MINUTES

MONTANA HOUSE OF REPRESENTATIVES
52nd LEGISLATURE - REGULAR SESSION

COMMITTEE ON NATURAL RESOURCES

Call to Order: By **CHAIRPERSON BOB RANEY**, on February 6, 1991, at 3:00 pm.

ROLL CALL

Members Present:

Bob Raney, Chairman (D)
Mark O'Keefe, Vice-Chairman (D)
Beverly Barnhart (D)
Vivian Brooke (D)
Ben Cohen (D)
Ed Dolezal (D)
Orval Ellison (R)
Russell Fagg (R)
Mike Foster (R)
Bob Gilbert (R)
David Hoffman (R)
Dick Knox (R)
Bruce Measure (D)
Tom Nelson (R)
Bob Ream (D)
Jim Southworth (D)
Howard Toole (D)
Dave Wanzenried (D)

Staff Present: Gail Kuntz, Environmental Quality Council
Paul Sihler, Environmental Quality Council
Lisa Fairman, Committee Secretary

Please Note: These are summary minutes. Testimony and discussion are paraphrased and condensed.

HEARING ON HB 380

Presentation and Opening Statement by Sponsor:

REP. FRITZ DAILY, HD 69, Butte, said HB 380 deals with the Berkeley Pit. He distributed a fact sheet on the Berkley Pit. **EXHIBIT 1** He stated the bill has four main points. Page 5, line 15, prohibits pollution of an aquifer at a current Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) site by contaminants or hazardous substances. Page 5, line 5 specifies that the Department of Health and Environmental Sciences (DHES) will issue clean-up orders. Page 6, line 15, states the fine for a violation will increase. Page 4, line 20 defines aquifer to be a water-bearing, subsurface formation

capable of yielding sufficient quantities of water to a well for a beneficial use.

REP. DAILY stated the purpose of the legislation is to prevent the Environmental Protection Agency (EPA) and Atlantic Richfield Company (ARCO) from allowing mine water to contaminate the aquifer. In 1989 ARCO and EPA negotiated behind closed doors to decide what would be the new definition of the critical water level. The critical water level is the level at which the EPA will no longer allow the water to rise or the point where the water will be contained within the pit. Prior to 1989, EPA stated that the critical water level was the bedrock alluvial interface underlying Butte. This level, an elevation of 5216 ft, was based on scientific data and reviewed by the public. The top of the water in the pit is currently 5003 ft and rising. The new critical level, which was negotiated between ARCO and EPA behind closed doors, is 5410 ft. The top of the pit is 5500 ft and the bottom of the pit is 4263. The volume of the liquid in the pit increases by 7.6 million gallons/day.

The toxicity of the liquid in the pit is extreme. Iron railroad rails, 40 ft. long and 12 in. thick, placed in the pit, dissolved completely within two weeks. During the winter of 1989 when the temperatures were -40 degrees, the pit never froze. **REP. DAILY** stated that the potential for pollution and contamination to occur at Berkeley Pit is great. The effects would destroy the aquifer and as a result would destroy Butte. The effects would not be contained in Butte. Silver Bow is the headwaters for the Columbia River Basin. The devastation would reach throughout Montana and the Northwest. Citizens have always been told EPA would be ready to deal with spillage. This does not seem possible when they haven't even developed any treatment or clean-up facilities. EPA documents state that the water is within 200 ft of contacting the alluvium on the east wall of the Berkeley Pit. The water is rising 30 to 35 ft/yr. The pit lies on top of the Continental fault. The potential for a serious earthquake is inevitable. Contamination of the aquifer can occur through bedrock fractures and faulting, the extensive old underground old mine workings, and through recharge pathways.

The present critical water level was not established but negotiated. The work plans reflect this. **EXHIBIT 2** See work plan handout. Behind closed doors EPA agreed to allow the Pit to fill 195 ft above the critical levels stated in the work plan. This will cause the pit levels to rise above the alluvial aquifer. 1987 was the last time the Berkeley pit was sampled by ARCO and the EPA. This is indicative of the type of response and concern that EPA and ARCO have exhibited. **REP. DAILY** stated that Montana Power Company (MPC) noted an error in HB 380. He distributed proposed amendments to correct the error and supported their adoption. **EXHIBIT 3**

Proponents' Testimony:

Jack Lynch, Chief Executive-Butte Silver Bow, supported HB 380. He stated he researched the EPA Superfund clean-up situation thoroughly. The situation is overwhelming. **Mr. Lynch** stated that flooding potential of the Pit exists. Studies indicate there is no assurance that the Pit won't flood. ARCO and EPA violated the established critical level by negotiating a new critical level. Critical levels are not negotiable. ARCO and EPA have not allowed for any room for error, natural or human-caused. Clean-up concerns are very real. Currently, there is no mechanism in place to move quickly in clean-up efforts. HB 380 provides the people with leverage to initiate action toward securing a remedy. The bill is needed to protect the people.

REP. BOB PAVLOVICH, HD 70, Butte, supported HB 380 for the reasons previously mentioned. He stated that time is of the essence. The time factor for addressing clean-up and potential contamination is critical. Action must occur now.

Albert Malignoni, County Water and Sewer District, stated he lives in Silver Bow drainage. He stated that contamination of the water has already occurred. Tests conducted by EPA and ARCO indicate contamination has occurred. The contamination and potential contamination will affect other communities, such as Anaconda and Missoula, as well. EPA and ARCO have not expressed any desire or concern to rectify the situation. By shutting down the pumps in 1982 they are allowing contamination to occur. **Mr. Malignoni** emphasized that the state of Montana owns the water. These companies have no right to contaminate the water. The companies must be held responsible for clean up. Clean water is the most crucial and valuable resource in Montana. Contaminated water is worthless. He supported HB 380.

Kim Wilson, Clark Fork Coalition, supported HB 380. He stated that a significant problem exists. If the problem with the Berkeley Pit is not addressed there are major detrimental environmental ramifications. **Mr. Wilson** expressed concerns with technical aspects of the bill. Page 4, line 20, the definition of an aquifer is too limited. The definition, as written, limits protection to a well. Any water in an aquifer needs to be protected. On page 5, section 2, DHES has its hands tied, they are not able to react quickly. Page 12, concerning the authority of the State to take action on a Superfund site may be in direct conflict with federal law and authority. This needs to be examined. Any bad pollution should be treated equally in establishing the fines. **Mr. Wilson** stated while these technical problems exist in the bill and need to be resolved, he supports passage of the bill.

Chris Kaufmann, Montana Environmental Information Center (MEIC), supported HB 380. She stated that the Berkeley Pit is a very critical environmental situation. She stated she shares the concerns **Mr. Wilson** addressed. **Ms. Kaufmann** expressed concern

over fairness in establishing priority cleanup projects (page 5, sec 2). Concerning page 12, section 2, it states the Department shall take remedial action. Generally the current practice is that the Department forces the responsible party to take remedial action. If the Department takes remedial action without contacting the responsible party it may be difficult to recover the costs from the responsible party later. It needs to be clarified whether that will jeopardize the cost recovery authority later, or if this means the Department will actually force the responsible party to take action.

REP. BOB REAM, supported HB 380. He stated that the Berkeley Pit is a time bomb. It will cause major environmental problems for Montana if cleanup and preventive action does not occur quickly.

Floyd Bossard, Butte, supported HB 380. He stated he is a frustrated concerned citizen of Butte. He is an environmental engineer and is a member of the Citizens Technical Environmental Committee. He stated there was no fatal flaw analysis done when the pumps were turned off. It was an economic decision and is very costly to the environment. Berkeley Pit is one of the largest Superfund sites in the country and the socio-economic-environmental affects have not been thoroughly studied. Montana Environmental Policy Act (MEPA) and National Environmental Policy Act (NEPA) have been disregarded with respect to the concerns and impacts on the community from a long term effect. If the water is allowed to rise to the proposed level of 5410 ft., it will be the deepest body of water in the state of Montana. It will be the largest volume of contaminated water of this nature in the world. Besides the threat of extreme environmental damage, the pit will have socio-economic effects. These impacts need to be considered. The pit causes fog which results in vehicle accidents. Currently, the surface area of the pit is 30% of what it will be when it reaches the critical level. The fog problem will increase significantly as the water level increases. Beneath the water is 0.5 to 1.0 billion tons of copper ore that will never be able to be mined if the water in the pit remains. The potential to mine the ore is lost. The ore has a mining life of 40 - 80 years. The increasing pit level is negatively affecting the development of Butte.

<u>Opponents' Testimony</u>:

Frank Crowley, Asarco, stated the Berkeley Pit is a top priority and he is intensely involved in the process. He said he disagrees with the need for the bill because he disagrees with the characterization of the process. There are severe policy and mechanical problems with the bill that would cause administrative nightmares. The outcome of this bill would slow down the process of addressing the issues and could undo progress already completed. The bill would be applicable to the entire state. It will be impossible for DHES to establish and follow priorities for cleanup. The issues and concerns are addressed under Federal laws and do not need to be repeated under state laws. If the

state issued cleanup orders, interagency (federal and state) cooperation would disintegrate. In response to page 5, line 8, "... if action is not taken...", action has been taken by the listing of the site as a Superfund site. For DHES to issue clean up orders, the Department would need technical and regulatory resources which they do not have. EPA is staffed for such a process. If the legislation is adopted, DHES may lose EPA funding.

He stated the language on page 5, line 15, is too broad and drastic. Currently, the Department has the option of ordering someone to take remedial action or to undertake action itself under the state Environmental Response and Cleanup Act (SECRA). The proposed section 2, line 9, takes away the discretion and makes it mandatory for the Department to do the work. An inconsistency is present on page 14, under the new section 6. It is a civil penalty for failing or refusing to comply with an order issued under #2, page 12. That section 2 does not authorize orders to be issued, rather it requires DHES to do the work. All cooperation between the state, federal and private parties would be destroyed if DHES starts doing the clean-up work itself.

Under section 75-10-711, DHES is only allowed to take remedial action if DHES notifies the party that action needs to be taken and that person is unwilling or unable to do it. In federal Superfund sites, the parties have already been notified and have already taken substantial action. It is questionable if DHES would ever be authorized under this section as it is drafted to take remedial action because the two conditions that must precede could not be met.

Asarco does not minimize the problem but feels that HB 380 is not the method to achieve the end result.

Ward Shanahan, Chevron Corporation, Stillwater Mining and **Stillwater PGM Resources**, opposed HB 380. **EXHIBIT 4**

Bill Williams, ARCO, opposed HB 380. **EXHIBIT 5**

Ray Tilman, Montana Resources, opposed HB 380. He stated the final critical water level was established with agreement of EPA and state hydrologists. The change resulted because more information about the water levels was learned. If new things are learned which indicate that the current critical water level of 5410 is inadequate, changes will be made. Capable individuals worked and continue to work on the situation. Montana Resources believes that there will be a solution in plenty of time to prevent any significant problems in the area.

Dennis Lind, Washington Corporation, opposed HB 380. He stated that this proposed legislation comes from a small and specialized group. The process of determining the water level as depicted by the proponents was misleading and incorrect. The water level was

determined using the best information available. Bringing the legislation in will make matters worse and be very confusing.

Questions From Committee Members:

CHAIRMAN RANEY asked **Mr. Crowley** what is the other solution to stopping that water from rising to the groundwater level, to the level of contamination. **Mr. Crowley** replied he is a mere attorney and can not provide technical expertise. The suggestions are process suggestions. There is no legal precedence here. This piece of legislation will not work. There may be other ways of intensifying the process of local involvement in the decision making areas. The Superfund is replete with avenues for public participation. It is best if the citizens work within the system rather than trying to repudiate it. There is no quick and easy solution to this situation, however, it is very apparent that the Legislature is not the way to go. **REP. VIVIAN BROOKE** stated she was very impressed with the Citizen's Technical Committee. She asked **REP. DAILY** how this committee interacted with EPA. **REP. DAILY** replied the committee worked countless hours without any pay. The committee is very frustrated with the process and the response of EPA. The EPA makes decisions and tells the concerned people without ever considering input. They do not react to problems. The Committee met with the federal General Accounting Office (GAO) and with Sen. Baucus to discuss the water level. The water level was negotiated with no input from the public. A decision on Silver Bow was supposed to have occurred in 1990. There is no decision yet and none in the foreseeable future.

REP. ELLISON asked **Mr. Williams** if a contingency plan exists. **Mr. Williams** replied yes. The State and ARCO have signed it. It is a contract. **EXHIBIT 6** **REP. ELLISON** asked if contamination can occur before the water level is reached. **Mr. Williams** replied it is a complicated answer. The water tables around the pit control the water level in the pit. Water flows to lower levels. If the water level around the pit is higher than the pit level, water will not flow outside. The objective is to let the water in the pit rise above the local water table. The 5410 ft. level embodies a margin of safety of approximately 50 ft. **CHAIRMAN RANEY** asked why they would want to push the level to the limit and not leave a 200 ft precautionary safety zone instead of 50 ft. **Mr. Williams** answered they want to deal with a stable body of water. The level and content of the water is constantly changing. The water has not been tested for years. Data will be collected when the water rises and becomes stable. At that point it will be easier to treat. **CHAIRMAN RANEY** asked what is the time table for treatment. **Mr. Williams** responded that sampling of the pit will occur in the spring of 1991. When the engineering study is completed, EPA will release a record of decision. The water treatment plant will then be designed. The design will be completed approximately four years from now. The plant will be built before the water reaches the critical level. EPA and the State of Montana decide when the plant will be built.

REP. DICK KNOX inquired what will happen to the treated water. **Mr. Williams** said it will be returned to Silver Bow Creek. **REP. KNOX** asked if this is acceptable. **Mr. Williams** replied that the water quality must be within state standards. **REP. KNOX** asked if technology exists to accomplish this task. **Mr. Williams** stated he believed so, but these plants are custom built. **REP. KNOX** asked if they will pump in perpetuity. **Mr. Williams** said yes, provisions will be made in the Record of Decision to ensure that the responsible parties take care of the situation until the aquifer cleans itself. **REP. HOWARD TOOLE** inquired if the treatment will include drawing down the pit. **Mr. Williams** said no. They will just maintain the water level. **REP. TOOLE** asked if this could be changed. **Mr. Williams** replied there is no reason to draw the pit down. He said he did not know if the decision could be changed. **REP. TOOLE** asked when the plant will be built. **Mr. Williams** estimated sometime after the year 2000. **REP. TOOLE** inquired if that is when EPA, DHES, the companies, and everyone else finally concedes that this is an environmental disaster. **Mr. Williams** stated that they believe it is a serious problem that needs to be addressed. It is not an environmental disaster.

REP. JIM SOUTHWORTH asked **REP. DAILY** how long the studies have been going. **REP. DAILY** replied since 1985. **REP. KNOX** asked how much lead time is necessary to construct the plant. **Mr. Williams** replied three years. **REP. KNOX** inquired if the technology to build and operate the treatment plant will exist prior to the time it is needed. **Mr. Williams** stated he is confident the technology will exist in time.

Closing by Sponsor:

REP. DAILY thanked the committee and audience for an excellent hearing. He asked the committee to consider who the opponents to the bill are. The opponents are the people who are responsible. This problem can destroy Butte. The importance of this issue has not been taken seriously. The lack of sampling since 1987 is indicative of problems. Montana Tech can't access water to sample it. No one wants to go into that pit. There is no question that water will overflow unless remedial action occurs. No one knows the time frame. The greatest fear was confirmed during this hearing. No one knows what to do when it overflows. The pit is a problem but it also is an opportunity. The water in the pit could be a valuable asset but first it needs to be made into water. Management of this situation needs to err on the side of safety. The stakes are too high to do otherwise.

EXECUTIVE ACTION ON HJR 8

Motion: **REP. MARK O'KEEFE MOVED HJR 8 DO PASS.**
REP. RUSSELL FAGG moved to adopt amendments. **EXHIBIT 7**

Discussion: **REP. MIKE KADAS** stated that he felt all groups involved agree with the resulting resolution. Montana Power

Company (MPC) was intimately involved. **REP. BROOKE** asked why a double negative is used, referring to "eliminate disincentive". **Mr. John Alke** responded that there are three components to rate making: neutral, disincentives, and incentives. The Resolution says that disincentives should be eliminated and incentives should be adopted to encourage conservation. **REP. KADAS** added the wording is industry jargon.

Vote: Motion to adopt amendments carried unanimously.

Motion/Vote: **REP. SOUTHWORTH MADE A SUBSTITUTE MOTION THAT HJR 8 DO PASS AS AMENDED.** Motion carried unanimously.

EXECUTIVE ACTION ON HB 382

Motion: **REP. DAVID HOFFMAN MOVED HB 382 DO PASS.**

Discussion: **REP. MEASURE** stated he was concerned about dissolving responsibility in the court. A dam situation is similar to a mine in that the responsible parties should be the owners. If the owners are responsible for the dams then they will take care of them and page 5, line 9 would not be necessary. **REP. O'KEEFE** stated that he felt it does not remove the strict liability from the dams located on the federal lands. **REP. MEASURE** responded that for federal purposes that is correct. It is desirable for the state to hold strict liability also. **CHAIR RANEY** stated he felt that HB 382 should be in Judiciary. **REP. GILBERT** stated because he does not understand the liability situation he does not feel comfortable voting on the bill. **REP. MEASURE** responded that the four lawyers on the Natural Resource committee could figure it out and it would not be necessary to send it to Judiciary. **CHAIRMAN RANEY** appointed a subcommittee of the four lawyers: **REPS. FAGG, MEASURE, HOFFMAN,** and **TOOLE.** with **REP. FAGG** chair. **REP. HOFFMAN** withdrew his motion.

EXECUTIVE ACTION ON HB 383

Motion: **REP. GILBERT MOVED HB 383 DO PASS.**

Discussion: **CHAIRMAN RANEY** stated this bill is necessary to ensure that wastes are properly managed. **REP. KNOX** asked why it is necessary to have state regulations more strict than federal ones. **CHAIRMAN RANEY** responded that some areas are more sensitive than others and need more protection. There are many areas in which the state adopts stronger regulations than the federal government. Air quality is one of these areas. The federal government may not adopt regulations which are as strong as what they say they are going to or which fit individual community needs. The Department should be able to address individual needs and have the flexibility to make stronger regulations. **REP. REAM** stated that stricter standards can be imposed anyway. **Gail Kuntz, staffer,** stated that given the language on page 4, it is necessary to say "more restrictive" in

order to do that.

REP. COHEN said that Plum Creek burned the waste oil that spilled in Whitefish Lake in their wood waste burner. He inquired if this type of situation would be addressed in HB 383. **CHAIRMAN RANEY** responded that the bill wasn't intended for that type of situation. **REP. REAM** stated EPA has specific sets of regulations for boilers regardless of what the boilers do. He said he interprets the rule making authority that this gives them would allow them to do that even for those furnaces. **CHAIRMAN RANEY** responded that he did not know if a tepee burner, industrial furnaces or boilers are covered under this law. **Roger Thorvilson, DHES,** stated the definitions are detailed. Essentially, it has to be either a boiler or a furnace for industrial or manufacturing, not for space heating. The regulations envisioned by the bill are specific handling and emission requirements for that boiler, irrespective of what that boiler normally does. These regulations would set emission requirements and performance standards for that boiler. **REP. BROOKE** asked if the situation as described by **REP. COHEN** would be covered under this. **Mr. Thorvilson** replied no. The devise would have the meet the definition of a boiler or industrial furnace.

Vote: Motion for HB 383 DO PASS carried unanimously.

EXECUTIVE ACTION ON HB 414

Motion: **REP. COHEN MOVED HB 414 DO PASS.**
REP. COHEN moved to adopt amendments. **EXHIBIT 8**

Discussion: **REP. COHEN** read the amendments and stated they are in response to concerns expressed by the Department. **REP. COHEN** summarized the amendments by stating they will allow the Department to respond to a problem, such as a spill, before it creates pollution. It allows for preventive actions, such as installing a berm to prevent a spill from entering a stream. Other amendments are cleanup amendments. **REP. WANZENRIED** asked if the statement of intent needs to reflect the ability for preventive measures. **REP. COHEN** stated he thinks it might need to be amended. **Ms. Kuntz** agreed. She suggested that language to the affect "and activities undertaken by the government to prevent pollution in state waters" be added to lines 21 and 22.

Vote: Motion to adopt amendments carried.

Motion/Vote: **REP. WANZENRIED** moved to amend statement of intent in a manner suggested by **Ms. Kuntz.** Motion carried unanimously.

Motion/Vote: **REP. COHEN MOVED HB 414 DO PASS AS AMENDED.** Motion carried.

Announcements/Discussion:

REP. MEASURE reported that the subcommittee on HB 233 has been

meeting with Burlington Northern, the local Rail to Trails Organizations, and Pam Langley from the grain co-ops. A resulting grey bill will be presented to the committee on Monday. He explained that the subcommittee decided that a companion bill of HB 233 should be drafted. HB 233 will focus on the issues surrounding the grain elevator owners' concerns. The companion bill will address the purchasing of lands adjacent to right-of-ways and of abandoned railroad corridors for recreation use. **REP. MEASURE** asked the committee for their input. **REP. GILBERT** stated he would like to see the bill before voting. **REP. KNOX** said he supported the concept.

Motion/Vote: REP. MEASURE MOVED THAT A COMMITTEE BILL FOR THE COMPANION BILL TO HB 233 BE DRAFTED. Motion carried.

CHAIRMAN RANEY asked **Paul Sihler, staffer,** to explain the draft of the committee bill on solid waste definition. **Mr. Sihler** summarized the draft bill. **EXHIBIT 9** He explained the bill will help cleanup existing law and clarify the definition of solid waste. DHES expressed a need for such clarification and amendments.

REP. COHEN asked if recyclables should be included in the solid waste stream. The subcommittee is including recyclables for the purpose of transportation under Class B transportation. **REP. O'KEEFE** responded that he was not sure if it is appropriate for this section or not. If this isn't adopted, there will be numerous bills that don't use this definition. There may be a need to do both. **REP. GILBERT** stated that this doesn't address recyclables as anything other than it identifies solid waste management system. That is the only place recycling is mentioned. It probable would not jeopardize what you're trying to do. **CHAIRMAN RANEY** stated there may be problems of the sections not being in compliance with each other. He suggested that the committee proceed with the draft and then if the committee wants to make those changes, another bill could be introduced addressing those changes.

Motion/Vote: REP. REAM MOVED TO HAVE THE DRAFT BILL BE DRAFTED BY MR. SIHLER AS A COMMITTEE BILL. Motion carried unanimously.

ADJOURNMENT

Adjournment: 5:25 pm.

Bob Raney
BOB RANEY, Chair

Lisa Fairman
LISA FAIRMAN, Secretary

BR/lf

HOUSE OF REPRESENTATIVES

NATURAL RESOURCES COMMITTEE

ROLL CALL **DATE** 2-6-91

NAME	PRESENT	ABSENT	EXCUSED
REP. MARK O'KEEFE, VICE-CHAIRMAN	✓		
REP. BOB GILBERT	✓		
REP. BEN COHEN	✓		
REP. ORVAL ELLISON	✓		
REP. BOB REAM	✓		
REP. TOM NELSON	✓		
REP. VIVIAN BROOKE	✓		
REP. BEVERLY BARNHART	✓		
REP. ED DOLEZAL	✓		
REP. RUSSELL FAGG	✓		
REP. MIKE FOSTER			
REP. DAVID HOFFMAN	✓		
REP. DICK KNOX	✓		
REP. BRUCE MEASURE	✓		
REP. JIM SOUTHWORTH	✓		
REP. HOWARD TOOLE	✓		
REP. DAVE WANZENRIED	✓		
REP. BOB RANEY, CHAIRMAN	✓		

CS05NATRES.MAN

HOUSE STANDING COMMITTEE REPORT

February 7, 1991

Mr. Speaker: We, the committee on Natural Resources report that House Joint Resolution 8 (first reading copy -- white) do pass as amended .

Signed: _____
Bob Raney, Chairman

And, that such amendments read:

1. Page 2, lines 7 through 22.
Strike: subparagraphs (2) through (5) in their entirety.
Insert: "(2) That the Council should encourage regulators in the Northwest to eliminate economic disincentives to investments by electric utilities in cost-effective energy conservation resources; and

(3) That the Council should encourage regulators in the Northwest to adopt ratemaking policies which do not encourage electric utilities to promote inefficient increased usage of electric energy; and

(4) That the Council should encourage regulators and electric utilities in the Northwest to explicitly consider environmental costs in their resource choices."

HOUSE STANDING COMMITTEE REPORT

February 7, 1991

Mr. Speaker: We, the committee on Natural Resources report that House Bill 383 (first reading copy -- white) do pass .

Signed: _____

Bob Raney, Chairman

HOUSE STANDING COMMITTEE REPORT

February 7, 1991

Mr. Speaker: We, the committee on Natural Resources report that House Bill 414 (first reading copy -- white) do pass as amended .

Signed: _____

Bob Raney, Chairman

And, that such amendments read:

1. Statement of Intent, page 1, line 21.
Following: "of"
Insert: "water pollution prevention and"

2. Page 2, line 20.
Following: line 19
Insert: "(a) to respond if wastes have been placed in a location where they are likely to cause pollution of state waters;"
Renumber: subsequent subsections

3. Page 3, line 8.
Following: "(a)(i)"
Insert: "wastes have been placed in a location where they are likely to cause pollution of state waters or"

4. Page 3, line 10.
Following: "fails to"
Insert: "clean up the wastes or to"

5. Page 3, line 14.
Following: "necessary to"
Insert: "prevent pollution of state waters,"

EXHIBIT 1
DATE 2/6/91
HB 380

BERKELEY PIT FACTS AND STATISTICS

Prepared by
Representative Fritz Daily

January 31, 1991

1. Pumping was **suspended** at Butte's Kelly Mine on April 24, 1982.

2. Water in the Butte mines has risen over **2680 feet** since pumping was suspended.

3. Water in the Berkeley Pit is currently at a depth of **740 feet.**

4. The volume of water in the Berkeley Pit is over **16 billion gallons.**

5. Water in the Berkeley Pit fills at an average rate of **7.6 million gallons per day.**

6. Temperature in Butte in 1989 was recorded at a **minus 40 degrees Fahrenheit.** However, the water in the Berkeley Pit **did not freeze.**

7. The Butte mine flooding is the **largest mine flooding** that has ever taken place **in the world.**

8. The Silver Bow Creek Superfund site is the **largest in the United States.**

9. **Silver Bow Creek is a gaining stream** and will eventually be contaminated by this water.

10. Silver Bow Creek is the **headwaters for the Columbia River Basin.**

11. EPA documents state the water is **within 200 feet of contacting the alluvium** on the east wall of the Berkeley Pit.

12. Water in the Berkeley Pit **rose 30.5 feet in 1989** and **33.2 feet in 1990.**

13. All monitoring of the Berkeley Pit is conducted through the Kelly Mine. The **Berkeley Pit water has not been sampled since 1987.**

Ex. 1
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14. Montana Bureau of Mines documents indicate that **water in the bedrock and the alluvium** adjacent to the pit is **rising** at approximately the **same rate as the water in the pit.**

15. The Berkeley Pit lies atop of the **CONTINENTAL FAULT.** According to recent articles in the Montana Standard and the Montana Magazine, the potential for a serious earthquake in Southwestern Montana is inevitable.

16. It was originally projected that the pit would **fill to capacity** and overtop **in 24 years.** Projections now vary as to when this will occur. However, as recently as December, 1989, Montana Resources, the current owner of the mine, documented the original projection was close to schedule.

FD/eb

Ex. 1
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The Big Sky Country

MONTANA HOUSE OF REPRESENTATIVES

EAST CAMP-WEST CAMP

There are currently two separate areas flooding in Butte: The Travonea and Emma mine area known as the West Camp and most of the other mines, including the Berkeley Pit, known as the East Camp.

The Anaconda Co. discontinued mining in the West Camp in 1959. The area was bulkheaded off from the active mine area and allowed to flood. Water rose to the point where basements began to flood. In 1965 a relief well was drilled - known as Well #21 and the water level was lowered. Water remained at a static level and did not begin to rise until 1984 when the water level in the East Camp forced water in the West Camp to again begin to rise. Water rose to within five feet of the Silver Bow Creek Alluvium and the water is now being pumped to the Butte Metro Sewer plant for treatment.

There are two significant points to be made from this assessment.
1. EPA and ARCO were not prepared to deal with the problem when it occurred.

2. The water did discharge into the alluvium.

CDM RI/FS Workplan
April 27, 1990

EXHIBIT 2
DATE 2/6/91
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not known as the area has been dewatered for so many years. This additional potential for spread of contaminated ground water into unmined areas via the bedrock is a cause for concern. It is being addressed by this RI/FS in that a primary objective of the RI is to establish the water level in the pit below which the contaminated water will be contained in the pit (i.e., flow towards the pit will be maintained as is currently occurring) for treatment or ultimate disposition, at which time the entire body of contaminated bedrock ground water will be dealt with.

The Berkeley Pit and associated mines are currently flooding at a rate of about 7.6 million gallons per day (mgd) (CDM, 1988a). Elevated concentrations of arsenic and heavy metals have been identified in the Berkeley Pit water (CDM, 1988b). Projections suggest that the pit may be filled to the level where it may overtop (5,465-feet) by about the year 2017 if remedial action is not implemented. Direct discharge from the pit will follow the path of least resistance to Silver Bow Creek. In addition, prior to the pit water level reaching the overflow elevation, there is the potential for discharge of contaminated water into the alluvial aquifer which is exposed on the southeast side of the pit. If this occurs, arsenic and other heavy metals may migrate through the alluvium and eventually discharge to Silver Bow Creek. However, as long as an inward gradient in the alluvium is maintained, water from the pit and associated underground workings will not discharge to Silver Bow Creek. The water level may reach the alluvium in the pit by 2000.

The degree of hydraulic connection between the alluvium and bedrock is not known as the bedrock has been dewatered for so many years and historic bedrock water levels are not available. If bedrock water levels approach or exceed the alluvial water levels, discharge of mine water to the alluvial system could become significant. This could occur as direct infiltration into the alluvium along the walls of the Berkeley Pit and/or as recharge at the bedrock/alluvial interface underlying Butte. The extent to which this may occur is dependent on the elevation to which the bedrock water level is allowed to rise. The potential effect that interconnected mine workings may have on where a mine water discharge occurs is not known.

often in the form of snow. Melting of the mountain snowpack in spring and early summer provides the majority of the surface water supply within the study area (MultiTech, 1987b). Snow cover in the lower valleys usually melts in March to early April, with the mountain snowpack normally remaining through May and into June.

2.3.2 GEOLOGY AND HYDROGEOLOGY

The Butte area is underlain by granitic rocks of the Boulder Batholith. These rocks are primarily quartz monzonite intersected by porphyritic dikes and plugs (Botz, 1970). These granitic rocks are fractured and faulted with resulting mineralization and alteration. A weathered zone is generally present in the upper 100 to 200 feet of the bedrock, which is underlain by a deep sulfide zone containing disseminated and vein deposits of copper and other metals (Botz, 1970).

The occurrence and movement of ground water in the bedrock is controlled by fracturing, jointing, and faulting, as well as the presence of extensive underground mine workings. Ground water is present in faults and fractures that typically yield small to moderate quantities of water to wells (less than 15 to 50 gpm). Most water is encountered in the upper 1,000 feet. The bedrock is recharged by precipitation and infiltration from streams. Discharge is to streams, springs, and alluvial deposits. Prior to mining, it is believed that flow in the bedrock was from north to south with discharge to Silver Bow Creek alluvium. The bedrock in the Butte area has been significantly impacted by historic mine dewatering activities which have created a large cone of depression centered on mine workings tributary to the Kelley Shaft pumping station and drainage tunnels. The bedrock aquifer is in the process of recovering; however the final water level which may be attained is unknown.

The Butte valley is believed to be a graben (Hydrometrics, 1982). The steep ridge bounding the east side of the valley is a result of vertical

Superfund Amendments and Reauthorization Act of 1986 (SARA) 42 U.S.C., Section 9606(a) in connection with the Travona Shaft removal action. This order required the PRPs to convey water from the Travona Shaft to the Butte Publicly-owned treatment works (POTW) for treatment and discharge to Silver Bow Creek. In the event that the POTW would not accept this water, the PRPs would be required to construct a treatment plant for treatment of Travona Shaft effluent prior to discharge to Silver Bow Creek.

1.4 REMEDIAL INVESTIGATION/FEASIBILITY STUDY OBJECTIVES

This Work Plan describes the tasks to be performed for an RI/FS of the Butte mine flooding consistent with EPA's National Contingency Plan (NCP) (40 CFR Part 300), CERCLA, and the Superfund Amendments Reauthorization Act (SARA). The primary objectives of the Butte Mine Flooding Operable Unit RI/FS are to fully characterize the nature and extent of contamination and actual or potential releases of hazardous substances, pollutants, and contaminants associated with this operable unit; and to fully evaluate remedial alternatives for addressing such releases as required by CERCLA, the NCP, and applicable EPA guidance.

More specific objectives of the RI are: (1) to conduct sampling and analyses of ground and surface waters on and near the site to determine the nature and extent of a potential release of hazardous substances, pollutants, or contaminants to the alluvial aquifer and Silver Bow Creek; (2) to obtain adequate data/information to establish the critical pit water level. The critical pit water level is the level below which there will be no discharge to the alluvial aquifer and the level below which the contaminated bedrock ground water will be contained (i.e., flow towards the pit maintained) for treatment or other ultimate disposition (in other words, the pit would be maintained as a ground water sink, not a ground water source); (3) to identify contaminant migration pathways and the extent of contamination and off-site migration; (4) to identify and characterize sources and receptors; (5) to assess the potential risks of a release to the environment; and (6) to gather sufficient information to evaluate remedial alternatives. Existing information and data shall be

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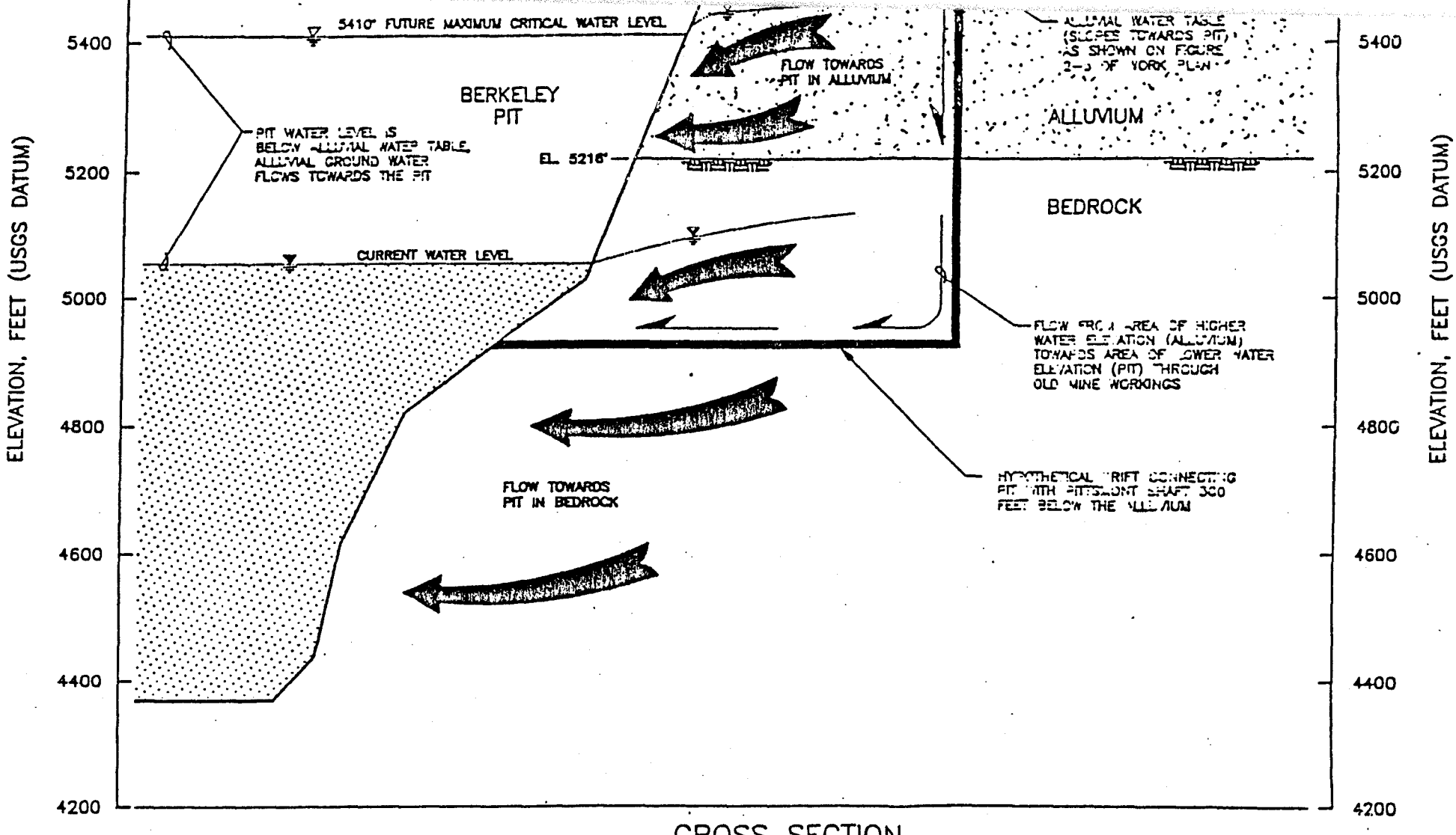
4941 + 273 = 5214
Bedrock - Alluvium Conta

In December 1988, the water level in the Kelley Shaft was 4,941 feet (a depth to water of 938.1 feet). Assuming that this water level elevation is representative of the water level in the Berkeley Pit, the water in the pit was about 273 to 323 feet below the bedrock-alluvium contact in the pit. However, the pit may actually be in hydraulic connection with the thicker alluvial deposits southeast of the pit via the Pittsmont mine workings. If this is the case, the pit water level may not have to rise significantly before the potential for discharge of mine water to the alluvial aquifer exists.

Available cross-sectional information prepared by Montana Bureau of Mines and Geology from data collected in early 1988 is presented on Figures 2-7 to 2-10. It is important to note that the sections are only generalizations of the system based on available data, and also that they are based on Anaconda datum. The locations of the sections are shown on Figure 2-11. These sections illustrate the steep cone of depression associated with the Berkeley Pit (Figures 2-8 and 2-9) and also indicate that Silver Bow Creek is a gaining stream (Figure 2-8). The sections show that the Outer Camp (an area located generally west of the West Camp area - see Figure 2-1), represented by the Orphan Boy mine, is hydraulically separate from the Berkeley/Kelley system (Figures 2-8 and 2-10). The Outer Camp area may be nearly completely recovered. Flow from the Outer Camp appears to be toward Silver Bow Creek (Figure 2-8) and also toward the West Camp area (Figure 2-10). The degree of hydraulic connection between the alluvium and bedrock is not known.

2.3.3 HYDROLOGY

The Butte study area lies within the upper Silver Bow Creek drainage basin. The drainage area measured at the I-90 bridge is about 125 square miles (TetraTech, Inc., 1986). Silver Bow Creek originates in the mountains northeast of Butte. The creek is a major tributary of the upper Clark Fork River. Tributaries to Silver Bow Creek in the study area include Yankee Doodle Creek, which originates northwest of Yankee Doodle tailings pond, and Blacktail Creek, which originates south of Butte.



CROSS SECTION
(LOOKING NORTHEAST)

CANONIE
3-21-90

DATE	ISSUE / REVISION	DWN. BY	CK'D BY	APP'D BY
	RESPONSE TO CTEC COMMENTS ON WORK PLAN	R.M.		

REFERENCE:
AFTER DRAFT RI/FS WORK PLAN, FIGURE 2-5, SILVER BOW CREEK/BUTTE AREA NPL SITE.

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BERKELEY PIT INFILLING

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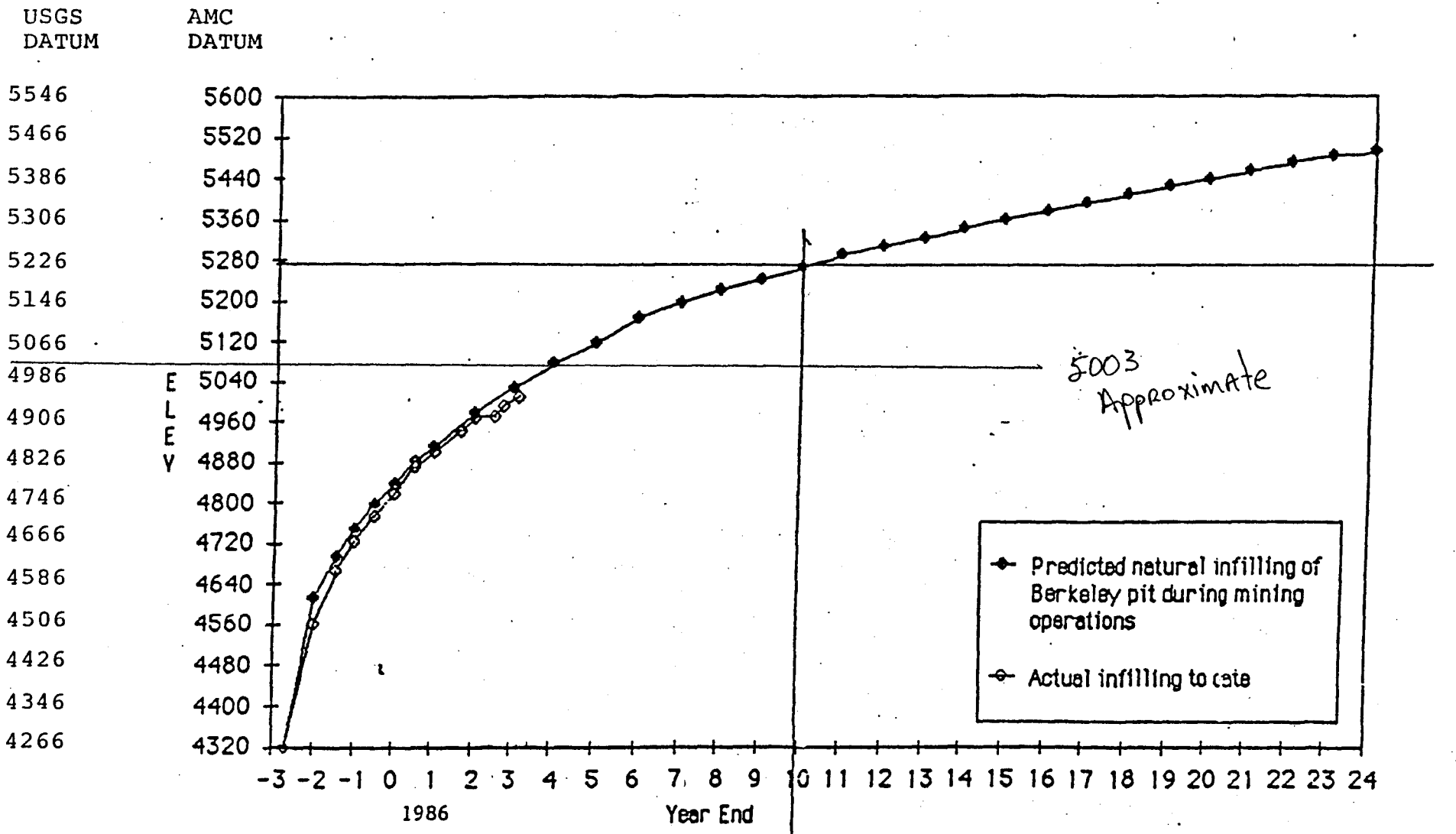

Received From MRI 12-15-89

LAST UPDATE 12/11/89

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BUTTE MINE FLOODING WATER LEVELS - MINE SHAFTS
ELEVATION, FEET (USGS DATUM)

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
KELLEY	1982				2138.5	2468.0	2721.3	2982.9	3107.0	3200.3	3304.7	3383.3	3442.3	1303.8
	1983	3540.5	3609.0	3703.9	3749.3	3805.2	3869.1	3977.9	4067.4	4159.6	4203.8	4256.2	4319.6	877.3
5877.5	1984	4360.1	4389.9	4420.6	4440.2	4460.5	4481.0	4504.2	4523.6	4539.8	4549.8	4572.7	4581.4	261.8
	1985	4596.5	4611.7	4624.9	4629.1	4644.1	4653.6	4663.0	4675.7	4662.8	4691.5	4699.9	4703.8	122.4
	1986	4717.2	4723.2	4731.1	4736.3	4744.7	4752.7	4759.2	4769.0	4778.1	4789.1	4799.7	4799.5	95.7
	1987	4814.0	4821.8	4827.4	4832.0	N/A	N/A	4856.3	4863.6	4868.8	4873.8	4878.3	4883.9	84.4
	1988	4884.3	4892.3	4895.7	4900.0	4906.8	4914.9	4919.2	4924.1	4928.3	4931.9	4935.5	4939.4	55.5
	1989	4942.8	4946.7	4950.0	4952.4	4954.9	4952.9	4955.2	4958.4	4962.1	4964.4	4967.0	4969.9	30.5
	1990	4972.9	4975.1	4978.5	4981.1	4984.8	4986.9	4989.0	4992.6	4996.8	4999.0	5001.0	5003.1	33.2

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
STEWARD	1982									3169.9	3255.0			
	1983	3499.8	3557.5	3628.6	3745.9	3793.9	3849.9	3978.1	4089.3	4146.6	4188.1	4235.2	4324.8	825.0
5856.5	1984	4366.7	4390.9	4424.9	4454.4	4477.2	4499.2	4522.9	4542.6	4550.4	4561.1	4589.6	4598.8	274.0
	1985		4628.5	4635.6	4641.0	4658.4	4669.6	4679.9	4689.2	4698.4	4709.8	4717.5	4722.2	123.4
	1986	4736.2	4742.9	4747.8	4756.2	4764.1	4768.9	4779.3	4788.0	4797.1	4807.8	4818.0	4822.7	100.5
	1987	4830.9	4838.3	4846.0	4852.8	4860.0	4865.1	4872.1	4878.0		4890.2	4895.2	4902.0	79.3
	1988	4911.8	4911.9	4911.5	4915.8	4922.0	4927.5	4930.2	4934.6	4942.8	4946.6	4950.7	4953.8	51.8
	1989	4957.5	4960.9	4964.5	4967.0	4968.2	4964.6	4970.2	4972.5	4976.3	4978.4	4980.5	4983.3	29.5
	1990	4985.9	4987.8	4991.4	4994.1	4997.3	4999.0	5001.4	5005.0	5009.5	5011.9	5014.0	5016.6	33.3

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
BELMONT	1982									3144.4	3261.6			
	1983	3500.3	3553.1	3622.7	3736.7	3790.5	3842.1	3979.1	4083.6	4139.6	4186.5	4229.5	4315.8	815.5
5604.0	1984	4354.6	4378.6	4414.6	4438.3	4460.3	4480.7	4502.7	4520.8	4540.9	4553.2	4574.7	4585.0	269.2
	1985		4613.6	4624.1	4630.9	4649.2	4656.5	4665.3	4676.6	4684.7	4694.2	4700.8	4705.5	120.5
	1986	4718.3	4725.9	4733.4	4738.6	4747.0	4753.8	4764.4	4771.9	4778.1	4789.7	4801.2	4807.2	101.7
	1987	4816.5	4822.8	4830.5	4838.9			4855.9		4871.3	4876.4	4880.3	4883.7	76.5
	1988	4888.4	4894.5	4894.5	4903.7	4905.1	4913.8	4918.2	4922.0	4926.3	4929.7	4933.8	4936.9	53.2
	1989	4940.9	4944.5	4949.5	4950.3	4952.6	4950.9	4954.4	4956.6	4960.2	4962.7	4965.0	4967.6	30.7
	1990	4970.7	4972.9	4976.4	4979.1	4983.2	4985.2	4987.0	4990.8	4994.7	4997.0	4999.1	5001.4	33.8

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
TRAVONA	1982					5185.6	5185.6	5185.6	5185.6	5187.9	5192.3		5189.6	4.0
	1983	5185.5	5182.0	5188.8	5172.8	5169.3	5164.8	5160.7	5159.2	5165.4	5167.5	5175.2	5191.6	2.0
5590.6	1984	5172.0	5203.0	5204.8	5206.0	5202.0	5208.1	5210.6	5212.6	5224.0	5235.2	5244.4	5247.5	55.9
	1985	5252.6	5255.6	5258.1	5260.3	5264.0	5266.2	5271.1	5285.9	5293.8	5303.0	5307.9	5309.4	61.9
	1986	5314.5	5316.4	5318.0	5319.2	5320.5	5322.1	5323.5	5327.5	5332.0	5338.7	5343.1	5345.5	36.1
	1987	5349.7	5352.8	5355.5	5356.9	5360.6	5364.5	5369.2	5373.3	5379.8	5387.4	5393.6	5395.2	49.7
	1988	5396.9	5398.2	5397.2	5395.7	5393.7	5393.0	5395.2	5400.6	5404.8	5408.1	5410.3	5410.9	15.7
	1989	5407.5	5385.9	5395.3	5398.7	5401.4	5403.4	5406.1	5411.4	5415.8	5420.7	5423.2	5416.6	5.7
	1990	5406.7	5399.7	5392.4	5388.0	5398.0	5403.0	5394.8	5394.0	5396.2	5409.5	5403.5	5398.1	-18.4

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
EMMA	1982													
	1983													
5636.8	1984													
	1985													
	1986													
	1987													
	1988					5396.0	5394.1	5393.3	5395.5	5400.9	5405.0	5408.3	5410.6	5410.2	14.2
	1989	5409.7	5385.5	5388.8	5399.0	5401.6	5403.7	5406.3	5411.6	5416.0	5420.9	5423.4	5416.8	6.6
	1990	5406.5	5399.8	5392.5	5388.1	5398.1	N/A	5394.4	5393.9	5396.3	5409.6	5403.5	5398.1	-18.7

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		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
ANSELMO	1982													
	1983													
5783.8	1984													
	1985													
	1986							4793.9	4802.6	4824.3	4824.3	4836.0	4839.7	45.8
	1987	4848.1	4855.1	4862.1	4869.9	4876.6	4881.2	4889.5	4895.4	4904.6	4905.5	4914.0	4916.5	76.8
	1988	4920.3	4925.5	4925.1	4929.9	4939.9	4943.4	4944.4	4949.2	4957.9	4962.0	4966.5	4969.2	52.7
	1989	4973.4	4975.6	4979.3	4982.4	4982.9	4981.9	4985.0	4988.3	4992.2	4994.2	4996.1	4998.3	29.1
	1990	5000.7	5002.6	5005.6	5007.7	5010.8	5012.6	5014.8	5019.6	5024.0	5026.1	5027.7	5029.8	31.5

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEARLY CHANGE
GRANITE	1982													
MOUNTAIN	1983													
6051.8	1984													
	1985													
	1986													
	1987	4811.1	4818.3	4825.3	4834.0	4839.8	4845.8	4852.1	4857.3	4867.8	4869.2	4874.1	4878.1	67.0
	1988	4886.5	4894.5	4891.0	4897.8	4902.1	4910.8	4913.3	4915.1	4919.7	4927.4	4928.7	4934.9	56.8
	1989	4938.7	4943.0	4945.3		4951.4	4949.2	4952.7	4955.1	4959.1	4961.6	4963.4	4966.1	31.2
	1990	4969.0	4971.0	4974.6	4977.5	N/A	4983.3	4985.3	4989.3	4993.4	4995.4	4997.0	5000.1	34.1

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Alarming

EPA issues warning on Berkeley Pit water

By Dave Kirkpatrick
Standard Staff Writer

Contaminants flooding from the Berkeley Pit would "severely impact" ground and surface water and would create serious health and environmental threats, according to a report released Wednesday by the U.S. Environmental Protection Agency.

"Groundwater quality in the alluvium and surface water quality in Silver Bow Creek would be severely impacted in the event of flooding from the Berkeley Pit," the report says.

If exposure occurs at the estimated levels and under the conditions evaluated in this assessment, it is highly likely that adverse effects to human health and aquatic life will occur."

The report — a Preliminary Baseline Risk Assessment — was prepared by Clement International Corp. of Fairfax, Va., for the EPA. It is intended to "evaluate the magnitude and probability of actual or potential harm" caused by flooding from the pit.

If nothing is done to prevent flooding, the report says water spilling over the rim of the pit and groundwater contamination would occur through contact with the alluvium.

Human health risks vary from skin cancer to gastrointestinal irritation, according to the report.

Aquatic life — fish, plants, insects — and waterfowl would suffer, at the very least, reproductive problems, according to the assessment.

Staff photo by Walter Hinick

Contaminated water from the Berkeley Pit could cause serious harm to the environment, scientists say.

"This analysis clearly shows that repopulation of Silver Bow Creek by aquatic life will not occur if flooding from the Berkeley Pit takes place," the report states.

The report makes no judgements about whether groundwater in the study area would be permanently damaged.

The area is bordered on the south by Silver Bow Creek, on the east by the East Ridge, on the north by the northern end of the Yankee Doodle tailings pond and on the west by Missoula Gulch.

Although there are no residential

Please see BERKELEY Page 11

The Montana Standard, Butte, Thursday, November 22, 1990—11

Berkeley Pit report alarming . . .

(Continued from Page 1)

wells in the 14-square-mile area, the report says that wells do exist south of the Colorado Tailings and people aren't prevented from drilling wells in the study area.

Water consumed from any such contaminated wells would contain high levels of arsenic, cadmium, copper, manganese, sulfate and zinc, the report says.

By basing its calculations on a 154-pound person consuming about

years, the report says the contaminants can cause a number of health problems.

Excess levels of arsenic causes skin cancer and other disorders, manganese and lead affect the central nervous system, cadmium damages the kidneys, lead and zinc lead to blood problems, and copper and sulfate cause gastrointestinal irritation, the report states.

The report, which presents a "worst-case scenerio," does not ad-

flood and doesn't address the debate about when the EPA should intervene — at what water level — to prevent groundwater contamination..

Officials say that no contamination will take place until the water reaches an elevation of 5,410 feet, which is estimated to be 1996.

Skeptics, however, contend the "critical water level" is 5,270 feet and if action isn't taken soon, the risk assessment study will become

The Montana Standard, Butte, Thursday, December 6, 1990—3

area 'inevitable'

most quakes occur in unpopulated places

strong quake in

Southwest Montana seismically active, but

The forces that created this nice country around us are apparently still at work

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Opinion, comment

Pit water no danger until 2020 — Arco

I would like to add some factual information to your recent series of articles on the Berkeley Pit water problem.

Arco shares the community's concern about seepage of mineral-laden water into the Berkeley Pit as described in two recent articles in *The Standard*.

Through the last several years and more recently within the context of an ongoing EPA study, Arco engineers have examined various sources of the water in the Pit and related underground mine workings. We have found that, in general, the water comes from three major sources — bedrock aquifers, alluvial aquifers, and mining areas.

All studies indicate that public health has not ben endangered. Furthermore, EPA and all potentially responsible parties agree that water will not flow out of the Berkeley Pit until at least of level of 5,450 feet in elevation is reached. At current flow rates that will not occur after the year 2020, not 1996 as stated in the news stories.

Arco is engaged in discussions with all concerned parties to reduce the flow of water into the Pit. We hope that agreement can be reached soon.

— W.R. WILLIAMS, Montana Facilities Manager, Arco Coal Company, P.O. Box 1491, Anaconda

Mining companies disagree with Arco

This is in response to a letter printed in *Our Readers Speak* Dec. 13 from W.R. Williams of Arco Coal Company. This response is made on behalf of New Butte Mining Inc., Central Butte Mining Co., North Butte Mining Co., and Tzarina & Travonia Mining Corp., all of whom have been named by the EPA as Potentially Responsible Parties (PRP's) in the Berkeley Pit Mine Flooding Operable Unit.

First, the above companies do not agree with Arco's "factual" statement that, "water will not flow out of the Berkeley Pit until at least a level of 5,450 feet in elevation is reached."

Second, we do not agree the year 2020 is the date when water will first begin to flow out of the Pit.

Third, Arco is not authorized to speak for or make public statements on behalf of any of the above companies. — TOM M. MALLOY, 1233 W. Copper, Environmental Coordinator, New Butte Mining Inc., Box 188, Butte

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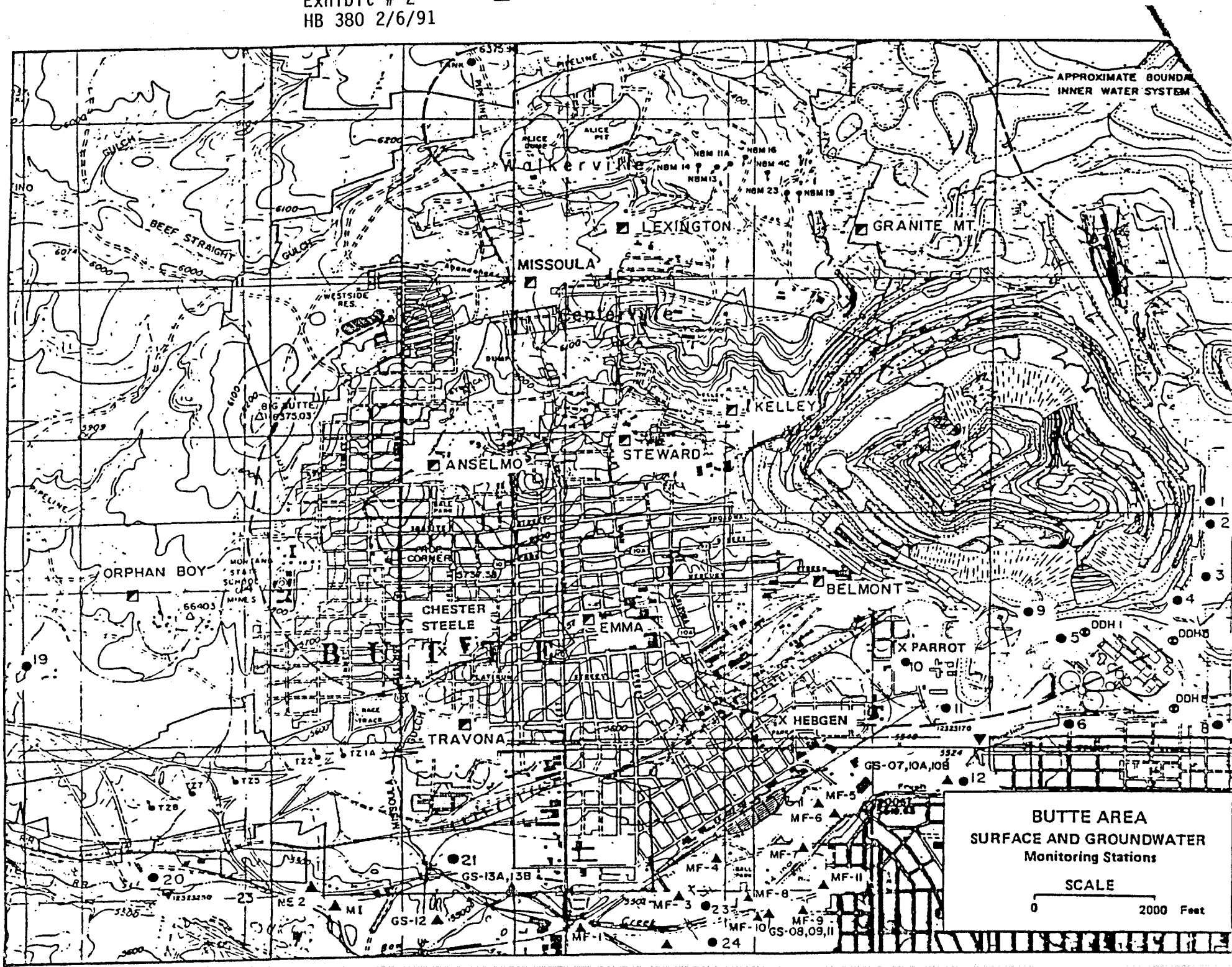

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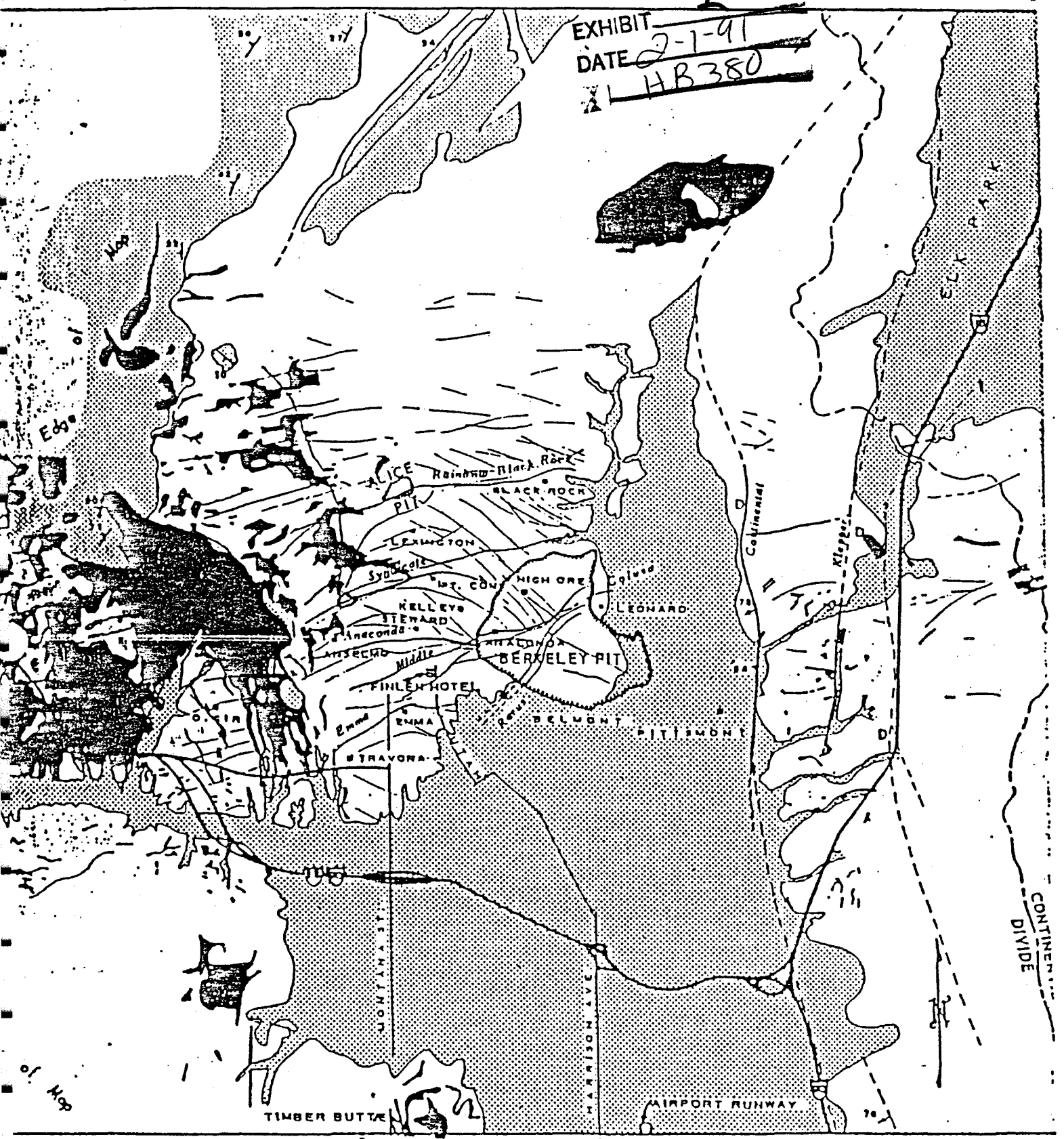

EXPLANATION

- Early Tertiary Rhyolite Intrusives and Domes
- Early Tertiary Rhyolite and Andesite Extrusives
- Quartz Porphyry
- Aplite, Pegmatite, Granoaplite
- Quartz Monzonite
- MK Montana College of Mineral Science & Technology
- Main Stage Ve
- Fault
- D-Downthrown

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BERKELEY PIT: Are EPA and ARCO Asking the Right Question?

In my opinion the Environmental Protection Agency is asking the wrong question concerning the rising of the water in the Berkeley Pit in Butte. The question should not be--Will the contaminated mine water discharge or not discharge into the alluvial aquifer surrounding Butte--but--Is there the slightest possibility the water will discharge into the alluvial aquifer surrounding Butte?

On November 3, 1989, EPA made a major policy change in dealing with the rising of the water in the Berkeley Pit. Since 1983 they have classified the critical water level--the level in the pit below which the contaminated water will be contained in the pit--at an elevation of 5270 feet, which is the point where the water will contact the alluvial aquifer or the east wall of the pit. The original theory stated that once the water reached this point it would discharge into the alluvial aquifer surrounding Butte. EPA has now changed the critical water level to the elevation of the static water level directly west of the Colorado Tailings in Butte, which is the ultimate water discharge point from the Butte Silver Bow Basin. The water will now be allowed to rise to an elevation of 5465 feet, which is 195 feet higher than originally projected. The new theory is that as long as the gradient of the acquifer is towards the pit the water cannot filter into the aquifer.

The water in the pit is still rising at about the same rate that was originally projected by the Anaconda Company--7.6 million gallons per day--when pumping on the Butte Hill was suspended on April 24, 1982. At this rate, according to documents prepared by Camp Dresser McKee, Inc., water may reach the alluvial aquifer by 1996 and overtop the rim of the pit by the year 2010. I strongly believe that a tragic error was made in changing this critical water level and a concerted effort should be made by all concerned parties to see that the error is corrected.

I would like to emphasis my point by listing some statistics and facts related to the Berkeley Pit flooding, as documented by EPA and the Montana Bureau of Mines:

1. Water in the Berkeley Pit is currently at a depth of 707 feet.
2. Water in the Butte mines has risen over 2820 feet since pumping was suspended in April of 1982.
3. Water in the Berkeley Pit fills at an average rate of 7.6 million gallons per day.
4. Silver Bow Creek is the headwaters for the Columbia River Basin.
5. Silver Bow Creek is a gaining stream and will eventually be contaminated by this water.
6. The Silver Bow Creek Superfund Site is the largest in the United States.

7. The Butte mine flooding is the largest mine flooding that has ever taken place in the world.

8. Contaminated water may already be discharging into the Silver Bow Creek alluvial through the old Pittsmont mine workings.

9. The temperature in Butte in 1989 was recorded at a minus 40°. However, the water in the Berkeley Pit did not freeze.

In the final draft of the work plan for REMEDIAL INVESTIGATION AND FEASIBILITY STUDY published November 3, 1989 by Camp Dresser McKee, Inc., of Denver, Colorado, states,

> If bedrock water level approach or exceed the alluvial water levels, discharge to the alluvial could become significant. This could occur as direct infiltration into the alluvial along the walls of the Berkeley Pit and/or as recharge at the bedrock/alluvial interface underlying Butte. The extent to which this may occur is dependent on the elevation to which the bedrock water level is allowed to rise.

This statement leads me to conclude that the potential is definitely there for the water to discharge into the alluvial aquifer by 1996. Most experts agree and it is also documented by Camp Dresser McKee, Inc., that there are several ways in which the water could exit into the acquifer. The most common method would be by reverse gradient. However, the water could also exit by chemical diffusion, old mine workings, bedrock fractures or recharged water ways. If the water is allowed to contaminate the ground water by any one of these means the damage will be irreparable. We cannot allow this to happen. If the contaminated water does discharge into the aquifer surrounding Butte it will eventually flow into Silver Bow Creek and the Clark Fork River.

It will take a minimum of four years to design and build a treatment plant which all of the experts agree will be the ultimate solution to the problem. The time for studying is over the time for action is now. Senators Conrad Burns and Max Baucus have recently introduced legislation in Congress to allow for the design, construction and operations of a treatment plant for dealing with this water. I believe they have identified the most realistic solution to the problem. I for one have offered my full support for the passage and implementation of the legislation.

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DATE 2-16-91
HB 380

Exhibit # 2
HB 380 2/6/91

Citizens' Technical Environmental Committee

Contributing Local Experience to Solve Local Problems

Committee Membership

* = Co-chair
** = Study group leader

Prof. Rick Appleman
Environmental Engineer
Montana Tech

Creighton Barry
Consulting Engineer

Floyd Bossard* ******
Consulting Environmental / Mining Engineer

Fritz Daily
State Representative, Butte-Silver Bow

Errol Durnford
Mechanical Engineer
Anaconda Co., (Retired)

Truxton Fisher
Construction Manager, Montana Power Co., Anaconda Co., (Retired)

Nancy Foote
Northside Coalition

Kathy Hadley
Vice President, NCAT

Dick Hafer
Clark Fork Coordinator, Governor's Office

Prof. Rod James
Environmental & Chemical Engineer, Montana Tech

Problems with the Berkeley Pit Work Plan

An open letter to
Federal and State Regulatory Agencies
Principal Responsible Parties, and those
live and work near the EPA Superfund Site
upper Clark Fork River

The first CTEC meeting of 1990 (held on the Montana Tech campus on February 7, 1990) focused on the November 3, 1989 draft of a Final Work Plan for RI/FS Butte Mine Flooding Operable Unit. During nearly three hours of discussion the gravest concerns had to do with official assumptions and plans for, the Berkeley Pit. The Citizens' Technical Environmental Committee asks EPA, its contractor (CH2M Hill), and the identified Principal Responsible Parties to respond to the following issues and recommendations.

A Clear and Present Need for a Water Treatment Plan

Conservative projections indicate that Berkeley Pit water will reach the alluvium aquifer by 1996. By that time, at the latest, a fully functional treatment facility for the pit water--one capable of treating approximately 5,000 gallons per minute--must be in operation. To achieve this goal by that timetable, bench testing (leading to pilot-plant construction and then engineering, design and construction of the full facility) should have been initiated by now. Yet no plans or flow diagrams for such a water treatment facility have been made available to the public. In fact, simple neutralization studies are not due for completion until mid-1991, according to the draft schedule.

- **CTEC asks EPA to make available to the public by May 1, 1990 its current plans for a water treatment plant that will adequately process Berkeley Pit water.**
- **EPA needs to develop viable alternatives for treating this water concurrently with the bench-scale neutralization studies, so all alternatives can be evaluated together in 1991, not 1992.**

- **CTEC recommends establishing output standards for the water treatment plant which initially meet the industrial-grade water requirements for Montana Resources, Inc., and eventually meet water quality standards for discharge into Silver Bow Creek.**

Playing Fast and Loose with the "Critical Water Level"

Serious questions about EPA's negotiations with ARCO arose in relation to the new definition of the Berkeley Pit's "critical water level"--an elevation at which pit water will rise above bedrock and reach the alluvium. The committee questioned why the earlier EPA-sanctioned level (5,270) has recently been raised by more than 180 feet, ostensibly pushing the projected danger level to the year 2009. Moreover, both the earlier level, and the more recent one were challenged by information presented that suggests a potential pit-water / alluvium contact via the old Pittsmont workings almost 300 feet below the first EPA-sanctioned water level.

If this information is accurate, the 1996 action deadline becomes moot: contact between contaminated pit water and the alluvium will occur much sooner, and the present danger is much greater than previously assumed. The meeting's participants were especially critical of aspects of the RI/FS process that seemed driven more by assumptions than established data, and by too-lenient attitudes about action levels appropriate for responding to the rising pit water.

- **CTEC asks EPA, its contractor, and ARCO to reassess their approach to defining the "critical water level" in the Berkeley Pit.**
- **More specifically, CTEC asks to be shown data that disprove the risk associated with the much lower/much sooner contact scenario described above.**

Contamination by Diffusion

When the new "critical water level" has been challenged in recent months for increasing the risk of allowing pit water to enter the surrounding alluvial material, the counterargument has been that "water doesn't flow uphill." The point of the observation is that the Berkeley Pit is a "sump" for the immediate area. The committee heard warnings that may nullify this explanation: contaminated pit water doesn't have to flow (uphill) to effectively contaminate the surrounding aquifer. Diffusion of ionic contaminants in solution occurs from more concentrated solutions into more dilute solutions.

- **CTEC asks EPA, its contractor, and ARCO to explain how their risk assessments deal with the problem of contaminated pit water dispersing toxic materials into the alluvial aquifer by diffusion.**

Prof. Larry Twidwell* **
Metallurgical Engineer,
Montana Tech

Prof. Sam Worcester
Metallurgical Engineer
Montana Tech

The Need for Accurate and Current Data

Much of the confusion surrounding plans for the Berkeley Pit could be removed if more hard data were readily available on a number of issues, and if that data were presented in terms consistent with historical practice. U.S. Bureau of Mines-sponsored bench-scale water treatment testing is being conducted at Montana Tech, but the project has not been allowed to take current samples of the pit water. Severe contamination along the continental fault upstream of the pit has been identified, but no one knows whether it flows into the pit, or continues along the fault into the alluvium below. It is even difficult to ascertain the precise level of water in the pit at any given time. CTEC urges adoption of the following efforts to better monitor the mine-flooding situation:

- **Authorize, and/or carry out, appropriate sampling of water in the pit on a regular basis;**
- **Accelerate and expand the drilling program east of the Berkeley Pit to monitor groundwater contamination and to characterize hydrologic features;**
- **Institute state-of-the-art surveying techniques (from the rim of the viewing stand) to precisely measure water levels in the pit; where Anaconda Co. datum differ from U.S.G.S. datum, use Anaconda Co. datum as the more historically consistent.**

No One Benefits from Delay

The urgency of the pit water situation was illustrated when one participant reminded the group of a major landslide that had sloughed off into the pit several years ago; the speaker pointed out that another, similar slide could displace enough water in the pit to raise the level in a few minutes to critical elevations. Yet ARCO seems to advocate several more years of its own RI/FS work, as well as delays in work on a treatment plant until 2009. EPA's apparent willingness to go along with ARCO on this matter raises concerns with this committee. The pit is not an impervious container, and every month as the water rises higher, the odds of pit water reaching the aquifer beneath the city rise with it.

The future of Butte's economy also rests on taking prompt action: New Butte Mining's underground operations depend on keeping its deepest workings above the level of the rising water. Moreover, the need for immediate action may well be supported by law: those ores constitute a natural resource which the law says may not be rendered unusable.

- **CTEC recommends that appropriate governmental agencies protect the Butte mining district from further inundation and loss of mineable resources.**

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The committee's ultimate concern is that decisions by the directly involved parties have not reflected adequate fatal flaw analyses. Assumptions, decisions, and the course of the investigative / study process prompt CTEC to make this final, summary recommendation:

- **Where the severity of contamination is so clear, the scope of the problem is so apparent, and the potential for disaster to the entire city of Butte is so obvious, the burden of proof should lie with those whose actions, policies, and decisions raise the risk of introducing contaminated water from the Berkeley Pit into the alluvium beneath much of the city.**

Exhibit # 2
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Citizens' Technical Environmental Committee

Contributing Local Experience to Solve Local Problems

Committee Membership

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Prof. Rick Appleman
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Fritz Daily
State Representative, Butte-Silver Bow

Errol Durnford
Mechanical Engineer
Anaconda Co., (Retired)

Truxton Fisher
Construction Manager, Montana Power Co. & Anaconda Co., (Retired)

Must Butte's residents resign themselves to living next to the nation's largest, most contaminated lake in perpetuity?

This pointed question emerged as the central concern from t May 19th meeting of the Citizens' Technical Advisory Comm tee (CTEC). Committee members reached this consensus af discussing EPA's *Final Work Plan for Remedial Investigation / Feasibility Study, Butte Mine Flooding Operable Unit* of the Bu Addition to the Silver Bow Creek / Butte Area NPL Site.

An open letter to
Federal and State Regulatory Agencies,
Principal Responsible Parties, and the people wh live and work near the EPA Superfund Sites on th upper Clark Fork River

Contributing to the committee's concerns abo Butte's future as a hazardous waste dump we the following observations:

While ARCO's contractor (CANONIE) presented a carefully prepared and documented response to CTEC's *Report 1.1* (February 20, 1990) EPA has failed to provide a formal, docu mented response to that report. Although the committee did not accept some of the assumptions and assertions made by ARCO through its spokesmen, the presentation was thoughtf professional, and well-organized. On the other hand, EPA's response was prompt, but too informal to give Butte's citizens clear and documented presentation of EPA's responsiveness t the issues raised in CTEC's report.

Representing the interests of the communities along the Upper Clark Fork River

This observation led to a more serious one:

EPA's informal response to the issues raised in CTEC's *Report 1.1* included assurances that CTEC's concerns would be addressed in the Final Work Plan of April 27, 1990. However, the committee was unable to find in the "final" document any substantive alteration in the RI/FS objectives, processes, or assumptions that formed the basis for EPA's draft work plan. And it was this draft work plan to which objections were raised in CTEC's first published report. This apparently cavalier attitude toward active citizen involvement caused some on the committee to question the seriousness of EPA's attention to formal public input into the planning and review processes.

The committee strenuously objected to the assumptions made by the current process--assumptions that treatment options need not be considered or implemented until the water level rises to a (disputed) "critical level." The committee contends that the assumption is flawed because it encourages the PRPs to let the problem get worse; it declares that the continued contamination of billions of gallons of pure water by the Berkeley Pit system is inevitable for the foreseeable future. The flaw in the assumption is that treatment is the end of the process, not a means to that end.

The committee questioned the motives for the *Final Work Plan's* apparent emphasis on economic factors governing the RI/FS (Remedial Investigation / Feasibility Study) process. Given the extent and seriousness of the problem, the committee urges EPA to discount near-term project investment economic factors that continue to delay the construction and operation of a treatment facility for contaminated mine waters. Instead, the committee urges that the best solution should be sought that truly solves this massive and insidious problem facing the Butte community.

The committee wants to know why treatment technologies to bring water in the Berkeley Pit up to drinking water standards can't be brought on line immediately to prevent further degradation of ground and surface water throughout the drainage. The State Director of EPA has declared unequivocally that such technologies are presently available ("on the shelf"). In fact, it was suggested that state resource-protection laws may come into play when almost 7 million gallons per day of water from uncontaminated sources are allowed to flow into the pit "sump," where they become contaminated and thus magnify the problem. When Butte is suffering from substandard water in its water system--and all of Southwestern Montana is suffering from years of drought--this would seem to constitute a blatant waste of a vital natural resource. Because makeup water for MRI's operations comes in as pure drinking-quality water from Silver Lake at the rate of 5.4 million gallons per day (with the right to expand to 11 million gallons per day), the problem is compounded even fur-

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Superintendent of Berkeley Pit,
Anaconda Co. (Retired)

Dave Piper
Chief Mine Engineer
Anaconda Co., (Retired)

Mel Rowling
Mining Consultant
Rowling Technical Services, Inc.
Butte

Martin Salusso
Businessman/Mining Engineer
Opportunity

Dr. Jim Silva
Trout Unlimited

Larry Stimatz
State Senator,
Butte-Silver Bow

Professor Emeritus-Koehler Stout
Former Dean of Engineering
Consulting Engineer
Montana Tech

Gary Swant
Science Teacher,
Deer Lodge

Othmar Swenseid
Superintendent of Mines,
Anaconda Company (Retired)

Dave Tahija
Engineering Graduate Student
Montana Tech

ther. As the committee understands it, this waste of clean water may explicitly contravene state law.

EPA's basic strategy for reclaiming and remediating the entire length of the Silver Bow Creek Superfund Site--downstream to Milltown and beyond--depends on controlling the problem at its source--the Berkeley Pit. Yet source-control cannot take place (in the current work plan) before 1996.

Plans for (and potentially millions of dollars of remedial work along) the entire Clark Fork drainage are being placed at risk by the current work plan's assumption that the Berkeley Pit should be allowed to fill with approximately 40 billion gallons of severely contaminated water before any treatment will be brought on line.

By then, the committee fears, Butte may be condemned by EPA's inaction into becoming a **perpetual Superfund Site.**
The committee does not believe that EPA's legislative mandate to seek a "permanent solution" to contamination at designated Superfund Sites ever envisioned such a planned, institutionalized condemnation of a community.

All the foregoing observations prompt the committee to seek formal responses to the following requests--from EPA, its contractor(s), PRPs, their contractors, and relevant state agencies (DHES, DNRC, etc.):

- **CTEC asks EPA to explain, in writing, and with the assistance of CDM (its prime contractor), EPA's responses to CTEC's questions in *CTEC Report 1.1.* To demonstrate its commitment to responding to community concerns, this explanation should be correlated to the Final Work Plan of April 27, 1990.**

- **CTEC asks EPA and PRPs to explain why the current RI/FS work is committed to letting the problem of pit water and mine flooding become continually worse, rather than seeking ways of immediately arresting further site contamination through increased volumes of contaminated water.**

Prof. Larry Twidwell* **
Metallurgical Engineer,
Montana Tech

Prof. Sam Worcester
Metallurgical Engineer
Montana Tech

- **If "emergency removal actions" are appropriate for soils in Butte and Walkerville, why not for water?**

- **CTEC asks EPA to demonstrate the treatment technologies it has declared are currently available, and begin testing those technologies for immediate / interim application to the water in the Berkeley Pit.**

- **CTEC asks all parties involved in planning remedial activities for Butte pit-water & mine flooding to give serious and extensive consideration to the socio-economic impact on the community of Butte of the establishment within the city's boundaries of the nation's largest permanent body of toxic water.**

and finally. . .

- **CTEC asks EPA to reconsider the objectives in its RI/FS, which focus on identifying and maintaining a certain "critical water level" beyond which the water would not be allowed to rise. CTEC is confident that EPA will find public opposition to this objective to be widespread, strident, and vocal: neither local citizens nor state and national political representatives would accept as a "permanent solution" to the pit-water/mine flooding problems, the permanent maintenance of the country's largest poisonous lake within the community of Butte.**

Citizens' Technical Environmental Committee

Contact:
Advanced Minerals and Hazardous Waste Processing Center of Excellence
Montana Tech, Butte, MT 59701
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USPS 801-940 #73 September-October 1985

MONTANA MAGAZINE

Lima Peaks, Continental Divide—Rick Graetz

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ADVERTISING:

Montana Magazine, (USPS 801-940) is published six times annually for $12 per year by Montana Magazine Publishing Co., 3020 Bozeman Ave., Helena, Montana 59604. Second-class postage paid at Helena. POSTMASTER send address changes to Montana Magazine, P.O. Box 5630, Helena, Montana 59604.

Indexed by States Periodicals Index, 1660 Smithville Rd., Havre, MT 59501.

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EXHIBIT 2
DATE 2-6-91
HB 380

Exhibit # 2
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by Dave Alt

Floods or a quake for Butte?

Next time you drive through Butte on Interstate 90, watch for the little patches of cattail marsh on both sides of the road, most of them in the area between Montana Street and Harrison Avenue. They certainly record a bit of Butte's past, and may tell us something of the future.

Old maps show much larger expanses of marshland and several shallow lakes along Silver Bow and Blacktail creeks, the flat areas south of Interstate 90. I have seen several photographs taken in the last century that show glimpses of water in the flats south of Butte.

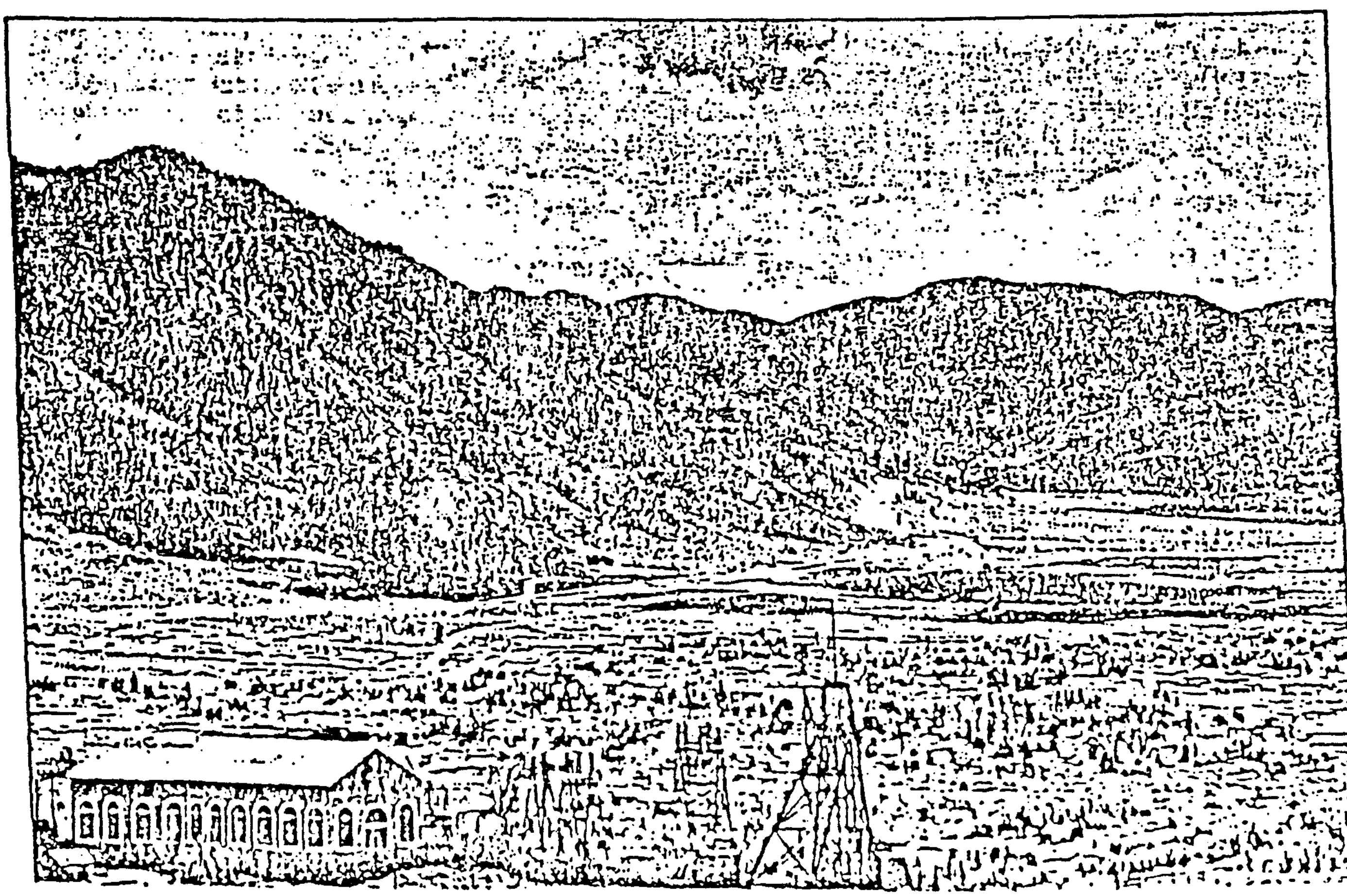
As the miners of a century ago sank their shafts deeper in Butte Hill, they hit water at fairly shallow depth. That called for enormous steam and electric pumps to keep the mines dry, and the pumping continued until the Berkeley Pit closed in the summer of 1983. But pumping out a mine drains more than just the workings at the bottom of the shaft.

Ground water neither knows nor respects property or claim boundaries. The rocks under Butte Hill are full of fractures that permitted water to move through them. So, pumping out the mines lowered the water table throughout the Butte area, and that dried up most of the marshland in the flats south of town. Marshes, after all, are just places where the water table is at the ground surface, so lowering the water table by pumping water out of deep mines will drain them as effectively as a ditch would. The big mine pumps simply drew the water out from beneath the marshland.

Now that the pumps are silent, the Berkeley Pit is slowly filling with water, as is every seam, fracture and old mine opening in the rocks beneath Butte Hill. And the water table is slowly rising to its original level of more than a century ago. Eventually, the rising water will again fill the old marshes, only this time it also will flood all the houses and businesses that now cover most of the Butte flats.

I don't know how many years will pass before the water table finally returns to its former level. Water must fill all the open spaces in the rock as well as the Berkeley Pit, and that will take a long time, perhaps several

The flats south of Butte, now a residential area, may return to their original marshy state since Berkeley Pit's water pumps no longer operate.



earthquakes in Butte is more ominous than reassuring.

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decades. So the crisis is not upon us yet. There is still plenty of time to make plans either to prevent the eventual flooding, or to transform the area involved into some kind of park.

But there is no doubt that something will have to be done. I stop at the viewing stand every few months to look at the streams of water pouring down the side of the Berkeley Pit. Every time, the water level is visibly higher, and of course that means that the water table is rising throughout the area.

Meanwhile, all of Butte, including the Butte flats, is sinking.

W. H. Weed of the U.S. Geological Survey, one of the great figures in Montana geology, reported in 1912 that precisely located survey benchmarks placed in and around Butte during 1895 and 1896 had sunk by the time they were resurveyed in 1904 and 1906. He measured the rate of sinking at about two inches per year for most of the survey points, as much as twice that for several. That can't be just a surveyor's error. Too many survey points were involved, they had moved too far, and the pattern was too consistent.

After a lengthy analysis, Weed concluded that movement along the Continental fault, which runs along the base of the East Ridge, was moving Butte down, and the East Ridge up. He also established a number of new survey benchmarks specifically to help future geologists check his theory.

The future geologists found that W. H. Weed was correct in his interpretation of the sinking benchmarks, as he was in so many other matters.

New surveys done during the 1970s showed that the old benchmarks have continued to sink at average rates that vary from 1 to 3 millimeters per year — as much as one eighth of an inch per year. That works out to something in the neighborhood of one foot per century.

I have no idea why the rates of sinking measured in the 1970s are so much less than those W. H. Weed found early in this century. Weed had good surveying instruments at his disposal, the best then available. And Weed was nothing if not a careful and precise scientist, not at all the innocent sort who might confuse actual movements of the earth's crust with the effects of mine openings collapsing at depth. Maybe the movement really was faster at the turn of the century, although that does seem unlikely.

Even the slower rates of subsidence measured more recently are astounding. If Butte is sinking relative to the East Ridge at a rate of about one foot per century, the scenery around there has changed a lot in the last million years. The rate is even fast enough to matter in human instead of abstractly geological terms. Subsidence of a foot or so in the past century will certainly make a big difference in what happens when the water table finally returns to its original level.

It is hard to know whether that movement is likely to cause an earthquake. To understand how faults move and why it is difficult to predict what may happen in Butte, imagine yourself sliding two thick pieces of foam rubber past each other along a cut surface.

As long as the slabs of foam rubber slip smoothly past each other along the cut surface, the movement is continuous. Faults that move continuously may generate many small earthquakes, but are most unlikely to cause much excitement or property damage. Frequently, small tremors insure against occasional large earthquakes.

Now imagine what happens when the cut edges of the slabs of foam rubber catch. As you continue to push, the rubber bends and stretches until the place where the edges are stuck finally breaks free. Then the two slabs of foam rubber move past each other with a sudden jerk, an earthquake, that brings them to where they would have been had they not caught. Faults may do exactly the same thing.

If the Continental fault is slipping continuously, it should be possible to see displacement at the surface. Interstate 90, for example, might break where it crosses the fault just east of Butte, and the area east of the break move up a few fractions of an inch every year. The highway is old enough that we would certainly feel the bump by now. I can see no evidence of a break, or of repeated road repairs, in the area where Interstate 90 crosses the Continental fault. No [illegible] as far as I know, has anyone found [illegible] elsewhere that the Continental fault is offsetting the ground surface around Butte.

The other possibility is that the Continental fault is stuck; that the movement we see is simply the rocks bending around the area where the opposite sides of the fault will slip past each other with a sudden snap, an earthquake, and all the delayed movement accumulated in all the years the rocks were stuck will slip at once. If that happens, a little cliff with the high side on the east will suddenly appear across Interstate 90.

Old newspapers tell of frequent small tremors during the early years in Butte. Then the activity stopped. People in Butte haven't felt a good local earthquake for decades. One fairly obvious way to interpret that history is to suggest that the Continental fault was moving more or less continuously a century ago, and releasing frequent small earthquakes. Then the earthquakes stopped, the opposite sides of the fault stuck, and the rocks have been bending and stretching like so much taffy ever since. If that interpretation is correct, and I don't guarantee that it is, then Butte has an earthquake in its future. The recent absence of earthquakes in Butte is more ominous than reassuring.

There is no way to determine how tightly the rocks on opposite sides of a fault may be stuck, therefore no way to predict when a locked fault may eventually move and release its earthquake. But we can be sure that the longer a fault remains stuck, the more the rocks will bend, and larger the earthquake will be when it finally happens. So an early earthquake is far better than a long wait.

Regardless of whether the Continental fault is moving continuously or is stuck, the Butte flats are sinking and the water is rising. Someday a conspiracy of circumstances is going to cause permanent flooding.

Dave Alt is the geology columnist for Montana Magazine. *He has written several books, among them the popular* Roadside Geology of the Northern Rockies.

EXHIBIT 3
DATE 2/6/91
HB 380

Amendments to House Bill No. 380
First Reading Copy

Requested by Representative Daily
For the House Committee on Natural Resources

Prepared by Eddye McClure
February 6, 1991

1. Page 5, line 16.
Following: "a"
Insert: "national priority list"

2. Page 6, line 15.
Following: "person"
Insert: "who is a liable party under CERCLA and"

3. Page 14, line 10.
Following: "who"
Following: "is liable under 75-10-715(1) and who"

EXHIBIT 4
DATE 2/6/91
HB 380

Statement of Chevron Corporation
and Stillwater Mining and Stillwater
PGM Resources in Opposition to HB 380

Mr. Chairman and Ladies and Gentlemen of the Committee:

This bill proposes to amend Montana waste and litter control laws by giving the Montana Department of Health and Environmental Sciences no alternative but to immediately issue clean up orders for situations where industrial waste is present and is likely to cause contamination of an aquifer regardless of whether its an intentional or inadvertent discharge. Although we can understand the concern of a community like Butte-Silver Bow which has a large federal superfund site within its boundaries, this act will affect every potential industrial waste situation in the State of Montana.

In all fairness, we feel compelled then to ask you what has occurred since the 1989 amendments to the Montana "Little Superfund Act" which requires the Department of Health to give "priority attention" to the issuance of clean up orders in these situations?

House Bill 380 directs the Montana Department of Health to get into an argument with the EPA, and we think there should be at least some factual foundation for a legislative enactment which leaves the Department of Health no choice but to get involved.

Finally, why is a person who is already being regulated by the EPA under the Federal CERCLA act now threatened with punishment by a civil penalty which is 150 percent larger than the $10,000 civil penalty already in the act?

Our companies have spent large sums of money and a great amount of time and effort in complying with the environmental protection laws of the federal government and the State of Montana. We have a good record in this regard, and we don't understand the necessity for this legislature to force the Department of Health to give "priority attention" to matters that are now covered by multiple regulations. Why should everyone in the State of Montana have to face an increased risk of punitive action at this time? Why is it necessary to remove from the Department of Health any discretion in this matter?

We think you should also address the question of whether HB 380 is going to force the Department into a substantial budget increase. We recognize that if there is

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an emergency problem to be addressed, then the facts about that should be brought out and properly considered. But, as far as we know, our industry is being faced here with a substantial increase in the risk of punitive action, without any clear justification at this time. We oppose HB 380.

Ward A. Shanahan
Chevron Corporation
Stillwater Mining
301 First Bank Building
Helena, MT 59601
(406) 442-8560

8941W

EXHIBIT 5
DATE 2-6-91
HB 380

Statement of Atlantic Richfield Company
in Opposition to HB 380

Mr. Chairman and Ladies and Gentlemen of the Committee:

ARCO is concerned with the need for HB 380, and would oppose the bill as presently written for the following reasons:

1. To my understanding, the State is already authorized under both the State Water Quality Act and the "mini-Superfund Act" to protect the quality of both surface water and groundwater in the State. This existing authority is sufficient for the State to address contamination of an aquifer. The only adjustment that may be necessary is to specify that the authorities granted under the Water Quality Act encompass aquifers.

2. The federal CERCLA and State CECRA already govern the cleanup of contaminated aquifers where there is an imminent and substantial risk to human health or environment; therefore, is unnecessary. Both EPA and the State are authorized to direct remedial action whenever there has been a release or threatened release of a hazardous substance into an aquifer. Even though the term environment is broadly defined to encompass aquifers, the only adjustment that may be necessary is to amend State law to specifically include aquifers.

As a related matter, ARCO maintains that provisions of HB 380 amending the State CECRA are preempted at federal superfund sites by CERCLA in order to prevent potentially conflicting remedies.

3. As a general note, HB 380 appears to be a revenue generating source for the State, and does not seem to be founded on any particular policy objective. Since, under both the federal CERCLA and State CECRA, contaminated aquifers would be addressed as part of the overall site remediation, any cleanup ordered or penalties assessed under HB 380 would not necessarily expedite the remediation of an aquifer. However, ARCO does not oppose the dollar amount of the penalty proposed in HB 380.

4. Finally, ARCO believes that prior to allowing the department to give priority attention to aquifer contamination, there should be some factual foundation based on identified health concerns.

William R. Williams
ARCO
P. O. Box 1491
Anaconda, MT 59711
(406) 563-5211

EXHIBIT 6
DATE 2-6-91
HB 380

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

IN THE MATTER OF:	)	ADMINISTRATIVE ORDER ON CONSENT
. ATLANTIC RICHFIELD COMPANY; . MR. DENNIS WASHINGTON; . MONTANA RESOURCES, INC.; . AR MONTANA CORPORATION; . ASARCO, INC.; . MONTANA RESOURCES	)	Remedial Investigation/ Feasibility Study for Butte, Montana, Area Mine Flooding Operable Unit (Silver Bow Creek/ Butte Area NPL Site)
Respondents.	)	
PROCEEDING UNDER SECTIONS 104 AND 122 OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980, 42 U.S.C. §§ 9601-9675, AS AMENDED BY THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, PUB. L. 99-499, 100 STAT. 1613 (1986)	)	Docket No. CERCLA VIII-90-09

STIPULATED PENALTIES

page # 54

ADMINISTRATIVE ORDER ON CONSENT

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15-30 days	$3,000
31 or more days	$6,000

d. Failure to Deliver Monthly Progress Reports on Time:

Delay (days after compliance deadline)	Amount/Day
1-14 days	$500
15-30 days	$1,000
31 or more days	$2,000

e. For Each Instance of Unintentional Destruction of a Record in Violation of Paragraph IX.E.:

$5,000 per instance

f. For Each Instance of Failure to Provide Access Under Paragraph IX.C.1., Failure to Comply With the Agreement Not to Contest Jurisdiction in Paragraph I.3., or Willful Destruction of a Record in Violation of Paragraph IX.E.:

$20,000 per instance.

g. The Respondents shall not allow the water level in the East Camp/Berkeley Pit System to exceed the 5410 feet above sea level (United States Geological Survey datum) as measured at the Berkeley Pit; the Kelley Shaft; the Anselmo Shaft; Steward Shaft; or the Belmont Shaft unless a higher level is specifically approved by EPA after consultation with the State. If the water level in the East Camp/Berkeley Pit System rises above 5410 feet above sea level at any compliance monitoring point for three consecutive months as determined by monitoring conducted in accordance with Attachment 3 and EPA does not approve the higher level, after consultation with the State, the Respondents shall

Ex. 6
2-6-91
HB 380

pay EPA stipulated penalties of $25,000 per day beginning on the 91st consecutive day after the water level exceeded 5410 feet above sea level at one or more compliance monitoring points and continuing until such time as the water level no longer exceeds that level at any compliance monitoring point. If the water level in one or more of the shafts which are compliance points exceeds the 5410 foot level in any month, Respondents may take action to lower the water level in the shafts subject to prior approval by EPA after consultation with the State.

2. The check for payment of the stipulated penalties shall be mailed within fourteen (14) days following the end of the calendar week during which they accrue. Payment must be made by certified or cashier's checks to the "Hazardous Substances Superfund" with a notation indicating that the payment is for "Stipulated Penalties for the Butte Area Mine Flooding Operable Unit (Silver Bow Creek/ Butte Area NPL Site) RI/FS Administrative Order on Consent Docket No. CERCLA VIII-90-09," identifying the Respondents' names and addresses, and the EPA Site Identification Number (Site No. 22). Payment should be addressed to:

EPA Region VIII
Attn: Superfund Accounting
P.O. Box 360859M
Pittsburgh, Pennsylvania 15251

A copy of the transmittal letter and copy of the check shall be sent to:

Office of Regional Counsel
U.S. Environmental Protection Agency
999 18th Street, Suite 500
Denver, Colorado 80202-2405
Attn: Designated Attorney

Exhibit 6 contains the entire administrative order. The original exhibit is available at the Montana Historical Society, 225 North Roberts, Helena, MT 59601. (Phone 406-444-4775)

EXHIBIT 7
DATE 2-6-91
~~HB~~ HJR8

AMENDMENTS TO HJR-8

Eliminate subparagraph (2) in its entirety.

Renumber and restate subparagraphs (3), (4) and (5) as follows:

(2) That the council should encourage regulators in the Northwest to eliminate economic disincentives to investments by electric utilities in cost effective energy conservation resources.

(3) That the council should encourage regulators in the Northwest to adopt ratemaking policies which do not encourage electric utilities to promote inefficient increased usage of electric energy.

(4) That the council should encourage regulators and electric utilities in the Northwest to explicitly consider environmental costs in their resource choices.

~~Fagg moves amendments~~
~~Brooke - Why need~~
~~John Alke - double negatives~~

EXHIBIT 8
DATE 2-6-91
HB 414

Amendments to House Bill No. 414
First Reading Copy

Requested by Rep. Cohen
For the Committee on Natural Resources

Prepared by Gail Kuntz
February 6, 1991

1. Page 2, line 20.
Following: line 19
Insert: "(a) to respond if wastes have been placed in a location where they are likely to cause pollution of state waters;"
Renumber: subsequent subsections

2. Page 3, line 8.
Following: "(a)(i)"
Insert: "wastes have been placed in a location where they are likely to cause pollution of state waters or"

3. Page 3, line 10.
Following: "fails to"
Insert: "clean up the wastes or to"

4. Page 3, line 14.
Following: "necessary to"
Insert: "prevent pollution of state waters,"

Warrenton

DATE 2/6/91
HB N/A

Draft Copy

Printed 11:24 am on February 6, 1991

LCcomm

**** Bill No. ***

Introduced By **********

By Request of **********

A Bill for an Act entitled: "An Act to revise the definition of solid waste; amending section 75-10-103, MCA."

Be it enacted by the Legislature of the State of Montana:

Section 1. Section 75-10-103, MCA, is amended to read:

"**75-10-103. Definitions.** Unless the context clearly requires otherwise, in this part the following definitions apply:

(1) "Board" means the board of health and environmental sciences provided for in 2-15-2104.

(2) "Department" means the department of health and environmental sciences provided for in Title 2, chapter 15, part 21.

(3) "Front-end organizational funds" means the money to be loaned to local governments for initial operating capital, site evaluation and negotiation, final design engineering and cost estimates, construction contract documents, final contract negotiations with energy users, material markets, and waste suppliers, contract negotiations with private operational managers, and financial and legal consultations.

(4) "Front-end planning funds" means the money granted to local governments for contract negotiations between local governments, predesign engineering and cost estimates,

administrative costs, preliminary contract negotiations with energy users and waste suppliers, financial feasibility analysis by a financial consultant, legal consultations, opinions, and review of contracts.

(5) "Front-end implementation funds" means the money granted to local governments for purchase of capital equipment to be used for a solid waste management system.

(6) "Local government" means a county, incorporated city or town, or refuse disposal district organized under the laws of this state.

(7) "Person" means any individual, firm, partnership, company, association, corporation, city, town, local governmental entity, or any other state, federal, or private entity, whether organized for profit or not.

(8) "Resource recovery facility" means any facility at which solid waste is processed for the purpose of extracting, converting to energy, or otherwise separating and preparing solid waste for reuse.

(9) "Solid waste" means all putrescible and nonputrescible wastes, including but not limited to garbage, rubbish, refuse, ~~hazardous wastes,~~ ashes, sludge from sewage treatment plants, water supply treatment plants, or air pollution control facilities; ~~septic tank and cesspool pumpings;~~ construction and demolition wastes; dead animals, including offal; discarded home and industrial appliances; and wood ~~wastes~~ products or wood byproducts and inert materials~~; but~~. "Solid waste" does not ~~include~~ mean municipal sewage, industrial wastewater effluents,

~~or~~ mining wastes ~~as~~ regulated under the mining and reclamation laws administered by the department of state lands, slash and forest debris regulated under laws administered by the department of state lands, or marketable byproducts.

(10) "Solid waste management system" means any system which controls the storage, treatment, recycling, recovery, or disposal of solid waste.

(11) "State solid waste plan" means the statewide plan formulated by the department as authorized by this part."

-END-

{Paul Sihler
Resource Scientist
Environmental Quality Council
444-3957}

1062

2-6-91
HB 380

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

Natural Resources COMMITTEE BILL NO. HB 380

DATE 2-6-91 SPONSOR(S) Rep. Daily

PLEASE PRINT **PLEASE PRINT** **PLEASE PRINT**

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
WARD SHANAHAN	MONTANA MINING ASSOC CHEVRON COMPANIES		✓
SHERRY PURDY	ARCO		✓
W. R Williams	ARCO		✓
Albert Moligroni	County Water & Sewer Dist	✓	
James Daily	Butte Silver Bow	✓	
FLOYD BOSSARD	BUTTE CITIZEN	✓	
Creighton Barry	Butte Silver Bow Superfund Coor	✓	
Steve T Doggett	MT Mining Assoc.		✓
Pam Hillery	USEPA — observer		
[illegible]	Butte-Silver Bow	✓	
Bob McCarthy	Butte-Silver Bow	✓	
Ray Tilman	Montana Resources		X
DENNIS LIND	WASHINGTON CORPS		X
Chris Kaufman	MEIC	X	

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

Lee Berry BWRR X
Frank Godfrey ARCO Y

HOUSE OF REPRESENTATIVES
VISITOR REGISTER

Natural Resources COMMITTEE DATE HB 380

DATE 2-6-91 SPONSOR REP DAILY

PLEASE PRINT **PLEASE PRINT**

NAME	REPRESENTING	
[redacted]	[redacted]	
Kim Wilson	Clark Fork -support	
Berry, Leo	BNRR	

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.