Creek. The MCWD plant supervisor states,

- While cleaning Coldwater Creek, Martin County Coal broke the lines.¹⁴³

On November 20, 2000 the State DOW rescinds its Boil Water Advisory for Martin County; but two days later, **November 22, 2000, the DOW issues another Boil Water Advisory** for Martin County.¹⁴⁴

Late November 2000

Lime in public water supply: Local newsmen based on earlier press statements by MCWD personnel, report that the lime residue in the public drinking water supply is probably due to the extra lime being added to control PH levels in water being pulled from the temporary intake at Middlefork Creek. In a local press interview, the MCWD plant supervisor acknowledges that before the spill, when the MCWD plant was drawing water from its Tug River reserves, stored in the Crum reservoir, the raw water required less lime to purify.¹⁴⁵

The plant supervisor also states, for the record, that the lime might explain the series of boil advisories. In a press release, the plant supervisor explains that when lime builds up in the water lines, a loss of pressure or a line break can cause the lime to break loose inside the water pipes.¹⁴⁶ However, the MCWD plant supervisor is now reluctant to blame MCCC-Massey for the problems at the water treatment plant and the county's current water problem. He states, that the county's water situation,

- ...[It] has nothing to do with Martin County Coal.¹⁴⁷

Late November 2000

It appears that bottled water is distributed by MCCC and various outreach agencies¹⁴⁸ through mostly the first month of the spill and that **provisions for bottled water end officially for MCCC-Massey at the end of November**. A MCCC representative tells Coldwater residents during its November public informational meeting that it is no longer supplying bottled water. Citizens at this public meeting respond and react and express concern about their drinking water. Some citizens state that they are afraid to drink it.¹⁴⁹ Though bottled water is officially provided for the first two months of

¹⁴² Lilly Adkins. (November 22, 2000) Water advisory issued after complaints. The Martin County Sun. p. 15.

¹⁴³ Lilly Adkins. (November 22, 2000) Water advisory issued after complaints. The Martin County Sun. p. 15.

¹⁴⁴ Cletus Turner (November 29, 2000) What's that white stuff in your water? The Martin County Sun. p.7.

¹⁴⁵ Cletus Turner (November 29, 2000) What's that white stuff in your water? The Martin County Sun. p.7.

¹⁴⁶ Cletus Turner (November 29, 2000) What's that white stuff in your water? The Martin County Sun. p.7.

¹⁴⁷ Cletus Turner (November 29, 2000) What's that white stuff in your water? The Martin County Sun. p.7.

¹⁴⁸ Cletus Turner (November 8, 200) Water donated, county delivers. The Martin County Sun. p. 15.

¹⁴⁹ Lilly Adkins (November 29, 2000) Martin County Coal 'won't pay': Coldwater residents upset over Hatfield's remarks at meeting. The Martin County Sun. p. 13.

the disaster,¹⁵⁰ in the months ahead, Martin County citizens will continue to request and press for such emergency water provisions. Tension and confusion over bottled water supplies continue into March of 2001, when an agency official, during the March 13, 2001 public meeting, states publicly that they were under the impression that MCCC-Massey was still supplying cases of water to area citizens.¹⁵¹

December 1, 2000

A turbidity meter is installed by MCCC-Massey on December 1, 2000. But it takes an exchange between the DOW and company persons to agree on the date of installment and when the meter is operative. This date on installation and when the permanent monitoring station is fully operational is clarified in an exchange between DOW personnel and the MCCC president. In a letter, dated late January 2001, the DOW first cites MCCC for being in contempt of Orders under the Unified Command Structure, and for not having installed a 'permanent monitoring station.' The letter from the State DOW to MCCC-Massey states,

- MCCC has ten days to comply with the DOW under the Unified Command.¹⁵²

The president of MCCC replies,

- I take exception to the conclusion you expressed in your letter of January 25, when you suggested that the automatic turbidity meter at the Kermit, West Virginia water plant was not successfully installed [...] The turbidity meter was installed December 1 by [Company Name] the authorized distributor for [...] the manufacturer of the unit.

The last item to be hooked up was the automatic telephone warning capability, which was hooked up by [Company Name] on Monday, January 22. The unit is to alarm at a turbidity of 500 NTU and dial a pre-recorded message to appropriate personnel. [...]

I would therefore conclude that the Kermit turbidity meter is operational as specified by the Kentucky Division of Water. [...]

While I cannot prevent occasional disruption caused by flooding, we have installed a system that provides an accurate and representative measure of the turbidity in the Tug Fork.¹⁵³

With the meter in place, the Hazard Field Office of the DOW is assigned to monitor turbidity flow from the Tug Fork River. A field officer comments,

- We have a permanent monitoring station near the Kermit Bridge and there is an alarm which goes off if the levels of turbidity go too high.”¹⁵⁴

It appears that the turbidity meter is in place and in operation by the start of 2001. However, there still seem to remain some unanswered questions over the monitoring station: 1) How the meter at the Kermit intake serves the MCWD plant. 2) How the alarm system operates and 3) whether the monitoring station can effectively operate during a heavy rain event

¹⁵⁰ Lilly Adkins (November 29, 2000) Martin County Coal 'won't pay': Coldwater residents upset over Hatfield's remarks at meeting. The Martin County Sun.

- Directly after the slurry spill, bottled drinking water was being provided by MCCC, but the bottled water is no longer being distributed because, [MCCC president] said, 'the city water is fine,' and there is nothing wrong with drinking it. P.13.

¹⁵¹ Lilly Adkins. (March 14, 2000) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

¹⁵² Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (January 25 2001). Letter to Dennis Hatfield. President. Martin County Coal. From Jack Wilson, Direct. Division of Water from DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

¹⁵³ Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (January 25 2001). Letter to Dennis Hatfield from Jack Wilson, Director. Division of Water. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

¹⁵⁴ Cletus Turner (April 25, 2001) Temporary water line dismantled and removed. The Martin County Sun, p.11.

or flooding. Our team requested clarification on these questions from the Division of Water in February, but the DOW was unable to comment.¹⁵⁵

It seems important to know how the turbidity alarm system at the Kermit facility functions considering cleanup strategies in the impacted area: During the months of cleanup, excavated coal sludge from Coldwater Creek as well as slurry from Wolf Creek were either being hauled or pumped to the Holy Branch Impoundment, which lies directly above Wolf Creek and therefore, directly above Martin County's water intake. (See Map 4.C. Appendix D). Since the Holy Branch impoundment is rated by MSHA as having a "high breakthrough potential,"¹⁵⁶ it seems important that turbidity alarm systems are in place and operational considering the potential (high potential) for another impoundment breakthrough impacting Martin County's public water supply.

December 12, 2000

Amid rising concerns, an official from the **Drinking Water Branch of the Division of Water inspects the Martin County Water Treatment plant** and observes a series of violations of water treatment standards. These are listed in a notification to the MCWD plant. The observations include,

- 1) Filters are not washed properly 2) Filter control valves do not operate properly allowing filters to de-water. 3) Coagulant dosage is not sufficient to form a floc. 4) Sludge tank size influences backwash cycle. (It's too small). 5) No surface wash on filters. 6) There is no chlorine chart recorder. 7) Jar testing is not practiced regularly 8) The PH meter did not work. 9) Lots of leaks in the pipe gallery 10) No written SOP 11) Insufficient equipment to run jar tests 12) Weir on unit 2 is not level 13) No automatic turbidity meters on filters. 14) No filter to waste provided. 15) Chlorine split between treatment units is uneven. 15) Plant junked up.¹⁵⁷

December 24, 2000

Christmas Eve at 8:00 a.m. a twelve-inch main water line leaving the water-plant bursts and after repairing the break, another break occurs 8 hours later at approximately 5 p.m. The resulting water loss is reported at nearly 500,000 gallons of water. Families living in Beauty, Pilgrim as well as in Inez, approximately one-quarter of the County population, are without water through Christmas Eve and Christmas day. The Kentucky Division of Water (DOW) is notified of the water line breaks and the DOW and the MCWD issue a boil water advisory for parts of Martin County.

Meanwhile, one of the county newspapers reports that the temporary waterline at Middle Fork Creek has begun to emit a spray of water and is sending a stream into the nearby trees. Because of freezing temperatures, the spray has frozen on nearby trees, causing the area around the intake to look like a "*Winter Wonderland*," the scene of which is featured on the front page of the weekly edition.¹⁵⁸

¹⁵⁵ Stephanie McSpirit(February 16, 2002) Email correspondence: Records Division, Division of Water: Reply (February 19, 2002).

Our team traveled to Martin County before the final draft of this report to find out more about the turbidity monitoring station at the Kermit treatment facility. A CAC member met us in Martin County and traveled with us to the Kermit facility. The project team was able to talk to treatment personnel who explained the turbidity monitoring station, which is attached to the wall in the Kermit Treatment facility. At the time of the site visit the meter was shutdown due to high floodwaters. Field notes from the visit read,

- Stop at Kermit Water Treatment facility: Ask about Turbidity Meter. It is down at the time we arrive. Plant operator explains that the recent flood rains shut it down. Mentions that the turbidity meter was reading recent flood rains at 3,800 NTUs. Explains that the alarm is supposed to go off at 500 NTUs and it rings into the MCWD plant. Explains that it is then the MCWD's responsibility to call the Kermit plant for more information and updates. To the plant operators recollection, MCWD has never called back when there has been an alarm warning.

Stephanie McSpirit(May 6 2002) Field Notes: Martin County.

¹⁵⁶ Lee Mueller (October 24, 2000) "Drilling planned to find spill cause." Lexington Herald Leader

¹⁵⁷ Vicki Ray (December 29, 2000) Martin County Water District #1: Observations. Commonwealth of Kentucky. Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection. Frankfort Office Park. 14 Reilly Rd. Frankfort, KY. 40601.

¹⁵⁸ Lilly Adkins and Cletus Turner. (January 3,2001) County Water users have dry Christmas. The Martin County Sun. p.2.

Martin County will stay on a boil advisory because of line breaks and low line pressure through mid January. Based on field notes, formal interviews, and a content review local news reports and 'letters of the editor',¹⁵⁹ it appears that many Martin County citizens are growing frustrated with operations at the MCWD plant. Other reports indicate some tensions within the Water Board. Some Board members do not view MCCC-Massey and the coal waste spill as the source of the plant's difficulties,¹⁶⁰ but one Water Board member, believes that MCCC-Massey should be held accountable for some of the MCWD problems:

- Our workers are on duty 24 hours a day trying to maintain water for everyone and we are on the way to doing that, but I think that Martin County Coal needs to bring drinking water out to people.¹⁶¹

December 24, 2000

MCWD Water plant considers pumping from the Tug River: After weeks of drawing water through the temporary line from Middlefork, the MCWD considers opening its permanent Tug River intake. The MCWD plant supervisor states,

- We're waiting for the turbidity levels to go down some. We don't want to pump black water into the reservoir.¹⁶²

Early January 2001

Periodic line freezes and boil advisories cause the **MCWD to begin pumping from its permanent Tug River intake.**¹⁶³ The MCWD plant supervisor tells local reporters that the plant has,

- Resumed pumping water from the Tug River pumping station.¹⁶⁴

A week earlier, a representative from the State Division of Water (DOW) cautions against the heavy rains and advises the MCWD to take a 'wait and see' approach. But the decision to pull water from the permanent intake, according to the DOW representative, is ultimately the decision of the Martin County Water District. He states,

- [It's] their call.¹⁶⁵

Based on the above statement, it appears that the State DOW awards jurisdiction to the MCWD to decide whether and when to shift to its permanent intake. Perhaps this can explain why there is no record of DOW re-inspection of the MCWD plant in late December prior to the shift back to the county permanent water source on the Tug River. Based on a review of DOW records that are publicly available, it appears that the DOW did not complete a follow-up inspection on its early December citation to assure that the plant was in compliance and operating at treatment standards before the MCWD shifted to its permanent water source on the Tug River.

¹⁵⁹ See, for example: Lilly Adkins. January 10 2001. Local Sun Poll. The Martin County Sun. p.15. *Question:* Do you think Martin County Coal should be responsible for providing both the citizens and the schools with bottled water, and do you think they should have to pay our water bills? Eight out of eight persons survey report, "yes" and provide comment.

¹⁶⁰Mark Grayson (November 8, 2000). "Where's Drewie, John R. and Jack H? Public's lawyers have been silent on sludge issue." The Martin County Sun. p.4.

¹⁶¹ Lilly Adkins and Cletus Turner. (January 3,2001) County Water users have dry Christmas. The Martin County Sun. p.2.

¹⁶² Cletus Turner (December 27, 2000) EPA Okd pumping from Tug. The Martin County Sun. p.2.

¹⁶³ Cletus Turner (January 10, 2001) Frigid Weather Worsens water situation. The Martin County Sun. p.2.

¹⁶⁴ Lilly Adkins and Cletus Turner. (January 3, 2001) County Water users have dry Christmas. The Martin County Sun. p.2.

¹⁶⁵ Cletus Turner (December 27, 2000) EPA Okd pumping from Tug. The Martin County Sun. p.2. Though reported as a DOW spokesperson, a Citizen Advisory Committee member is sure that this statement was from an EPA Region 4 representative: Stephanie McSpirit. Field Notes: Telephone Conversation with Citizen Advisory Council member. April 17, 2002

January 4, 2001

At the January informational meeting between Coldwater residents and MCCC representatives many residents are concerned about the health hazards of drinking the water and **ask Martin County Coal to provide drinking water to citizens in Martin County**. One citizen tells the president of MCCC that people could not get enough water and that some could not afford to go out and buy it while continuing to pay their regular water bill. The citizen states,

- The people should be able to get some clean drinking water.¹⁶⁶

The president of MCCC responds,

- I wasn't aware that there was much of a problem. I only know what I was told and what I read in the newspapers. I guess they had a couple of lines break on Christmas Eve, and all the water leaked out. They couldn't run the plant for a while and since it's been so cold people have been letting their water run and they can't get enough water fast enough.¹⁶⁷

The president of MCCC points to the Martin County Water District for Martin County's water problems,

- The Kentucky Division of Water regulates the quality and I remember reading in one of the papers that there were problems in the plant and that they had been cited for them. Maybe there's a problem with some of the equipment or with the process in the plant.¹⁶⁸

The citizen is reported as replying,

- Nobody wants to claim responsibility. What are people supposed to do?¹⁶⁹

January 8, 2001

A correspondence between the U.S. Army Corp of Engineers and the Cabinet of Natural Resources and Environmental Protection reports that, after three months of cleanup activities, by early January, **half of the slurry and coal waste has been excavated**. The letter to the Cabinet Secretary reads,

- As you know [...] 50% of the coal slurry has been removed from the streams and floodplain and disposed of at proper locations. [...]¹⁷⁰

January 8, 2001

At the January informational meeting between Wolf Creek residents and MCCC-Massey representatives many residents are **concerned about "film" on their dishes**. Wolf Creek residents want to know what is wrong with the water and ask what the film is on their dishes. The MCWD plant supervisor who is present at the meeting informs citizens that the water plant is now pumping from the Tug River into the reservoir and from the reservoir into the plant where it is treated and goes on to the customer. With the shift to the permanent water intake, the MCWD plant supervisor explains,

- You shouldn't be getting as much lime on your dishes now.¹⁷¹

¹⁶⁶ Lilly Adkins (January 10, 2001) Benefits for Displaced will end after 6 months: Water becomes topic of sludge meeting. The Martin County Sun.p.10.

¹⁶⁷ Lilly Adkins (January 10, 2001) Benefits for Displaced will end after 6 months: Water becomes topic of sludge meeting. The Martin County Sun.p.10.

¹⁶⁸ Lilly Adkins (January 10, 2001) Benefits for Displaced will end after 6 months: Water becomes topic of sludge meeting. The Martin County Sun.p.10.

¹⁶⁹ Lilly Adkins (January 10, 2001) Benefits for Displaced will end after 6 months: Water becomes topic of sludge meeting. The Martin County Sun.p.10.

¹⁷⁰ Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (January 8 15 2001). Letter to Colonel John D. Rivenburgh, U.S. Army Corp of Engineers, Huntington District from James Bickford, Cabinet Secretary. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

One citizen asks,

- Then what is that stuff? We never had that problem until the slurry came.¹⁷²

The MCWD plant supervisor responds and defends MCCC-Massey,

- I don't know, I guess Middlefork Creek must have had natural lime in it to start with. The plant is running at 100% and can't do any more. I can tell you that the water problems had nothing to do with Martin County Coal.¹⁷³

January 24, 2001

The Martin County Fiscal Court meets in late January. Citizens attend the meeting to voice concerns over water quality and water treatment in the county. According to local press reports, a **citizen recommends that the court conduct its own tests** and report those results to residents. The citizen also suggests that court hire an independent engineer to inspect the plant and make recommendations. The press reports,

- The feeling in the meeting was Martin County Coal was solely responsible for the problem. [Name of Magistrate] said the finger of blame should not be pointed anywhere and that everyone needed to cooperate to find a solution.
- Resident [name] suggested a committee be formed to seek funding for a new plant and that Martin County Coal should donate \$1 million for a new plant.¹⁷⁴

The County Judge Executive is reported at the meeting as saying,

- I understand where everybody is coming from both as the judge and a citizen, because my wife complains about the white film.¹⁷⁵

The Judge is quoted as saying,

- This sludge spill is worse than the Exxon oil spill and it has affected us in many different ways. However, the one common thing is the water, and I feel that a better line of communication needs to be set up between the court and the Water district.¹⁷⁶

The Judge is further quoted,

- I promise you that I will strongly urge them to do the tests. If they refuse, the PSC will be called in. I want clean water for all the citizens of Martin County, and I will do everything possible to see that happen.¹⁷⁷

¹⁷¹ Lilly Adkins. (January 10,2001) "Martin County Coal president announces: Benefits for displaced will end after 6 months." The Martin County Sun. p.10.

¹⁷² Lilly Adkins. (January 10,2001) "Martin County Coal president announces: Benefits for displaced will end after 6 months." The Martin County Sun. p.10.

¹⁷³ Lilly Adkins. (January 10,2001) "Martin County Coal president announces: Benefits for displaced will end after 6 months." The Martin County Sun. p.10.

¹⁷⁴ Gary Ball (January 31, 2001) Lafferty requests count district take independent test. The Mountain Citizen. p.5.

¹⁷⁵ Gary Ball (January 31, 2001) Lafferty requests count district take independent test. The Mountain Citizen. p.5.

¹⁷⁶ Gary Ball (January 31, 2001) Lafferty requests count district take independent test. The Mountain Citizen. p.5.

¹⁷⁷ Gary Ball (January 31, 2001) Lafferty requests count district take independent test. The Mountain Citizen. p.5.

February 7, 2001

HELP Organization holds February meeting.¹⁷⁸ While an outside New York law firm reports preliminary results on its chemical analyses of the water, Martin County Citizens report on their own observations of local water quality at this public meeting. One citizen brings a jar of clouded water to the meeting. The citizen says,

- You can't tell me this is safe to drink, there's no way I'm drinking this.¹⁷⁹

Another citizen brings a boiled egg to the meeting that has a white crust or white deposits on its shell after being boiled in county tap water. The egg is passed around for other citizens to take note.¹⁸⁰ During the meeting, there is discussion among citizens on possible ways to independently monitor the drinking water supply and monitor activities at the local water treatment plant. Citizens discuss the logistics, the technical lab resources and financial funds necessary to independently monitor water quality and water treatment. Some citizens, in attendance, volunteer to look into this and a subcommittee of local citizens is formed to address this issue.¹⁸¹

February 2001

Martin County citizens complain of skin rashes that they believe are being caused by the county water. One Martin County citizen circulates a petition that he says he'll use to urge health officials to check into the county water supply. In all, thirty-eight signatures are collected on the petition. The solicitation reads,

- Anyone who has a rash with prolonged itching following the sludge spill at Martin County Coal, or any other health problems such as swelling in the hands and feet, please contact us at [...] ¹⁸²

In our February interviews with Martin County citizens, several citizens talked about skin irritations and other mild health problems that they believed were related to the public water supply. Other citizens, when referring to the public water supply, referred to the added expense of purchasing bottled or jug water, not only for drinking, but also for cooking and sometimes washing. Some of these other citizen comments are summarized below:¹⁸³

- I know we have to use bottled water. [...] I don't think people should have to pay for their water when they can't even use it
- You know we weren't worried about it or anything, but now it is nasty and there isn't another word for it. I heard that the coal company paid for and brought in for the first week or so, bottled water. Yes, to certain people and to certain places... Yes, but no more we buy it and it is getting expensive.
- The price of water has remained the same, but you have to take into account that now we have to buy it to cook with, to brush your teeth with, and for my pets. All that.
- You know we have to buy our own drinking water. I can do that, but there are a lot of families that cannot do that. For so many weeks after the spill, the coal co. and our county provided homes with a case of water. A case of water doesn't go very far when you have to put it in your coffee pot, or when you fix any kind of pasta, you have to boil water. You have to do that. So a lot of people can't afford to buy their own water. Also, another issue and my neighbor has a small child, is that their pediatrician has told them to buy water but they have to buy the water that has...that's for pediatrics because it has to have fluoride in it. They are having buy

¹⁷⁸ Lilly Adkins (February 14, 2001) Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14-15

¹⁷⁹ Lilly Adkins (February 14, 2000) Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 15.

¹⁸⁰ Lilly Adkins (February 14, 2000) Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 15. Stephanie McSpirit (February 7, 2001) Field Notes: HELP organization meeting. Martin County Court House. 6:00-9:00 pm.

¹⁸¹ Stephanie McSpirit (February 7, 2001) Field Notes: HELP organization meeting. Martin County Court House. 6:00-9:00 pm. See Also: Lilly Adkins (February 14, 2001) Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14-15 *Technical Advisory Committee* formed.

¹⁸² Lilly Adkins (January 24, 2000) Osbornes say doctor blamed county water for family's skin rash. The Martin County Sun. p.2.

¹⁸³ February. 2001. Field Interviews.

water that has fluoride in it because that has always been an advantage to being on city water because it has fluoride in it and we have never as children have had to get a fluoride treatment from a doctor. So now you know, if you have a small child, well, that is the one other concern. And that water is more expensive to buy than just regular distilled water.

March 5, 2001

A week prior to the scheduled March public meeting, the EPA On Scene Coordinator telephones an Agency for Toxic Substance and Disease Registry (ATSDR) representative and requests that they be present at next week's scheduled public meeting. The ATSDR telephone log reads,

- On March 5 at 11:15 a.m. I returned a call to [name] EPA/ OSC. He indicated that a public meeting had been set up for next Tuesday on March 13. He would like an ATSDR representative to be present to discuss toxicity and expected health effects; [...] **there is a lot of media attention and resident claims of skin rashes since the release.** He asked how that can best be arranged and what would we need?¹⁸⁴

Mid March 2001

Between both the EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) there appears to be **some inter-agency confusion on when the MCWD plant starts drawing water from the Tug Fork.** The ATSDR report, for example, provides several reasons why it is unlikely that the coal slurry is the cause of reported of skin rashes in the County. Two of the reasons deal directly with the Martin County Water District and the treatment facility. They read,

- The treatment system at the plant deals with lower concentrations as a matter of routine.¹⁸⁵
- The coal slurry was never taken into the plant because the intake was closed, according to the plant operator.¹⁸⁶

In the ATSDR report and during the March 12 EPA public meeting there appear to be several other misstatements by the EPA and ATSDR on when the MCWD began pulling water from the Tug Fork. It appears that some EPA and ATSDR officials are not aware that the MCWD began pumping water from the Tug Fork in late December when, based on other documented reports, half of the slurry had been excavated from the impacted creeks. Martin County Citizens in one of their summer teleconference sessions with EPA Region 4 try to clarify this for the agency record. The teleconference minutes on this topic read,

- The community reps reiterated their concern about what they believe is an incorrect statement in the ATSDR report that says something to the effect: "the water plant did not pump water from the Tug River from the time of the spill until March 13th." They believe they have information that can correct this and other statements used as background and assumptions in the ATSDR report. EPA suggested that they correspond with ATSDR officials on this matter.¹⁸⁷

¹⁸⁴ Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117.

¹⁸⁵ **Project Note:** The ATSDR assumption that the MCWD treatment facility can handle and treat higher concentrations of various compounds that have been identified in the slurry because the facility is already handling and treating such materials at lower concentrations seems unclear. It is unclear whether the facility is able to treat and filter such materials to start, since based upon consultation with other university faculty, who are familiar with water treatment, facilities tend only typically to treat for bacteria. Admittedly, there are filtration systems that can handle and treat for chemical and metal compounds, but it is unlikely that such systems are in place at the MCWD plant. See, for example, International Environmental Technologies, Inc. (October 2000) Tug Fork Coal Fine Spill Water Cleanup Proposal. Danville, Kentucky. DOW File: 0054810-680-8002. Martin County Coal. The other added reason, why it is unlikely MCWD can treat higher concentrations is the MCWD was cited for not meeting state water quality standards several months prior, in December 2000.

Stephanie McSpirit(February 13 2002) Field Notes: Consultation with University Faculty.

¹⁸⁶ Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117.

¹⁸⁷ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft 1.

Recommendation

In the final section of this report, we recommend that the Kentucky Appalachian Commission, the Department for Local Government and the Office of the Governor address water quality and water treatment issues in Martin County. The Kentucky Public Service Commission has also begun to review water treatment issues in Martin County in early 2002.¹⁸⁸ These state policy measures and our set of recommendations are in accord with survey findings already at the start of this report. Survey findings indicate that 8 out of 10 Martin County citizens rated drinking water a ‘serious problem’ in comparison to only 2 out of 10 Perry County citizens rating drinking water the same way. Below are more findings on survey questions related to water treatment. Table 4.A. shows that in comparison to Perry County citizens, Martin County citizens are significantly more likely to strongly disagree that “the water treatment facility does a good job of meeting water quality standards.” More Martin County citizens (68%) in comparison to Perry County citizens (30%) strongly agree that the ‘water treatment facility should enforce stricter water quality standards.’

Considering the overall concern with water quality and water treatment, as expressed by Martin County citizens in these percentages and in other survey questions, in the next section of this report, we continue to address water quality issues in Martin County. In the next section, the student-faculty research team addresses the water quality testing and monitoring that has been done in the county since the October coal waste spill.

Table 4.A. Water Quality and Water Treatment ^a: Martin and Perry County Compared						
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The water treatment facility does a good job of meeting water quality standards (n=450, X²=144 p=.000)	Martin County	45%	32%	12%	6%	5%
	Perry County	6%	19%	28%	41%	5%
The Water treatment facility should enforce stricter water quality standards (n=500, X²=78 p=.000)	Martin County	1%	1%	2%	27%	68%
	Perry County	5%	3%	11%	53%	30%
Coal severance taxes should be used to upgrade the water treatment facility (n=486, X²=30 p=.000)	Martin County	4%	4%	9%	27%	57%
	Perry County	4%	5%	15%	43%	33%

a. Other percentages on other water quality questions are reported in the next report section on *Water Quality Testing and Monitoring*.

¹⁸⁸ SEE: Gary Ball (April 10, 2002). Martin County Water District in crisis: PSC issues emergency order; DOW team conducts ‘sanitary survey.’ P.1.

Section Five:

Water Quality Testing and Monitoring

Environmental Regulations Guiding EPA and DOW Actions in Martin County

In the early days of the disaster, as part of the Unified Command Structure (UCS), a *Superfund Technical Assessment and Response Team* (START) provided support with operations, water treatment and logistics. Though a Superfund response team was on the scene at the start of the spill, in its year-after taskforce report on Martin County, EPA Region 4 stresses that the EPA and the UCS did not respond to the spill under Superfund guidelines. The year-after Taskforce Report explains that since the coal waste spill was not considered nor classified as a hazardous chemical release, it did not qualify as a Superfund response. Months after the disaster, in a teleconference conversation with EPA officials, several Martin County citizens, asked for clarification and explanation on this. They asked why the Martin County coal waste disaster was not declared a Superfund site. The minutes from this teleconference session read,

- The citizens expressed their concern that even though the coal slurry apparently had mercury, PAH's, waste fuel oil (from the coal operations/ machinery) magnetite, etc. –the site ended up not being a Superfund site. [An EPA official] talked about the challenges EPA had in making this determination. She said that since many of the chemicals were naturally occurring, this was factored into the final decision regarding Superfund status.¹⁸⁹

Based on our field interviews and survey responses, many Martin County citizens would take issue with how EPA classified and responded to the coal waste disaster. But before presenting the position of what appears to be many Martin County citizens (based on our survey findings), it seems important to summarize and outline more fully, Superfund response guidelines as well as other relevant environmental regulations. Our research team believes that a review of the statutes and regulatory guidelines pertaining to coal waste, applied in Martin County, might clarify EPA Region 4 actions. By having a clearer view on EPA Region 4 response actions this might, in turn, help clarify *-through contrast-* the position of many citizens. What follows is a brief review of the response and regulatory statutes that the EPA applied in responding to the coal waste disaster in Martin County. After this statutory review, we provide a review of citizen testimony (expert testimony) and other citizen commentary on coal waste and coal processing methods.

CERCLA –Superfund

The Comprehensive Environmental Recovery Compensation and Liability Act (CERCLA) passed into law in 1980. The history of events leading up to the passage of CERCLA is well-summarized elsewhere.¹⁹⁰ Therefore, it is only necessary here to note that CERCLA is a 'response statute' rather than a regulatory statute. As a response statute, CERCLA sets out several important mechanisms to assist and guide the EPA in *responding* to reports of chemical-industrial contamination; with the passage of CERCLA in 1980, several response procedures were added to the 1968 *National Contingency Plan* so that the EPA could better coordinate its actions in cases of chemical-industrial accidents. As mentioned in the *Civic Capacity* section of this report, these response mechanisms have since been amended to include more provisions for public participation in EPA response actions to chemical industrial disasters. As stated in the *Civic Capacity* section, there are now more provisions for citizen input in site characterization, environmental assessment and public comment on recovery plans or work plans.¹⁹¹ During site characterization, for example, under amended CERCLA provisions, citizens can apply for technical assistance grants to conduct their own independent assessments on environmental impact. These public participation provisions are noteworthy and will be addressed once again, at the end of this report.

Aside from its amended and updated channels for public input, CERCLA is probably best known for its *Superfund* provisions. In 1980, under CERCLA, a general fund or *Superfund* was established through taxes levied on the petrochemical industry; this general fund has assisted the EPA in responding to chemical industrial accidents and

¹⁸⁹ ¹⁸⁹ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

¹⁹⁰ See: Andrew Szasz (1994) *EcoPopulism: Toxic Waste and the Movement for Environmental Justice*. Minneapolis: University of Minnesota Press. Another book that helps set the context behind CERCLA is: Adeline Levine (1982) *Love Canal: Science, Politics and People*. Massachusetts: Lexington Books.

¹⁹¹ United States Environmental Protection Agency. SARA Overview. Available online: [HTTP://www.epa.gov/superfund/actions/law/sara.htm](http://www.epa.gov/superfund/actions/law/sara.htm)

initiating cleanup and reclamation activities, while fines and other reclamation costs may be pending against potentially responsible parties or industries. In cases where no responsible party can be identified or held accountable, the Superfund serves as a 'trust fund' in EPA cleanup and reclamation of abandoned industrial sites, also known as *brown fields*.¹⁹² With the passage of CERCLA in 1980, a system was established for prioritizing and reclaiming abandoned hazardous waste sites and abandoned industrial sites. This designation system, under CERCLA, is referred to as the *National Priorities List (NPL)*.

To summarize CERCLA: 1. CERCLA is a response statute that guides EPA actions in the field when EPA responds to and cleans up contaminated sites that threaten the environment and public health. 2. CERCLA established a general fund or Superfund that assists the EPA in financing site mitigation and remediation strategies. 3. CERCLA established a National Priorities List, which prioritizes sites for environmental cleanup and remediation; these sites that are scheduled for EPA CERCLA response activities are typically referred to as "NPL" sites. 4. CERCLA, under its amendments, has several important provisions for involving local citizens in site assessment and remediation strategies.

RCRA –Resource Conservation and Recovery Act

Most sites listed on CERCLA's National Priorities List (NPL sites), and that are scheduled for EPA cleanup and remediation under CERCLA, are abandoned *brown fields*. Because of the long term and acute impacts of hazardous waste sites on the environment and public health, hazardous industries have become more strictly regulated over the past twenty-five year period. In the late 1970s, due to a series of *Love-Canal type* incidences,¹⁹³ the Resource Conservation and Recovery Act (RCRA) was passed into law in 1978. With the passage of RCRA, hazardous wastes and hazardous industries were more regulated. Whereas CERCLA is a response authority, that guides EPA actions in responding to reports of local chemical contamination, RCRA is a regulatory authority that provides the EPA with a strict set of regulatory guidelines to monitor and control hazardous industries. Today, under RCRA, large-scale industries that either produce or use hazardous chemicals in production and/or that treat, temporarily store or dispose of hazardous materials onsite, are subject to strict regulatory guidelines. Such industries must now maintain a complete log and accounting of all hazardous materials from the point of production to the point of disposal, -i.e. '*from cradle to grave*.' Under RCRA, before renewing an industry permit, industry records are to be reviewed on an annual basis by the appropriate state-governing branch of the EPA.¹⁹⁴ Like CERCLA, RCRA has since been amended to include provisions for public participation as outlined in the *Civic Capacity* section of this report. Like CERCLA, RCRA now contains provisions for citizen involvement in remedial investigations and feasibility studies (RI/FS).¹⁹⁵ Along with RCRA and CERCLA, there are several *Community Right-to-Know* provisions that provide area citizens with rights and access to information on the chemical hazards being used by local industry. Under these provisions, the EPA and industry must provide *Material Safety Data Sheets* (MSDS) that list the hazardous chemicals used in production or mining to area citizens upon request.¹⁹⁶

The Bevill Amendment

With the passage of RCRA in 1978, strict regulatory guidelines were imposed on hazardous industry. For the purposes of this report, it is important to note that an amendment was attached in 1980 to RCRA that would exclude the mining sector from the same set of strict RCRA regulatory guidelines. Under the 1980 Bevill Amendment rather than falling under EPA-RCRA regulatory jurisdiction, the mine industry and mine waste disposal methods would be regulated by the Office

¹⁹² United States Environmental Protection Agency. CERCLA Overview. Available online: [HTTP://www.epa.gov/superfund/actions/law/cercla.htm](http://www.epa.gov/superfund/actions/law/cercla.htm).

¹⁹³ Andrew Szasz (1994) *EcoPopulism: Toxic Waste and the Movement for Environmental Justice*. Minneapolis: University of Minnesota Press. Chapter 3. "Toxic Waste as an Icon: A New Mass Issue is Born."

¹⁹⁴ United States Environmental Protection Agency. Resource Conservation and Recovery Act: 42 U.S.C. s/s 6901 et seq. (1976). Available online: <http://www.epa.gov/region5/defs/html/rcra.htm>

¹⁹⁵ Resource Conservation and Recovery Act (Pub. L. 94-580), PART 25: Public Participation in Programs under the Resource Conservation and Recovery Act and the Clean Water Act. SEE: Electronic Code of Federal Regulations: Available online: http://www.access.gpo.gov/nara/cfr/cfrhtml/00/Title_40/40cfr25_00.html

¹⁹⁶ Congressional Research Service Report. Summaries of Environmental Laws Administered by the EPA. Emergency Planning and Community Right-to-Know Act. Available online: http://www.cnre.org/crsreports/briefing_books/m.cfn. Note: "EPA promulgated a rule May 1, 1997 requiring reports on toxic releases from seven additional industrial categories: including some metal mining, coal mining, commercial electric utilities, petroleum bulk terminals, chemical wholesalers, and solvent recovery facilities (62 Federal Register 23834)."

of Surface Mining and its state-governing authorities. The EPA taskforce report on the Martin County coal waste spill explains how the Beville Amendment pertains to coal mining:

- While coal does contain trace amounts of hazardous substances, it is not clear that they rise to the level that would trigger an EPA response. ... As stated previously, the Beville Amendment in RCRA excludes coal mining wastes from the definition of hazardous wastes...¹⁹⁷

Even though there might be purported claims of local soil, ground and surface water contamination from mine tailings, disposal ponds, and other forms of mine waste run-off, because mine wastes are not defined as hazardous wastes, mine sites have tended to be excluded from NPL Superfund cleanup consideration. Though there are exceptions, to which we will return. Generally, in the case of coal mining, it appears that the decision to exclude abandoned coal operations from CERCLA-Superfund consideration has been a pragmatic one. Otherwise, according to the EPA taskforce report, CERCLA response costs would be prohibitive. The EPA taskforce report on Martin County explains,

- The use of CERCLA authority in the coalfields as a policy matter has been discouraged with these sites being deferred to the Surface Mining and Control and Reclamation Act. The resource implications associated with applying CERCLA authority to coal mining wastes is significant. There are thousands of abandoned mines. Many of the coal mines were created decades ago and have no existing potential responsible parties.¹⁹⁸

EPA Review of the Beville Amendment

While it has been the general policy stance of the EPA to strike mine sites from the National Priorities List, there have been exceptions to this general rule. Currently, there are 60 abandoned and active mines throughout the United States that are on the NPL List, with Superfund cleanup and remediation costs of mine contaminated areas projected at twenty billion dollars.¹⁹⁹ Most of these contaminated NPL sites are either minerals or metals mines located in the West and Southwest regions of the United States;²⁰⁰ however, abandoned coal mines and coal waste ponds have, in the past, been listed as NPL sites. In 1984, for example, the Big Branch Impoundment in Martin County was under site consideration as a potential NPL site, but according to one EPA official,

- the pond never made it onto the priority list for cleanup because it fell outside EPA's oversight.²⁰¹

The next year, in 1985, the EPA did respond to reports of environmental harm from coal waste contamination in the town of Hardy, Pike County, Kentucky. In Hardy, the EPA determined that slurry from underground mine works had contaminated the local water supply. Based on news accounts of this event, the EPA found a variety of harmful contaminants including arsenic and lead in the sludge. In their response action, it is reported that the EPA ordered the responsible coal company to pay to hook residents up to the municipal water system in Williams, West Virginia.²⁰²

¹⁹⁷ United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Taskforce Report. Pp.6-7. Available online: <http://www.epa.gov/region4/martincs.pdf>

¹⁹⁸ United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Taskforce Report. Pp.6-7. Available online: <http://www.epa.gov/region4/martincs.pdf>

¹⁹⁹ United States Environmental Protection Agency. Risks Posed by Beville Wastes from the Environmental Protection Agency. Available online: <http://www.wsn.org/mining/Beville.html>

²⁰⁰ Note the exception: Phosphate Mining (Fertilizer mines) in Florida. United States Environmental Protection Agency. Risks Posed by Beville Wastes from the Environmental Protection Agency. Available online: <http://www.wsn.org/mining/Beville.html>

²⁰¹ Lee Mueller (October 20, 2000) At Ashland, rising Ohio River holds off sludge for now. Lexington Herald

²⁰² See: Lee Mueller (October 19, 2000) Spill looks like the worst in the nation. Lexington Herald. In April 2002 our team asked to review DOW files on the Hardy incident through the Records Division. Our request is pending as the mine site needs to be specified in our information request. Email Correspondence: Project Director and FOI Coordinator: DOW Records Division. April 14, 2002 and April 16, 2002. We also filed a Freedom of Information request with EPA Region 4 on these reported 1985 actions. In a letter dated June 6, 2002 EPA Region 4 was unable to locate enforcement files on this reported action in Hardy, Pike County. Correspondence: United States Environmental Protection Agency. Region 4. Atlanta Federal Center. to Stephanie McSpirit, Sociology Program. Eastern Kentucky University.

Because of the harmful environmental impacts associated with some mining practices in some mine sectors, and because of environmental accidents at some mine sites that have invoked sometimes a CERCLA response, the Bevill Amendment has been under sporadic review over the past fifteen year period by several EPA advisory committees.²⁰³ In 1991, for example,

- [...] The states, industry, and the environmental community approached EPA and requested that EPA create a forum to further discuss mine waste issues. In 1991, EPA chartered the Policy Dialogue Committee (PDC) on Mining under the Federal Advisory Committee Act (FACA).²⁰⁴

The US EPA, and its series of advisory councils, have since documented that some of the environmental problems associated with the mining industry are the result of more modern mining methods. The US EPA notes in its review of the Bevill Amendment, that of the 60 mine sites that are currently on the NPL list, more than half were active sites in 1985. Because of recent contaminations from mine sites, this suggests, according to the US EPA, that many of the environmental problems connected to the mine industry are due to more recent mine processing methods that tend to rely more heavily on chemical inputs. For this reason, the EPA has begun to review the processing and preparation methods used in the phosphate, copper and gold mining industries to determine whether their Bevill status should be evaluated and stricter environmental regulations imposed on these mining processes.²⁰⁵ Like the EPA, the Mine Safety Health Administration (MSHA) has recently taken on some more oversight responsibility in reviewing (and tightening) environmental regulations over mine operations and preparation. Stricter MSHA oversight is evident in the 2001 passage of the *Hazardous Communication* (HAZCOM) Interim Rule. Under the rule,

- Operators must maintain a written plan, which includes a list of hazardous chemicals at the mine.²⁰⁶

Martin County Citizens Comment

Based on interviews with Martin County citizens and a check on the public record, it appears that a similar review of the preparation and treatment practices used in the coal industry might be considered for EPA reevaluation. Based on our February 2001 field interviews, a Martin County citizen that had long been involved in installing coal preparation equipment at various coal mine sites, explained the standard methods of coal preparation used prior to the introduction of the more intensive chemical methods that are used today in some states. According to citizen testimony, the earlier 'JIG' washer used cleaner methods in coal preparation than the chemical methods used today to process coal. He explains,

- I used to work a lot of construction work, welding and pipefitting. There is a washer called a JIG washer that can wash the same amount of coal without using magnetite or any chemicals. They could build settling ponds and on the discharge end of it run the water right back into the creek, pure water with no chemicals in it. The settling in the bottom of the pond and they can dip that out and take it back on top the hill and let it dry out because it would be nothing but shale and coal which is what came out of the mountains to start with.²⁰⁷
- The JIG type washer, it was used before the 1970s. They can go back to it again. The only thing they need to do is take those [Daniels] washers out and put the JIG washers in, which is much better than the chemicals used now in the water. There is magnetite that is used now, that floats the coal.²⁰⁸

²⁰³ See: United States Environmental Protection Agency. Risks Posed by Bevill Wastes from the Environmental Protection Agency. Available online: <http://www.wsn.org/mining/Bevill2.html>

²⁰⁴ United States Environmental Protection Agency. Risks Posed by Bevill Wastes from the Environmental Protection Agency. Available online: <http://www.wsn.org/mining/Bevill2.html> **Project Note:** The Western Governor's Association has initiated a review of the Bevill Amendment on several past occasions. See: Same Source: EPA. Risks Posed by Bevill Wastes.

²⁰⁵ United States Environmental Protection Agency. Risks Posed by Bevill Wastes from the Environmental Protection Agency. Available online: <http://www.wsn.org/mining/Bevill2.html>

²⁰⁶ Mine Safety Health Administration. HAZCOM rule appears on MSHA homepage at [WWW.msha.gov](http://www.msha.gov) under "Statutory and Regulatory information." **Project Note:** According to the MSHA page, the standard became effective October 3, 2001

²⁰⁷ February, 2001. Field Interviews.

²⁰⁸ October, 2001. Field Interviews.

This citizen-expert goes on and explains the current preparation methods used in coal treatment. He explains the current use of the “Daniels Washer” in coal preparation,²⁰⁹

- The coal company and the EPA like to call it slurry. A slurry is a fast moving substance. What came down Coldwater...was very, very slow moving. It's magnetite, very thick, thicker than any mud you'll ever see. Magnetite is used in the processing of the coal. To wash the coal, it is used in a Daniel's washer. It's iron ore magnetite. It floats the coal in a Daniel's washer. Gravity is what floats the coal. When gravity goes down you have to add more magnetite. There is water in it. The gravity of the magnetite makes the gravity of the coal come to the top of the water and flows across the Daniel's washer. The water then goes back to a magnetic separator. A magnetic separator separates the water from the magnetite. It sends magnetite back to the washer. They only recover ... well they get 70% recovery of the magnetite on average.

The other 30% goes out into what they call a thickener. When you go down into the thickener, they add other chemicals to it. That's where we get the chemicals. Then those chemicals will sink the magnetite down to the bottom. There's a big pump. It's called a thickener pump. It pumps that 30% of magnetite that's not been recovered back to the impoundment. The water that comes to the top, they will run it back through and reuse it. That's the purpose of sinking the magnetite.

They add other chemicals to the water to bring it to the top. The magnetite once it goes back to the impoundment...there is a certain water percentage still in it, -in order for it to be pumped. Most of the time, they will run a flocculent through and that will bring the water...the main part of the water to the top. Then they can have a standpipe there in that water. Supposedly it's clean enough to feed back into the streams.

Then the magnetite settles to the bottom of the impoundment and there is so much weight on it that you can take a five-gallon bucket of it and you cannot carry it. It's that thick.

In a November 2000 meeting with residents on Coldwater Creek, the president of MCCC acknowledged that flocculants and magnetite are used in coal preparation. The local press reports that residents at the November meeting were very concerned about potential contamination of the local watershed and area wells. One citizen asks the president,

- Would you put your hand on the Bible and swear there were no chemicals in the water that would be harmful to us?²¹⁰

The president responded,

- Yes. I wouldn't lie to you. There might be people who look at it in a different way, but I will tell you the truth. The ingredients in the slurry are earth elements, stuff that occurs naturally in the earth. We use floc and magnetite to wash the coal and that's all. Floc is biodegradable.²¹¹

Other citizens in their February field interviews with the student-faculty research team, would offer further comments on coal mining methods and coal waste,²¹²

²⁰⁹ October 2001. Field Interviews. Note: This Expert Testimony was also recorded April 23, 2002. Eastern Kentucky University
Project Note: The above testimony tends to be corroborated by other information contained at the MSHA Website on coal preparation and impoundments. The summary on preparation methods reads,

- In addition to fine coal and waste rock, here is a partial list of typical products used in coal prep plants (much like the plant at Martin County Coal Company) Anionic flocculants –work with negatively charged ions Cationic flocculants –work with positively charged ions; Reagent flocculants; lime; natural and modified starches; caustic starch; sulfuric acid-ph adjuster; alum (aluminum sulfate) –ph adjuster; anhydrous ammonia; reportedly, Martin County Coal used the following in their prep plant anionic flocculants.Mine Safety Health Administration. What is in a Coal Mine Waste Impoundment?

Available online:<http://www.msha.gov/impoundments/chemcials-imp.htm>

²¹⁰ Lilly Adkins (November 29, 2000) Martin County Coal 'won't pay:' Coldwater residents upset over Hatfield's remarks at meeting. The Martin County Sun. p. 12-13.

²¹¹ Lilly Adkins (November 29, 2000) Martin County Coal 'won't pay:' Coldwater residents upset over Hatfield's remarks at meeting. The Martin County Sun. p. 12-13.

²¹²Field Interviews. February 2001. Martin County. Kentucky.

- Prep plants treat the coal waste so it will float to the top and the heavier stuff will settle to the bottom....
- All I know is what we've been told the findings of the water results is common knowledge of the toxic chemicals that are in it and we know it is up to the point of the water system, from there, we don't know and that's a clear fact. In my opinion the water is contaminated and I hope when we get the results back on the water itself, I hope they don't find anything. I really do, but I think they will find something. It's very scary. I get very emotional.
- I know we've talked to a lot of the workers and a lot of them have a hard time because the guys that work the strip jobs, they know for a fact what is in the sludge, they know the chemicals that are in it, so many people tell us that there is diesel fuel in that.
- I know that there are a lot of things down underground, -hydraulic oil, acid from batteries, chemicals.
- Then you have all that weight on top... It just pushed the top of it on down. And with the remaining material that is already on the inside of the mine from the previous break. It is my opinion that all we got was what was already on the inside of the mine. It had been sitting there for six years. And on the inside of a mine when they change oil in the equipment, they drain on the inside of the mine. This magnetite was sitting in there all these years absorbing all these oils. They use diesel fuels. You had all these diesel fuels in there, diesel oil spills, and hydraulic hoses inside the mine. And this material was in there soaking it up. That is what we got down our creek.
- They've let out 250 - million gallons of sludge, -that's 20 years old. Some of that stuff was outlawed ten years ago. So you know what its doing to the ecology
- Now retired coal miners ... told county officials, ... of the barrels of oil, assorted chemicals and coal slurry that were regularly pumped into old mine shafts by [company personnel] when they worked there.²¹³

Field testimony from Martin County citizens provides some insider commentary on industrial processes and waste disposal practices used in the coal industry. But what of our survey findings? Do other Martin County citizens feel the same way? As those that provided testimony and insider commentary? Based on survey findings, it appears that a cross-section of Martin County (and Perry County) citizens hold the same view as those that we interviewed. When asked to respond to the following question, 'coal sludge is not hazardous,' an overriding majority of citizens in both coal-producing counties either strongly disagreed or disagreed with this survey statement. Total 87% of Martin County citizens either strongly disagree (70%) or disagree (17%) with the statement, while a similar 83% strongly disagree (47%) or disagree (36%) in Perry County.

A further breakdown and analysis by involvement in the coal industry suggests no significant difference between industry insiders and other persons in Martin and Perry County. In accord with the official company position, we predicted a higher number of persons involved in the coal industry agreeing that '*coal sludge is not hazardous.*' Table 5.A. does not show this. An equal percentage of persons involved (61%) and not involved (61%) strongly disagree with the survey statement that '*coal sludge is not hazardous.*'

²¹³Mark Grayson (October 25, 2000) Martin Countians blindsided by spill. The Martin County Sun P. 16.

Table 5.A. Coal Sludge is not hazardous: ^a A Comparison by County and Mine Sector						
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Coal sludge is not hazardous... (n=476 X ² =30 p=.000)	Martin County	70%	17%	4%	5%	5%
	Perry County	47%	36%	6%	7%	4%
Coal sludge is not hazardous by... Is any person in your household involved in the mining industry -either through being employed, the sale of mineral rights, or through other business-related activities? (n=447 X ² =3.36 p=.451)	YES	61%	22%	5%	8%	4%
	NO	61%	27%	4%	4%	4%

f. Other percentages on other survey questions are reported in the *Survey Appendix* of this report.

Content Summary

To summarize so far, in 1980, with the passage of the Beville Amendment, mine processing methods and mine wastes were excluded from the strict RCRA-EPA guidelines that now regulate hazardous industries and hazardous waste. However, over the past fifteen years, the Beville Amendment has been under periodic EPA review with regard to some mine processing and disposal methods within some mine sectors. Our field testimony with Martin County citizens suggests that some of the processing and disposal methods used in coal mining might also be up for regulatory review and reevaluation. Our survey findings tend to corroborate our field testimony. Survey results report much popular skepticism among citizens, living in coal communities in both Martin and Perry County, as many tend to disagree with EPA Beville classifications of coal waste as not hazardous waste.

Needless to say, despite sporadic review of the Beville Amendment over the past decade, when responding to the coal waste disaster in Martin County, EPA Region 4 responded, in the end, under the regulatory guidelines set out under the Beville Amendment.²¹⁴ Under standard Beville classifications, with coal waste being classified as non-hazardous waste, the EPA did not to invoke its CERCLA response powers in responding to the disaster in Martin County. Instead, EPA Region 4 characterized the release as nothing more than what was already “naturally occurring” in regional soils.

The Statutory Structure and the Unified Command Structure

Beyond statutory guidelines, it appears that another added reason why EPA Region 4 did not respond under CERCLA and did not declare Martin County a potential superfund site is that from the start, response costs were assumed by MCCC-Massey. As summarized in the *Lexington Herald Leader*,

²¹⁴ Based on other documentation cited in the next section of this report, there appears to have been, however, some initial consideration within the EPA to respond to the coal waste spill in Martin County by invoking its CERCLA authority. This point of interest is discussed in the first pages on the next section on *Cleanup, Reclamation and Civic Capacity*.

- Detecting hazardous materials in the sludge automatically made the disaster eligible for EPA’s superfund assistance. But [the EPA OSC] said, the coal company -owned by AT. Massey has been working hard to limit the damage with its own money.²¹⁵


It has already been noted in the *Civic Capacity* section of this report, that under the Unified Command Structure (UCS), it appears as though MCCC-Massey might have been taking the lead role in some of the environmental monitoring and remediation activities in Martin County. Events already presented in the *Civic Capacity* section of this report, suggest that MCCC-Massey may have been responsible for much of the testing and monitoring of area surface waters after the disaster. Other test events summarized in the following subsection on Water Quality Testing and Monitoring may provide some further support that MCCC –Massey might have taken the lead in assessing the environmental impact of the disaster on the area watershed. Recognizably, it is standard practice in water discharge permits, for coal companies and mine company personnel to grab their own samples and self-monitor mine waste discharge into area surface waters. But it seems reasonable to assume, that after an environmental disaster, the comments of several Martin County citizens, apply: That is, it seems reasonable to expect that the responsible party should not be self-monitoring and self-conducting its own set of environmental impact statement. Rather, it seems reasonable to expect that the EPA, and its corresponding state enforcement body, should assume full jurisdiction over environmental monitoring and assessment after a disaster. But it appears, that with MCC-Massey assuming fiscal control and responsibility for cleanup and remediation, federal and state jurisdictional control over environmental assessment was compromised.

It might appear, therefore, that both the Unified Command Structure, and the statutory structure, might help explain environmental monitoring and assessment and subsequent citizen concerns in Martin County. With MCCC-Massey seemingly taking the lead in environmental assessment under the UCS, and with the EPA proceeding under the preset Beville claim that coal waste is not hazardous, Martin County citizens may, in the end, have legitimate concerns with the purported objective testing and analyses being conducted and compiled by company and regulatory authorities in the field in Martin County. Moreover, it would appear that on two counts, command structure and statutory structure, Martin County citizens have substantiated claims in pressing for an independent objective assessment of the impact of the coal sludge spill on the local watershed. As one Martin County citizen commented,

- I say when we get our own results and start from that [...]

Recommendation

At the end of this report, we present this as a principal recommendation. This report will recommend that the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor, back citizen efforts to independently monitor and check the local watershed and water treatment in Martin County. In moving towards this recommendation, it seems important to set more the context behind this recommendation. On the following pages, an outline of some of the major water testing and water-monitoring actions that have happened within the Unified Command Structure since the October coal sludge spill are summarized. This set of events should frame our report’s central recommendation for independent testing and monitoring of the area watershed with full citizen oversight.

Water Test Events since the Coal Waste Disaster 

The First Days

During the early days of the disaster, MCCC-Massey starts working with federal, state and local agencies to develop a water testing, monitoring and impact assessment plan. Under the Unified Command Structure (UCS), MCCC-Massey is ordered to conduct day-to-day monitoring of the impact of the sludge spill on local surface waters. MCCC-Massey is ordered to submit daily water test reports from sampling stations on Coldwater, Wolf Creek and the Tug Fork. MCCC-Massey, in order to collect daily samples from impacted surface waters, subcontracts with several in-state and out-of-state regional environmental testing firms.²¹⁶ Along with collecting water samples from sampling stations, these firms conduct the required water tests and analyses that are then reported either directly to MCCC-Massey²¹⁷ or to the Unified Command Structure. Many of the tests are summarized below, including tests on toxicity as well as other chemical tests done on the local watershed. Other routine water tests are also performed. These tests are performed daily under the UCS

²¹⁵ Lee Mueller (October 19, 2000) Spill looks line on of worst in nation: Sludge cleanup goes on as impact assessed. Lexington Herald.

²¹⁶ Though it appears that most of the water samples are collected from one firm in particular.

²¹⁷ Project Note: It appears that some of the test reports on record at the DOW at the Record Division are conducted by area labs and sent directly to MCCC-Massey or ‘prepared for’ MCCC-Massey.

by MCCC-Massey. They include tests for pH, acidity, alkalinity, total iron, total manganese, total solid suspended solids (TSS), sulfates, turbidity, flow, temperature, field pH and acrylamide.²¹⁸ These tests are summarized below.

Acrylamide

September 2000 In the first days of the Unified Command Structure, there appears to be some tension between MCCC-Massey and the State Division of Water (DOW). It seems that the DOW may have had difficulty securing a list of the chemical inputs used in coal processing from MCCC-Massey. Based on area news accounts, one DOW spokesperson had mentioned to a local reporter that they were having problems securing the Materials Safety Data Sheet (MSDS) from MCCC-Massey. A spokesperson for the DOW is quoted in the local newspaper, *The Martin County Sun*, as saying,

- We have been in contact with the Company to determine just exactly what kind of chemical they are using to wash the coal.
- We haven't had much luck.²¹⁹

This news mention seems corroborated based on a review of DOW records. It appears that five days after the spill the DOW secures a copy of one of the MSDS sheets on October 16, not through MCCC-Massey, but rather from the West Virginia Department of Health and Human Resources, Environmental Health Services. Field conversations with our citizen advisory committee, however, suggest that there should be other MSDS sheets on hand, in the company's possession, on other chemical inputs used in coal treatment.²²⁰ The faxed MSDS sheet lists only the substance *Anionic Polyacrylamide Copolymer* as a toxic chemical input that is used at the MCCC impoundment. Its use is listed as a flocculent in sinking coal sediment. In addition, the MSDS goes on to list the physical and chemical properties of *Anionic Polyacrylamide Copolymer* as well as other toxicological information. The MSDS further lists the handling and storage methods, accidental release measures, exposure control and personal protection measures for *Anionic Polyacrylamide Copolymer* (heretofore, referred to as 'acrylamide').²²¹

It seems that the above reported exchange between MCCC-Massey and the DOW and the follow-up documented exchange between the DOW and West Virginia's Environmental Health Services requires some further clarification. One editorial that appears in one of the Martin County newspapers asks the same.

- Why did the state EPA officials at first tell SUN reporter [...] that MCC refused to tell them what chemicals were used in washing the coal and thus placed in the slurry pond?²²²

November 2000 Based on other testimony, it appears that the chemical inputs used in coal preparation should have been on file with the State to start. At the November 2000, Environmental Quality Commission Hearings on the Martin County coal waste spill, an official from the Department of Surface Mining testifies that the chemical inputs used in coal treatment and at the impoundment site should be listed on the coal company's water discharge permit. The Official states for the record,

- [...] Different companies use different chemicals. The chemicals would be listed on the water permit.²²³

But a follow-up on this testimony suggests the need for even further clarification. A review of the Water Discharge Elimination Permit that is on file for MCCC-Massey with the Division of Water (DOW), and that was reviewed by our

²¹⁸ Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (March 5, 2001). Letter to Bruce Scott, KY Division of Water KPDES Branch from Randall Johnson, Martin County Coal. DOW File: 0054810-680-8002. Martin County Coal. Miscellaneous. (Letter includes pages from Environmental Unit activities to which the letter references).

²¹⁹ Lilly Adkins (October 18, 2000). State issues multiple citations after slurry release at MCCC. *The Martin County Sun*. p. 18. Project Note: A field conversation with one of our Citizen Advisory Committee members suggests that this official was not a DOW official as reported in the local newspaper, but the On-Scene Coordinator for EPA Region 4. Stephanie McSpirit. Field notes: April 22, 2002.

²²⁰ Stephanie McSpirit. (March 18, 2002). Field Notes: Martin County. Stephanie McSpirit. April 8, 2002. Field Notes.

²²¹ West Virginia. Department of Health and Human Services (October 16 2000) Facsimile Transmittal Sheet. CYTEC. Material Safety Data. Product Name: Superfloc A-1885 RS Flocculant. DOW File: 0054810-680-8002. Martin County Coal. Miscellaneous

²²² Mark Grayson (October 25 2000) Watchdogs? Martin Countians want answers, media access. *The Martin County Sun*.

²²³ Environmental Quality Commission. Cabinet of Natural Resources and Environmental Protection. (November, 28 2000). Hearing Minutes. Martin County Coal Slurry Spill. P.3

research team, does not appear to list acrylamide as a substance that requires monitoring as a potential discharge into area surface waters.²²⁴ Granted, the above testimony may be referring to water discharge permits on file with the Army Corp of Engineers or the Department of Surface Mining where acrylamide may or may not be listed as a compound that requires monitoring. Whichever permit, it seems important to determine at which agency the chemical inputs used in coal treatment are listed. In this case, based on the above testimony, it may just be a matter of clarifying which water discharge permit lists acrylamide to verify the testimony of the above quoted state regulatory official.

Through the months to follow, there appears to remain some confusion over the Materials Safety Data Sheets (MSDS) up through May 2001. In May 2001, area citizens request a copy of the list of the hazardous chemical inputs used at the coal preparation and impoundment site from the EPA Outreach Office. This exchange between EPA Region 4 and Martin County citizens has been already chronicled in the *Civic Capacity* section of this report. Suffice to say, that the outreach officer, according to citizen testimony, lacks time to obtain the list from the coal company.²²⁵ Citizens continue to press for the MSDS sheets. During summer teleconference sessions, citizens request that EPA-Region 4 officials provide them with a copy of the Materials Safety Data Sheet.²²⁶ But based on citizen field testimony,²²⁷ it appears that EPA Region 4 officials continue to have trouble providing follow-up and reproducing this document for citizen review and comment.

In the end, Martin County citizens, are not able to obtain information on hazardous chemicals used in coal treatment at the MCCC-Massey site from EPA Region 4.²²⁸ Under standard Community *Right to Know* laws to which coal mining is not exempt and based on recent MSHA HAZCOM rulings, it would appear that there are enough provisions in place to ensure citizens receipt of the requested MSDS sheets, -especially the MSDS on Acrylamide since it had been on file with the State DOW since the early days of the spill.

Returning to the testing events under the UCS, MCCC-Massey is ordered to conduct daily tests for acrylamide. It appears, based on a documents review, that the State DOW also monitors local surface waters, at staggered times, for acrylamide through its Division of Environmental Services (DES).²²⁹ At the November Environmental Quality Commission Hearings on the Martin County coal waste spill, an official for the Division of Water explains the tests for acrylamide conducted since the spill. The DOW official testifies:

- The materials in the slurry were there in different concentrations. One element that was used by the company in its treatment process was a polymer called acrylamide, a substance that is used to coagulate and flocculate particulate materials so they will settle. This substance rapidly biodegrades. When combined with dilution, significant dissipation would be expected.²³⁰

By November, it appears that MCCC-Massey is requesting relief from daily acrylamide testing, as reflected in the following correspondence between an MCCC representative to a DOW official,

²²⁴ Kentucky. Department for Environmental Protection. (Issue Date: December 1, 1996). Kentucky Pollutant Discharge Elimination System. Martin County Coal Corporation. Permit # KY0054810.

²²⁵ Stephanie McSpirit (March 18 2002) Field Notes: Martin County.

²²⁶ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

²²⁷ Stephanie McSpirit (March 18 2002) Field Notes: Martin County.

²²⁸ Project Note: Our project team provides copy of the one MSDS sheet on Acrylamide, that our team secured through the Division of Water to the project teams CAC on April 6 2002. With the FAX transmittal of this document to the CAC, one citizen contact called to comment o other chemical inputs, 'at least two other chemicals' used in call treatment. Stephanie McSpirit(April 6 2002). Field Notes; Stephanie McSpirit(April 10 2002). Field Notes.

²²⁹ State DOW -DES *Analytical Data* is on file, and is available electronically, in the DOW Records Division for public review and comment. This report section will be referring to the DOW-DES analytical data to summarize and report on independent DOW water test and assessment actions in the field in Martin County. However, based on a further record review of *hard copy* test data file in the Records Division, it is unclear whether DOW assessments were always independent state regulatory actions in that it appears that some of the DOW testing and monitoring that was being conducted by the state, in Martin County, seems to be relying on MCCC-Massey's subcontracting firms to collect water samples and to conduct some testing and monitoring of area waters. Matters of data collection and testing methodology by the DOW in Martin County still requires some clarification. Electronic Correspondence (February 16, 2002; February 19, 2002). Division of Water. Records Division.

²³⁰ Environmental Quality Commission. Cabinet of Natural Resources and Environmental Protection. (January 18 2001). Hearing Minutes. Martin County Coal Slurry Spill.

- Acrylamide monitoring established by the Division of Water on November 3, 2000 requires that sampling and analysis be done once / day at defined locations in Coldwater and Wolf Creeks. An earlier agreement with [name], KY-DOW, states that discharge from settling ponds would be sampled every six hours for residual acrylamide for at least a twenty-four hour period. Then Martin County could request a reduction in monitoring frequency.

Because extensive testing for acrylamide during the initial worst case application as well as later reduced applications have shown non-detect quantities at levels set for drinking water, we ask that acrylamide testing no longer be required. The cost for acrylamide testing is \$440/ sample which, when combined with sampling and shipping costs, equates to a monitoring cost for Coldwater and Wolf Creeks of approximately \$1,000 / day²³¹

Based on a review of DOW records, it appears that DOW officials concede and agree to reduce MCCC monitoring obligations for acrylamide to half-week intervals. The DOW correspondence reads,

- Here's the modified permit, a minor modification. [...] I made this effective today –November 27, 2000. Reduced the monitoring frequency for acrylamide to ½ weeks. All other conditions remain the same. I would anticipate this frequency remaining in place throughout the remainder to the cleanup absent some other directive or situation requiring otherwise.²³²

March 2001 Through a review of other exchanges, it appears that MCCC-Massey requests further reductions in acrylamide monitoring over the next several months.²³³ But a review of DOW records suggest that the testing schedule for acrylamide continues at half-week intervals through to the March signed *Administrative Order on Consent*, when it appears that the test order on monitoring acrylamide is lifted.

Well Water Testing

October 2000 Soon after the spill, Division of Water personnel are assigned to the field to collect well water samples from area wells on Coldwater and Wolf Creek. It appears based on DOW Records, that well water monitoring begins also on October 16, the same date that the DOW secures the MSDS from West Virginia. On this date, it appears that

²³¹ Martin County Coal Corporation (November 24, 2000). Letter to James Webb, Groundwater Branch from Danny Cox. RE: Acrylamide Monitoring Spill Cleanup. DOW File: 0054810-680-8002. Martin County Coal.

²³² Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (November 27, 2000). Electronic Correspondence (E-Date indeterminable) Bruce Scott (NREPC, DEP) to 'recipient' DOW File: 0054810-680-8002. Martin County Coal.

²³³ See: Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (January 12, 2001) Letter to Bruce Scott, KPDES Branch from Randall Johnson, Chief Engineer Martin County Coal. RE: Acrylamide Monitoring Spill Cleanup. DOW File: 0054810-680-8002. Martin County Coal. Note the following correspondence:

Mr. [...] Martin County Coal has been sampling and reporting daily the effluent characteristics for Coldwater and Wolf Creek as required by the above referenced Permit for the past 90 days. The sample results do not key any operation plan and as far as we are aware they are not being entered in the KY database

Martin County Coal has also sampled for Acrylamide, all the samples have been below the detectable limits as required by the permit. The sample results have been submitted to the On Site Coordinator.

We are requesting that the Daily sampling and reporting requirements be reduced to sample every 2 weeks and that the Acrylamide sampling requirement be eliminated due to the sampling over the past 90 days that show the levels of Acrylamide below the detectable limits as required by the permit.

See: Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (January 12, 2001). Electronic Correspondence: From Randall Johnson (Massey) to Bruce Scott, (NREPC, DEP) (Appears as if from Martin County Coal to Bruce Scott) DOW File: 0054810-680-8002. Martin County Coal. (Appears as if Scott-Massey sends an email on the same day as above requesting reduction in test monitoring) Note the following correspondence:

I believe that daily monitoring is no longer necessary at MCC for several reasons:

Polyacrylamide is no longer being used in the Cain cell on Coldwater Fork, and was never used by MCC for the material they were pumping to the Wolf Creek Colliery pond.

approximately 50 area wells are tested. One month later, based on further review of the DOW *Groundwater Wells Data* file, a DOW representative revisits the field to collect well water samples on approximately ten more area wells. Based on further review of the *Wells Data* file, it seems that the DOW sends letters to residents stating that well water results of tested chemicals are at acceptable drinking water levels. It appears that these letters are sent to area residents four months after the sampling date. Letter copies on file are dated January, February and March of 2001.²³⁴

Though no immediate impact of the sludge spill was identified on area wells several days after the spill, Martin County residents relying on well water in the direct impact area of Coldwater and Wolf Creek remain concerned about the long-term consequences of slurry leaching into their private wells. Based on a review of summer teleconference minutes, it seems that MCCC was responsible for later well water monitoring in the direct impact area. But it appears that citizens have trouble securing well water test reports from MCCC. Through a series of summer and fall teleconference sessions with EPA-Region 4 officials, Martin County citizens request all the results of MCCC-Massey well water tests. The minutes from the June 14, 2001 teleconference session read,

- The community representative again asked when was the coal company going to finally mail out residential result letters that have been requested over several months. The previous letter that disclosed to residents that their well water was “okay” was said to be very insufficient. The citizens requested that EPA Water and Waste programs review the format of the proposed results letters to ensure they have a clear explanation (e.g. MCL’s, test method, interpretation, what was tested, what was not tested) before they are released to the public. [An EPA Region 4 representative] indicated that they had experience in composing reader-friendly results letters at Superfund sites for residents. The citizens stated that the worse case scenario would be that a confusing letter from Martin County Coal Corporation may likely yield a bombardment of calls and questions to EPA, the coal company and other agencies [...]

June 14, 2001 teleconference minutes continue,

[An EPA Region 4 representative] reported that they had been in contact with coal company officials to release these letters over the past several weeks.

Another concern was raised about the coal company taking samples only and not involving the EPA Water Division in some level during the water sampling activities (well water, streams, creeks, sludge). They conveyed their concern that the coal company may have biased sampling and citizens were not aware of any oversight activities by local/state/federal agencies. [Name] stated that the Water Division has requested all records from [name] including these sampling records; however, he does not have the results at this time.

[An EPA Region 4 representative] is to provide follow-up.²³⁵

Late Summer 2001 Based on August²³⁶ and September²³⁷ 2001 teleconference minutes, it appears that most of the residents whose wells were tested in the spring by MCCC Massey had not yet received full test reports back on the drinking water status of their wells by late summer 2001. It appears also, based on the above teleconference minutes, that citizens nearly a year after, remain concerned about the testing and monitoring structure that is in place to monitor the impact of the sludge spill on the local environment and area watershed. It seems that based on the above teleconference minutes that Martin County citizens are still concerned about MCCC-Massey self-monitoring its own environmental impact assessment.

²³⁴ Kentucky Natural Resources and Environmental Protection Cabinet. (August 15 2001). Letter to Martin County Citizen from Jack A. Wilson, Director. Division of Water. DOW File: 0054810-680-8002. Groundwater Wells Data.

²³⁵ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

²³⁶ U.S. Environmental Protection Agency (August 27, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

²³⁷ U.S. Environmental Protection Agency (September 4, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

Notice of Violation –The Clean Water Act

October 16 2001 As outlined in the preceding section, on October 16 the DOW initiates a field push to sample and test area wells in the impact zones in Martin County. Three days later, on October 19th the DOW issues its set of violations to MCCC- Massey.²³⁸ The Notice of Violation (NOV) reads,

- Causing pollution to water of the commonwealth
- Releasing hazardous substances
- Discharging pollutants into waters of the Commonwealth in quantities and concentrations that exceed Kentucky Pollutant Discharge Elimination standards and limitations in violation of Kentucky statutes and regulations.
- Creating an environmental emergency in violation of state statute²³⁹

Although the second listed violation is a citation for the release of hazardous substances into area waters, again, the EPA in its year-after taskforce report explains that the EPA did not proceed under Section 311 (CERCLA) of the Clean Water Act. The year-end taskforce report explains CERCLA Section 311.

- **Clean Water Act Section 311:** CERCLA 311 is primarily a response authority. It is designed for response to oil or listed hazardous substances, which are released into waters of the U.S.²⁴⁰

The taskforce report goes on to explain that EPA sampled and tested the coal waste and was not able to show any of the compounds listed under Section 311 present in the slurry. It seems unfortunate that the EPA did not cite, in its year-end taskforce report, the specific set of water quality tests, -e.g. the dates, the sampling methodologies and set of test results that led to its conclusion *not* to proceed under Section 311 and *not* to invoke its CERCLA authority. A summary or citation of these water and slurry tests that resulted in this policy directive would seem protocol to include in such a taskforce report.

But while the taskforce report does not state a summary of water quality tests that led to its decision not to proceed under CERCLA Section 311, the taskforce report does explain the section of the Clean Water Act that the EPA did proceed under in responding to the slurry release in Martin County. The taskforce report explains that the EPA cited MCCC-Massey for violations under Section 301 of the Clean Water Act. The Taskforce Report explains Section 301,

- **Clean Water Act Section 301:** Makes it unlawful for any person to discharge any pollutant, except in compliance with a permit under the act into waters of the US. Pollutant is defined in 502(6) of the CWA to include dredged soil, solid waste, chemical wastes, sand, cellar dirt, and industrial waste discharged into water.²⁴¹

November 15 2000 In the initial Notice of Violation (NOV) issued through the State Division of Water, MCCC-Massey is ordered to begin remedial measures and submit a detailed written report to state and federal agencies that characterizes the extent of the slurry release. With respect to the written report, the state NOV Order reads,

- Submit plans, by November 15, 2000, to the Cabinet and other state and federal agencies necessary to characterize the extent of the releases of coal slurry and other substances to the environment, [...]²⁴²

²³⁸ Kentucky State Division of Environmental Protection (October 25,2000) Press Release: Division of Water issues violations against Martin County Coal. The Martin County Sun. p. 15.

²³⁹ Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (October 19 2000). Letter from Supervisor, ERT Section. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

²⁴⁰ United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Taskforce Report. Pp.6-7. Available online: <http://www.epa.gov/region4/martincs.pdf>

²⁴¹ United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Taskforce Report. Pp.6-7.

²⁴² Kentucky Natural Resources and Environmental Protection Cabinet. Department of Environmental Protection (October 19 2000). Letter to Dennis Hatfield from Gene Blair, Supervisor, ERT Section. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

Failure to comply with the above order carries a potential penalty of \$25,000 per day. By mid November, under order of the NOV, MCCC-Massey submits a report characterizing the slurry release and the extent of the release. The next sections of this report summarize this November document and other test documents that report monitoring and test results of the impact of the slurry spill on the local watershed in Martin County.

Toxicological Profile

Pursuant of the Division of Water (DOW) Notice of Violation, MCCC-Massey is ordered to submit a report, a month after the disaster, that characterizes the extent of the slurry release. To comply with the order, MCCC-Massey conducts tests on heavy metal concentrations and concentrations of other persistent compounds along with tests of slurry toxicity. MCCC tests on metals and other compounds are summarized in a later block in this outline, while MCCC tests on slurry toxicity are summarized here.

November 15 2000 Based on a review of records on file in the DOW Records Division, it appears that MCCC-Massey submits its first toxicity report in a preliminary November 7 draft.²⁴³ These same test results are filed the next week, under the Order by mid November. The impact assessment titled, *Final: Martin County Coal Corporation Slurry Release Project Impact Assessment Report #1* is submitted on November 15.

A review of November test results suggests that MCCC-Massey subcontracts with Arkansas State University (ASU) to conduct toxicity tests.²⁴⁴ Toxicity tests are reported on survivability (acute toxicity) and reproductive impairment (chronic toxicity) for representative organisms. It appears that these same toxicity test results are reported in the May 2001 Impact Assessment that MCCC-Massey is ordered to conduct and compile under the agreed-upon March Administrative Order with EPA Region 4. The toxicity test results are summarized below based on a summary of the May report:

May 2001: A review of the May toxicity report shows slurry samples taken from sampling stations at Coldwater, Wolf Creek and the Tug Fork. Samples are reported as having no acute nor chronic toxicological impact. Report tests on *P. promelas* (fathead minnows) and *C. dubia* (water fleas) at varying slurry gradations or concentrations report, after a 48 hour period, high levels of organism survivability (often 100%) at high levels of slurry concentrations in most aerated chambers. The MCCC-Massey May report, therefore, concludes on acute slurry toxicity:

- Although scattered mortality occurred, there was no acute toxicity associated with any water column or storm water testing samples from any site.²⁴⁵

On chronic toxicity as measured by reproductive impairment, the impact assessment reports,

- No significant differences in survival or growth occurred in fathead minnows exposed to filtered stream water [supernatant]. This indicates that there is no toxicity associated with materials dissolved in or leaching from the slurry.²⁴⁶

Therefore, MCCC-Massey's May impact assessment on slurry toxicity concludes,

²⁴³ Potesta & Associates, Inc. (November 7, 2000) Preliminary Comments Regarding the Potential for Toxicity Associated with the slurry Released from Martin County Coal Corporation's Impoundment on October 11, 2000. Note: Fax from MCCC Training Center: No Attachment letter.

²⁴⁴ Testing and organism culturing methodology followed the EPA approved protocols described in "Short-Term Methods for Estimating the Chronic Toxicity of Effluence and Receiving Water to Freshwater Organisms." The test was conducted by [...] at Arkansas State University. This laboratory is not certified by the State of West Virginia or the State of Kentucky; however, we are unaware of any state-certified laboratories where this type of test setup is available. See: Potesta & Associates, Inc. (November 15, 2000) Martin County Coal Corporation. Slurry Release Project. Impact Assessment Report #1 (Historical Data Submission). Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.3.

²⁴⁵ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.3.

²⁴⁶ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.4.

- Slurry released from Martin County Coal’s impoundment contained a mixture of coal, rock (primarily shale) and clay particles, which were separated from the recoverable coal and placed in the impoundment for the purpose of settling. Because water removed from the settled material in these types of impoundments is either used at the facility or released to streams through permitted discharge outlets no significant toxicity was expected from the slurry supernat. The slight impairment seen in the acute slurry testing appeared to result from the particles becoming adhered to the organism.²⁴⁷

In sum, based on a review of the November and May environmental impact assessment reports compiled for MCCC-Massey by Arkansas State University, the slurry represents no short-term or long-term toxic threat to the environment or public health. However, it appears, based on a review of documents, that there is only one set of reported toxicity tests conducted through Arkansas State University (ASU). It appears that these November ASU tests are the primary and conclusive set of tests conducted on slurry toxicity in Martin County, Kentucky after the coal waste spill.

Tests for Fuel Oils and PAHs

November 2000: It appears based on a review of DOW records available for public review, that testing for grease and fuel oils begins in November and proceeds through to the end of the month. Based on DOW records, it appears that there is a sampling station located at Lovely Bridge where Wolf Creek meets the Tug River and on Coldwater Creek. It appears that daily samples are collected from one of MCCC-Massey’s subcontracting firms. The fuel oils analyses (HEM tests) are then conducted, compiled and reported by another subcontracting environmental firm of MCCC-Massey. The test reports that are submitted on samples from the Lovely sampling station, report oils and grease at below benchmark levels. The tests report concentrations falling below a < 5.0 mg / L benchmark, though actual concentration amounts are not reported in the submitted test reports filed with the Division of Water.²⁴⁸

March 2001: By mid March, however, the citizen HELP organization releases its independent test results on fuel oils to the public in attendance at its March meeting. The HELP organization partners with an outside New York law firm to conduct area water quality tests. Tap water samples are taken from several selected residential homes and one county elementary school. Raw water samples are also drawn from the county reservoir. At the HELP meeting, the New York firm reports fuel oil results for two residential homes by concentration:

- the [Name] family had fuel oil in their water and the [Name]’s water had 100 parts per billion.”²⁴⁹

Fuel oil concentrations for the reservoir are reported at,

- the lab showed that there was fuel oil in the Crum Reservoir at a rate of one and one half parts per million –or 1500 pp billion.²⁵⁰

The next day, the State DOW responds to HELP fuel oil findings. The DOW spokesperson states that water samples were taken shortly after the spill and then discontinued after results revealed that PAH’s (polyaromatic hydro-carbons or petroleum based products) present in local drinking water were ‘*below any level of concern.*’ The DOW spokesperson first explains,

- Even though polyaromatic hydrocarbons are not normally something you would find linked to coal.²⁵¹

And then summarizes previous test results for PAHs and fuel oils,

²⁴⁷ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement P.5

²⁴⁸ EnviroData Group (December 11, 2000). Analytical Report –HEM (Oil& Grease, Total) to Blackburn Contracting. DOW File: 0054810-680-8002. Martin County Coal. Enforcement.

²⁴⁹ Lilly Adkins. (March 14, 2001)Carcinogens, fuel oil, crude oil found in tap water, preliminary tests say. Martin County Sun. p.2.

²⁵⁰ Lilly Adkins. (March 14, 2001)Carcinogens, fuel oil, crude oil found in tap water, preliminary tests say. Martin County Sun. p.2.

²⁵¹ Gary Ball (March 14, 2000). Division of Water says tests for hydrocarbons taken after spill. Mountain Citizen. P. 3

- When there wasn't anything present, we felt that there was no reason to continue to analyze water for these substances.²⁵²

In February of 2002, our research team asked for clarification on which set of PAH tests the DOW was referring to when this March 2001 statement was made. Our research team was interested because, based on our review of DOW Records that are publicly available, there appears to be only one set of fuel oil tests (HEM) conducted by MCCC-Massey subcontracting firms in November which are reported above. Subsequently, it is unclear whether these are separate DOW tests to which the DOW is referring to in its March 2001 statement. Our project team asked for clarification on this matter but the DOW was unable to comment.²⁵³

Tests for Heavy Metals and other Elements

In the weeks and months after the coal waste spill, under the Unified Command Structure (UCS) a series of water quality tests are conducted to analyze concentrations of heavy metals and other chemical compounds in the slurry, raw water and finished (tap) water. It seems that under the UCS, MCCC-Massey subcontracts with local and regional testing firms to conduct many of the chemical tests and impact assessments. The State DOW conducts other chemical and heavy metal tests that are compiled into the DOW-DES Analytical file. With regard to the DOW-DES file, it is unclear whether DOW field personnel and KY DEP laboratories are consistently collecting the water samples and conducting the laboratory analyses, or whether the DOW is also subcontracting with area testing firms.²⁵⁴ This minor matter of DOW sampling and testing structure still needs to be clarified with the state Division of Water. To assist in reviewing the set of metal and chemical tests conducted under the UCS, we report some of the major testing events in chronological order. This short chronology should assist the reader in reviewing the chemical and metal testing and monitoring activities of the Martin County watershed under the UCS.

November 8 2000:²⁵⁵ Raw water test results are faxed from the federal EPA, Emergency Response Team Center (New Jersey) to the Martin County Coal Training Center. The fax includes a hardness (CACO₃) table with corresponding metal standards for acute and chronic toxicity levels at varying CACO₃ gradations. Several spreadsheets follow reporting TSS, TOC, Sulfate, Nitrate, Hardness, Turbidity, Aluminum (and dissolved), Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Selenium, and Sodium across 14 sampling sites (though 25 sites are listed) on Coldwater, Wolf Creek and the Tug Fork. The facsimiles are difficult to interpret as reporting units are not specified.²⁵⁶

November 15 2000:²⁵⁷ MCCC-Massey submits, under order of DOW Notice of Violation, a report that characterizes the extent and contents of the slurry release. In a preceding section, toxicity tests and results were reported based on a review of this November 15 report. In this sub-section, test results on heavy metals and other elements are summarized.

In completing the November 15 report, based on a review of other documents on file, it appears that MCCC-Massey subcontracts with other local environmental testing firm subcontracts to collect slurry samples at sampling stations on

²⁵² Gary Ball (March 14, 2000). Division of Water says tests for hydrocarbons taken after spill. Mountain Citizen. P. 3

²⁵³ Stephanie McSpirit (February 16 200). Email Correspondence: Records Division, Division of Water.

²⁵⁴ **Project Note:** This is not clear from the field mnemonic "Emergency Response Team" which suggests that sampling is being done by agencies or company under the Unified Command Structure. "Environmental Response Team," on the other hand, might more suggest that sampling and testing was being done through the Division of Water –Department of Environmental Protection.

²⁵⁵ United States. Environmental Protection Agency. Environmental Response Team Center. (November 8, 2000) U.S.E.P.A. Analytical Data. DOW File: 0054810-680-8002. Martin County Coal;

²⁵⁶ Project Note: It seems difficult for a citizen to review and interpret this data as it remained unclear, to even University Consultants, what reporting units were being used in reporting chemical and metal concentrations. A search of the EPA Administrative Record on Martin County on CD-Rom did not produce this set of tests. It seems important to review the full report on these test results as they may be the only EPA independent tests done on area surface waters in Martin County after the spill.

²⁵⁷ Potesta & Associates, Inc. (November 15, 2001) Martin County Coal Corporation. Slurry Release Project. Impact Assessment Report #1 (Historical Data Submission). Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement

Potesta & Associates, Inc. (November 17, 2001) Preliminary Comments Regarding the Potential for Toxicity Associated with the Slurry Released from Martin County Coal Corporation's Impoundment on October 11, 2000. DOW File: 0054810-680-8002. Martin County Coal. Enforcement

Coldwater, Wolf Creek and the Big Branch Impoundment. It seems that a separate testing firm in Charleston West Virginia analyzes the samples. In terms of the November analytical report, it appears that slurry chemical concentrations are reported against both dry and wet weight criteria for typical West Virginia, industrial and residential soil concentrations. Based on a review of table appendices,²⁵⁸ it appears that at all standard reference marks: Regional, Industrial and Residential Soils: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Chromium Hex, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium and Zinc, slurry concentrations are reported as below standard concentration levels for West Virginia, industrial and residential soils. The November 17 report, updated two days after the first submission, reports,

- Trace levels of potentially toxic metal are naturally associated with coal, rock and soil. A comparison of the released material with native soil concentrations of metals illustrates the similarities between the slurry and soil (Table 1). Metal associated with particulate materials are not generally believed to be toxic due to their form. They are bound up in the soil or coal and not available for uptake by organisms. The levels of metals, which are considered safe for humans in residential and industrial soil, are described in US EPA Region III's Risk Based Concentration Table and are compared with the released material in Table 2.²⁵⁹

October 2000 –February 2001: DOW –DES Analytical Results.²⁶⁰ It appears, based on a review of the DOW-DES electronic data file, that starting on October 13, 2000, water test results from water samples taken from Boyd, Lawrence and Martin County are reported in the electronic data file. Information on specific sampling stations appears to be lacking in the electronic data base, but could probably be readily sourced based on hardcopy (codebook) referent to the electronic data or through a direct question to DOW personnel. In addition, it appears, based on fields in the electronic data file, that the Environmental Response Team is taking water samples, though it is unclear whether this means DOW field personnel or representatives under the Unified Command Structure. This testing and analysis structure of the DOW-DES needs to be clarified. In terms of reporting water results, DOW-DES test results report concentrations amounts on a series of chemical elements and metals, which are listed in the bottom footnote.²⁶¹ It appears, based on the data symbol referent (<) that many compounds are below safe standard reference levels for most of the samples. However, this interpretation of the data is only tentative as the DOW –DES analytic test data and requires 1) further expert review, 2) accompanying codebook information for the corresponding data fields and a 3) hardcopy manual pertaining to the data collection and test methods employed in the sampling and analyses of area surface waters.

February 2001: The Agency for Toxic Substances and Disease Registry (ATSDR) is commissioned by EPA Region 4 to review chemical water tests and analytical data collected in the field in Martin County in preparation for an up and coming public meeting. After a telephone exchange between the EPA Region 4 On Scene Coordinator (OSC) and the ATSDR representative, the OSC prepares to forward to the ATSDR contact person water test data for their review. ATSDR minutes on this exchange read,

²⁵⁸ SEE: Table 2. Comparison of US EPA Region III Risk Based Concentrations for soil in industrial and residential areas and Martin County Coal Company slurry chemical composition. Potesta & Associates, Inc. (November 17, 2001) Preliminary Comments Regarding the Potential for Toxicity Associated with the Slurry Released from Martin County Coal Corporation's Impoundment on October 11, 2000. DOW File: 0054810-680-8002. Martin County Coal. Enforcement

²⁵⁹ Potesta & Associates, Inc. (November 17, 2001) Preliminary Comments Regarding the Potential for Toxicity Associated with the Slurry Released from Martin County Coal Corporation's Impoundment on October 11, 2000. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Tag 3.

²⁶⁰ Kentucky Division of Water. DOW-DES Analytical Data File. Electronic File: [Martin Co.Coal.Co.Slurry Release Data.xls](#).

²⁶¹ Acenaphthene, Acenaphthylene, Aluminum, Aniline, Anthracene, Antimony, Arsenic, Barium, Benzidine, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Benzyl alcohol, Beryllium, bis(2-ethylhexyl)phthalate, bis(2-chloroethoxy)-methane, bis(2-chloroethyl) ether, bis(2-chloroisopropyl)ether, Butyl benzyl phthalate, Cadmium, Calcium, Chromium, Chrysene, Cobalt, Copper, Dibenzo(a,h)anthracene, Dibenzofuran, Dibutyl phthalate, Diethyl phthalate, Dimethyl phthalate, Dioctylphthalate, Fluoranthene, Fluorene, Hardness, total, Hexachlorobenzene, Hexachloroethane, Indeno(1,2,3-c,d)pyrene, Iron, Isophorone, Lead, Magnesium, Manganese, Mercury, Molybdenum, N-Nitrosodi-n-propylamine, N-Nitrosodiphenylamine, Naphthalene, Nickel, Nitrobenzene, Phenanthrene, Potassium, Pyrene, Selenium, Silver, Sodium, Strontium, Tin, Total Suspended Solids, Vanadium, Zinc, Acrylamide, Hexachloro-1,3-butadiene, Hexa-Cl-1,3-cyclopentadiene, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-Chloronaphthalene, 2-Methylnaphthalene, 2-Nitroaniline, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Bromophenyl phenyl ether 4-Chloroaniline, 4-Chlorophenyl phenyl ether, 4-Nitroaniline: Kentucky Division of Water. DOW-DES Analytical Data File. Electronic File: [Martin Co.Coal.Co.Slurry Release Data.xls](#).

- The OSC indicated that he would get the environmental data to us as soon as possible. The water system data was collected by the state and he would contact them to see about us getting their data as well.²⁶²

Several days after, the ATSDR contact person begins to review the field data. ATSDR minutes read,

- I began reducing the data from EPA and identifying those compounds that were detected at any level. I then accessed ATSDR's Substance Comparison Value Database to pull health-based guidance values for those compounds for which they exist. I also reviewed data on other compounds to determine if there were appropriate studies and regulations for utilization in comparing the concentration to known health effects. I also compared the data to information on naturally occurring background levels. I placed this information in a spreadsheet for easier review. Later in the day, I received data from KY DEP [DOW] on the raw water and finished water for the Martin County Water District plan and I added those compounds to the summary data along with the same specific data.²⁶³

The ATSDR minutes then summarize the findings based on the above spreadsheet review. ATSDR minutes read,

- In some samples of the source coal slurry material, copper, vanadium, manganese, barium, arsenic and cobalt were above levels of health concern. Copper was found elevated slightly only in sediments and not in the water. Cobalt was also elevated in the raw water in the plant.²⁶⁴

Based on the spreadsheet review and analysis, ATSDR record minutes conclude,

- All of the metals identified in the data can be absorbed by ingestion. In some forms, barium, arsenic and vanadium also can produce health effects by skin contact. In most cases, these effects only occur after prolonged exposure lasting a year or more. Like most heavy metals, all of these compounds affect the digestive system, the kidneys (except manganese) and the liver (except vanadium). Many of these compounds produce effects on the central nervous system and some of them produce effects on the cardiovascular systems. However, these latter effects occur only at high doses or long-term exposures. Arsenic, barium, and cobalt affect the skin; arsenic and barium cause swelling of the eyes. The concentration of arsenic in the slurry is similar to those dosages that have produced skin rashes in humans. Cobalt is what is known as a skin sensitizer, so exposure to an unusually high concentration after a relatively low level of exposure could produce a skin rash. Any subsequent exposure to the normal level could cause the rash to continue.²⁶⁵

April 2001: The Division of Water collects samples from the Martin County Water District's raw water sources and collects sample from the plant's finished water and distribution system; the sampling was initiated due to growing public concern over the safety of the water produced by the MCWD water treatment plant since the coal slurry pond failure in October 2000. The results of the April 11 DOW sampling of raw water are summarized first in the DOW April Monitoring Results report; some of the raw water test results report:

- [...] detected mineral constituents are within normal ranges for surface waters in eastern Kentucky.
- [...] organic carbon levels are also within typical limits
- [...] detected metal parameters listed below are typical of surface waters and again are considered normal levels.
- [...] levels of chromium, copper and lead detected in the Tug Fork sample are all well below the Domestic water supply criteria cited in 401 KAR 5:03, Section 5 Domestic Water Supply Use. There is no Domestic

²⁶² Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117. p.3.

²⁶³ Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117. p.3-4.

²⁶⁴ Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117. p. 4.

²⁶⁵ Agency of Toxic Substances and Disease Registry (February 6, 2001). ATSDR Record of Activity. Name: Martin County Coal Slurry. ERS Log #01-2117. p.4.

Water Supply Source Criteria listed for arsenic. The arsenic concentration found was at the analytical detection level and in the lower range of levels commonly found in source waters. ...²⁶⁶

The DOW April Monitoring report then summarizes test results on tap water. Finished water test results report:

- All within normal drinking water levels as established by the Safe Drinking Water Act (SDWA)²⁶⁷

Fall 2001: The *National Research Council Report on Coal Waste Impoundments*, the Committee is funded under special appropriations introduced by Kentucky U.S. Congressional Representative Hal Rogers and supported by Kentucky U.S. Senate Representative Mitch McConnell.²⁶⁸ This Committee recommends that the chemical constituents in slurry be identified. According to the report, this recommendation originated from citizen concerns over the chemicals in coal slurry expressed at various public meetings. The NRC Report reads,

- A theme mentioned repeatedly in town meetings with coalfield citizens was their concern and desire for information concerning the chemical constituents in the coal waste, and how it affects their ground and surface water.²⁶⁹

The NRC Committee then states and recommends,

- The committee recommends that research be performed to identify the chemical constituents contained in the liquid and solid fractions of coal waste, and to characterize the hydrogeologic conditions around impoundments.²⁷⁰

Such identification the NRC Committee mentions would assist in impoundment monitoring or what the NRC report refers to as "Forensic Hydrology."

- Organic chemicals in coal waste... may be used as a groundwater tracer to identify leakage from impoundments... Thus, monitoring the chemical composition of water adjacent to impoundments could be used to detect whether water is leaking from the coal slurry and used with other site-specific information to determine sensible mitigative programs.²⁷¹

²⁶⁶ Kentucky Natural Resources and Environmental Protection Cabinet. Division of Water. (April 11, 2001). Martin County Water District. PWS ID #0800273. April 11, 2001 Monitoring Results. DOW File: 0054810-680-8002, Monitoring Results: Drinking Water. p .2-3.

²⁶⁷ Kentucky Natural Resources and Environmental Protection Cabinet. Division of Water. (April 11, 2001). Martin County Water District. PWS ID #0800273. April 11, 2001 Monitoring Results. DOW File: 0054810-680-8002, Monitoring Results: Drinking Water. p .3.

²⁶⁸ Randy Coleman (October 25, 2000). Kentucky slurry spill over into W. VA politics. The Lexington Herald Leader.

²⁶⁹ National Research Council. 2001. Coal Waste Impoundments: Risks, Responses and Alternatives. (Prepublication Copy) Washington D.C. National Academy Press. P 152.

²⁷⁰ National Research Council. 2001. Coal Waste Impoundments: Risks, Responses and Alternatives. (Prepublication Copy) Washington D.C. National Academy Press. p.152

²⁷¹ National Research Council. 2001. Coal Waste Impoundments: Risks, Responses and Alternatives. (Prepublication Copy) Washington D.C. National Academy Press. p.153.

Project Note: TRIAD Engineering under contract with the Mine Safety and Health Administration completes chemical analysis of the slurry. The results of the chemical analysis are reported in Appendix B of the Triad Report released March 2001. Though no benchmarks are reported with the tested concentrations, this represents another set of chemical tests completed on coal slurry in Martin County. In summarizing this set of tests: Grab samples were taken in December 2000 and early January 2001 from five locations:

Slurry Samples taken from the following locations: p. 2

1. Grab sample from Big Branch Slurry Impoundment
2. Two samples from mine void in Boring DH2-9
3. Grab sample from Wolf Creek
4. Grab sample from Coldwater Creek
5. Sample from mine void in Boring DH1-11

Reported concentrations on a series of chemical constituents and metal compounds are reported in Appendix B of the Triad Report.

Survey Findings

In the final section of this report, we recommend to the Kentucky Appalachian Commission, the Department for Local Government and to the Office of the Governor to address water quality testing and monitoring in Martin County, by supporting an independent citizen’s committee to monitor and oversee water quality testing and watershed management. The recommendations are in accord with our survey results presented in Table 5.B. Many Martin County citizens (87%) agree (31%) or strongly agree (56%) that ‘an independent citizen’s committee should monitor and test water quality.’ Other survey findings on financing independent water testing are presented in Table 5.B.

Table 5.B. Water Quality and Water Monitoring ^a: Martin and Perry County Compared						
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
An independent citizen’s committee should monitor and test water quality. (n=491 X ² =49 p=.000)	Martin County	1%	6%	6%	31%	56%
	Perry County	6%	7%	13%	47%	27%
The mining industry should contribute financially to independent tests of water quality. (n=497 X ² =44 p=.000)	Martin County	5%	5%	8%	23%	59%
	Perry County	4%	8%	11%	46%	31%

a. Note: Other percentages on other water quality questions are reported in the prior section on *Water Treatment*. Other survey questions are reported in the *Survey Appendix* to this report.

Section Six:

Cleanup, Reclamation and Civic Capacity since the Disaster

Early CERCLA Response

In the previous section on *Water Quality Testing and Monitoring* our research team reviewed the year-after Taskforce Report by EPA Region 4. In its year-after Report, EPA Region 4 explains its response actions in the field in Martin County after the October 2000 coal waste disaster. Region 4 explains that it did not respond to the environmental disaster under the regulatory response guidelines set out under the Comprehensive Environmental Response Compensation Liability (Superfund) Act. According to the Taskforce Report, and as explained in the previous section, the reason why CERCLA was not invoked was that the coal waste spill was not classified as a hazardous chemical release and subsequently, fell outside the purview of Superfund jurisdiction and CERCLA response guidelines. Notably, as mentioned in the section on *Civic Capacity* and the prior section on *Water Testing* in this report, if EPA Region 4 had proceeded under CERCLA, then Region 4 would have been obligated by law to invoke several civic mechanisms in involving local citizens in environmental response, cleanup and recovery decisions in Martin County. These public participation provisions proscribed under CERCLA have already been developed in the other sections of this report. These provisions will also be revisited here.

Prior to revisiting these civic provisions, it seems necessary to note, for the record, that although EPA Region 4 did not respond to the Martin County coal waste spill under CERCLA and subsequently, was not bound by the same standards of law to invite citizens in cleanup and recovery decisions, that would have compelled the EPA under CERCLA, there seems to have been some initial maneuverings on the part of EPA Region 4 to respond under its CERCLA authority. These initial CERCLA considerations are not presented in EPA's final Taskforce Report. Rather, the Taskforce Response provides the view that EPA Region 4 was clear in its direction from the start to respond under violations Clean Water Act. However, based on the following unsigned Administrative Order, on file at the Records Division at the Kentucky State Division of Water,²⁷² it appears that EPA Region 4 initially proceeded under CERCLA. The Order starts,

[...]

2. This Order is issued pursuant to the authority vested in the President of the United States by Sections 104, 106 (a), 107 and 122 of the Comprehensive Environmental Response Compensation and Liability Act of 1980

[...]

Based on the following the *Findings of Fact*, the Order charges:

[...]

- h. EPA, the State of Kentucky and the Massey Coal Company have collected sediment and water quality samples at the site. Analytical results of water samples show the presence of hazardous substances. Based on the estimated amount of material released and the concentrations, the loading calculation for the slurry impoundment indicated a release of 5207 lbs of arsenic at 2.5 mg/l, 6,040 lbs of chromium at 2.9 mg/l, 20, 828 copper at 10 mg/l, 10, 414 lbs of lead at 5.0 mg/l and 29,159 lbs of zinc at 14 mg/l. The water quality standards for turbidity and sulfates have also been exceeded.

[...]

- j. Metal and minerals present in coal include antimony, arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium and zinc.

²⁷² See: United States. Environmental Protection Agency. Region 4. Administrative Order on Consent for Removal Action. U.S. EPA Region 4. CERCLA. Docket No. Proceeding Under Sections 104, 106 (a), 107 and 122 of the Comprehensive Environmental Response, Compensation and Liability Act, as amended, 42 USC 9604, 9606(a), 9607 and 9622. In the Matter of: Martin County Coal Slurry Spill Site, Inez Kentucky. Martin County Coal Corporation (respondent). DOW File: 0054810-680-8002. Martin County Coal. Enforcement. **Project Note:** Public document is unsigned and undated.

- k. The Material Safety Data sheet (MSD) provided by the company identifies the substances used in the flocculation process as anionic polyacrylamide copolymer. The flocculent contains the listed hazardous substance acrylamide. Section 11 of the MSD ‘toxicological information’ states that prolonged repeated exposure to the flocculant vapor may cause central nervous system damage.

The unsigned Administrative Order goes on to state...

- ...*Based on the Findings of Facts set forth above, and the Administrative Record supporting this removal action, EPA has determined that:*
- b. The contaminants found at the Site, as identified in the Findings of Fact above, include ‘hazardous substances’ as defined by the Section 101(14) of CERCLA, 42 U.S.C. | 9601(21).
- d. Respondent may be liable under Section 107 (a) of CERCLA, 42 U.S.C. | 9607.²⁷³

EPA Region 4 Shifts its Position

Early on in the disaster response, as outlined in the section on *Civic Capacity* in this report, there were early dismissive comments and quotes by agency and company personnel within the Unified Command Structure (UCS) suggesting that EPA Region 4 was already rethinking and reevaluating its CERCLA response strategy in handling the disaster in Martin County. Some of these comments were enumerated in the *Civic Capacity* and in other sections of this report: Early agency comments, for example, that suggested 1) that materials found in the sludge were nothing more than what was “naturally occurring” in regional soils and other agency comments that suggested 2) that MCCC-Massey, by claiming formal responsibility for the disaster justified limited federal action on the part of EPA. Both are sets of early comments that suggested that EPA Region 4, within the first several weeks after the disaster, was already beginning to shift from its initial CERCLA position in Martin County.

By early January 2001, it seems that this shift in response was formalized. It appears, based on other documentation, that at the start of January 2001, EPA Region 4 had entered into formal negotiations with the Martin County Coal Corporation (MCCC-Massey) to respond to the disaster differently. Based on a review of the EPA Administrative Record, the following correspondence between an attorney for MCCC-Massey and an attorney for EPA Region 4 suggests that both parties were in negotiation to manage the environmental disaster in Martin County differently. It appears, based on the following correspondence, that the original CERCLA response provisions were changed to section 301 of the Clean Water Act. This correspondence is summarized below for the reader’s benefit:

Massey Coal Services, Inc.
January 3, 2001

Dear [EPA Region 4 Counsel]

- I have attached the most recent draft of the revisions that we have made to the CERCLA Consent Order proposed by EPA. Again, I must emphasize that we must associate with our insurance carriers on the defense of this matter, and we have not yet obtained their approval to this course of action. Additionally, we are still internally making editing changes to the draft Consent Order and Scope of Work I am sending you. Both are still works in progress.
- As we have discussed, the draft seeks to accomplish what EPA’s proposed CERCLA Order accomplished, but through Section 309 [301]²⁷⁴ of the Clean Water Act. Again, we believe that EPA has removal authority under Section 309 as expressed in EPA’s April 1998 “Contaminated Sediment Management Strategy.” As you will

²⁷³ See: United States. Environmental Protection Agency. Region 4. Administrative Order on Consent for Removal Action. In the Matter of: Martin County Coal Slurry Spill Site, Inez Kentucky. Martin County Coal Corporation (respondent). DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Project Note: Document is unsigned and undated.

²⁷⁴ Note: It appears based on the year-after EPA Region 4 Taskforce Report that EPA, in the end, proceeded under Section 301, of the Clean Water Act not Section 309.

see in the attached 'red-lined' draft, we have replaced references to "CERCLA" and to "hazardous substances" with references to the Clean Water Act and "pollutants" or "waste materials."

- Additionally, we made some changes to the Order in an effort to maintain the successful relationship between Martin County Coal and EPA established under the Unified Command System. Accordingly, you will see that we have provided that Martin County Coal and EPA make certain decisions under the Consent Order jointly, as they have done under the Unified Command System. You will also note that references to Martin County Coal's parent companies have been omitted, as Martin County Coal is a separate entity and is alone responsible for this matter. Also, as we have discussed from the beginning, it is important that we respond to one set of directives in this matter, so we have made the State signatories to the Order as originally contemplated in our earliest discussion.
- There are other similar changes that we can talk through once we have reached our final draft and ultimately committed to this course of action. We hope to reach this point soon so that we can continue the successful cleanup we have worked on together.
- Thank you for your cooperation.²⁷⁵

Sincerely,
[Counsel Martin County Coal]

Based on the above exchange, it appears that initial response plans by EPA Region 4 to respond to the Martin County coal waste spill under certain provisions laid out under CERCLA had officially shifted. EPA Region 4, following what seems to be MCCC-Massey's lead to re-characterize the sludge from a "hazardous substance" to a "pollutant," begins to respond to the disaster under cleanup provisions set out under Section 309 [Section 301] of the Clean Water Act, rather than act under the disaster response provisions outlined by CERCLA. This shift in response strategies is certainly worth of further study. For the purposes of this report on civic capacity since the coal waste disaster, it is only important to note, that with the shift from CERCLA to Section 301 of the Clean Water Act, several public participation provisions written into and guaranteed by CERCLA (SARA 1986) were effectively by-passed.²⁷⁶ As a consequence, Martin County citizens have had little (if any) opportunity to provide public input and publicly participate in cleanup decisions and remediation strategies within their own community. As mentioned in *the Civic Capacity Section* of this report, under the amended CERCLA (SARA 1986)²⁷⁷ there are built-in public mechanisms to invite citizen input in each stage of environmental disaster response, cleanup and recovery of contaminated sites. Under CERCLA, as one example mentioned in the *Civic Capacity* section and in the *Water Quality* section of this report, local citizens' groups in contaminated areas are able to apply for technical assistance grants (TAG). These grants are designed to assist them in their own independent assessment of the environmental impact of chemical contamination on their local environment and community. But because EPA did not respond under CERCLA in Martin County, such TAG grants were never made available to Martin County citizens in their own efforts to independently evaluate the impact of the slurry spill on the local watershed and area soils. We address this point, when we set out our full recommendations at the end of this report.

EPA Region 4 March Administrative Order

EPA Region 4 by March 2001, less than five months since the spill, entered into an Administrative Agreement with MCCC-Massey. As mentioned in other sections of this report, under the signed Order of Consent for Compliance, MCCC-Massey was cited for Section 301 (a) for violations of the Clean Water Act. The Order reads,

- EPA's Conclusions of Law and Determinations

²⁷⁵ Letter (Folder 79974) from: Massey Coal Services (January 3, 2001) to Associate Regional Counsel. RE: Clean Water Act Consent Order. Administrative Record: Martin County. U.S. EPA Region IV. 61 Forsyth Street SW Atlanta, GA 30303 (404) 562-8862. Available on CD-Rom.

²⁷⁶ In 1986 CERCLA provisions were updated under the *Superfund Amendments and Reauthorization Act* (SARA).²⁷⁶ 1986 CERCLA provided more mechanisms for citizen participation in site cleanup and reclamation decisions; under the amended CERCLA, prior to initiating reclamation activities on a Superfund site, the EPA must submit its proposed work plan to a thirty-day public comment period, -similar to the public participation provisions originally set out under NEPA 1968. United States Environmental Protection Agency. SARA Overview. Available online: [HTTP://www.epa.gov/superfund/actions/law/sara.htm](http://www.epa.gov/superfund/actions/law/sara.htm).

[...]

- c. Section 301 (a) of the Clean Water Act, 33 U.S.C. sec. 1311 (a) makes unlawful the discharge of any pollutant by any person into the navigable waters of the United States, except in compliance with certain sections of the Clean Water Act....

[...]

- f. The waste material that was released from the impoundment constitutes a “pollutant” with the meaning of the definition set forth in Section 502(6) of the CWA...

Under the Administrative Order, it appears that earlier references to ‘hazardous substances’ initially drafted under a CERCLA response had shifted. To fit section violations of the Clean Water Act, references to ‘hazardous substances’ were replaced with references to ‘pollutants.’ It is worth noting that the Clean Water Act (CWA), although often used as a legal tool by citizens in overseeing, monitoring and protecting area watersheds, the CWA does not, in itself, contain the same kind of provisions for citizen input, public comment and other mechanisms for public involvement in watershed management; the civic provisions contained in CERCLA and RCRA, in developing response and cleanup strategies, are not the same under CWA.

In sum, though it seems that the processes that led EPA Region 4 to its decision to respond under the CWA to the coal waste disaster should possibly be reviewed, for this report on civic capacity, it seems necessary to note that several public participation mechanisms written into CERCLA were, in the end, by-passed with the shift from CERCLA to the Clean Water Act. With no provisions for public participation under the CWA, Martin County citizens had little (if any) opportunity for civic input and public participation in cleanup and remediation strategies. In terms of the final cleanup and reclamation plan, for example, there were no provisions made for public comment and citizen review of the final reclamation plan, -provisions under CERCLA. It seems that EPA Region 4 attempted to incorporate this public participation provision in responding to citizen claims in Martin County: In one of its late 2001 teleconference sessions with Martin County CAG representatives, an event already chronicled in this report, it appears that EPA Region 4 told area citizens that they would have a thirty-day public comment period on the final draft reclamation plan submitted by MCCC-Massey.²⁷⁸ This public comment period was circumvented with MCCC-Massey submitting its final work and reclamation plan to the regulatory bodies by May 2002. Martin County citizens were not provided opportunity for public comment on the submitted reclamation plan.

Recommendation: We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to explore channels of public involvement in environmental recovery and reclamation in Martin County, Kentucky. We encourage the above law-makers and their staff of associates, to review the public participation provisions contained under CERCLA and RCRA and legally review how these provisions could be re-invoked, in some form, in providing Martin County citizens with the appropriate civic mechanisms to participate in rebuilding their community and environment since the 2000 October coal waste spill. To assist the above law-makers in considering our recommendation for increased community involvement in cleanup and recovery strategies in Martin County, we provide below an events-summary of reclamation activities in Martin County under the Unified Command Structure (UCS) as well as citizen comment on UCS cleanup and reclamation strategies.²⁷⁹

Reclamation Strategies since the Coal Waste Disaster

October 2000: Federal Disaster Relief Not Forthcoming

It appears that Martin County Coal Corporation, a subsidiary of Massey Energy (MCCC-Massey) assumes financial as well cleanup responsibility for the disaster. With the EPA representatives from the Kentucky Natural Resources and Environmental Protection Cabinet start to monitor and oversee MCCC-Massey cleanup activities through the Unified Command Structure. The EPA Region 4 On Scene Coordinator (OSC) estimates that it will take from four to five months

²⁷⁸ Stephanie McSpirit: (March –Date) Field Notes: Martin County; Stephanie McSpirit (April 23, 2002) Field Notes: Citizen Advisory Committee.

²⁷⁹ A more focused events summary of cleanup activities on Coldwater and Wolf Creek is provided in an Appendix to this report for the reader’s further information and consideration.

to remove the sludge from the impacted creeks.²⁸⁰ The OSC estimates that it will cost 50 to 60 million dollars to cleanup the streams.²⁸¹

With MCCC-Massey baring the costs of the cleanup, and cooperating under the Unified Command Structure (UCS), this appears to have softened EPA Region 4's position towards MCC-Massey. Less than a week after the spill, the EPA OSC states,

- They seem to want to do the right thing... The [Coal Company] president is taking responsibility for what has happened and that is a good thing. We've had people run off before.²⁸²

Less than two weeks after the disaster, residents of the area grow concerned over the process and pace of the cleanup. But agency officials state that they will not seek federal funding to help clean up the spill's aftermath. Several state officials' state for the record:

- Basically, since there is a party responsible, I don't think there would be any call for federal assistance on our part.²⁸³
- There shouldn't be the need for federal assistance unless the company cannot manage the event.²⁸⁴

October 20, 2000: State Division of Water Issues its Notice of Violation

The State Division of Water issues a Notice of Violation (NOV) to MCCC-Massey for the release of coal slurry that has created emergency conditions in Martin County and surrounding counties. The Notice charges MCCC-Massey with the following violations:

1. Causing pollution to water of the commonwealth
2. Releasing hazardous substances
3. Discharging pollutants into waters of the Commonwealth in quantities and concentrations that exceed Kentucky Pollutant Discharge Elimination standards and limitations in violation of Kentucky statutes and regulations.
4. Creating an environmental emergency in violation of state statute.²⁸⁵

The Notice of Violation orders MCCC-Massey to begin remedial measures under penalty of a fine amount of \$25,000 per day for each listed violation. The Order reads,

- Immediate removal of accumulated sediments and deposits of coal slurry...
- Submit plans to Cabinet and other state and federal agencies dealing with how the discharges will be stopped and how future discharges will be prevented and implementing the plan as soon as possible.
- Submit plans to the cabinet and other state and federal agencies to characterize the extent of the releases
- To correct the effects of those releases and to implement the plans as soon as possible when approved.

²⁸⁰ Lee Mueller 10-20-00 At Ashland, rising Ohio River holds off sludge for now. Lexington Herald Leader.

²⁸¹ Lee Mueller 10-19-00 Spill looks like one of worst in nation: Sludge cleanup goes on as impact assessed.. Lexington Herald Leader.

²⁸² Lee Mueller 10-19-00 Spill looks like one of worst in nation: Sludge cleanup goes on as impact assessed. Lexington Herald Leader.

²⁸³ Wire report 10-27-00 Sierra Club pointing fingers in spill . Lexington Herald Leader.

²⁸⁴ Wire report 10-27-00 Sierra Club pointing fingers in spill . Lexington Herald Leader.

²⁸⁵ Kentucky State Division of Environmental Protection (October 25,2000) Press Release: Division of Water issues violations against Martin County Coal. The Martin County Sun. p. 15.

- Submit a detailed written report to the Cabinet and other local, state and federal agencies by Nov.15 concerning the causes of the releases, and Martin County Coal Corp activities taken in response to the NOV. ²⁸⁶

Aquatic Damage, Assessment and Recovery

In the initial days of the disaster, the State Department of Surface Mining issues a Notice of Violation and notes damages to aquatic life. The notice orders MCCC-Massey to replace the fish and other aquatic life as well as to rebuild roads, bridges uprooted by the sludge.²⁸⁷ The Department of Fish and Wildlife, on the other hand, has not yet determined the extent of aquatic damage and subsequently has not determined financial liability. It will take more than a week to assess the environmental impact on aquatic and wildlife. However, one official for the Kentucky Department of Fish and Wildlife resources is quoted as saying.

- I don't believe there is a living thing left where the sludge has been.²⁸⁸

In surveying the extent of aquatic and wildlife damage, one private biologist's comments are summarized in the local press. The reporter writes,

- He said that for the most part wildlife such as deer, turkeys, squirrels and other creatures would not be harmed. "They can just go somewhere else," said [Name]. The aquatic animals are the ones that will be wiped out. Several Coldwater residents have commented on the large amount of fish, frogs and turtles that have perished due to the mine accident. [Name] said the spill would disrupt certain bird species in their feeding habitats like the kingfisher and the blue heron, which until last week used the watershed to feast on small fish.²⁸⁹

By late October, an EPA on scene coordinator says the Big Sandy River's condition had changed little visibly in the past two weeks, and says that the river had been described as a "thick black milkshake."²⁹⁰

Six months after the disaster, the president of MCCC, is asked to comment on the percentage of the cleanup that is complete and responds,

- That's a hard thing to say because the bigger job now is stream restoration. It's not so much picking up slurry as restoring the stream - and that's going to be a long process.²⁹¹

A year after the disaster, MCCC hires an outside firm to monitor the impacted creeks and aquatic life:²⁹² MCCC-Massey officials contract with Arkansas University to conduct area tests on fish that were affected and not affected by the coal slurry spill. According to the cited news summary, a university crew will perform two tests per year for two years to determine if the fish population has been affected by the slurry spill. When asked why Arkansas University was doing stream monitoring in Kentucky, one of the university personnel commented that they had done other tests for MCCC-Massey shortly after the spill.²⁹³ A regulatory agency official accompanies the university team in their first stream assessment and comments,

²⁸⁶ Kentucky State Division of Environmental Protection (October 25,2000) Press Release: Division of Water issues violations against Martin County Coal. The Martin County Sun. p. 15.

²⁸⁷ Lee Mueller (October 17, 2000) Towns downstream prepare for sludge. Lexington Herald Leader

²⁸⁸ Kraig Grayson. (October 18, 2000) Spill Devastation inestimable; aquatic life, water ruined. The Martin County Sun. p.20.

²⁸⁹ Kraig Grayson. (October 18, 2000) Spill Devastation inestimable; aquatic life, water ruined. The Martin County Sun. p.20.

²⁹⁰ Lilly Adkins (November 1, 2000) Patton calls in expert to help with cleanup. The Martin County Sun. p.20.

²⁹¹ Lee Mueller (April 11, 2000) Tug Fork being put on major endangered list Lexington Herald Leader.

²⁹² Lilly Adkins (October 12, 2001) Spill effects on Tug Fish are underway. The Big Sandy News. P.A3.

²⁹³ **Note:** See November test subsections on toxicity and heavy metal analyses summarized in the *Water Quality Testing and Monitoring* section of this report.

- They are representatives for A.T. Massey and they are conducting tests to see if any of the fish were affected by the sludge.²⁹⁴
- They are taking three samples from upstream and three samples downstream, then comparing them.²⁹⁵

A representative for Arkansas University said the tests focus on whether, and the extent to which fish were affected. He comments,

- MCCC-Massey hired us to do the tests and they are our clients... The tests are being conducted within 175 meters of each. We are identifying the fish, checking the size and their location. We are looking at the overall fish community and trying to establish a dateline after the spill. As far as the habitats, it seems like we're getting similar things and there don't seem to be any inherent differences in the sections of the river we have checked. It takes long term monitoring to establish a background.²⁹⁶

The Arkansas representative said that there were other factors to consider, including the pipes coming into the river. He commented,

- Each river is unique and you have to customize the different eco-regions... These are unique streams and need added protection. We aren't doing the tributaries. They may have hired someone else to do those. Right now, we are finding what should be there.²⁹⁷

October 2000: CMC Report

Late October, several weeks into the disaster, the Natural Resources and Environmental Protection Cabinet, in consultation with the Governor's Office, contracts with an independent in-state firm –CMC Services- to assess area cleanup and reclamation activities. The Cabinet Secretary is quoted in the regional press as stating that,

- One of the south's worst environmental disasters requires an expert.²⁹⁸

After two days on site, CMC releases its 34- page report.²⁹⁹ In the assessment, CMC estimates that it will take 4 to 5 months, under favorable weather conditions to remove slurry from stream basins. The Report acknowledges MCCC-Massey for providing 'unlimited resources' to cleanup the spill. The report mentions the manpower involved in the cleanup with 350 workers working in shifts around the clock and mentions that progress is being made in the cleanup. The report also recognizes the difficulty in reaching many of the more remote sites of the spill and agreed with cleanup practices of solidifying the sludge with lime to facilitate excavating and hauling the slurry out of stream basins. The report warns of 'significant rain events' and that the sediment ponds or holding cells may overflow during heavy rains. The CMC Report observes

- Working within the Incident Command System, MCC has implemented a variety of containment and remediation steps along Coldwater and Wolf Creek [...],³⁰⁰
- Along Coldwater Fork and Wolf Creek, MCCC has constructed sediment basins to retain cola slurry pumped or vacuumed from the creeks. The objective of the basins is to retain the slurry and let the solids settle. MCCC is

²⁹⁴ Lilly Adkins (October 12, 2001) Spill effects on Tug Fish are underway. The Big Sandy News. P.A3.

²⁹⁵ Lilly Adkins (October 12, 2001) Spill effects on Tug Fish are underway. The Big Sandy News. P.A3.

²⁹⁶ Lilly Adkins (October 12, 2001) Spill effects on Tug Fish are underway. The Big Sandy News. P.A3.

²⁹⁷ Lilly Adkins (October 12, 2001) Spill effects on Tug Fish are underway. The Big Sandy News. P.A3.

²⁹⁸ Lilly Adkins (November 1, 2000) Patton calls in expert to help with cleanup. The Martin County Sun. p.21.

²⁹⁹ Staff, Wire report 10-31-00 State, federal agencies assigned some blame for spill . Lexington Herald Leader.

³⁰⁰ CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P.3.

using vacuum trucks operated by Miller Environmental and a variety of means of pumping the coal slurry (dredges, tractor pumps, sludge pumps) through lengths of pipeline to the various sediment basins.³⁰¹

- MCCC appears to have significant manpower and resources dedicated to the cleanup efforts. On October 28, 2000, there were approximately 200 personnel working on the cleanup, and significant activity was occurring along both Coldwater and Wolf Creek.³⁰²
- Specific Comments: During a significant rain event, many of the sediment basins may overflow, and the coal slurry would be re-deposited in the creeks.³⁰³

The CMC Report recommends,

- Recommends allowing the coal slurry deposited in Coldwater Fork and Wolf Creek to dry using lime additives and mechanical mixing, which will facilitate excavation and removal.³⁰⁴

The CMC Report warns,

- That MCCC is not preparing for a significant Rain Event. CMC Report disagrees with the technique MCCC is using to remove and manage the coal slurry. While a period of dry weather exists, MCCC needs to take steps to minimize the impact of a rain event.³⁰⁵

The CMC Report approves,

- Rerouting existing flow into a non-impacted drainage system (being done) 2. Installing weirs in Wolf Creek and Coldwater to facilitate settling of solids. Some dams are being installed, but more are warranted. [...] 4. In the area where the sludge is heavy, constructing a berm along the creek. Once this is done, MCCC needs to solidify the sludge using lime. Once the sludge is solidified, it can be removed to a holding cell.³⁰⁶

November 2000: MCCC-Massey Report

Under order of the Notice of Violation, a month after the sludge spill, MCCC-Massey submits an impact statement. Several subcontracting firms of MCCC-Massey compile the November impact report. As stated in the section on *Water Quality Testing and Monitoring*, the November Impact Report reports no significant short-term or long-term impact of the sludge spill on the area watershed and local environment based on toxicity tests conducted through Arkansas

³⁰¹ CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P. 3.

³⁰² CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P.4.

³⁰³ CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P. 4.

³⁰⁴ CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P. 5.

³⁰⁵ CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P.5

³⁰⁶ CMC inc. Remedial Construction Services (November 1, 2000) October 21, 2000 Release from Sediment Pond #2000 Martin County Coal Corporation, Inez, Kentucky. Prepared by: CMC Inc. and Environmental Quality Management, Inc. Kentucky. DOW File: 0054810-680-8002. Martin County Coal. Daily Incident Action Plan. P. 5.

University.³⁰⁷ The November report also reports chemical analyses on the sludge that suggests that metal compounds and other chemicals found in the sludge are no higher and even lower than metal and chemical levels found naturally occurring in regional and residential soils. These toxicity results also are summarized in two subsections of the *Water Quality Testing and Monitoring section* of this report.³⁰⁸

November 2000: Hearing Before the Kentucky State Environmental Quality Commission

Approximately, one month after the disaster, it appears based on statements made during the Environmental Quality Commission (EQC) Hearings, that state and federal regulatory officials are already beginning to formally shift their 'hazardous substance' classification and describe and classify the sludge differently. At the November EQC Hearing, there are statements made such as this one:

- It is composed of coal, shale and sandstone with the consistency of face powder mixed with water.³⁰⁹

In answer to another EQC question about Arsenic and mercury in the slurry, the EPA's On-scene Coordinator states,

- That they were not present at levels that create a risk to exposure.³¹⁰

In addition, during the hearings Agency Officials admit that reclamation will never be 100%. Officials called before the state EQC yesterday, state that cleaning up all 250 million gallons of the waste is not possible.

- Realistically, you just can't say remove every particle... At some point you have to say 'this is good enough' and let nature take its course.³¹¹

Also at the EQC Hearings on the Martin County coal waste spill, there is some discussion that freezing temperatures could cause problems for the above ground pipes.³¹² There is also testimony that heavy rains could wash more sludge out of creek beds, harming aquatic life and forcing water treatment plants to shutdown. This remains a concern of area citizens in the months ahead; in a teleconference session with EPA Region 4 representatives in June 2001, citizens are still expressing concern on the 'remobilization' of slurry,

- Citizen reps mentioned that a well-respected civil engineer from the University of Kentucky [representative] has raised concerns about slurry sediments likely 'turning over' in time at the drinking water plan and being released. Citizen reps said that she stated in a report that it cannot be concluded there are no human health effects from coal slurry.³¹³

³⁰⁷ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement P.5

³⁰⁸ Potesta & Associates, Inc. (November 15, 2001) Martin County Coal Corporation. Slurry Release Project. Impact Assessment Report #1 (Historical Data Submission). Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement

Potesta & Associates, Inc. (November 17, 2001) Preliminary Comments Regarding the Potential for Toxicity Associated with the Slurry Released from Martin County Coal Corporation's Impoundment on October 11, 2000. DOW File: 0054810-680-8002. Martin County Coal. Enforcement

³⁰⁹ Environmental Quality Commission. 14 Reilly Road, Ash Building, Frankfort, KY 40101. (502) 564-2150 ext 149.

³¹⁰ Andy Mead. (November 29, 2000) Officials say some sludge will remain after cleanup. Lexington Herald Leader.

³¹¹ Andy Mead. (November 29, 2000) Officials say some sludge will remain after cleanup. Lexington Herald Leader

³¹² **Note:** Pipe-line freeze becomes especially relevant at the end of December with the switch from the temporary intake to the permanent intake and become important in understanding some of the water quality issues facing Martin County citizens after the disaster and is discussed in the section on *Water Treatment* in this report.

³¹³ U.S EPA Region 4. (Monday, June 14, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

December 2000: MCCC-Massey Denies Responsibility for Spill

MCCC president [...] holds meetings with both residents from Coldwater and Wolf Creek and informs citizens on the progress and status of the Company's cleanup operations along both creeks. But it seems, based on local news accounts of events, that while the Company president is accepting responsibility for the disaster, Company attorneys are filing to deny responsibility:³¹⁴ In a response, to a civil lawsuit against MCCC-Massey for payment of property damages, MCCC-Massey attorneys filed that the 250 million gallon spill was 'an act of god.' In its motion and appeal to dismiss the civil suit, MCCC-Massey admits that on October 11, 2000, coal slurry did accidentally and unexpectedly escape from the impoundment, but denies that the slurry was released. A summary of the response, by the local press, reports that MCCC-Massey claims,

- That the spill has not damaged or even reduced property values and that mitigation efforts including sludge removal, repair and maintenance work to the effected property, and provisions of water and temporary housing constituted payment and satisfaction for the alleged damages.³¹⁵

Later, in February field interviews with the student-faculty research team, citizens comment on the Company's claim,³¹⁶

- They're saying it's an act of God, if you can believe that. The coal company had that in the newspaper, saying it was an act of God and that they were doing everything they could to clean up the mess. And everybody knows it's not an act of God, it's a disaster.
- The coal company itself is saying it was an act of God. Okay, now, we realize an act of God is flooding, tornadoes, hurricanes, lightning; an act of God is not a sludge spill. This really opened my eyes to realize that if it hadn't have been for the grace—for the GRACE of God, and went down both Coldwater and Wolfe Creek, it would've even washed us all off like the Buffalo Creek disaster years ago [...] because everybody would've been in bed asleep just like they were.
- The whole act of God thing was kind of stupid. [laughter] You know, saying that. You know everything is an act of God, so you know you can't pin that on him.
- So what you had was 300 million gallons of slurry coming into two small watersheds and the Coal Company likes to say 'it was an act of God' but as we like to say in this area, the act of God –was that nobody was killed. That the impoundment was a manmade construction that is plain and simple; they're the cause of the problem. So, instead of taking responsibility, they want to throw out a term that is a legal term –Act of God- people in this area don't buy that.
- I've read the paper some about it and the biggest complaint was where the coal company was saying it was an act of God and the newspaper was saying no it's not an act of God; God don't do this, coal companies do this.
- The coal company said this is an act of God; no God wouldn't do something like this."
- And to this day they're (MCCC-Massey) still trying to cover it up and say that it was an act of God. But we both know that folks will know better than that.

January 2001: Citizens speak out at Public Informational Meeting

By January, several months after the disaster, citizens at one public informational meeting state that the Federal Emergency Management Association (FEMA) should have been involved in disaster response.³¹⁷ Some citizens express dissatisfaction with cleanup and reclamations activities along the creeks and Tug River. Some citizens' state,

³¹⁴ Lilly Adkins (December 6, 2000) Martin County Coal denies fault for slurry spill. The Martin County Sun. p. 12.

³¹⁵ Lilly Adkins (December 6, 2000) Martin County Coal denies fault for slurry spill. The Martin County Sun. p. 12.

³¹⁶ February. 2001. Field Interviews.

³¹⁷ Lilly Adkins (January 10, 2001) Martin County Coal announces: Benefits for displaced will end after 6 months. The Martin County Sun. p. 10.

- I'm very concerned about the water and the cleanup of the Tug River, and I would like to know what if anything will be done about it?³¹⁸
- It upsets me a great deal to look at the Tug River and see the black along the banks. I'd like to know if you plan to dredge the creeks and river or what you plan to do about that in the future.³¹⁹

January 2001: State Environmental Quality Commission Issues Recommendations

In mid January, the Environmental Quality Commission (EQC) releases its recommendations. In one of its recommendations, the EQC recommends:

- Private wells and septic systems damaged by the spill be restored, and other projects, including expanding drinking water be considered.³²⁰

One recommendation that the EQC sets out is central to the position of this report. In one of its recommendations, the EQC recommends that,

- **THE US EPA CONSIDER APPOINTING AN OVERSIGHT BOARD OF STATE AND FEDERAL OFFICIALS FOR THE MC CLEANUP AS WELL AS A CITIZEN ADVISORY COMMITTEE.**

In a later status conference, EPA Region 4 considers this recommendation.³²¹ The EQC sends a letter to EPA's Regional Administrator. According to EPA teleconference minutes, the contents of the letter read:³²²

The EQC requests that EPA

- Consider providing opportunity for public comment and input on the proposed stream restoration plan
- Consider appointing an oversight board comprised of state and federal officials to monitor the implementation of the restoration plan and activities; and
- Create a public advisory committee to advise the oversight board on issues.

The minutes continue,

- *[Name]* stated that the letter is a controlled correspondence and he will be compiling a reply by September 5, 2001. Eric reiterated that he can quite easily address the first two issues raised by EQC. However, he was not certain how to the comment on a public advisory committee. He has yet to receive feedback from his management on this topic.³²³

³¹⁸ Lilly Adkins (January 10,2001) Martin County Coal announces: Benefits for displaced will end after 6 months. The Martin County Sun. p. 10.

³¹⁹ Lilly Adkins (January 10,2001) Martin County Coal announces: Benefits for displaced will end after 6 months. The Martin County Sun. p. 10.

³²⁰ Andy Mead (January 19, 2001) Panel Urges End of Slurry Ponds. Lexington Herald Leader; Environmental Quality Commission. Cabinet of Natural Resources and Environmental Protection. (January 18 2001). Hearing Minutes. Martin County Coal Slurry Spill.

³²¹ During this In-house EPA meeting, EPA considers EQC recommendations: EQC recommends public input and oversight board to monitor restoration: Establish a public advisory group and provide a forum for citizen input.

- Consider providing opportunity for public comment and input on the proposed stream and restoration plan.
- Consider appointing an oversight board comprised of state and federal officials to monitor the implementation of restoration plan activities.
- Create a public advisory committee to advise the oversight board on issues of public concern and provide a forum for public input.

Taken from: United State Environmental Protection Agency: August 21 2001. Martin County Coal Corporation. Coal Slurry Spill Site: Draft #1: Meeting between Waste Division and Division of Water.

³²² U.S EPA Region 4. (Monday, August 27, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

³²³ U.S EPA Region 4. (Monday, August 27, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

In early statements, with the opening of the EPA Outreach Center in Inez, the EPA appears to be acting on this state recommendation. There are also internal EPA Agency documents that recommend that site-based citizen advisory groups (CAG) be established in responding to environmental disasters.³²⁴ As outlined in the *Civic Capacity* section of this report, the EPA establishes a CAG with Martin County citizens in late 2001. It appears, however, that EPA Region 4 does not follow through with its public involvement protocols based on events first mentioned in the *Civic Capacity* section of this report. In matters, for example, of providing citizens with a public comment period on the final stream and stream bank reclamation plan, citizens were not given provisions for public comment. This event is outlined in the *Civic Capacity* Section and is later chronicled in this section on *Cleanup and Reclamation*.

Recommendation

In rebuilding civic capacity in Martin County after the coal waste disaster, our research team recommends to the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor that concerted efforts be made to follow through and pursue the January 2001 EQC recommendation to appoint a citizen advisory committee in final cleanup and remediation activities in Martin County, Kentucky. We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to hold EPA in compliance with its responsibilities to its Citizen Advisory Group of Martin County citizens.

February 2001: Citizen Assessment of Cleanup Activities: Help Organization

In February, at a citizen group (HELP) meeting, outside persons comment that the cleanup is an outrage. As quoted in the local press, an environmental engineer that has worked around the county on environmental catastrophes states that he is appalled by what he saw in Martin County; he agrees to assist in examining the reclamation efforts being conducted by Martin County Coal Corp. and the effects it is having on the area. He states at the public meeting, based on newspaper summaries:

- I went out with the attorneys this morning and looked around and was amazed and shocked by what I saw. If it was my home, I would be very concerned about what is happening, especially with the soil data.³²⁵
- I watched Martin County Coal cleanup workers for some time and from what I saw, they were merely turning the soil over and putting it into the creeks. If it takes them all day to put it into the creek and they only manage to go 25 feet, it will take a year for them to get it into the creek and who knows how long to get out of the creeks after that.³²⁶
- I know they say they've spent millions of dollars on this cleanup, but what kind of cleanup is it if they are throwing the stuff right back into the creeks?³²⁷

Late February 2001: County threatens suit

Early on in our research, the County Judge Executive meets with our student-faculty research team. The local press reports on the meeting,

- During the meeting Lafferty told the group that he may sue Martin County Coal if they don't complete cleanup operations following the October 11, 2000 spill that sent 250 million gallons of coal waste into Coldwater and Wolf Creeks and the Tug River. The Judge/ Exec [...] has steadfastly defended to the company's operation since the spill. The judge was told that the creeks would be dredged and nothing else will be acceptable.³²⁸

³²⁴ United States Environmental Protection Agency.(December 1995). EPA Guidance for Community Groups at Superfund Sites; US EPA (July 2000) Evaluation Report on the Pine Street Barge Canal Coordinating Council, Burlington, VT. Lessons Learned from the Region 1 Community Advisory Group; US EPA (Winter 1996), Community Advisory Groups: Partners in Decisions at Hazardous Waste Sites. Case Studies. US EPA.(May 1996). Community Advisory Group Toolkit.

³²⁵ Lilly Adkins (February 24, 2001). Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14.

³²⁶ Lilly Adkins (February 24, 2001). Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14.

³²⁷ Lilly Adkins (February 24, 2001). Lawyers say sludge contains 'highly toxic' chemicals. The Martin County Sun. p. 14.

³²⁸ Lilly Adkins (February 21, 2001). Lafferty says he might sue Martin County Coal. The Martin County Sun. p.5.

The Assistant to the County Executive is also present at the meeting and is quoted in the press as saying,

- We want to give them the opportunity to do what they said they would, but we have to look out for the citizens of this County and if they don't dredge the creeks, and try to leave without finishing the cleanup, we will do what we have to do.³²⁹

March 2001: State Cabinet of Natural Resources sets Hearing Date

MCCC Attorneys meet with Natural Resources and Environmental Protection Cabinet (NREPC) officials in Frankfort in a status conference on March 7, 2001.³³⁰ The status conference addresses when the case will be heard before the NREPC Office of Administrative Hearings and is tentatively scheduled for the following year, March 2002. According to a state Hearings Officer,

- This is probably the longest amount of time we've ever set aside for a hearing³³¹

Based on a further records review, it appears that the State Hearing on water (and mining regulation) violations by MCCC-Massey is rescheduled for August 12 through 27, 2002. These August 2002 Hearing dates, it appears, will not be rescheduled as the Order reads,

- EXCEPT FOR EXTRAORDINARY CAUSE, THE FORMAL ADMINISTRATIVE HEARING SHALL NOT BE RESCHEDULED, NOR SHALL THE FORMAL HEARING BE CANCELED EXCEPT UPON THE SUBMISSION OF AN AGREED ORDER SIGNED AT A MINUM BY THE PARTIES ATTORNEYS.³³²

March 2001: EPA Region 4 Enters in Administrative Order with MCCC-Massey

Also in March 2001, the U.S. EPA Region 4 announces that MCCC-Massey has entered into an Administrative Order on Consent with the Agency for alleged violations of the Clean Water Act (CWA). According to an EPA statement, the Administrative Order ensures,

- [...] A sustained and appropriate level of clean up that will make sure the impacted rivers and streams are fully Restored³³³

A further summary of the Administrative Order is provided for the readers benefit. The section on AUTHORITIES AND GENERAL PROVISIONS reads,

- 1. The Administrative Order on Consent is entered into by the United States Environmental Protection Agency and Martin County Coal Corporation –respondent. This Order requires Respondent to: a. Remove Waste Materials that have been discharged into waters of the United States and associated watershed areas; b. Restore

³²⁹ Lilly Adkins (February 21, 2001). Lafferty says he might sue Martin County Coal. The Martin County Sun. p.5.

³³⁰ In a December 2001, correspondence with the Division of Water Records Division, the project team requested to review meeting minutes from this status conference but there were no minutes available. Division of Water. (December 19, 2001). Response to McSpirit Information Request.

³³¹ Gary Ball (March 14, 2001) Martin County Coal has year to appeal citations. The Mountain Citizen. P.5

³³² **Project Note:** Quote is in block letters as it appears in the Order. **Project Note:** Based on February field conversations between a Hearings Officer and our research team, it appears that the August Hearing remains on the docket. Field Notes: Stephanie McSpirit. February 28, 2002. Above taken from: Martin County Coal Corporation versus Natural Resources and Environmental Protection Cabinet versus United States Department of Labor Mine Safety and Health Administration. Order Rescheduling Formal Administrative Hearing. File No. FOV-25066-042; FOV 25067-042; FOV 25068-042; FOV 25069-042; And PAH 25069-042... Permit No. 680-8002;770-7000;880-7002;680-5012; Noncompliance No. 41-1752; 41-1753;41-1754;41-1800;41-1552; Imminent Danger Cessation Order No. 04-1241 and Files Nos. DOW-25070-042;25109-042; DOW 25151-042; Filed September 18, 2001: DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

³³³ United States Environmental Protection Agency. Region 4. (October 2001). Martin County Coal Corporation, Inez, Kentucky. Task Force Report.

the impacted waters and watersheds; c. Mitigate any temporary or permanent losses of waters of the United States; and 4) to reimburse response costs incurred by the EPA. These items will be done in connection with the release of Waste material into waters of the United States from an impoundment at Respondent's coal processing facility located in Martin County, Kentucky.³³⁴

[...]

- 3. EPA has notified the Commonwealth of Kentucky and the State of West Virginia of this Order. EPA will provide both States with a copy of this executed order.³³⁵

Under the FINDINGS OF FACT, as prompted from the start of this section on Cleanup and Reclamation, it appears that the original language applied by the EPA in classifying the slurry as “hazardous materials” has been modified to include references to “pollutant” rather than “hazardous substance.” In accord with possible December negotiations, other references to particular hazardous chemical materials have also been struck from the document. The FINDINGS OF FACT now read,

- E. Since the discharge, EPA, the Commonwealth of Kentucky, and the Respondent have collected sediment and water quality samples at the Site. Sampling results have confirmed that the discharged Waste Material has entered the surface waters from a point source into the waters of the United States and adjacent areas.
- F. The Waste Material that was released from the impoundment constitutes a ‘pollutant’³³⁶

Under the ORDERS section the Agreed Order orders MCCC-Massey to,

- A. Respondent shall perform all work required by this Order itself or retain a lead contractor to perform the work....

[...]

- C. EPA has currently designated [Name] of the EPA, Region 4 Emergency Response and Removal Branch as its On-Scene Representative (OSR)³³⁷

Under WORK TO BE PERFORMED section the Agreed Order specifies,

- A. Contain the release of Waste Materials into the Wolf Creek and Coldwater Fork.
- B. Stream Assessment and Cleanup Survey (SACS) Team
 - i. Respondent shall be a member of the SACS team and will carry out the work directed by OSR ... the OSR will serve as the head of the SACS Team
 - ii. The SACS Team consists of the following personnel: An EPA staff person, EPA's Scientific Support Coordinator (or equivalent), Qualified members of EPA's Environmental Response team –ERT- contractors that are experts in stream cleanup and restoration, Representative(s) from the

³³⁴ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

³³⁵ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001. p.1.

³³⁶ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001. p. 3.

³³⁷ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

Commonwealth of Kentucky, Representatives from the State of West Virginia. Respondent agrees to provide necessary on-site office space for the SACs Team and the OSR.³³⁸

- C. Assessment and cleanup
- D. Removal and Restoration- submitting plans within one year.
- E. Section 404 Permit: Having met the requirements for applicability of Nationwide Permit 32 within 30 days of the effective date of this order, respondent will submit a copy of this executed Order and apply to the Army Corps of Engineers for a Nationwide 32 permit for any structure, work or discharge or dredge or fill material remaining in place, or undertake for mitigation, restoration, or environmental benefit in jurisdictional waters of the United States.³³⁹

Under the WORK PLAN AND IMPLEMENTATION section the Agreed Order reads,

- B. [...] Within 30 days after the effective date of this Order, Respondent shall submit to EPA for approval a draft work plan for performing the work. [...] Once approved –fully enforceable under this order...³⁴⁰

Under the QUALITY ASSURANCE AND SAMPLING section the Agreed Order reads,

- A. All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval and guidance regarding sampling, quality assurance/ quality control.
- B. Upon request by EPA, Respondent shall have a laboratory analyze samples by EPA for quality assurance monitoring
- C. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and / or duplicate samples. EPA shall have the right to take any additional samples that it deems necessary³⁴¹

Under the REPORTING section the Agreed Order reads,

- A. Written progress report
- B. Final Report³⁴²

Under REIMBURSEMENT AND COSTS section the Agreed Order reads,

- Respondent specifically denies the applicability of 42 U.S.C. sec. 9607.³⁴³ However, as the United States has incurred response costs, and for the purpose of assisting the respondent with the removal / restoration process, Respondent agree, consistent with, 42 USC sec. 9604 and 9622 to reimburse the United States for its costs

³³⁸ **Project Note:** The SACS Team does not include local community representatives nor elected local officials as community spokespersons.

³³⁹ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

³⁴⁰ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

³⁴¹ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

³⁴² United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001.

³⁴³ Refer to the following on US Code 42 section 9607 for more information on that the respondent specifically denies liability for the release of hazardous substances into the environment: <http://www4.law.cornell.edu/uscode/42/9607.html>

within 30 days of the receipt of a statement identifying such costs with appropriate documentation of those expenses [...] Respondent shall, within 30 days of receipt of a bill, remit a cashier's or certified check for the amount of the bill...

- All payments for Costs shall be sent to the following: U.S. Environmental Protection Agency. Region 4. Region 4 Accounting.³⁴⁴

Under the DISPUTE RESOLUTION section the Agreed Order reads,

- [...] parties shall attempt to revolve, expeditiously and informally any disagreements [...] then talks about formal mechanisms to resolve disputes if cannot be settled informally.³⁴⁵

Finally, it appears that the Agreed Order allows for ADDITIONAL ACTIONS,

- 62. EPA may determine that additional actions not included in an approved plan are necessary to protect public health, welfare or the environment. EPA will take recommendations of the SACS Team or field SACS team in consideration when making its determination, and EPA will then notify Respondent of that determination. Unless otherwise stated by EPA, within 30 days of receipt of notice from EPA that additional actions are necessary to protect public health, welfare or the environment³⁴⁶

March 13 2001: EPA Town Meeting

EPA Region 4 tells those in attendance at EPA's first official public meeting³⁴⁷ it has entered into an agreement with Martin County Coal and that MCCC agrees to conduct all remaining assessment tasks. According to official statements made at the March 13 meeting, the EPA will determine what needs to be done and MCCC will be responsible for carrying out these reclamation tasks. An area citizen asks whether the EPA has monitored the cleanup effort and seen MCCC covering up the sludge by simply turning over the soil. An EPA official responds,

- I'm not aware of that.³⁴⁸

The citizen replies,

- If you were on site and doing your job, you would have seen it and been aware of it. I can take you to my property and let you do a core sample and if you find anything you can make them come and clean it up, it's theirs. We didn't ask for that. Would you be willing to do that? I have a yard full and I have a young child that I have to raise and worry that 10 years he's going to get cancer. If not, I have a video of them doing and be more than happy to let you watch that.³⁴⁹

³⁴⁴ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001. p. 3.

³⁴⁵ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001. p. 3.

³⁴⁶ United States. Environmental Protection Agency. Region 4. Administrative Order on Consent. In the Matter of: Martin County Coal Slurry Spill Site Martin County, Kentucky. Martin County Coal Corporation. Respondent. EPA Docket No. 01-19-C. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. Received March 16, 2001. p. 3.

³⁴⁷ **Project Note:** According to a summary document, the EPA states for the record, that it only conducted one public meeting in Martin County. The document states,

- EPA only held one public meeting concerning the MCCC slurry release site. The meeting was held in March 2001.

Taken from: U.S. EPA Region 4. (Version 1: September 21, 2001). The Martin County Coal Corporation (MCCC) Slurry Spill Site: Responses to Information Requests. Southeast Atlanta Federal Center. 61 Forsyth St. SW. Atlanta, GA. 30303. Contact information: 404-562-8611.

³⁴⁸ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

³⁴⁹ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

Another citizen comments,

- When the EPA came in, they set up shop behind MCCC guards. Did you call this meeting tonight to downplay the results released from our meeting last night?³⁵⁰

An EPA official responds,

- I think that was unfair. We could have done more to interact with you earlier, now you don't have trust in the EPA. This meeting was scheduled several weeks ago, but because of the caliber of people in attendance we had scheduling conflicts. We want to win back your trust.³⁵¹

Another citizen asks, asks whether MCC would be required to dredge the Tug River. An EPA official responds,

- It's not going to occur any time soon and then if it does, it will only be in selected areas. If it does occur, at the earliest, it will be late this year.³⁵²

Another citizen asks,

- How can you claim you are for the people, when you made an agreement with MCC? You did, did you not?³⁵³

An EPA official responds

- I did. I am for cleaning up the environment.³⁵⁴

As reported in previous sections, at the March Town Meeting, EPA Region 4 announces it will not fine MCCC-Massey. An EPA official is quoted as saying,

- No, they haven't been fined and they won't be fined.
- Martin County Coal has already spent about 1 million to reimburse the treasury for the response so far.³⁵⁵

Another EPA Region 4 official states,

- Under the Clean Water Act, we don't have the power to fine Martin County coal, but they have been fined enough by having to pay for the cleanup,
- It will cost 50,000,000 to clean all of this up."³⁵⁶

³⁵⁰ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

³⁵¹ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

³⁵² Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

³⁵³ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. The Martin County Sun.

³⁵⁴ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. Martin County Sun.

³⁵⁵ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. Martin County Sun.

³⁵⁶ Lilly Adkins. (March 14, 2001) Citizens outraged when EPA says water 'Safe' and MCC won't be fined. Martin County Sun.

Early April 2001: President of MCCC resigns and comments on the cleanup

The President of MCCC resigns and comments on the cleanup. The president tells the Lexington Herald Leader that his resignation has nothing to do with the slurry spill. The president is quoted in his interview as saying that,

- Martin County Coal had done a good job in the cleanup thus far.³⁵⁷

April 2001: MCCC Massey Meets with EPA Region 4

In an April status conference, EPA Region 4 officials meet in a conference session in Frankfort. According to one quoted official, commenting on the cleanup and reclamation plan,

- All they talked about was how the work would go forward.³⁵⁸

EPA officials state that their agency will order Martin County Coal to restore areas that were affected by the spill and disturbed by cleanup activities. The Coal Company will be told to examine the long-term impact of the spill on fish and other aquatic species.

April 30 2001: Our Project Team presents Survey Results in Martin County

Our project team reports our survey findings to area residents at Sheldon Clark High School. Survey results suggest a high degree of dissatisfaction with cleanup activities based on the following question, “*I feel satisfied with sludge cleanup activities.*” Survey results for Martin County report a large number of citizens (67%) either strongly disagreeing (46%) or disagreeing (21%) that they are satisfied with cleanup efforts in Martin County. These findings are reported in Table 6.A. Other comparisons among Martin County citizens are also of interest. These other comparisons are also reported in Table 6.A. A Comparison of residents living close to Wolf Creek or Cold Water Creek show a significant difference in levels of satisfaction with cleanup activities. More Wolf Creek residents (51%) express strong dissatisfaction with sludge cleanup activities in comparison to Coldwater residents (43%).

Table 6.A. I Feel Satisfied with Sludge Cleanup Activities Coldwater and Wolf Creek Compared						
		<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
I feel satisfied with sludge cleanup activities...	Martin County <i>n= 267</i>	46%	21%	12%	13%	8%
	Wolf Creek^a <i>n= 64</i>	55%	19%	9%	6%	11%
	Coldwater Creek <i>n= 114</i>	44%	15%	17%	16%	8%

- a. Percentage results report a significant difference ($X^2 = 17.3, df=8, sig.=.027$) in Wolf Creek versus Coldwater responses

³⁵⁷ Lilly Adkins (April 11, 2001) Hatfield calls it quits at MCC. The Martin County Sun. p.16

³⁵⁸ Lee Mueller (April 19, 2000) Drinking water safe after sludge, feds say. Lexington Herald Leader.

In our February field interviews with area citizens, many persons commented on cleanup activities in Martin County. Some citizens were of the view that MCCC-Massey was doing as good a job as could be expected in managing cleanup and reclamation in the area. As one citizen commented,³⁵⁹

- Since this has happened it seems to me that the coal company has did as much as they could do to clean it up. You know they have worked hard from what I have seen, -trying to clean it up. Once something happens than that is all you can do is work and try to clean it up. It seems to me that they have did all that they could do, but I don't know much about all that kind of stuff. But they have spent a whole lot of money and they seem to me like they have did as much as they could do to try to clean it up, but they should have prevented it in the first place.

However, other citizens interviewed by the student-faculty research team expressed various degrees of dissatisfaction with how the cleanup and reclamation were being handled by MCCC-Massey. Some of these citizen views are presented below,

- They didn't do a good job as far as keeping it where it needed to be. So I wouldn't assume that the clean up would be a hundred percent.
- You probably have seen where some of them have torn up the roads. Why don't they fix the roads back? At one point they were cutting up the road to put a pipe in. They [members of the coal company] didn't do a very good job of putting it back and we would drag many times when going over that area. I guess the most important thing I wanted to stress in this interview, besides the fact of our lives were put in danger, we believe during the clean up as well as that night. If you got 250 million gallons of that material coming out of that impoundment and you don't think that is enough to warn the people that their lives are in danger, there is something wrong."
- They have probably cleaned up about 80% of it, the rest of it they just covered up and left. But in the process of doing that, they have completely stripped the trees and all the vegetation up some places 200 to 300 feet up on the sides of the creek, up on the sides of the hill and brought the material down to cover it up with it. And so there's probably, they probably completely cleaned thousands of acres of all the trees, all vegetation. And you know I think one of the big long term effects here will be flooding because we have nothing, no vegetation on any of what we'd call the bottoms or the creek banks themselves to catch the water to hold it back...plus all the silt, sand and things, is going to come here. All this area has been disturbed, all of it just washes back into the creek now, and this creek is going to fill up to where it's going to be above the bed. They have basically done everything they can to save money, that's their number one concern, to get out of this with as little expense as possible. And you know, they are calling this a cleanup and it is beyond me that any of our regulatory agencies allowed them to call this cleaned up...I mean that's just unreal to me!"
- And in my opinion they also tried to cover it (the spill) up and explain to the people that there was no danger at all and that they had it under control. They said there weren't any chemicals in that stuff (sludge) to harm anybody. That they would clean it up and get it out of the streams, put it back the way it was but it's real far from that. Also what they did is uh, a hush-up-cover-up and uh, and (they) don't tell the truth about it and leave you with more questions than what there is answers to.
- Well, to me, it's not a cleanup; it's a cover-up, because there's no way that we'll be able to clean it up. That is, that is, you know, my personal opinion. I don't feel that we'll be able to clean it up. I feel that this summer when we have 95-100 degree temperatures, that we're going look over there where they had the... they had, uh, "cleaned up." I say cover-up, we're going see the steam coming from this...
- Nothing's back to normal, um, it hasn't gotten any better. The only thing that has been done is the cover-up. Uh, I don't, I don't call it a cleanup; just like I told you before, I don't call it a cleanup, I call it a cover-up.
- But, we just, we're not satisfied with the clean-up process. I don't know if the Coal Company thinks that what they are doing is adequate, I don't know if that is all they can possible do, I don't think that that is all they can do. I think there is more that they can do. If it was at the point that they could do all that they could do, you know, and that was all that was possible, we would have to say OK, that's good enough. But basically what has happened is they have tried to scoop up as much as they can, so a lot of it has just been covered up. And then they hydro-seed it and put hay on it, hoping that the grass will grow in the spring and we won't be able to see it.

³⁵⁹ February. 2001. Field Interviews.

But the problem with that is you know a lot of people have gardens here and a lot of people don't feel comfortable now growing a garden.

Below we report more on Martin County citizen views on cleanup activities. Table 6.B reports that the majority of Martin County citizens (64%) strongly agree that, “the coal company should dredge the creeks.” Other citizens (28%) agree with this statement. Table 6.B also reports survey findings on the following question: *We may never know the extent of the damage caused by the spill in Martin County.* Findings displayed in the bar chart suggest a higher number of Martin County citizens (62%) that strongly agree that we may never know the full extent of the damage caused by the Martin County coal waste spill. Other citizens (34%) agree with the statement that the extent of the damage caused by the spill may be unknown.

Table 6.B. The Coal Company should dredge the creeks We may never know the extent of the damage caused by the spill						
		<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
The coal company should dredge the creeks of sludge and silt... ($X^2 = 46.5, df=4, sig.=.000$)	Martin County	2%	1%	6%	28%	64%
	Perry County	2%	3%	8%	54%	34%
We may never know the extent of the damage caused by the spill... ($X^2 = 63, df=4, sig.=.000$)	Martin County	1%	2%	2%	34%	62%
	Perry County	3%	3%	7%	63%	26%

In our February field interviews, when we asked citizens “how are things about getting back to normal?” Many citizens expressed certain fears and concerns about the long-term impact of the spill on the local environment and future generations. Some of these citizen views are summarized below,³⁶⁰

- I have fear for my children. [...] I just try not to think about it and put other things on my mind.”
- I have heard people basically say it's not an act of God it is the coal company. Basically what I'm seeing is fear, fear of the unknown, fear of what's going to happen. I heard so many people saying 20 years down the road this is going to happen, and this is going to happen [...] People are afraid of the long haul, what's going to happen in the future. Their like if all these poisons go in our system what's it going to do to the children's future.”
- I have a fear of chemicals and I don't know what, of it being in the water table for years and not knowing it. Because the cancer rate in Martin County is phenomenal.
- The majority, I think they are scared, but a lot of them won't say anything because they don't want to get involved. And I thought, Why not...I mean, I'm not knowledgeable about anything, I don't know completely what has happened exactly with the companies but to me, it scares me. I worry about my kids, my grandchildren catching things, I really do.

³⁶⁰ February. 2001. Field Interviews.

- And I know that there is a lot of things done in the underground, hydraulic oil, acid from batteries, chemicals. Prep plants to treat the coal waste so it will float to the top and the heavier stuff will settle to the bottom. So, at first there was fear, a lot of fear in us, because we didn't know the scope of what was in this stuff, you know, contamination.

May 2001: MCCC-Massey Submits Preliminary Impact Assessment

MCCC-Massey submits an impact progress report as ordered under the Administrative Order Consent for Compliance. MCCC-Massey submits it approximately a month after the March Administrative Order. And, as stated in the previous section on *Water Quality Testing and Monitoring*, the May progress report states that the sludge spill will have no long-term impact on the local ecology as tests show no significant signs of chronic or acute sludge toxicity. The report reads,

- Slurry released from Martin County Coal's impoundment contained a mixture of coal, rock (primarily shale) and clay particles, which were separated from the recoverable coal and placed in the impoundment for the purpose of settling. Because water removed from the settled material in these types of impoundments is either used at the facility or released to streams through permitted discharge outlets no significant toxicity was expected from the slurry supernatant. The slight impairment seen in the acute slurry testing appeared to result from the particles becoming adhered to the organism.³⁶¹

As written in the *Water Quality Testing and Monitoring* section, it appears based on a review and comparison of November and May impact assessments that the same toxicity tests reported in the November 15/ 17 report are re-reported in the May 2001 impact assessment.³⁶² It appears based on a review of available impact assessments and other water quality tests that the above toxicity tests, conducted through Arkansas State University, are being relied on as the exclusive and conclusive set of tests on slurry toxicity in Martin County, Kentucky.

June 2001: Presentation on Planned Reclamation Activities

A month later, it appears based on documents on file at the Records Division, Division of Water, that the subcontracting firm for MCCC-Massey, presents a power point presentation to the SACs team on cleanup and reclamation activities in Martin County. Apparently, this presentation is later appended to the May report on file with the DOW.

The first slide reads,

- ETAG Presentation, Martin County Coal, June 13 2001

The second slide provides an overview of the points to be discussed. It reads,

- Background / status
Reference Reaches
Screening level of Ecological Risk Assessment
Sampling and Analysis Plan
Summary³⁶³

³⁶¹ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.5. Potesta & Associates, Inc. (November 15, 2000) Martin County Coal Corporation. Slurry Release Project. Impact Assessment Report #1 (Historical Data Submission). Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.5

³⁶² **Note:** Toxicity tests reported in the May 2001 report, conducted through the Arkansas Status University Ecotoxicology Facility, are reported as being conducted from October 14 through November 11 2000. Approximately forty test results are reported as being conducted during that time frame. These forty face sheets are included as part of the content body of the May Impact Assessment rather than as an Appendix to the report.

³⁶³ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.5. Potesta & Associates, Inc. (November 15, 2000) Martin County Coal Corporation. Slurry Release Project. Impact Assessment Report #1 (Historical Data Submission). Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. SEE: Appendix.

It appears that the power point presentation, presented as an appendix, contains over 50 power point slides and was a presentation on the environmental impact of the spill and subsequent cleanup and reclamation work plans that would be implemented in the area to correct for environmental impact. Such a presentation would have been of interest to area citizens and especially, to the EPA Citizen Advisory Group in Martin County. The presentation concludes with a summary of points covered. The final slide reads,

- Risk-Directed Cleanup Strategy
 - Complies with CO Requirements
 - Integrates Standard Protocols and Guidance
 - Develops Effects Based Concentrations
 - Establishes Clean-up/ Restoration Goals

- Comprehensive Sampling Program
 - Provides Data for SERAs, Stream Restoration and Sediment Transport Analysis
 - Evolves based on Data Analysis
 - Monitors Recovery (Estimated 2 years)³⁶⁴

The May MCCC-Massey Assessment plan, on file at the Division of Water, also includes a series of addendums and memorandums of monthly teleconference sessions between MCCC-Massey and EPA Region 4. It seems that these minutes have been compiled by MCCC-Massey's subcontracting firm. The September 2001 minutes sent to EPA Region 4 states for the record that EPA Region 4 will be conducting monthly teleconference sessions with the SACs team. The minutes read,

- [Agency Official] began by noting that these calls would be scheduled for the Thursday of each month from 11:00 am to 12:00 pm EST. The main objective of the call is to maintain open lines of communication between the Agencies and Martin County Coal (MCC).³⁶⁵

Late April and May 2001: EPA Outreach Center in Martin County

As stated in the section on *Civic Capacity*, EPA-Region 4 establishes a Community Outreach Office in Martin County on Main Street.³⁶⁶ The EPA outreach plan is to organize a community advisory group. The Outreach Officer explains that the community advisory board will choose someone that they trust to represent them at the meetings between the EPA and MCCC-Massey. The Officer explains,

- This is something that will help get a good communication going between everyone and help to develop a trust.³⁶⁷

By June, as noted in the section on *Civic Capacity*, the EPA Outreach Office is scheduled to close. In lieu of the Outreach Center, as also noted in the *Civic Capacity* section, EPA Region 4 then begins a series of teleconference sessions with

³⁶⁴ Potesta & Associates, Inc. (May 2001) Martin County Coal Corporation. Summary of Toxicity Testing Initiated Following the Slurry Release from Martin County Coal Corporation. Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. P.5. Potesta & Associates, Inc. (November 15, 2000) Martin County Coal Corporation. Slurry Release Project. Impact Assessment Report #1 (Historical Data Submission). Project No. 00-0340. DOW File: 0054810-680-8002. Martin County Coal. Enforcement. SEE: Appendix.

³⁶⁵ Agency representatives of the SACs teams during this September 2001 conference call included: EPA Region 4, Kentucky Division of Water, U.S. Fish and Wildlife Services; Malcolm Pirnie, E & E and Potesta and Associates and Martin County Coal. Project note: EPA conducts monthly teleconference call with its citizen advisory group on the first Tuesday of each month. Our research team asked whether CAG members were aware of these other teleconference session between EPA, MCCC-Massey and the SACS team on the first Thursday of each month, citizen representatives stated that they suspected that EPA was holding follow-up conference calls with MCCC-Massey after meeting with the CAG. However, they were unaware that EPA Region 4 was regular teleconference sessions with the company on the first Thursday of each month. These information channels appear never to have been communicated to the EPA CAG in Martin County. Stephanie McSpirit(May 26, 2002). Field notes.

³⁶⁶ Quotes taken from: Lilly Adkins (May 2, 2001) EPA opens office in Inez to address spill concerns. Martin County Sun. See also: Gary Ball (May 2, 2001). EPA opens office in Inez. The Mountain Citizen. p.1.

³⁶⁷ Lilly Adkins (May 2, 2001) EPA opens office in Inez to address spill concerns. Martin County Sun.

area citizens with the culmination in Fall 2001 of Martin County citizens establishing a formal working relation with EPA Region 4.³⁶⁸

Below, some of the minutes of Region 4 teleconference session with Martin County citizens on cleanup and reclamation issues are summarized for the reader's benefit. Though citizens/ the CAG discuss of the matters in teleconference session minutes that are highlighted here, in this section on Reclamation, focus on the discussions between the EPA and area citizens with regard to cleanup and reclamation issues in the county.

Martin County Citizens hold Teleconference Sessions with EPA Region 4

Citizen press for an Independent Impact Assessment: Citizens state they had been in contact with the ATSDR and had made a request for Health Consultations on different issues such as gardening, other health impacts.³⁶⁹

- **June 14 2001: Minutes:** The community reps request a status report on the health consultation petitions on different community concerns (not just drinking water). They state that some communications have been accomplished with the ATSDR petition coordinator. The EPA indicates that they did not know the status of the health consultation.³⁷⁰
- **June 26 2001: Minutes:** Agency for Toxic Substances and Disease Registry: The community again requests a status report on the health consultation petition on different community health concerns (not just drinking water). A special conference call with at least one ATSDR rep is desired.³⁷¹

Soil Replacement: During teleconference calls with EPA, residents express concerns with inadequate growing soils being trucked in to cover sludge and restore properties:

- **June 14 2001: Minutes:**³⁷² Citizens state that the coal company has destroyed many people's gardens with heavy equipment, placed rocks and inappropriate soils (e.g. not topsoil) as a replacement. As a result, citizens say that people are unable to fully garden as they used to, use their land as they been used to, a way of life has been destroyed and are impacted financially.
- Citizens report that the coal company has not adequately replaced gardening areas with topsoil that contain sufficient organic content. It is said that an organic content analysis should be conducted to replace gardening areas with soils that can actually grow vegetables, and not simply any soil. They would like to see the Coal Company come forward and correct this situation, as many locals depend on gardening as subsistence.

Status of the cleanup: During teleconference calls with EPA, residents express concerns with cleanup and reclamation activities in the area as it appears to area citizens that little is being done to restore impact areas.

- **June 14 2001: Minutes:**³⁷³ The Community reps wanted to know what kinds of activities are being undertaken by the Martin County Coal Corp and why –steam pumps being turned off). They expressed their opinion that not enough information on the status of the clean up was being provided.
- Citizens raise concerns about Remediation and Enforcement Agreement:
- Citizens raise concern that the coal company was taking samples only and not involving the EPA water division at some level during the water sampling activities (well water, streams, creeks, sludge.)

³⁶⁸ Stephanie McSpirit(June 2, 2002). Field notes. See also: U.S EPA Region 4. (September 19, 2001.) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

³⁶⁹U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

³⁷⁰U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

³⁷¹ U.S. Environmental Protection Agency (June 26, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

³⁷² U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

³⁷³ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

- Citizens convey their concern that the coal company may have biased sampling and citizens were not aware of any oversight activities by local/ state/ federal agencies.
- An EPA representative states that the Water Division has requested all records from another division coordinator, including these sampling records; however, he does not have the results at this time. An EPA representative is to provide follow-up.

Septic Tanks During teleconference calls with EPA, residents express concerns with septic tank damage to area wells in the cleanup zone.

- **June 14 2001: Minutes:**³⁷⁴ The community reps state that many residential septic tanks were severely damaged during remediation activities and have not been replaced... The key question among the citizen reps was, “why isn’t the coal company required to replace these septic tanks?”
- Citizens state that they would like a quantitative assessment, location map of all septic tanks damaged by the company, what the company has done (a chronology) and what corrective actions have been planned. An EPA representative states that their current actions may be founded on a legal basis and that EPA does not have any information at this time.³⁷⁵
- A citizen recommends that the EPA try to settle this issue internally, with the city of Inez and the coal company since direct discharges of sewage may be a regulatory matter.
- Citizens indicate that they would like to have a written reply as to the response actions that are being planned to address this matter. [An EPA representative] is assigned follow-up on this issue.
- **June 26 2001: Minutes:**³⁷⁶ A Citizen states for the record that his septic tank is still damaged and a direct discharge of sewage continues into Cold Water Creek as a result.
- Citizens state that a Martin County Health Department official came to one citizen’s property to assess the situation and came to the same conclusion that sewage was being discharged.
- **June 26 2001: Minutes:**³⁷⁷ The Mayor of Inez reiterates the fact that despite the Inez Waste Water System’s offer to the coal company to hook-up homes that had damaged septic tanks with sewer lines. However, no response had been received.
- The Mayor indicates that the State Health Department is in favor of the proposed hookups.

Reclamation Plan During teleconference calls with EPA, citizens express concerns with reclamation activities in the impacted areas.

- **June 14: 2001: Minutes:**³⁷⁸ Citizens discuss stabilization of banks, erosion, and a loss of citizen property near streams: Citizens indicate that properties are being lost (to erosion) and according to the coal company, folks who have requested rocks to prevent erosion cannot. It is said that the representative of the Highway Dept and Division of Water are saying no to rocks. Citizens insist that this conflicts with the EPA work plan that states something to the effect, “wherever there is a possibility of erosion, it shall be prevented.” An EPA

³⁷⁴ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

³⁷⁵ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

³⁷⁶ U.S. Environmental Protection Agency (June 26, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

³⁷⁷ U.S. Environmental Protection Agency (June 26, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site. Draft #1.

³⁷⁸ U.S. Environmental Protection Agency (June 14, 2001) Conference Call Minutes: Martin County Coal Corporation Slurry Spill Site.

representative responds and speaks of a planned Stream Assessment Report (with recommendations) Note: EPA plans a Stream Assessment Report. It was agreed that a separate call be dedicated to this issue with the Water Division

- Citizens also express concern that the stream profile has changed due to the deposition of fine particles. As a result, it is believed this may be enough to change the flood plain in discrete areas, and causes an additional risk of flooding to residents. No answer was provided at the time.

Late Fall 2001: Citizens to be provided Public Comment Period

Citizen representatives hold another teleconference session with EPA Region 4 representatives. As reported in the *Civic Capacity Section* of this report, citizens discuss with EPA the status of cleanup and reclamation activities and EPA discusses with citizens the status of the final progress report that MCCC-Massey is compelled to submit under the March Administrative Order.³⁷⁹ In this teleconference session, EPA Region 4 representatives tell the Martin County CAG that they will have an opportunity to review and comment on the final draft of the submitted work and restoration plan.³⁸⁰ This is in accord with standard EPA protocol of involving citizens in environmental decision-making after an environmental disaster. One document reads,

- EPA is committed to early, direct and meaningful public involvement. Through CAGs, community members have a direct line of communication with EPA.³⁸¹

January 2002: MCCC-Massey Submits Draft Stream and Reclamation Plan without Public Comment

MCCC-Massey submits its final stream and reclamation plan. And, as already outlined in the *Civic Capacity* section of this report, it appears that the public comment period that was planned for Martin County citizen representatives of the Citizen Advisory Group (CAG) is circumvented. A copy of the *Martin County Coal Corporation Sample Final Stream and Floodplain Restoration Plan*³⁸² is placed on file at the Kentucky Division of Water soon thereafter. In the end, EPA Region 4 does not provide the CAG of Martin County citizens with a public comment period on the final draft recovery plan as assured in teleconference session and in CAG documentation supplied to Martin County citizens. EPA documentation from the Citizen Advisory kit reads,

- The EPA must and will listen to your opinions and recommendations.³⁸³

January 29, 2002: SACS Team to Discuss final Reclamation Plan for Martin County

In late January 2002, representatives from MCCC-Massey, EPA Region 4 and representatives of various other federal and state agencies from both West Virginia and Kentucky meet in Lexington (with some in teleconference communication) to discuss the details of the final reclamation plan. As highlighted in the *Civic Capacity* section of this report, transcript records suggest that the meeting is daylong session and a transcript review of those present indicates that community representatives -neither local elected officials nor members of the EPA Citizen Advisory Group- have been invited to participate in the conference discussion on final reclamation plans for the community.³⁸⁴ A member of the EPA Citizen

³⁷⁹ Under “*Work to be Performed*” See: United States. Environmental Protection Agency. Region 4. Administrative Order on Consent for Removal Action. In the Matter of: Martin County Coal Slurry Spill Site, Inez Kentucky. Martin County Coal Corporation (respondent). DOW File: 0054810-680-8002. Martin County Coal. Enforcement

³⁸⁰ Stephanie McSpirit(March 18, 2002) Field Notes: Martin County.

³⁸¹ United States Environmental Protection Agency. EPA Guidance for Community Groups at Superfund Sites. P.15.

³⁸² Ecology and Environment Inc. (January 15, 2002). Martin County Coal Corporation Sample Final Stream and Floodplain Restoration Plan, -prepared for Martin County Coal Corporation.

³⁸³ United States Environmental Protection Agency. EPA Guidance for Community Groups at Superfund Sites.

³⁸⁴ Martin County Coal Corporation / Regulatory Agency Meeting (January 29, 2002) Office of Surface Mining, 2675 Regency Road. Lexington Kentucky. Obtained through: EPA Region 4.

Advisory Group recalls that day. Based on field consultations with our project team, the CAG member recalls telephoning the EPA On-scene representative as well as an EPA Region 4 attorney on the matter of citizen involvement and representation in the SACS session on the final reclamation plan. The CAG member recalls, for the record, that there was no EPA call back.³⁸⁵

May 10, 2002

Four months after the January 29 meeting, the final reclamation plan for the county and the county watershed is submitted to EPA Region 4 by MCCC-Massey's environmental consulting firm. As reported already in the *Civic Capacity* section of this report, it appears that local citizens as representatives of the EPA CAG were never consulted on the contents of the final recovery and reclamation plan.³⁸⁶

³⁸⁵ Stephanie McSpirit (June 19, 2002) Field Notes.

³⁸⁶ Martin County Coal Corp Coal Slurry Release: Approved Plan (May 10, 2002) prepared for: Martin County Coal Corp by Ecology and Environment Inc. Obtained through: EPA Region 4.

Section Seven:

Recommendations on Improving Civic Capacity in Martin County

Public Involvement and Public Comment in Reclamation Strategies

Under CERCLA, as stated throughout this report, there are several important public involvement provisions that provide for citizen oversight in EPA cleanup and recovery strategies at Superfund sites. As mentioned in the *Civic Capacity* section of this report, in the stages of EPA remedial investigation and developing a feasibility study (RI/FS), there are provisions for citizen input and public comment. This public input is to be used to develop remediation strategies. Throughout the stages of environmental response, under CERCLA, citizens living near Superfund sites are provided with ample opportunities to publicly comment on proposed EPA remediation plans of the contaminated area. For example, the *Public Participation Section* (Section 117) of CERCLA reads,³⁸⁷

- **Proposed Plan** – Before adoption of any plan for remedial action to be undertaken by the President, by a State, or by any other person under section 104, 106, 120 or 122, the President or State, as appropriate, shall take both the following actions:
 - Publish a notice and brief analysis of the proposed plan and **make such plan available to the public.**
 - **Provide a reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting** at or near the facility at issue regarding the proposed plan and regarding any proposed findings under section 121(d)(4) (relating to cleanup standards). **The President or the State shall keep a transcript of the meeting and make such transcript available to the public.**
 - The notice and analysis published under paragraph (1) shall include sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposal considered.
 - Final Plan. -- **Notice of the final remedial action plan adopted shall be published and the plan shall be made available to the public before commencement of any remedial action.** Such final plan shall be accompanied by a discussion of any significant changes (and the reasons for such changes) in the proposed plan and a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations under subsection (a).
 - Explanation Of Differences -- After adoption of a final remedial action plan--
 - if any remedial action is taken,
 - if any enforcement action under section 106 is taken, or
 - if any settlement or consent decree under section 106 or section 122 is entered into, and if such action, settlement, or decree differs in any significant respects from the final plan, the President or the State shall publish an explanation of the significant differences and the reasons such changes were made.
 - Publication. -- For the purposes of this section, publication shall include, at a minimum, publication in a major local newspaper of general circulation. **In addition, each item developed, received, published, or made available to the public under this section shall be available for public inspection and copying at or near the facility at issue.**

³⁸⁷ Comprehensive Environmental Recovery Compensation and Liability Act. CERCLA: Public Law 96-510, Dec. 11, 1980; 94 Stat. 2767, 42 U.S.C. 9601 et. seq., 26 U.S.C. 4611, 4612, 4661, 4662, 4671, 4672 Available online: National Response Center: <http://www.nrc.uscg.mil/cercla.htm>

RECOMMENDATION #1:

COMMUNITY INVOLVEMENT IN RECOVERY AND RECLAMATION

RECOMMENDATION: We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **explore channels of public involvement in environmental recovery and reclamation in Martin County, Kentucky**. We encourage the above law-makers and their staff of associates, to review the public participation provisions contained under CERCLA and RCRA and legally review how these provisions could be re-invoked, in some form, in providing Martin County citizens with the appropriate civic mechanisms to participate in rebuilding their environment and community since the 2000 October coal waste spill.

SUBRECOMMENDATION: In providing Martin County citizens with the necessary civic mechanisms in becoming more involved in community affairs since the disaster, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **act on recommendations set out by the State Environmental Quality Commission (EQC) in January 2001**: After Hearings on the Martin County coal waste disaster, the EQC recommended to state and federal lawmakers that a citizen advisory committee of Martin County citizens be established to oversee cleanup and reclamation activities in Martin County. We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **act on this central EQC recommendation of establishing a citizen advisory committee**.

SUBRECOMMENDATION: In supporting a citizen advisory committee to oversee and provide input on community and environmental recovery, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **hold EPA Region 4 to its formal commitments to its citizen advisory group (CAG) of Martin County citizens**.

SUBRECOMMENDATION: In holding EPA Region 4 to its commitments to its citizen advisory group, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **review EPA Region 4 statements and actions surrounding the final submitted stream and reclamation plan**. Testimony from Martin County citizens suggests that citizens were assured by Region 4 officials of a public comment period on the final plan but were, in the end, denied a period for public comment. Further testimony suggests that Martin County citizens, as formal CAG representatives, were not provided opportunity to participate in conference sessions with company and other agency personnel on environmental recovery and stream mitigation strategies.

SUMMARY RECOMMENDATION: In rebuilding civic capacity in Martin County after the coal waste disaster, our project team recommends to the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor that concerted efforts be made to follow through and pursue the January 2001 EQC recommendation to appoint a citizen advisory committee in final cleanup and remediation activities in Martin County, Kentucky. We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to hold EPA Region 4 in compliance with its responsibilities to its Citizen Advisory Group of Martin County citizens.

RECOMMENDATION #2:

COMMUNITY INVOLVEMENT IN WATERSHED MANAGEMENT

RECOMMENDATION: We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor as well as the Kentucky State Public Service Commission to **explore channels for public involvement in water quality and water treatment issues in Martin County, Kentucky**. We encourage the above lawmakers and Public Service Commission to involve a team or taskforce of local citizens in addressing long-term water quality and water treatment issues in Martin County.

SUBRECOMMENDATION: In involving a team or taskforce of local citizens in addressing long-term water quality and watershed management issues in Martin County, we encourage the Kentucky Appalachian Commission, the

Kentucky Department for Local Government and the Office of the Governor to act on the central recommendation contained in this report to **support independent water quality testing with full citizen oversight over the sampling and testing methods**. We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to act on this central recommendation of our report and involve a team of local citizens and technical experts in water quality testing and monitoring of the local watershed.

SUBRECOMMENDATION: In building an independent action team of citizens and technical experts to monitor and test water quality in Martin County, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to **pursue compensation for laboratory, technical assistance and consulting costs that will be incurred**. Many Martin County citizens are of the view that the coal company should be financially responsible for such independent testing and monitoring of the local watershed. However, the project team, upon recommendation from of its own citizen advisory committee, recommends that the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor aggressively explore methods to ensure that citizen testing and monitoring be objective and independent of outside influences and financial ties.

SUBRECOMMENDATION: In ensuring independent and objective testing of the local watershed with citizen oversight, we encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to pursue the prospect of applying for technical assistance grants under CERCLA. As outlined in the *Civic Capacity* and *Water Quality* sections of this report, under CERCLA local citizen groups in impacted areas are able to apply for technical assistance grants (TAG) to assist them in their own independent assessment of the short and long term impact of a chemical contamination on their local environment and community. And, as also outlined in this report, because EPA did not respond under CERCLA in Martin County, such TAG grants were never made available to Martin County citizens in their own bid to independently evaluate the impact to the sludge spill on the local watershed and area soils. But, as also outlined in this report, there appears to have been initial agency maneuvers on the part of EPA Region 4 to respond to the disaster by invoking its authority under CERCLA. Rather than recommending a review of the set of exchanges leading to the shift to CERCLA to the Clean Water Act, this report recommends that, as a corrective measure in fulfilling its statute obligations to citizens and the Commonwealth, the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor **request that the federal EPA make federal TAG grants available to Martin County citizens**.

SUMMARY RECOMMENDATION: As stated in the body of this report, our project team recommends that the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor, assist Martin County citizens in their civic efforts to conduct independent water quality and soils tests on the local watershed. The position of this report is that since EPA Region 4 originally initiated a CERCLA response in Martin County, citizens in Martin County, with support from the above governing bodies, should be eligible to apply for a TAG grant under CERCLA. Regarding such grants for technical assistance, the provision in CERCLA reads:

- The amount of any grant under this subsection may not exceed \$50,000 for a single grant recipient. The President may waive the \$50,000 limitation in any case where such waiver is necessary to carry out the purposes of this subsection. Each grant recipient shall be required, as a condition of the grant, to contribute at least a 20 percent of the total of costs of the technical assistance for which such grant is made. The President may waive the 20 percent contribution requirement if the grant recipient demonstrates financial need and such waiver is necessary to facilitate public participation in the selection of remedial action at the facility. Not more than one grant may be under this subsection with respect to a single facility, but the grant may be renewed to facilitate public participation at all stages of remedial action.³⁸⁸

It states that under CERCLA citizens might be able to apply for TAG grants at all stages of environmental response, mitigation and recovery of contaminated sites. As mentioned throughout this report, such technical assistance grants provide citizens with the opportunity to subcontract with their own team of independent experts in assessing and monitoring EPA's own assessment and mitigation strategies. We encourage the above governing bodies to enter into negotiations with EPA Region 4 and US EPA to provide Martin County citizens with the opportunity to apply for such TAG grants that are offered under CERCLA. A TAG grant would compensate and provide Martin County citizens with one public participation provision under CERCLA that, in the end, was circumvented by EPA Region 4 when responding to the disaster under Section 301 of the Clean Water Act.

³⁸⁸ Comprehensive Environmental Recovery Compensation and Liability Act. (CERCLA). See 42 U.S.C. sec.9617. Public Participation. Available online: National Response Center: <http://www.nrc.uscg.mil/cercla.htm>

Civic Capacity after an Environmental Disaster

As outlined in the *Civic Capacity Section* of this report, there are several civic mechanisms within several environmental regulatory and response statutes. CERCLA is just one of the environmental statutes that includes a series of civic mechanisms for citizen participation. Whether it is CERCLA, RCRA or other *Community-Right-to-Know* statutes, the public participation provisions set out in each of these environmental laws provide area citizens with channels for input in community environmental decision-making. In the specific case of CERCLA, such public participation provisions provide area citizens with several important channels for participation after a chemical industrial disaster. These public provisions seem essential in assisting a community in disaster recovery. Past research has suggested that communities confronting threats of environmental contamination face not only issues of acute and long-term environmental impact but also must confront the long-term impact of the disaster on community and civic life. Several studies, for example, have suggested that after a 'technological' disaster, social integration in a community is often shattered as community members begin to divide and form factions over the long-term impact of the chemical contamination on the local environment and public health: The case research has identified divisions in which, there are those in the community that want to put the disaster behind in an effort to restore local property values, encourage local commerce and maintain the jobs base in the community. On the other hand, the case research has identified those persons in the community that remain concerned about the long-term impact of the chemical contaminant on the local surround and continue to press for remediation or compensation. These "corrosive" community tensions between factions have been referred to, in the sociology literature, as the "loss of civility" within a community after a technological disaster.³⁸⁹

In our extensive field interviews with area citizens after the coal waste spill, we asked citizens to comment on this issue through the following question, "*have you noticed any hard feelings in the community.*" Some citizen responses to this question are presented below:³⁹⁰

- I think so. Towards Martin County Coal there are very hard feelings. I mean I know accidents can happen but accidents can be prevented if you do what you are supposed to do. If you do your job the right way, that can be prevented. Anything like that -that can damage your water supply should be better taken care of than that.
- No. Because like I said, we understand that the coal companies are purely here to make a profit. Anybody that has lived beside them, they know how they've been treating people for many, many years. This is nothing new. But this was on a scale outside of anything anybody could imagine.
- Well at first I kind of felt sorry for them. I thought it was an accident and they really didn't mean for it to happen. I'm sure they didn't mean for it to happen. But as time went on and I've seen what they have done and they really haven't done things they said they would do like the supply water [...] I feel hard towards them. I do because I think they could have done a lot better."
- There are hard feelings because we've had three town meetings [...] the last town meeting [one county official] had a kind of convention meeting somewhere and he had to be out of town. He had said that he would help us in any way. I haven't really seen any participation, I haven't really seen any.
- There are hard feelings because the county officials have not progressed in doing anything progressive [...] and there are like I say a lot of people afraid to stand up.
- There are no hard feelings, but people have always disliked the coal companies. I think that the event is being used as a vehicle to get at the coal companies because of its past wrongdoings.
- Yes, you have a lot of people who resent the people who are suing Martin County Coal. You have people who are suing Martin County Coal that are resenting people who don't help them.
- Some people felt that the MCC plant should be opened up again. These people need work. On the other hand, others believe that under no circumstances should MCC open up again. Many people were blaming the MCC for everything. "My dog died, it's MCC fault." We have tried to be fair but they [MCC] are not playing fair."

³⁸⁹ SEE: Kroll-Smith, Steve. (1995) 1994 MSSA Plenary Address: Toxic Contamination and the Loss of Civility. *Sociological Spectrum*. 15: 377-396; Gill, Duane and Steven Picou (1998) *Technological Disaster and Chronic Community Stress*. *Society and Natural Resources*. 11. 795-815.

³⁹⁰ February. 2001. October 2002. Field Interviews.

- I just don't know what all the fuss is about. There were no injuries to people just to the land.
- I think that it has really become more of a feeding frenzy as far as the lawsuits are concerned. I think Martin County Coal handled it very well at first until they were overpowered by it.
- Yes, I am not cutting down at all the impact of the sludge but I think that the newspapers are playing it up [...] There is a feeding frenzy there because they think there's going to be a lot of law-suits settled on it. At this point in time they haven't found a little bit of a carcinogen that's not found in nature naturally.
- Well, I personally feel, and this is a personal opinion [...], but I personally feel that the coal co. has purposefully tried to divide the members of the community in the way as saying things like, "all those lawyers want is to make money off of this" [...] We've had a group of people that they wanted to fight this and we had a group of people that were resenting the people who were trying to fight it. Maybe they were resenting it for different reasons. They were resenting it maybe because they had a family member that works for Martin County Coal, or they think that by fighting this you're going to cause my husband or uncle or whoever -my dad- to lose his job. [...] We still have a lot of people whose family members work for Martin County Coal who wouldn't dare speak out against Martin County Coal because they are afraid of losing their jobs. You know and Martin County Coal, they support different things in our county. They donate a lot. You know and there are a lot of people who won't speak out against them because they are afraid of losing donations or whatever. That really seemed to be bad at first it is not as bad now because we've been able to hold our meetings. You know, to talk to people or get them to realize, but Martin County Coal had a lot of meetings with the public themselves. A lot of people attended those meetings and after attending them you just had the sense that they are not handling this right. And you know Martin County Coal would lose their support. Um, I think though that one of the final events that has caused the Coal Company to lose a lot of its creditability is the latest incident with MSHA finding the maps were not accurate and this was a big barrier between this and the mines like they originally said. And that made them lose a lot of creditability. But you know there has been a division, but you can just see a difference from week to week. People are finally...more people... I hate to say...are 'getting on board' because that is not really the right words to say, but more people I guess are...I mean even people who weren't affected by this and are wanting to do something about it.
- It is such a small community. You have an uncle, an aunt, a friend who is affected. I can see at first that you might not have cared, but then you see how they are suffering.
- There is a committee here (HELP) and out of this group that has signed a petition four of them have lawsuits against Martin County Coal. That's the ones I know of, -four. Do I think attitudes are changing? Actually I don't. I think that Martin County Coal has always been a good corporate partner [...]. They are a major taxpayer [...] [and] are the largest employer of people in Martin County.
- I think so yeah towards Martin County Coal very hard feelings. I mean I know accidents can happen but accidents can be prevented if you do what you are supposed to do. If you do your job the right way. That can be prevented. Anything like that that can damage your water supply should be better took care of than that.
- Well, there are hard feelings, of course. There's going to be hurt feelings no matter what. See, everybody is praising [a county official] high to heavens, you know [...] But I really and truly don't feel like, to me, that the officials are trying to help.
- You have people that have worked for Martin County Coal for years and are in a situation much like my neighbor. He only lacks several years before retiring at Martin County Coal. And he's been a company man all his life, you know, since he's worked there. And, now, he has neighbors that live beside of him up Coldwater that are taking issue with him because he's kind of like siding on the Martin County Coal side and these people are seeing what has really actually happened here. And, yeah, it has caused bad feelings between people.
- I'm sure there are some hard feelings against the coal company. I mean, there has to be. I mean, like I was saying. There has to be some hard feelings because that's who they're going to blame it on. I mean, that's the person to blame. And, then... So, I'm sure there's some hard feelings. As far as like personally against [the coal company president] there probably are not. I mean, because they have... I mean, honestly, I think, they

have tried to meet with the community and tried to be as responsible, tried to take responsibility. The whole act of God thing was kind of stupid. [laughter] You know, saying that. You know everything is an act of God, so you know you can't pin that on him. But, yeah, I'm sure there are hard feelings toward the coal company, as a whole, or maybe coal, as a whole. But, like I said, you take those jobs away and people will sing a totally different tune because, like I said, that's people's livelihood here. And, it's what most people know. And, too, coal mines and I'm not taking up for them, but they have done a lot, as far as putting some money into the community, probably not as much as they should have, but some money into the community and into the schools. You know, that kind of thing. So, like I said, I'm sure there are some hard feelings, to answer your question. But I would say it's towards the big coal company, not necessarily toward anybody in particular. You couldn't really hold it against anybody in the county, as far as any of our county officials.

- There are hard feelings between the people who have direct financial ties to the coal company and the people that simply are just residents of the area. They are not at the same point. The people that work for the company are more loyal to it. You know, and the residents I believe over the course of time, had to come do that point. I mean you mess with people over a couple of times and you are not willing to be fir Martin County Coal. A lot of people like to hunt in this area. If you go on Martin County Coal property they will have you arrested. You leave the property or they will have someone come and take you away and you will be arrested. They are not a good neighbor. They want to come across with this image about how nice they are but they aren't a good neighbor. And we haven't even touched on it but the water table in this area has definitely been contaminated. But you don't hear the coal company stepping up and saying what can we do for the people in this area.
- My dad has lived in this area. He was raised in this area and his dad lived in the area and I believe his dad was raised in the area and this area, here, I mean you can look at that map [...] [Our family] have always lived in this area. So the land doesn't mean anything to the coal company but it does mean something to the people who have lived here for a long period of time and that have ties to the community and land, -it means more. And when you risk people's lives then you really know you definitely start having hard feelings between the company whose only interest is financial. I mean if you look at what the coal company did not do and reported to the regulators what they did do and haven't they systematically affected their credibility? I mean that's how I see it. You've got the MSHA and the EPA to me what credibility do they have? That's like [the president of Martin County Coal] saying that the property values have not been affected.
- People are aggravated over sludge. The pond should of never broke. They have got engineers that should have known that that mine was underneath that sludge pond and how close it was. From what I understand, I don't know, this is not the first time it has broke through. The coal company should have taken steps to prevent that. They have engineers, they know where everything is that they should have taken steps but they took a chance that it wouldn't break and it did. People of this community should have meant more to the coal company for them to keep a closer watch on what they were doing
- We look at them a lot differently, the coal company people now. They knew in 1973, I think, that that pond was a danger and they covered it up a couple times, a spill, with out us knowing about it. We have several in the county right now that are the most dangerous ones [...] and they aren't doing anything about those either.
- It's kind of dying down at this point in time. I haven't heard a great deal mentioned about it. Back right after it happened, there were a lot of things going on. I know a lot of lawsuits were taking place. They were talking about them. Had a lot of writings in the paper about them. Feelings were kind of harsh about Martin County coal at the time. I haven't head about it recently and so it has kind of died down.
- Folks disagree but folks disagree agreeably. It's not... of course, if you have a person here who has a family member who works for Martin County Coal. They may feel a little bit hard at someone who might say MSHA should fine the H.E.L.L out of Martin County Coal –or MSHA should close them down –or shut the mine down. You know, folks who say 'well –year- the you lose jobs.' –But not anything major. Folks around here, just take it for granted that is the way things are. You have some people, most of the people around here, are 'pro coal..' That is the big thing here. If we didn't have coal mines, we wouldn't have anything.
- I haven't noticed any hard feelings in the community. No.
- Not that I know of. There might be some people that disagree with what I do. If they do, they have never said so. Most people say 'there is not much that I can do, but I am behind you 100%.'
- There are skeptics. There's people that are skeptical. Because they are afraid of maybe their job, which they can't be fired because they're standing up for their rights. This is a God-given right. You know, we have our rights. It's just like voting. This is our right, this is our community, this is our home, this is where our children

are raised, this is where our grandchildren are raised, this is the school systems that our kids go to. [...] Our children should not even be drinking this water. Some children are fortunate enough to have parents that can bring, send the little jugs of water with them that cost .88, .89, .99 cents a jug; you know how much water costs a little jug. Okay. There are some parents that they can't afford that. These children, what are they supposed to drink? These children drink the, you know, children drink a lot.

- I'm sure it has to a certain point, but there is a lot, I say a lot. I think Martin County Coal employs 300 people at present. Now, those 300, I'm not sure how many are residents of Martin County, but I'm sure the people that are still working for Martin County Coal and lives in an area of this county, that is, has not had to deal with this other than problems in their drinking water, it's hard for them to understand that we think it's a blessing that the impoundment is going to be closed because they're probably losing their jobs, if they have to close the impoundment. And you know everyone looks out, everyone needs a job, got families, you know and I'm sure, I think that's one of the coal company's big tactics, you know, is to try to get people to start plotting against each other. I have even seen a few comments in the paper, in the one that has the *Sound Off*...
- Yeah, and you know I've even heard, or read, a comment in there about people that, you know, they don't know why they are crying. A lot of it is due to the lack of education. As to the effect, or the long-term effect, this is going to have, getting back to the conflict in the public. If the creek was running clear now instead of black, you know, people are going to say, "well it's gone." They don't realize that once you get mercury or lead into the ground it's there forever. It will never be gone. The only way for it to be gone is to remove that contaminated soil and they are not doing that. But it has definitely caused problems in the community among people, you know, people say you all are going to cost me my job. You know, they still have a job with Martin County Coal. My neighbor retired from Martin County Coal and had lots of relatives that worked there and still work there. But, the way I look at it is even if I was employed there, it can't be just for the good of me...it's got to be for the good of everyone that this is affecting, and until you get people in the community understanding that, and I think that the organization that they've formed, H.E.L.P., I think that is doing a lot to bring out, to make it more public to people other than the people of Coldwater and Wolf Creeks. Because I know that they've got members from all over the county now, so that really helps.
- Everybody, as in all of Appalachia, people have a natural distrust of coal companies. I think it goes back to the 20's and 30's, especially people who are second- and third- generations of coal miners, like I was at one time. This spill here, even if this stuff is what the company officials say, that it was nothing but mud, people are not going to believe it, because they don't believe coal company officials anyway. The hard feelings have been everybody blames Martin County Coal for this environmental disaster. For going on folks property, the clean-up itself has caused a lot of problems because they've tried to get this thing cleaned up, as quickly I believe as quickly as they can. And, in doing so, you have 500 pieces of equipment, a large work force that you have to just put together. You know a lot of times there are questions of where boundary lines exist and folks get mad. You know, you drove this dozer across my property and you didn't ask permission. You know how folks are here. They are very protective of things like that. So, yeah, there are hard feelings. And I see another side of this too. [...] the environmental attorney, who is coming here. He's got, I think, 2 million. There is a group that believes Martin County Coal should be given another chance. It employs about 300 people. There's a group of folks who are banning together, which is good. It's good to have a place at the table with coal operators. They want to see how this thing is cleaned up, if it all is going to be cleaned up. They want to make sure that everything is done up to par. Not just "O.K, we'll just cover with some mud up and leave." Once they mine all the coal here. There's another group, of course, that you have to take into account the 300 families that is impacted by this spill, the 300 families of the miners who work up there represent, and stand a good chance of losing their jobs. And other folks who say we need those jobs. We need that tax base for the county. Give them another shot you kind of see that already taking shape. I sympathize with both groups. As a displaced miner, I know what it is like to lose your job. But I also understand the other point, the other part, too. Would you want to live on Coldwater or Wolf Creek right under this thing, with the chance that it could break. And it could break again like it broke this last time 15 minutes after midnight, and you wouldn't know. You have to balance those things out. And you understand both sides.
- Yes people feel like not enough is being done. They feel there should be more action from the coal company and the company officials. To try to come to some solution or touch base on something. Then you have other people who have lived here for years and this has happened to their property dropping their land and property value.
- I don't really know, I've read the paper some about it and the biggest complaint was where the coal company was saying it was an act of God and the newspaper was saying no it's not an act of God; God don't do this, coal companies do this. My position basically, what I'm hearing, is just concerns, health concerns. I hear people being angry at politicians, I hear them saying that the politicians don't drink the water, they don't have to worry

about it. I think it's more fear than anger. I've only talked to one person that was right in the middle of it and actually what he said to me, 'I just want a place to live, it destroyed my home.' It's not as bad as I thought it would be. I've not heard a whole lot of people just wanting to destroy the coal company and take everything they own and sue them for everything. I've not heard that yet, I think it is just more health concerns basically.

Out-Migration Tendencies since the Disaster

Apart from breakdowns in civic relations, other case research has documented patterns of out-migration from communities after an environmental disaster. Some of this movement is sanctioned by the state as there are number of important cases of government sponsored relocation after an industrial accident or chemical spill. Love Canal, Brio South-Bend Texas, Buffalo Creek –West Virginia and the case of the Ojibwe Community in Ontario, are each document cases where government intervened and relocated citizens from contaminated sites that posed grave risks to human health.³⁹¹ Some of the migration out of other communities is more voluntary. Case research has shown that citizens, who can afford to, may tend to move out when there are threats of long-term contamination to local environment.³⁹² In our February field conversations with area residents, we heard persons expressing similar sentiments. Several persons said that they wanted to leave Martin County and settle somewhere else. Some of what we heard citizens say is presented below.³⁹³

- I have filed to move jobs. But if it were not for my daughter being in school here, her friends, and my job. We have talked about it and we would move out of the county in a heartbeat. It's just been too much going on for too long with coal related incidences. Well every time it rains here you're scared to death. Cause you don't know what else they got hid, they got more ponds.
- I had a tenant move, because of the noise, a lot of the commercial building tenants, because of the noise and because the economy is so bad here he was losing money. He left, he told me that's why he left.
- I think there might be an exodus. The people right over here, the people that can move, the people that can move will move. Let's see, I talked with a lady in the parking lot yesterday. She's trying to sell her house up on Coldwater ...and I mean, there's all kinds of people [...] they don't want to quarrel. They're sick of hearing the quarrels. They don't want to quarrel. They just want to get out and quietly leave. [...] I believe we could [battle this] if we all get together, but they're not going to. It's easier for them to just leave.
- I don't really look too far ahead. I know I really want to move out of the county. I don't think I would be able to sale my home.
- Well, I think a lot of people want to move. Being from this county, my whole life and anyone from this county knows, that property on Coldwater Creek was property that everyone would have loved to have. The value of Coldwater was, -you know, the property value was extremely high. Coldwater was a very nice place to live. Over probably, over the past few years, you know, you have a lot of people that bought property and built new homes on Cold Water. It is not like that anymore. You couldn't pay people now to live on Coldwater. So you know the people who live there now, they do...they...they don't want to stay. They don't want to stay, so their attitudes have changed in that way.
- People's have lost there ground where they make gardens. People have lost that. If you tried to sell house now, nobody wants it. You know, so it's a problem to everybody
- I'm settled here. I've been here for 28 years. I don't really want to move. Just never thought about leaving or moving. It hasn't changed my thoughts on that.

³⁹¹ See, for example: Levine, Adeline (1982) *Love Canal: Science, Politics and People*. Lexington, Mass. Lexington Books; Gill, Duane and Steven Picou (1998) *Technological Disaster and Chronic Community Stress. Society and Natural Resources*. 11. 795-815; Erikson, Kai (1976) *Everything in its Path: Destruction of Community in the Buffalo Creek Flood*. New York: Touchstone Book; Shkilnyk, Anastasia (1985) *A Poison Stronger than Love: The Destruction of an Ojibwe Community*. New Haven: Yale University Press.

³⁹² SEE: Edelstein, Michael (1988) *Contaminated Communities: The Social and Psychological Impacts of Residential Toxic Exposure*. Westview Press: Boulder.

³⁹³ February. 2001. October 2002. Field Interviews.

- I would just like to see the environment cleaned up, we've lived here all our life and worked all our life to get what we got, and I feel like that we probably will might get a third of what we usually would get. If we try to sell even,- if we could sell for that! I doubt we could even get the property for that.

Conclusion: Building Civic Capacity After a Disaster

Much of the case research on contaminated communities reports on breakdowns in civic relations and civic capacity after a chemical industrial accident. There are, however, documented cases of community and civic recovery after a contamination episode. Gratiot County, Michigan represents one case, documented in the literature, of community recovery after an environmental disaster. In Gratiot County, case evidence shows the community pulling together in the face of PBB contamination after an industrial accident and moving towards a path of community and environmental recovery. The Gratiot case documents community residents, with state and local officials, working together, to develop an “action plan” to address both the short and long term impacts of the contamination on the community. The case also documents a series of other, citizen-led task forces and citizen action teams that developed, over the course of the years, to deal with the litany of other harms associated with chemical leachates, potential ground water contamination, the chemical plant’s final closing and the subsequent loss of jobs from the area. This case represented an eight-year trajectory of citizen committee work, political work, grant writing and community building. This community work, partnerships and coalitions, in the end, set the community on the positive trek towards environmental and civic recovery.³⁹⁴ Our project team believes that Martin County, Kentucky can be added to the case research on successful community recovery after an environmental disaster. This case can only be added if, the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor act concertedly on the set of recommendations listed at the start of this section.

The public participation provisions that were amended to CERCLA in 1986 under the Superfund Amendment Act (SARA) were amended sometime after the Gratiot, Michigan environmental disaster. But it seems that these public involvement provisions, along with the provisions of public comment amended to RCRA, provide area citizens with several key civic mechanisms to assist in not only environmental recovery, but community recovery as well. Such participation provisions provide citizens with channels to become civically involved in response, cleanup and mitigation strategies in the face of an environmental-industrial disaster or industrial accident. Thus, while other case research has consistently documented civic decline after an environmental disaster, the public involvement provisions in CERCLA and RCRA can be considered aggressive government interventions –or correctives- to preempt local civic decay after an episode of environmental contamination.

The public participation amendments to CERCLA and RCRA have since been incorporated into EPA Superfund guidance strategies in responding to chemical-industrial disasters. The U.S. EPA, in its *Guidance for Community Groups at Superfund Sites*, states³⁹⁵

- You can make a tremendous difference in community and environmental decisions. The United States Environmental Protection Agency –EPA- is committed to early and direct and meaningful public involvement in the Superfund process. One of the ways that communities can participate in site cleanup decisions is forming a citizen advisory group.
- EPA believes this is time well spent and that active and early effective community involvement will actually save time in the long run.
- EPA is committed to bringing all players to the table in the beginning and working together toward the common goal of cleaning up the site. EPA must and will listen to your opinion and recommendations about the hazardous waste site in your community. Community Advisory Groups promote effective two-way communication between Superfund personnel and community residents ensuring that every one has a chance to share his or her ideas and concerns. This is an important and sensitive job that calls for dedication and hard work. Consider this, if you don't participate? Who will?

Indeed, who will? Our student-faculty research team has spent time in the field in Martin County interviewing and surveying area citizens separately, and as part of our citizen advisory committee. Based on our empirical observations, and based also on a review of the public record of events in Martin County since the spill, it seems that there is a solid core of local citizens who will participate and ‘stay true’ to their community and work, together, towards community and environmental and economic recovery. The more pressing question becomes, who will provide citizens with the channels

³⁹⁴ See: Marilyn Aronoff and Valerie Gunter (1992) *Defining Disaster: Local Construction for Recovery in the Aftermath of Chemical Contamination*. Social Problems. 39. 4.

³⁹⁵ *Taken from:* United States Environmental Protection Agency. EPA Guidance for Community Groups at Superfund Sites.

-promulgated by law- to participate? We encourage the Kentucky Appalachian Commission, the Kentucky Department for Local Government and the Office of the Governor to act on the set of recommendations contained in this report and begin to widen the channels for community involvement in watershed management and reclamation activities in Martin County. These are the two principal recommendations to start rebuilding civic capacity in Martin County since the October 2000 coal waste disaster.

**Eastern Kentucky University
Martin County Field Project**

Please read and consider the following statement on confidentiality and consent...

Informed Consent Statement

We're from Eastern Kentucky University and we're here to try to understand what has happened since October. There is always the chance that our interviews will be subpoenaed by others involved in the lawsuits.

Although legal parties might review the transcripts, your identity will remain unknown. Transcripts will be cleaned of proper names and places and other potential identifiers. Cleaned transcripts will become the transcripts of record. Tapes and other records and notes will be destroyed.

This is not meant to convince you to participate. You are under no obligation to continue with this interview or discussion, as we fully understand that the coal waste spill is a sensitive topic within the community

Even if you decide to continue with this interview -if -at any time during this interview- you feel like not continuing -we do not have to go on. We will destroy and dispose of the tape together -before leaving.

If you decide to continue with this interview, we will not ask you for your written consent, as this might then become a record of our interview. We are requesting only your verbal consent (or check mark) before going any further in our interview.

Finally, because of University guidelines, we must ask you the following: "That you are aware that there is no monetary compensation involved in these interviews" and that you are aware, "that the compensation is in contributing to knowledge about rural communities."

Turn on tape or obtain check

Do you understand what we just went over ? [yes -on tape]

_____ Consent

_____ Date of interview

_____ Time of interview

_____ Interview Code

Eastern Kentucky University
Martin County Field Project

You don't have to respond to any of these questions, -if you don't want to: But, before we start, can I ask you three basic questions? This might help us understand some differences in opinions and experiences among folks in Martin County, later on....

1. *I have lived in Martin County ...*

- all of my life
- not all of my life

2. *Do you live closer to...?*

- Inez
- Warfield

3. *Do you draw your water from...*

- the public water system
- a private well

Topic: The Spill, Memories and Events

Question: Can you share with me where you were when you realized that there was a sludge emergency?

Question: As best you can recollect, how have things unfolded from then until now?

Theme: Recovery

Question: How are things, -about getting back to normal ?

Theme: Water and the Environment

Question: There's been talk about the public water supplies, what are your thoughts on that subject?

Theme: Changing Views

Question: Do you see folks' attitudes changing about things... ?

Question: Has this event caused some hard feelings among folks in the community?

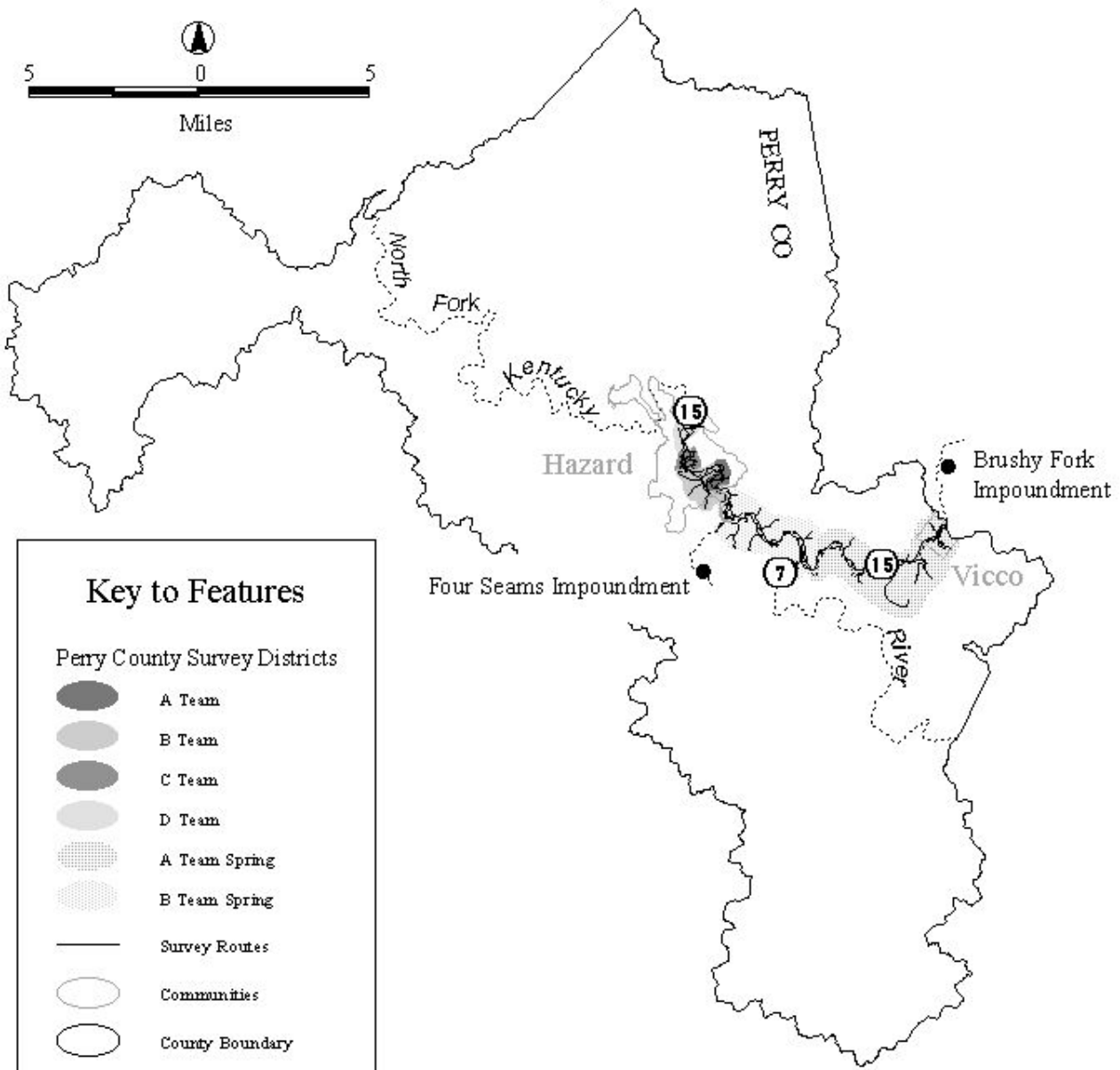
Theme: Anything else?

Question: Is there anything that we missed that you think people should know?

Before Closing: Collecting more interviews(TURN OFF AUDIO TAPE)

Question: Do you know of anyone else -whose opinion we should hear? Could you tell us their name? Or suggest that they call us... (give Steph's business card.) We certainly would like to hear from those folk that might be reluctant to talk openly to the press but have an opinion -on way or the other... We would like to hear it..

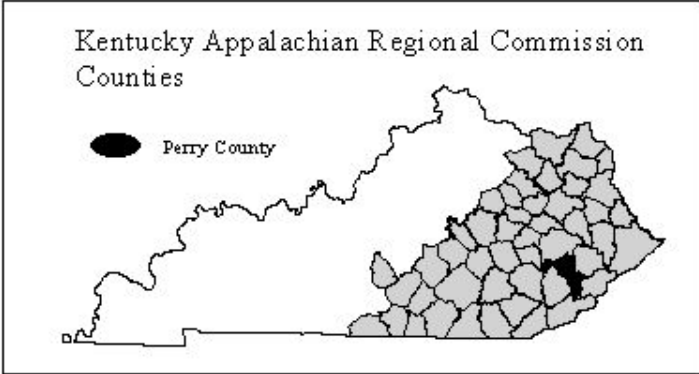
PRIMARY SURVEY ROUTES OF PROJECTED IMPACT ZONES PERRY COUNTY, KENTUCKY



Key to Features

Perry County Survey Districts

- A Team
- B Team
- C Team
- D Team
- A Team Spring
- B Team Spring
- Survey Routes
- Communities
- County Boundary
- Kentucky River
- Impoundment



Source, ARC Website (2001),
ESRI Data (2001), and
Department of Geography,
Eastern Kentucky University

EASTERN KENTUCKY UNIVERSITY CODE BOOK -ADDED CONTROLS
Martin and Perry County Project
May 2001

Dear Perry County Resident,

We are a research team from Eastern Kentucky University of students and faculty. As you might know, our research team has been in Martin County since November, talking with local residents and public officials about the October coal sludge spill. Over the past several months, we have spent much time interviewing and surveying Martin County residents about their views on community life in Martin County and the coal sludge spill. In order to understand the views of Martin County residents, we would like to know your views on community life, coal waste and impoundments, here, in Perry County.

We are asking you to take approximately twenty minutes to fill out this survey. Please note that we represent the university research community and NOT the mining industry nor litigants engaged in lawsuits.

An Eastern Kentucky University field team member will be by a day later to pick up your completed survey. Please DO NOT leave surveys outside, in clear view, for convenient pick up. The reason is that we cannot then ensure the confidentiality of your responses. Maintaining your privacy is our first priority in this research project.

Your participation in this survey is important. These survey findings will be included in a final report to local, State and Federal lawmakers by the end of the summer. Although we are encouraging your participation, we must stress that your participation in this study is completely voluntary. There is always the possibility that our survey data could be reviewed by a third party in the future. If you decide to participate, please note that your name will never associated with your responses. You were selected randomly based on the number of surveys that need to be distributed along this route. If you decide not to participate, we will then randomly select another resident to replace you in our random sample of Perry County residents.

When filling out this survey, there are no right or wrong answers. We are simply interested in your honest and open responses. So, please feel free to respond honestly and openly to each of the questions. Either you or any other person in your home, over the age of eighteen is invited to fill out this survey.

Please also note that you are under no obligation to respond to any questions that you believe to be too sensitive or an invasion of privacy. However, we must stress that this survey reflects only the broad community themes that we heard expressed by Martin County residents in February. None of the questions, we believe, are of a particular personal or private nature.

Thank you for taking the time to fill out this survey. Thank you for helping us understand things in your own community in Perry County and for helping us better understand things in Martin County since the October coal sludge spill.

Sincerely,
Dr. Stephanie McSpirit, Project Director
(859-622-3070)
Sharon Hardesty, Field Coordinator
Robert Welch, Field Captain

CONTROL

1= Martin County n=290 (54%)

2=Perry County n=249 (46%)

total=539

SURVEY WAVE

A= 1= First Wave -March 10,11,12 n=129 (24%)

B= 2= Second Wave -March 15, 16,17 n=161 (30%)

C= 3= Control Phase -First /Second Wave May 19/20 n=102 (19%)

D= 5 = Control Phase - Third Wave September n=147 (27%)

GENERAL COMMUNITY VIEWS

We've talked to many residents about what life is like in Martin County. Now we want to know your views about what life is like in your county. In general, how would you rate your community? Please rate each item (**very good, good, fair, poor, very poor**), by checking the appropriate box.

	Very Good	Good	Fair	Poor	Very Poor
The quality of local government is n=528 X ² =94, p=.00	1% 12%	9% 30%	38% 37%	30% 13%	22% 7%
The quality of the natural environment (air, water, soil, etc) in our community is... n=530 X ² =105 p=.00	- 5%	10% 34%	27% 39%	31% 16%	31% 7%
Job opportunities in the community are n=529 X ² =114 p=.00	- 3%	1% 7%	8% 34%	34% 40%	56% 17%
Outdoor recreational opportunities are n=519 X ² =119 p=.00	1% 7%	4% 25%	16% 33%	33% 23%	46% 12%
The coal economy in this community is n=511 X ² =50, p=.00	3% 11%	16% 35%	44% 36%	25% 16%	13% 3%
The quality of life in this community is n=521 X ² =44 p=.00	2% 7%	20% 39%	46% 41%	21% 10%	11% 3%
As a place to raise children, this community is n=522 X ² =11 p=.03	8% 13%	31% 37%	30% 27%	17% 14%	14% 8%
Opportunities for young people are n=529 X ² =86 p=.00	- 2%	2% 9%	7% 28%	35% 37%	56% 24%

In our early conversations with Martin County residents, many people expressed various concerns about their community. We'd like to find out how much of a problem you think the following are in your community in your County. Please rate each item, by checking the appropriate box, on the following scale (**not a problem at all, a slight problem, a moderate problem, a serious problem**).

	Not a problem at all	A Slight problem	A Moderate Problem	A Serious Problem
Economic Growth n=525 X ² =112 p=.000	3% 14%	11% 32%	22% 32%	65% 22%
County government n=517 X ² =55 p=.00	5% 19%	25% 38%	26% 24%	45% 19%
City government n=507 X ² =57 p=.00	9% 31%	28% 33%	27% 22%	36% 14%
State government n=509 X ² =39 p=.00	10% 25%	29% 38%	32% 25%	29% 12%
Crime / Drugs n=525 X=29 p=.00	3% 1%	15% 7%	32% 17%	51% 74%
Coal Waste n=505 X ² =133 p=.00	2% 15%	10% 32%	20% 34%	69% 12%
Unemployment n=526 X ² =40 p=.00	1% 3%	7% 19%	21% 33%	71% 45%
Education n=526 X ² =15 p=.001	12% 26%	32% 28%	35% 30%	21% 16%
Health Problems n=525 X ² =7 p=.068	6% 10%	26% 29%	32% 34%	36% 26%
Environment n=513 X ² =55 p=.00	5% 16%	21% 37%	33% 31%	41% 16%
Housing n=524 X ² =3 p=.431	12% 13%	26% 33%	36% 31%	26% 24%
Drinking Water n=533 X ² =184 p=.008	2% 21%	4% 33%	14% 22%	80% 24%
Sewage n=528 X ² =74 p=.00	5% 23%	13% 28%	30% 23%	53% 26%
Garbage n=534 X ² =99 p=.00	5% 32%	16% 27%	27% 20%	52% 21%

SINCE THE SLUDGE INCIDENT

We've also talked to many Martin County residents about the October sludge spill and how things are going in their community since the spill. Now we would like to know how things are going in your County since the coal waste spill.

The following statements concern you and your community since the spill in October. Please tell us how you feel about each statement at the present time. Please rate each item (**strongly disagree, disagree, neutral, agree, strongly agree or don't know**), by checking the appropriate box.

<i>Since the spill...</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
I have been more active in participating in community affairs since the spill. (n=453, X ² =10 p=.036**)	9% 5%	18% 20%	51% 62%	16% 11%	6% 3%	6
People in this community are distressed because of the spill. (n=442, X ² =139 p=.000***)	4% 8%	4% 21%	4% 30%	33% 33%	55% 9%	6
I feel confident in handling my personal problems. (n=491, X ² =7 p=.129)	3% 5%	2% 2%	12% 12%	41% 50%	42% 31%	6
People in this community are basically the same. (n=463, X ² =48 p=.000***)	19% 6%	30% 16%	13% 21%	27% 51%	11% 6%	6
My life has not changed. (n=494, X ² =69 p=.000***)	22% 4%	24% 7%	12% 19%	33% 58%	10% 12%	6
I have been less able to control important things in my life. (n=472, X ² =7 p=.112)	19% 26%	33% 34%	20% 21%	21% 13%	7% 5%	6
I feel satisfied about sludge cleanup activities. (n=430, X ² =51 p=.000***)	46% 16%	21% 21%	12% 30%	13% 25%	8% 8%	6
People in this community are divided over the impact of the spill. (n=380, X ² =76 p=.000***)	14% 11%	11% 22%	11% 42%	42% 24%	22% 2%	6

NOTE: Questions asked of Martin County residents only.

Please read each statement made by some people that we have talked to concerning the spill. For each statement about the spill, please indicate how often it has been true for you during the past seven days. Please rate each item (**not at all, rarely, sometimes, often**), by checking the appropriate box.

	Not at all	Rarely	Sometimes	Often
<i>During the past seven days...</i>				
I have tried to remove it from my memory. (To act as though it never happened). n=281	58%	10%	20%	12%
I have tried not to talk about it. n=284	51%	16%	22%	11%
I have had a lot of feelings about it that I don't know how to deal with or handle. n=279	42%	19%	24%	15%
I had to stop myself from getting upset when I thought about it or was reminded of it. n=282	38%	13%	23%	26%

Many people we talked to in Martin County expressed various views on how the spill was handled by different groups. People in your county might share or hold different views, **please tell us how you feel about each group or agency.** Please rate each statement (**strongly disagree, disagree, neutral, agree, strongly agree or don't know**), by checking the appropriate box.

<i>Based on their response to the spill,...</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
I have trust in the coal company. n=464 X ² =54, p=.000	51% 19%	20% 31%	15% 27%	11% 20%	3% 4%	6
I have trust in local government. n=479 X ² =62, p=.000	41% 12%	29% 31%	17% 23%	11% 30%	2% 5%	6
I have trust in State agencies. n=473 X ² =48 p=.000	31% 11%	30% 25%	22% 24%	14% 37%	4% 3%	6
I have trust in spill clean-up companies. n=450 X ² 35 p=.000	30% 11%	21% 15%	19% 29%	25% 41%	6% 3%	6
I have trust in the Environmental Protection Agency (EPA) n=463 X ² =37 p=.000	35% 12%	25% 26%	20% 29%	16% 29%	4% 4%	6
I have trust in Federal mining agencies. n=468 X ² =37 p=.000	35% 12%	26% 26%	20% 29%	16% 29%	4% 4%	6
I have trust in local news reporting. n= 481 X ² = 37 p=.000	26% 7%	18% 17%	24% 27%	25% 40%	6% 9%	6

In our conversations with residents of Martin County, some people expressed some ways to make the public water system more acceptable to residents. How important are the following water quality and water treatment issues to you in your County? Please rate each item (**strongly disagree, disagree, neutral, agree, strongly agree or don't know**), by checking the appropriate box.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
The water treatment facility should enforce stricter water quality standards. n=500 X ² =78 p=.000	1% 5%	1% 3%	2% 11%	27% 53%	68% 30%	6
An independent citizen's committee should monitor and test water quality. n=491 X ² =49 p=.000	1% 6%	6% 7%	6% 13%	31% 47%	56% 27%	6
The water treatment facility does a good job of meeting water quality standards n=450 X ² =144 p=.000	45% 6%	32% 19%	12% 28%	6% 41%	5% 5%	6
The mining industry should contribute financially to independent tests of water quality. n=497 X ² =44 p=.000	5% 4%	5% 8%	8% 11%	23% 46%	59% 31%	6
Coal severance taxes should be used to upgrade the water facility. n=486 X ² =30 p=.000	4% 4%	4% 5%	9% 15%	27% 43%	57% 33%	6

In other conversations with residents of Martin County, people suggested ways to make coal waste impoundments more safe and more acceptable to residents. How important are the following to you with regard to the impoundment near your community? Please rate each item (**strongly disagree, disagree, neutral, agree, strongly agree or don't know**), by checking the appropriate box.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
The federal government should set stricter mining standards. n=489 X ² =54 p=.000	4% 5%	4% 7%	7% 18%	27% 46 %	57% 25%	6
A local committee should have the power to shut down the impoundment if they decide it is unsafe. n=481 X ² =32 p=.000	8% 6%	17% 9%	12% 13%	24% 47%	39% 26%	6
The mining industry should provide the community with an emergency safety plan. n=508 X ² =33 p=.000	- 1%	3% 2%	4% 6%	36% 58%	58% 33%	6
An impartial inspector should be at the mining site at all times. n=495 X ² =22 p=.000	2% 6%	11% 9%	11% 18%	34% 42%	43% 26%	6
The mining industry should contribute more financially for improving community facilities (schools, parks, sewage systems). n=486 X ² =21 p=.000	2% 5%	8% 8%	12% 16%	33% 45%	46% 27%	6
The coal company should protect property values in communities downstream of the coal waste site. n=503 X ² =41 p=.000	1% 4%	3% 1%	6% 8%	28% 51%	63% 36%	6
The coal company should dredge the creeks of sludge and silt. n=497 X ² =47 p=.000	2% 2%	1% 3%	6% 8%	28% 54%	64% 34%	6
The mining industry should establish a local outreach office, in town, to keep residents informed of mining activities. n=483 X ² =27 p=.000	2% 3%	8% 5%	13% 11%	33% 55%	45% 27%	6
The mining industry is already well-regulated by federal and state agencies. n=431 X ² =27 p=.000	27% 8%	30% 33%	18% 28%	16% 21%	10% 9%	6
The mining industry should explore other (cleaner) technologies to wash coal. n=484 X ² =40 p=.000	1% 2%	2% 2%	10% 18%	39% 58%	49% 21%	6
The mining industry should invest in technologies to cleanup sludge spills. n=505 X ² = 40 p=.000	- 1%	3% 3%	10% 7%	30% 56%	58% 33%	6

In our conversations with other residents of Martin County, some people had opinions on other issues that may (or may not) be related to the spill. By responding to the next set of statements, we would like to know your views on some of these issues. Please rate each item (**strongly disagree, disagree, neutral, agree, strongly agree or don't know**), by checking the appropriate box.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
We may never know the extent of the damage caused by the spill in Martin County. n=480 X ² =64 p=.000	1% 3%	1% 3%	2% 7%	34% 62%	62% 26%	6
I feel the residents of Martin County should be fully compensated for the spill. n=495 X ² =32 p=.000	2% 2%	4% 2%	7% 7%	29% 53%	58% 36%	6
I feel the residents of Martin County will be fully compensated for the spill. n=407 X ² =45 p=.000	37% 11%	33% 42%	14% 21%	9% 22%	8% 4%	6
With so many experts telling us what is safe and what is not, one really doesn't know what to believe. n=501 X ² =45 p=.000	2% 2%	3% 3%	5% 11%	41% 64%	48% 20%	6
There has been too much emphasis on conserving natural resources, and not enough on using them in recent years. n=455 X ² =15 p=.005	10% 9%	13% 20%	21% 17%	33% 42%	23% 12%	6
People have the right to change the natural environment to meet their needs. n=471 X ² =11p=.023	21% 16%	24% 31%	22% 19%	19% 27%	15% 8%	6
There is little chance that the <u>Martin County</u> coal waste impoundment will rupture in the future. n=373 X ² =49 p=.000	44% 17%	25% 26%	11% 32%	11% 22%	9% 4%	6
There is little chance that the coal waste impoundment near <u>my community</u> will rupture in the future. n=133 (Asked in Perry County)	16%	35%	25%	20%	5%	6
I feel that these days a person doesn't really know who they can count on. n=499 X ² =35 p=.000	3% 5%	5% 4%	6% 12%	36% 55%	50% 25%	6
I feel that things are getting worse for the average person. n=487 X ² =27 p=.000	3% 4%	8% 12%	11% 18%	36% 44%	43% 21%	6
There's no use in contacting public officials because they aren't interested in the average person. n=475 X ² =27 p=.000	7% 4%	11% 20%	13% 20%	28% 35%	41% 22%	6
Coal sludge is not hazardous. n=476 X ² =30 p=.000	70% 47%	17% 36%	4% 6%	5% 7%	5% 4%	6
A landowner should be able to do what they want with their own property. n=508 X ² =16 p=.000	6% 6%	15% 16%	13% 18%	22% 33%	43% 27%	6

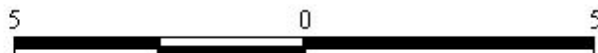
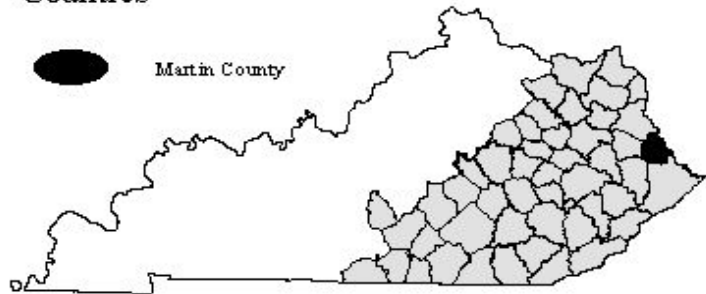
Finally, the following basic questions might help us understand some differences in opinions and experiences among residents of Martin County and your County, related to events around the spill. Please respond to each item, by checking either the appropriate box or filling in your response.

Male MC 39% PC 38%	Female MC 61% PC 60% n=524		
D_AGE Age _____ MC Ave= 46 s=15.5 PC Ave=49 S=17.35 n=501			
D_YRSLV How long have you lived in this County? _____ Years MC Ave=37, s=19.2 PC Ave= 38, s=21.8 n=520			
D_TOWN Do you live close to....	MC Inez 70% PC Hazard 74%	MC Warfield 30% PC Vicco 26% n=514	3. Neither -
D_CREEK D_CRCNTY Do you live in... MC Wolf Creek 24% MC Coldwater 42% MC Neither 34% PC Perry County 92% Knott County 8% n=525			
D_EDUC How many years of schooling do you have... _____ Years.	MC Ave =11.9, s=3.18 PC Ave =12.8, s=3.34 n=509		
D_HOWN Do you own /rent your home.....	1. Own MC 85% PC 69%	2. Rent MC 19% PC 26%	3. Neither MC 4% PC 5% n=526
D_HTYPE Your home is a			
1. Single family home MC =63% PC =67%	2. Mobile Home MC=29% PC=14%	3. Apartment MC=5% PC=17%	4. Other MC=4% PC=2% n=523 Specify_____
D_WATER Do you draw your water from...	1. the public water system MC=85% PC=89%	2. a private well MC=14% PC=8%	3. Other MC 4% PC 2% Specify_____
D_KIDS The number of children (under 18) living in your home is _____ (With Children) MC=47% PC =44%	<input type="checkbox"/> I have no children under 18 years living at home MC= 53% PC=56 n=522		

D_MINE Is any person in your household involved in the mining industry -either through being employed, the sale of mineral rights, or through other business-related activities? n=498		Yes MC=32% PC=25%	No MC=68% PC=75%
D_EMPLOY What is your employment status? Please check <u>only one</u> box n=506			
1. Employed, Full time MC= 34% PC=33%	2. Housewife MC=17% PC=13%	3. Employed, Part time MC=4% PC=3%	4. Unemployed MC=7% PC=9%
5. Retired MC=14% PC=23%	6. Disabled MC=20% PC=13%	7. Self Employed MC=4% PC=4%	
D_INCOME We realize that asking for information on income is a sensitive topic, but we certainly would appreciate your response. For the year 2000, what general category best represents your household income before taxes?			
1. Under 10,000 MC=20% PC=19%	2. 10,000-20,000 MC=27% PC=19%	3. 21,000 -40,000 MC=27% PC=33%	4. 41,000-60,000 MC=17% PC=16%
5. Over 60,000 MC=9% PC=13%			
D_ELECT Did you vote in the last local election? n=510		1. Yes MC=76% PC=75%	2. No MC=24% PC=25%
D_ACTCOM Do you consider yourself active in community affairs? n=523		1. Not Active MC=43% PC=37%	2. Somewhat Active MC=51% PC=54%
		3. Very Active MC=6% PC=9%	
D_LIVE If you could live any place in the United States you wanted to, would you choose the area where you are living now? n=515			
Definitely Yes MC=19% PC=28%	Probably Yes MC=29% PC=33%	Probably Not MC=33% PC=27%	Definitely Not MC=20% PC=12%
D_LVLIFE Do you expect to live most of the rest of your life in this community? n=515			
Yes MC=75% PC=78%	No MC=25% PC=22%		
Prior to the Spill , were you aware that there was a coal waste impoundment up Coldwater Creek? (Asked Martin County residents n=287)		Yes 41%	No 59%
Prior to this Survey , were you aware that there was a coal waste impoundment near your community? (Asked Perry County residents n=232)		Yes 57%	No 43%
Prior to th Spill in Martin County , were you aware that there was a coal waste impoundment near your community? (Asked Perry County residents n=228)		Yes 48%	No 52%

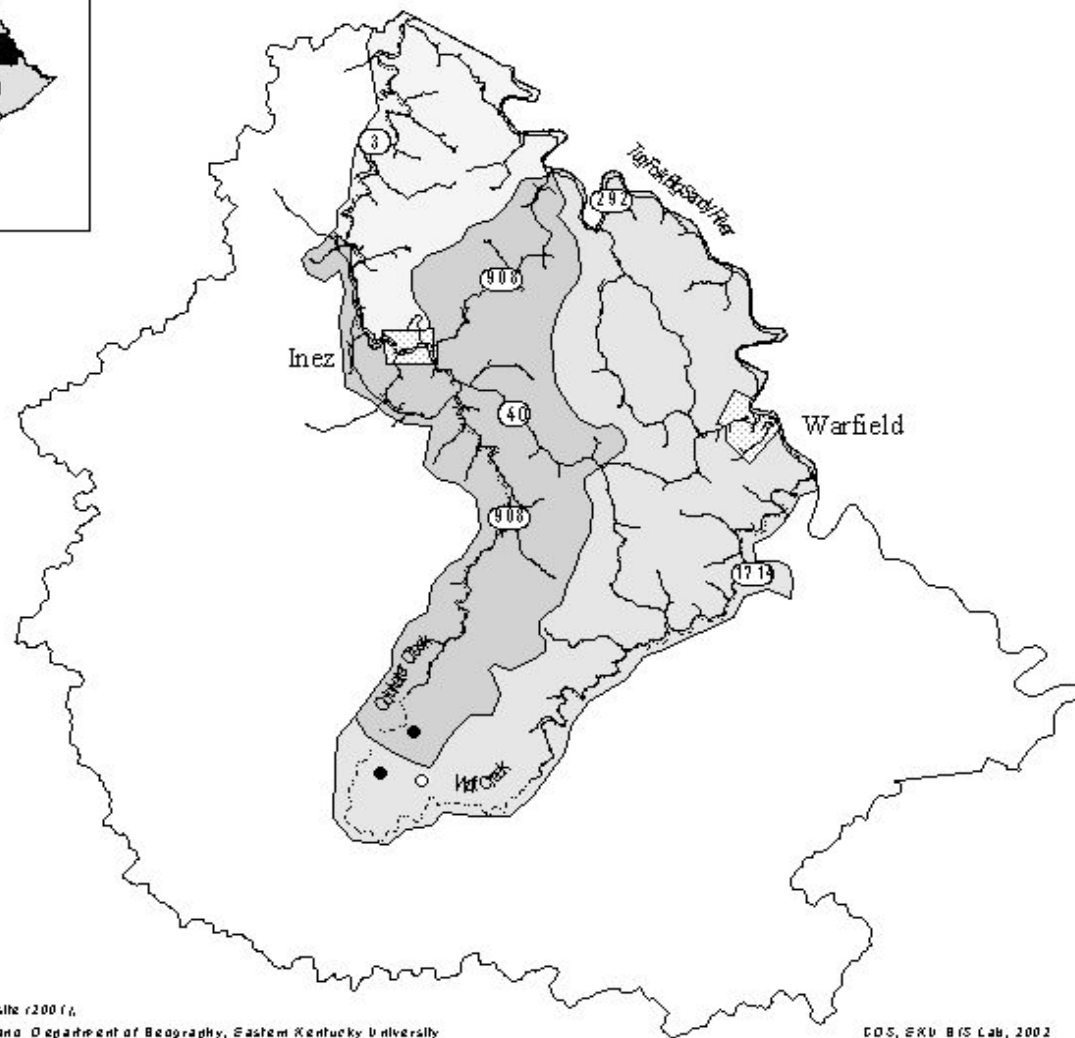
Thank you for taking the time to fill out this survey. Someone from the Eastern Kentucky University field team will be by the next day to pick up your responses. **If they are unable to make contact with you at home, could you please leave a message on your door on a time that might be convenient for pick up of your survey?** Thank you for helping us understand similarities and differences between Martin County residents and residents from Perry County since the October sludge spill.

Kentucky Appalachian Regional Commission Counties



Miles

PRIMARY SURVEY ROUTES IN IMPACT ZONE MARTIN COUNTY, KENTUCKY



Key To Features

Survey Districts



A Team



B Team



C Team



Survey Routes



Communities



Impoundment

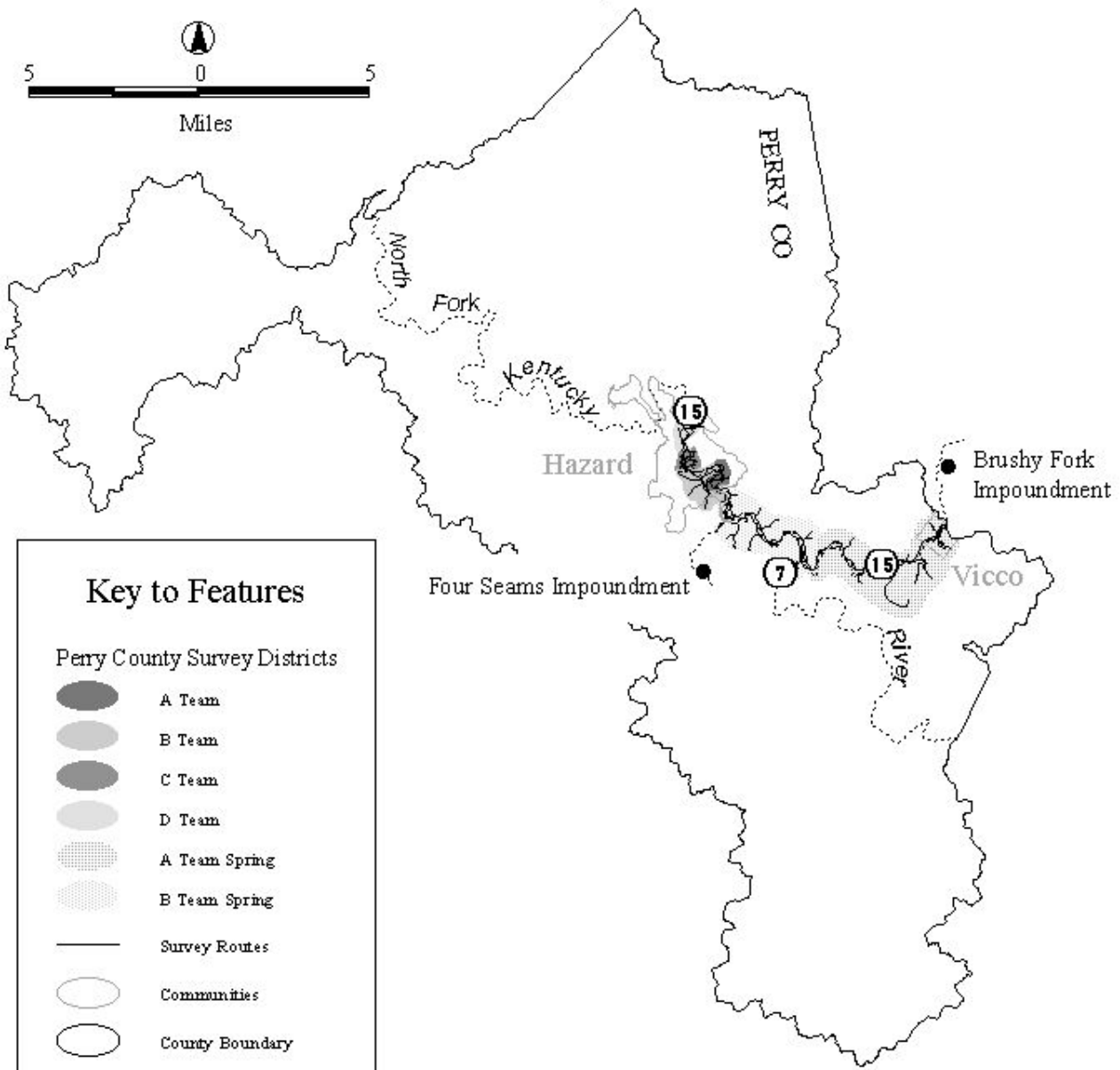
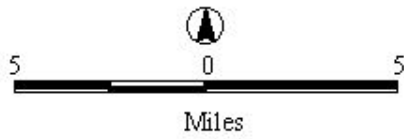


Impoundment Release Points

Source, ARC Website (2007),
ESRI Data (2007) and Department of Geography, Eastern Kentucky University

COS, ERU B/S Lab, 2002

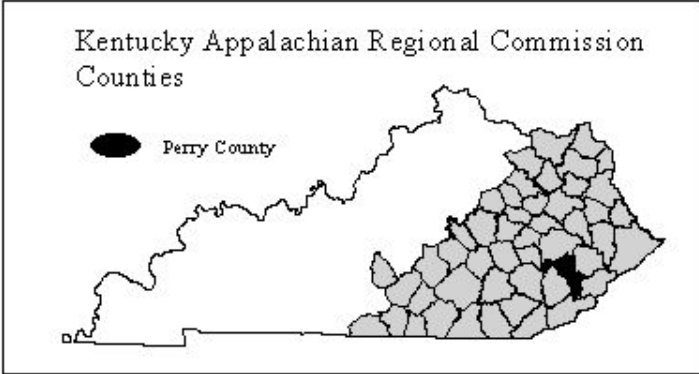
PRIMARY SURVEY ROUTES OF PROJECTED IMPACT ZONES PERRY COUNTY, KENTUCKY



Key to Features

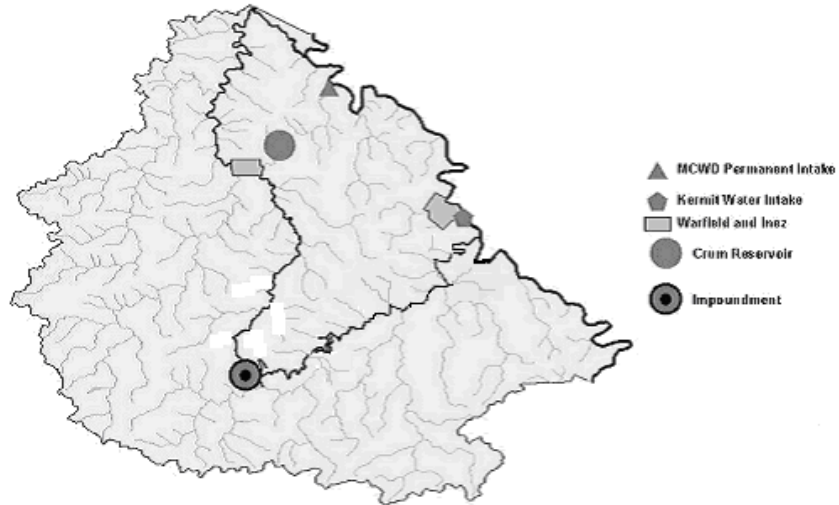
Perry County Survey Districts

- A Team
- B Team
- C Team
- D Team
- A Team Spring
- B Team Spring
- Survey Routes
- Communities
- County Boundary
- Kentucky River
- Impoundment

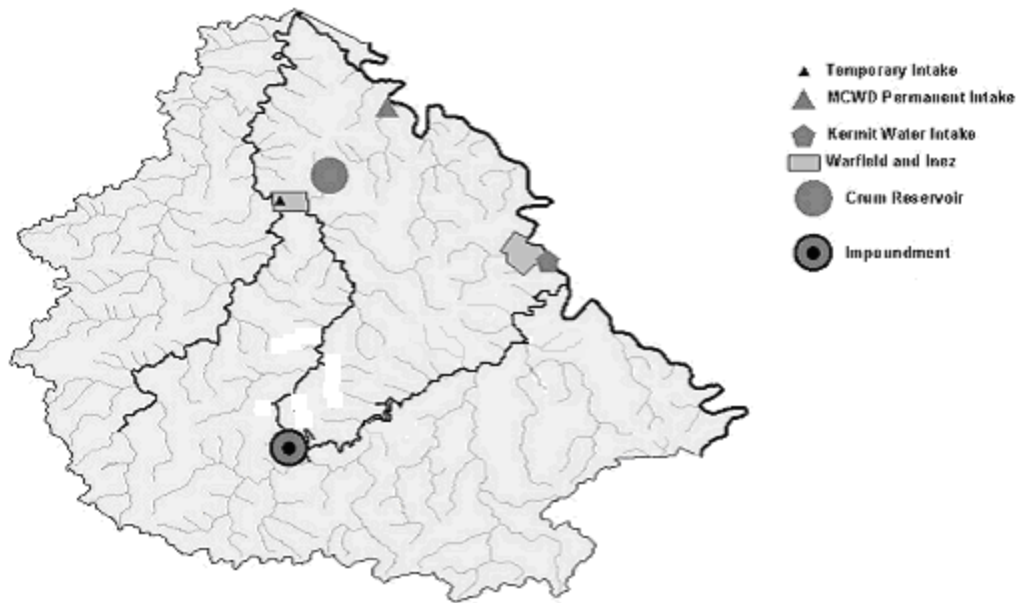


Source, ARC Website (2001),
ESRI Data (2001), and
Department of Geography,
Eastern Kentucky University

**Map 4.A. Martin County Public Water System and Impacted Creeks:
October 2000 Coal Waste Spill
Martin County, Kentucky**



**Map 4.B. Martin County Public Water System and Emergency Water Line:
October 2000 Coal Waste Spill
Martin County, Kentucky**



**Map 4.C. Martin County Public Water System and Holty Branch Impoundment:
October 2000 Coal Waste Spill
Martin County, Kentucky**

