

MINUTES

**MONTANA HOUSE OF REPRESENTATIVES
52nd LEGISLATURE - REGULAR SESSION**

SUBCOMMITTEE ON LONG-RANGE PLANNING

Call to Order: By CHAIR MARY ELLEN CONNELLY, on February 20, 1991, at 8:00 a.m.

ROLL CALL

Members Present:

Rep. Mary Ellen Connelly, Chair (D)
Sen. Bob Hockett, Vice Chairman (D)
Rep. Francis Bardanouve (D)
Sen. Ethel Harding (R)
Sen. J.D. Lynch (D)
Rep. Bob Thoft (D)

Staff Present: Jim Haubein, Principal Fiscal Analyst (LFA)
Jane Hamman, Senior Budget Analyst (OBPP)
Claudia Montagne, Secretary

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

Announcements and Discussion: Mr. Haubein said there were three projects proposed for inmate labor which were scheduled for committee action on Friday, February 22. SEN. LYNCH said the committee should not act on this issue until Rep. Thoft's bill goes through the House Labor Committee. REP. THOFT suggested that they include the language in HB 5 that inmate labor be used and not appropriate the additional money (\$1.9 million). SEN. LYNCH objected, saying it would be irresponsible and a disregard of the law.

HEARING ON RECLAMATION AND DEVELOPMENT GRANT PROGRAM

1:A:000

Ray Beck, Administrator, Conservation and Resource Development, DNRC, addressed the committee on Department proposals on the Grants Programs. One item is the setting of a minimum cap on the programs to ensure an appropriate and stable amount in the accounts.

REP. BARDANOUE asked if he was suggesting a guaranteed cap for the coming biennium. He asked how you could guarantee an amount if you are not sure of the revenue. **Mr. Beck** said the revenue now is \$16.5 million in these accounts. After administrative portions and other uses of the money are removed, there is \$3.5 million is left for all three programs.

SEN. HOCKETT asked if the Department had a suggested amount. **Mr. Beck** said they could discuss that amount during Executive Action tomorrow, at which time they would have the minimal amounts needed for a viable program.

Mr. Beck said the other item is the limit on the coal backed bonds, which is getting smaller and smaller. They are looking at refinancing the 1987 "A" bonds, the Broadwater bonds, which would free up approximately \$11 million dollars if they refinanced through the Coal Severance Tax umbrella, or \$34 million if they utilized a revenue bonding source. If this is feasible, and the revenue bonding mechanism is used, the law would have to be amended to give the Board of Examiners the authority to authorize revenue bonds. The amendment proposed was to HB 7.

REP. BARDANOUVE asked the amount of the Broadwater bonds, and where they would get the lowest interest rate. **Mr. Beck** said the amount was approximately \$22 million, and the rate would be 6.82%. Even though they have a lower interest rate today on the original bonds, it is on a weekly variable rate of 6 to 12%. The advantage would be to capture a low interest rate for the life of the bond and to free up the Coal Severance Tax for increasing the bonding authority for the public loans.

Mr. Tubbs said the Department would base its decisions on the basis of the economics of the Broadwater project, not on the bonding capacity. That is an indirect benefit of the refinancing. He passed out some information on the large public loans to be reauthorized and the amount of their subsidies out of the Coal Severance Tax. A bar chart illustrates the amount of Coal Severance Tax Subsidy on the large public loans. **EXHIBIT 1** Two spread sheets outline the amount of Coal Severance Tax Proceeds needed to make up the difference on subsidized loans, both new and reauthorized. **EXHIBIT 2** A brief summary of the Water Development Program loan reauthorizations with their loan amounts, subsidy and date of authorization was also submitted. **EXHIBIT 3**

Toole County: North Toole County Reclamation Project

John Alstad, Toole County Commissioner, testified in support of the project, RDG 14. **EXHIBIT 4** **Doug Richmond**, On Site Inspector, narrated a slide presentation and was available for questions. **EXHIBIT 5** **Mr. Richmond** also distributed his Final Report on the Group II Re-Bid Sites for the North Toole County Reclamation Project. **EXHIBIT 6**

Questions from Subcommittee Members:

REP. BARDANOUVE asked how many more wells there might be in addition to those shown in the slides. **Mr. Richmond** said the area was extensive, an area 10 miles by six miles in size, and stretching all the way up to Sunburst.

They have 50 leases in the inventory in addition to the 15 shown here. Some of these may have responsible parties.

SEN. HARDING asked the cost per acre for the cleanup. **Mr. Richmond** said it was hard to put an exact estimate on the cost per acre, and could be misleading, since the contamination could be spread out over a large area or concentrated in one acre plot.

SEN. HARDING asked if the burial of the sludge was safe for the groundwater. **Mr. Richmond** said it was, since the only groundwater is in the Madison formation and is not good. The water in the area is piped in from the Marias River, 30 miles away.

1:B:000

Department of State Lands: Well Assessment and Abandonment

Jeff Hagener, Administrator, Land Administration Division, Department of State Lands (DSL), read the testimony of **Erik Sirs, Petroleum Engineer, DSL**, written in support of the project, RDG 16. **EXHIBIT 7 Tom Butler, Staff Attorney, DSL**, was also present and available for questions.

Questions from Subcommittee Members:

CHAIR CONNELLY asked how long it would be before the bankruptcy proceeding would be settled. **Mr. Butler** said he had spoken with the trustee for the mineral lease. Recently the attempted reorganization of the bankruptcy failed, and they have moved to Chapter 7 Bankruptcy. All of the creditors would be paid off in the order of their secured position. As an unsecured creditor, the State's chances of recovering any money from the bankruptcy of the lessee were nil.

SEN. HARDING asked about the cost of and the manner in which the wells would be plugged, and if it would prevent the contamination of the soil around it. **Mr. Sirs** said the wells would be plugged from total depth to surface if plugged at all. Cement would be the material. Any contamination that may occur has already occurred in the Kevin-Sunburst Field due to management practices at the time, and no additional emissions should take place.

SEN. HOCKETT commented that the cost per well was relatively modest compared to the request by the Board of Oil and Gas in their request. **Mr. Sirs** said the difference in cost was due to the fact that these wells are shallow. The wells are '30's vintage, built prior to rules. **SEN. HOCKETT** suggested they use the income from other fields in the form of royalties for this project. **Mr. Sirs** said that money cannot be used because rental and royalty monies go to the School Trust by law.

Glacier County Conservation District: Comprehensive Evaluation of Groundwater Contamination of the Red River Drainage

Tom Johnson, Glacier County Conservation District, testified in support of the project RDG 19, reading the description from the Project Evaluation book. EXHIBIT 4, 2/15/91 He submitted a fact sheet on the project. EXHIBIT 8

Gordon Peterson, County Counsel, Warner County, Alberta, gave some background on the Red Creek drainage, which crosses the Canadian-U.S. border. They have a joint interest in the drainage, and thus came down to lend support to Glacier County.

John Alstad, Toole County Commissioner, testified in support of the project since it affects Toole County as well as Glacier County.

A Glacier County Commissioner spoke in support of the project.

SEN. DEL GAGE, SD 5, Cut Bank, spoke in support of the project. The problem in this area is largely responsible for the concept of HB 199, introduced this session by Rep. Gilbert, as a means to protect groundwater. Another spinoff has been more responsible decisions on location of reserve pits when the wells are permitted.

Alvin Boxwell, MSCA, Cut Bank, showed some oil flow lines torn up by farming equipment, pipes that date back to the early '20's and are riddled with cracks and holes. As a farmer, he had lost his water well north of Cut Bank to oil and gas contamination. They have drilled three wells, two of which they sold to the oil companies. They still do not have water. The only water is the Red Creek Drainage. He asked the support of the committee for this project to keep that source of water clean.

Alan McAlpine, farmer in Glacier County, commented that the Red River drainage sits on a bed of gravel, and spoke of the possibility of the contamination moving down stream.

Questions from Subcommittee Members:

SEN. HARDING asked for clarification on HB 199. **Mr. Tubbs** said the bill funds the Oil and Gas Mitigation Account from the proceeds of the Coal Severance Tax in the amount of 20%. This type of project would then be funded from the Mitigation account which would free up this money for other grants. It would result in only a small amount of lost interest.

SEN. HOCKETT said he was concerned that the trust is failing to grow, and that this bill is one of the pieces of proposed legislation that would tap the fund. He suggested raising the tax on the wells instead. He asked what was being done about cleanup of the sites.

Mr. Johnson said these are not abandoned wells, and are not in the reclamation phase. They are more concerned about their water.

SEN. HOCKETT asked if they were injecting high pressure water into those wells, and directed the question to Marvin Miller. **Mr. Miller, Montana Bureau of Mines and Geology,** said the pressurization of the oil and gas fields in the State will come when the oil price increases and it is lucrative to go back to older fields. As one of the oldest fields in the country, the practice was to drill nine holes per 40 acres. These holes have old casings. The process is to pressurize one of these holes until you see geysers come up in the other nine holes. These are then plugged resulting a pressure seal in the area.

Mr. Miller said in the 1920's, the entire Sweetgrass Arch region was under artesian pressure, the head of which is now hundreds of feet below the surface. There are over 1,000 oil and gas wells in the area. Other problems there include dry land salinity. The group wishes to assess the problems in the area. This information would help in placing the responsibility for the problem.

SEN. HOCKETT asked if the pipe shown to the committee was the type currently being used. **Mr. Boxwell** said they were not, and had been abandoned. The location and condition of the pipes would be researched too. **Mr. Miller** said when the wells were abandoned, many of the pipes were shut off. Several miles of that may still be full of oil. As the pipe deteriorates, that oil escapes and could impact the ground water. A discussion followed on past and current techniques for drilling, providing a casing and plugging wells.

REP. BARDANOUE commented on the same problems in Sheridan County, and asked what is wrong with Montana law that this same problem is permitted to occur in another part of the state. He asked if Alberta had the same problem. **Mr. Johnson** said he agreed with Rep. Bardanouve's concern that there was a need for stronger regulation. **Mr. Peterson** said that in Canada, drilling was strictly regulated and monitored. If they do not comply, they are shut down. Before an operator leaves, there is mandatory plugging, surface to base.

SEN. HARDING asked about the percentages of types of wells in the area. **Mr. Miller** said most development in the Sweetgrass Arch region occurred early in the century before rules and regulations. There are approximately 30,000 wells. In the far northeast corner, development has occurred since that time, and thus much better well drilling and sealing practices and good quality casing have been used. In addition, the water quality in the Sweetgrass Arch is not nearly as saline as that in the southeast corner of the state. Therefore a little bit of brine causes large problems.

REP. THOFT asked if an oil well were drilled today, would it present this same type of problem once it is depleted. He asked if there are enough regulations. Mr. Miller said current drilling practices as regulated are excellent and state of the art. The breakdown occurs when the wells are taken out of production. The \$5,000 bond is not adequate. REP. THOFT wondered why the wells could not be plugged correctly.

2:A:000

Mr. Boxwell added that since he and Sen. Gage had toured the area two months ago, oil is spilling out of the top of tanks. This situation is widespread and not limited to one operator.

Another discussion followed on the problem of operators improperly plugging wells, or walking away from a well, leaving the State with the problem of plugging the wells and cleaning up any contamination left. It was felt that the problem needed to be addressed. Mr. Miller gave the example of the concern in the past few years with the plugging of seismic shotholes. As a result, the Land and Mineral Owners' Association worked together with the oil and gas companies and geophysical companies to come up with new rules and regulations, which were then adopted by the Oil and Gas Commission. He suggested this approach on this particular problem. He reiterated that \$5,000, the amount of the bond, is an easy check to write when you are faced with thousands of dollars of cleanup. Mining companies are meeting huge bonding requirements, and it should be the same for oil and gas. He admitted he did not know all of the impacts of bonding either.

Homestead Acres Water and Sewer: Bootlegger Mine Reclamation Project

BILL STRIZICH, HD 41, Great Falls, spoke in favor of the project, saying the reclamation of the area was long overdo, and would return the site to a natural state. He said this would eliminate the consideration of the site for distasteful projects, such as the oil recycling proposal.

Sherry Lacey Gallagher, Montana People's Action, testified as a member of that organization and an adjacent landowner to the site to be reclaimed, the abandoned Treasure States Industries shale plant. They realized that money was not recommended for the project, but decided to come in and plead their case. She had gotten involved in MPA when in January of 1990, an oil recycler proposed relocating at the old mine site, an area that is zoned agricultural and is now residential as well. The proposal went before the City County Planning Board for reclassification of the area as heavy industrial. She gave a history of the area. In 1958, it was being mined by Treasure State Industries out of Butte for the shale bentonite aggregate. In 1974, the business was sold to three local business in Great Falls, and was later shut down by the Air Quality Bureau due to the inability to meet emission requirements. In 1984, after litigation over the

closure, the three businesses donated the land to Mountain Search and Rescue.

Ms. Gallagher said the site had remained vacant, with Mountain Search and Rescue salvaging the property. The approach by the Oil Recycler was an opportunity for Mountain Search and Rescue to unload the property. She said there were sites in Great Falls zoned for industry, and that this site was inappropriate. She cited the difficulty winning their case with the Planning Board over the reclassification of the property, but that the zoning did remain agricultural. In April of 1990, the landowners and the owners sat down to consider a means of reclaiming the property. Mountain Search and Rescue had agreed to applying for the grant but had not fully participated in this process.

Ms. Gallagher said that Montana People's Action had not known they needed to submit additional information in order to be considered for funding until after the fact. She said there were people out there every weekend target shooting, dumping and salvaging.

Juanita Silber, Montana People's Action and Homestead Acres representative, said their water lines were adjacent to the site and were contaminated by the magnesium present in the runoff. She spoke in favor of the reclamation project to prevent the contamination of their water supply.

Donna Griffin, Staff Person, Montana People's Action, clarified that the information necessary for the grant application and requested by DNRC of Mountain Search and Rescue had not been shared with MPA. She responded to DNRC's comments on their application. First, Mountain Search and Rescue had not considered contributing any funds to the project. MPA had allotted \$12,204 out of their budget. Second, the intention of MPA is that Mountain Search and Rescue would approach both MPA and Homestead Water District with information regarding any potential sale of the property. MPA asked that it be used for one of three purposes, the primary objective being parkland; other uses could be residential or agricultural. Three, the groups see this project as a crucial need for both the 120 homeowners, and the community of Great Falls as well. She cited the health hazards inherent in the site as it stood now.

Ms. Griffin suggested requiring Mountain Search and Rescue, if they did sell the property, to put all or a portion of proceeds from the sale of the property back into the grant fund. Finally, she said the gathering of cost estimates were left up to Mountain States and Rescue. She mentioned their good faith effort, and encouraged the committee to reconsider their proposal.

Questions From Subcommittee Members:

REP. BARDANOUVE asked the size of the property.

Ms. Gallagher said it was 10.44 acres and was 3 miles from the city, within the city/county planning jurisdiction.

REP. BARDANOUE asked if they had approached the County Commissioners. **Ms. Gallagher** said they had not been cooperative, and had been interested in putting the oil recycler on that property. However, they did not have the jurisdiction to rezone. **Ms. Griffin** said they had received verbal support from a couple of the commissioners, but nothing written. They had said they had no means of helping out financially.

SEN. HOCKETT said the continued dumping of refuse in the site was certainly regulated. He suggested that with a formal request, the County Sanitarian could take action on that. **Ms. Griffin** said that with 3 calls to the Cascade County Health Department, they would enforce the State Nuisance Law. The group had done this, with no response. **SEN. HOCKETT** suggested writing the complaint so that a record could be maintained.

REP. BARDANOUE asked who the businessmen were who had donated the property in 1975. **Ms. Griffin** said they were in court litigation - Carl Engleburtson, Carl Poulson, and Dick Olson. They were having financial problems with the Treasure Industries. **Ms. Gallagher** said they knew it was liability. **REP. BARDANOUE** suggested that the committee write strong letters to the Sanitarian and the County Commissioners showing its concern and lack of ability to contribute money, and a recommendation in firm language to do something about the site.

City of Cascade: Cascade Water Project

Don Rose asked for a reauthorization of their grant to complete their water system in the town of Cascade. Since his last visit before the committee on February 7, they had secured the support of the City Commission and had hired a consulting firm in Great Falls. They have the plans for the leaking lagoon.

Judith Basin County: Development of Iron Ore Deposit

SEN. BOB WILLIAMS, SD 15, Judith Basin, testified in support of the project, RDG 31. He addressed the location of ozone and its benefits. In relation to this project, iron ore can be put in the ocean to encourage the growth of plankton, which would in turn help maintain the ozone layer. Harry Higgins will be presenting a project to develop an iron ore deposit.

Harry Higgins, Troy, EKPA, Inc, testified in support of the project. **EXHIBIT 9** The exhibit includes his testimony, the summary of the project and a letter to Mr. Higgins from DNRC informing him of the recommendations of the Department. He emphasized that many of the grant projects for cleanup were not

contributing to the economy of Montana, whereas his project would bring jobs to Montana.

Paul Holzer, former Legislator, Stanford, testified in support of the project as one which would add to the economy of Montana. He spoke of the quality of the ore.

Bill Reilly, County Commissioner, Judith Basin County, testified in support of the project. Blaine County has lost population in the last decade, the number falling from 2600 to 2250. This project would be a boon to the economy of the county and the State.

Mark Holzer, Judith Basin County, said at age 36, he represented the youth of his community. There were no opportunities in the county. He had no interest in the project per se, but had a definite interest in the viability of his community.

Questions from Subcommittee Members:

REP. BARDANOUE asked the potential amount of the ore. **Mr. Higgins** said the deposit was estimated at 2 million tons, and said they would not be another Anaconda Mining Company.

SEN. HARDING asked about the financial assessment by DNRC, and the fact that there is not information about such things as contractor costs. **Mr. Higgins** said he had not turned in any additional information. He explained they had to do things step by step, the first being the surveying, then core drilling. This would be done on contract.

Mr. Tubbs pointed out that Judith Basin was up for a \$170,000 grant on another development project.

Greg Mills clarified the Rural Development Grant was to the Judith County Conservation District, not the county. To administer those funds, the Conservation District associated with the local RC&D. The county is a member of that organization and is fully supportive of that rural development proposal. **Mr. Mills** described to the committee the material upon which they had to make their decision, the application, and one month later, the supplement. From this information, it appeared that \$87,000 was for the core drilling program, and the balance was for a number of feasibility studies. **Mr. Higgins** said that was a misprint.

REP. BARDANOUE asked if the Bureau of Mines had surveyed this claim. **Mr. Higgins** said yes, and that he had the report and evaluations. He was not ready to present them until they established the corners.

East Sanders County Conservation District: Little Bitterroot
Valley Recharge Enhancement and Conservation

A representative of the Eastern Sanders Conservation District presented testimony on the project. EXHIBIT 10 The Bureau of Mines had studied the area and found the aquifer was going down in pressure. The idea within this project is to recharge this aquifer with water. Excess water in the spring would run into the canal and sedimentation pond, and from there into the well to recharge the aquifer underneath.

Mr. Tubbs said this project was approved last session. Typically, with grants, they do not come before the committee for reauthorization once those funds are obligated. In this case, however, there is a major change in scope. In the original grant there were several hundreds of thousands of dollars from the Bureau of Reclamation scheduled to come in under their Aquifer Recharge Program. Since that time, the Bureau of Reclamation has not categorized this project in their ranks and the federal funding was dropped. This was a contingency in the grant recommendation. This is a scaled back proposal to survey the area and have a trial recharge. At that point in time, the feasibility will be determined and the potential for funding under the Federal Aquifer Recharge Program could take effect. This project is not competing with this year's projects, since the funds in the amount of \$86,300 were encumbered last session. An amendment reauthorizing the grant would be drafted.

SEN. PAUL SVRCEK, SD 26, Thompson Falls, rose in support of the project.

Doug Abelin, Northern Montana Oil and Gas, asked to speak on the oil and gas issues raised by the committee. Since most of the committee was absent, CHAIR CONNELLY suggested they work out a time later to discuss those issues.

ADJOURNMENT

Adjournment: 11:30 a.m.

M. E. Connelly

MARY ELLEN CONNELLY, Chair

Claudia Montagne

CLAUDIA MONTAGNE, Secretary

HOUSE OF REPRESENTATIVES
LONG-RANGE PLANNING SUBCOMMITTEE

ROLL CALL

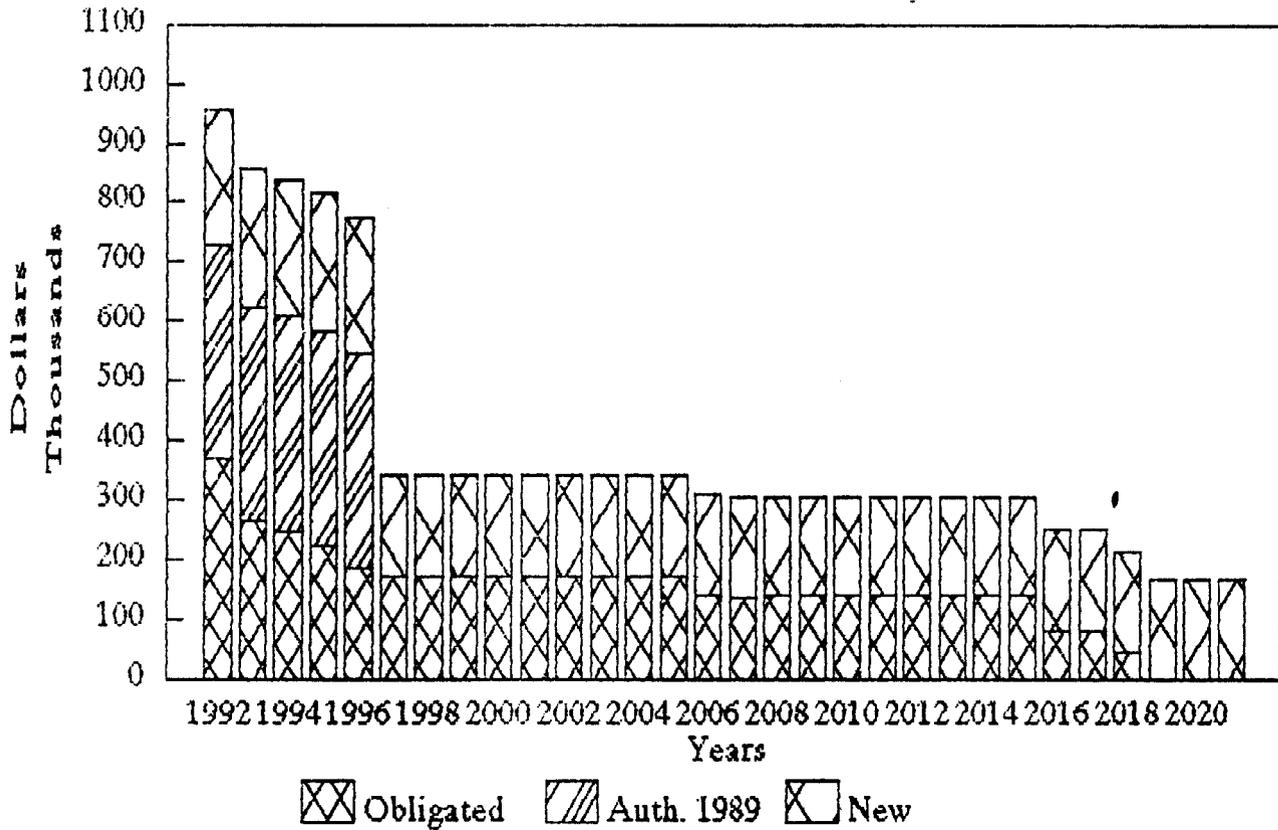
DATE 2-20-91

NAME	PRESENT	ABSENT	EXCUSED
REP. FRANCIS BARDANOUE	✓		
SEN. ETHEL HARDING	✓		
SEN. BOB HOCKETT, VICE-CHAIRMAN	✓		
SEN. J.D. LYNCH	✓		
REP. BOB THOFT	✓		
REP. MARY ELLEN CONNELLY, CHAIR	✓		

HR:1991
CS10DLRLCALONGRP.MAN

LARGE PUBLIC LOANS

Coal Severance Tax Subsidy



DNRC 2/19/91

WATER DEVELOPMENT PROGRAM
REQUEST TO RE-AUTHORIZE LOANS

The following is a recapitulation of projects requesting re-authorization of their loans during this legislative session. The projects are presented in alphabetical order according to project sponsor.

1. Anaconda/Deer Lodge: Wastewater Treatment Plant Effluent Disposal. The city of Anaconda proposes to improve their existing wastewater treatment plant by constructing alternate effluent disposal ponds.

\$500,000 loan/0% subsidy/\$0 total subsidy/Authorized in 1989.

2. City of Browning: Water Treatment Plant and Transmission Facilities. The town currently draws all of its water from shallow wells. Water shortages have forced the town to explore alternate sources of water. The recommended solution is to divert water from a nearby creek. This project will construct the facilities to properly treat the water.

\$447,014 loan/0% subsidy/\$0 total subsidy/Authorized in 1987.

3. Town of Dutton: Water System Improvements. This project consists of constructing a new water tank and will improve the transmission system to bring it in compliance with current regulations.

\$150,000 loan/4% subsidy for 5 years/\$20,952 total subsidy/Authorized in 1985

4. Town of East Glacier: Midvale Creek Diversion. The town of East Glacier obtains its water from Midvale Creek. The town is in violation of Water Quality Standards as the water is only chlorinated prior to use. This project proposes to divert water from Midvale Creek to the existing Glacier Park water treatment plant for processing and then return it to East Glacier's lines.

\$484,270 loan/ 2% subsidy for 5 years/\$35,164 total subsidy/Authorized 1989.

5. Evergreen Water and Sewer District: Wastewater Collection, Treatment and Disposal Facilities. The district, located adjacent to the City of Kalispell proposes to construct complete sewage collection, treatment, and disposal facilities. These facilities will replace the individual septic tanks and drain fields currently used and subsequently reduce the chance for groundwater contamination in the area.

\$3,226,900 loan/3% subsidy for 5 years/\$344,867 total subsidy/Authorized in 1985.

6. City of Glendive: Water Treatment Plant Improvements. This project seeks to improve the city's water treatment facilities by rehabilitating and upgrading the current treatment plant.

\$4,075,000 loan/2% subsidy for 5 years/\$295,891 total subsidy/Authorized 1989.

7. Lake County/Big Arm Sewer District: Big Arm Sewer Improvements. The town of Big Arm is an unincorporated town near Flathead Lake. The sewer district proposes to construct complete sewage collection, treatment, and disposal facilities. These facilities will replace the individual septic tanks and drain fields currently used and subsequently reduce the chance for groundwater contamination in the area.

\$2,283,893 loan/3% subsidy for 5 years/\$244,085 total subsidy/Authorized 1989.

8. Pondera County Conservation District: Lower Birch Creek Watershed Project Rehabilitation: The sponsor proposes to improve the irrigation system in the Lower Birch Creek Watershed by rehabilitating existing structures or constructing new structures. This project will directly benefit 348 farms and ranches located primarily in Pondera County.

\$750,000 loan/2% subsidy for 5 years/\$54,458 total subsidy/Authorized 1985.

9. Somers County Water and Sewer District: Somers Sewer System Improvements. The town of Somers is an unincorporated community located along the north shore of Flathead Lake. The sewer district proposes to construct complete sewage collection, treatment, and disposal facilities. These facilities will replace the individual septic tanks and drain fields currently used.

\$3,151,960 loan/3% subsidy for 5 years/\$336,858 total subsidy/Authorized 1989.

10. City of Whitefish: Water Treatment and Distribution Project. The purpose of this project is to construct a water treatment facility and upgrade the existing distribution system.

\$6,035,800 loan/2% subsidy for 5 years/\$438,267 total subsidy/Authorized 1989.

11. Town of Wibaux: Water Storage Reservoir and Transmission Line. The project improvements that would be funded under this project include the construction of a new 100,000 gallon storage reservoir and a new 8-inch transmission line from the existing water wells to the new storage reservoir.

\$250,000 loan/2% subsidy for 5 years/\$18,153 total

subsidy/Authorized 1989.

The sponsors of the following projects are also requesting re-authorization of their loans. These loans are considered small loans (less than \$200,000) and are not eligible for interest subsidies.

1. City of Belgrade: Meter Installation and Water Main Replacement. The city is proposing to install water meters on services not presently metered (approximately 833 meters) and to replace 2,233 feet of deteriorated 4-inch water main.

\$150,000 loan/Originally authorized in 1989.

2. Carbon County/City of Roberts: Roberts Water System Improvements. The town proposes to improve its water system by rehabilitating its treatment facility and increase the size of some water lines.

\$142,500 loan/Originally authorized in 1987.

3. Town of Cascade: Water Distribution and Supply System Improvements. The sponsor intends to utilize this loan in conjunction with several other funding sources to replace major portion of its water mains. Funds will also be used to upgrade the water supply system to provide a dependable quantity for domestic use and fire protection.

\$200,000 loan/Originally authorized in 1987.

4. Cascade County/Sun Prairie Village: Water System Improvements. Sun Prairie Village is a rural sub-division located along Interstate 15 6.3 miles west of Great Falls. This project will replace several of the water mains which were initially installed improperly. These water mains have settled and are leaking severely.

\$200,000 loan/Originally authorized in 1985.

5. Town of Hysham: Water System Improvements. The town of Hysham has been under a "Health Advisory" since 1986 because of their poor water supply. This project will upgrade the town's water system to bring it into compliance with state standards. The scope of this project has changed significantly since the town originally applied for the loan. The attached memorandum for the file details the changes.

\$150,000 loan/Originally authorized in 1989.

6. Sage Creek Water District: Water District Expansion. The Sage Creek County Water District currently serves 55 users in northeastern Liberty County and northwestern Hill County. This project will add approximately 25 miles of service line to the district's current 96.2 miles and will allow 10 additional families to connect to the system. These families currently haul water from either Chester or Joplin.

\$158,600 loan/Originally authorized in 1987.

7. City of Shelby: Shelby Water Rehabilitation. This project will rehabilitate the city's water well field. The field has ten producing wells ranging in depth from 31 to 50 feet. Several of the wells have been in service for years and the pumps, casings and screens are in need of repair.

\$100,000 loan/Originally authorized in 1987.

EXHIBIT 3
DATE 2.20.91
RE 1 Long Range Plan

MEMORANDUM FOR THE FILE

FROM: Mark Marty 

DATE: February 11, 1991

SUBJECT: Town of Hysham Water System Improvement Project

I spoke with Mr. Rusty Rokita today regarding the above project. (Mr. Rokita is a consultant assisting the Town of Hysham procure project funding.)

I told Mr. Rokita that grant funds authorized for the project (\$50,000) would be available soon and I would like to get the grant agreement completed before the funds become available. I asked Mr. Rokita for an update on the project funding and if there were any appreciable changes in the scope of the project.

Mr. Rokita told me that a Community Development Block Grant (CDBG) has been received and Farmers Home Administration (FmHA) grant and loan funding has also been approved.

The scope of the project has changed significantly since the town made their original application to DNRC for funding. The filtration process originally proposed (slow sand) did not meet the EPA standards. The project is being redesigned to utilize a rapid sand filtration process.

In addition, the distribution system was found to be inadequate in terms of sizing and condition and the FmHA required the town to upgrade it as a condition to their approving funding. In return, the FmHA would authorize a \$644,000 loan and approve a \$200,000 grant. (The original FmHA low interest loan was to be \$156,000.) The town is now working with Mae Nan Ellingson to complete the FmHA bond transactions.

The town's consulting engineer is about complete with the plans and specifications for the rapid sand filtration system and the distribution system improvements. (They should be done by the end of February.) The town anticipates advertising for bids in mid-April and construction should start in May or June.

Mr. Rokita asked that I hold off on processing the grant agreement until such time that they have a better handle on the funds available from other sources and the amount of the construction contract.

Mr. Rokita will be in Helena the week of February 25th and will be in to see me with an update of the project.

cc:

John Tubbs
Jeanne Doney
Anna Miller

GENEVA R. SISK, Chairman
JOHN ALSTAD, Commissioner
DENIS FREELAND, Commissioner
MERLE RAPH, County Attorney
MELODEE A. ROBINS, Clerk and Recorder
VERN L. ANDERSON, Sheriff
JAMES C. FARRAR, Justice of the Peace
COMMISSIONERS, 406-434-5121



PENNY UNDERDAHL, Clerk of Court
DIANA L. FELTON, Treasurer
CORRINE MERHAR, Assessor
MARIA HARRISON, Supt. of Schools
MYRON FRYDENLUND Coroner
MYRNA WOLLAN, Public Administrator
CLERK AND RECORDER, 406-434-2232

COUNTY OF TOOLE

226 1st South – Toole County Courthouse
SHELBY, MONTANA 59474

EXHIBIT 4
DATE 2.20.91
HB 8, RDG 14
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February 20, 1991

TESTIMONY IN SUPPORT OF NORTH TOOLE COUNTY RECLAMATION PROJECT

I am John Alstad, Toole County Commissioner. I would like to thank you for the opportunity to talk with you about the North Toole County Reclamation Project.

As many of you are aware, we have been actively involved in the cleanup and reclamation of oil oilfield sites located in Toole County since 1986. The sites which have been reclaimed to date are those for which no responsible party has been located. I can assure you that without this funding these sites would never be reclaimed.

Several of you have had the opportunity to see the work we have accomplished to date. In an effort to appraise you on how successful this project has been we have a short slide series to present. I realize time is of the essence with your busy schedule for the day.

Doug Richmond will present the slides and will answer any questions you may have on the cleanup efforts as he was the local inspector on-site at all times during the project.

. Doug presents slides

In closing, I would like to make a few general comments. Presently we are soliciting engineering proposals for the cleanup of 15 new sites. We hope to commence cleanup by May.

We realize that we have not spent all previous funding as of this date. Our last bid solicitation of March 1989 on the Group II sites was \$210,000. We felt that this bid was exorbitant and we rejected the Group II bid and accepted Groups I, III and IV. We re-bid Group II with minor changes to the bid specs and were able to reclaim all of these sites for \$80,000. Landscaping and seeding was bid at \$25,000 and we elected to use the on-site inspector to accomplish this task by using existing county equipment for a cost of \$6,000. This frugal management of funding will allow us to reclaim additional sites.

Finally, we feel that it has been extremely beneficial to have an on-site inspector. His presence has facilitated public relations, construction efforts and site location all of which have suffered or been detrimental in the past. We would ask that funding again be allocated for an on-site inspector not to be paid from County funds.

I would like to thank you on behalf of the North Toole County Reclamation Project and ask for your continued support of this worthwhile project.

Sincerely yours,

John A. Alstad
Toole County Commissioner

NORTH TOOLE COUNTY RECLAMATION PROJECT
1990
Slide Presentation with Narrative

NARRATOR: This narrative is meant to be read while viewing the accompanying 64 slides. Circled numbers coincide with the numbers on the slides. Please practice a few times before attempting a presentation.

(1) This presentation is a summary of 1990 reclamation efforts in the Kevin-Sunburst Oil Field of Toole County, Montana.

(2) Oil production began in the 1920's in this area north of Shelby. The oil boom brought large amounts of machinery and development to the area (3), (4). Today, (5) this oil field is still producing, but production levels are much lower, and production methods have changed because of newer technologies and heightened environmental concern.

Some of the old buildings, machinery, and oil spills remain from the earlier, busier times. (6), (7), (8), (9), (10). These hazards and eye-sores are the targets for ongoing clean-up efforts by the North Toole County Reclamation Project. (11), (12), (13), (14), (15).

In 1990, five sites were reclaimed. These sites contained some of the largest oil spills and waste oil pits in the region. (16) Disposal of this material and reclamation of contaminated soil was the biggest challenge for the 1990 project. Off-site recycling was effective for waste oil in old tanks, but the oil spills and open pits contained dirt, weeds, garbage, and other debris that had accumulated over the years making the oil

too thick to be pumped and too dirty to be processed by oil producers or refiners.

(17) An effort was made to burn some of the waste oil pits in the hope that this would significantly reduce the volume of the problem. (18),(19) However, this effort was unsuccessful. Four fires were attempted. Three failed to ignite the material, and the fourth burned briefly,(20) then was extinguished by the water and dirt that had accumulated in the sludge over the years. (21)

It was finally determined that burial of this sludge is the best available option for North Toole County. Soils in the area are rich in clay and overlie a thick impermeable shale layer, making conditions ideal for containment of buried material.

(22) The worst pit measured 50 by 25 feet and 5 feet deep. The sludge was buried in nine trenches radiating out from the pit. (23) Sludge was pushed down the trenches (24) then mixed with soil at approximately five to one, soil to sludge. (25) This material was then compacted and covered with a minimum of five feet of soil. (26)

Thicker spills (27) were handled by removing the contaminated material (28) and replacing it with clean soil. (29),(30) The material that had been removed was placed in burial pits, (31) mixed with clean soil,(32) and compacted. (33)

Once the oil spills were buried, these pits and others were used for burying unsalvagable debris. (34) Pipe, scrap iron, and some lumber was removed for salvage.(35) The remaining debris was crushed and buried.(36),(37),(38),(39)

Usable oil was pumped from old tanks. (40) Water and sludge from tanks was mixed with soil and buried in trenches. (41) Then the empty tanks were crushed, (42) and buried with the other debris. (43) Finally topsoil, which had been stockpiled seperately during excavation, was redistributed, and the ground surface was contoured and smoothed in preparation for seeding. (44)

The final seeding process included the application of manure (45) and fertilizer (46), (47) on reclaimed oil spill areas. (48) This was followed by the application in late October, 1990 of a seed mix containing grasses, clover and alfalfa. (49), (50). The same seed mixture had been applied to 1989 reclamation sites, (51) and these sites have made an encouraging start. (52) All of the sites will be monitored in the future to insure their success and to help improve specifications for future reseeding work.

The 1990 reclamation work has made a noticeable difference in the area as you can see in the following five pairs of "before" and "after" photos: ((53)-(54)), ((55)-(56)), ((57)-(58)), ((59)-(60)), ((61)-(62)).

Over the past three years, twenty sites have been reclaimed by the North Toole Reclamation Project. Another fifty potential sites have been located are are now in various stages of the approval process. These next eight slides are just a few examples of what still remains. (63), (64), (65), (66), (67), (68), (69), (70). We hope that over the next few years we will be able to reclaim all of these sites (71) and make the Kevin-Sunburst Oil Field a safer and more beautiful place to live and work. (72). Thank you.

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FINAL REPORT

GROUP II Re-Bid Sites

North Toole County Reclamation Project

Final Report - October, 1990
Doug Richmond - Field Inspector

This report is a summary of my activities for the North Toole County Reclamation Project, June 1989 - October, 1990. During that time, I performed the following duties: 1) acted as onsite inspector for reclamation work; 2) helped prepare and carry out ground treatment and seeding specifications; 3) acted as county representative in dealings with lease operators, land owners, engineers etc. to facilitate smooth operation of the project; 4) assisted Karen Boumans, environmental technician, while in the field by soliciting and qualifying sites for future clean-up work.

The following discussion of these activities may help future field inspectors as well as engineers, administrators and policy makers in their efforts to continue and to improve this project.

I. On-site inspection was my primary duty in this project. My purpose was to "inspect all work of contractors and sub-contractors and insure that all work is performed in a satisfactory and proper manner and in accordance with [engineering] plans". This work required thorough review and understanding of the plans and close contact with the engineers. I acted as an employee of the County to insure that their goals were met and as an extension of the engineering firm to provide a constant inspector rather than the periodic checks that would have been done otherwise. The engineers still bore responsibility for certifying, that the work met their specifications, but my presence on site provided greater insurance against short-cuts or inferior work by the contractors.

The greatest potential for such inferior work is:

- 1) Burial of waste oil from old spills. The specifications generally called for scraping or scooping of spill material, interlaying and compaction of this material in burial pits and final cover of greater than five feet over this material. Suitable soil was backfilled over the areas where spilled material has been picked up. The final result is a smooth dirt covered area with no evidence to show whether or not specifications were met.

By being on site, I was able to verify the depth of material removed before backfilling took place, and to verify adequate mixing and compaction of lifts in burial pits to avoid later settling or upward seeping of oil.

- 2) Burial of debris in pits. The burial of debris followed similar specifications to those above, except final cover was to be greater than two feet. By being on site, I was able to insure this cover plus adequate compaction.

It is my opinion that this specification should be changed to three feet of cover for future contracts to better insure that buried debris will not resurface or interfere with farm equipment passing over burial pit sites.

- 3) Disposal of old tanks and tank contents. The specification I worked with required that all "liquids in the bottom of any tank" be pumped out and disposed of in an off site, approved facility and further that "the remaining material may be disposed of on site by burial" in the manner described for oil spills above. This created confusion over the difference between "liquid" and "material" as many old tanks contain a mixture of

crude oil, basic sediment, water, etc. This mixture has a sludge-like texture which can be pumped out of tanks with some difficulty. ^{HE} There were Long Range operators in the areas willing to accept some of this material and approval was obtained. Most tanks had less than two feet of sludge in them and these amounts were successfully buried. Planning

It is my opinion that a better specification would require pumping of any material in excess of 2 feet and that the remaining material may be buried on site after removing it from the tank.

The important task on the on-site inspector is to witness that any sludge being buried is removed from the tank rather than buried inside it and to witness that the tank is adequately crushed rather than buried as a hollow region that might collapse at some future time.

II. Post clean-up ground treatment and seeding. Ground treatment and seeding was originally included in the engineering plans and the bid process. It was later decided by the Reclamation Board and the County Commissioners that the work could be done efficiently through the use of County personnel and equipment as part of the County's matching funds obligation. I was assigned the job of carrying out this work.

Guidelines for this part of the reclamation project were described by the Montana Salinity Control Association in 1989 (Appendix A). Their emphasis was on reclaiming old crusted oil spill areas. To accomplish this they advised:

- 1) application of mulch (3T/acre)
- 2) application of fertilizer
- 3) application of calcium chloride to areas testing high in sodium
- 4) rototilling to break crust and mix the above amendments with contaminated soil
- 5) reseeding with a mixture of grasses, clover and alfalfa

On the 12 sites reclaimed in 1989, all spills were scraped up by the contractor and clean soil was spread over the area. For these areas and all other disturbed areas I tried just applying grass seed in April, 1990. (See Appendix B) The locations of these sites and of the sites treated later are shown on plans filed in the Health Department.

At the time of this report, these areas show promising results after one growing season. According to Dave Pratt, District Conservationist for the Soil Conservation Service, it takes two or more years to establish these grasses, so future inspections will determine if the above methods should be changed.

In October 1990, I did ground treatment work on the five 1990 sites. These sites did have some undisturbed oil spill areas and areas contaminated by oil production water, so I tried manure mulching, fertilizer application and calcium chloride application. Descriptions of these treatments and the locations treated are given in Appendix C. These sites should be looked at and compared to unfertilized sites when making future ground treatment decisions.

Recommendations:

- 1) Continue checking previously seeded areas to determine what treatments work best.

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- 2) Continue working with Soil Conservation Service and the farmers on the Reclamation Board for technical advice (methods, timing, seed types, etc.)
- 3) Check with farmers before seeding. They may wish to grow crops on some areas.

III. County Representative work. Because the Field Inspector has first hand knowledge of the daily progress of this project, he/she is in a position to facilitate its smooth operation. Communications with all concerned parties is the key.

Recommendations:

- 1) Keep the Reclamation Board and the County Commissioners informed about the project. Obtain their approval before making major decisions.
- 2) Try to keep lease operators and surface owners informed also. Make sure the engineers communicate with these people regarding property to be left undisturbed. In some cases the surface is leased to farmers or cattle ranchers who should also be notified before work begins.

IV. Soliciting future sites. Because I was in the oilfield daily, I met many of the people who live and work there and I was able to explain this project to them. I also saw leases that need reclamation work. By letting people know that our project was seeking more sites, I was able to help Karen Boumans locate sites that needed reclamation and that have owners willing to cooperate with our project. As of October, 1990 we have an inventory of over fifty (50) prospective sites for future work.

Cooperation and participation of land owners and lease operators in the future will depend on continued high quality results. By employing a field inspector of their own, the County and the Reclamation Board help to insure that the work is done right.

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**APPENDIX A - WASTE OIL AREAS DISPOSAL AND TREATMENT
RECOMMENDATIONS**

June 29, 1989

**NORTH TOOLE COUNTY RECLAMATION PROJECT
SOIL RECLAMATION TREATMENT RECOMMENDATIONS**

Soil treatments are specified for three areas at the McCormick site, seven areas at the Allen 3 & 17 sites, four areas at the Huso-Byrne site, and one area at the Zachor site. These areas are coded and keyed to plan map locations. The following summarizes the soils data interpretations and treatments to be applied on each area. A full description of each treatment activity is then given. (Note that seeding must be done after October 15, and hence may not be included in bid specifications. Results of the soils analyses are enclosed).

McCormick site.

MA (approx. 0.3 ac.)- This area is basically a fan deposit of waste oil and sediment. In the upper borehole on the sampling transect, the natural soil was not encountered until a depth of 36 inches. The 0 to 6 inch depth sample was about 20 percent extractable oil, which will limit effectiveness of soil treatments. Therefore physical removal and disposal of this material will be necessary. Soluble salts are present, but not in high concentrations; electrical conductivities (EC) range from 2.6 to 4.7 mmhos/cm. The contractor is cautioned that a high water table may restrict equipment access on the west side of this area, and that the proper equipment to do the job will be required. The high water table (and perhaps some of the oil contamination) is due to active production of oil and brine.

Recommendation- Remove top 12 to 36 inches of oil waste to expose natural soil. This will be best accomplished with a large backhoe; dispose of material either in an approved off site disposal facility, or by on site burial. If buried on site, the waste material shall be interlayered with clean soil (alternating layers of 6 or less inches oil, 6 inches soil) and buried at least 5 feet below surface (burial beneath debris from the site is an option). Reshape area to allow surface drainage. Apply tillage, mulch, fertilizer, and calcium chloride (2.5 tons/ac), and seed as detailed below.

MB (approx 1.5 ac)- Oil contamination of the 0 to 6 inch depth is high; 15.3 percent extractable oil. The subsoil is saline (MA-3 is 7.23 mmhos/cm), and a high water table makes upward movement of this salt likely. The contractor is cautioned that a high water table may restrict equipment access in this area, and that the proper equipment to do the job will be required.

Recommendation- Scrape and remove top 6 inches for burial (on-site). The oily soil should be buried at least 5 feet deep, but does not need to be interlayered (burial beneath debris from the site is an option). Reshape area to allow drainage of surface water (level berms so water will not pond). Apply tillage, mulch, fertilizer, and seed as detailed below.

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MC (approx 2 ac)- Oil contamination is lower in this area (2.84 percent extractable oil), but the salt hazard is greater (EC's 6.8 to 8.4 mmhos/cm). The contractor is cautioned that a high water table may restrict equipment access in this area, and that the proper equipment to do the job will be required.

Recommendation- No earth moving activity is needed. Apply tillage, mulch, fertilizer, and seed as detailed below.

Allen 3 & 17 sites

AA (approx 0.3 ac)- The soil surface (0 to 6 in) is 26.8 percent extractable oil, and has a pH of less than 3, making removal and disposal a requisite for treatment effectiveness. The subsurface samples show no problem with salts or sodium.

Recommendation- Scrape and remove top 6 inches for on-site burial. Bury this oily soil and sludge, interlayered with clean soil (layers less than 6 inches thick), with at least five feet of cover (burial beneath debris from the site is an option). Reshape area to allow surface drainage. Apply tillage, mulch, fertilizer, calcium chloride (2.5 tons/ac), and seed as detailed below.

AB (approx 1.5 ac)- No oil contamination is present, but the soil is very saline (EC's range from 14.4 to 26.5 mmhos/cm). Comparison of the sulfate versus chloride levels shows that although some oilfield brines (chlorides) are present, most of the salts are naturally occurring sulfates. Effective treatment for this area is not feasible due to high water table, soil salinity, and difficult access.

Recommendation- No soil treatment is recommended due to high salt hazard. Leave this area as it is, except the trench across it shall be back filled with minimal disturbance to the surrounding vegetation, mulched and seeded as detailed below (filled trench only).

AC (approx 1.5 ac)- The surface soil (0 to 6 inches) has about 5 percent extractable oil, and with the high water table, subsurface salts have potential to move up in the profile. The contractor is cautioned that a high water table may restrict equipment access in this area, and that the proper equipment to do the job will be required.

Recommendation- No earth moving activity is needed. Apply tillage, mulch, fertilizer, and seed as detailed below. Seeding and final tillage operation shall be perpendicular to the direction of surface water runoff.

AD (approx 4 ac)- The only problem with vegetation establishment on this area is the surface oil crust, which can be diluted with tillage. Soil conditions present no major problems other than erosion control. Surface soil has a sandy texture; therefore fertilizer rate should be reduced to minimize leaching. This area is most likely to achieve positive reclamation results in a brief time period.

Recommendation- No earth moving activity is needed on the contaminated area. Apply tillage, mulch, and seed as detailed

below. Fertilizer shall also be applied, but at half the rates given below (eg. 200 lb nitrogen per acre). Seeding and final tillage operation shall be perpendicular to the direction of surface water runoff.

AE (approx 0.5 ac)- Oil contamination is not severe (6.18 percent extractable oil in 0 to 6 inch interval), but subsurface soils are highly sodic. Due to sodic conditions, pH, EC, and SAR's could not be determined because water could not be extracted from saturated samples. Calcium chloride rate should be increased to replace excess sodium (see calculations below).

Recommendation- No earth moving activity is needed. Apply tillage, mulch, fertilizer, calcium chloride (6.2 tons per acre), and seed as detailed below.

AF (approx 0.3 ac)- Several small areas of oil contaminated soils located on plan maps. Sample analyses did not show any salinity or sodicity problems, so a "standard" soil treatment should be effective. However small piles of oily waste are present and should be removed for disposal. Leveling of trenches and berms is also needed.

Recommendation- Some scraping, removal, and burial of waste piles (on-site) shall be conducted (bury with 5 feet of cover, or beneath debris from the site). Reshape surface to level out trenches and berms, and provide surface drainage. Apply tillage, mulch, fertilizer, and seed as detailed below.

APIT (approx 0.3 ac)- This area is a waste oil pit (note almost 15 percent oil at the 6 to 18 inch interval). Soil treatments such as tillage would be ineffective because there would be no dilution of the surface oil concentration. The high water table would make removal of this material difficult. In-place burial and topsoiling is probably the best option; material in pit is stable and should not move up into cover soil.

Recommendation- The APIT area shall be buried in place because it is in a depressional area and is stable. Cover with 24 inches of topsoil, mulch, and seed as detailed below. Some of the needed topsoil shall be borrowed from nearby mounds and berms, which will help in resurfacing the overall site.

SEE G-3 TREATMENT

Huso-Byrne site

HA (approx 0.3 ac)- The surface soil is highly contaminated with oil (11.44 percent extractable oil in the 0 to 6 inch interval), and the pH is 5.2. Although the area could be treated without soil

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removal, response to the treatment would be slow. At 6 to 18 inches, there is still 4.22 percent oil. Reclamation treatment would have a greater chance of success if the surface 6 inches were removed prior to application. A pool of oil waste is present at the top (north) end of the area.

HB (approx 0.2 ac)- Extractable oil is 16 percent in the 0 to 6 inch interval, which necessitates removal prior to treatment application. There are no major problems with salinity or sodicity on this area. A small oil pit is at the lower (south) end of the area.

Recommendation- HA & HB (approx 0.5 ac) Oily soil and sludge in the pits in both areas shall be dug out with a backhoe. Scrape and remove oil encrusted soil (top 6 inches) for on-site burial. The oily sludge and soil shall be interlayered with natural soil (6 inch layers), and buried with a minimum five feet of cover (burial beneath debris from the site is an option). Back fill cleaned out oil pits with natural soil, and reshape areas to allow drainage of surface water. Apply tillage, mulch, fertilizer, calcium chloride (2.5 tons/ac), and seed as detailed below.

HC (approx 0.2 ac)- This area is mostly an overflow from the adjacent waste pit. Oil contamination is concentrated in the surface 3 inches (which may be diluted by tillage), and salinity or sodium problems are not present. A "standard" soil treatment should be effective. A small evaporation pit is present at the west end of the area, but oil contamination is not severe. During drilling of well 10, an oily layer was encountered at about 10 feet, which was analyzed and found to be about 2 percent oil (sample HC-5).

Recommendation- Level small pit and surrounding berm at west end of area to allow surface water drainage. Apply tillage, mulch, fertilizer, calcium chloride (2.5 tons/ac), and seed as detailed below.

HD (approx 0.2 ac)- Soils beneath this dilapidated tank battery are oil contaminated throughout the depth of sampling. No salinity or sodium problems are evident. Removal of the surface 12 to 18 inches of soil during disposal of the battery is suggested.

Recommendation- Scrape and remove top 12 to 18 inches of soil during debris removal for burial (no special handling is needed; bury along with debris). Shape surface, apply tillage, mulch, fertilizer, calcium chloride (2.5 tons/ac), and seed as detailed below.

Zachor site. (approx 0.5 ac)- The waste oil pit at this site should not be considered for soil treatment as it is over 2 feet deep and in a saline area with a high water table. Removal and off site disposal of the waste material will be needed. Disposal should be at an approved facility. Soil samples were collected from the nearby side hill to determine if the soils would make suitable fill material. Due to rockiness at the surface and salinity at depth (below 3 feet), it appears these soils are not suitable fill and another source will be needed.

SEE G-3 TREATMENT

DESCRIPTION OF SOIL TREATMENTS

Tillage: Tillage shall be performed in several operations. A rototiller should be used if possible. Rototill once, then spread 3 tons of straw mulch per acre, along with fertilizer and calcium chloride as prescribed. Rototill again, at a right angle to the first operation. If a rototiller is not available, the areas shall be chiseled twice at right angles, then spread straw, fertilizer, and calcium chloride as prescribed, then disk twice at right angles. Final disking shall be along contour of land surface to minimize erosion.

Fertilizer shall be applied as follows:

Nitrogen- 400 lb/ac as 75% urea (45-0-0)
25% Ammonium nitrate (34-0-0)

Urea: 300 lb N/ac/0.45 = 667 lb/ac
NH₄No₃: 100 lb N/ac/0.34 = 294 lb/ac

Phosphorus- 40 lb/ac (91.6 lb/ac P₂O₅)

MonoAmmonium Phosphate (11-52-0)
91.6 lb P₂O₅/ac/0.52 = 176 lb/ac

Potassium- 40 lb/ac (48 lb/ac K₂O)

Potash (0-0-60)
48 lb K₂O/ac/0.60 = 80 lb/ac

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Calcium Chloride: Calcium chloride is added to help prevent a surface oil crust from reestablishing after tillage. None is recommended where the soil is saline or has a sandy texture, or burial of the oil crust will occur. The rate of calcium chloride is increased if the soil is sodic (excess exchangeable sodium). A rate of 2.5 tons per acre was chosen as a minimum application. The Allen 17 site (AE) has sodic soil, so the calcium chloride rate is increased to reduce the Exchangeable Sodium Percentage (ESP) to 15. 3.7 tons of calcium chloride per acre is required to reduce the ESP of the AE area from 35.3 to 15 at the 6 to 18 inch depth. Therefore the total rate will be 6.2 tons per acre for this area. Calculations are as follows:

AE-2: CEC=15.6 meq/100 g, exch Na= 5.50 meq/100 g
 ESP = $5.50/15.6 \times 100 = 35.30\%$
 for ESP to equal 15, $.15 \times 15.6 = 2.34$ meq Na/100g
 $2.34 - 5.50 = 3.16$ meq/100g to be replaced
 Therefore, 3.16 meq Ca /100g must be added
 $3.16 \text{ meq} \times 40\text{mg}/2\text{meq} = 63.2 \text{ mg Ca}/100\text{g} = 632 \text{ ppm Ca}$
 1 ac ft soil weighs 4 million lb, therefore
 $632 \times 4 = 2528 \text{ lb Ca}/\text{ac}$ to be added

CaCl₂ is 36 percent Ca, and 95 percent pure, so
 $(2528 / 0.36) / 0.95 = 7391 \text{ lb}/\text{ac}$, or 3.7 tons per acre
 total rate is $3.7 + 2.5 = 6.2 \text{ tons}/\text{acre}$

Mulch: Mulch is added to help prevent crusting of the soil surface, and to provide erosion control until seeding and vegetation establishment takes place. Three tons per acre shall be added and incorporated (not buried) as described above in the tillage section.

Seeding: A mix of 25 percent each of western, slender, and tall wheatgrasses and alfalfa (spredor 2) is to be seeded at 1.5 times the recommended rate (due to adverse soil conditions). The seeding should be done between October 15, 1989 and May 15, 1990 (late fall or early spring) to help ensure seedling survival and minimize the possibility of winter kill. The mix, on a per acre pure live seed basis, should include 4.4 lb western wheatgrass, 1.8 lb spredor 2 alfalfa, 2.9 lb slender wheatgrass, and 5.2 lb tall wheatgrass on oil contaminated areas. On areas where oil contamination should not hamper vegetation establishment, the mix should be seeded at rates of 2.9 lb western wheatgrass, 1.2 lb spredor 2 alfalfa, 2.9 lb slender wheatgrass, and 3.5 lb tall wheatgrass per acre. All seeding rates are on a pure live seed basis, and should be increased according to percent germination and impurity in the seed lots actually used. Seeding should be along contour of the land surface to reduce erosion during establishment period.

Soils data - critical values affecting interpretations:

Percent oil - values over 15 percent suggest need for off-site disposal; values over 10 percent suggest off-site disposal should be considered as an option. Plant production may be eliminated by values as low as 2 percent if oil effectively seals the soil surface.

pH - Values less than 5.0, for these sites, indicate acidification by oil contamination. Values over 8.5 can indicate presence of sodic soils.

EC (electrical conductivity) - Values over 4.0 mmhos are saline, vegetation establishment should not be attempted if values exceed 15 to 20 mmhos/cm.

SAR (sodium absorption ratio) - values over 8 to 10 show high soluble sodium and risk or presence of a sodic condition.

Exchangeable Na, CEC (cation exchange capacity), and ESP (exchangeable sodium percentage) - $\text{exch Na}/\text{CEC} = \text{ESP}$; values over 15 meet definition of sodic soil condition.

SO₄ and Cl - When soils are saline, high sulfates indicate salts originated in surface soils, while high chlorides indicate salinization by oil field brines.

NO₃ - Nitrogen - Multiply the parts per million value by 2 to estimate available nitrogen in 6 inch depth interval in lb/ac; this indicates natural fertility (nearly all values are very low).

Saturation percent - Values in 20's indicate sandy soil texture, greater values indicate increasing clay content, presence of expanding clays, and sodic soil conditions.

Air dry moisture gives water content of samples as they were analyzed.

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**SUMMARY OF RECLAMATION TREATMENTS
 NORTH TOOLE COUNTY RECLAMATION PROJECT**

SAMPLE PUMP	SOIL/OIL BACK-FILL	SURFACE TOPSOIL	TILLAGE	FERTILIZER	MULCH	SEEDING	CACL2	ACRES
LIQUID WASTE	REMOVAL BURIAL	SHAPING ADDITION						approx
MA	X		X	X	X	X	LOW	0.3
MB	X		X	X	X	X		1.5
MC				X	X	X		2.0
MA	X		X	X	X	X	LOW	0.3
AB		X(TRENCH)X(TRENCH)						1.5
AC				X	X	X		1.5
AD				X	X	X		4.0
AE				X	X	X	HIGH	0.5
AF	X		X	X	X	X		0.3
APIY		X	X	X		X		0.3
ATRENCH	X	X	X	X		X		0.3
HA	X	X	X	X	X	X	LOW	0.3
HB	X	X	X	X	X	X	LOW	0.2
HC			X	X	X	X	LOW	0.2
HD	X		X	X	X	X	LOW	0.2
HOILPIY	X	X	X	X		X		0.2
X	OYISITX	X	X	X		X		0.5
TOTAL:								14.1

CACL2: HIGH = 6.0 TONS/AC; LOW = 2.5 TONS/AC

SEED MIX SPECIES	A PERCENT OF MIX	B SEEDS PER SQUARE FT	C SEEDS/ /LB/A	D-B/C LB/AC PLS	X 1.5 FOR OIL CONTAN
WESTERN WHYGERS	25	6.25	2.13	2.93	4.4
ALPACA SPKDR2	25	6.25	5.17	1.21	1.8
SLENDER WHYGERS	25	6.25	3.21	2.92	2.9
TALL WHYGERS	25	6.25	1.81	3.45	5.2

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 SOIL SAMPLE DATA - 5/31/89 PAGE 1

SAMPLE NO.	OTL (%)	pH	EC (mhos/cm)	SAR	EXCHANGE NA (meq/100g)	CEC (meq/100g)	ESP (%)	SO4 (mg/l)	Cl (mg/kg)	NO3-N (ppm)	SATURATION PERCENT	AIR DRY MOISTURE
MA 1	19.57	7.53	3.16	0.4	0.080	6.6	1.2	778	5	0.1	31	2.6
MA 2	6.08	7.82	4.24	2.1	0.196	14.1	1.4	1078	2	0.1	31	2.5
MA 3	1.73	8.23	4.67	10.3	0.916	17.1	5.4	960	10	0.1	36	2.7
MA 4	0.02	8.89	2.63	25.8	2.644	20.2	13.1	232	48	0.1	37	2.1
MB 1	15.32	8.03	4.71	9.4	1.134	11.4	9.9	776	52	0.1	32	1.8
MB 2	2.49	8.68	2.70	16.9	2.545	25.3	10.1	273	74	1.5	43	2.4
MB 3	0.04	8.06	7.23	14.0	0.889	23.3	3.8	1258	287	0.1	43	5.0
MC 1	2.84	8.73	6.79	29.9	4.166	15.5	26.9	724	345	1.9	39	1.8
MC 2	0.76	8.47	7.50	32.8	4.070	21.9	18.6	846	472	1.1	45	2.7
MC 3	0.02	8.36	7.14	29.7	3.205	12.8	25.0	873	353	2.0	38	1.6
MC 4	0.04	7.98	8.44	12.9	0.976	19.0	5.1	1665	259	1.4	40	2.4
AA 1	26.82	2.56	9.60	0.0	0.018	10.3	0.2	3440	3	0.1	37	3.5
AA 2	3.45	7.18	3.06	0.1	0.027	14.9	0.2	676	3	0.1	36	3.4
AA 3	0.66	7.67	3.13	0.1	0.041	11.9	0.3	624	5	0.1	34	4.3
AB 1	0.02	8.18	26.50	14.9	1.520	12.1	12.6	9551	618	12.7	30	2.1
AB 2	0.02	8.12	18.04	7.2	0.888	15.0	5.9	6345	279	3.6	31	3.0
AB 3	0.00	8.05	14.46	6.5	0.570	16.5	3.5	4691	212	3.5	31	2.4
AC 1	4.93	8.01	4.88	1.5	0.483	9.9	4.9	1317	17	1.4	30	1.8
AC 2	0.52	7.96	7.14	2.8	0.407	22.5	1.8	1896	89	4.5	39	3.8
AD 1	1.82	8.31	0.96	0.9	0.088	10.2	0.9	99	2	2.4	25	1.4
AD 2	0.87	8.27	1.05	1.2	0.117	14.7	0.8	118	6	3.2	28	3.6
AD 3	0.29	8.46	1.16	3.0	0.185	15.6	1.2	111	3	4.7	30	3.5
AE 1	6.18	8.16	2.26	5.8	0.731	11.0	6.6	262	9	0.8	29	2.4
AE 2	0.42	—	—	—	5.504	15.6	35.3	—	6	1.0	34	2.0
AE 3	0.04	—	—	—	5.033	23.7	21.2	—	10	2.7	36	3.2
AF 1	1.58	7.70	1.12	0.5	0.062	17.1	0.4	214	4	3.8	33	2.3
AF 2	0.23	8.28	1.21	0.7	0.100	28.3	0.4	152	3	9.2	39	4.4
APIT 1	13.22	7.80	2.81	0.3	0.218	3.1	7.0	741	6	0.8	36	2.1
APIT 2	14.87	7.40	4.59	1.1	0.357	8.6	4.2	1541	16	0.1	30	3.9

EXHIBIT 6
 DATE 2-20-91
 HB Long Range PI

MONTANA SALINITY CONTROL ASSOCIATION
 NORTH TOOLE COUNTY RECLAMATION PROJECT
 SOIL SAMPLE DATA - 5/31/89 PAGE 2

SAMPLE NO.	DIL (%)	pH	EC (mmhos/cm)	SAR	EXCHANGE NA (meq/100g)	CEC (meq/100g)	ESP (%)	SO4 (mg/l)	Cl (mg/kg)	NO3-N (ppm)	SATURATION PERCENT	AIR DRY MOISTURE
HA 1	11.44	5.20	0.08	0.2	0.031	12.5	0.2	28	1	0.1	36	2.2
HA 2	4.22	7.26	0.43	0.3	0.031	13.6	0.2	66	1	0.1	27	2.9
HA 3	1.49	8.03	0.73	0.2	0.040	17.6	0.2	89	1	0.8	36	3.0
HB 1	16.00	6.75	4.64	0.6	0.112	13.1	0.9	1910	12	0.1	29	2.9
HB 2	1.80	7.97	3.40	1.7	0.138	12.3	1.1	856	5	0.1	30	2.6
HB 3	0.13	8.13	1.39	0.9	0.116	9.1	1.3	287	4	0.1	27	2.4
HC 1	5.82	8.30	1.51	0.7	0.143	19.8	0.7	198	3	0.1	38	2.4
HC 2	0.31	8.34	0.76	1.8	0.158	16.4	1.0	91	7	0.7	36	3.3
HC 3	0.06	8.36	0.76	3.0	0.161	10.5	1.5	93	4	0.7	32	2.6
HC 5	1.98	—	—	—	—	—	—	—	—	—	—	—
HD 1	4.84	7.53	0.81	0.1	0.013	17.1	0.1	97	4	0.7	29	2.2
HD 2	6.31	8.07	0.87	0.1	0.014	17.1	0.1	78	4	0.1	33	3.7
HD 3	4.06	8.13	0.53	0.1	0.022	13.2	0.2	72	3	0.1	33	3.1
Z 1	—	8.34	0.41	0.3	0.022	20.0	0.1	—	—	1.7	33	6.1
Z 2	—	8.29	0.28	0.7	0.076	17.5	0.4	—	—	0.8	31	3.1
Z 3	—	8.51	0.62	3.6	0.307	15.4	2.0	—	—	0.1	31	2.2
Z 4	—	7.90	11.60	8.6	0.887	19.3	4.6	—	—	0.1	37	4.4
Z 5	—	7.83	11.92	9.8	1.204	20.4	5.9	—	—	0.1	35	4.2

TEXTURE ANALYSIS

SAMPLE NO.	% SAND	% SILT	% CLAY	CLASSIFICATION
Z 1	50	26	24	sandy clay loam
Z 2	42	35	23	loam
Z 3	43	34	23	loam
Z 4	38	30	32	clay loam
Z 5	42	29	29	clay loam

Labeling scheme for NTC soil samples collected 04/89

first letter - identifies site

second letter - identifies sampling transect

number - identifies depth interval

1= 0 to 6 in

2= 6 to 18 in

3= 18 to 36 in

4= 36 to 60 in

McCormick site:

MA-1,2,3,4

MB-1,2,3

MC-1,2,3,4

(11 samples)

Allen site:

AA-1,2,3

AB-1,2,3

AC-1,2

AD-1,2,3

AE-1,2,3

AF-1,2

A pit-1,2

(18 samples)

Huso-Byrne site:

HA-1,2,3

HB-1,2,3

HC-1,2,3

HD-1,2,3

(12 samples)

41 samples. total

analyses to be run:

freon extractable hydrocarbons (FEHC)

pH, electrical conductivity, sodium absorption ratio

sulfates, chlorides, nitrates

cation exchange capacity

exchangeable sodium percentage

MONTANA SALINITY CONTROL ASSOCIATION
DRILL LOGS AND SOIL DESCRIPTIONS

EXHIBIT 2
DATE 2.20.91
HB Long Range Pl.

North Toole County Reclamation Project
Allen 17, Huso-Byrne, McCormick, &
Zachor sites

County: Toole
Location: Sec 20&31, T35N,R1W, & Sec 33, T35N,R2W
Date: 4/18-20, 1989
Logged by: M. Tower, S. Brown, & G. Hockett

Hole No.	Hole Location	Profile Depth (ft)		Description of Materials	Moisture Content	%	PAW Actual		PAW Actual		
		From	To				at F.C. (in/ft)	PAW (in/ft)	Depth (ft)	at F.C. (in)	PAW (in)
7	Allen-by oil spill	0	4	Sandy clay loam	Wet	100Z	2.2	2.2	4.0	8.8	8.8
		4	6	Sand- medium to coarse grained	Wet	100Z	0.5	0.5	2.0	1.0	1.0
		6	12	Loamy sand	Saturated	100Z	1.0	1.0	6.0	6.0	6.0
		12	18	Weathered shale	Saturated	100Z	2.0	2.0	6.0	12.0	12.0
									total	27.8	27.8
8	Zachor-on hill	0	4	Silty clay loam- moist to 6"	Dry	0Z	2.2	0.0	4.0	8.8	0.0
		4	10	Clay loam- visible salts 3-4 ft	Moist	50Z	2.2	1.1	6.0	13.2	6.6
		10	12	Clay loam	V. Moist	75Z	2.2	1.7	2.0	4.4	3.3
		12	16	Clay loam	Wet	100Z	2.2	2.2	4.0	8.8	8.8
		16	17	Shale	S. Moist	25Z	0.5	0.1	1.0	0.5	0.1
									total	35.7	18.8
9	Zachor-by waste oil pit	0	2	Silty clay loam	V. Moist	75Z	2.2	1.7	2.0	4.4	3.3
		2	13	Silty clay till	Saturated	100Z	2.0	2.0	11.0	22.0	22.0
									total	26.4	25.3
10	Huso-Byrne below waste pit	0	4	Silty clay loam till	Wet	100Z	2.2	2.2	4.0	8.8	8.8
		4	9	Silty clay loam till- shale fragments	Wet	100Z	2.2	2.2	5.0	11.0	11.0
		9	15	Clay till - oil saturated	Wet	100Z	2.2	2.2	6.0	13.2	13.2
									total	33.0	33.0
11	Huso-Byrne North of debris	0	1	Silty clay loam	V. Moist	75Z	2.2	1.7	1.0	2.2	1.7
		1	6	Silty clay loam- gravels at 3 to 5 ft	Moist	50Z	2.0	1.0	5.0	10.0	5.0
		6	12	Clay till and weathered shale	Wet	100Z	2.0	2.0	6.0	12.0	12.0
		12	18	Weathered shale	Dry	0Z	2.0	0.0	6.0	12.0	0.0
									total	36.2	18.7
Average Potential Soil Moisture (in):						38.7					
Average Actual Soil Moisture (in):						26.5					
Average Well Depth (ft):						18.9					
Total Feet Drilled:						208.0					

MONTANA SALINITY CONTROL ASSOCIATION
DRILL LOGS AND SOIL DESCRIPTIONS

North Toole County Reclamation Project
Allen 17, Huso-Byrne, McCormick, &
Zachor sites

County: Toole
Location: Sec 20&31, T35N,R1W, & Sec 33, T35N,R2N
Date: 4/18-20, 1989
Logged by: M. Tower, S. Brown, & G. Hockett

Hole No.	Hole Location	Profile Depth (ft)		Description of Materials	Moisture Content	%	at F.C.	PAW	Actual	PAW	Actual			
		From	To					PAW	Depth		PAW	Depth		
7	Allen-by oil spill	0	4	Sandy clay loam	Cased 20 ft- 10 ft slotted	Wet	100Z	2.2	2.2	4.0	8.8	8.8		
		4	6	Sand- medium to coarse grained				0.5	0.5	2.0	1.0	1.0		
		6	12	Loamy sand				1.0	1.0	6.0	6.0	6.0		
		12	18	Weathered shale				2.0	2.0	6.0	12.0	12.0		
								total		27.8	27.8			
8	Zachor-on hill	0	4	Silty clay loam- moist to 6"	cased 19 ft- 10 ft slotted	Dry	0Z	2.2	0.0	4.0	8.8	0.0		
		4	10	Clay loam- visible salts 3-4 ft				50Z	2.2	1.1	6.0	13.2	6.6	
		10	12	Clay loam				V. Moist	75Z	2.2	1.7	2.0	4.4	3.3
		12	16	Clay loam				Wet	100Z	2.2	2.2	4.0	8.8	8.8
		16	17	Shale				S. Moist	25Z	0.5	0.1	1.0	0.5	0.1
								total		35.7	18.8			
9	Zachor-by waste oil pit	0	2	Silty clay loam	Cased 15 ft- 10 ft slotted	V. Moist	75Z	2.2	1.7	2.0	4.4	3.3		
		2	13	Silty clay till				Saturated	100Z	2.0	2.0	11.0	22.0	22.0
								total		26.4	25.3			
10	Huso-Byrne below waste pit	0	4	Silty clay loam till	Cased 17 ft- 10 ft slotted	Wet	100Z	2.2	2.2	4.0	8.8	8.8		
		4	9	Silty clay loam till- shale fragments				Wet	100Z	2.2	2.2	5.0	11.0	11.0
		9	15	Clay till - oil saturated				Wet	100Z	2.2	2.2	6.0	13.2	13.2
								total		33.0	33.0			
11	Huso-Byrne North of debris	0	1	Silty clay loam	Cased 20 ft- 10 ft slotted	V. Moist	75Z	2.2	1.7	1.0	2.2	1.7		
		1	6	Silty clay loam- gravels at 3 to 5 ft				Moist	50Z	2.0	1.0	5.0	10.0	5.0
		6	12	Clay till and weathered shale				Wet	100Z	2.0	2.0	6.0	12.0	12.0
		12	18	Weathered shale				Dry	0Z	2.0	0.0	6.0	12.0	0.0
								total		36.2	18.7			

Average Potential Soil Moisture (in): 38.7
Average Actual Soil Moisture (in): 26.5
Average Well Depth (ft): 18.9
Total Feet Drilled: 208.0

EXHIBIT Y
DATE 2.20.91
HE Long Range Pl.

APPENDIX B

Specifications used for April, 1990 Seeding of 12 Reclaimed Sites

(See plans in Health Department for locations of the acreages listed.)

North Toole County Reclamation Project

Proposed Seeding Specifications for 12 sites Reclaimed Fall, 1989

Seeding of disturbed areas on the 12 sites cleaned up in the fall of 1989 should take place between April 1, 1990 and May 15, 1990 for ideal seed germination this spring.

Based on recommendations from Dave Pratt, District Conservationist for the Soil Conservation Service, the disturbed areas will be reseeded as follows:

- 1) No mulch or fertilizer is necessary on these sites.
- 2) Tillage may be needed to prepare a seedbed however, this should be kept to a minimum because of the potential for wind erosion. A firm seedbed is needed to obtain good seed-soil contact.
- 3) Seeding will be done with a double disc drill at the following rates:

Pure live seed:	3#/ac	Western Wheatgrass
	2.5#/ac	Thickspike
	2.5#/ac	Slender Wheatgrass
	2.5#/ac	Alfalfa (spreader 2)
	.5#/ac	Yellow Blossum Sweet Clover
	5#/ac	Barley as companion crop to minimize erosion after seeding

16#/ac Total

- 4) Areas that are too small or too wet for the double disc drill will be hand seeded.

The North Toole County Reclamation Project will provide an on-site inspector who will be responsible for insuring that all plots are seeded in the manner described above. Person or persons doing the seeding work will comply with this inspector's requests.

All plots are listed on the attached copy of "North Toole County Reclamation Project, Reseeding Acreage Estimates", (Doug Richmond, Fall, 1989). The Location of these plots are shown on construction site plans on record at the Toole County Health Department. The on-site inspector will assist the seeder

in locating all of these plots. These acreages are rough estimates, and the amount of seed required may be 10-15% above what is needed for the 24 total acre estimate. The Anderson East and West sites may be cultivated this spring by surface owner, Sam Stewart, and thus may not require seeding.

Every effort will be made to notify land owners and lease operators about reseedling activity before it begins. This should help to avoid any misunderstandings or unnecessary work.

NORTH TOOLE COUNTY RECLAMATION PROJECT
 RESEEDING ACERAGE ESTIMATES
 Doug Richmond, Fall 1989

ENFIELD - ZACHOR

A.	41,210	ft ²	=	.95	ac
B.	4,800		=	.11	
C.	11,550		=	.27	
D.	1,500		=	.03	
E.	300		=	.01	
F.	450		=	.01	
G.	4,000		=	.09	
H.	12,500		=	.29	
I.	4,000		=	.09	

TOTAL: 80,310 ft² = 1.84 ac

MAUGHNS

A.	2,500	ft ²	=	.06	ac
B.	2,400		=	.06	
C.	12,000		=	.28	
D.	1,600		=	.04	
E.	400		=	.01	
F.	1,200		=	.03	
G.	3,250		=	.07	
H.	7,000		=	.16	
I.	800		=	.02	
J.	16,200		=	.37	

TOTAL: 47,350 ft² = 1.09 ac

ANDERSON WEST

A.	4,000	ft ²	=	.09	ac
B.	2,830		=	.06	
C.	1,200		=	.03	
D.	18,000		=	.41	
E.	6,000		=	.14	

TOTAL: 32,030 ft² = .73 ac

ANDERSON EAST

A.	55,700	ft ²	=	1.28	ac
B.	1,000		=	.02	
C.	10,000		=	.23	
D.	15,000		=	.34	
E.	4,500		=	.10	
F.	34,800		=	.80	
G.	1,250		=	.03	

TOTAL 122,250 ft² = 2.81 ac

MILES

A.	375	ft ²	=	.01	ac
B.	82,500		=	1.89	
C.	13,500		=	.31	

TOTAL: 96,375 ft² = 2.21 ac

RICE - BLUHM

A.	42,750	ft ²	=	.98	ac
B.	10,000		=	.23	
C.	5,000		=	.11	
D.	3,000		=	.07	
E.	13,200		=	.30	
F.	10,200		=	.23	
G.	22,500		=	.52	

TOTAL: 106,650 ft² = 2.45 ac

CAINE

A.	3,250	ft ²	=	.07	ac
B.	9,000		=	.21	
C.	2,500		=	.06	
D.	2,500		=	.06	
E.	26,250		=	.60	
F.	14,400		=	.33	
G.	31,400		=	.72	
H.	3,000		=	.07	
I.	3,000		=	.07	
J.	36,000		=	.83	
K.	6,000		=	.14	

TOTAL: 137,300 ft² = 3.15 ac

REMINGTON / WARNER

A.	2,700	ft ²	=	.06	ac
B.	27,300		=	.63	
C.	17,250		=	.40	
D.	12,000		=	.28	
E.	1,800		=	.04	

TOTAL: 61,050 ft² = 1.40 ac

DAHIQUIST

A.	2,250	ft ²	=	.05	ac
B.	7,375		=	.17	
C.	3,850		=	.09	
D.	3,750		=	.09	
E.	6,000		=	.14	
F.	23,500		=	.54	
G.	6,050		=	.14	
H.	4,500		=	.10	
I.	900		=	.02	
J.	4,500		=	.10	
K.	13,650		=	.31	
L.	800		=	.02	
M.	11,250		=	.26	
N.	3,375		=	.08	
O.	12,600		=	.29	
P.	3,600		=	.08	

TOTAL: 107,950 ft² = 2.48 ac

THOMPSON

A.	3,000	ft ²	=	.07	ac
B.	5,500		=	.13	
C.	13,125		=	.30	
D.	1,750		=	.04	
E.	25,300		=	.58	
F.	3,240		=	.07	
G.	8,700		=	.20	
H.	18,000		=	.41	

TOTAL: 78,615 ft² = 1.80 ac

SOHN

A.	5,400	ft ²	=	.12	
B.	12,000		=	.28	
C.	63,000		=	1.45	
D.	18,000		=	.41	
E.	5,400		=	.12	
F.	6,750		=	.15	
G.	3,000		=	.07	
H.	2,700		=	.06	
I.	39,750		=	.91	
J.	4,500		=	.10	
K.	4,800		=	.11	
L.	1,000		=	.02	

TOTAL: 166,300 ft² = 3.82 ac

GRAND TOTAL: 1,036,180 ft² = 23.79 ac

Plots left unseeded at surface owner's request:

- All of Anderson West
- All but Plot F of Anderson East
- Miles A & B

APPENDIX C

Specifications for Ground Treatments October, 1990

(Allen 17, Allen 3, Huso-Byrne, Zachor, McCormick and Remington-Warner)

I. Introduction.

These five sites had oil spills on them that required more than just the seeding that was used on other disturbed areas. For locations of the plots listed below, see plans in the Health Department. Mulch, fertilizer and grass seed were also tried on an oil spill on the Remington-Warner lease which was cleaned up in 1989.

II. Seeding.

Seed mixture and seeding rate were the same as those used in April, 1990. (See Appendix B). Disturbed areas not associated with oil spills received seed only. A total of 23 acres were seeded.

III. Fertilizer.

75% urea (45-0-0) 444lbs/ac
monoammonium phosphate (11-52-0) 88lbs/ac
potash (0-0-60) 40lbs/ac

This mixture was applied to the disturbed areas that had been oil spill sites. It was also applied to low areas of oil production water run-off on the Allen 3 and McCormick.

The following plots received fertilizer October 13, 1990:

Allen 17: E - G - "AE"
Allen 3 : A - C - F - "AC" - pt "AD" - "AF" - trough from A to F
Huso-Byrne: E
Zachor : C - D - E
McCormick : C - D - E - "MC"
Remington-Warner : F

A total of 14 acres were fertilized

IV. Mulch.

Manure was applied as mulch on four (4) acres by Sean Simmes of Sunburst. He used a spreader truck and I estimated the rate at approximately 5.4 tons per acre.

The following plots received manure in October, 1990:

Allen 17: "AE"
Allen 3 : "AF" - trough from A to F
Zachor : E - lower $\frac{1}{2}$ of D
McCormick : C - D - E - "MC"
Remington-Warner : F

V. Calcium Chloride.

Calcium Chloride was recommended by MSCA on spills where soil tests showed high sodium values (See Appendix A). Most of these spills were scraped off and

replaced with fill dirt by the contractor, so I did not apply calcium chloride. The "AE" spill on the Allen 17 was the only exception. MSCA advised 6.2 tons per acre on this .5 acre plot. I applied 1.9 tons which equals 3.8 tons per acre. I used a disc to break up the crust, but it only mixed the top 4-6 inches. A review of the success of this plot should help to decide on treatments for other similar spills.

DATE 2.20.91
HB Long Range Pl.

Acreeage to be Seeded
(based on post-construction measurement paced by Doug Richmond)

Allen 17: A 9,000ft² = .21 ac
B 5,400 = .12
C 3,500 = .08
D 5,600 = .13
E 30,100 = .69 (includes $\pm 1/3$ if "AE" = $1/3 \times 0.548 = .18$ ac, also
"G3 5' exc." = .02 = .20 ac total)
F 3,750 = .09
G 6,500 = .15 (includes "G3 2' exc" = .02 ac)
H 11,400 = .26

75,250 = 1.73 ac

Allen 3 : A 45,000 = 1.03 ac (includes all of "AA" = .14 ac)
B 2,500 = .06
C 23,400 = .54 (includes all of "G3" 3' = .15 ac)
D 2,250 = .05 (includes part of AF, see G below)
E 40,000 = .92
F 10,800 = .25 (includes "A pit" = .14 ac)
G 18,000 = .41 (includes rest of AF total = .25 ac)
H 1,500 = .03
I 9,500 = .22
J 56,250 = 1.29

209,200 = 4.80 ac

Huso-Byrne:

A 13,000 = .30 ac
B 450 = .01
C 18,000 = .41
D 7,200 = .17
E 99,000 = 2.27 (includes "HA, HB, HC, HD" and "G3" acreage which
totals .78 ac)
F 600 = .01
G 3,600 = .08
H 7,800 = .18
I 2,000 = .05
J 400 = .01
K 1,400 = .03
L 2,000 = .05

155,450 = 3.57 ac

Zachor: A 13,500 = .31 ac
B 375 = .01
C 39,600 = .91
D 10,750 = .25
E 13,500 = .31 (includes "G3" area of .12 ac)
F 31,050 = .71

Zachor:	G	1,000	= .02
	H	788	= .02
		<hr/>	
		110,563	=2.54 ac

McCormick:

A	4,500	= .10 ac
B	58,163	=1.34
C	21,825	= .50
D	22,500	= .52 ("MA")
E	51,975	=1.19 (includes all of "MB" (.568 ac) + .14 ac of "MC")
F	2,250	= .05
G	2,025	= .05
H	38,800	= .89
I	6,075	= .14
J	1,250	= .03
	<hr/>	
	209,363	=4.81 ac

Additional spill areas to seed:

rest of AE =	.37 ac
AC =	.884
AD =	3.224
rest of MC =	.62

5.10 ac

Grand Total

Allen 17:	1.73
Allen 3:	4.80
Huso-Byrne:	3.57
Zachor :	2.54
McCormick :	4.81
spills :	5.10

	22.55 ac
x	22.91/ac seed

\$516.62

Ground Preparation and Seeding Actual Costs
October, 1990

EXHIBIT 6
DATE 2.20.91
HB Long Range Plan

Mulch: 4.5 acres

loading, hauling and spreading by Sean Simmes of Sunburst

13 loads (1.5-2T) @ 150.00/load 1,950.00

Fertilizer: 14 acres

38-8-4 4T @ \$188.72/T 754.88
application 70.00

CaCl 3840# 860.02
application 192.00

Cultivation: 5 acres

county tractor w/ disc 2 days @ 40.00/day 80.00

country truck w/ trailer 2 days @ 40.00/day 80.00

Seeding: 23 acres

230# seed mix 435.11

county tractor 2 days @ 40.00/day 80.00

country truck w/ trailer 2 days @ 40.00/day 80.00

double disc drill 23 acres @ \$3.00/ac 69.00

Field Inspector

mulch 19.5

fertilizer 12

seed 22

disc 18

misc (phone, meetings) 10

884.36

TOTAL

\$ 5546.37

Cost Summary
Group II Re-bid Sites

(Allen 17, Allen 13, Huso-Byrne, Zachor, McCormick)

Engineering

from project start 9-15-89

5/17 x \$20,600 6,058.82

(no acceptable bid received on these 5 sites 9-15-89
work proceeded on remaining 12 sites 9-15-89 thru 1-12-90)

re-bid work 4-15-90 thru 8-24-90 3,932.63

subtotal thru 8-24-90 9,991.45

construction 8-24-90 thru 11-90

Will Smith 2,166.39

Barry Damschen 315.00

Total engineering costs 12,472.84

Construction

Pankowski 8-24-90 thru 10-90 63,370.00

Field Inspector 3-12-90 thru 9-17-90

357 hours 3,873.82

2,385 miles 607.92

film 35.00

Total construction costs 80,359.58

Seeding

See attached cost sheet for breakdown 5,546.37

Total Group II Re-bid Costs 85,905.95

EXHIBIT

7

DATE

2-20-91

HB

8 RDG 14 Long Range Planning

The following statements will be read as testimony.

February 19, 1991 BOGC (Only if requested) Items 5, 6, 7 (See attached)

February 20, 1991 North Toole County Item 1

My name is Erik Sirs. I am a Petroleum Engineer and employed by the Department of State Lands. I am here today representing the Department of State Lands and wish to state support for the project under consideration.

February 20, 1991 Department of State Lands - Well Assessment

My name is Erik Sirs. I am the petroleum Engineer for the Department of State Lands. I am the author of the grant under consideration. During the next few minutes I hope to explain the need for this project.

Part of our mission at State Lands is to be the Stewards of the lands under our care, and to obtain revenue from those lands for the School Trust.

The problem we are facing is to identify and abandon those wells found to be incapable of production, and abandon those wells found to be unrepairable due to severe well conditions.

Abandoned and unplugged wells can impose significant detrimental effects upon other uses of this tract of State Land.

We, as well as the Board of Oil and Gas are responsible for the protection of our environment, both above ground, and below.

H₂S emissions, or commonly known as hydrogen sulfide, and oil sludge are abundant in this area. These factors are known to hazardous to livestock, birds, plants, and human life. Additionally, the condition of the existing wells provides for a phenomenon called "Dump Flooding". Dump Flooding is caused by the deterioration of the well casing which allows water, natural ground water, or rain to fill the wellbore and contact known hydrocarbon resources. Many chemical reactions take place which damage the producibility of the mineral base. The result is costly, and may not be repairable. If left unchecked, the problem could spread and affect neighboring tracts, causing the demise of a vast mineral base. Contamination of subsurface minerals violates State Law.

There is no vehicle available to the Department to seek remediation and damages from the former lessee. Only last week we learned that the Bankruptcy-reorganization was converted to liquidation. A final decree is expected this week which prevents any administrative actions against the former lessee. Our staff attorney has prepared a letter stating our position of liability.

The opportunity for suit against the State is real. The deep pocket theory is not limited to wealthy individuals, or corporations.

This concludes my statement. The Departments staff attorney, Mr. Butler, and Lands Administrator, Mr. Hagener, are with me to answer any questions you may have.

H.B. 008
Project Review Schedule
Reclamation and Development Grants
Long Range Planning Sub-Committee

February 15, 1991

- 8:00 Overview
- 1. 8:30 # 1 - Butte-Silver Bow Government - WASTECC
- 2. 8:50 #12 - MBMG - Downhole Geo Logging Tech/Well
- 3. 9:10 #23 - Butte-Silver Bow - Upper Clark Fork River Basin Coordinator
- 4. 9:30 #24 - Montana Tech - Pilot Plant Treatment of Cont. Water from Pit
- 5. 9:50 #26 - Montana Tech - Construction of Art. Bogs and Wetlands
- 6. 10:10 #27 - Montana Tech - Detoxification of Acid Mine Drainage from Pit
- 7. 10:30 #33 - MBMG - Hydrogeologic Char. of Landfill Sites in Montana
- 8. 10:50 #34 - Deer Lodge Valley CD - Feasibility Study of Wood Wastes
- 9. 11:10 #36 - Hot Springs, Town of - Re-utilization of Hot Springs Mineral Water Res.

February 18, 1991

1. 8:00 # 9 - MSU/Reclamation Research Unit - Effect of Sodium, Chlorine, and Total Salts
2. 8:20 #10 - Carbon County, et.al. - Integrated Waste Management in Southcentral Montana
3. 8:40 #15 - Pesticide County Cleanup Committee - Pesticide Contamination Cleanup
4. 9:00 #17 - DNRC/Water Management Bureau - Arsenic in Upper Missouri River Basin
5. 9:20 #18 - State Lands, Dept. of - Comet Mine Wetlands Development
6. 9:40 #20 - DHES/Water Quality Bureau - Hydrogeo, Land Use & Chemical Quality of Water
7. 10:00 #25 - State Lands, Dept. of - Cataract Creek Reclamation Project
8. 10:20 #28 - MSU/Animal and Range Science - Pyrite Amendments to Improve Plant and Animal Nutr.
9. 10:40 #29 - Yellowstone County - Yellowstone County LIS/GIS Project
10. 11:00 #32 - MSU/Biology Dept. - Trout Stream Restoration
11. 11:20 #35 - Yellowstone County CD - ZooMontana Construction Fund Drive
12. 11:40 #38 - Stillwater CD - Field Evaluation of Plastic Lining and Fabrication Process

February 19, 1991

1. 8:00 # 7 - Montana State Library - NRIS, Emphasis on Natural Heritage Program and GIS
2. 8:20 # 8 - Montana Salinity Control Association - Soil & Water Nonpoint SRC Poll. Control & Management
3. 8:40 #11 - DHES/Water Quality Bureau - Nonpoint Pollution Control in Montana
4. 9:00 #37 - Sweetgrass County CD - Accelerate Soil Survey for Montana
- ⑤ 9:20 # 5 - Montana Board of Oil & Gas Cons. - Abandoned Well Plugging Project "A"
- ⑥ 9:40 # 6 - Montana Board of Oil & Gas Cons. - Abandoned Well Plugging Project "B"
- ⑦ 10:00 #13 - Montana Board of Oil & Gas Cons. - Abandoned Well Plugging Project "C"
8. 10:20 #21 - Fort Peck Assin/Sioux Tribes - Extent, Mag., and Mvmt. of Contamination
9. 10:40 #22 - Sheridan County CD - Extent of Oilfield Waste Contamination
10. 11:00 # 2 - Chinook Div. Irrigation Assoc. - Rehab. of Betterment Element of Milk River
11. 11:20 # 3 - Judith Basin CD - Community-Led Rural Development in Montana
12. 11:40 # 4 - DHES/Central Montana Health District - Arro Refinery Sludge Cleanup

February 20, 1991

1. 8:00 #14 - Toole County - North Toole County Reclamation Project
- 2. 8:20 #16 - State Land, Dept. of - Well Assessment and Abandonment
3. 8:40 #19 - Glacier County CD - Comprehensive Evaluation of Groundwater Contamination
4. 9:00 #30 - Homestead Acres Water & Sewer - Bootlegger Mine Reclamation Project
5. 9:20 #31 - Judith Basin County - Development of Iron Ore Deposit
6. 9:40 #39 - Glacier County - Glacier County Experimental Lateral Drilling Project

EXHIBIT 7
DATE 2-20-91
HB 8 Long Range
Planning

February 21, 1991

(OPEN)

February 22, 1991

EXECUTIVE ACTION



Glacier County Conservation District

517 East Main - Cut Bank, Montana 59427 - Phone (406) 873-4292

FACT SHEET

COMPREHENSIVE EVALUATION OF GROUNDWATER CONTAMINATION
OF THE RED RIVER DRAINAGE IN
GLACIER AND TOOLE COUNTIES, MONTANA

by the Glacier County Conservation District

WHAT IS THE PROBLEM?

Glacier and Toole counties in northwestern Montana are major producers of oil and gas, as well as dryland wheat and barley. However, over the years little attention has been given to the salinization and contamination of the area's shallow ground-water aquifer.

HOW CAN WE WORK TOGETHER?

The Glacier County Conservation District in cooperation with local citizen groups, agricultural groups and petroleum companies and with assistance from the Montana Bureau of Mines and Geology and the Montana Salinity Control Association have requested \$197,453 from the R & D Grants program to evaluate and characterize all sources of groundwater contamination in the 55,000 acres surrounding the Red River drainage (see map on back). By taking an active role in data acquisition and public education, the Glacier County Conservation District (GCCD) will get communities and individuals working together in a unified approach to the solution of common water quality problems. The public response to the October 1989 meeting and field tour of the Red River drainage, sponsored by the GCCD, illustrates the degree of local support and commitment to the project. The meetings drew a crowd of over 75 concerned citizens, state officials, and representatives of various interest groups. Canadian environmental authorities have expressed support for the proposal and have offered to provide data which can be used in the Red River drainage study.

WHAT CAN BE DONE?

If the project is funded, water wells, oil wells, and injection wells will be inventoried and mapped. A hydrogeological investigation will be performed at selected sites to assess groundwater occurrence, flow, and pollution vulnerability with particular emphasis on those aquifers used as a drinking water supply. Where water supplies are judged to be vulnerable, water samples will be collected and analyzed. A final report on accomplishments and conclusions will be prepared and recommendations for remediation will be made. All activities and reporting will be carefully coordinated to augment or assist existing programs instituted by various state agencies. Monitoring wells will be installed at designated sites and may be included in existing observation well networks which have been established for long term monitoring. Observation wells not used for long term monitoring will be abandoned in accordance with the Administrative Rules of Montana as set forth by the Board of Water Well Contractors. Where water supplies are judged to be vulnerable, water samples will be analyzed and compared to existing baseline data.

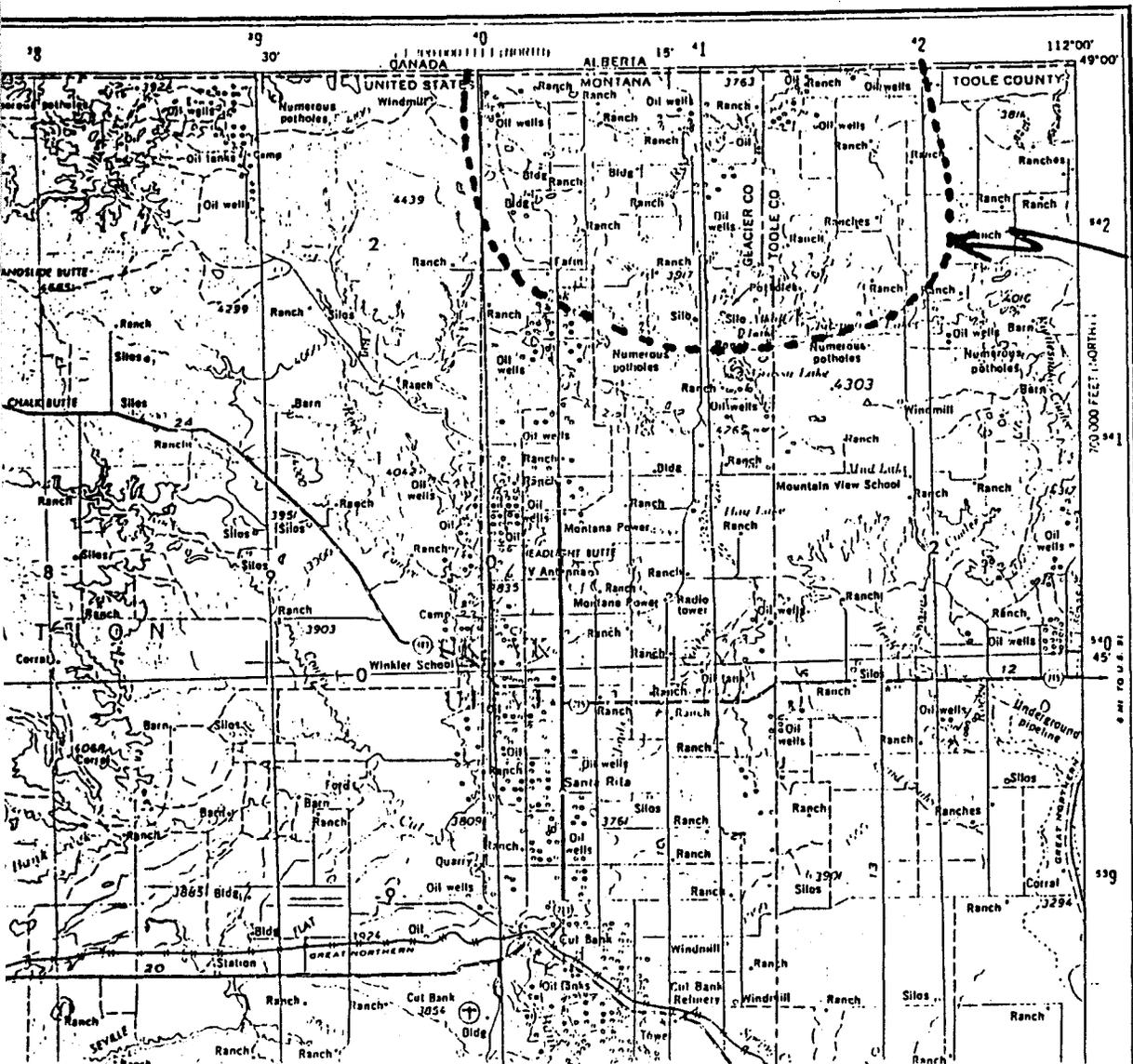
(over)

WHAT ARE THE BENEFITS?

The cost of treatment of degraded groundwater far exceeds the cost of prevention. If future contamination can be prevented by a thorough understanding of the oilfield and agricultural practices which cause groundwater contamination, hundreds of thousands of dollars of public and private funds may be saved in treatment and monitoring costs, particularly if individuals and organizations will work together to address problems. Information derived from the successful completion of the project may be applicable to many areas of the state in which oil/gas production and agriculture are major industries.

Public health concerns due to inorganic, organic and microbial contamination will be identified. The project will provide information needed to ascertain changes in state water quality policies and will develop techniques for inter-personal, inter-organizational cooperation at the local level. It will also foster international cooperation as evidenced by the degree of Canadian support and desire for U.S. / Canadian information exchange.

NM 12-10



Comprehensive Evaluation of Groundwater Contamination, Red River Drainage, Glacier and Toole Counties, Montana

Location of proposed study area.

EXHIBIT 7

DATE 2-20-91

HB 8, RDG 31

Long Range Planning

6963 West Highway 2 North
Troy, MT 59935
February 6, 1991

Governor Stan Stephens
Legislative Members of the
Natural Resources Committees
State Capitol Building
Helena, MT 59620

Re: Development of Running Wolf Iron Ore Deposit
Judith Basin County

Dear Governor and Legislators,

I am a long time resident of the state of Montana; and I have an ownership interest in the above named ore body. As a result I will be wearing two hats - a person interested in Montana's well being through the development of natural resources to produce jobs - and as a part owner of an ore body who wants to see a well planned development assuring long term utilization of this ore body.

We, the owners of forty-three (43) of the patented iron ore claims on the said ore body, acting through and with the cooperation of the Board of County Commissioners of Judith Basin County, and with the concurrence of the City of Stanford, submitted an application to the Department of Natural Resources (DNRC), for a development grant under the Reclamation and Development Grants Program. I have before me a letter addressed to Judith Basin County, as the formal grant applicant, from the said DNRC, advising that that agency is recommending to the Legislature that the county's grant application not be funded. I am attaching a copy of that letter for your convenience, as I address various issues relative to this said letter.

Let me provide you with a bit of background as to this particular ore body. It was first identified as a significant commercially valuable ore deposit in a geological report by a Mr. Weed, a geologist for the US Dept of the Interior, US Geologic Survey. Since that time it has been the subject of many other studies from time to time. Paris Gibson (the founding father of Great Falls, Mt) and his brother were instrumental in getting a large part of the ore body surveyed into specific claims, proved up, and eventually patented in about 1915. I, and the other shareholders of our little corporation, EKPA INC., now own 43 of the original Gibson patented claims.

The ore is of exceptionally high quality. In the 1950's over 2,000 rail cars of this ore was shipped to the Great Lakes area for processing. Assays of the shipped ore showed it to be the highest grade bessemer ore in the USA. Transportation costs

escalated and priced the ore out of competition with lower quality ores mined in Michigan.

If transportation costs are too high to allow the export of high grade iron ore out from Montana for processing, the next logical step is to utilize this high quality Montana ore, on site, in a direct reduction plant of the latest, high tech, pollution free design, the details of which are well known to the people at Montana Tech in Butte. The output from this plant could be further processed by running it through an on site steel mini-mill, and have finished steel products to export out of Montana. Or, the direct reduction iron pellets could be exported at a price that would support the on-going mining and direct reduction plant operation. However, since Montana is in need of all the high paying jobs it can develop, it only makes sense to have an on site steel mini-mill with it's associated high pay jobs providing more financial benefits to Montana rather than giving this finish work to some other state.

It is the hope and desire of the owners of these mining claims, that after the construction phases of building the facilities themselves, the mining of the iron ore; the operation of a direct reduction plant; and the operation of a steel mini-mill would result in several hundred new high paying jobs, that should last for at least 20 years.

There are other iron ore deposits in Montana. A direct reduction plant and mini-mill in Montana could stimulate the mining of iron ore in the other areas if they were not faced with the need to ship it great distances before it could be used.

Coming back to the grant application: Before each of these claims was granted a patent, the ore had to be exposed for viewing and measuring by US Government employees. The claims extend for several miles of identified length. However, one of the characteristics of the ore body is, that instead of lying flat, or nearly so, this ore stands nearly vertical. As a result, even though it can be seen at the surface for several miles, the amount of ore in the body can only be "guessed at." Until a properly engineered and designed core drilling program can be accomplished, no determination of quantity can be made. Until the quantity of ore is determined no iron processing plant can be designed, so no steel manufacturing company can be induced to erect and operate a direct reduction plant "on site." This brings us back to the "chicken or the egg" situation, except in this case a specific quantity of high grade ore must be determined to be available before any knowledgeable and reputable company will commit the necessary capital and employee activity necessary to erect a new facility "on site."

We have reason to believe we do have a steel manufacturing company that is willing to evaluate this ore body if we can obtain the data necessary for their evaluation. The company is sending development representatives to look at the site when the snow goes off this spring. They of course can't give a commitment to

do the development without knowing the extent of the ore reserves, but the implication to do so is there if the ore supply is there. Therefore our need for a grant.

We direct your attention to the letter of denial of our request for grant funding attached hereto:

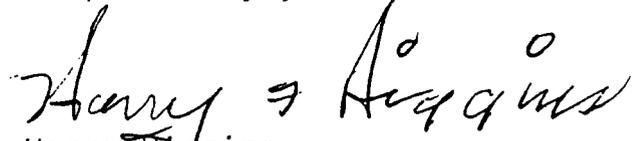
Item #3 shows a recommended funding of \$170,000. to Judith Basin County, for "community-led Rural Development." Would you be suprised to know that the County Commissioners of Judith Basin County know nothing about this project; they have never been consulted about it, nor have they had input into it?

Items 5, 6, and 13 all relate to plugging wells of some sort. The amounts recommended for funding of these three items total \$ 739,000. Will these three hole plugging projects provide 200 - 300 new, high paying jobs for approximately 20 years? Granting that the plugging of these holes may be necessary, could some of these holes be plugged two years from now rather than today? Which is more conducive to economic development, pouring money down a series of old unuseable holes, or verifying the quantity of a known ore body which can be developed if the quantity of ore available can be determined so an appropriately size planned processing plant can perhaps be built?

I realize that the Dept of Natural Resources has a procedure for evaluating the competing grant applications presented, and I'm sure by an large that they do a good job in making these evaluations, but I wonder if you share my concerns, looking at the projects being recommended for funding, how many of those recommended for funding fall within that departments own programs and are not of the type that foster DEVELOPMENT projects which is part of the name and hopefully the intent of this grant program.

I sincerely urge that you, Mr. Governor, and the two Natural Resource Committes of the legislature, re-evaluate the grant application of the Board of County Commissioners of Judith Basin County, and fund it for the benefits an active, iron ore mining, reduction plant, and possible steel mini-mill would provide to Judith Basin County, and the state of Montana as a whole.

Respectfully yours,



Harry Higgins
Personally, and on behalf
of EKPA, INC. , iron ore
claim owners

R. 10 E.

R. 11 E.

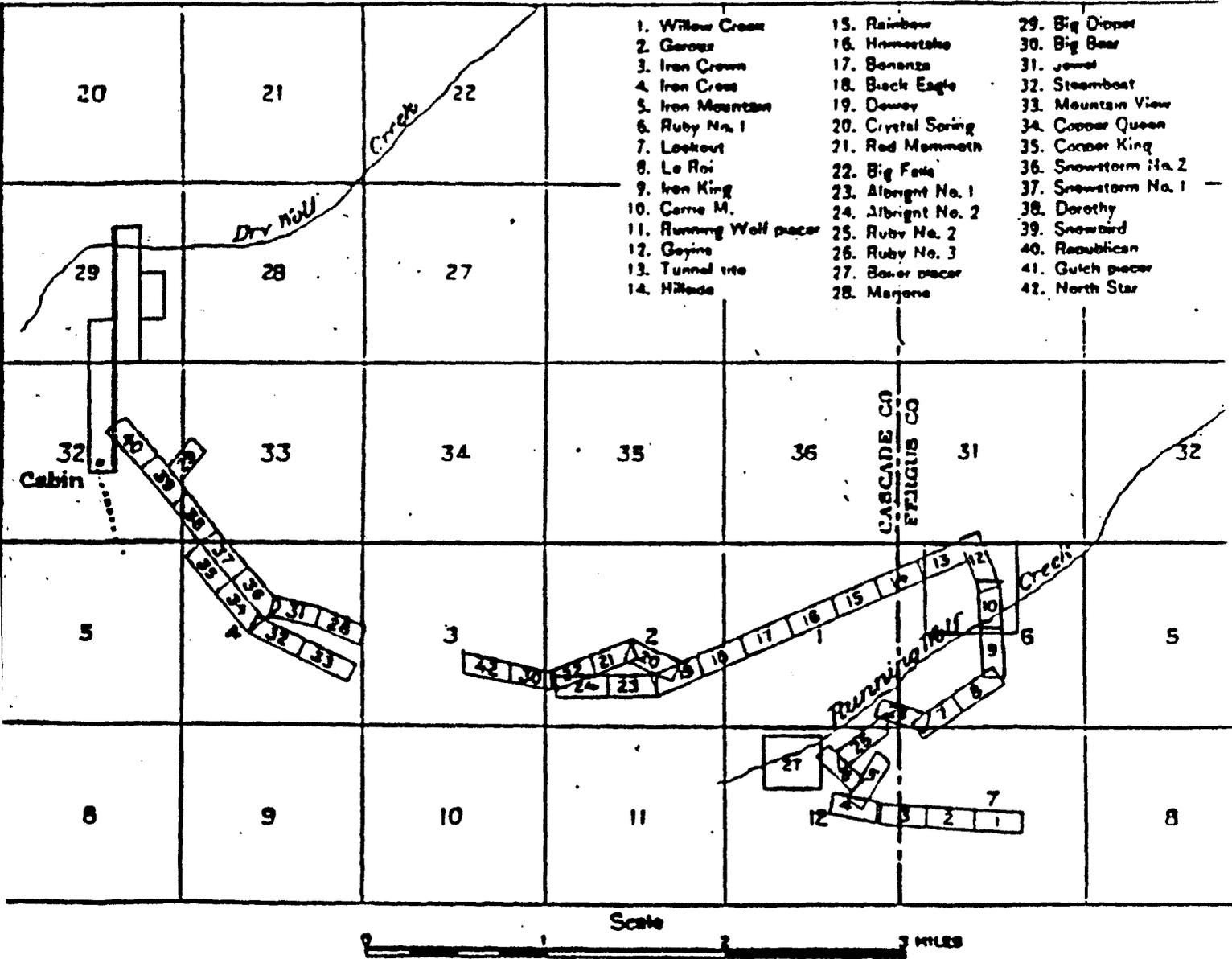


FIGURE 10.—Map showing claims on the hematite deposits near Stanford, Mont.

Appendix pg vii

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

EXHIBIT 7
DATE 2-20-91
HB 8, RDG 31



STAN STEPHENS, GOVERNOR

LEE METCALF BUILDING
1520 EAST SIXTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE (406) 444-6699
TELEFAX NUMBER (406) 444-6721

HELENA, MONTANA 59620-2301

November 28, 1990

JUDITH BASIN COUNTY
Barbara Skelton
Cunty Courthouse
Stanford, MT 59479

RE: Development of Iron Ore Deposit

Dear Ms. Skelton:

The Department has recently completed its evaluation and ranking of your project submitted for Reclamation and Development Grants Program (RDGP) funding. The enclosed ranking list identifies the Department's priority recommendations that will be submitted to the Governor and ultimately to the 1991 Legislature, which makes the actual decision to fund or not fund. Shortly after the first of the year we will notify you as to the times and dates of Legislative committee hearings relevant to your particular project.

An unedited project summary is also enclosed. It highlights various sections of your application and includes the major comments or concerns expressed by the reviewers and ranking committee. The recommendations section, in particular, contains any contingencies attached as a condition of funding.

Current budget estimates indicate that approximately \$3.3 million is available to fund RDGP grant projects. This would mean that roughly the first 17 projects, if approved by the Legislature, would receive funding. The remaining projects (18-39) would not receive funding unless the Legislature elects to choose a different prioritization of projects or project funding amounts.

I realize that these recommendations may be a disappointment to many of you. There were many meritorious projects we would have liked to have seen funded, but unfortunately, only limited dollars were determined available.

If you wish to discuss the rankings, review process, how available funds were determined or any other matter concerning your application to RDGP, please contact me. I can be reached at the above address or by calling 444-6668.

Your support and participation in the RDGP is vital to program effectiveness and longevity. Your involvement is sincerely appreciated.

Best regards,



Greg Mills
Program Officer
Resource Development Bureau

GM:mr

enclosures

EXHIBIT 4
DATE 2-20-91
HB 8, RDG 31
Long Range Plan.

- 31 -

APPLICANT NAME: Judith Basin County
PROJECT/ACTIVITY NAME: Development of Iron Ore Deposit
AMOUNT REQUESTED: \$ 297,000
OTHER FUNDING SOURCES AND AMOUNTS:
U.S. Forest Service - \$ 15,000
EKPA, Inc. (private) - \$ 15,000
TOTAL PROJECT COST: \$ 327,000

PROJECT DESCRIPTION:

EKPA, Inc., is the holder of 43 patented iron ore claims near Stanford, Montana. The corporation is proposing to use RDGP funds to determine the quality and quantity of this deposit, commonly referred to as the Running Wold Iron Ore Deposit. If the results of this survey and core drilling program are encouraging EKPA plans to contract for professional consultants who would then conduct an economic feasibility analysis relative to siting a direct reduction iron plant and/or steel mill. An environmental assessment of mining the ore body and constructing and operating a reduction plant and/or mill would also be performed, as would a feasibility study to evaluate construction of a 15-mile-long railroad connecting the plant to Burlington Northern facilities at Stanford. An intended projected strategy is to attract investors using feasibility data and information.

The project concept involves creation of jobs, increase in the state and federal tax base, and improvement to Judith Basin County's overall economy. The applicant (county) would not be involved directly or indirectly. Administration of grant funds would be handled by the local Resource Conservation and Development (RC&D) office.

TECHNICAL ASSESSMENT:

The applicant and EKPA, Inc., maintain that the project is critical to Montana's economy and represents an opportunity to capture extraordinary benefits that would otherwise be lost. Although the application lacks required documentation from authoritative sources supporting this claim, it is not difficult to realize that job creation and expanded economic opportunity benefit all Montanans. Rather, the difficulty is in determining, from the sketchy information presented, what the likelihood is that this particular project would fulfill these needs.

There is insufficient detail in all aspects of the proposal - i.e., public benefits, technical description, budget, need and

urgency, and project management and organization. With the exception of the technical description and associated construction budget (which would be detailed during the feasibility and design phases using RDGP funds), this information should be available. Though time consuming, gathering this information and supporting documentation is critical to assessing project success.

The unknown quality and quantity of the reserves and the limited financial commitment risk by EKPA are seen as major drawbacks in this proposal.

FINANCIAL ASSESSMENT:

The budget lacks documentation. All expenses--salaries, benefits, travel, equipment, etc.--are shown in a lump sum under the contracted services category. No information is given as to how the contractor costs were derived. Determining the quantity and quality of the ore deposit would cost \$58,000. The remaining \$240,000 in the budget is for the following studies: economic feasibility, marketing, project design, and environmental impact.

ENVIRONMENTAL EVALUATION:

The exploration (core drilling) phase of this project poses potential impacts to the environment. Such activities would be governed by the Department of State Lands, Reclamation Division. Adherence to permit requirements and/or enforcement of same would mitigate these impacts. The feasibility phases of this project are not expected to directly impact the environment. If the project progresses to construction, MEPA provisions would apply, and permits and licenses would be required from appropriate regulatory agencies.

PUBLIC BENEFITS ASSESSMENT:

The public benefits claimed are the generalizations that jobs would be created and the local, regional, and state economy would be benefited. Verification of these benefits or the methodology used to make this claim is not possible from the information submitted. It does appear that private benefits would accrue to EKPA in that corporation funds would not have to be spent assessing the project's feasibility.

RECOMMENDATIONS:

No funding is recommended for this project.

EXHIBIT 1
 DATE 2-28-91
 HB 8, RDG 36
long Range Planning

RANKING OF AND FUNDING RECOMMENDATIONS
 FOR PROJECTS PROPOSED TO THE 1991 LEGISLATURE

NAME OF APPLICANT	PROJECT NAME	RECOMMENDED FUNDING	ACCUMULATIVE TOTAL
1 BUTTE-SILVER BOW GOVERNMENT	WASTEC	\$296,113	\$296,113
2 CHINOOK DIVISION IRR ASSOC	REHAB & BETTERMENT ELEMENT OF MILK RIVER	\$300,000	\$596,113
3 JUDITH BASIN CD	COMMUNITY-LED RURAL DEVELOPMENT IN MONTANA	\$170,000	\$766,113
4 DHES/CENT MT HLTH DISTRICT	ARRO REFINERY SLUDGE CLEANUP	\$300,000	\$1,066,113
5 MT BOARD OF OIL AND GAS CONS.	ABANDONED WELL PLUGGING PROJECT "A"	\$300,000	\$1,366,113
6 MT BOARD OF OIL AND GAS CONS.	ABANDONED WELL PLUGGING PROJECT "B"	\$295,000	\$1,661,113
7 MT ST LIBRARY	NRIS, EMPHASIS ON THE NAT HERIT PROG AND GIS	\$227,600	\$1,888,713
8 MT SALINITY CONTROL ASSOC	SOIL & WATER NONPOINT SRC POLL CONTROL & MGMT	\$137,500	\$2,026,213
9 MSU/RECLAMATION RESEARCH UNIT	EFFECT OF SODIUM, CHLORINE, & TOTAL SALTS	\$82,885	\$2,109,098
10 CARBON COUNTY, ET AL	INTEGRATED WASTE MANAGEMENT IN SE MT	\$45,437	\$2,154,535
11 DHES/WATER QUALITY BUREAU	NONPOINT POLLUTION CONTROL PROJECT	\$146,620	\$2,301,155
12 MT MINES & GEOLOGY, BUREAU OF	DOWNHOLE GEO LOGGING TECH/WELL	\$39,749	\$2,340,904
13 MT BOARD OF OIL AND GAS CONS.	ABANDONED WELL PLUGGING PROJECT "C"	\$144,000	\$2,484,904
14 TOOLE COUNTY	N. TOOLE COUNTY RECLAMATION PROJECT	\$105,000	\$2,589,904
15 PESTICIDE CO CLEANUP COMMITTEE	PESTICIDE CONTAMINATION CLEANUP	\$300,000	\$2,889,904
16 STATE LANDS, DEPT OF	WELL ASSESSMENT AND ABANDONMENT	\$300,000	\$3,189,904
17 DNRC/WATER MGMT BUREAU	ARSENIC IN UPPER MISSOURI RIVER BASIN	\$179,330	\$3,369,234
18 STATE LANDS, DEPT OF	COMET MINE WETLANDS DEVELOPMENT	\$250,700	\$3,619,934
19 GLACIER CO CD	COMPREHENSIVE EVAL OF GRNDWATER CONTAMINATION	\$197,453	\$3,817,387
20 DHES/WATER QUALITY BUREAU	HYDROGEO, LAND USE, & CHEMICAL QUAL OF RES	\$218,250	\$4,035,637
21 FORT PECK ASSIN/SIOUX TRIBES	EXTENT, MAG, & MVMT OF CONTAMINATION	\$290,400	\$4,326,037
22 SHERIDAN CO CD	EXTENT OF OIL FIELD WASTE CONTAMINATION	\$134,736	\$4,460,773
23 BUTTE-SILVER BOW GOVERNMENT (NF)	UPPER CLARK FORK RIVER BASIN COORDINATOR	\$0	\$4,460,773
24 MONTANA TECH (NF)	PILOT PLANT TRTMT OF CONT WATER FROM PIT	\$0	\$4,460,773
25 STATE LANDS, DEPT OF (NF)	CATARACT CREEK RECLAMATION PROJECT	\$0	\$4,460,773
26 MONTANA TECH (NF)	CONST ART BOGS & WETLANDS	\$0	\$4,460,773
27 MONTANA TECH (NF)	DETOXIFICATION OF ACID MINE DRAINAGE FROM PIT	\$0	\$4,460,773
28 MSU/ANIMAL & RANGE SCI, DEPT (NF)	PYRITE AMNDMTS TO IMPROVE PLANT & ANIMAL NUTR	\$0	\$4,460,773
29 YELLOWSTONE COUNTY (NF)	YELLOWSTONE CO LIS/GIS PROJECT	\$0	\$4,460,773
30 HOMESTEAD ACRES WATER & SEWER (NF)	BOOTLEGGER MINE RECLAMATION PROJECT	\$0	\$4,460,773
31 JUDITH BASIN CO (NF)	DEVELOPMENT OF IRON ORE DEPOSIT	\$0	\$4,460,773
32 MSU/BIOLOGY DEPARTMENT (NF)	TROUT STREAM RESTORATION	\$0	\$4,460,773
33 MT MINES & GEOLOGY, BUREAU OF (NF)	HYDROGEOLOGIC CHARA OF LANDFILL SITES IN MT	\$0	\$4,460,773
34 DEER LODGE VALLEY (NF)	FEASIBILITY STUDY OF WOOD WASTES	\$0	\$4,460,773
35 YELLOWSTONE CO CD (NR)	ZDOMONTANA CONSTRUCTION FUND DRIVE	\$0	\$4,460,773
36 HOT SPRINGS, TOWN OF (NR)	RE-UTIL OF HOT SPRINGS MINERAL WATER RES	\$0	\$4,460,773
37 SWEET GRASS CO CD (NR)	ACCELERATE SOIL SURVEY PROG IN MT	\$0	\$4,460,773
38 STILLWATER CONS DIST (NR)	FIELD EVAL OF PLASTIC LINING & FAB PROCESS	\$0	\$4,460,773
39 GLACIER CO (NR)	GLACIER CO EXPERIMENTAL LATERAL DRILLING PROJ	\$0	\$4,460,773

(NF) = RANKED, BUT NO FUNDING RECOMMENDED

(NR) = NOT RANKED, INELIGIBLE, DID NOT MEET CRUCIAL STATE NEED TEST, NOT QUALIFIED

DATE 2-20-71
HB 8 RDB Long Range Plan.

EASTERN SANDERS COUNTY CONSERVATION DISTRICT
102 Highway 200 West
Plains, Montana 59859

FACT SHEET

LITTLE BITTERROOT VALLEY RECHARGE ENHANCEMENT AND CONSERVATION

The artificial recharge investigation will be conducted in two phases. The first phase will be a re-evaluation and update of the data, interpretations, and modeling that led to the recharge concept proposed in 1985. Phase II would be an experimental recharge program, conducted only if the Phase I results are positive, and only with the approvals from Tribal, State and local interests. This fact sheet describes only the Phase I activities because they must be completed prior to consideration for Phase II.

Since the proposal was written, one or two artesian wells in the area have been capped. This may have resulted in an increased potentiometric head in the aquifer. In addition, pesticide use in the area has increased since 1985 and the potential exists for contamination of the surface water and groundwater. Identification of pesticides in the surface water network, which is the proposed source of water for Phase II, would discount this method of artificial recharge.

The Phase I investigation would determine the hydrogeological changes that have occurred in the Little Bitterroot Valley since 1985. Results would determine if artificial recharge of the Lonepine aquifer would benefit all parties concerned.

Procedures

1. Water Level Monitoring

A hydrogeological investigation determined short-term groundwater declines in the Lonepine aquifer from 10 to 15 feet in the vicinity of the irrigation wells and from 4 to 10 feet in the rest of the valley. Long-term declines were from 0.7 to 1.1 feet per year from 1970-1977, and from 2.0 to 2.5 feet per year between 1981-1985. Since the original investigation, one or more of the flowing wells in the Lonepine aquifer have been capped. Water level monitoring would determine if capping of these artesian wells has increased groundwater levels in the area.

- A. Continuous water level recorders are present on four wells in the Little Bitterroot Valley. One recorder is serviced by the USGS and 3 recorders are serviced by the DNRC. Water level records will be obtained from these agencies and the data will be analyzed to determine the groundwater trends since 1985.

- B. A water level monitoring program will be reinitiated on the wells monitored during 1980. Twenty to 25 wells will be monitored on a monthly basis for a period of at least one year.

- C. An inventory will be performed on new wells installed in the Little Bitterroot Valley from 1985 to present. The inventory will include well location, elevation, total depth, perforated interval, aquifer type, static water level, temperature, and specific conductance.

2. Groundwater and Surface Water Sampling

The use of herbicides and pesticides in the Little Bitterroot Valley has increased since 1985. An influx of knapweed in the area has resulted in the increase use of chemicals such as Tordon. Excess spring runoff is the proposed source of artificial recharge to the aquifer. Therefore, the presence of organic chemicals in the surface water and groundwater is a critical issue that needs to be addressed.

- A. An assessment of chemical use in the Little Bitterroot Valley to include, chemical type, area, time and rate applied, will be performed.

- B. Based on the chemical-use information and on the identification of recharge areas, surface and groundwater sampling points will be established.

- C. Surface and groundwater will be sampled in coordination with the timing of chemical application and climatic conditions.

3. Summary of Results

The results of the water level monitoring and groundwater and surface water sampling will be summarized in a report. The report will examine the viability of proceeding with Phase II. Alternative methods will be proposed to recharge the aquifer if data indicates that the injection well method is not feasible. The report will be submitted to Tribal, State and local interest groups. Phase II or the alternative will proceed only upon consent from all parties involved.

HOUSE OF REPRESENTATIVES
VISITOR REGISTER

Long Range Planning SUBCOMMITTEE DATE 2-20-91
DEPARTMENT(S) DNRC RDG DIVISION _____

PLEASE PRINT Grant Program PLEASE PRINT

NAME	REPRESENTING	
Marvin Miller	MBMG - MT Tech	
Tommy Butler	Mont. Dep. of St. Lands	
Jeff Hagoner		
Erik Sims		
Donna Griffin	Montana People's Action	
JUANITA SILBER	MONTANA PEOPLE'S ACTION	
Fred Pambun	Glacier County Comm	
Bob Williams	JBC senate	
W. D. M.	Shawnee County	
Sally Birkenshael	Town of Cascade	
Mark Holzer	Stanford	
Paul Holzer	Stanford Univ. Club	
Jim Rille	W. Basin Co Comm	
Darryl J. Higgins	EK - PA Mining Corp	
Ginette Abdo	MBMG - MT Tech	
Sherry LACEY GALLAGHER	MPA - Homestead Area H ₂ O Dist	
Lyle W. Morrison	Gasohol, Ft Benton	
John Stan	Water Prog. Council Cascade MT	

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**HOUSE OF REPRESENTATIVES
VISITOR REGISTER**

Rep Page Planning SUBCOMMITTEE DATE 2-20-91
DEPARTMENT(S) DNR, RSG Grants DIVISION _____

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PLEASE PRINT

NAME	REPRESENTING	
<i>Pat Buckley</i>	<i>Switzgasser</i>	
<i>Garda Peterson</i>	<i>County of Warner No 5</i>	
<i>Mike J. Hofer</i>	<i>Hillside Colony</i>	
<i>Thomas P McAlpine</i>	<i>Hillside Colony</i>	
<i>Andrew J Wung</i>	<i>Hillside Colony</i>	
<i>B. K. Kalar</i>	<i>Can H 5</i>	
<i>David D Hofer</i>	<i>Hillside Colony</i>	
<i>Alvin D. Bannell</i>	<i>MSEA cut Bank.</i>	
<i>Dan Takahashi</i>	<i>Toole & Glacier Co.</i>	
<i>John L. White</i>	<i>TOOLE COUNTY</i>	
<i>Douglas P. Richardson</i>	<i>TOOLE COUNTY</i>	
<i>Bruce Bradshaw</i>	<i>Glacier County</i>	
<i>Tom Johnson</i>	<i>Blaine Co.</i>	
<i>Glenn Messer</i>	<i>Glacier County</i>	
<i>Martin Javelin</i>	<i>Glacier County</i>	
<i>Kevin Bradley</i>	<i>Glacier County</i>	
<i>Alan McNeil</i>	<i>Glacier County</i>	
<i>Stephanie McAlpine</i>	<i>Glacier County</i>	

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