Improving the State Superfund Process

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DRAFT REPORT

House Joint Resolution 34

EQC Study Report

September 2006

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1: EQC Study of State Superfund Process

Introduction

Concern that superfund sites across Montana have serious impacts on communities and community infrastructure and that lack of timely superfund site cleanup exacerbates those community impacts is the crux of the issue that generated House Joint Resolution 34 during the 2005 Legislative session. HJR 34 was assigned to the Environmental Quality Council (EQC). The resolution requests that the EQC:

(1) inventory and establish a comprehensive list of:
(a) superfund sites located in Montana;
(b) the current status of cleanup efforts;
(c) the decision documents describing site remediation for each site in Montana; and
(d) the proposed time frame for completing the cleanup efforts;

(2) provide alternatives for communities faced with untimely cleanup of superfund sites;

(3) summarize water, infrastructure, and economic development needs of communities directly effected by superfund site listings;

(4) identify education alternatives for superfund site impacts on local communities; and

(5) develop a process for improving communication between local, state, and federal governments when addressing superfund issues.

At the May 2005 EQC meeting, the Council assigned this study to the EQC Agency Oversight Subcommittee. The EQC allocated .2 FTE of staff resources for this topic. Although limited resources were devoted to HJR 34, the EQC Agency Oversight Subcommittee was able to address most, but not all, of the study tasks requested in HJR 34. The Subcommittee did however, go beyond the resolution to evaluate options to generally improve the state superfund process.

The EQC HJR 34 Study Process

The EQC Agency Oversight Subcommittee developed an interim work plan that identified specific study tasks that needed to be completed during the interim. Figure 1-1 outlines the EQC's 2005-06 interim HJR 34 study process.

Figure 1-1. EQC HJR 34 Study Process

May 2005

- Create Agency Oversight Subcommittee
- EQC Work Plan and Resource Allocations

September 2005

- Subcommittee Work Plan:
  - EQC Agency Oversight Subcommittee Adopts Interim Work Plan
- Information Gathering and Analysis:
  - Bill Sponsor addresses Subcommittee on the intent of HJR 34
  - DEQ presents information responding to HJR 34 study elements
  - Orphan Share Account Update
  - Mike Horse Mine Complex Update

January 2006

- Information Gathering and Analysis:
  - EPA presents information responding to HJR 34 study elements
  - Bozeman Solvent Site Panel Discussion
  - Livingston/Burlington Northern Panel Discussion
  - Brewery Flats Panel Discussion

March 2006

- Information Gathering and Analysis:
  - Lockwood Panel Discussion
  - S&W Sawmill Facility Panel Discussion
  - Rimini-Ten Mile Panel Discussion
- Subcommittee Direction on the Draft Report
- DEQ Presentation on Resource Comparison from Other States
- DEQ Presentation on Elements of the State Superfund Process

April 2006

- Conference Phone Subcommittee Meeting to Discuss Draft HJR Report

May 2006

- Subcommittee Review of Draft HJR 34 Report
- Subcommittee Discussion and Decisions on Preliminary Findings, Recommendations, and Legislation (if any)

June 2006

- Send Out Draft HJR 34 Report for 30-Day Public Comment Period

July 2006

- Compile Public Comments
- Final EQC Agency Oversight Subcommittee Decision on any Findings, Recommendations, and Legislation (if any) to the EQC
- Subcommittee Briefs EQC on the Recommendations and the HJR 34 Study Report

September 2006

- Final Decision by the EQC on the Study Report and Recommendations, Including Content of Proposed Legislation (if any)
- Selection of Bill Sponsors if Needed and Development of Session Strategy

EQC Response to HJR 34

With the adoption of HJR 34, the Legislature requested that the EQC complete a number of study tasks. In addition, the EQC adopted its own study goals and tasks. These study goals and tasks and how the EQC responded to them are set out below.

Study Goals:

HJR 34 Goal: Assist Montana Communities in dealing with the serious impacts of Superfund sites.

✔ EQC Response: The EQC, in conjunction with the interested and affected parties of the Superfund process, generated information through panel discussions, solicitation of issues and suggested improvements, and staff research and analysis to attempt to assist communities dealing with serious impacts of Superfund sites. This Report is the EQC's response to addressing this study goal.

EQC Goal: Evaluate and improve the State Superfund process.

✔ EQC Response: **Figure 1-1** sets out the EQC's efforts to openly and comprehensively evaluate and improve the Superfund process. **Chapters 3 through 6 evaluate the State Superfund process. Chapter 7** lists the EQC's findings and recommendations to improve the Superfund process.

HJR 34 Assigned Study Tasks:

Study Task: That the EQC, inventory and establish a comprehensive list of:
(a) superfund sites located in Montana;

(b) the current status of cleanup efforts;
(c) the decision documents describing site remediation for each site in Montana; and
(d) the proposed time frame for completing the cleanup efforts.

✔ EQC Response: The EQC generated a map that specifies the location of all superfund sites in Montana (See Figure 3-1 and see the state CECRA list in Appendix B). DEQ and EPA websites noted in Appendix C detail the status of cleanup efforts for all Montana sites as well as the decision documents describing site remediation for each site. Specific timeframes for completing cleanup efforts at sites are established in individual remediation plans and decision documents. These timeframes are dependent on the presence or absence of potentially liable persons, size, scope and complexity of the site, and by potential factors outside the control of the agency (for example - bankruptcy actions).

Study Task: That the EQC provide alternatives for communities faced with untimely cleanup of superfund sites;

✔ EQC Response: Timeliness was one of the components that the EQC evaluated with regard to improving the Superfund Process. The EQC determined that mandated timeframes for processing voluntary cleanups provide incentives for potentially liable persons to consider voluntary cleanup actions. For some sites, communities may be eligible to seek resources for cleanup actions from various state and federal grant programs. Recommendations for improving timeliness can be found in Chapter 7.

Study Task: That the EQC summarize water, infrastructure, and economic development needs of communities directly effected by superfund site listings.

✔ EQC Response: The EQC did not have the time or resources to address this study task. However, the EQC did determined that DEQ requires timely interim actions

when impacts to community infrastructures create threats to human health

Study Task: That the EQC identify education alternatives for superfund site impacts on local communities.

✔ EQC Response: Appendix C inventories websites that have numerous education mechanisms for superfund impacts on local communities. Also see Chapter 7 regarding EQC findings and recommendations.

Study Task: That the EQC develop a process for improving communication between local, state, and federal governments when addressing superfund issues.

✔ EQC Response: See Chapter 7 regarding EQC findings and recommendations.

Study Task: That all aspects of the study, including presentation and review requirements, be concluded prior to September 15, 2006, and that the final results of the study, including any findings, conclusions, comments, or recommendations of the EQC, be reported to the 60th Legislature.

✔ EQC Response: This report document fulfills this study task.

EQC Assigned Additional Study Tasks

Study Task: Ask DEQ and EPA to provide information on whether current information exists to fulfill the HJR 34 study tasks.

✔ EQC Response: DEQ and EPA made presentations before the Subcommittee in September 2005 and January 2006.

Study Task: Conduct panel discussions of stakeholders on a cross-section of state and federal superfund sites in Montana to gather information to evaluate the state superfund process.

✔ EQC Response: The EQC selected a combination of six state and federal sites for panel discussions. See Chapter 4.

Study Task: Conduct an in depth survey of stakeholders from selected superfund sites to evaluate the state superfund process.

✔ EQC Response: The EQC worked with the University of Montana to conduct a survey of stakeholders from six superfund sites. Chapter 6 summarizes the findings of that survey.

What is Not Addressed in this Study?

The HJR 34 Study does not address hazardous waste sites outside of those sites designated under the Comprehensive Environmental Cleanup and Responsibility Act (CECRA) of 1989 and or sites designated under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, Public Law 96-510.

The DEQ conducts other clean-up activities that are not addressed in this report. Those activities include petroleum releases from storage tank systems and abandoned mine reclamation projects.

2: Overview of the State Superfund Process

Introduction

The state superfund process is extremely complex. At the request of the Subcommittee, the DEQ provided the Subcommittee with a detailed explanation of how state superfund process works and how the state and federal superfund processes are interrelated.[1] This chapter provides a simplified and hopefully easy to understand explanation of the state superfund processes.

What is Superfund?

Among the issues at the forefront of environmental concern is the cleanup of hazardous substances. The Superfund program is responsible for investigation and cleanup of hazardous substances.

Congress created the federal Superfund program in 1980 under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to address the nation's most contaminated sites. In 1989, the Montana Legislature passed the Comprehensive Environmental Cleanup and Responsibility Act (CECRA) for the investigation and cleanup of those sites not being addressed by the federal Superfund law.

What is the Legislative History of Montana's Superfund Process?

The 1985 Montana Legislature passed the Environmental Quality Protection Fund Act. This Act created a legal mechanism for the Department to investigate and clean up, or require liable persons to investigate and clean up, hazardous or deleterious substance facilities in Montana. The 1985 Act also established the Environmental Quality Protection Fund (EQPF). The EQPF is a revolving fund in which all penalties and costs recovered pursuant to the EQPF Act are deposited. The EQPF can be used only to fund activities relating to the release of a hazardous or deleterious substance. Although the 1985 Act

[1] The descriptions of the state superfund process and how it works covered in this chapter were taken sometimes verbatim with permission from handouts provided by DEQ Staff (Denise Martin and Sandi Olsen), from a 1996 DEQ Superfund Overview Document, and from the DEQ website.

established the EQPF, it did not provide a funding mechanism for the Department to administer the Act. Therefore, no activities were conducted under this Act until 1987.

The 1987 Montana Legislature passed a bill creating a delayed funding mechanism that appropriated 4 percent of the Resource Indemnity Trust (RIT) interest money for Department activities at non-National Priority List facilities beginning in July 1989 (15-38-202 ,MCA). In October 1987, the Department began addressing state Superfund facilities. Temporary grant funding was used between 1987 and 1989 to clean up two facilities and rank approximately 250 other facilities. Beginning in fiscal year 1995, the 4 percent allocation was changed to 6 percent to adjust for other legislative changes in RIT allocations. Effective July 1, 1999, the 6 percent allocation was increased to 9 percent to ensure that the environmental quality protection fund was held harmless by reductions of the net funding coming into the RIT.

The 1989 Montana Legislature significantly amended the Act, changing its name to the Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA) and providing the Department with similar authorities as provided under the federal Superfund Act (CERCLA). With the passage of CECRA, the state Superfund program became the CECRA Program. Major revisions to CECRA did not occur until the 1995 Legislature, when the Voluntary Cleanup and Redevelopment Act (VCRA), a mixed-funding pilot program, and a requirement to conduct a collaborative study on alternative liability schemes were added and provisions related to remedy selection were changed. Based on the results of the collaborative study, the 1997 Legislature adopted the Controlled Allocation of Liability Act, which provides a voluntary process for the apportionment of liability at CECRA facilities and establishes an orphan share fund. Minor revisions to CECRA were also made by the 1999, 2001, 2003, and 2005 Legislatures.

What Triggers the Superfund Process?

The federal and state Superfund laws apply to sites where a release or a threatened release of a hazardous substance exists. In Montana, the majority of these releases have occurred at sites where mining, smelting, wood-treating, railroad fueling and maintenance, petroleum refining, landfilling, and chemical manufacturing/storage activities were conducted. Historic waste disposal activities at these sites caused contamination of air, surface water, groundwater, sediments, and/or soils with hazardous substances. This contamination has caused, or may cause, public health impacts such as contaminated drinking water and ecological impacts such as impacts to fisheries. Typically, state and federal superfund laws are not applied to permitted facilities if releases of hazardous substances are within the scope of a permit or corrective action under a permit.

Who Conducts Superfund Activities?

The Montana Department of Environmental Quality (DEQ) was created in July 1995 and comprises programs from the former departments of Health and Environmental Sciences (DHES), State Lands, and Natural Resources and Conservation. All Superfund activities conducted before July 1995 were under the auspices of DHES. For this report, all activities of DHES are credited to DEQ.

DEQ works closely with the United States Environmental Protection Agency (EPA) at federal Superfund sites. At each federal Superfund site, either EPA or DEQ has the "lead" or primary responsibility for site activities and decisions. There are 14 National Priority List sites in Montana.

The 293 state sites inMontana are addressed under CECRA and are referred to in this report as "CECRA sites." DEQ has responsibility for investigation and cleanup at CECRA sites.

The DEQ Superfund professional staff has knowledge and skills in diverse fields including environmental engineering, hydrogeology, environmental law, chemistry, biology, soil science, risk assessment, data management and public relations. DEQ's Superfund staff currently consists of 4 FTE managerial/coordinator positions, 19 FTE scientists/engineers, 4 FTE attorneys, 0.8 FTE data management specialists and 5.38 FTE support employees.

A CECRA cleanup may be conducted by DEQ or by the parties responsible for the contamination, either voluntarily or under an enforceable legal agreement with the state. When the government cleans up the site, it may require the responsible parties to pay the actual investigation and cleanup costs, plus penalties of up to two times the state's costs. DEQ closely oversees and directs the entire process, and the responsible parties pay for DEQ oversight costs. Cleanups at most federal CERCLA sites in Montana are being conducted by responsible parties under enforceable legal agreements with either EPA or DEQ.

Typically, the CECRA program does not address a site until it has been evaluated under the federal Superfund process and found ineligible for the list of federal Superfund sites (the National Priorities List, or "NPL"). In addition to sites not eligible for the federal list, the CECRA program addresses sites not qualifying under the federal Superfund program because of an exclusion or other factors. Some asbestos and petroleum sites fall into this category. CECRA also addresses sites which may be in the process of federal Superfund designation but need immediate action. CECRA addresses some sites without

going through the CERCLA site evaluation process when the site or its impact is obviously too small to qualify it for the NPL. CECRA also addresses sites where an entity chooses to clean up the site voluntarily.

How are State Superfund Sites Prioritized?

The DEQ has adopted administrative rules (ARM 17.55.111) that set out a process for designating and ranking sites as "maximum priority", "high priority", "medium priority", "low priority", and "operation and maintenance" category.[2] The ranking distinctions are:

- ✓ Maximum Priority Site = Immediate threat requiring immediate action.
- ✓ High Priority Site = Significant near term threats requiring prompt action.
- ✓ Medium Priority Site = Potential long-term threat requiring action.
- ✓ Low Priority Site = Minimal potential for long-term threat.
- ✓ Operation and Maintenance Category = Remedial actions are complete but the facility is undergoing operation and maintenance such as monitoring, revegetation, etc.

How does the Superfund Process Work?

Investigation of a Superfund site can be complex, thorough and detailed. This is because a hazardous substance can have significant actual and potential effects on public health and the environment and cleanups can be costly. A Superfund investigation must also be legally defensible if the parties responsible for paying cleanup costs or others decide to challenge the DEQ findings in court.

The following is a brief description of the steps in the Superfund process. These steps apply to federal and CECRA (state) sites not undergoing voluntary cleanup.

Prioritize & Initial Investigation: DEQ evaluates sites where hazardous or deleterious substances may have been released and determines the priority for further action. Some sites may go through the federal superfund site process for initial investigation to determine if contamination is present at levels that require additional evaluation and if the

[2] For a detailed explanation on how the DEQ ranks sites, see Appendix B.

site has the potential to be a federal superfund site. Only a few sites go on to become federal superfund sites and some that could be federal sites remain state superfund sites. The remaining sites follow the process below.

Identify & Notify: Some sites are cleaned up through the voluntary cleanup program if the cleanup can be completed in five years. At other sites, DEQ conducts a good faith investigation to identify the persons responsible for investigating and cleaning up a contaminated site. This typically includes deed and record searches, seeking information from people that worked at or owned/operated a site, and reviewing historical documents to determine when and how contamination occurred. Then DEQ officially informs the person that they are responsible and offers the person the opportunity to properly and expeditiously conduct the necessary work. If the person fails to conduct the work, DEQ may order the person to do the work.

3-Step Investigation: This process is used to determine if and how a site needs to be cleaned up. The responsible person completes these steps. A remedial investigation is performed to determine the full nature and extent of the contamination. A risk assessment evaluates the threats posed to human health and the environment and allows for the development of site-specific cleanup levels. Finally, a feasibility study evaluates the various options for cleaning up the site. DEQ uses this information to determine if a site needs to be cleaned up, and if so, how it should be done. Interim actions may be conducted at any time during this process (as long as they would not interfere with final cleanup) to quickly reduce the amount of contamination and protect public health.

Determining the Final Cleanup: DEQ prepares a proposed plan to outline the preferred cleanup option for the site. The public has the opportunity to comment on the preferred cleanup option. DEQ considers the comments and may revise the final cleanup based upon public comment. DEQ's determination of the final cleanup for a site is documented in its record of decision.

Implementing the Final Cleanup: Typically, DEQ and the responsible person negotiate a consent decree or order to implement the cleanup. Engineering design documents are completed and the project is bid. Cleanup continues until contamination no longer poses an unacceptable risk to human health and the environment and compliance with all environmental laws is achieved. The final cleanup is documented in a remedial action report.

No Further Action/Delisting: Once DEQ determines that all cleanup criteria are met at a site, a no further action letter is issued and the site may be delisted, if appropriate.

Figure 2-1 illustrates the detailed flow of activities in the State superfund process.

Who Pays for Superfund?

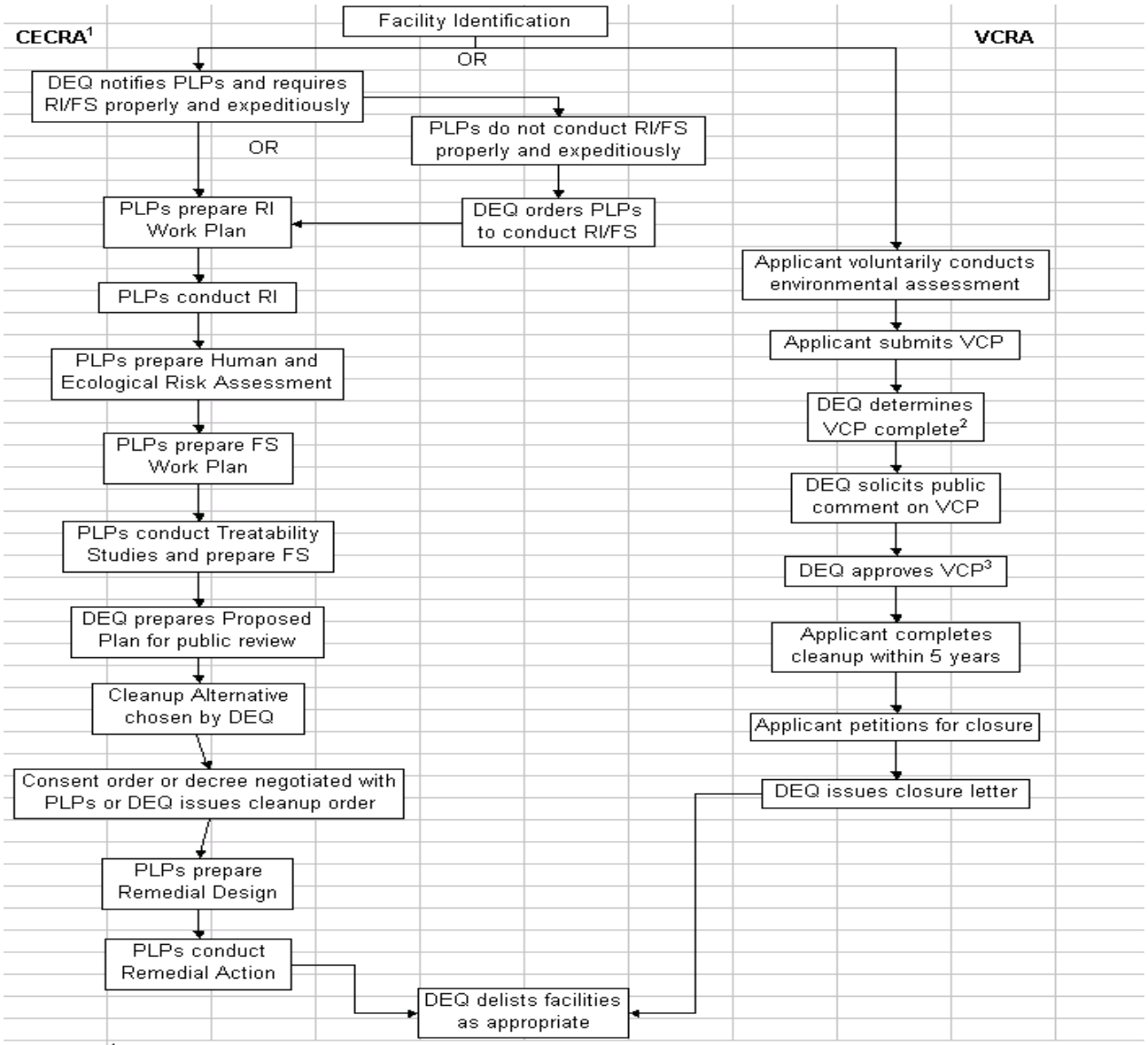
Historically, the federal Superfund law taxed the chemical and petroleum industries and the money in this tax fund is referred to as the "Superfund." Subsequently, that tax expired in 1995 and Congress has provided reduced funding out of the federal general fund. All federal sites are eligible for federal funding. Responsible parties, however, are generally required to perform and pay for cleanup. DEQ enters into cooperative agreements with EPA for federal funds to address federal Superfund sites and to assess sites for possible federal listing. These funds are primarily used to oversee and direct the cleanup work of responsible parties. EPA then recovers both EPA and DEQ oversight costs from the responsible parties for the sites. Recovered costs are placed back into the Superfund to be used at other sites.

The state is authorized to spend state money to clean up state (CECRA) sites only after determining no responsible parties are able or willing to fund investigation and cleanup. However, there are not sufficient funds to exercise this authoirty.

In 1985, the Montana Legislature established the Environmental Quality Protection Fund (EQPF). The EQPF is a revolving fund in which all penalties, damages and costs recovered under CECRA are deposited. The EQPF can be used only to fund activities relating to the release of a hazardous and deleterious substance. The 1987 Legislature passed a bill which appropriated 4 percent (raised to 6 percent in 1994) of the Resource Indemnity Trust interest money beginning in July 1989 for DEQ activities at CECRA sites. Effective July 1, 1999, the 6 percent allocation was increased to 9 percent to ensure that the environmental quality protection fund was held harmless by reductions of the net funding coming into the RIT.

What is Montana's Voluntary Cleanup Program?

The 1995 Montana Legislature amended the Comprehensive Environmental Cleanup and Responsibility Act (CECRA), creating the Voluntary Cleanup and Redevelopment Act (VCRA) (Sections 75-10-730 through 738, MCA). VCRA formalizes the voluntary cleanup process in the state. It specifies application requirements, voluntary cleanup plan requirements, agency review criteria and time frames, and conditions for and contents of no further action letters (see Figure 2-2).



[1] Additional public comment may be solicited, interim actions that are consistent with the final remedy may be conducted, and PLPs may petition for allocation under CALA at any time in the CECRA process.
[2] A VCP may require more than one revision to be deemed complete.
[3] A PLP with an approved VCP may petition for allocation under CALA.

CECRA = Montana Comprehensive Environmental Cleanup and Responsibility Act	RI = Remedial Investigation
VCRA = Montana Voluntary Cleanup and Redevelopment Act	FS = Feasibility Study
CALA = Montana Controlled Allocation of Liability Act	VCP = Voluntary Cleanup Plan
DEQ = Montana Department of Environmental Quality	PLP = potentially liable person

The act was developed to permit and encourage voluntary cleanup of facilities where releases or threatened releases of hazardous or deleterious substances exist, by providing interested persons with a method of determining what the cleanup responsibilities will be for reuse or redevelopment of existing facilities. Any entity (such as facility owners, operators, or prospective purchasers) may submit an application for approval of a voluntary cleanup plan to the DEQ. Voluntary Cleanup Plans (VCPs) may be submitted for facilities whether or not they are on the CECRA Priority List. The plan must include (1) an environmental assessment of the facility; (2) a remediation proposal; and (3) the written consent of current owners of the facility or property to both the implementation of the voluntary cleanup plan and access to the facility by the applicant and its agents and the DEQ. The applicant is also required to reimburse the Department for any costs that the state incurs during the review and oversight of a voluntary cleanup effort.

The act offers several incentives to parties voluntarily performing facility cleanup. Any entity can apply and liability protection is provided to entities that would otherwise not be responsible for site cleanup. Cleanup can occur on an entire facility or a portion of a facility. The DEQ cannot take enforcement action against any party conducting an approved voluntary cleanup. The DEQ review process is streamlined: the DEQ has 30 to 60 days to determine if a voluntary cleanup plan is complete, depending on how long the cleanup will take. When the DEQ determines an application is complete, it must decide within 60 days whether to approve or disapprove of the application; this 60 days also includes a 30-day public comment period. The DEQ's decision is based on the proposed uses of the facility identified by the applicant and the applicant conducts any necessary risk evaluation. Once a plan has been successfully implemented and DEQ costs have been paid, the applicant can petition the DEQ for closure. the DEQ must determine whether closure conditions are met within 60 days of this petition and, if so, the DEQ will issue a closure letter for the facility or the portion of the facility addressed by the voluntary cleanup.

Figure 2-2. VCRA Cleanup Process Flow Chart

DEQ = Montana Department of Environmental Quality VCP = Voluntary Cleanup Plan

[1] Voluntary cleanups requiring less than 24 months require 30-day review; those requiring 24-60 months require 60 days.

[2] A VCP may require more than one revision to be deemed complete.

[3] DEQ may require changes based on public comment prior to approval or may not approve the VCP.

[4] Applicants are required to pay DEQ oversight costs for the voluntary cleanup before DEQ will issue a closure letter.

The DEQ does not currently have a memorandum of agreement (MOA) with the Environmental Protection Agency (EPA) for its Voluntary Cleanup Program.

The DEQ has produced a VCRA Application Guide to assist applicants in preparing a new application; this guide is not a regulation and adherence to it is not mandatory.

As of February 2006, the Department listed 36 sites within the VCRA program. The DEQ maintains a registry of VCRA facilities on its website (See also Appendix ?).

What is the Controlled Allocation of Liability Act (CALA) Program?

CALA - Introduction

The Montana Legislature added the Controlled Allocation of Liability Act (CALA; §§ 75-10-742 through 752, Montana Code Annotated (MCA)) to the Comprehensive Environmental Cleanup and Responsibility Act (CECRA; §§ 75-10-701 through 752, MCA), the state Superfund law, in 1997. The department administers CALA including the orphan share fund it establishes. The following is a brief description of the CALA process.

CALA History

Under both state and federal Superfund, liability is strict, joint, and several (§ 75-10-715(1), MCA). In 1995, the Montana Legislature required a study of joint and several liability. The department formed a study group around four stakeholder caucuses: public and environmental interest groups; potentially liable persons (PLPs) (including business and industry); state and federal agencies; and local governments. As a result of the committee's work, two bills were proposed to the Legislature and ultimately, with minor modifications, were passed as CALA.

CALA

CALA is a voluntary process that allows PLPs to petition for an allocation of liability as an alternative to the strict, joint and several liability scheme included in CECRA. CALA provides a streamlined alternative to litigation that involves negotiations designed to allocate liability among persons involved at facilities requiring cleanup, including bankrupt or defunct persons. Cleanup of these facilities must occur concurrently with the CALA process and CALA provides the funding for the orphan share of the cleanup. Since CECRA cleanups typically involve historical contamination, liable persons often include

entities that are bankrupt or defunct and not affiliated with any viable person by stock ownership. The share of cleanup costs for which these bankrupt or defunct persons are responsible is the orphan share. Department represents the interests of the orphan share throughout the CALA process.

The Orphan Share Fund

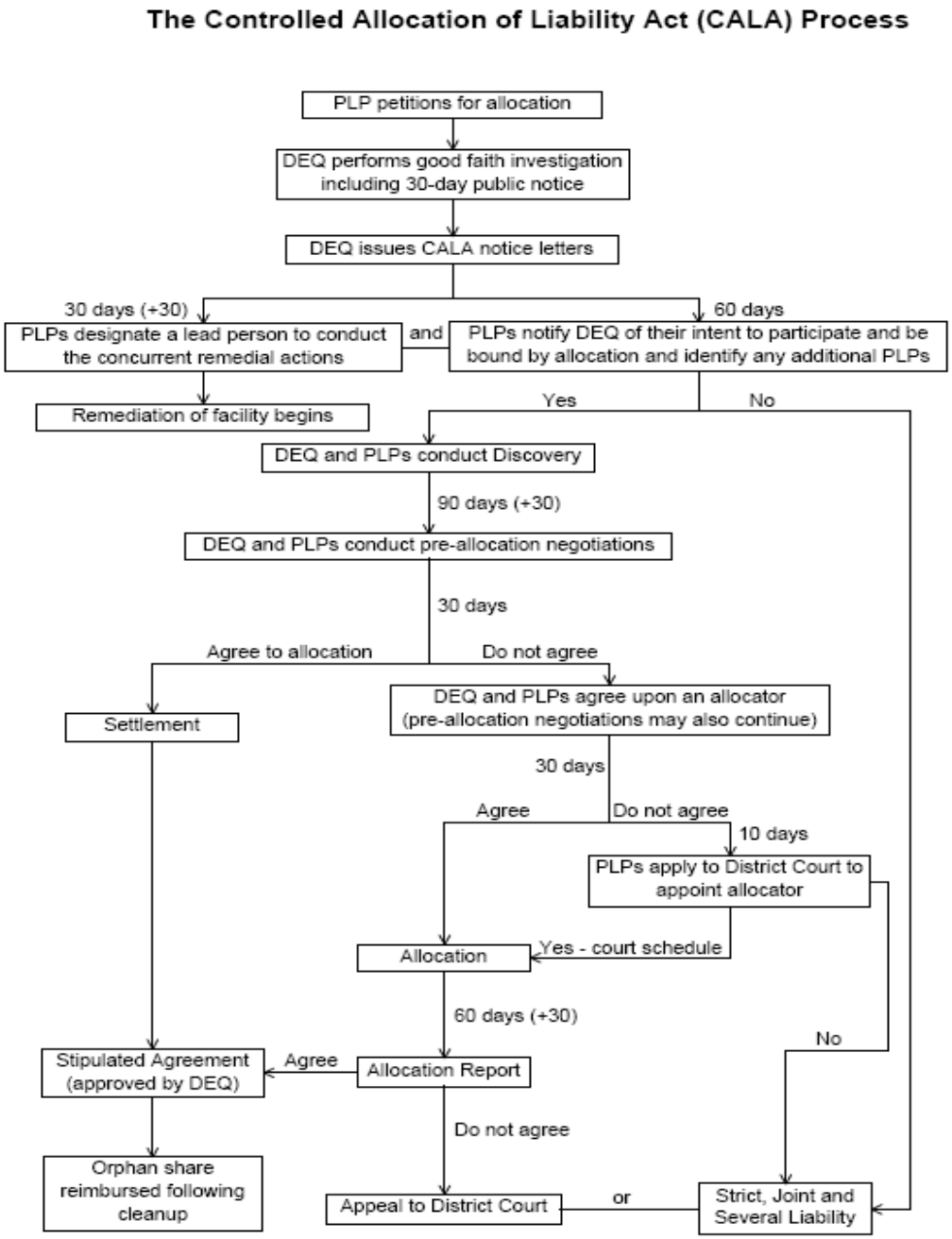
The funding source known as the orphan share fund is a state special revenue fund created from a variety of sources. These include an allocation of 8.5 percent of the metal mines license tax, certain penalties and additional funds from the resource indemnity trust fund and 25 percent of the resource indemnity and groundwater assessment taxes (which will increase to 50% when the RIT reaches $100 million). The current balance of the Orphan Share Fund is around $4 million and revenues projected for the rest of this biennium are about $2 million.

In the absence of a demonstrated hardship, claims for orphan share reimbursement may not be submitted until the cleanup is complete. This ensures that facilities are fully remediated before reimbursement. The result is that a PLP could be expending costs it anticipates being reimbursed for some time before the PLP actually submits a claim.

The CALA Process

CALA was designed to be a streamlined, voluntary allocation process. For facilities where a PLP does not initiate the CALA process, strict, joint and several liability remains. Figure 2-3 is a flowchart outlining the basic CALA process. The flowchart does not include some details like the additional fifteen days the PLPs have to designate a lead person if Department rejects their original choice. However, the flowchart does provide all the major steps in the CALA process. Any person who has been noticed as being potentially liable as well as any potentially liable person who has received approval of a voluntary cleanup plan can petition to initiate the CALA process. CALA includes fourteen factors to be considered in allocating liability. Based on these factors causation weighs heavily in allocation but is not the only factor considered. The process contains numerous checks and balances to ensure the use of the funds is not abused.

Figure 2-3


The Controlled Allocation of Liability Act (CALA) Process
PLP petitions for allocation
DEQ performs good faith investigation including 30-day public notice
DEQ issues CALA notice letters
30 days (+30)
60 days
PLPs designate a lead person to conduct the concurrent remedial actions
and
PLPs notify DEQ of their intent to participate and be bound by allocation and identify any additional PLPs
Remediation of facility begins
Yes
No
DEQ and PLPs conduct Discovery
90 days (+30)
DEQ and PLPs conduct pre-allocation negotiations
30 days
Agree to allocation
Do not agree
Settlement
DEQ and PLPs agree upon an allocator (pre-allocation negotiations may also continue)
30 days
Agree
Do not agree
10 days
PLPs apply to District Court to appoint allocator
Allocation
Yes - court schedule
60 days (+30)
No
Stipulated Agreement (approved by DEQ)
Agree
Allocation Report
Do not agree
Orphan share reimbursed following cleanup
Appeal to District Court
or
Strict, Joint and Several Liability

3: Montana Superfund Statistics

Superfund Sites by the Numbers

As Figure 3-1 illustrates, Montana's Landscape is dotted with federal and state superfund sites. The basic numbers are as follows:

Number of CECRA sites since inception of the program = 293

Number of current CECRA sites = 210

Number of delisted CECRA sites = 83

Number of current maximum priority CECRA sites = 6

Number of current high priority CECRA sites = 50

Number of current medium priority CECRA sites = 76

Number of current low priority CECRA sites = 54

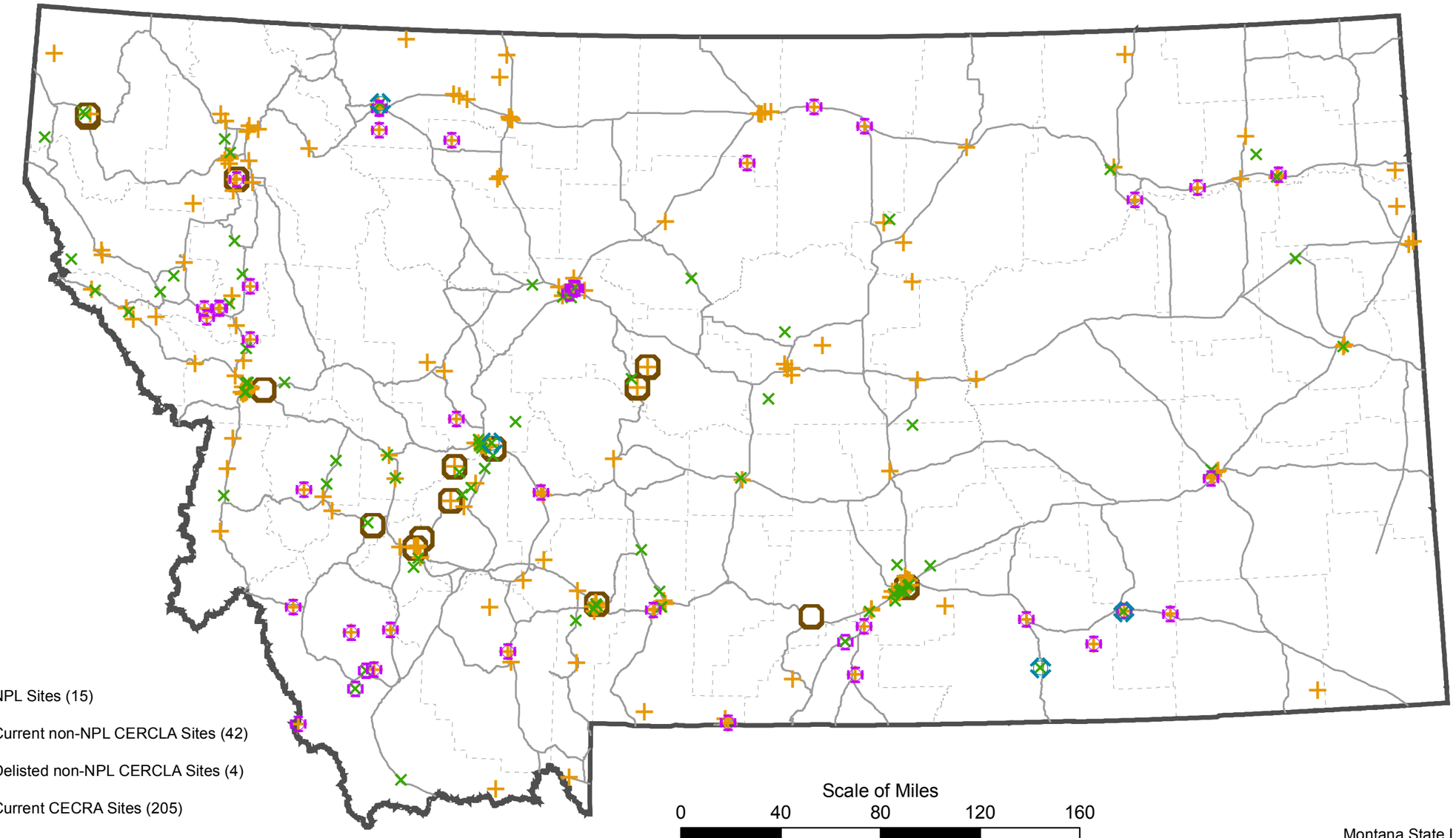
Number of current O&M priority CECRA sites = 1

Number of current NFA priority CECRA sites = 5

Number of current Referred priority CECRA sites = 18

Number of current Federal National Priority List Sites = 15

State and Federal Superfund Sites in Montana



Montana State Library
Natural Resource Information System
Map #06leg0008 -- April 14, 2006

Sites Listed and Delisted by Year

Table 3-1, breaks out the State CECRA sites listed and delisted by year. In 1996, an inordinately large number of sites (66) were delisted. According to DEQ, a full time staff person in 1996 was assigned to review all of the listed site files to determine whether each individual site was appropriately listed. The result of that effort was an administrative house cleaning that delisted most of those 66 sites. A number of the sites should have never been listed in the first place based on a number of factors including: information gaps; some sites were being addressed by other clean-up programs; and some sites had been previously cleaned up through voluntary efforts.

Table 3-1: CECRA Sites Listed and Delisted by Calendar Year

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
Total Listed	287	1	4	0	0	1	0	0	0	0	293
Sites Delisted	69	5	1	1	1	2	0	0	3	1	83
O&M	0	0	1	0	0	0	0	1	1	0	1
NFA	44	4	1	1	1	2	0	0	3	1	57(-5)
Referred	47	0	0	0	0	0	1	0	0	0	18

Table 3-2: CERCLA NPL Sites Listed and Delisted by Calendar Year

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
Total Listed	7	0	0	2	1	2	1	1	0	0	14
Sites Delisted	0	0	0	0	0	0	0	0	0	0	0
O&M Actions	3	0	0	1	0	0	0	0	0	0	4

Superfund Site Activity Numbers

Table 3-3 provides a year by year comparison of the number of State CECRA activities conducted at CECRA sites. Table 3-4 provides a yearly comparison of activities conducted on NPL sites.

Table 3-3: State CECRA Activities by Calendar Year

2006 Summary of CECRA ACTIVITIES conducted at CECRA sites, by Calendar Year
This table does not reflect ongoing oversight activities at maximum and high priority sites
and for voluntary cleanups – it only accounts for Actions Completed. Terminology is defined below.

Actions – Fiscal Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
RI/FS CECRA	193	12	11	10	9	5	9	4	5	1	259
RI/FS VCRA	29	1	0	2	0	1	0	0	1	0	34
Interim Actions CECRA	29	2	4	3	6	3	0	1	2	0	50
Interim Actions –VCRA	7	4	1	3	1	0	0	0	1	0	17
ROD- CECRA	21/0	2/0	2/0	1/1	2/0	2/0	1/1	2/0	0/0	0/0	33/2
ROD – VCRA	9	3	11	4	1	1	0	0	1	0	30
Other	29	9	9	6	7	3	3	4	5	2	43
Total Actions	317	33	38	30	26	15	14	12	14	3	502

This table is based on the DEQ database which has evolved over time. Different compilers have used different assumptions or terminology resulting in different "lumping and splitting" of the data from report to report. When work load allows – there will be a reconciliation of data and the associated terminology through time. Previous tables (esp. 1996) have not separated the subset of VCRA reviews from CECRA reviews.

The following categories of data from the 2006 database have been combined to generate this table:

RI/FS includes Environmental Assessments, Expanded Site Investigations, Feasibility Studies, Follow-up Site Investigations, Health Risk Assessments, Preliminary, Screening, and Initial Investigations, Remedial Investigations, Site Investigations and Treatability Studies.

Interim Actions includes Interim Actions, Site Fencing, Security Fence Construction, Removals,

ROD includes Remedial Actions- separated at CECRA sites as RA#/ROD#.

Other includes Not Specified, Inspections, Ownership investigations, oversight, Hazard Rank Scoring, Remedial Design, Sampling Events, cleanup plans, and work plans.

Table 3-4: Federal CERCLA Activities by Calendar Year

2006 Summary of CERCLA ACTIVITIES conducted at NPL sites, by Calendar Year

This table does not reflect ongoing oversight activities at maximum and high priority sites and for voluntary cleanups. – it only accounts for Actions Completed. Terminology is defined below.

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
Total Listed	7	0	0	2	1	2	1	1	0	0	14
Sites Delisted	0	0	0	0	0	0	0	0	0	0	0
O&M Actions	3	0	0	1	0	0	0	0	0	0	4

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
RI/FS CERCLA	20	1	0	0	0	0	1	2	4	0	28
Interim Actions CERCLA	0	0	1	2	1	0	0	1	2	1	8
ROD- CERCLA*	15	1	2	0	1	2	1	2	2	1	27
Other	1	0	1	1	1	0	0	0	0	0	4
Total Actions											

*ROD includes records of decision as well as construction completion, remedial Actions and remedial designs

RI/FS includes remedial investigations and feasibility studies as well as expanded site investigations, health risk assessments, initial investigations, preliminary investigations, screening site investigations and site investigations and treatability studies; and Proposed Plans.

Interim Actions include Emergency actions and removals as well as ATSDR consultations.

Other includes hazard tank scoring, unspecified actions.

O& M Actions include 5-year reviews – conducted 5 years after remedial action construction is complete.

The database used to generate the table of federal actions is incomplete.

4: Six Detailed Case Studies

Introduction

Early on in the HJR 34 Study process the EQC Agency Oversight Subcommittee made a decision to select a diverse cross-section of state and federal superfund sites for detailed study and deliberation. The Subcommittee held panel discussions with stakeholder participants on six sites. Those sites included:

* Bozeman Solvent Site
* Livingston/Burlington Northern Site
* Brewery Flats Site in Lewistown
* Lockwood Site
* S&W Sawmill Site in Darby
* Rimini-Ten Mile Site

Panel participants generally included the following stakeholders: a DEQ or EPA project manager, a local government representative, potentially responsible party representatives, a citizen group representative, an environmental consultant representative, and a local government representative. Each stakeholder panelist was asked to address the following questions to stimulate discussion:

1. What has been your experience regarding the site clean-up process (good, bad, indifferent)?

2. Given your experience with this site, what policy and/or implementation suggestions do you have regarding improving the state superfund process?

3. What advice would you give a local community that just found out that they had superfund site within their jurisdiction?

The Subcommittee also requested that the University of Montana conduct a detailed survey of a broad list of stakeholders affiliated with each of the six sites. The Subcommittee generated a list of survey questions that were used by the University (see Appendix F).

Bozeman Solvent Site

Site Quick Facts:

Date Listed:	March 9, 1994
Date Delisted:	NA
Priority:	Maximum Priority Site
RI:	Yes (Start date: 09/11/96; end date: 10/04/99)
FS:	No
ROD:	No
# of Interim Clean-up Actions:	6
Number of Project Officers:	5

Site Description and History

Bozeman Solvent Site (BSS), originating at 1625 West Main Street in northwest Bozeman, is a residential and commercial area with an approximately 700-acre contaminated groundwater plume. Leakage of chlorinated solvents, including tetrachloroethylene (PCE), trichloroethylene (TCE) and dichloroethylene (DCE) from the Buttrey Shopping Center (BSC) septic system and sewer line are possible sources of contamination. A dry cleaning facility at the shopping center and two automotive repair facilities were connected to the same sewer line/septic system.

Soil contamination occurs at approximately 10 feet below ground surface and deeper in the septic and sewer line area. Groundwater is shallow and is contaminated for approximately 2.75 miles north of the BSC, to the East Gallatin River. Deeper portion of the aquifer are contaminated also.

The BSC includes a variety of active commercial facilities and is surrounded by commercial and residential areas. About one-half of the area over the plume is on city water supply, which comes from surface water and is not affected by the contamination. The other half of the area uses groundwater wells. Public water supplies and private drinking water wells in the latter area are contaminated. Liable parties for the site are providing alternate water to affected users. Vapors from contaminated soils and groundwater have not been found to migrate into buildings.

In 1989, sampling by the Montana Department of Health and Environmental Services (MDHES) Water Quality Bureau (WQB) identified a public water supply well contaminated with PCE, TCE and DCE. Subsequent 1989 and 1990 sampling by WQB indicated the BSC septic system/sewer line was a possible source of contamination.

In 1990, MDHES prepared a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Preliminary Assessment to evaluate the National Priority List (NPL) eligibility of the site. Further CERCLA investigation was recommended.

In 1992, MDHES conducted a CERCLA Site Inspection to determine the NPL eligibility of the site by determining background groundwater quality and contaminant levels in drinking water wells, and providing adequate quality assurance and quality control to substantiate previously collected data. EPA subsequently recommended a hazard ranking system package be prepared for the site. The BSS continues under State Superfund process with a "maximum priority" status. The BSS remains on the CERCLA Information System Database (CERCLIS) and EPA has not declared the site "no further action."

Also in 1992, as required by MDHES legal order, the consultant for Skaggs Alpha Beta and Jewel Companies, Inc. (collectively known as American Stores) removed the septic tank and its contents, installed a vapor extraction system to remediate contaminated soil near the septic system, provided bottled water to people with impacted drinking water wells, and monitored groundwater quality for one year.

In 1993, liable parties initiated voluntary actions to identify other possible sources and investigate the extent of groundwater contamination. As required by a second MDHES legal order, American Stores and the City of Bozeman provided permanent alternate water to some people whose drinking water was contaminated. This action is ongoing with the extension of city water to the North 19th Street Interchange area and along Frontage Road. In addition, the order required continued quarterly groundwater monitoring.

In 1994, MDHES and American Stores conducted an irrigation study to determine the impact of irrigating lawns and gardens with contaminated groundwater. MDHES conducted follow-up sampling. The City of Bozeman voluntarily replaced the sewer line at BSC.

In 1995, liable parties conducted additional investigations for private litigation

purposes, including sampling of sewage effluent and installation of additional monitoring wells. In December 1995, the City of Bozeman voluntarily installed another soil vapor extraction system to remediate contaminated soils adjacent to the old sewer line. The system has recovered 144 pounds of solvents to date and is pulsed periodically. In June 1995, the City of Bozeman voluntarily prepared a data summary report.

In 1995, some citizens filed a "notice of intent to sue" under the citizens' suit provisions in CERCLA and RCRA. The citizens are seeking reimbursement for their expenses (i.e. connection to city water) related to their wells becoming contaminated. One of the liable parties has settled with the citizens.

In March 1996, the Montana Department of Environmental Quality (DEQ; formerly MDHES) initiated negotiations with American Stores (also called Jewel Food Stores, Inc.) and the City of Bozeman for an administrative order on consent to perform the remedial investigation (RI) and feasibility study (FS) for the site. Negotiations with both parties failed. In July 1996, the City of Bozeman entered into a memorandum of agreement with DEQ to perform the RI and FS. RI sampling was conducted during the fall of 1996. In December 1996, a technical advisory committee was established to oversee the RI groundwater modeling effort.

In 1997, the City of Bozeman submitted a RI report and a draft Feasibility Study Work Plan. In August 1997, the Gallatin City-County Board of Health petitioned the Montana Department of Natural Resources and Conservation (DNRC) for a groundwater control zone in and near the area of the plume. DNRC issued the BSS Controlled Groundwater Area Order in June 1998. The City of Bozeman voluntarily proposed to line a portion of the irrigation ditch at the BSC.

In 1999, the City of Bozeman completed the expansion of the municipal water supply line along American Simmental Way. By the summer of 2000, all but one business had connected to the municipal water supply. The RI report was final in September 1999. Also in 1999, the City of Bozeman and American Stores (now known as Albertsons) reached a settlement in federal district court allocating their past, present, and anticipated future costs and activities at the BSS.

In 2000, the Feasibility Study Work Plan was finalized and DEQ drafted the Baseline Risk Assessment Work Plan (BRAWP). DEQ amended the second order, which requires the City of Bozeman and American Stores provide an alternate municipal water supply to all affected residents and businesses within the BSS,

including the northern portion of the plume. The City of Bozeman and American Stores proposed to modify the long-term groundwater monitoring plan.

In 2001, DEQ issued the preliminary Environmental Requirements, Criteria, or Limitations (ERCLs) and continues to move forward with completion of the BRAWP and FS.

In 2005, the City of Bozeman and Albertsons jointly submitted a draft baseline risk assessment.

In 2006, the City of Bozeman submitted a draft Feasibility Study Report.

Semiannual groundwater monitoring is ongoing for select monitoring wells and domestic use wells.

Site Attributes

Site and Process Attributes	**Bozeman Solvent Site**
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PRP	√
Public Entity PRP	√
PRP with Resources	√
Bankruptcy Proceedings	
CALA Process	
Voluntary Cleanup	
Litigation	√
Project Officer Turnover	√
Active Local Citizen's Group	√
Active Local Government	√
TAG Grant	
Brownfields Money	
State Grant Money	

Orphan Share Funding	
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights[3]

Who Participated?

The Bozeman Solvent Site panel discussion had a diverse mix of stakeholders including:

* DEQ representatives (Project Manager, Section Supervisor, and Division Administrator)
* PRP representatives (City of Bozeman, Jewel/Albertsons)
* Environmental Consultants (representing both the PRPs and the Citizens Group)
* Citizen's Group Representative
* DNRC Controlled Ground Water Representative

Panel Perspectives

DEQ noted a number of challenges in dealing with this site. Litigation between the City of Bozeman and Jewel Stores created delays. Turnover among consultants and multiple consultants involved with the site also create delays. State jurisdictional issues created problems early in the process when the site was transferred from the Water Quality Division to Superfund Section within DEQ. Changes over time to the site have created challenges (i.e., growth and the development). Local issues such as extending city water were problematic. DEQ went beyond its statutorily required public involvement activities with this site. DEQ submitted a number of documents for the public to comment on. DEQ noted that the public participation process takes additional time and effort.

Limited resources have been a big problem on the Bozeman Solvent Site. There have been 5 different project officers assigned to this site. There have been extended periods of time where there were no project managers because of

[3] The panelist comments have been summarized and paraphrased. Any omission or inaccurate paraphrasing is the sole responsibility of the legislative staff person who put this report together.

hiring freezes, funding issues, and reallocation of resources to higher priority sites or voluntary cleanup sites.

Private Potentially Responsible Parties (PRPs) and their environmental consultant noted frustration and disappointment with the lack of activity on the site since 1999. Specifically, delay by DEQ in responding to PRP submitted documents is a problem. The private PRPs submitted a document to DEQ in 1999, but it wasn't until 2004 that DEQ responded. According to the private PRPs, this illustrates that it is important that there be adequate funding for a stable staff at DEQ. Without adequate funding, DEQ cannot function in the capacity in which it needs to respond in an appropriate and timely way. According to the private PRPs, communication is critical. There has to be an open flow of communication and there has to be a responsiveness on the part of all parties. The chronology of this site shows examples of both good communication and bad communication. Litigation was protracted between the City of Bozeman and the private PRP (Jewel/Albertsons), which created a number of issues. However, one of the benefits resulting from the litigation was a better understanding of the site (litigation concluded in 1999).

The private PRPs noted that they provided money for DEQ oversight and that money has not been maximized. The private PRPs did say that lately, there has been positive progress on the site.

The City of Bozeman was also a PRP which created some unique issues. The City's experience with the process was initially one of being overwhelmed by the DEQ requests for information, finding experts in a number of areas to make up for lack of expertise on-staff, and not having any idea of the magnitude of the financial liability. Later, as the City's efforts, both voluntary and under order, were targeted to safeguard public health and minimize further damage to the natural resource, the City was given no obvious recognition from any quarter. The site remained a high-priority site (i.e. not re-scored), the City sewer ratepayers were upset at the large increases on their bills, and the citizens' group expected more from the City.

The City of Bozeman had "luxuries" that towns in Montana are not likely to have: a (small) technical staff (Engineering Office), a full time staff attorney, and an enterprise fund with rate setting ability. It is apparently the nature of the underlying Superfund legislation, but pretty quickly resources were being expended on two fronts: the problem and litigation. There was a lengthy period when "dueling experts" were preparing documents for submital to DEQ, using

everyone's valuable time and resources.

City observations regarding DEQ staff work on the Bozeman Solvent Site:

> DEQ was interested in making sure all activities would meet Federal Superfund requirements.
> DEQ implied the inevitability of the site becoming a Federal Superfund site.
> DEQ was somewhat willing to amend their orders in response to input.
> DEQ was not particularly helpful in explaining the process to the locals.
> DEQ did not seem to understand rules and regulations to which local governments are subject in their day-to-day operations.
> DEQ were "slaves" to public opinion, which seemed to slow down the decision making process.

The City noted that as with the Rimini-Ten Mile site in Helena, not everyone affected was interested in "government solutions". At Bozeman Solvent Site there were at least three owners who refused City water.

The Citizen Group representatives also expressed frustration with the process. There was an acute frustration with the actions (or lack of action) on the part of the City of Bozeman. The Bozeman City commission ignored impacted citizens. The Citizen Group noted that DEQ was extremely helpful. One of the Citizen Group representatives noted that she has grandchildren that have Crohn's disease that in her opinion, was most likely caused by contaminated water. She noted that health issues with these sites can be very serious.

The Citizen Group representatives noted that environmental regulations are designed to protect people. In this case, the system has failed to provide a proper recourse for impacted citizens. According to the Citizen Group, there was no proactive voluntary action on the responsible parties' part at the beginning of the process and that the PRPs dragged their feet at the beginning. In addition, according to the Citizen Group, a lot of biased work plans were initially submitted by consultants. The Citizen Group expressed overall frustration with dealing with recalcitrant responsible parties.

The Department of Natural Resources representative on ground water control areas noted that it is important to have public meetings initially to educate the public about the site. DEQ should be willing to petition for a controlled ground water area, if necessary. Parties should carefully consider the conditions put on a controlled ground water area and how to enforce those conditions. Those

conditions should be flexible. In Bozeman, the drilling community needed to be more involved in the controlled groundwater process. DNRC and DEQ should provide expertise to impacted citizens in the controlled ground water area.

Livingston/Burlington Northern Site

Site Quick Facts:

Date Listed:	January 1, 1987
Date Delisted:	NA
Priority:	Maximum Priority Site
RI:	Yes (start date: 10/01/85; end date: 01/01/94)
FS1:	Yes (start date:12/26/91; end date: 01/30/98)
FS2:	Yes (start date:12/26/91; end date: 01/21/98)
ROD:	Yes (start date: 09/22/98; end date: 09/01)
# of Interim Clean-up Actions:	9
Number of Project Officers:	6

Site Description and History

The Burlington Northern Livingston Shop Complex (BN Livingston), an active railyard facility, is located in Park County, Montana. The majority of the site is within the boundaries of the City of Livingston. The facility is approximately 2 miles long and 0.5 miles wide, and includes locomotive and rail car repair and maintenance shops. Except for the years 1986 and 1987, the industrial facility has operated since it was built in 1883. Washington Corporation purchased the complex in from Burlington Northern (BN) in 1987 and has upgraded and improved operations for Livingston Rebuild Center (LRC) and Montana Rail Link (MRL). In 1994, Washington Corporation sold LRC to a private owner, and in 2000, LRC became Talgo-LRC, LLC.

Previous waste management activities and operating practices by facility operators contaminated soils and groundwater. Primary contaminants are chlorinated solvents dissolved in groundwater and diesel fuel dissolved in and floating on top of the aquifer. Chlorinated solvents were spilled and disposed of on the ground surface. On-site wastewater treatment plant sludge, containing chlorinated solvents, was disposed of in unlined pits. Locomotive refueling, and spills during

refueling operations, contributed to soil and groundwater contamination. Leaks from underground storage tanks (USTs), piping, and leaking drain lines and manways also impacted the onsite soil and groundwater. Cinders, sludges and other solid wastes were disposed on-site in a cinder pile, which contains asbestos. In 1985, MDHES required BN to investigate the potential for diesel fuel leaking into soil and migrating to groundwater. BN complied with the request by installing and sampling monitoring wells throughout the site. Diesel fuel was found in several monitoring wells, and volatile organic compounds (VOCs) were found in monitoring and municipal wells.

In 1987, BN contractors installed monitoring wells, piezometers, and hydrocarbon recovery trenches near potential contamination sources to monitor for contamination in groundwater and recover fuel that was spilled during freight train refueling.

In 1988, MDHES performed a CERCLA preliminary assessment (PA) to evaluate the nature of the contamination, potential pathways and receptors, and the facility's potential for inclusion on the National Priorities List (NPL). The PA indicated substantial diesel fuel and solvent contamination at the facility. Also in 1988, BN contractors performed a soil-gas survey at the facility to investigate source areas and attempt to correlate groundwater contamination with soil-gas VOC concentrations.

MDHES issued an administrative order in 1988, requiring BN to remove all USTs, the associated piping, and contaminated soils from the site. BN Contractors shipped about 1,000 cubic yards of soil offsite for treatment.

Also in 1988, MDHES sampled and detected small amounts of VOCs in two municipal wells. These wells were removed from service in 1988 to eliminate contamination in the city water supply. In 1990, BN helped the City of Livingston construct two new wells outside of the contaminated groundwater plume. In 1992, BN helped the city extend a city water line along the northeast site boundary to connect city shops and homes to the city water supply.

EPA completed a CERCLA site investigation (SI) in 1989 to determine if the facility had the potential to be listed on the NPL. EPA completed a listing site investigation (LSI) in 1990 to gather additional information and data for developing a hazardous ranking score (HRS) for the facility. In January 1994, EPA issued an HRS for the site. The BN Livingston Shop Complex facility has been proposed for the NPL.

In 1989, MDHES began sampling indoor air at private residences within the groundwater contamination plume to determine the extent of air-borne contamination to nearby populations.

In 1989, MDHES and BN signed a consent decree to investigate the facility and agreed on the interim remedial measures work plan (IRMWP) to characterize contamination and to perform interim removal actions. Except where indicated below, BN's contractor conducted all activities with oversight from MDHES. The following interim actions were conducted:

> In 1989 and 1990, BN contractors contained approximately 50,000 cubic yards of WWTP sludge from four unlined pits. Offsite shipment of the sludge was completed in 1992.
>
> LRC and MRL replaced and sleeved leaking drain lines and manways in 1989.
>
> In 1990, BN removed about 60 cubic yards of petroleum-contaminated gravel from the Yellowstone River near BN's discharge pipe.
>
> In 1990, MRL installed a track pan system to collect oil and drippings from idling locomotives.
>
> BN completed excavation and offsite shipment of approximately 12,000 cubic yards of sludge in 1993.
>
> Between 1990 and 1993, BN contractors removed 2,700 gallons of diesel fuel from the aquifer while testing various diesel recovery technologies.
>
> In 1991, LRC began the process of washing, sealing, and retrofitting the on-site grit chambers with smaller steel containers so that they might be used for something other than wastewater storage.
>
> During 1992, BN contractors removed asbestos from the surface of the cinder pile.
>
> Soil vapor extraction systems were installed in 1992, and, as of 1997, had removed approximately 3,200 pounds of solvents from the soil.

In addition to the actions performed under the IRMWP, other primary investigations and activities performed include: a private well survey (1992), a risk assessment (1993), basement gas monitoring (1991 to 1993), surficial soil sampling (1992), and monitoring well installations. BN contractors, under MDHES oversight, performed all of these actions except for the risk assessment, which was done by MDHES contractors.

MDHES approved the final remedial investigation report in March 1994. MDHES received the draft feasibility study (FS) report for primary hydrocarbons (diesel fuel) in March 1993, but additional treatability study work was necessary and the document was finalized in 1998. MDHES received the final FS for soil and groundwater in September 1998.

On September 22, 1998, the Montana Department of Environmental Quality (DEQ – formerly MDHES) issued its Proposed Plan for public comment. After considering public comment on the Proposed Plan, DEQ released the Record of Decision for the BN Livingston Shop Complex in September 2001. The selected final remedy includes cleanup or screening levels for all known contaminants at the facility, monitored natural attenuation of VOCs and dissolved petroleum in groundwater, SVE treatment of VOC contaminated soils, and free product recovery. The remedy includes additional investigations, remediation alternatives analysis, and implementation of a DEQ-approved remedy for contaminants posing unacceptable risks to human health, safety, and the environment that were not addressed during earlier investigations.

BNSF conducts semi-annual groundwater monitoring at the Livingston Shop Complex. The depth to water and to free product, if present, is measured. Groundwater samples are analyzed for volatile organic compounds (VOCs) and petroleum compounds. Annual groundwater monitoring reports are available at the information repositories.

As of September 2004, DEQ has initiated negotiations to modify the Consent Decree to implement the Record of Decision. To initiate negotiations, DEQ issued a draft modified Consent Decree and a draft Statement of Work for the facility. The draft Statement of Work describes the work required to implement the Record of Decision. The August 9, 2005 Spring Statement of Work identifies Record of Decision tasks that BNSF will complete under the existing partial consent decree. On April 17, 2006, DEQ terminated negotiations for the remaining clean up tasks. DEQ will develop the remaining work plans and schedules, and BNSF will be given the opportunity to implement the work. If

BNSF chooses not to implement the work, then DEQ will complete the clean up.

BNSF completed an interim action at the cinder pile in the railyard May 2005. The 6.6-acre pile has been regraded and capped. Vegetation and drainage of the cinder pile will is monitored quarterly, and a fence is installed around the perimeter of the pile to prevent trespassers from damaging the cap. The first quarterly inspection indicates the cap integrity is satisfactory.

BNSF conducted indoor air monitoring in December 2005 and collected soil gas samples in April 2006 as part of an indoor air investigation of chlorinated solvents potentially migrating from contaminated groundwater. The sample results are currently pending laboratory analysis. The results of the soil gas investigation will determine if further investigation or installation of home mitigation systems is warranted.

Quarterly groundwater monitoring is ongoing. Future groundwater monitoring will be expanded as necessary to evaluate monitored natural attenuation and determine the extent of the plume boundary. Expanded groundwater sampling is required to complete the investigation phase of the project. The goal is to obtain sufficient information about the aquifer characteristics to proceed with remediation.

DEQ's CECRA program is the lead regulatory program for the facility and has ranked it a maximum priority.

Site Attributes

Site and Process Attributes	**Livingston/BN Site**
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PRP	√
Public Entity PRP	
PRP with Resources	√
Bankruptcy Proceedings	
CALA Process	

Voluntary Cleanup	
Litigation	√
Project Officer Turnover	√
Active Local Citizen's Group	√
Active Local Government	√
TAG Grant	√
Brownfields Money	
State Grant Money	
Orphan Share Money	
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights

Who Participated?

The BN/Livingston Site panel discussion included the following stakeholders:

* DEQ representatives (Project Manager, Section Supervisor, and Division Administrator)
* PRP representatives (Burlington Northern and BN's Environmental Consultant)
* City of Livingston Representative
* Citizen's Group Representative
* Former DEQ Project Manager

Panel Perspectives

DEQ noted a number of successes and challenges in dealing with this site. The successes included removal of leaking underground fuel storage tanks, early replacement of public water supply wells before they were contaminated, and capping of the cinder pile. The challenges have included changes in risk assessment and cleanup technology over time, new information on additional risks associated with the site, third party litigation, available resources, staff turnover, and maintaining an interested community. DEQ has gone beyond minimum public

participation requirements for this site, which takes substantial time and effort. The PRP has not always incorporated DEQ comments within the work products.

There have been six different DEQ project managers assigned to this site.

The PRPs over all experience with DEQ is that DEQ takes its responsibilities very seriously and that the DEQ staff are very dedicated and work very hard at trying to get things done right. The reason that progress has been so slow on the site is regulatory in nature and not because of the PRP. Most observers would agree that the process has not moved forward at a reasonable pace at the BN/Livingston site. The consent decree was signed in 1989 and the record of decision was not issued until 2001 -- 12 years later. The record of decision defers many remedial actions and calls for a lot more study. It has taken 4 years to draft a statement of work. The statement of work dropped out of site for three years because of staff turnover at DEQ. Slow progress at site has been a result of staff turnover or staffing limitations at DEQ as well as the natural desire to find the answers to all of the questions before initiating cleanup. DEQ is working at a level of detail that is more characteristic of an engineering consultant than a regulator.

In doing site remediation and cleanup for over twenty five years, and the PRPs have never been involved in a cleanup site where everyone knew the answers to all of the questions before people got out there and implemented cleanup in the field. To do so would result in an endless data acquisition loop as each new set data that is acquired begs additional unanswered questions. Perfection in site characterization is unobtainable.

According to the PRPs, Superfund is designed to achieve tangible results in a timely manner. When an evolution occurs in technology and law over time, it causes DEQ to reevaluated the site. This has led to backtracking on the superfund process, even when it is not technically warranted.

Again, according to the PRPs DEQ responsiveness to PRP documents is lacking. DEQ sets a deadline for work plan submittals, and the PRPs meet those deadlines and then those documents don't get reviewed by DEQ in a timely manner.

The PRPs noted that the Citizen Group in Livingston has been a positive force in the process. The PRPs also stated that DEQ has a good track record with working with local communities and explaining the risks associated with the site.

The City of Livingston representative noted that the City depends on DEQ a lot, that the City and DEQ have a great working relationship, and that the City really appreciates all the work DEQ has done over the years. It has been frustrating that the cleanup process has taken such a long time. There was little thought on the City's and other stakeholders' part about the impact that the site has on future community growth issues.

The Citizen Group representative noted that an EPA Tag Grant created the Citizen's Group. It allowed the Citizen Group to hire a consultant to interpret what is going on at the site and to translate complex information into a usable format for the average Livingston citizen.

The Citizen Group encouraged interim actions to occur in order to get some on-the- ground cleanup work. Limitations in DEQ's oversight capabilities (turnover) created delays and has resulted in an inconsistent process. Legal review, litigation, and negotiations, have all contributed to delays in cleanup at this site. The DEQ is not the only party at fault regarding the delays. The PRP has been recalcitrant in some cases throughout this process.

According to the Citizen Group, the DEQ has been stellar at communicating with the citizen group and local elected officials about the clean up process. DEQ had gone above and beyond trying to make sure that the public is informed at every opportunity.

Livingston needs more money for these cleanup efforts. The Citizen Group representative noted that a higher priority should be placed on remediation not only from an environmental stand point, but an economic development stand point.

The former DEQ project manager noted that continued investigation necessary, but DEQ has a lot of legal and political pressure that create delays. There is also a bottleneck problem at DEQ. One person has to review the work products before they goes out. This has resulted in a huge work load for that person.

See Appendix G for recent communications between Burlington Northern and DEQ regarding site cleanup.

Brewery Flats Site in Lewistown

Site Quick Facts:

Date Listed:	NA
Date Delisted:	NA
Priority:	NA
Brownsfield:	Yes
VCRA:	Yes
Number of Project Officers:	1

Site Description and History

The Brewery Flats Lewistown Facility (Facility) is located along the west bank of Big Spring Creek one-mile south of Lewistown on Route 238. The Facility is a former Chicago, Milwaukee, St. Paul/Burlington Northern railroad switching yard and roundhouse that ceased operations in 1987. The property was then purchased by George Berg and is currently managed by a Chapter 7 Bankruptcy trustee on his behalf. Operations included the fueling and servicing of engines and general site maintenance resulting in soil contamination with petroleum hydrocarbons and some metals including arsenic and lead and groundwater contamination with petroleum hydrocarbons and metals.

In 1986, Montana Fish, Wildlife and Parks (FWP) collected fish tissue samples along portions of Big Spring Creek and discovered elevated levels of PCBs in the fish.

In 1994 and 1996, Braun Intertec Corporation (water supply pipeline contractor) detected traces of petroleum hydrocarbons and lead in four of the six test pits along the proposed waterline corridor. The test pits were sampled for petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), PCBs, and lead.

In 1997, the Montana Bureau of Mines and Geology (MBMG) assisted FWP and Lewistown residents with the sampling for PCBs along Big Spring Creek. Four of the thirteen samples collected had elevated concentrations of PCBs.

In January 1998, the Environmental Protection Agency (EPA) and the Department of Environmental Quality (DEQ) assisted the Montana Power Company with the collection of 15 sediment samples from Big Spring Creek and adjacent to Brewery

Flats. All 15 samples contained detectable levels of PCBs.

In March 1998, DEQ collected another 11 sediment samples from Big Spring Creek and adjacent to Brewery Flats. Again, all samples contained detectable levels of PCBs.

In April 1998, DEQ and MBMG collected three sediment samples from Big Spring Creek and adjacent to Brewery Flats. In addition several test pits were installed at Brewery Flats. The sediment samples had detectable levels of PCBs, however, none of the test pit samples contained PCBs.

In 1999, the EPA completed a site investigation (SI) in the vicinity of the roundhouse and a Brownfields Assessment of the Brewery Flats Facility north of the roundhouse. Surface water, groundwater, surface soils, subsurface soils and a series of five sumps were investigated. Discrete phase diesel was found in the groundwater while the surface soils were contaminated with lead. PCBs, pesticides, PAHs, and other metals were also detected at levels determined to be a potential threat to groundwater.

In 1999, Conoco (potentially liable persons for the property directly south of Brewery Flats) detected petroleum hydrocarbons in soils during an investigation at an oxbow area on the southern portion of the Brewery Flats Facility.

In 2001, the City of Lewistown completed an investigation that included determining the extent of petroleum contamination in the soils and groundwater in the discrete phase diesel area. In addition, the extent of contamination for the five sumps was determined to be contained within the sumps and didn't impact the surrounding soils or groundwater.

In 2002, the City of Lewistown completed an investigation of the oxbow area that included additional surface water, groundwater, sediment, and subsurface soil sampling. Iron was detected in the surface water samples at concentrations greater than the water quality standards.

In 2003, DEQ conducted a targeted Brownfields assessment (TBA) for additional groundwater sampling (filtered and unfiltered) for metals. The results determined that numerous wells had exceeded water quality standards for iron and manganese and one well near the discrete phase diesel area exceeded water quality standards for arsenic.

In 2003, the City of Lewistown conducted interim removal actions on the discrete phase diesel area and a portion of the surface soil lead contamination.

In 2004, DEQ conducted another TBA to determine the bioavailability of the lead contamination in the surface soils.

In August 2005, DEQ approved the City of Lewistown's voluntary cleanup plan (VCP). The VCP determined that additional removals were required in the discrete phase diesel area and surface soil lead contamination area. These removals were completed in January 2006. The VCP also determined that iron, manganese, and arsenic groundwater contamination would require further investigation at a later date.

The City of Lewistown has received three Resource Development Grants from the Montana Department of Natural Resources and Conservation (DNRC) for site investigations, voluntary clean up plan (VCP) development and cleanup of the Facility. In addition to the DNRC grants, DEQ also assisted with the cleanup with $151,000 of Brownfields funding. Confirmation of successful revegetation is the only VCP cleanup requirement left at the Facility.

The Brewery Flats Facility is listed on the Voluntary Cleanup and Redevelopment Act (VCRA) Registry and its current status in "cleanup underway."

Site Attributes

Site and Process Attributes	**Brewery Flats Site**
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PRP	
Public Entity PRP	
PRP with Resources	
Bankruptcy Proceedings	√
CALA Process	
Voluntary Cleanup	√
Litigation	

Project Officer Turnover	
Active Local Citizen's Group	√
Active Local Government	√
TAG Grant	
Brownfields Money	√
State Grant Money	√
Orphan Share Money	
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights

Who Participated?

The Brewery Flats Site panel discussion included the following stakeholders:

* DEQ representatives (Project Manager, Section Supervisor, and Division Administrator)
* Environmental Consultant for the City of Lewistown and Citizen's Group
* City of Livingston Representative
* Citizen's Group Representative

Panel Perspectives

DEQ noted that community tenacity was instrumental to getting this site cleaned up. Communication and coordination was excellent between all parties. There were funding hurdles to deal with that created delays. Sometimes the City moved forward to quickly. The City also changed its vision for the property over time which had an impact on the voluntary cleanup plan. Turnover has not been an issue. There has been only one DEQ project officer on this site during the voluntary cleanup process.

The environmental consultant for the City noted that funding issues were a big obstacle. Redundant information requirements can be also cause delays and additional expense. Hard copy comments on the voluntary cleanup plan are cumbersome and expensive. The DEQ should submit comments electronically.

The City of Lewistown representative noted that it is time to celebrate and showcase a property that was a liability but is now a tremendous community asset. Overall the City's experience has been positive. There has been a great partnership between state, federal, and private entities. The Reclamation and Development Grants from the Legislature were critical to the success of this project. It is imperative to have a consultant with technical expertise to help a community out in these situations.

The Citizen's Group representative said that it was a long haul to go through the remediation process, which is not unexpected given the complexity of the process. The City of Lewistown really stepped forward on this and was very proactive. The voluntary cleanup program is a great policy to have in the State's arsenal.

Lockwood Site

Site Quick Facts:

Date Listed for CECRA:	May 8, 1998
Date Listed for CECRA:	December 1, 2000
Date Delisted:	NA
Priority:	Maximum Priority Site/NPL Site
RI:	Yes (start date: 05/02; end date: 06/03)
FS:	Yes (start date: ; end date: 07/06/04)
ROD:	
# of Interim Clean-up Actions:	
Number of Project Officers:	1

Site Description and History

Site Name, Location, and Description

The Lockwood Solvent Groundwater Plume Site (LSGPS), CERCLIS ID# MT0007623052, is a 580-acre site on the outskirts of Billings, in Yellowstone County, Montana, that has been found to have chlorinated solvent contamination in soil and groundwater. Current land use within the LSGPS is characterized as residential, commercial, and "light" industrial. Examples of commercial and light industrial businesses in the area include trucking, vehicle repair, truck tank manufacturing, chemical repackaging, machine shops, and auto salvage. At this

time, the primary source of domestic use water in the LSGPS is from the Lockwood Water and Sewer District Public Water Supply. However, some full-use domestic, other domestic (such as irrigation), commercial, and nondomestic use water is known to come from the shallow alluvial aquifer via several individual wells. Previous investigations by the Montana Department of Environmental Quality (DEQ), the United States Environmental Protection Agency (EPA), and others indicate chlorinated solvents at the LSGPS have adversely affected groundwater, surface water, soil, soil vapor, and indoor air. The primary contaminants of concern are the volatile organic compounds tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). On December 1, 2000, EPA placed the LSGPS on the National Priorities List. DEQ was the technical lead for the project through the completion of the ROD and EPA is the enforcement lead for the LSGPS. The Superfund trust fund has financed the activities at the site to date.

History of Site Activities

Beall Trailers Inc. (Beall) manufactures and repairs tanker truck trailers, primarily to transport asphalt. From 1978 to 1990, trailers were cleaned with a solution of dissolved TCE and steam prior to maintenance and/or repair. The wastewater from the steam clean bay was discharged to a septic system and drain field.

Brenntag West Inc. (Brenntag) (formerly hci Dyce Chemical) is a chemical re-packaging and distribution company. Under previous owners, the property was developed and operations began in 1972. Historic releases of what are believed to be PCE and possibly TCE, as well as petroleum products and other organic compounds, characterize the Brenntag Source Area.

Enforcement Activities

On December 16, 1999, EPA issued the first Request for Information letters to Beall and hci Dyce Chemical pursuant to Section 104(e)(2) of CERCLA. EPA then issued a follow-up Request for Information letters to Beall and hci Dyce Chemical on May 25, 2000. The information requests included questions regarding ownership history, locations of historical and current facilities, retention basins, chemical storage areas, all operations involving hazardous chemicals, waste generation and disposal practices, trade name and quantities of chemical products used, and all leaks, spills or releases. On August 23, 2000, EPA issued letters of General Notice of Potential Superfund Liability to Beall and hci Dyce Chemical. General notice letters notify the recipients of their potential liability under Section 107(a) of CERCLA. Liability includes responsibility for all costs incurred by the government in responding to any release or threatened release at the LSGPS as

well as natural resource damages. Subsequent to the issuance of this Record of Decision, EPA will initiate negotiations for implementation of the Selected Remedy.

Investigation History

In October 1986, Lockwood Water and Sewer District personnel discovered the presence of benzene and chlorinated solvents in their water supply wells. That discovery led to the initiation of a number of investigations by DEQ of underground storage tanks and a petroleum pipeline in the vicinity of the Lockwood Water and Sewer District property. In June 1998, DEQ Site Response Section performed an Integrated Assessment of the LSGPS and provided bottled water to people with contaminated drinking water wells.

During the summer of 2000, EPA's Emergency Removal Program extended the public water supply line to the Lomond Lane area and 14 residences with contaminated wells were connected by August 2000. EPA also conducted indoor air sampling, provided mitigation for indoor air contamination, and continued groundwater monitoring. DEQ continued indoor air sampling on a quarterly basis through February 2002.

DEQ began the Remedial Investigation in 2002. The Remedial Investigation included surface and subsurface soil sampling, monitoring well construction and groundwater sampling, aquifer testing, surface water and sediment sampling, and indoor air sampling. Groundwater sampling for protection of human health and contaminant characteristics continues today. DEQ released the Remedial Investigation Report in June 2003 and completed the Feasibility Study in July 2004. In October 2004, EPA's Superfund Technical Support Program evaluated the groundwater and indoor air sampling results collected since the completion of the Remedial Investigation and Feasibility Study Reports.

Community Participation

Beginning in June 1998, DEQ asked residents to allow samples of water to be taken from private, residential, commercial, and industrial wells. On September 18, 1998, DEQ issued a news release advising residents of Lomond Lane and Doon Avenue their well water contained high levels of chlorinated solvents, including one solvent known to cause
cancer and several probable human carcinogens, and advised the residents not to drink the water. DEQ and EPA held a public meeting on May 12, 1999, at the Lockwood School to report on recent investigations into groundwater

contamination. In December 1999, EPA discussed its removal program activities at a public meeting in Lockwood.

DEQ personnel interviewed home and business owners in Lockwood from January 16 to 18, 2001, and then prepared a Community Involvement Plan in October 2001. The Community Involvement Plan identifies issues of concern to the local community regarding the LSGPS. Staff members from the Agency for Toxic Substances and Disease Registry (ATSDR) conducted interviews and an availability session in Lockwood on January 18, 2001, to provide a foundation for a Public Health Assessment and to guide ATSDR in planning their future activities at the LSGPS.

DEQ held two public meetings announcing the release of the Remedial Investigation Report in June 2003. The public meetings provided citizens a summary of the findings of the Remedial Investigation, the conclusions of the Risk Assessment, and an opportunity for their questions to be answered. The Feasibility Study was released in August 2004. Both documents can be found in the Administrative Record file and the information repository maintained at the MSU-Billings Library. DEQ mailed postcards to all interested parties announcing the availability of these two documents and provided newspaper ads in the Billings Gazette and Billings Outpost announcing the public meetings.

DEQ and EPA released the Proposed Plan for public comment on November 15, 2004. DEQ and EPA accepted written comments through January 14, 2005. DEQ provided a direct mailing to interested parties that included either a copy of the Proposed Plan or a postcard announcing the public comment period and encouraging individuals to visit the Administrative Record for a copy of the Proposed Plan. DEQ also provided a press release, newspaper ads, and television interviews. DEQ and EPA held a public meeting and hearing on Thursday, December 2, 2004, at the Lockwood School. DEQ presented the Preferred Alternative and moderated the public hearing during which the public verbally submitted comments, recorded by a court reporter, on the Proposed Plan. Approximately 20 people attended. All comments submitted to DEQ before January 14, 2005, are addressed in the Final Record of Decision, Part 3, Responsiveness Summary.

Description of the Selected Remedy

The Selected Remedy is a comprehensive approach for the remediation of groundwater and subsurface soil contaminated with chlorinated solvents. The two main source areas constituting principal threats are continuing sources of

contamination to the site-wide groundwater. Previous investigations by DEQ, EPA, and others identified two source areas with elevated concentrations of contaminants in soil and associated groundwater: the Beall and Brenntag properties. Focused remediation at the source areas will address the principal threat wastes posed by the site. Contaminated soils in these source areas will be treated to prevent further groundwater contamination. Contaminated groundwater will be contained to prevent further migration and treated to reduce contaminant concentrations. The following list summarizes the Selected Remedy components which are discussed in detail in the Final Record of Decision, Part 2, Section 9.

<u>Major components:</u>

- Site-Wide Elements
  - Long-Term Groundwater Monitoring
  - 5-year CERCLA reviews
  - Institutional controls
    - Controlled Groundwater Area
    - Deed Notices/Deed Restrictions
    - Community Awareness/Education
  - Risk Mitigation Measures
    - Continued potable well(s) groundwater monitoring and mitigation measures
    - Indoor air monitoring and mitigation measures
- Beall Source Area Groundwater and Plume Leading Edge
  - Treat with enhanced bioremediation
- Beall Source Area Soil
  - Treat vadose soil with soil vapor extraction
- Brenntag Source Area Groundwater
  - Contain and treat with a permeable reactive barrier (or other treatment/containment barrier technology determined by DEQ and EPA during Remedial Design to be equally effective in achieving performance criteria as set forth in the Final Record of Decision)
  - Treat with enhanced bioremediation
- Brenntag Source Area Soil
  - Excavate accessible vadose zone soil and accessible fine-grain saturated zone soil and thermally treat on-site
  - Treat inaccessible vadose soil with soil vapor extraction
  - Treat inaccessible saturated zone soil with chemical oxidation
- Site-Wide Groundwater

Treat with enhanced bioremediation followed by monitored natural attenuation

Statutory Determinations

The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the Remedial Action, is cost-effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

The Selected Remedy also satisfies the statutory preference for treatment as a principal element of the remedy (reduces the toxicity, mobility, or volume of hazardous substances as a principal element through treatment).

Because the Selected Remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, DEQ and EPA will conduct a statutory review within five years after initiation of Remedial Action to ensure that the remedy is, or will be, protective of human health and the environment.

Site Attributes

Site and Process Attributes	**Lockwood Site**
State Superfund Site	
Federal Superfund Site	
Combination State/Federal Site	√
Private Entity PRP	√
Public Entity PRP	
PRP with Resources	√
Bankruptcy Proceedings	
Orphan Share	
Voluntary Cleanup	
Litigation	√
Project Officer Turnover	
Active Local Citizen's Group	√
Active Local Government	
TAG Grant	

Brownfields Money	
State Grant Money	
Orphan Share Money	
State EQPF Cost Recovery Money	√
Federal Money	√

Panel Discussion Highlights

Who Participated?

The Lockwood Site panel discussion included the following stakeholders:

* DEQ representatives (Project Manager, Bureau Chief, and Division Administrator)
* EPA Representatives
* Environmental Consultant for the one of the PRPs
* Lockwood Water and Sewer District Representative
* Citizen's Suit Representative

Panel Perspectives

DEQ noted that there has been great cooperation between EPA and the PRPs on this site. The initial response to this maximum priority site was very effective. The cleanup process has been very efficient. Turnover has not been an issue. There has been only one DEQ project officer on this site.

EPA representatives noted that DEQ had taken the technical lead on the site and has done an excellent job. EPA representatives noted that they would follow up on allegations of illegal dumping of toxic chemicals.

The environmental consultant for one of the PRPs said that cooperation with DEQ has been great. The PRPs however, do have some frustrations. Costs associated with the remedial actions can be high and controlling costs can be an issue. PRPs would like to be more involved in the work plans. The PRPs would also like more time in terms of commenting on work plans. The PRPs have not been a part of the process in terms of why the information was being collected.

The attorney for the citizen suit expressed frustration with the delays in the process. The system is not very agile. The attorney disagreed with the perspective that PRPs have

been cooperative. According to the attorney, certain PRPs have been recalcitrant. The attorney alleged that a certain PRP falsified reports to EPA and DEQ regarding spills of chlorinated solvents. According to the attorney, litigation discovery documents show that there was deliberate dumping of barrels of toxic chemicals. The attorney noted that he conveyed this information to a governmental official. The attorney noted that it was the civil suit process has exposed this problem.

The attorney noted that the relationship between private folks that are impacted and their attorneys with the EPA and DEQ is important. The attorney said that it is important to preserve the rights of private individuals that are impacted. The savings clauses in federal CERCLA preserves private rights of action and prohibit PRPs from using the regulatory system to delay recourse by private individuals. The attorney noted that cleanup of the site as quickly and completely as possible is the best solution. Delay, the attorney said, almost always benefits the polluter by stretching out the costs.

S&W Sawmill Site in Darby

Site Quick Facts:

Date Listed:	August 14, 1989
Date Delisted:	NA
Priority:	High Priority Site
RI:	Yes (start date: 03/01/01; end date 09/01/04)
FS:	No
ROD:	No
# of Interim Clean-up Actions:	None (however, an action involving fencing was taken)
Number of Project Officers:	3

Site Description and History

S &W Sawmill is an inactive approximately 30-acre sawmill and where wood treating occurred from approximately 1961 to the 1990s. It is located about 0.5 miles north of Darby. Facility operators used pentachlorophenol (PCP) mixed with diesel or a similar carrier as a wood preservative. This mixture has extensively contaminated soil and groundwater at the site.

The site is in a mixed residential/industrial area on the north edge of the town of Darby. It is also about 0.25 miles west of the Bitterroot River. The nearest residence and domestic well are 500 feet away. Residents in the vicinity use groundwater for drinking water supplies. The groundwater plume (containing PCP, dioxins and furans, and petroleum) migrates north across Bunkhouse Road, and domestic wells are monitored. No domestic wells currently exceed the federal drinking water standards. The Site is comprised of parcels A, B, and D, and the offsite groundwater plume.

In 1984, Champion International sampled soil and groundwater onsite and discovered soil contamination (PCP).

In 1987, MDHES completed a CERCLA preliminary assessment (PA) of the site. The score suggested the site would rank too low to be listed on the NPL.

In 1988, Champion International performed a groundwater survey in the area. Water supply wells in the area were sampled to determine if polynuclear aromatic hydrocarbons (PAHs) or PCP were present. No contamination was detected.

In 1989, Darby Lumber completed a real estate environmental assessment that identified areas of soil contaminated by PCP and petroleum hydrocarbons at the site.

In 1990, the MDHES completed a CERCLA site investigation (SI) at the facility. PCP, PAH, and petroleum hydrocarbon contamination were found in on-site soils. No groundwater contamination was detected.

In 1990, CECRA completed a CERCLA phase II SI. Onsite groundwater contamination, including PCP and PAHs, was discovered.

In 1994, MDHES-CECRA re-sampled two on-site production wells. PCP and PAHs were detected in one of the wells.

In 1997, the Montana Department of Environmental Quality (DEQ; formerly MDHES) issued Notice Letters to liable persons. The noticed parties include Bitterroot Timber Industries, Champion International, and Darby Lumber Company.

In 1998 and 1999, Darby Lumber and Champion International (now International Paper) conducted phase I of the remedial investigation (RI) at the facility. Three offsite domestic wells were sampled and 12 monitoring wells were eventually installed. Actually, 4 of the 12 monitoring wells had been installed in previous investigations onsite. The phase I RI report was submitted to DEQ in 2000. DEQ required phase II of the RI in 2001 and it

was completed in 2002. The Final RI Report was completed and approved in November 2004.

Darby Lumber petitioned for allocation under CALA on 13 November 1998. In October 2000, DEQ issued notice letters for the CALA process to 6 parties. A CALA stipulated agreement was signed by six of nine total parties in May 2001. International Paper was designated the lead person for remediation of the facility. Darby Lumber subsequently filed for bankruptcy.

International Paper submitted a Draft Baseline Risk Assessment Work Plan in October 2002. DEQ provided comments on the draft and International Paper submitted a revised Work Plan in June 2005.

The DEQ-CECRA program is the lead regulatory agency for the site and ranked it a high priority. The current priority scoring for the site is H30N.

Site Attributes

Site and Process Attributes	**S&W Site**
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PRP	√
Public Entity PRP	
PRP with Resources	√
Bankruptcy Proceedings	√
CALA Process	√
Voluntary Cleanup	
Litigation	
Project Officer Turnover	√
Active Local Citizen's Group	
Active Local Government	
TAG Grant	
Brownfields Money	
State Grant Money	

Orphan Share Money	√ (Claims pending)
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights

Who Participated?

The S&W Sawmill Site panel discussion included the following stakeholders:

* DEQ representatives (CALA Coordinator, Section Supervisor, and Division Administrator)
* PRP Representatives (PRP and Environmental Consultant for PRP)
* Local Government Representative

Panel Perspectives

DEQ noted that the positives regarding this site included good PRP cooperation, positive community involvement, and that the CALA process has worked like it is suppose to work. The negatives regarding the site are staff resources and turnover and landownership issues that have interfered with the cleanup process. The project officer position for this site is currently vacant. It has been vacant since 2005. There have been three project officers assigned to this site since 1997.

The PRP emphasized that the studies have shown that the federal superfund program results in 75% of the money being spent on transaction costs as opposed to on the ground cleanup. It is a noble goal to clean up sites and protect public health, but there are lots of inefficiencies which create frustrations. At this site, technical issues have stalled the cleanup process. Lack of agency resources, turnover, and unrealistic project schedules have generated frustrations. Schedules are a two way street. The agency is very aggressive in forcing the PRP to stick to schedules for producing documents, but then the agency is not timely in reviewing the documents that the PRP produces. When 30 pages of agency comments come back to the PRP with a tight time line for our response, this is counter productive and inefficient.

Ownership issues are significant. There has been a bankruptcy and there are bankruptcy trustees. The CALA process got PRPs to the table and cut transaction costs, but there is uncertainty on whether orphan share money will be available.

Montana water quality standards for dioxin is much more strict than the federal safe drinking water standards. This creates issues not only for cleanup, but it also adversely impacts public perception.

The PRP asked how clean is clean? The PRP noted that you can't let these projects turn into endless science projects. We have to know enough to get this site cleaned up, but we can't know everything. There is a law of diminishing returns...i.e. the cost to cleanup the last 5% or 1% of the contamination can be high. We cannot overcome all of the issues. We may not be able to cleanup the ground water below the S&W site. Some times good enough has to be good enough in this business. Agencies have to recognize that there is always a second chance to revisit the site.

According to the PRP, DEQ is risk adverse. That is to say, DEQ is slow to approve things, is overly careful, and proceeds as if there is only one bite at the apple. DEQ has ultimate authority to reopen sites. At this stage of evolution of the remediation business, we know an awful lot about the remediation technologies that are out there and there are technologies you could employ that would not cause undue risk. Risk adversity is not a function of the individuals at DEQ, but of the system they work in. DEQ staff is not encouraged to move the site forward, they are not encouraged to take risks, and therefore, there is no reason to take those kinds of risks. In the remediation business, we take risks every day with capital and sometimes we fail, but by and large, it works and we learn a lot.

The PRP noted that the DEQ's modeling approach has multiple conservative assumptions on top of conservative assumptions that are not consistent with other state and EPA measuring models and that are not supported by what is measured in the field. Soil standards are out of wack. The PRPs has to arrive at a cleanup level in soil that ensures that water coming into contact with that soil doesn't exceed state water quality limits. DEQ should consider actual measured values and risk approaches as opposed to modeling.

The local government representative said that contaminated water wells are a concern. Well Drillers need to be in the loop. We need to notice these folks so they don't drill wells. Contamination of shallow ground water is also a concern. The site has a severe economic impact on Darby and is an eye sore for the community.

Rimini-Ten Mile Site

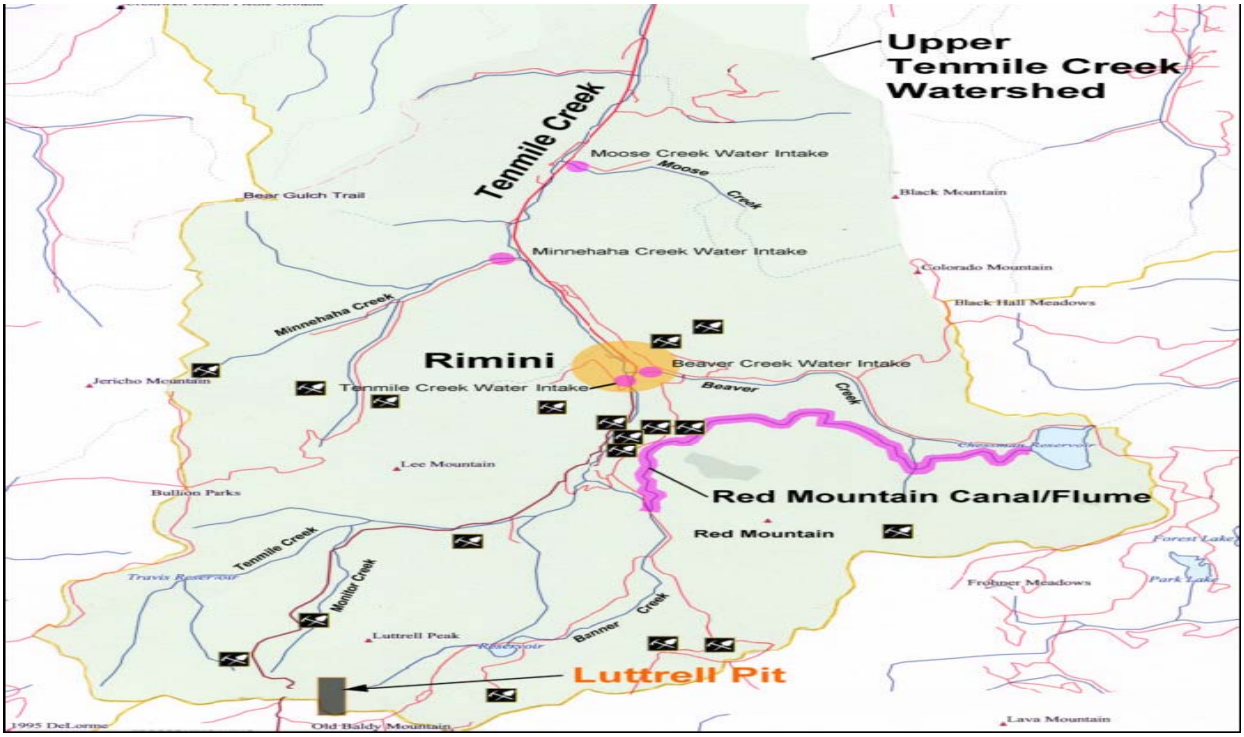
Site Quick Facts:

Date Listed:	October 22, 1999
Date Delisted:	NA
Priority:	NPL Site
RI:	Yes (Start date: 2000)
FS:	Yes(Start date: 2000)
ROD:	Yes (Signed 2002)
# of Interim Clean-up Actions:	3
Number of Project Officers:	1

Site Description and History

EPA added the Upper Ten mile Creek Mining Area to the Superfund National Priorities List on October 22, 1999, due to mining waste problems in the 53 square mile watershed. The small historic mining community of Rimini is located within the Superfund Site boundaries.

Contaminants of concern are heavy metals, primarily lead, copper and zinc, as well as arsenic. These contaminants pose potential risks to public health and the environment.



BACKGROUND

The Upper Ten mile Creek Mining Area site is located in the Rimini Mining District, southwest of Helena, Montana, and consists of numerous abandoned and inactive hard rock mine sites that produced gold, lead, zinc, and copper. Mining began in the Rimini Mining District before 1870 and continued through the 1920s.

Little mining has been performed in the Rimini Mining District since the early 1930s. The site boundary includes the drainage basin of Ten mile Creek upstream of the Helena Water Treatment Plant and includes tributaries that supply water to the plant's five intake pipelines. EPA identified 150 individual mine sites within the watershed boundary, of which 70 have been prioritized for clean-up. Many of these mine features are above the five City of Helena drinking water intakes which supply over 70 percent of the city's water.

RECENT HIGHLIGHTS AND ACCOMPLISHMENTS

1999 - Residents and others meet with EPA to request cleanup of mining wastes. EPA lists Site on the Superfund National Priorities List. Removal begins of high priority areas.

2000/2001- EPA completes the clean up the high priority areas (Red Mountain, Bunker Hill, Susie Peerless/Jenney/King and part of the Upper Valley Forge Mine sites) . EPA begins Remedial Investigation/Feasiblity Study. Results show high levels of arsenic and/or lead pose a risk to human health in most residential yards in Rimini and several properties in the Landmark subdivision. Most well water in Rimini is contaminated. EPA provides point-of-use water systems, evaluates alternatives for cleanup and identifies a preferred alternative.

2002 - EPA and Montana Department of Environmental Quality (DEQ) sign an Record of Decision (ROD) specifying that cleanup will include removal of the contaminated soils and mine waste and disposal in the Luttrell Repository. Cleanup will also include construction of new water and wastewater systems for Rimini. EPA and the Forest Service continue mine waste removals.

2003 - EPA begins cleanup of residential yards in Landmark Subdivision and water removal at the Lee Mountain Mine Site. Rimini water and sewer systems must be installed before residential yard cleanup begins. Wastes around home will be cleanup before working on remote waste sites.

2004 - EPA completed cleanup of Landmark Subdivision properties, began designing the water and wastewater system and continued its search for a potable water supply for the community.49,000 cubic yards of waste material were disposed of in the Luttrell Repository. Two of the cells (1,2) of the Repository are full and were closed in 2004.

2005 - EPA finalized designs and began construction of the wastewater treatment system and laid the sewer lines along the Rimini road as part of road cleanup. The community received a Technical Assistance Grant and hired a Technical Advisor.

As of March 2005, 348,000 cubic yards of waste from the Bunker Hill/Ten mile, Red Mountain, and Suzie mines in the Ten Mile watershed and the Buckeye/Enterprise, Bullion and Crystal mines in the adjoining Basin Creek watershed have been safely stored in the Luttrell Repository.

EPA has received funding for 2006 to complete residential yard contaminated soil removal and waste removal in Rimini Road, identify a potable water source and finalize designs for the water system for the community of Rimini.

CLEANUP APPROACH

The Upper Ten Mile Site is being cleaned up using a collaborative, watershed approach. To date, EPA has been unable to identify a potentially responsible party so the cleanup is being paid for with Federal funds. Cooperating agencies have combined resources to expedite a watershed cleanup. The U.S. Forest Service has taken the lead role in cleaning up wastes on its property within the Superfund Site boundary (Beatrice, Justice and Armstrong Mines). Where individual mines involve both Federal and private lands (Upper Valley Forge Mine), cleanup expenses are shared by EPA and the Forest Service. EPA and the Forest Service also share construction and maintenance costs of a joint mine waste repository. Throughout the cleanup, EPA continues to work closely with the Forest Service, State and local community.

EPA staff are coordinating with other state and federal agencies by addressing Clean Water Act problems related to mining wastes in the watershed that have been identified by the State. Ten Mile Creek is a priority for the State's Total Maximum Daily Load (TMDL) allocation.

Site Attributes

Site and Process Attributes	**Rimini-Ten Mile Site**
State Superfund Site	
Federal Superfund Site	√
Combination State/Federal Site	
Private Entity PRP	
Public Entity PRP	
PRP with Resources	
Bankruptcy Proceedings	
CALA Process	
Voluntary Cleanup	
Litigation	
Project Officer Turnover	
Active Local Citizen's Group	√
Active Local Government	√
TAG Grant	√
Brownfields Money	
State Grant Money	
Orphan Share Money	
State EQPF Cost Recovery Money	
Federal Money	√

Panel Discussion Highlights

Who Participated?

The Rimini-Ten Mile Site panel discussion included the following stakeholders:

* EPA representatives (Project Manager and Montana Office Director)
* City of Helena Representative
* Citizen Groups Representatives

Panel Perspectives

EPA representatives provided an overview of the site history. EPA representatives noted that under the federal superfund laws, EPA was not required to go through state permitting processes when cleaning up sites like Rimini-Ten Mile.

The City of Helena representative noted that the City is willing partner in this cleanup process as long as Helena isn't required to subsidize the process. There are always bumps in the road, but from the City's perspective the cleanup process has gone well.

The citizens of Rimini have been split on the EPA remediation process. Some citizens support the remediation process while others oppose it. It has been a very contentious issue. The citizen panel representatives that spoke before the Subcommittee represented both proponents and opponents to the remediation process.

Comparison of Site Processes and Attributes

Table 4-1.

Site and Process Attributes	Bozeman Solvent Site	Livingston/BN Site	Brewery Flats Site	Lockwood Site	S&W Site	Rimini-Ten Mile Site
State Superfund Site	√	√	√		√	
Federal Superfund Site						√
Combination State/Federal Site				√		
Private Entity PRP	√	√		√	√	
Public Entity PRP	√					
PRP with Resources	√	√		√	√	
Bankruptcy Proceedings			√		√	
CALA Process					√	
Voluntary Cleanup			√			
Litigation	√	√		√		

Project Officer Turnover	√	√			√	
Active Local Citizen's Group	√	√	√	√		√
Active Local Government	√	√	√			√
TAG Grant		√				√
Brownfields Money			√			
State Grant Money			√			
Orphan Share Money					√	
State EQPF Cost Recovery Money	√	√	√	√	√	
Federal Money				√		√

5: Evaluation and Analysis

What Defines Success for the State Superfund Process?

There have been an number of studies that have analyzed the elements or indicators that define success for the federal superfund program.[4] Success can be measure at a site level and at a programatic level. Some commentators have noted that the elements of a successful superfund site process at the most basic level include:

* Reducing risks at a site to an acceptable level.

* Removing or reducing contamination from land or water or other environmental media affected by contaminated sites and preventing future possible contamination or exposure.

* Cleanup is achieved in a cost effective manner.

* Communities are meaningfully involved in the decisionmaking process.

* The cleanup is implemented in an expeditious manner.

At a program level, indicators for success may include how resources are spent, how well the program communicates what is being accomplished, and how involved are community representatives and responsible parties in the cleanup and decision making process.[5] Overall effectiveness and efficiency are the keys to a successful program.

Panel Suggestions for Improving the State Superfund Process

During the Panel Discussions, participants were asked to provide suggestions on how to improve the state superfund process. Most of the suggestions were geared towards

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[4]Probst, Katherine, and Sherman, Diane, Success for Superfund: A New Approach for Keepting Score, Resources for the Future, (April 2004); NACEPT Superfund Committee Final Report (April 2004);Harris, Robert, and Wrenn, Grover, Making Superfund Work, Issues in Science and Technology, 1998; ELI, An Analysis of State Supefund Programs (Nov. 2002).

[5]Id.

improving the timeliness and efficiency of the cleanup progress. Organizationally, suggestions have been put into the following categories:

*Benchmarks for Success
*Timeliness and Efficiency
*Communication
*Community Involvement
*Cost of Cleanup
* Enforcement and Remuneration

Benchmarks and Accountability for Success

1. There should be a periodic evaluation of all sites to determine whether anything is happening or not.
2. Reevaluate a site after a certain period of time. Maybe the superfund site process is too cumbersome.
3. Independent audits on sites should be conducted by an independent party. The results of those audits and any corrective action should be reported to DEQ and the Legislature.
4. There should be goals and objectives for the PRPs and goals and objectives for timely review of documents by the DEQ. Time requirements for review may be necessary. Provide some deference to the review requirements in the voluntary cleanup plan.
5. A system of metrics be examined inorder to track successes and progress at various sites. Is this process productive in terms of moving sites to remediation and closure stage. Look at the Texas website as an example of measuring progress.
6. Accountability from all stakeholders is critical to successful site cleanup. Clear scope of what data is needed and a clear line on when that data is acquired we move to the next step. Reanalyzing sites and data doesn't allow us to move forward and get these sites cleaned up.
7. Implement a website and implement a metric i.e. for 1 to 100 where the process is on any given day.

Timeliness and Efficiency
1. There is an importance to having adequate funding for a stable staff at DEQ. Without adequate funding, DEQ cannot function in the capacity in which it needs to respond in an appropriate and timely way.
2. Other states streamline processes by delegating decision authority to the project manager to make decisions. Other states put compliance responsibility on the PRPs and

consultants as opposed to providing detailed review on every aspect of superfund site operations.
3. If there is turnover, maybe provide DEQ with authority to use outside consultants to keep up with the work.
4. Industry would support funding seasoned people expertise and more people at DEQ. Industry has offered to fund a position to expedite the cleanup projects. Compare project workload with other states.
5. DEQ should be able to edit documents electronically and send it electronically.
6. Permitting requirements can be waived under federal superfund law, we should be able to do the same for voluntary sites under the state superfund process. This would increase the efficiency of the process.
7. Agency needs to hire and retain good people and empower them to make decisions.
8. Agency needs to develop a process that relies more on contractors. EPA does it. The PRPs do it. These are technical issues that can be delegated. It is a cost-effective way to manage a program.
9. Change the system so that DEQ has a motivation to get sites resolved. But give DEQ direction on risk evaluation, the ability to take chances and perhaps make mistakes.
10. Voluntary program sites can trump higher priority sites because of statutory required time frame. This delays action on higher priority sites.

Communication
1. DEQ should sit down with stakeholders/PRPs in a facilitated setting to discussion what we can do to make this process better. Not a finger pointing session.

Community/Local Government Involvement
1. Provide an advocacy program within DEQ for impacted citizens.
2. Implementation of significant, targeted outreach to the affected unit of local government, specifically the governing body which is made up of lay people. Based on the State staff's broader experience, essentially coach the City Commission / Town Council up front that:

* similar sites have required $$$ over a period of X years;
* they will need specialized legal advice;
* they will need specialized environmental expertise;
* the advantages and disadvantages to voluntary actions;
* what happens if they simply do not have the resources to respond to the orders;
* what time frames they can expect for agency responses.

3.No particular legislative relief to the normal rules and regulations under which local government operates is needed, or advisable. However, financial assistance, perhaps modeled on the CDBG grant and loan program, for an affected community would be helpful. Also, legislative immunity for local governments under certain circumstances

would speed the process of identifying solutions for clean up (e.g. use of a POTW to dispose of low-level contaminated groundwater without fear of assuming a liability).

4. Develop partnerships, determine what the public benefits are for cleaning up the project. Economic development organizations in the community should get involved. Develop these properties. Set goals for cleanup.
5. Develop a process handout that explains how a community can go through the process would be helpful.
6. Clear clean up time line would be helpful.
7. Lots of technical terms to understand for citizens. Need to find a way to explain the process in an easy to understand manner.
8. Advise a community to organize itself to deal with site impacts.
9. Develop collaborative efforts at each site to involve all the stakeholders.

Cost of Cleanup

1. Oregon has garnered a reputation for getting sites to cleanup and closure. Risked based site closure. Codified a cost based analysis how much risk reduction there is for how much cost and then make a decision and go with it. The cost/benefit assessment is implied-- look to Oregon and Washington Laws to see if it is workable.
2. Institutional and engineering controls are very cost effective.

Enforcement

1. Provide DEQ with the muscle and horse power to take an emergency action and enforcement.
2. Way to take care of impacted citizens. No remuneration for direct expenses.
3. It is important to preserve the rights private individuals that are impacted. Savings clauses in federal CERCLA preserve the private rights of action for individuals. Prohibit PRPs from using the regulatory system to delay recourse by private individuals.
4. Put property notices to inform the public about contamination issues. The state needs to figure out a mechanism to prevent the contamination plume from being pulled off the site. Deed restrictions should be a part of the permanent remedy.
5. Institutional controls are a necessary and important component of many of these cleanups but not all. Alternate drinking water supplies, deed restrictions, prohibit future use, etc.
6. Current authority in the state superfund law does not give DEQ the authority to impose institutional controls only approve them and gives DEQ as a part of the remedy the ability to institute institutional controls.
7. Enforcement of institutional controls --how do we monitor institutional controls. There are no requirements in CECRA that require the state to go back and look at those institutional controls. This is an issue that the Subcommittee should look at. Deed restriction.

What are the Notable Successes Relating to Superfund Site Cleanup?

Elements noted in the panel discussions that contributed to a successful site cleanup process included:

1. Lack of DEQ project manager turnover.
2. Active citizen group and local government participation.
3. Cooperative PRPs
4. Continuity among all stakeholders from start to finish.
5. Adequate funding and resources.
6. TAG grants for citizen groups.
7. Clearly delineated scope of cleanup work.
8. Clear communication and cooperation among DEQ and the stakeholders.
9. No litigation.
10. Voluntary action.
11. Prompt interim remedial actions.
12. Clear cleanup guidelines.

What are the Notable Impediments Relating to Site Cleanup?

The panel discussions revealed the following potential impediments to site cleanup success:

1. Lack of adequate resources at DEQ.
2. High DEQ project manager turnover.
3. Micro-management concerns with DEQ staff and projects (insufficient decision making authority to project managers)
4. Moving target syndrome (technology, standards and regulations are changing and you never get a fix as to what the task is).
5. Paralysis by analysis.
6. Jungle of red tape -- is DEQ too bound up in regulations and procedures that DEQ cannot move forward?
7. Litigation
8. Uncooperative PRPs.
9. Complex site contamination.
10. Multiple PRPs.
11. Lack of money.
12. Rapid change (i.e., development) at the site over time.

13. Inactive citizens.
14. Lack of clear cleanup standards.

6: Survey Results

The EQC Agency Oversight Subcommittee was approached by Professor Robin Saha of the University of Montana to conduct a detailed survey of stakeholders from each of the sites evaluated in Chapter 4. Set out below is a summary of University of Montana's survey results.

May 24, 2006

MEMORANDUM

To: Montana Environmental Quality Council (EQC) Agency Oversight Subcommittee

From: Dr. Robin Saha, Assistant Professor, University of Montana

Subject: H.J.R. 34 Study – Preliminary Report on Student Research

This memo notifies the EQC Agency Oversight Subcommittee that my graduate students have conducted the research requested to support your investigation regarding House Joint Resolution 34 on challenges that occur at superfund sites under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the state Comprehensive Environmental Cleanup and Responsibility Act (CECRA), and the Voluntary Cleanup and Redevelopment Act (VCRA). Students have completed research for the six sites: Bozeman Solvent; Brewery Flats (Lewistown); Burlington Northern (Livingston); Lockwood Solvent; S&W Sawmill (Darby); and Upper Ten Mile Creek (Rimini). I summarize below the work completed and provide an initial analysis, which can be expanded where our data allows.[1] Also included for your consideration are some possible approaches to improve the state Superfund process.

Objectives The students' efforts focused on four primary objectives: (1) to understand what is working well with the Superfund process; (2) to understand the reasons for slow progress at the sites; (3) to understand communication difficulties among the various parties; and (4) and to suggest possible solutions to the problems identified.

Methods and Analysis Students were divided into 1 or 2 person teams to conduct research on one or more of the sites. For each site, in-person or phone interviews were conducted with 6 to 10 stakeholders, which generally included agency staff (DEQ and/or EPA), local officials, technical consultants, members of affected communities, and other knowledgeable persons (see attached interview protocol). Because of the limited number of students to conduct interviews, written surveys were distributed for the Burlington Northern – Livingston (BNLV) site. Interviews averaged between 1 and 1½ hours. Students took extensive notes or recorded interviews, which were subsequently analyzed to find areas of agreement as well as differences in perspectives among the stakeholders. Students also utilized the Subcommittee panel discussions, public records obtained from the DEQ, and other documents in conducting their analyses. Effort was made to identify stages of the process where stakeholders agreed the process worked well and not as well, and identify the contributing factors. The interviewees and the students also expressed ideas about how to reduce delays and communication difficulties.

Findings Each site is unique in terms of the nature of contamination, affected community, and parties involved. Thus, successes and challenges are somewhat unique to each site. Nevertheless, some factors and patterns that facilitate or impede progress at the sites were discernible. These are outlined below and summarized in the attached "Summary of Findings."

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[1] Steve Ackerlund, a technical consultant and one of the students in the class, *Community Responses to Toxic Contamination*, contributed to this summary. Some minor changes were made to this memo, which was originally submitted to the Agency Oversight Subcommittee on May 16, 2006.

Contributors to project success included the following:

1. Interim measures, such as providing safe water supplies, were used at Bozeman Solvent (CECRA), Lockwood Solvent (CERLCA/CECRA), Brewery Flats (VCRA), and BNLV (CECRA) to quickly take care of immediate human and ecological threats once known. However, in Lockwood community members felt that these steps could have been taken sooner and serious health risks avoided if investigations had been conducted sooner.

2. Community involvement was successful at certain sites and stages of the process. Involvement of dedicated, charismatic leaders, local government, or community-based organizations, appears to have played a strong role in moving the process forward at Brewery Flats, Rimini, and BNLV. For Rimini and BNLV, EPA Technical Assistance Grants (TAG) grants facilitated community involvement and helped to counteract distrust of regulatory agencies. However, community involvement was not always sustained, and agencies too often believed it was effective when affected communities did not.

3. Consistent and competent project management was widely viewed as critical to success and regular progress at Lockwood Solvent and Brewery Flats (see contributors to delay below for sites with project management concerns).

4. Inter-party cooperation characterized by productive communication helped move the process forward at certain times (Bozeman Solvent, Rimini, and Brewery Flats). The challenge is to sustain and build on such efforts at these and other sites, many of which evidenced conflict among Potential Responsible Parties (PRPs), agencies, and community members.

The main factors found to contribute to delay or lack of progress at Superfund sites include:

1. Agency staffing in DEQ (turnover, open positions, and skill-levels) was consistently reported as a significant contributor to delay. This concern was overwhelmingly cited as a major problem for Bozeman Solvent, S&W Sawmill, and BNLV, and a minor problem for Rimini and Brewery Flats sites. “Slow document review” was identified as one manifestation, though other reasons were commonly noted for tardy document turnaround (such as agency reluctance to exercise regulatory muscle and make decisions, and a generally over-cautious, over-detailed approach). Many interviewees attributed staff turnover and open positions to low salaries, and one implied a lack of qualified applicants. Although some felt that high workloads or bottlenecks at the sign-off level contributed to slow document review, we were not able to evaluate that assertion. Several consultants reported that DEQ project officers too often lacked technical expertise and experience needed to respond expediently. It was not possible, however, to systematically evaluate that claim either.

2. Limited funding available to DEQ to conduct on-site work was reported to impede progress, particularly if cooperation from PRPs is lacking (purported at BNLV and Lockwood), when multiple PRPs are litigating (Bozeman Solvent), or for a wide variety of situations where work on the site needs to be done but cannot due to lack of funding. This can limit regulatory options and impede agency responsiveness and timeliness in conducting work. For example, completion of a risk assessment (RA) reportedly stalled progress at Bozeman Solvent due to lack of funds. Stalled progress was also attributed to changes in federal funding commitments at the Upper Ten Mile site (Rimini). Even the Brewery Flats site (managed under the VCRA program and widely viewed as a success story) experienced

delay due to the annual cycle of Dept. of Natural Resources and Conservation (DNRC) Resource and Development Grants.

3. Debate over information needs and cleanup levels Debate over the type and amount of information needed to make decisions occurred frequently between DEQ and PRP consultants, and this constituted a major bottle neck in the process at Lockwood Solvent and BNLV. This difficulty is partially a function of the technical challenges of characterizing sites, determining a feasible approach to cleanup, and sometimes a desire by DEQ to have legally defensible data. Consultants tended to think data gathering should stop and work should begin when the source of contamination was known and tended to show concern for the cost of further studies. Less severe challenges of this type were noted for Bozeman Solvent, Brewery Flats, and Upper Ten Mile. Debate between community members, on the one hand, and DEQ and RPRs on the other, regarding the appropriate cleanup level was a major source of frustration in Lockwood. It is common and understandable for citizens to want 100% cleanup and zero risk, which is rarely if ever technically or economically feasible. Changes in technical and environmental standards, and cleanup technologies, also reportedly contributed to the difficulty of efficiently working through complex information. These contributors to delay can be compounded significantly with staff turnover and agency funding (cash flow) problems.

4. Litigation was reported as a major and minor contributor to delay for the Bozeman Solvent and Lockwood Solvent sites, respectively. In Bozeman, which had multiple PRPs, some felt that litigation damaged trust, communication, and sharing of information, and led to the phenomenon of "dueling consultants." Such contentiousness and duplication of effort inevitably leads to delay. Lockwood plaintiffs believed that litigation got the process moving by bringing attention to the site and providing residents with information, whereas RPs and some community members disagreed. They felt that it impeded the sharing of information and made agencies defensive.

5. Communication difficulties of a wide variety were noted, though only some seemed to contribute to delays, for example, a perception by community members of an ineffective working relationship between EPA and DEQ at Lockwood. Nevertheless, agency communication with affected communities was a major challenge that contributed to community frustration (though DEQ earned high marks in working with communities overall). Technical consultants were not rated much better, unless they worked for the community as TAG recipients. Communication about health risks and environmental standards proved to be the most challenging at Lockwood, Bozeman, and Darby. Drinking water standards are not solely based on protection of human health, leaving agencies unable to say that water is truly safe to drink, even if it is legally acceptable! Thus, community members often expressed a desire for more understandable and useful information about (general and site-specific) health risks, technical, and regulatory matters.

Solutions For each site, interviewees and student researchers suggested a number of approaches for addressing common challenges at Superfund sites. I have also identified additional approaches for improving the Superfund process that also mostly stem from the above findings. These options vary in the degree to which they are practical and feasible, suitable for statutory change, appropriate to legislative oversight, and legally permissible currently. These are shown in the attached Summary Table and are outlined below.

1. *Establish presumptive remedies and use interim actions more often and where appropriate* (not just in instances of imminent human health or ecological risks). Learn from prior

experiences at similar sites in Montana and elsewhere to identify and decide on appropriate remedies more quickly. Allow known problems to be addressed while additional investigations are ongoing.

2. *Adopt incentives for recruitment and retention of project officers*. Evaluate staffing needs at current or desired workloads at project officer and supervisory levels.

3. *Set and adhere to deadlines for agency document review.* Create mechanisms for making progress during project officer vacancies.

4. *Provide for more procedural flexibility within CECRA or encourage more effective use of alternatives to traditional processes,* such as under VCRA and the Controlled Allocation of Liability Act (CALA), and other collaborative processes such as multi-party negotiation and joint fact finding. Provide additional state funds to support such flexibility.

5. *Provide staff training or contract out services in risk communication, multi-stakeholder facilitation* when appropriate. Controversy appears to occur most frequently at sites that can affect personal property or health of community members. Anticipate rather than react to potential controversy using proactive risk communication and community involvement strategies.

6. *Develop a citizens' guide to CECRA and VCRA processes* and an electronic clearinghouse of current site information. Such actions will help citizens to more effectively engage in projects and obtain the information they desire.

7. *Initiate a TAG-like grant program* for community technical assistance and facilitation services to support outreach, communication, and enhanced community involvement.

8. *Set site-specific benchmarks* (performance measures), and evaluate or report progress toward them annually. This could overcome tunnel vision in project management, the natural tendency to lose site of the bigger picture when focused on the details.

9. *Set overall program milestones* (programmatic performance measures) for DEQ and require regular reporting that summarizes or evaluates progress toward them. If necessary provide adequate resources such that reporting requirements do not detract from project management tasks and supervision.

10. *Establish a more formal process for reclassifying sites* based on the effective use of interim measures so that sites can move out of the cumbersome CECRLA process, thereby allowing agency resources to be directed to the most important sites. Consider redefining "project complete" for sites with remedies that involve long-term treatment, maintenance or monitoring.

I look forward to the Subcommittee's comments and questions about this preliminary report. If desired and the data permit, I can also provide more analysis or specific information tailored to any of the topics addressed above. Finally, on behalf of the students and myself, I want to express our gratitude for this learning opportunity and the chance to assist the Subcommittee with your study.

Attachments: Summary of Findings (Table); Interview Protocol; Summary Reports

Summary of UM Findings for EQC HJR 34 Study

	Description			Successes				Challenges							Solutions										
Site	Status	Responsible Parties	Affected Communities	Interim Actions	Community Involvement	Project Management	Inter-party Cooperation	Staff Turnover/Personnel Concerns	Lack of State Funding	Slow Document Review	Litigation	ROD Deviations	Ineffective Communication	Debate on RI Information Needs	Increase Staff Funding	All Skills in "One Roof"/ Use Contractors	Interagency and Public Communication	Multi-stakeholder Facilitation	Improved Decision-making	Deadlines for Document Review	State Fund for Cleanup	Formal Yearly Project Evaluation	Presumptive Remedies	Project Reclassification[m]	Flexible TAG-like Program
Bozeman Solvent	Risk Assessment, Feasibility Study	✓	✓	✓	✓		✓[c]	●	●	●	●		○	○	✓	✓		✓	✓[g]	✓	✓	✓	✓	✓	
Lockwood Solvent	Remedial Design/Action	✓	✓	✓	✓[a]	✓					○		○	●				✓[b]			✓				✓
Upper Tenmile	Remedial Design/Action		✓		✓[j]		✓[d]	○	●[e]			○	●	○[h]	✓			✓	✓[f]						✓
Brewery Flats	Complete			✓[i]	✓	✓	✓	○		○				○				✓	✓	✓					✓
Burlington Northern	Remedial Design/Action	✓	✓	✓	✓[j]			●[k]						●	✓	✓		✓	✓			✓		✓[l]	✓
Darby	Baseline Risk Assessment	✓						●		●			●		✓		✓[n]			✓					

Notes:

● Major, ○ Minor

a During early years of the project leading up to the connection to the municipal water supply.
b Organized social infrastructure within the affected community specifically identified.
c Improved over time.
d Initially a community lead effort with invited, cooperative agency participation. Inter-party cooperation fluctuated over time, and is presently improving.
e Specifically, certainty in multi-year funding and transparency of funding decisions
f Improved multi-stakeholder involvement in decision-making and documentation of decision-making.
g Characterized as slow, DEQ hesitant to use authority.
h Specifically regarding issues of developing a water and sewer district: management development, operation and maintenance cost estimates and permitting needs.
i Conducted voluntary cleanups under the VRP prior to receiving approval from DEQ.
j Included the use of a Technical Assistance Grant (TAG) contractor.
k First six years had the same project manager, and the project progressed well.
l Specifically, the ability to obtain a technical impractability waiver for groundwater cleanup as is allowed by EPA.
m Includes the idea of developing a new type of "project complete' that considers human health exposure eliminated, but long-term monitoring and other work may be ongoing.
n DEQ should be required to communicate health issues to the county, such as contaminated wells and possible other issues. An electronic "clearinghouse" was suggested. Posting signs to inform residents of hazards was also suggested.
o Needed a better approach for addressing community health concerns.
p Contamination discovered in 1986 and bottled water was provided, but connection to the public water system did not occur until 2000.
q Settlement achieved with most parties.
r Lack of funding prevented timely RI completion.
s In response to the finding of ineffectual communication and the desire to streamline PRP contention.
t Big Spring Creek watershed partnership.
u Public education on process and technical aspects of the project desired.

University of Montana Questions for
EQC Agency Oversight Subcommittee HJR 34 Study[2]
April 4, 2006

Interview Introduction: *Thank you for meeting with us today. My name is _____ and this is _____. We are graduate students at the University of Montana (Environmental Studies Program). We are assisting the Montana Environmental Quality Council's Agency Oversight Subcommittee in a study of what is working well and what can be improved with the (CECRA and CERCLA) Superfund process in Montana. The EQC is a part of the Montana Legislature. The EQC conducts studies such as this one, publishes reports on environmental policy topics, and proposes policy changes to the full Legislature.*

Our objective is to understand obstacles to successful clean-up of contaminated sites. We also seek to identify ways that the Superfund process can be improved, for example, how unreasonable delays in getting to and completing the clean-up phase can be prevented. Many of the questions we will be asking were provided by the EQC. We are interviewing approximately 10 persons who have been involved with the _____ site. We have already spoken with _____. The _____ site is one of six sites selected by the Subcommittee for study.

Your frank opinions and perceptions are highly valued in helping us understand what is working well and what can be improved with the Superfund process. Your responses will be available to the EQC unless you wish them to be treated confidentially, which means that unless we can remove information that could identify you as the source, your specific comments will not be shared beyond other students in the class and our professor (Robin Saha). If at any time during this interview you wish to make your answer to a particular question confidential, please let me know.

A final report summarizing our interviews for all six sites will be publicly available. Your participation is entirely voluntary and if there are questions you do not want to answer, just say so and we will move on. If you wish to stop the interview at any time, you may do so. Do you understand?

We would like to record your comments so that we can be sure that we accurately convey your views. Do we have your permission to do so [pause]? Thanks (or ok that is fine, we will just take notes). Do you have any questions for us at this point?

1. Please describe your involvement in the _____ ___project.
   When did you become involved and why?
   Please describe your involvement since that time.

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[2] The prompts (secondary questions provided along with the interview numbered questions) were used at the judgment of the interviewer to encourage conversation. Questions were worded to minimize biasing of responses, perceptions, and judgments about factors contributing to or impeding the project's success. The following social science research guide was used: Gorden, Raymond L. 1998. *Basic Interviewing Skills, 2nd Ed.* Long Grove, IL: Waveland Press.

Please tell us a little more about your organization/group.

2. What parts of the project do you think have been successful and why?
   Please tell me more about what you mean by success.

3. What parts do you think were less successful or unsuccessful and why?
   Do you think there were any significant delays with the project? If so, please explain.
   There will be an opportunity later in the interview to discuss the reasons for slow progress, whether they were unavoidable, and steps that could be taken to speed up the process in the future.

4. Please describe your understanding of the role that communication has had in this project?
   [Communication = exchange of information between parties]
   How effective has communication been [choose a few as appropriate]:
   - between DEQ and EPA
   - between agencies and community
   - between agencies and PRPs
   - between PRP's and community
   - within the community
   - NOTE: consultants are covered in question 13

   Can you give me some examples?
   Was it always that way?
   When did communication become ineffective?
   When did communication begin to improve?
   Who communicated well and who didn't? Why?

5. Please describe how the public/community has participated in the Superfund process at _____ site.
   When and why did the community get involved/participate in the process?

6. How well has public participation worked?
   Please explain what has worked well or not worked well..
   Would you approach public participation differently in the future?
   If so, how?
   Why would you take this approach?

7. Please explain your understanding of the role of leadership in this project?
   Can you offer examples of effective leadership at the site?
   Prompt: Who have been effective leaders and why?
   Can you offer examples of ineffective leadership at the site?
   Prompt: Who have been ineffective leaders and why?

8. How important has funding been to this project?
   How has funding affected the project?
   How has funding helped or impeded clean-up progress?
   Please explain.

Can you talk a little more about …

9. What is your understanding of the role of DEQ/EPA personnel for this project/site?
   Has staff turnover affected the project and if so, how?

10. Were there any phases of the project that you think took too long to complete (for example, the remedial investigation, feasibility study/workplan, or actual construction/clean-up)?
    Please explain why you think so.
    Was there a need to answer every technical question with a great deal of certainty?
    Were these questions answered adequately?
    Did the technical studies hinder actual clean-up at the site?

11. Do you think that it is best to initiate certain clean-up actions (conduct interim remediation) at the site before the extent of contamination is fully know**n** (before the remedial investigation process is complete)? Why or why not?

12. What do you think about the abilities of the lead agency staff's and consultants' overall ability [to oversee the project]?
    What about their <u>project management skills</u> - have they been adequate? Why or why not?
    What about their <u>technical skills</u> - have they been adequate? Why or why not?.
    What about their <u>communication skills</u> - have they been adequate? Please explain.
    Does the staff have adequate background (education and experience)? Why or why not?

13. **Question to Members of the Affected Community.** How have the agency and consultants of the PRPs communicated technical aspects of the project to [you/the community]?
    Please provide examples of effective or ineffective communication about technical matters, and comment on what worked well or didn't.
    How could such communication be improved?

14. What is your understanding of the clean-up standard, i.e., the level of clean-up, for this site?
    Were you satisfied with the clean-up standard? Why or why not?
    Were you satisfied with the process for determining the clean-up standard? Why or why not? [Keep in mind at the current point in the process, the clean-up standard may be proposed rather than final, or it may not even been proposed yet.]

15. If there has been litigation or administrative appeals relating to this site, how have they affected the process?

16. For this next question, please refer to specific stakeholders or stakeholder groups. If you were the chief advisor for the various stakeholders, what would you recommend they have done differently?

17. What about the current regulatory process (CERCLA/CECRA) do you think works well?
    What about the current regulatory process do you think doesn't work well?
    What regulatory changes would you suggest?
    What resources would be helpful for communities?

18. What other comments do you have that you think would be helpful for the EQC Agency Oversight Subcommittee?

19. Who else do you think is important for us to speak with to better understand this project? [Remind who you have already spoken with if necessary.]

Thank you for participating in our study. Would you like us to send you a final copy of our report to the EQC Agency Oversight Committee [add other comments as appropriate]?

Summary Reports of Student Research Reports for Montana Environmental Quality Council (EQC) House Joint Resolution (HJR) 34 Interim Study*

Respectfully submitted to:
EQC Agency Oversight Subcommittee
May 18, 2006

Prepared in conjunction with:
Community Responses to Toxic Contamination (EVST 594.03)
Instructor: Dr. Robin Saha
University of Montana

* An executive summary for Burlington Northern Livingston (BNLV) is not available at this time.

The Bozeman Solvent Site (BSS):
A consideration of the History, Successes, and Delays

By Jamie Silberberger and Molly McKinley

This study was carried out under the directive of House Joint Resolution 34 and in conjunction with an interim study of the Environmental Quality Council (EQC) Agency Oversight Subcommittee. We set out to determine the factors contributing to delay and success regarding implementation of the Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA) at the Bozeman Solvent Site (BSS).

In 1989, perchloroethene or "Perc" was discovered in drinking wells north of Main Street between 15th and 19th streets in Bozeman, Montana. In 1994 the site was listed under the Montana superfund process (CECRA) and then designated a "maximum priority site." Seventeen years later cleanup has not been finalized. From our preliminary research, we developed a list of specific objectives to guide our research into factors that may have contributed to delays. These objectives include:

1) Determining if and how multiple Potentially Liable Parties (PLPs), the City of Bozeman and the Jewel Corporation/American Stores, and litigation may have stalled the process.
2) Determining whether having numerous consultants contributed to delay.
3) Determining if project manager turnover contributed to delay at the site.
4) Determining whether lack of funding prevented timely completion of work.
5) Determining whether the CECRA process inhibited timely cleanup.
6) Determining whether communication was effective among the various stakeholders, and whether ineffective communication contributed to delay.

We supplemented our preliminary research with 9 interviews with consultants, DEQ project managers, impacted residents, a former city official, the city attorney, and the BSS Citizens' Committee's technical advisor. We used interview questions provided by the EQC and ones we developed in accordance with our site specific objectives. The interviews were conducted in April 2006.

We found that though important steps were taken early on to protect human health, the site has been plagued by delays that have prevented timely remediation. Within the DEQ, there have been a number of factors that have stalled momentum at the site: staff turnover, lack of funding, and slow document review. Slow document review has emerged as a major issue. In some cases documents took up to six years to approve. This can be partially attributed to having five different project managers over 17 years. Each new project manager required time to get up to speed on the technicalities of the site and the CECRA process – their "learning curve." Lack of funding prevented the DEQ from completing the Risk Assessment (RA). For a time, the RA assessment was put off until the PLPs volunteered fund the completion of an RA.

Initially the two main PLPs had their own consultants working on the site. As a result, there was a great deal of duplication because each consultant submitted technical reports to the DEQ. The DEQ had to review each report before deciding which one to approve. What we refer to as "dueling consultants" used up valuable time and DEQ resources.

The identification of two main PLPs and the litigation that ensued did not help remediation efforts at the site. Early on in the process, litigation prevented cooperation among PLPs and led to communication breakdowns. As a result, communication between the PLPs' consultants was ineffective and the City of Bozeman was reticent to talk to community members about their concerns because they worried about liability issues.

Finally, the many different steps required under CECRA can at times bog down the process. Although many of these steps cannot be avoided, slow document review time can prevent the process from proceeding. Given that the threat to human health was averted early on, there is the question of whether or not BSS should continue under CECRA. Currently, a site is locked into the CECRA process until all steps have been completed.

We conclude that the project officer learning curve, litigation, multiple PLPs, dueling consultants, agency personnel turnover, funding, communication, and the CECRA process are all factors that contributed to delay. What follows is a list of our recommendations to improve the Montana Superfund process.

- Efforts should be taking by DEQ, PLPs, and community representatives to keep open and productive lines of communication. That can speed up the learning curve of new staff. Litigation inhibits communication between parties.
- Documents need to be reviewed in a timely manner. DEQ should set deadlines for itself for document review.
- Although having multiple PLPs is unavoidable at times, if sufficient funding were available, DEQ could complete work itself (through contractors) and recover costs later.
- More funding should be appropriated to the DEQ in order to increase project manager's salaries and retain quality personnel. Furthermore, the DEQ needs to have enough funding to complete the tasks required of them as a regulatory agency (for example, completing the risk assessment).
- CECRA sites should be evaluated on a periodic basis to determine whether or not they should remain in the program. If a site could be removed from the CECRA process once the human health risks have been eliminated, this would result in fewer hoops to jump through and could lead to more timely final cleanup actions.

We realize the issues involved in a Superfund cleanup are complex and multifaceted. Our findings and recommendations certainly are not the definitive answers to all of the problems associated with the Superfund process. Nevertheless, we hope to encourage discourse about ways the process can be improved.

Schedule and Communication Challenges at the Brewery Flats Lewistown Facility

By John Meyer

The purpose of this research is to inform the Montana State Legislature about the nature of certain schedule and communication problems at the Brewery Flats Lewistown Facility. Recommendations are provided regarding possible legislative changes that may circumvent future problems with the Voluntary Cleanup and Redevelopment Act (VCRA) program.

The Brewery Flats site is located within Fergus County just outside of Lewistown, Montana. The site is situated along the west bank of Big Spring Creek, one mile south of Lewistown on Route 238 and covers approximately 58 acres. Several residences are located to the west of the site. The Brewery Flats site is a former Milwaukee railroad switching yard and roundhouse. Operations included the fueling and servicing of engines and general site maintenance resulting in soil contamination with petroleum hydrocarbons, arsenic, and lead. The site has also been home to an oil refinery, coal mine, feed lot, a brewery, and functioned a dump for garbage, old appliances, vehicles, etc. A cleanup has been conducted under the VCRA program.

The cleanup received broad community and agency support throughout the duration of the project. While most everyone involved at the site widely perceives the final outcome to be a success, many noted what they believe were potentially avoidable delays along the way. In the most general sense, many of these delays can be attributed to problems with scheduling and communication. The perceived merits of these delays vary with stakeholder. Some community members expressed frustration with an apparent lack of a concrete schedule, while the DEQ was of the opinion that the schedule changed with changing local visions regarding future use of the site. There was general agreement that grant funding application schedules resulted in a vicious "hurry up and wait" cycle for the City of Lewiston.

Delays were also perceived to result from less than optimal conditions involving communication among the stakeholders. Document review was seen as posing certain communication challenges for the consultant, while some in the community did not feel that the consultant did a good job communicating technical information. Specific ideas generated from this research for improving the timeliness and communication of this project and possibly other similar projects are as follows:

1. Create and adhere to a scheduled timeline that is specific, achievable, and measurable.

2. Evaluate the ability of the DNRC Reclamation and Development grant program to support Voluntary Cleanup Plan (VCP) schedules, and if necessary devise means to expedite allocation of these grant monies. Identify or develop other funding mechanisms that better support timely clean ups.

3. Allow various stakeholders to electronically edit necessary documents via tools such as *Track Changes*.

4. Encourage or allow DEQ to determine on site-by-site basis any requirements or information under VCRA that may be superfluous and thus eliminated.

S&W Sawmill: DEQ's Orphan Project

By Daisy Patterson and Taira Flute

The S&W Sawmill site in Darby is unique in the lack of perceived risk and, perhaps consequently, the lack of controversy. S&W Sawmill's ability to remain contaminated with little outrage from the community has facilitated the Department of Environmental Quality's virtual abandonment of the project as evidenced by the longstanding lack of a project officer. Frustrations exist over communication between DEQ and the Ravalli County Health Department, and between DEQ and at least one property owner adjacent to the site. When comparing S&W Sawmill to other sites, it is ironic that the driving force behind progress in Darby is not the DEQ or a citizen group; it is the lead potentially liable party.

Research goals include an assessment of the community response to contamination and specific contributors to delay at S&W Sawmill. Research objectives are as follows: to determine why there appears to be a lack of a community response; to determine how much the community is aware of the contamination; and determine specific, procedural delays the DEQ has faced as they oversee the remediation efforts.

We found that the community does not appear to perceive a grave risk from the contamination at S&W Sawmill. There is a general lack of awareness of the site in Darby. Community members are not overly concerned with the contamination, yet they are unsure whether they should be concerned with well water contamination levels that are within the state drinking water standard for dioxin yet above the federal standard. Although there was general satisfaction with the CALA process, there was also general frustration about DEQ funding and the lack of project officer.

The following recommendations include policy and program suggestions to address frustration with the process, communication problems, and lack of community involvement:

1. Create an electronic clearinghouse to provide information to local agencies, PLP's, community members, and anyone wishing to get information on the status of Superfund sites in Montana.

2. Create a local Water Quality District similar to those in several Montana cities, which have provided leadership in water quality protection.

3. Post more informative signs at the site in more visible and trafficked locations.

4. Create a system to facilitate site progress during the absence of a project officer.

The PLP who is willing to complete work is unduly impeded by the lack of project officer to review documents. Whether or not funding is found to hire more DEQ staff, the current position apparently has funding and is not filled. PLP's need the assurance that procedures can be developed to trigger action on sites that have been inactive for a certain period of time.

Lockwood Solvent Groundwater Plume Site: Lessons Learned on Communication, Delay, and Social Impacts

By Michele Reinhart and Merianne Stansbury

The Lockwood Solvent Groundwater Plume Site (LSGPS) is a contiguous 580-acre federal Superfund Site just outside of Billings, Montana. Groundwater benzene contamination was discovered at the site in 1986 and the LSGPS was listed on the National Priorities List (NPL) on December 1, 2000. The primary contaminants of concern are volatile organic compounds (VOC), tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE or cis-1,2-DCE) and vinyl chloride (VC). The EPA identified two Potentially Responsible Parties (PRP's) in 2000: Beall Trailers, Inc. (Beall) and Brenntag West Inc. (Brenntag), formerly HCI Dyce Chemical, Inc.

Our primary objectives are to understand obstacles to successful cleanup of contaminated sites and to identify ways the Superfund process can be improved. Particular areas of concern are communication among involved parties and delays in the process. These broad objectives and areas of concern were developed from House Joint Resolution 34 and through coordination with the Environmental Quality Council (EQC) Agency Oversight Subcommittee.

Specific objectives regarding <u>communication</u> are: (1) to understand the effectiveness of communication at the Lockwood site; and (2) to understand what factors facilitated or impeded communication among the various stakeholders.

Specific objectives regarding <u>delays</u> are: (1) to understand why delay occurred in two stages of the process: (a) discovery of contamination and NPL listing, and (b) identification of contamination and implementation of the public water system; and (2) to understand stakeholder perceptions of the timeliness of cleanup.

Our research was conducted during March and April 2006. We employed several research methods to obtain information on the Lockwood site. We conducted preliminary document analysis and reviewed the Agency Oversight Subcommittee panel discussion. We also examined agency documents, including the Record of Decision (ROD), Proposed Plan, and the Remedial Investigation (RI) Executive Summary. We used interviews as our primary research method to supplement our analysis of documents relating to the Lockwood site. The EQC supplied the class with a set of interview questions, which we added to. Using the site contact list provided by the DEQ, we interviewed 8 people for this report.

The main conclusions and recommendations from our findings are:

1. FUNDING. Create State Super**FUND** so DEQ can initiate clean-up actions before PLP's are identified. Just get the site clean. It took to long to identify and publicly name responsible parties – this was a problem with the law.

2. FLEXIBLE CECRA AND COLLABORATION. Create a more flexible CECRA process that allows for actual collaboration by encouraging stakeholders to come to the table

together. Revise the law or administrative rules to allow and encourage negotiation on cleanup decisions that directly involves top decision makers. Collaboration with the various stakeholders and decision makers could lead to a more effective and efficient cleanup process. Joint fact finding on the scientific data also could be used to come to consensus on interpreting the data and help the agency more efficiently make cleanup decisions.

3. PUBLIC HEALTH COMMUNICATION. To better handle community health concerns, train agency personnel or contract out services in risk communication. Special expertise is required to contend effectively with extreme community reactions, such as strong emotions that are commonly and justifiably associated with actual or potential chemical exposures. Too often communities end up distrustful of government's technical and legal explanation of what is "safe." This has lasting communication implications. Thus, the DEQ needs someone who will be frank, honest, yet compassionate in helping the community address public health concerns.

4. EARLIER INVESTIGATION. In Lockwood, insufficient studies of the contamination failed to reveal the extent of the existing problem back when contamination was discovered in 1986 with the pipeline leak. The contamination of groundwater was found in Lockwood in 1991, but residential well contamination above standards was not discovered until 1998. Further investigation of the extent of the contamination could have been done starting in 1986, if there had been sufficient funding and agency will power to do so. Contamination may have been better contained and risks avoided..

5. SUCCESS. According to all parties interviewed, getting people hooked up to public water supply as quickly as possible was a success and helped reduce exposure. In such cases, the agency should act quickly as was done, once the threat was known, to remove the health risk.

6. PROJECT MANAGEMENT. Catherine LeCours has been an talented and effective project manager. She has done her best to keep the involved parties in the loop with open and regular communication. Her consistent assignment to the Lockwood Solvent Site since 1998 has helped keep the cleanup process moving. Increasing pay for DEQ project officers can help retain competent, experienced staff like Ms. LeCours.

Schedule and Communication Challenges at the Brewery Flats Lewistown Facility

By Steve Ackerlund and John Meyer

The purpose of this research is to inform the Montana State legislature about the nature of certain schedule and communication problems that have occurred at the Upper Tenmile Creek Superfund site. Recommendations are provided regarding possible legislative changes that may assist in circumventing future problems.

The community of Rimini is located within the Upper Tenmile Watershed and is approximately fifteen miles southwest of Helena, Montana. Once known as the Rimini Mining District, the area consists of about 150 abandoned and inactive hard rock mine sites that produced gold, lead, zinc, and copper. Consequently, investigations have identified wide-spread metals contamination in surface water, groundwater, sediment and residential soils. As a result of contamination, the area was placed on the Environmental Protection Agency's Superfund National Priority List in the fall of 1999.

The project received broad community and agency support up through the Record of Decision (ROD) in 2002. There continues to be little expressed concern about ongoing work to remediate historic mining impacts in areas of the watershed that are more distant from the community.

Controversy began when work was initiated in the Landmark subdivision and continues with the work being performed in Rimini. In the most general sense, the controversies seem related to deviations from plans prescribed by the ROD. The perceived merits of these deviations are dependent upon the unique perspectives of the different project stakeholders; the EPA and DEQ generally justify their deviations while many affected stakeholders question these justifications.

Specific ideas generated from our research for improving the timeliness of this project and possibly other Superfund projects are as follows:

- The agencies should be more tightly constrained to implementing the ROD. Deviations from prior plans or prior decisions increase the likelihood of confronting unforeseen technical or social issues that can cause delay and project cost increases.

- DEQ staff turnover on projects should be minimized to improve communication and coordination between DEQ and EPA, and within DEQ. Turnover may increase the chance of changing previously agreed to plans, such as the ROD.

- Uncertainty of annual appropriations and the lack of transparency concerning what influences the budget and the status of the present EPA Superfund budget has led to heightened concerns and the need to delay project elements into the next federal fiscal year.

Even with changes in these areas, however, it is unlikely that the schedule and cost of a project of the magnitude of the Upper Tenmile Watershed could be radically transformed through the near-term efforts of the Montana legislature. It is in fact, a costly multi-year effort. The protracted nature of the project has led to social strains that typify many communities that become involved in a Superfund cleanup. These strains result from project-related

inconveniences and nuisances, potential impacts to personal property values, real or perceived impacts to private property rights, reduced trust in government, and overall frustration, concern and anxiety of a prolonged nature.

The needs commonly expressed by both community members and agency personnel as under recognized and undervalued at the outset of the project include:

- Strong community leadership that can organize the community, make hard decisions, and that can effectively advocate the community's position within the community and within the larger political systems that support the project.

- Improved public participation that helps community residents resolve differences, encourages active participation, and that can meaningfully influence the project.

- Improved communication between the various stakeholders.

- A public relations program that serves to educate a broader public about the nature of the environmental problems and the benefits of the work performed.

A comprehensive facilitation program, such as Joint Fact Finding, is suggested as an alternative to the TAG program and to the ongoing types of community involvement presently being used to support the project. Facilitation approaches such as Joint Fact Finding go beyond meeting management to establish public participation and policy dialog processes that are informed, inclusive and deliberative. By adopting a comprehensive facilitation program, the Montana legislature would actively recognize Superfund projects as being socially as well as technically complex, and would be applying the state-of-the-art processes for responding to the social challenges.

7: Draft Recommendations

The EQC Agency Oversight Subcommittee makes the following draft recommendations[6]:

1. *Benchmarks*

a. Statutorily establish the goal of December 2020 when all CECRA sites will have been either cleaned up or all final decisions made concerning remedies. Implementation of certain remedies are expected to continue after December 2020. Require DEQ to provide biennial reports on the progress of meeting this goal.

b. Statutorily require DEQ to generate and submit a "Four Year Plan of Action" report to the EQC and Legislature. The report will contain goals and schedules for progressing active remediation projects.

c. Statutorily require DEQ to generate and submit a yearly "CECRA Cleanup Progress Report" to EQC and the legislature using a format provided by EQC.

d. The DEQ should place every site on a timetable with specific milestones.

2. *Program Resources*

a. DEQ should evaluate and develop a revised compensation plan and/or revised job description in order to attract and retain sufficient project managers with adequate skill sets.

b. The DEQ should provide incentives for competent site managers to remain with DEQ.

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[6] Individual Subcommittee members were asked to submit their draft recommendations for this report. There may be duplication among recommendations. Some recommendations may conflict with other recommendations. The Subcommittee will make its final decision on these recommendations at its July 17, 2006 meeting.

c. DEQ should hire qualified outside consultants to perform routine CECRA oversight functions.

d. DEQ should evaluate and revise the procurement process for the use of technical consultants to perform standard technical support functions on CECRA sites.

e. The Legislature/DEQ should authorize PRPs to fund site manager positions. Site managers hired by DEQ and funded by a PRP, would be dedicated to addressing the PRP's site.

f. The Legislature should fund the CECRA program adequately.

g. The Legislature should base any future budget increases on improvements to the process that result in better work products by increasing efficiency and shortening the time frames of all duties and studies involved in the clean-up process.

3. Communications

a. The DEQ should convene "action checklist" meetings with PRPs (with all decision-makers attending) to resolve all pending issues.

b. The DEQ should improve channels of communication with the PRPs and the public and should take steps to avoid systemic problems such as "paralysis by analysis".

c. The DEQ or EQC should develop a citizen's guide to CECRA to assist citizens and communities in understanding the CECRA process.

4. Enforcement

a. Either through statute or administrative rules, the Legislature and/or DEQ should develop a framework for more timely and consistent use of DEQ's enforcement authority.

b. Either through statute or administrative rules, the Legislature and/or DEQ should allow greater flexibility and enforcement of institutional controls.

5. *Site Cleanup Process*

a. The DEQ should amend or adopt administrative rules to ensure that a site listed as a priority receives priority treatment and attention through out the clean-up process.

b. Either through statute or administrative rules the Legislature and/or DEQ should define DEQ's management role and determining cleanup criteria. This may include more standardized and consistent risk-based calculations.

c. Either through statute or administrative rules the Legislature and/or DEQ should consistently promote and emphasize the use of interim remedial actions to effectuate reduction of risk on CECRA sites.

d. Ensure (through legislative oversight) that the DEQ's CECRA site cleanup process (including policy and rules) adheres to (and does not exceed) the Montana Constitution's definition and the Legislature's intent regarding "adequate" remedies.

e. The Legislature should authorize the DEQ to establish appropriate clean-up standards, criteria, guidelines, and timeframes that ensure adequate remedies.

f. Require that DEQ adhere to all document review deadlines through out a site's cleanup process.

g. Resolve moving target clean-up standards by statutorily directing and authorizing DEQ to establish appropriate clean-up standards that will not change following the selection of a remedy.

6. Ongoing Program Review and Evaluation

a. The EQC should request a legislative performance audit of the CECRA program.

b. The EQC should request a legislative performance audit of the CECRA program. The performance audit should focus on:
(i) identifying and removing bottlenecks within DEQ that are adding years and exhausting funding resources provided for the cleanup process; and
(ii) assessing and updating the CECRA computer data base to expedite all aspects of the cleanup process.

c. The EQC or the DEQ should establish an Environmental Cleanup Work Group to re-examine program effectiveness, activities, and priorities. The EQC should work with the DEQ to establish priorities and goals for this work group. The work group should be comprised of members representing a cross section of stakeholders.

d. The EQC should continue to work the DEQ to develop specific legislative changes in addition to any legislative changes envisioned in these recommendations.

Appendix A: Priority Ranking Sheet

May 10, 1999 - Final

PRIORITY RANKING SHEET

Facility: _____ Facility ID No: _____
Address: _____ Leak No: _____
Legal Location: _____ Ranked by: _____
Date: _____

Facility Rank and Score: _____

Instructions: DEQ ranks all CECRA, groundwater, and LUST facilities with this form. Start with the maximum priority category and check **all** criteria in **every** category that apply. Then add the scores for **all** the criteria that apply. The facility is ranked by the highest category that has criteria checked followed by its total score which ranks the facility within the category. For example, a medium priority site with a higher score is a higher priority than one with a lower score.

Finally, answer the question at the bottom of the ranking form regarding the potential for interim actions; add the response (Yes or No) to the facility ranking designation (i.e., •High, 45, Y• or •Medium, 30, N•). This designation flags facilities at which a simple interim action, like fencing or drum removal, could reduce facility hazards and possibly move the facility into a lower priority designation.

MAXIMUM PRIORITY: Immediate threat requiring immediate action

____ 20 **Public drinking water supply impact: documented** release to ____(a) a surface water intake, ____(b) a groundwater well, or ____(c) a drinking water line with documented or probable exceedance of Montana water quality human health standards (WQB-7) or the federal maximum contaminant levels (MCLs) in a public drinking water supply or contaminant levels that render the drinking water supply harmful, detrimental, or injurious to a beneficial use

____ 18 **Domestic/commercial drinking water supply impact:** documented release to ____(a) a surface water intake, ____(b) a groundwater well, or ____(c) a drinking water line with documented or probable exceedance of WQB-7 or the MCLs in a domestic or commercial drinking water supply or contaminant levels that render the drinking water supply harmful, detrimental, or injurious to a beneficial use

____ 20 **Vapor accumulation in structures or utility corridor:** explosive vapor levels, or concentrations of vapors that could cause acute health effects, are present in a structure or utility corridor

____ 20 **Imminent danger of fire or explosion or dangerous outdoor vapor levels:** indications of an imminent danger of fire or explosion or a release of dangerous levels of vapors in ambient air

____ 18 **Free product release:** free product is present in significant quantities in the groundwater, in or on surface water bodies, in utilities other than water supply lines, or in surface water runoff

HIGH PRIORITY CATEGORY: Significant near-term threats requiring prompt action

____ 15 **Drinking water source impact:** documented release to groundwater or surface water that is a drinking water source with no documented or probable exceedance of WQB-7 or the MCLs or contaminant levels that render the drinking water supply harmful, detrimental, or injurious to a beneficial use in a ____(a) surface water intake or ____(b) groundwater well that is a drinking water supply

____ 15 **Ambient air impact:** documented release to ambient air or friable asbestos-containing materials on the ground surface that pose a threat to public health

____ 15 **Utility corridor impact:** contamination has migrated to a utility corridor that is currently in use

____ 15 **Threat of vapor accumulation in a structure or utility corridor:** threat of explosive vapor levels or concentrations of vapors that could cause health effects by accumulating in a structure or utility corridor

____ 15 **Contaminated soil in proximity of receptors:** documented and extensive contamination of exposed shallow soil or exposed sediment with uncontrolled facility access

____ 15 **Container etc. that is or may leak in proximity of receptors:** documented existence of an uncontrolled hazardous or deleterious substance, in a container or impoundment that is leaking or that presents an imminent threat of leakage in an area with uncontrolled facility access

____ 15 **Sensitive environments impact:** documented impact to a sensitive environment such as a terrestrial or aquatic resource, including wetlands, or area with unique or highly valued environmental or cultural features, or a fragile natural setting

MEDIUM PRIORITY: Potential long-term threat requiring action

____ 10 **Documented or probable water impact: documented** or probable release to ____(a) surface water, ____(b) groundwater, or ____(c) a water line that is not a drinking water source but is used for another beneficial use (i.e., agricultural, industrial, etc. or primary contact activities like swimming or fishing, etc.)

____ 10 **Imminent threat to drinking water source:** imminent threat to a drinking water source from migration of contamination from soil to surface water, groundwater, or a water line that is a drinking water source

____ 10 **Potential ambient air impact: potential** release to air that may pose a threat to public health

____ 10 **Potential utility corridor impact:** potential for migration of contamination to a utility corridor that is currently in use or documented contamination to a utility corridor that is not in use

____ 10 **Contaminated soil or container that is or may leak:** documented or probable localized contamination of soil or presence of a container or impoundment that is leaking or that presents an imminent threat of leakage, or documented or probable extensive contamination of soil with controlled facility access

____ 10 **Potential sensitive environment impact:** potential impact to sensitive environments such as a terrestrial or aquatic resource, including wetlands, or area with unique or highly valued environmental or cultural features, or a fragile natural setting

LOW PRIORITY: Minimal potential for long-term threat

____ 5 **Minimal potential water impact: minimal** potential for release to ____(a) surface water, ____(b) groundwater, or ____(c) a water line that is not used for any purpose other than primary contact activities (i.e., swimming, wading, etc.)

____ 5 **Minimal air impact: minimal** potential for release to air that may pose a threat to public health

____ 5 **Minimal utility corridor impact:** minimal potential for release to a utility corridor

____ 5 **Minimal soil impact: minimal** documented release or potential for release to soil with minimal potential for direct contact hazard

____ 5 **Other:** (briefly describe)

OPERATION AND MAINTENANCE

____ 1 **Operation and maintenance:** Remedial action are complete but the facility is undergoing operation and maintenance, such as revegetation monitoring, surface water monitoring, groundwater monitoring, waste repository maintenance, or maintenance of other features (i.e., fences, etc.)

____ (Y/N) Could a relatively quick, simple interim action (i.e., fencing facility, removing drums, etc.) significantly reduce facility hazards? If yes, briefly describe action:

Appendix B: State Superfund List

MONTANA
CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
A & S Industries †	Poplar	Roosevelt	H
A Js Laundry and Linen	Missoula	Missoula	N
Abandoned Railroad Embankment West Great Falls	Great Falls	Cascade	L
Agency Dump †	Agency	Sanders	M
Alberton Roundhouse	Alberton	Mineral	L
Alice Creek Post and Pole	Lincoln	Lewis And Clark	M
All American Bumper & Plating	Missoula	Missoula	L
Anaconda Aluminum Co Columbia Falls	Columbia Falls	Flathead	R
Anaconda Minerals Company Great Falls	Black Eagle	Cascade	H
Arro Oil Refinery	Lewistown	Fergus	M
Basin Mining Site **	Basin	Jefferson	H
Bass Creek Post and Pole	Stevensville	Ravalli	L
Beaver Wood Products Inc	Columbia Falls	Flathead	H
Beaverhead National Forest Elkhorn Mine & Mill ‡	Wise River	Beaverhead	R
Belle Creek Barrel Site	Belle Creek	Powder River	L
Berg Post And Pole	Lewistown	Fergus	H
Big Hole Post Plant	Argenta	Beaverhead	M
Big Horn Oil & Refining Co	Billings	Yellowstone	L
Big West Oil Refinery	Kevin	Toole	H
Billings PCE Groundwater	Billings	Yellowstone	H
Bitterroot Valley Sanitary Landfill	Victor	Ravalli	X
Blackfeet Pencil Factory †	Browning	Glacier	L
Blackfeet Post and Pole †	Browning	Glacier	L
Bohrmans Exxon	Ennis	Madison	M
Bonneville Power Administration Hot Springs † ‡	Hot Springs	Sanders	L
Bootlegger Trail Site	Black Eagle	Cascade	N
Boulder River Railroad	Boulder	Jefferson	L
Bozeman Old City Landfill	Bozeman	Gallatin	L
Bozeman Solvent Site	Bozeman	Gallatin	X
Bureau Land Management Steamboat Point ‡	Loma	Chouteau	L
Burlington Northern	Havre	Hill	X
Burlington Northern Derailment Site Bainville	Bainville	Roosevelt	L
Burlington Northern Derailment Site Bridger	Bridger	Carbon	M
Burlington Northern Derailment Site Whitefish	Whitefish	Flathead	R
Burlington Northern Fueling Facility Billings	Billings	Yellowstone	M
Burlington Northern Fueling Facility Butte	Butte	Silver Bow	M
Burlington Northern Fueling Facility Essex	Essex	Flathead	M
Burlington Northern Fueling Facility Glendive	Glendive	Dawson	H
Burlington Northern Fueling Facility Great Falls	Great Falls	Cascade	H

*RCRA Permitted Facilities
†Reservation Facilities
‡Federal Facilities
**National Priorities List Facilities

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X = Maximum priority
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MONTANA
CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
Burlington Northern Fueling Facility Helena	Helena	Lewis And Clark	H
Burlington Northern Fueling Facility Laurel	Laurel	Yellowstone	H
Burlington Northern Fueling Facility Missoula	Missoula	Missoula	H
Burlington Northern Fueling Facility Shelby	Shelby	Toole	L
Burlington Northern Fueling Facility Whitefish	Whitefish	Flathead	H
Burlington Northern Krezelak Pond	Havre	Hill	M
Burlington Northern Livingston Shop Complex	Livingston	Park	X
Burlington Northern Racetrack Pond	Havre	Hill	M
Burlington Northern Somers Plant	Somers	Flathead	L
Busby CCC Camp †	Busby	Big Horn	L
Butana Speedway	Butte	Silver Bow	M
Butte Manufactured Gas Plant	Butte	Silver Bow	H
Carpenter & Snow Creek Mining Complex **	Neihart	Cascade	H
Carter Oil Refinery Exxon †	Cut Bank	Glacier	H
Central Post and Treating Co	Lewistown	Fergus	L
Chandelle Lane Barrel Site	Black Eagle	Cascade	H
Charles M Russell Refuge ‡	Turkey Joe Landing	Fergus	L
Chevron USA Inc Browning Bulk Hoyt Dist †	Browning	Glacier	L
CMC Asbestos Bozeman	Bozeman	Gallatin	M
Coffman Lumber & Treatment Co	Billings	Yellowstone	M
Comet Oil Co	Billings	Yellowstone	H
Conrad Refining Co	Conrad	Pondera	M
Continental Oil Refinery Lewistown	Lewistown	Fergus	M
Corbin Flats	Jefferson City	Jefferson	O
Creston Post and Pole Yard	Creston	Flathead	H
Davis Post Yard	Willow Creek	Gallatin	M
Department of Army AMSA 5 ‡	Billings	Yellowstone	L
Developmental Technology	Bozeman	Gallatin	L
Diamond Asphalt Co	Chinook	Blaine	M
Diamond P Ranch	West Yellowstone	Gallatin	H
Dixon Perma Dump †	Dixon	Sanders	M
Dowell Schlumberger Inc	Glendive	Dawson	M
Empire Sand & Gravel Co Inc Billings	Billings	Yellowstone	M
Energy West Gas Manufacturing Plant	Great Falls	Cascade	M
Fisher Flats Dump †	Valier	Pondera	L
Flathead Mines	Niarada	Flathead	R
Flathead Post and Pole †	Agency	Sanders	M
Fort Missoula OMS 2 ‡	Missoula	Missoula	M
Fort Peck Project ‡	Fort Peck	Valley	M

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CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
Ft Keogh Livestock & Range Research Lab ‡	Miles City	Custer	L
General Electric Co	Billings	Yellowstone	L
Georgetown Railroad	Georgetown	Deer Lodge	H
Glasgow Air Force Base	Glasgow	Valley	M
Goldsil Mining Co	Marysville	Lewis And Clark	R
Granite Timber Co	Philipsburg	Granite	H
Great Falls City Landfill 25th Ave	Black Eagle	Cascade	M
Great Falls International Airport MTANG ‡	Great Falls	Cascade	H
Great Falls Refinery Phillips Petroleum *	Black Eagle	Cascade	R
Harlowton Milwaukee Roundhouse	Harlowton	Wheatland	M
Hart Oil Refinery	Missoula	Missoula	H
Havre Refinery	Havre	Hill	L
Haywire Mill	Yaak	Lincoln	M
Helena Regional Airport	Helena	Lewis And Clark	M
Hirschy Corrals	Wisdom	Beaverhead	M
Hungry Horse Dam Townsite ‡	Hungry Horse	Flathead	M
Ideal Basic Industry Plant Site Area	Trident	Gallatin	L
Iron Mountain Mill	Superior	Mineral	X
J & N Post and Pole †	Evaro	Missoula	M
Jardine Arsenic Tailings	Jardine	Park	R
Jet Fuel Refinery ‡	Mosby	Garfield	H
Joslyn Street Tailings	Helena	Lewis And Clark	H
Kalispell Air Force Station ‡	Lakeside	Flathead	M
Kalispell City Landfill Cemetery Road	Kalispell	Flathead	M
Kalispell Landfill Willow Glen Road	Kalispell	Flathead	M
Kalispell Pole and Timber	Kalispell	Flathead	H
Karst Asbestos Mine ‡	Gallatin Gateway	Gallatin	R
Kenison Pole Plant	Townsend	Broadwater	L
Kings Creek †	Hays	Phillips	R
Larrys Post And Treating Co	Columbia Falls	Flathead	M
Laurel Oil & Refining Co	Butte	Silver Bow	L
Lewis & Clark National Forest ‡ **	Hughesville	Judith Basin	H
Lockwood Solvent Site **	Billings	Yellowstone	X
Lohof Gravel Pit	Billings	Yellowstone	M
Luther Wood Treating Facility	Luther	Carbon	M
Malmstrom Air Force Base * ‡	Great Falls	Cascade	R
Malta Airport	Malta	Phillips	M
Marble Creek Post Yard	Superior	Mineral	L
McCulloch Purchase Station	Fairview	Richland	L

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Friday, May 05, 2006

Site	City	County	Ranking
McLaren Mill Tailings	Cooke City	Park	R
MDOT Maintenance Facility Helena	Helena	Lewis And Clark	H
Mercer Post Plant	Bozeman	Gallatin	L
Midway Store Dump †	Ravalli	Lake	M
Midwest Refining Co	Conrad	Pondera	L
Miles City Livestock Center	Miles City	Custer	M
Miles City Oil Refinery	Miles City	Custer	M
Miles City Railyard	Miles City	Custer	H
Milwaukee Road Haugan	Haugan	Mineral	H
Milwaukee Roundhouse	Deer Lodge	Powell	H
Mission Wye	Livingston	Park	H
Missoula Sawmill	Missoula	Missoula	H
Missoula Vocational Tech Center	Missoula	Missoula	M
Missoula White Pine Sash Co	Missoula	Missoula	H
Moe Chevrolet †	Poplar	Roosevelt	M
Montana Power Co Manufactured Gas Plant	Helena	Lewis And Clark	M
Montana Power Co Storage Yard	Butte	Silver Bow	M
Montana Rail Link 1930 South Avenue West Facility	Missoula	Missoula	N
Montana Sulphur and Chemical Co	Billings	Yellowstone	M
Musters Post Yard	Thompson Falls	Sanders	M
New World Mine	Cooke City	Park	H
North American Oil Refinery	Kalispell	Flathead	L
Old Agency Landfill †	Fort Belknap Agency	Blaine	H
Old Arlee Dump †	Arlee	Lake	L
Old Charlo Dump †	Charlo	Lake	L
Old Community Dump †	Ronan	Lake	M
Old Crow Agency Dump †	Crow Agency	Big Horn	M
Old Lame Deer Dump †	Lame Deer	Rosebud	M
Old Libby Airport Pole Treating Facility ‡	Libby	Lincoln	N
Old Poplar Landfill †	Poplar	Roosevelt	M
Old Stickney Dump	Missoula	Missoula	M
Opheim Asbestos ‡	Opheim	Valley	M
Oswego Landfill †	Oswego	Valley	L
Pacific Hide & Fur Billings 4th Ave	Billings	Yellowstone	M
Pacific Hide & Fur Billings Minnesota Ave	Billings	Yellowstone	M
PacifiCorp Transformer Yard	Bigfork	Lake	H
Perry Gas Plant	Sidney	Richland	M
Petroleum Refining Co	Shelby	Toole	L
Pierce Packing Plant	Billings	Yellowstone	L

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Friday, May 05, 2006

Site	City	County	Ranking
Pine Tree Timber	Belgrade	Gallatin	H
Poisoned Oats Disposal †	Browning	Glacier	L
Pony Mill	Pony	Madison	R
Prairie View Recreational Park	Billings	Yellowstone	M
Railroad Tie Treating Yard	White Sulphur Springs	Meagher	M
Rau Disposal Pit	Sidney	Richland	M
Real Log Homes Manufacturing Site	Missoula	Missoula	M
Red Rock Lakes National Wildlife Refuge ‡	Lakeview	Beaverhead	M
Reliance Refining Co	Kalispell	Flathead	H
Revais Creek Mine †	Dixon	Sanders	R
Rocky Boy Post & Pole †	Rocky Boy	Hill	M
Rocky Mountain Phosphate	Garrison	Powell	H
Roundup Landfill ‡	Roundup	Musselshell	L
Roundup Refining Co	Butte	Silver Bow	L
Russell Oil Co Billings	Billings	Yellowstone	L
Russell Oil Co Butte	Butte	Silver Bow	L
S and W Sawmill	Darby	Ravalli	H
Safety Kleen	Helena	Lewis And Clark	L
Saint Labre Plastic Factory †	Ashland	Rosebud	M
Saint Regis Battery Site	Saint Regis	Mineral	L
Sannes Farm	Silesia	Carbon	R
Scott Feed Lot	Billings	Yellowstone	M
Sluice Gulch Leaking Mine Adit ‡	Philipsburg	Granite	R
Somers Marina	Somers	Flathead	M
Stauffer Chemical Co	Ramsay	Silver Bow	R
Strongs Post Yard	Livingston	Park	L
Strunk Mining	Lewistown	Fergus	M
Summit Dana Ltd	Bozeman	Gallatin	L
Tank Hill	Cut Bank	Glacier	H
Tenmile Creek **	Helena	Lewis And Clark	H
Texaco Sunburst Works Refinery	Sunburst	Toole	L
Third Street NW Groundwater Site	Great Falls	Cascade	M
Thompson Falls Reservoir	Thompson Falls	Sanders	L
Thorium City Waste Dump ‡	Grant	Beaverhead	R
Townsend Post & Pole	Townsend	Broadwater	M
Treasure State Refining Co	Shelby	Toole	L
Tucson Hebrew Academy Cut Bank AFB †	Del Bonita	Glacier	H
Tule Creek Gas Plant Crystal Oil †	Poplar	Roosevelt	M
Tungsten Mill Tailings ‡	Glen	Beaverhead	H

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CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
Union Oil Cut Bank Refinery *	Cut Bank	Glacier	R
Union Tank Car Co	Laurel	Yellowstone	M
Upper Blackfoot Mining Complex	Lincoln	Lewis And Clark	H
Valley Garden Vat	Ennis	Madison	L
Weowna Oil Refinery	Winnett	Petroleum	L
West Billings Solvent Site	Billings	Yellowstone	M
West Bootlegger Barrel Site	Black Eagle	Cascade	H
West Front Battery Site	Missoula	Missoula	N
West Second Street Havre	Havre	Hill	M
Western Area Power Administration Substation ‡	Shelby	Toole	L
Western By Products	Great Falls	Cascade	M
Wolf Point Refinery Kenco Refinery †	Wolf Point	Roosevelt	H
Yale Oil Corp Kalispell	Kalispell	Flathead	M
Yale Oil of South Dakota	Billings	Yellowstone	H
Yellowstone Bridge Asbestos	Livingston	Park	L

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Appendix C: Informational/Educational Resources and Websites

Environmental Quality Council Website:
http://www.leg.state.mt.us/css/lepo/2005_2006/default.asp

Department of Environmental Quality Remediation Website:
http://www.deq.state.mt.us/Rem/index.asp

DEQ Remediation Information Systems Website:
http://www.deq.state.mt.us/rem/InformationSystems.asp

DEQ Remediation Digital Atlas Website:
http://www.deq.state.mt.us/rem/InteractiveMaps.asp

U.S. Environmental Protection Agency Superfund Website:
http://www.epa.gov/superfund/index.htm

Appendix D: Burlington Northern and State of Montana DEQ Correspondence

file

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

March 15, 2006

DIR-06-069-D

Honorable Brian Schweitzer
Governor of Montana
Capitol Station
Helena, Montana 59620

Re: BNSF CECRA Facilities

Dear Governor Schweitzer:

As you know, the BNSF Railway Company (BNSF) is a major polluter in the State of Montana. The company is responsible for almost one-tenth of the sites on the state Superfund (CECRA) list. Most of these sites have been listed since the mid-1980s and none of them have been adequately remediated in the 25 years since the pollution issues were identified. This is a terrible legacy for BNSF to leave with Montana, and the only way to correct this is to clean up these sites as quickly as possible. Unfortunately, these sites have languished while BNSF has engaged in legal and technical squabbles that have delayed clean up activities. That will soon change.

Montana has issues with BNSF statewide, but one of BNSF's most egregious contamination sites is in Livingston. As you know, the Consent Decree directed my department, the Montana Department of Environmental Quality (DEQ), to enter into negotiations with BNSF to fully implement the selected remedy at this site. Those negotiations resulted in the Statement of Work (SOW) for Spring 2005 Activities. Under the Spring SOW, BNSF is required to conduct certain work required in the Record of Decision. However, BNSF's actions on these tasks indicate that BNSF has no intention of actually completing the work in a reasonable or timely manner.

BNSF has impeded progress at this and other sites, bogged down negotiations with technical issues, and failed to respond to DEQ's requests and requirements in a timely manner. This is not acceptable. I sent BNSF a letter on December 6, 2005, outlining how DEQ expected to deal with BNSF on these sites. There has been no additional progress since that letter. As a result of BNSF's obstreperous behavior, DEQ feels that any further negotiations with BNSF related to the Livingston site would be a waste of valuable state time and resources.

Therefore, I recommend that you direct DEQ to terminate any further negotiations related to implementation of the selected remedy and to take over the cleanup of the

Livingston site. This includes activities under the Spring SOW as well as all other required remedial activities. BNSF's obligation will be to timely pay all the bills.

At an Environmental Quality Council meeting on January 26, 2006, BNSF indicated that it has an "open checkbook" for addressing sites in Montana. We have a right to expect BNSF to use it for the good of the state. If BNSF fails to pay all remedial action costs in a timely manner, we also recommend that you direct DEQ to take further enforcement against BNSF.

The Livingston site is one of many problems facing BNSF in Montana. Further, we recommend that you direct DEQ to take a global look at other BNSF sites and assess why things are moving so slowly. It may be necessary for the state to take further actions to remove financial and other roadblocks that prevent significant and timely progress towards cleanup and closure of other BNSF sites in the state. Finally, if BNSF continues to act in an unacceptable fashion at the other CECRA sites in Montana, we recommend that you direct DEQ to take over cleanup of those sites as well and bill BNSF for the costs incurred.

Sincerely,

Richard H. Opper
Director

BNSF RAILWAY

Mark P. Stehly

AVP Environment & Research and Development

BNSF Railway Company

2600 Lou Menk Drive
Fort Worth, TX 76131-2800

Phone: 1-817-352-1907
Fax: 1-817-352-7225

March 17, 2006

RECEIVED
MAR 17 2006
DEQ
DIRECTOR'S OFFICE

Richard H. Opper
Director
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Re: BNSF CECRA Facilities

Dear Mr. Opper:

I am responding to your letter, dated March 15, 2006, to Governor Schweitzer, regarding BNSF CECRA Facilities. BNSF Railway Company is surprised at the characterizations and inaccuracies in your letter. BNSF remains committed to remediating these CECRA sites which were impacted by historic operations. While our efforts to date have been unsuccessful in closing any CECRA sites under the CECRA program (I notice that only 5 of the 208 CECRA sites on the Montana CECRA Priority List have been closed) we are more optimistic of our success rate for closure of CECRA sites under the VCRA program where we have succeeded in closing 3 (Glasgow, Jones Junction and West Great Falls Embankment) of the 12 sites that have been closed in Montana.

The Livingston site is subject to a Consent Decree, entered into in 1990. BNSF has complied with each and every requirement of the work required under the Consent Decree in a timely fashion. BNSF is prohibited, under the terms of the Consent Decree, from initiating any remediation without DEQ approval. We have examined the record and find no instance of BNSF's failure to respond to DEQ's requests and requirements in a timely manner. The attachments show the tasks accomplished at Livingston since the Record of Decision was issued. You will note that all of the tasks have been submitted in compliance with the deadlines dictated by DEQ. As you can see, the record shows inordinate delays by DEQ and failure to give the approvals necessary for BNSF to conduct the remedial actions.

If you would please review the attached chronology of events you will find, for example, that it took DEQ three years to prepare a Record of Decision determining the remedy. It took DEQ another three years to issue the Statement of Work. During this hiatus, BNSF could not initiate remedial action. As shown on Figure 1, the amount of time that DEQ has taken to review BNSF's work plans and reports is over 4 times longer than the time BNSF spent preparing the work plans and finalizing the reports. Our experience in other states is that agency review time is a fraction of the time that the responsible party is working on the matter, not multiples.

As you know, BNSF and DEQ have been negotiating a new consent decree for remediation at Livingston. In order to keep these negotiations from delaying progress of the remediation, BNSF and DEQ agreed to move up on a number of tasks and conduct them under the existing Consent

Decree. This resulted in the Spring 2005 Statement of Work. To date BNSF has completed Task C regarding the Cinder Pile and has initiated Tasks regarding Indoor Air and Surface Soil Investigation under the Spring 2005 Statement of Work, on time in accordance with DEQ's schedule and without request for an extension. BNSF has also timely submitted technical work plans and other required deliverables for DEQ's review and approval on the remaining Tasks F, G and L. DEQ has had these submissions since May 31, 2005 and has yet to comment. Again, BNSF cannot conduct these activities unless and until DEQ gives its approval. We fail to see "what actions on these tasks indicate that BNSF has no intention of actually completing the work." BNSF has sought clarification of one of the tasks, and has had a meeting scheduled for some time to discuss this with you further. This meeting has in no way delayed or impeded any of the Spring SOW.

BNSF has also agreed to additional investigation and related tasks at Mission Wye, also subject to the Consent Decree. On November 1, 2005, DEQ submitted its requirements for further work. On December 15, 2005, BNSF accepted them without change and agreed to execute DEQ's Amendment to the Consent Decree for Mission Wye when final documents were produced. The work is on track and the approvals are pending before DEQ.

Your March 15 letter states that no progress has been made by BNSF since your December 6 letter. Attachment 2 shows the activities that both BNSF and DEQ have conducted since December. As you will see, BNSF submitted the quarterly status report, conducted the cinder pile inspection, conducted indoor air sampling, prepared and submitted Addendum 1 to Task I, mailed and evaluated the well surveys, submitted the Task J Supplemental Investigation Work Plan and has been proceeding with other, on-going activities. During the same time DEQ has, we presume, continued its review of the Task F, G and L Work Plans which your staff has now had for 9 to 10 months. As you can see, we are confused by your statement.

We welcome a frank discussion with you regarding the progress of remediation at the other CECRA sites. We believe that a review of DEQ files will confirm that BNSF has been and is in full compliance with any orders and their required schedules. Certainly, BNSF has not received any notice from DEQ to the contrary.

As mentioned, BNSF desires to complete these cleanups as soon as possible. BNSF stands ready, willing and able to properly and expeditiously perform all appropriate remedial actions at the Livingston site. We are concerned, however, that the tone of your March 15 letter and the actions proposed in it will only make a cleanup more difficult and delay closure of the site.

Sincerely,

Cliff M. Smith

for Mark P. Stehly
AVP Environment & Research Development

Attachment A

LIVINGSTON SHOP COMPLEX

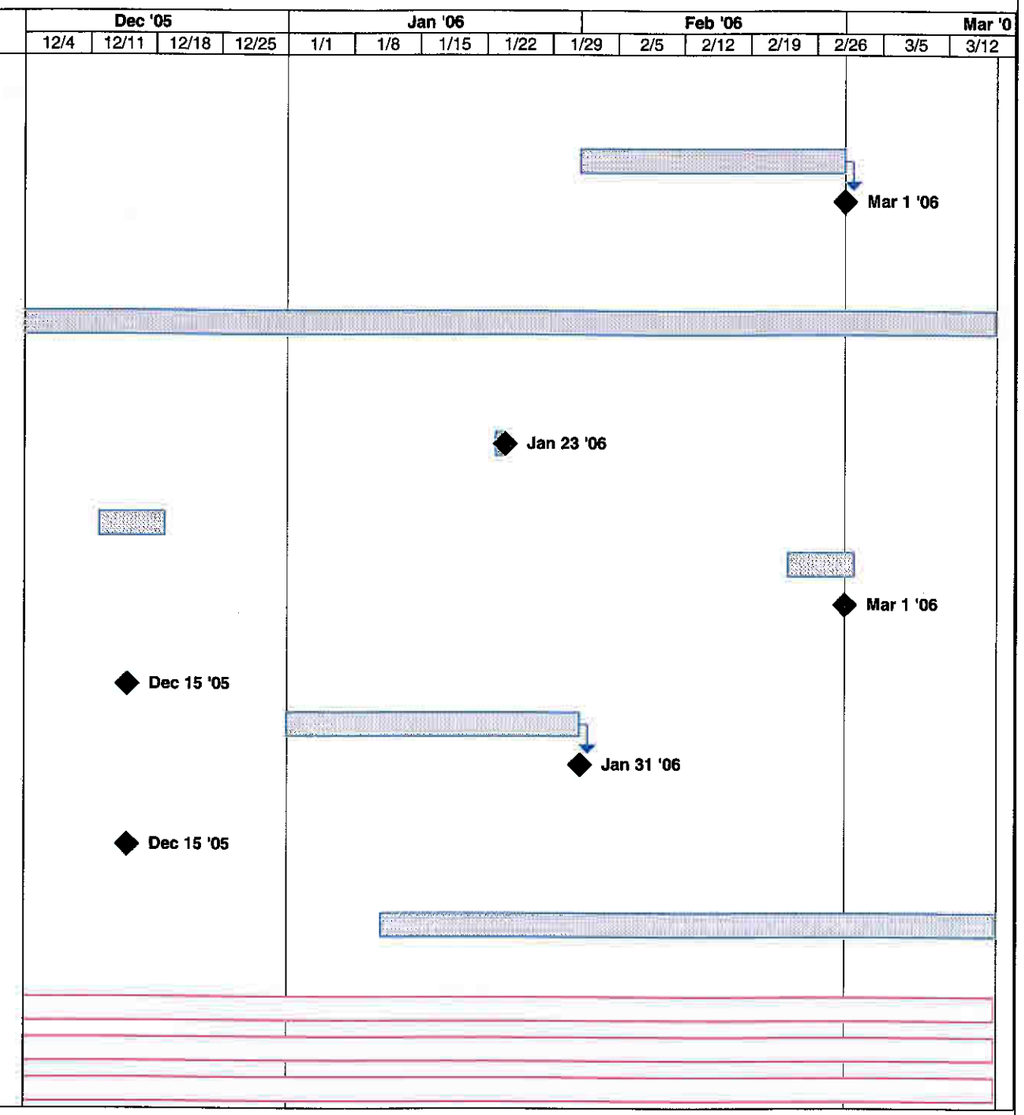
SUMMARY OF WORK PERFORMED AFTER SUBMITTAL OF FEASIBILITY STUDY

DATE	EVENT	COMMENT	On Time and According to DEQ Required Schedule
1998			
21 January 1998	BNSF submits Final Draft Primary Hydrocarbon Feasibility Study Report.		√
28 January 1998	BNSF submits Final Draft Soil and Groundwater Feasibility Study Report.		√
2000			
1 January – 21 April 2000	Electric Shop soil excavation interim remedial action		NA
2001			
September 2001	DEQ issues Record of Decision.		NA
2002			
30 May 2002	DEQ provides BNSF with Draft Statement of Work for Remedial Design/Remedial Action.		NA
6 June 2002	DEQ and BNSF meet and agree on modifications to Draft Statement of Work for Remedial Design/Remedial Action		NA
2004			
September 2004	DEQ issues revised Draft Statement of Work for Remedial Design/Remedial Action		NA
30 December 2004	BNSF submits letter to DEQ committing to proceed with an aggressive schedule to implement the highest priority subtasks (Tasks C, F, G, I, J, L) and deliverables identified in draft SOW under Paragraph 6 of Modified Partial Consent Decree.	Schedule required ten individual plans be prepared by BNSF within a 6 month period. Two plans (Task C) to be submitted to DEQ by 1 February 2005, three plans (Task I, Facility-Wide SAP, Facility-Wide HASP) to be submitted to by 31 March 2005, four plans (Task F. Task G, Task J, Well Inventory) to be submitted by 1 June 2005, and one plan (Task I) to be submitted by 1 July 2005.	√
2005			
Activities Completed During Spring 2005 SOW Negotiations			
March 2005	BNSF conducts a supplemental groundwater monitoring event in support of Task G.		√
March 2005 – 17 June 2005	Task C – Cinder pile capping remedial action constructed.		√
29 March 2005	BNSF submits Draft Task I Supplemental Investigation Work Plan for Indoor Air.	3 months to prepare. Submittal on time and according to DEQ-agreed upon schedule.	√
29 March 2005	BNSF submits Draft Facility-Wide SAP.	3 months to prepare. Submittal on time and according to DEQ-agreed upon schedule.	√
29 March 2005	BNSF submits Facility-Wide HASP.	3 months to prepare. Submittal on time and according to DEQ-agreed upon schedule.	√

ATTACHMENT 2

SCHEDULE OF ACTIVITIES - DECEMBER 2005 TO 17 MARCH 2006
Burlington Northern Livingston Shop Complex

ID	Task Name
1	**BNSF DELIVERABLES & FIELD ACTIVITIES**
2	**STATUS REPORTS**
3	Prepare Quarterly Status Report No.2
4	Submit quarterly report to DEQ
5	**OTHER ON-GOING ACTIVITIES**
6	**TASK F -STAGE I - PART 2 PILOT STUDY**
7	Draft Task F Stage I - Part 2 Pilot Study Work Plan preparation
8	**WORK APPROVED BY DEQ**
9	**TASK C - CINDER PILE CAPPING**
10	Cinder pile quarterly inspection No.3
11	**TASK I - SUPPLEMENTAL INVESTIGATION WORK PLAN FOR INDOOR AIR**
12	Indoor Air Sampling Activities
13	Prepare Addendum No.1 to Task I Supplemental Investigation Work Plan for Indoor Air
14	Submit Addendum No.1 to DEQ
15	**WELL INVENTORY**
16	Mail well survey forms to private property owners
17	Evaluate returned survey forms and update well inventory
18	Submit updated well inventory to DEQ (incl. response to comments and new information, if any, from survey)
19	**TASK J - SUPPLEMENTAL INVESTIGATION WORK PLAN FOR SURFACE SOIL**
20	Submit Task J Supplemental Investigation Work Plan - as modified by DEQ
21	**Visual Reconnaissance**
22	Visual reconniassance activities - being conducted as weather conditions permit
23	**WORK PENDING APPROVAL BY DEQ**
24	**TASK F - STAGE I - PART 1 REMEDIAL ACTION PLAN FOR VOC-CONTAINING GROUNDWATER**
25	**TASK G - STAGE I REMEDIAL ACTION PLAN FOR DISSOLVED-PHASE PETROLEUM HYDROCARBONS IN GROUNDWATER**
26	**TASK L - SUPPLEMENTAL INVESTIGATION WORK PLAN FOR BEDROCK AQUIFERS**



Project:
Date: 3/17/06

Task Milestone

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

April 17, 2006

DIR-06-188

Mark Stehly
AVP Environment & Research and Development
BNSF Railway Company
2600 Lou Menk Drive
Fort Worth, TX 76131-2800

Re: BN Livingston Shop Complex CECRA Facility

Dear Mr. Stehly:

As you know, Brian Schweitzer, Governor of Montana, recently supported my request to have DEQ take charge of the cleanup of the BN Livingston Shop Complex CECRA Facility. This letter outlines how we will accomplish the change in approach.

The Record of Decision for the Livingston Facility defines the essential elements of the required cleanup at the Facility and identifies a number of tasks that must be completed to adequately clean up the contamination at the Facility. Those tasks include the following:

1) Task A (Sludge Removal and Disposal)
2) Task B (VOC-Containing Soil and Residue Removal/Treatment)
3) *Task C (Cinder Pile Capping)*
4) Task D (Free Product Petroleum Recovery)
5) Task E (Petroleum-Containing Subsurface Soils Treatment)
6) *Task F (Alluvial Aquifer Groundwater VOC Cleanup)*
7) *Task G (Groundwater Dissolved-Phase Petroleum Cleanup)*
8) Task H (Interim Action Completion and Confirmation Sampling)
9) *Task I (Basement VOC Gas Investigation and Removal)*
10) *Task J (Surface Soil PAH and Surface Soil Petroleum Investigation)*
11) Task K (Groundwater and Soil Lead Investigation)
12) *Task L (Investigation of VOCs in Bedrock Aquifer(s))*

13) Task M (Investigation of Newly-Identified Potential Source Areas, Newly-Identified Potential COC-Containing Areas, Newly-Identified Potential COC-Containing Media and Newly-Identified Potential Contaminants of Concern)

14) Task N (Monitoring/Maintenance and Annual Reporting)

15) Task O (Request for Controlled Groundwater Area)

The tasks listed in italics are in various stages of implementation under the 2005 Spring Statement of Work (Spring SOW). Implementation of the other tasks has been the focus of negotiations but has not yet begun.

As I've previously discussed with you and with Governor Schweitzer in my letter to him of March 15, 2006, real progress in implementing these tasks gets bogged down in seemingly endless debates with BNSF over what steps should actually be taken. With that in mind, I have outlined below how each of the above tasks will be handled from this date forward. The process is designed to avoid the problems that I believe have caused the delays in the past so that the cleanup can proceed as it should. I believe that this new approach will get us to cleanup faster, and as I've said many times, that is better for BNSF, the State of Montana, and especially the citizens of Livingston. I take you at your word that you too are interested in faster progress, and I hope to have your cooperation as we proceed.

Tasks Covered by the 2005 Spring Statement of Work

As you know, in a letter dated August 22, 2005, after extensive negotiations BNSF agreed "to implement those tasks described in the Spring Statement of Work under the terms and conditions of the Modified Partial Consent Decree." We intend to continue with the process outlined in the Spring SOW for those tasks, reserving the right to take over all or any part of that work in the future if we determine it is appropriate. DEQ will not re-negotiate any Spring SOW task/activity with BNSF. Particular aspects of the Tasks will be handled as set forth below:

- Quarterly Groundwater Monitoring
  - BNSF will continue the quarterly groundwater monitoring as directed by DEQ and will provide DEQ with reports in accordance with the Spring SOW and specific Task work plans.

- Private and Public Well Inventory
  - BNSF will update the inventory in accordance with the Spring SOW.

- Task C (Cinder Pile Capping)

- BNSF will continue to inspect the cinder pile, as required by the Spring SOW and the approved work plan, and provide DEQ with reports in accordance with the Spring SOW.

- BNSF will submit to DEQ, for DEQ's review, draft institutional control language and will implement the institutional controls upon approval by DEQ.

- Any changes in monitoring/maintenance requirements for the cinder pile will be identified by DEQ and conveyed, in writing, to BNSF. BNSF will immediately implement the changes.

• Task F (Alluvial Aquifer Groundwater VOC Cleanup), Task G (Groundwater Dissolved-Phase Petroleum Cleanup), and Task L (Investigation of VOCs in Bedrock Aquifer(s))

- DEQ will provide its comments on the draft work plans to BNSF. These comments may, to the extent practicable, be presented in redline/strikeout electronic form. Pursuant to the Spring SOW, BNSF will be afforded one opportunity to finalize the work plan by incorporating DEQ's comments/requirements within six weeks of receipt. If BNSF's revised work plan does not adequately incorporate DEQ's comments/ requirements or is not submitted timely, as determined by DEQ, DEQ will, pursuant to the Spring SOW, modify the work plan to cure the deficiencies and approve the modified work plan.

BNSF will be given one opportunity to initiate and fully implement each work plan by the established deadlines. If BNSF fails to timely and fully implement any work plan, DEQ will take over the implementation of all the particular Task activities.

• Task I (Basement VOC Gas Investigation and Removal)

- BNSF will submit the data results/report regarding the second round of sampling to DEQ in accordance with the Spring SOW.

- Based on the results of the second round of sampling, DEQ will determine the next steps to be taken to complete Task I and inform BNSF of its determination. BNSF will prepare any necessary draft Task I addenda as directed by DEQ and submit the draft addenda to DEQ. The incorporation of DEQ's comments/required changes to the draft addenda will be handled as described in the Task F discussion above.

- BNSF will be given one opportunity to fully implement the Task I work plan activities, including those in the addenda to the initial plan, by the established deadlines. If BNSF fails to timely and fully implement the work plan, DEQ will take over the implementation of all the particular Task activities.

- Task J (Surface Soil PAH and Surface Soil Petroleum Investigation)

  - BNSF, with DEQ oversight, will complete the visual reconnaissance in accordance with the Task J work plan.

  - BNSF will prepare the draft addendum required by the existing Task J work plan and the Spring SOW. The incorporation of DEQ's comments/required changes to the draft addendum will be handled as described in the Task F discussion above.

  - BNSF will be given one opportunity to fully implement the Task J work plan activities, including those in the addendum to the initial plan, by the established deadlines. If BNSF fails to timely and fully implement the work plan, DEQ will take over the implementation of all the particular Task activities.

Tasks Not Covered by the 2005 Spring Statement of Work

Consent Decree negotiations have been underway for over a year regarding implementation of Tasks A, B, D, E, H, K, M, N and O, as well as additional portions of the Spring SOW tasks. DEQ does not believe that we can reach agreement with BNSF on an appropriately modified or new consent decree. Therefore, as of the date of this letter, DEQ is terminating those negotiations. Instead, DEQ will prepare the appropriate work plans, and BNSF will be given one opportunity to provide written comments or suggested changes to each work plan and one opportunity to implement each work plan as described below.

1) DEQ will prepare the work plans for the specified tasks as it determines appropriate.

   - After DEQ provides BNSF a copy of a work plan, BNSF will have 30 calendar days to provide DEQ with one set of written comments or suggested changes to that specific work plan.

   - Upon receipt of BNSF's suggested changes, DEQ will review the suggestions and timely incorporate into the work plan any suggestions determined to be

appropriate. DEQ's Project Officer will contact BNSF's Project Coordinator for clarification, if any is needed regarding BNSF's suggestions. DEQ will not engage in debate or negotiations with BNSF regarding BNSF's comments.

- Once all appropriate suggestions have been incorporated by DEQ, the work plan will be finalized by DEQ.

2) DEQ will provide copies of finalized work plans to BNSF and offer BNSF in writing the opportunity to implement each final work plan by an established deadline. BNSF must notify DEQ in writing within 14 calendar days of DEQ's offer whether it wishes to implement the work plan.

- If BNSF elects to implement a work plan:

a) BNSF will be given only one opportunity to fully implement the work plan and complete it by DEQ's established deadline;

b) BNSF must implement the activities in strict compliance with the approved work plan and any applicable supplemental plans such as the March 2006 Facility-Wide Sampling and Analysis Plan. If field conditions or other circumstances require any changes to a work plan, only DEQ's Project Officer may alter the work plan. If DEQ's Project Officer modifies any work plan, DEQ will expect BNSF to immediately comply with the modifications; and

c) BNSF must notify DEQ of its schedule to conduct field work at least 10 business days prior to each field event so DEQ can arrange to observe work activities and potentially collect split samples.

If BNSF fails to timely and fully implement any work plan, DEQ will take over the implementation of all the particular Task activities. If DEQ takes over the implementation of any Task, BNSF must provide DEQ, in both electronic and hard copy form, all data related to the Task, including, but not limited to, all maps, laboratory data and compiled data summary tables, within 14 calendar days of DEQ requesting such data.

- If BNSF elects not to implement a work plan or fails to accept DEQ's offer, in writing, within 14 calendar days after DEQ makes its offer, DEQ will implement the work plan.

I have directed DEQ personnel to implement these changes immediately. DEQ reserves the right to make modifications to this process if we determine that changes will allow us to better meet DEQ's statutory obligation to protect human health and the environment, if we determine that BNSF is not performing or will not perform any remaining portion of the work properly and expeditiously, or if we determine there are

other reasons for modifying the process. We also reserve the right to take any other actions authorized by law.

As you know, under various statutory authorities, as well as the Modified Partial Consent Decree, BNSF is obligated to reimburse DEQ's costs for the Facility. We intend to continue billing BNSF under the applicable authorities for costs incurred. While bills to date have been submitted quarterly, I have directed DEQ personnel to begin invoicing BNSF for DEQ's response/remedial action costs on a monthly basis. This will allow you to see our costs on a more current basis and should work better for both of us.

In addition, we at DEQ are reviewing what changes we can make in our internal processes in order to proceed to cleanup more quickly. One step we already anticipate is greater use of contract support, and we will continue to evaluate what other improvements we can make internally.

I know you agree with me that progress at this Facility has been far too slow, and again, I am implementing these changes to get to cleanup faster. I believe that this new approach will be in the best interests of all of us, but especially the community of Livingston. If you have any questions or concerns, please contact me. Meanwhile, I look forward to a new era of progress.

Sincerely,

Richard H. Opper
Director

c: Sandi Olsen
Michael Trombetta
Denise Martin
Laura Vachowski
Dave Smith, 139 N. Last Chance Gulch, Helena, MT 59601

BNSF RAILWAY

Mark P. Stehly

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April 21, 2006

Richard H. Opper
Director
Montana Dept. of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

RE: Livingston Shop Complex

Dear Director Opper:

This is to follow upon your April 17, 2006, letter and our telephone conversation today regarding the Livingston Shop Complex. As we discussed BNSF is pleased with the Department's decision to move expeditiously toward the completion of the Livingston cleanup.

While BNSF has concerns about some of the points in your letter, we do not believe a point by point discussion would be productive. We also recognize, and hope the Department does as well, that the existence of the Modified Partial Consent Decree and the need for a new or amended consent decree is a complicating issue with respect to the framework set forth in your letter. It should be clearly understood that BNSF is not waiving or relinquishing any rights it has under the MPCD or any applicable law.

I would like to schedule a meeting with you as soon as possible to accelerate implementation of the remaining items associated with the cleanup of the Livingston site. I will call you to see what dates you might be available. In closing, BNSF shares the Department's desire to accelerate the progress of cleanup at Livingston and look forward to working with you and your team.

Sincerely,

Mark P. Stehly
AVP Environment & Research Development

RECEIVED

APR 28 2006

DEQ
DIRECTOR'S OFFICE