



Department of Health and Environmental Sciences

STATE OF MONTANA HELENA, MONTANA 59601

Solid Waste Management Bureau
1400 11th Avenue, Suite A
Helena, Montana 59601
Telephone: (406) 449-2821

~~John S. Anderson M.D.~~
~~XXXX DIRECTOR~~
A. C. Knight, M.D.
Acting Director

March 8, 1977

Honorable Thomas Judge, Governor, State of Montana, Helena
Environmental Quality Council, 1228 11th Avenue, Helena
Montana Department of State Lands, 1625 11th Avenue, Helena
Department of Natural Resources and Conservation, Helena
Board of County Commissioners, Rosebud County, Courthouse, Forsyth
Eldon Rice, Rosebud County Planning Board, 251 N. 17th Ave., Forsyth
Mark Stevens, County Sanitarian, Box 1056 - Courthouse, Forsyth
Thomas L. Lippert, County Sanitarian, Box T, Hardin
Montana Department of Fish and Game, 1429 E. Sixth Ave., Helena
Alvin L. Young, Ph.D., Assoc. Professor of Life Science, Dept. of Life & Behavioral
Science, Air Force Department, USAF Academy, Colorado
Robert Anderson, 509 N. Custer, Hardin
Dave Jones, Soil Conservation Service, P.O. Box 970, Bozeman
Roy Houser, Soil Conservation Service, P.O. Box 416, Forsyth
Montana Bureau of Mines and Geology, West Park, Butte
Mrs. Louise Rankin Galt, President, 71 Ranch Co., 316 Fuller Ave., Helena
Dick Bassett, Box 72, Sumatra
Yellowstone-Tongue APO, P.O. Box 503, Broadus
State Library, Helena
Mr. Robert Rudolf, Ingomar
Mr. & Mrs. Jake Rudolf, Ingomar
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Mr. & Mrs. Daniel Clifton, Sumatra
Mr. & Mrs. Russ Kesterson, Sumatra
Mr. & Mrs. Verne Kesterson, Sumatra
Mr. Anton Franzel, Sumatra
Mr. C. M. Coffee, Sumatra
Mr. Robert I. Thomas, Sumatra
Mr. Gene Messer, Sumatra
Mr. Leo Hecker, Sumatra
Mr. Meredith A. Clifton, Sumatra
Mr. & Mrs. Grant Erickson, Northwest of Forsyth, Forsyth

Mr. & Mrs. Ben G. Olson, Northwest of Forsyth, Forsyth
J. William Geise, Jr., Chief, Env. Evaluation Branch, EPA, 1860 Lincoln Street,
Suite 900, Denver
Great Falls Tribune, Tribune Bldg., Great Falls
Billings Gazette, 401 N. Broadway, Billings
Forsyth Independent, Forsyth

Ladies and Gentlemen:

Enclosed please find copies of the written comments received by the Department of Health and Environmental Sciences on the draft Environmental Impact Statement for its Pesticide Disposal Demonstration Project. It is the opinion of the Department that none of the comments received have shed doubt on the merits of the basic plans and procedures as set forth in the draft statement and that the project may be undertaken as planned. The draft Environmental Impact Statement will, therefore, be considered the final Environmental Impact Statement as provided for in MAC Section 16-2.2(2)-P2040, (2)(a), adopted pursuant to the Montana Environmental Policy Act, Section 69-6504, (b)(3). Further comments and questions will be accepted for fifteen (15) days following the issuance of this statement, and no action on the project will be commenced before that date. At that time, it will be assumed that the persons and agencies consulted have no further comments to make.

A total of nine written comments were received on the draft statement -- seven from representatives of planning groups or governmental agencies and two from private individuals. Two of these statements supported the project, three were opposed and four did not state a position.

Mr. Eldon Rice of the Rosebud County Planning Board requested permission to schedule an informal public meeting on the project. This meeting was held in Ingomar, Montana on February 7, 1977. Thirty-four persons attended the meeting. County residents expressed concerns over the potential environmental and health effects that might result from the establishment of the disposal facility in Rosebud County. Several persons felt that, if properly operated and controlled, the facility would not present any undue danger. However, a majority of those speaking felt that no precautions taken in the site operation could completely prevent the possibility of environmental harm resulting. The general consensus of these people was that establishment of the proposed disposal facility was less desirable than the alternatives of: a) keeping the pesticides in storage in the bunker facilities at Glasgow Air Force Base and sealing each bunker when it becomes full; or b) contracting for disposal of the pesticides at facilities located outside of the state.

Also of concern to many of those present was the possibility of the proposed site being used at some time in the future for the disposal of radioactive wastes, or of hazardous wastes received from outside of the state.

With the enclosed comments received on the draft statement, are the Department's statements in response.

Sincerely,

TERRENCE D. CARMODY, CHIEF
Solid Waste Management Bureau
Environmental Sciences Division

TDC/RCT/lb

Enclosure

cc: Ben Wake
Tom Ellerhoff
J. Anne Skinner
Don Willems
Mike Roach
Ken Quickenden
Steve Brown

STATE OF MONTANA



DEPARTMENT OF

FISH AND GAME

Helena, Montana 59601
January 28, 1977

Mr. Terrence D. Carmody, Chief
Solid Waste Management Bureau
Department of Health and Environmental Sciences
Helena, Montana 59601

Dear Terry:

After reviewing the pesticide demonstration project EIS, the Montana Department of Fish and Game has no major objections to the proposal. We would hope, however, that "control" on page 9, (third paragraph, second sentence) and on page 26 (last sentence) actually means "prevent" and that runoff "in" means runoff "from" (also page 26, last sentence).

Surface runoff from the disposal site should not only be minimized, as implied, but totally prevented. Our department supports the concept that a permanent pesticide disposal site, as planned and located, is needed, as long as all of the outlined precautions and monitoring are strictly followed.

Sincerely,

James A. Posewitz, Administrator
Environment and Information Division

JAP/KK/sd

cc: Environmental Quality Council
Ken Knudson

Response to Department of Fish and Game comments:

Control of Runoff (pp. 9 and 26). Earthen berms and drainage diversion channels will be engineered to achieve two purposes. Berms on the upslope side of the site, as well as diversion of the two small drainage channels which presently enter the site, will prevent any runoff from rainfall or snowmelt above the site from entering the disposal area. Berms will also be designed to retain any runoff from precipitation falling on the site itself. Such runoff will be collected in a small pond or pit, and will not be allowed to leave the bounds of the disposal site unless and until it is shown to be free of contamination.



DEPARTMENT OF STATE LANDS

STATE CAPITOL

HELENA 59601

(406) 449-2074

STATE BOARD OF
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AUDITOR

Leo Berry, Jr.
COMMISSIONER

January 18, 1977

Mr. Terrence D. Carmody, Chief
Solid Waste Management Bureau
Environmental Services Division
Montana Department of Health and
Environmental Sciences
Capitol Station
Helena, MT 59601

Dear Mr. Carmody:

Attached are the Department of State Lands' comments on the Health Department's draft EIS entitled "Pesticide Disposal Demonstration Project."

Thank you for the opportunity to comment.

Sincerely,

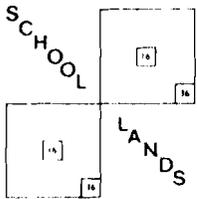
Bruce Hayden
Environmental Coordinator

jb

Enclosure

c: Ralph Driear
Wilbur Erbe
JoAnn Vorozilchak
Leo Berry, Jr.

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DEPARTMENT OF STATE LANDS

STATE CAPITOL

HELENA 59601

(406) 449-207

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SECRETARY OF STATE

ROBERT L. WOODAHL
ATTORNEY GENERAL

E. V. "SONNY" OMHOLT
AUDITOR

MEMORANDUM

TO: Brace Hayden, Environmental Coordinator

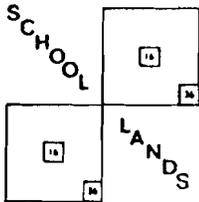
FROM: Ralph Driear, Environmental Coordinator

RE: DHES Draft EIS - Pesticide Disposal Demonstration Project

DATE: January 17, 1977


COMMISSIONER

I have reviewed the DHES draft EIS and have the following comments on its contents. I have incorporated into these comments those received from JoAnn Vorozilchak, and Wilbur Erbe, who also reviewed the document.



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page 9. "The trucks will be equipped with necessary safety and cleanup equipment to handle any leaks or spills that might occur during loading, transport and unloading."

Information regarding just what "necessary safety and cleanup equipment" is should be presented.

page 12. "Sampling will continue until the pesticides degrade to background levels."

What, in this instance, would be considered a background level?

"The materials will be injected six to ten inches below the soil surface, ..."

Does the six to ten inch figure represent the limitation of the machinery or some subjective judgement? Can the material be applied to a greater depth?

page 14. "It is planned that a 15 foot x 15 foot pond will be constructed at the site and lined with a synthetic liner."

There are many types of synthetic pond liners available. Information as to the type being considered would be useful. Several of the more popular types are subject to deterioration from sunlight and must be covered with a layer of earth. Correct preparation of the pond surface before laying the liner is also critical to prevent punctures.

Available plastic liners including polyvinyl chloride, polyethylene and chlorinated polyethylene resist inorganic chemicals but are attacked by organic substances. Since the pesticides being handled include organic compounds the increased risks for deterioration must be considered.

page 17. Existing Conditions

These two paragraphs do not inventory the existing conditions. Instead, the information that should appear here is found introducing each of the separate impact sections. Final EIS could possibly be better organized.

page 19. "It is anticipated that the proposed disposal facility will have a minimal impact on all forms of wildlife."

This statement does not carry the credibility it could have if all the forms of wildlife present on the site had been identified. A tabular form presentation of fauna known and presumed to be present would be desirable. Fauna inventory as presented in the text is incomplete and inadequate for a project of this scope. Amphibians and reptiles are not mentioned.

page 24. "The landfill will be engineered and operated in such a manner as to prevent any water entry into the fill from rainfall and runoff."

How will water entry from rainfall be prevented? It would seem the only way to accomplish this would be to roof the entire fill. Also, if water entry can be prevented by berms, side channels, etc, I assume these structures will be removed before reclamation is attempted.

page 26. "Because of the impermeable soils and poor watershed conditions, runoff is very high during heavy rainfall, and flooding may occur."

This is a very disconcerting statement and leads one to question the certainty with which the previously referred to statement on page 24 is made.

page 26. "The water obtained from the Judith River where it is overlain by Bearpaw Shale is hot and high in minerals and nitrogen gas."

I believe the statement should read "the water obtained from the Judith River Formation ..."

page 30. "The fence enclosing the site will be similar in appearance to existing fences in the area."

page 19. "The six-foot fence will be wire mesh, topped with barbed wire."

It appears that these statements, may be in conflict.

page 31. "The state will retain the site until its capacity to hold wastes is exhausted or until future changes may end the need for retention of such a site."

I believe this statement should correctly read, "The Department of Health and Environmental Sciences will retain..."

"The site could probably be returned to grazing use within two years after the last disposed of wastes, although continued monitoring activities might be necessary."

The commitment to continued monitoring should be clearer.

page 34. "According to the 1975 Rosebud - Treasure Counties Situation Statement, ..."

Perhaps the final EIS should include relevant portions of the "Situation Statement" as Appendix material.

page 34. "... people are generally resisting this type of change."

The identification as to what type of change is referred to here is vague and should be made more clear.

"Area residents may feel apprehensive about the intrusion of a hazardous waste disposal site into the rural agricultural setting. However, ranches are large and only a small number of persons live within the vicinity of the site."

poor justification - could have been worded better.

page 35. "In terms of loss in animal units, changing the use of 20 acres will result in a loss of about one-third of an animal unit."

Final EIS should consider the fact that if an adverse impact occurs, it may not be limited to the 20 acre enclosure?

"... an accident contingency plan will provide for rapid response to any spills or similar accidents."

More information needed about rapid response - by whom, from where?

page 40. "In terms of secondary impacts, there will be a long-term commitment if land reserved for the disposal of pesticides."

Long-term commitment of the land to a singular purpose should not be termed a "secondary impact." Such a commitment is a primary impact.

"The pesticide disposal site will provide a definite solution to disposing of a large quantity of excess or banned pesticides."

Seems like an unduly positive statement for a draft EIS. Perhaps it would be better to say, "The pesticide disposal site has the potential to provide a solution ..."

The section on Primary, Secondary, and Cumulative Impacts is confusing. How do these impacts differ from the Environmental Impacts of Section IV? In general the EIS could have been better organized.

page 43. Again, unclear section.

page 44. Alternatives to the Proposed Action

What about building secure storage facilities of the type at Glasgow in some other area? This alternative has not been discussed and should be.

page 45. "... none were found which would have physically been better sites ..."

The use of "physically" in this sense seems to preclude "environmentally" as a justification for the proposed site.

Appendix C

The commitment to monitoring beyond the "duration of the project - 18 months" is unclear. A stronger indication of the DHES plans in this area are needed.

Has small mammal pesticide level monitoring been considered?

How many "sampling wells" are being considered? Sampling schedule is confusing - a total of 20 water samples will be collected, yet the schedule total is 18.

Leachate sampling calls for lowering a glass sample bottle to the well bottom. Will leachate depth be a problem? Does the size or height of the sample bottle limit its ability to collect a sample of a shallow leachate depth? Limitations of the sample procedure should be presented.

The handling of mitigation in the EIS is organizationally confusing. Mitigating measures are scattered throughout the entire document. A separate section dealing exclusively with mitigating measures would make it much easier for the reader to comprehend the total proposed program of safeguards.

Response to Department of State Lands comments:

1. Transportation of Pesticides (p. 9). In addition to the precautions prescribed in the Federal Register (p. A7), shovels, brooms, sorbent materials, tarps and heavy duty plastic bags will be carried in the trucks to contain and clean up any minor spills or leakage in transit. An existing state hazardous materials emergency response plan dictates response procedures for major transportation accidents involving hazardous materials.

2. Soil Injection Procedures (p. 12). Soil samples taken prior to any disposal operations will establish background levels for those pesticides under consideration.

Six to ten inches of depth below the soil surface represents an arbitrary depth chosen based on the capabilities of the equipment and the fact that microbial populations (and, therefore, biodegradation potentials) decrease with depth in the soil.

3. Synthetic Liners (p. 14). The specific type of liner to be used is yet to be determined. The type of material chosen will be that which best resists attack by organic pesticides.

4. Water Infiltration (p. 24). By elevating and sloping the final cover of the landfill, runoff of precipitation falling on the fill cover can be maximized. The impermeable nature of the natural clay soils, together with the high evapotranspiration/precipitation ratio characteristic of the region, should prevent significant infiltration of water into the disposal vault.

5. Flooding Potential (p. 26). The impermeability of the soil coupled with the sparse vegetation is responsible for the high runoff of snowmelt and rainfall. Precipitation does not readily soak into the soil complex, but rather runs off rapidly, often causing flooding in low areas or along drainages.

The proposed disposal site is located well out of any possible influence of flooding along McGinnis Creek, and it is felt by the Department of Health and Environmental Sciences and project consultants that runoff from the drainage area above the site

may be easily and safely diverted around the disposal area. Such diversion structures will be designed to accommodate the runoff from major storms.

6. Monitoring Activities (p. 31). Monitoring of surface waters and test wells will be continued as long as the site remains active. It is felt that the frequency and duration of monitoring after the site is deactivated must depend on the results of testing during the active life of the facility.

7. Rosebud-Treasure Counties Situation Statement 1975 (p. 34). A copy of this report may be obtained from the Research and Information Systems Division, Department of Community Affairs, Helena.

8. Alternatives (p. 44). The limitations of long-term storage were discussed both in the history section and in the section on alternatives to the proposed action. Storage is not disposal, and such an option cannot be said to provide a permanent solution to a continuing problem of waste pesticide management.

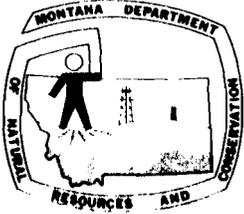
9. Physical Site Attributes (p. 45). The word "physically" as used here is meant to be synonymous with "environmentally."

10. Monitoring (Appendix C). The Department of Health and Environmental Sciences considers the necessary monitoring of water, vegetation and soils to be an integral part of the disposal program as long as the site is used for disposal.

Mammal studies are not considered necessary to the safety of site operation and are beyond the scope of this project.

The specific number and location of test wells will be determined from further site investigations prior to any disposal operations. In addition to such wells, surface waters such as the nearest stock pond and water entrapped on the site itself will be sampled. A minimum of 20 water samples will be analyzed during the period of the federal contract.

11. Organization of the Draft Statement. This statement was written and organized in conformance with MAC Section 16-2.2(2)-P2000 through P2080, adopted pursuant to the Montana Environmental Policy Act.



MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

THOMAS L. JUDGE, GOVERNOR
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HELENA, MONTANA 59601

January 25, 1977

Mr. Terrence D. Carmody, Chief
Solid Waste Management Bureau
Department of Health and
Environmental Sciences
Board of Health Building
Helena, MT 59601

Dear Mr. Carmody:

DNRC personnel have reviewed the recently circulated draft environmental impact statement for the Health Department's Pesticide Disposal Demonstration Project and offer the following comments:

1. The Waste Pesticide Management Program (Sec. IIB) apparently assumes the disposal of the entire 150,000 lbs. of pesticide now stored in containers at Glasgow. DNRC suggests that consideration be given to dumping small quantities (100 lb. lots, for instance) in separate small plots with careful monitoring of migration effects for a period of two-to-four years. Small plots containing mixtures of the waste chemicals should also be monitored if pesticides are to be mixed in the disposal program. Monitoring should determine if synergistic effects or mobility towards water supplies are possible problems. If no unanticipated adverse impacts are detected, then the entire lot could be disposed of in accordance with an approved plan.

The approved plan should specify the types of hazardous materials acceptable for disposal. Hazardous wastes not monitored should be excluded. Likewise, wastes not generated in Montana should be excluded.

It is also suggested that the potential for reduction of hazardous waste volume by incineration with land disposal of residues only should be explored for those chemicals which are amenable to incineration.



Terrence Carmody
Page Two
January 25, 1977

2. Regarding a geologic formation to dispose of the contaminants, the Bear Paw Shale is probably a good choice. As was mentioned, it is a very impervious formation, with ground water moving only through joints and fractures. Predicting extent and location of these secondary features is difficult without a costly investigation. To prevent the possible vertical, as well as lateral, movement of contaminants, a barrier of impervious material should be considered. There are some aquifers present in the underlying Judith River Formation, and the protection of these should be considered. The possibility exists that fractures in the Bear Paw Shale may reach the Judith River Formation.

3. Because the disposal site is on an alluvial fan, the subsurface conditions depicted schematically in Figure 1 are deceiving. Figure 1 (p. 13) depicts a residual soil (developed in situ by weathering.) The soils description (pp. 24-25) indicates that the soils are alluvial (transported and deposited by running water). Investigation should be made into the thickness of the alluvial deposits to determine if it is feasible to remove these deposits to expose and excavate the underlying Bear Paw Shale as a disposal vault.

4. Enhanced permeability within the alluvial fan deposits may create problems with controlling lateral movement of contaminated waters within the disposal site. Alluvial deposits are characteristically composed of the coarsest fraction of the originally eroded materials. The clay-sized fraction may not represent a large enough portion of the deposits to restrict vertical or lateral movement of water.

5. On page 26 it is mentioned that "...flooding may occur." In arid and semi-arid regions, flash floods are a primary reason for the existence of alluvial fan deposits. Has there been any study given to the frequency and magnitude of flooding on intermittent streams in the area? In addition to berms to control the flow of runoff, perhaps a collection pond should be provided. It is implied that the site will be operated only in the summer and that the disposal trench will be open during that time. Because summer thunderstorms supply the majority of precipitation to the area, the disposal plan should include precautions for dealing with occasional torrential rains while the disposal trench is open.

Terrence Carmody
Page Three
January 25, 1977

6. On page 29 it is implied vegetation within the disposal site will be affected by the application of herbicides. It is stated, however, that "...general conditions of the vegetation should actually improve with time because of the removal of grazing pressure." Will massive herbicide applications over time counter any benefits derived from grazing pressure removal? Will soil erosion increase if vegetative cover is reduced? Where will contaminants end up if significant erosion by water or wind exposes surface-injected chemicals?

7. On page 31, it is assumed that grazing on the site may resume as early as two years after the last disposal of wastes. Yet, the site is considered a "...permanent loss of 20 acres of good to marginal grazing land." (page 35). Which is the correct interpretation?

Thank you for the opportunity to participate in your EIS review procedures.

Sincerely,



WAYNE WETZEL
ENVIRONMENTAL COORDINATOR

WW:bjh

Response to Department of Natural Resources and Conservation comments:

1. Disposal Methods (pp. 11 and 12). The Department of Health and Environmental Sciences and project consultants feel that small burial plot studies would create many problems and might not reveal useful information on chemical migration for many years. The factors which lead to leachate formation and the movement of leachates through soils or shale formations are basically known. The department concludes that the disposal of all of the pesticide materials at one site is desirable based on economy, engineering demands, wise land use and the degree of monitoring required.

Pesticides will be segregated by groups into several different cells within the disposal trench, and no synergistic effects are expected.

2. Geology (p. 20). The Department and project consultants disagree with the suggestions that continuous fractures may extend through the entire 500 foot thickness of the Bearpaw Shale formation. Shale fractures tend to be discontinuous over even short distances and are confined mostly to the upper weathered shale layers. Where fractures do occur beneath the surface layers, they are closed by pressure and by siltation processes.

It is doubtful that even a costly investigation would be able to prove or disprove the presence of any jointing and fracturing deep into the Bearpaw Shale beneath the site. Such drilling or excavation to great depths would be self-defeating, in that it would itself destroy the integrity of the shale bedrock. There is no known faulting near the site.

The operation of equipment in the trench prior to burial will create a layer of pulverized material which will seal surface fractures and impede migration of any pesticide from the burial vault. Additional clay lining of the trench will be employed if necessary. It does not seem likely that a synthetic membrane or a few feet of clay lining the trench will significantly increase one's confidence in containment capabilities of the site above that provided by the 500 feet of natural shale.

3. & 4. Soils (p. 24). Preliminary investigations indicate that the alluvium at the site is only about two to three feet in depth, and the disposal trench will be dug to considerably greater depth. This alluvial material is itself derived from Bearpaw Shale, however, and is comparable in permeability to a soil developed in place. Soil samples reveal high clay and silt content. The presence of this alluvial soil should in no way hinder disposal or create concerns related to lateral or vertical permeability.

5. Water Quality, Quantity and Distribution (p. 26). Drainage diversions and berms will limit the problems from any storm which might occur during the short time the disposal trench will be open. The disposal trench will be covered and graded as soon as the pesticides are placed. Records indicate that less than four inches of rainfall can be expected in all of July, August and September in a normal year. The site is well removed from the possible influence of flooding in McGinnis Creek and its major drainage channels in the area.

6. Vegetation (p. 28). The plans for soil biodegradation include only one application of pesticides. There will not be continued applications over time. With the subsurface application methods to be used, the herbicides should actually have less harmful effect on vegetation than the mechanical effect of application and recovery should be able to progress quickly. The vegetation at the site is poor now, and careful disposal operations should not increase erosion potential significantly. Control of runoff, contour application of pesticide, and re-seeding will be used to prevent erosion and to improve vegetation at the site.

7. Land Use (pp. 31 and 35). There will be a loss of 20 acres of grazing land for as long as the Department of Health and Environmental Sciences retains the land for hazardous waste disposal. The possibility exists that the land may be reclaimed at some future date when disposal operations have ceased.

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

P.O. Box 970, Bozeman, Montana 59715

January 6, 1977

Terrence D. Carmody, Chief
Solid Waste Management Bureau
Board of Health Building
Helena, Montana 59601

Dear Mr. Carmody:

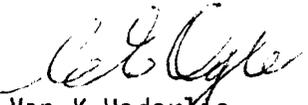
We acknowledge receipt of the draft environmental statement for the Pesticide Disposal Demonstration Project in Rosebud County, Montana, that was addressed to the Soil Conservation Service, State Office, Bozeman on December 27, 1976 for review and comment.

The above draft environmental statement appears complete and well researched. The only additional consideration that we believe should be addressed is how contaminated onsite runoff or soil-shale interface leachate if any, is to be disposed of.

We find no conflict with any SCS ongoing or planned programs or projects.

We appreciate the opportunity to review and comment on this proposed project.

Sincerely,


FOR -- Van K Haderlie
State Conservationist



Response to Soil Conservation Service comments:

If surface water runoff that is captured in the pond/pit is found to be significantly contaminated with pesticide it will be pumped out for treatment and disposal. Such treatment and disposal procedures will be based on the quantity and the nature of the contaminated water and might include: 1) application to the soil within the site boundaries for disposal by biodegradation; 2) chemical treatment with subsequent disposal by burial, or 3) treatment by evaporation with subsequent disposal by burial or subsurface injection (biodegradation).

If monitoring wells indicate significant leachate movement along the soil-shale interface, additional monitoring will be performed to ascertain the extent of leachate movement. A trench will then be dug to intercept and collect the leachate, which may be pumped out and treated and/or disposed of in the same manner as would contaminated surface runoff. In this event, measures would also be taken to prevent the water infiltration that was causing leachate formation.

DEPARTMENT OF THE AIR FORCE
THE DEAN OF THE FACULTY
USAF ACADEMY, COLORADO 80840



26 Jan 1977

Mr Roger Thorvilson
Solid Waste Management Bureau
Board of Health Building
Helena, Montana 59601

Dear Mr Thorvilson

Mr Dallas Miller, State Program Manager, Air and Hazardous Materials Division, Region VIII, Environmental Protection Agency, Denver, Colorado, forwarded a copy of the draft Environmental Impact Statement on "Pesticide Disposal Demonstration Project" to me for comments.

Your preparation of the document has been thorough. My limited comments include:

- a. Be sure to provide complete captions for all tables and figures.
- b. The alternative of "no action" should emphasize very strongly that storage in the bunkers at Glasgow AFB is not without its hazards (e.g., toxic vapors). Also, there is a need for continuous monitoring (i.e., at the very least periodic inspection) of the inventory.

I've attached the following documents for your information:

- a. Organophosphorus Insecticide Decontamination
- b. Field Studies on the Corrosion of Coated Steel Drums in Controlled Environments, AFLC Test Range Complex, Hill AFB, Utah
- c. A Potential Field Site for Soil Biodegradation of Herbicide Orange on the AFLC Test Range, Hill AFB, Utah
- d. Fate of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) in the Environment: Summary and Decontamination Recommendations, USAFA-TR-76-18

The study on metal drums is now in the final stage and I am expecting completion of the final report soon. The last paper describes, with data, some results of our biodegradation studies of 2,4-D and 2,4,5-T herbicides. If I can provide additional information to you, please contact me.

Sincerely

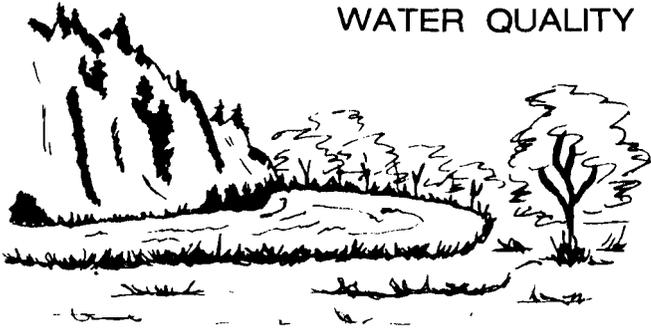
A handwritten signature in cursive script that reads "Alvin L. Young".

ALVIN L. YOUNG, Capt, USAF, PhD
Associate Professor of Biological Science
Dept of Chemistry and Biological Sciences

4 Atch
a/s

Cy to: Mr Dallas Miller w/o atch
1860 Lincoln St
Denver, CO 80203

WATER QUALITY MANAGEMENT PROJECT



CLARK JUDY, Director

DOREL A. HUNT, Planner

AMBREY GARTNER, E.I.T

YELLOWSTONE-TONGUE A.P.O.

P. O. Box 503
Broadus, Montana 59317
406-436-2802 or 406-436-2816

February 9, 1977

Terrance Carmody
Dept. Health & Env. Sciences
Solid Waste Bureau
Helena, MT 59601

Dear Mr. Carmody:

We received a copy of your Draft EIS on the "Pesticide Disposal Demonstration Project" on February 8, 1977, after our staff member had left to attend the public meeting in Ingomar. Since the Governor has designated our office as the "Areawide Waste Treatment Management Planning" agency for that portion of the state that includes Rosebud County, we would have appreciated receiving earlier notification of the meeting.

Our primary comment on the Draft EIS is that the alternatives to the Ingomar site do not seem to have been considered seriously. The presentation of a more detailed comparison between the Ingomar land disposal alternative, and the alternatives of long term storage and shipment out of state, would have been interesting. The feedback that I received from those attending the meeting also gave me the impression that there may be some question as to if your agency followed proper procedure relative to allowing citizen input into what was known to be a potentially controversial project. Our latest copy of the CEQ guidelines on PL 91-190 is dated August 1, 1973, so they may be obsolete, but they specify certain minimum requirements for public information and response, which do not seem to have been met.

We do not have any major objections to the site selected relative to potential water quality problems. Utilizing the information provided in the Draft IES as a basis for judgement, it appears to be a relatively good location for use as a hazardous waste disposal site.

The wording on page 25, "...insure against the possibility of water pollution..." might be changed to something like "...the chance of water pollution is remote...", as I do not think it is proper to use absolutes when dealing with such subjects.

Mr. Terrance Carmody
Feb. 9, 1977
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As you realize, even though the site may be desirable from a physical viewpoint, that does not prevent it from being controversial.

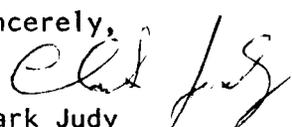
As I worked with the design and operation of landfills prior to taking this this job, I have several minor comments to make on the proposal:

- a. There was no indication of on site drilling to determine if the subsurface material really is as uniform as indicated by the other data.
- b. It might be difficult to operate the site as neatly as implied. Wet weather could cause major problems.
- c. A radio communications system should be provided for all the employees associated with the operation of the project, due to the remoteness of the site and the potential for problems involving both the site and the mobile unit.
- d. There may be difficulty in properly covering the cells within the trench due to the nature of the earth materials available locally. Shale residue and clay can be hard to handle in some situations.
- e. It may be desirable to install some samplers with nonsaturated media capability in addition to the conventional wells.
- f. As the site is quite small, it might be desirable to install a perforated tile toe drain to intercept the possible seepage along the soil/bedrock interface.
- g. Are provisions being made for the availability of adequate equipment, including the immediate delivery of backup equipment?

I think you need to be realistic and consider the operational problems that could result from the combination of a thunderstorm and an equipment breakdown occurring when you are actively involved with the burial of pesticides.

In summary, the YTAPO has no objections to the proposed hazardous waste disposal site, assuming that the site will be properly operated. But, there seem to be several items related to the evaluation of the alternatives that have not been adequately addressed.

Sincerely,


Clark Judy

cc: Ed McCaffree, Rosebud County Commissioner

Response to Yellowstone-Tongue APO comments:

1. Environmental Assessment Process. The procedures outlined in MAC Section 16-2.2(2)-P2000 through P2080, as adopted in 1976 pursuant to the Montana Environmental Policy Act, were followed in developing the environmental impact statement and providing for comment by the public.

2. Equipment, Testing, and Site Operation. Additional detailed site investigation will be completed prior to any disposal operations. Such investigation will include drilling and/or excavation of the shale as well as further soils testing.

Adequate equipment to perform the work properly with a margin of safety is planned for all disposal operations. It is realized that clay soils and shale present special requirements in landfill operations. However, sanitary landfills have been operated in shale areas before, and at this facility we will cease operations during any adverse weather conditions.

The feasibility of installing a perforated tile toe drain is one of the considerations under study as final disposal plans are being developed for the site.

3. Alternatives (p. 1 and 44). The basic limitations involved with the alternatives of long-term storage and out-of-state disposal have been stated. The Air Force bunkers can provide only a temporary solution as the Department of Health and Environmental Sciences' lease on the bunkers ends in 1979 and the Air Force has specified that these facilities cannot be transferred permanently to the state.

It is felt by those persons involved with this project that the state should take this opportunity to establish a facility in Montana that can serve both now and in the future for hazardous waste disposal needs. To depend on out-of-state disposal as a solution to an ongoing state problem seems somewhat unreliable, inequitable and out of character for a state who's citizens generally take the responsibility for managing state and local problems without seeking solutions outside of the state. During the Department's process of seeking a parcel of land for pesticide disposal, Governor

Thomas Judge praised the goals of the program and stated that "the acquisition of these petitioned lands is an important key to the success of their program."

ROSEBUD COUNTY PLANNING BOARD

FORSYTH, MONTANA 59327

PH. 356-7551

January 10, 1977

Mr. Terrence D. Carmody, Chief
Solid Waste Management Bureau
Dept. of Health & Environmental Sciences
Helena, Montana 59601

Dear Terry,

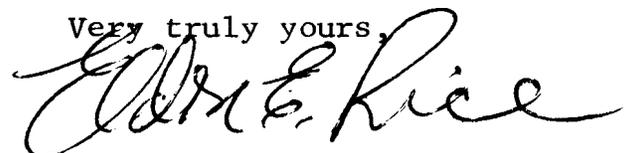
Regarding the draft impact statement on the pesticide disposal project, it appears that the decision will be favorable for the site location in Rosebud County. However, I **have** a few personal observations regarding the choice of Rosebud County for such a demonstration.

In app. B, the desireable limits for surface water should be greater than two miles; there is a stockpond within one-half mile. The site considered is not at all centrally located for this state. Transportation distance is much greater than the stated desireable limits. I resent the statement that our rangeland provides little scenic or recreation value. This comment reflects the attitude of many people in the Western part of Montana.

Mr. Roger Thorvilson did stop in and visit with me about this project. After thinking about this for some time, I am not in favor of locating a pesticide disposal site in Rosebud County. I am speaking for myself, not for the planning board.

Federal regulations promulgated the ban on many of these pesticides. My recommendation would be to encourage our Federal Government to be consistant in its assuming of responsibilities and dispose of the 75 tons of pesticide wastes within a few miles distance of their present location, on Federal land.

Very truly yours,



Eldon E. Rice
Coordinator

EER:ms

PLANNING

AWARENESS

KNOWLEDGE

COMMITMENT

Response to the comments of Mr. Eldon Rice, Rosebud County Planning Board:

Disposal by the Federal Government on Bureau of Land Management land -- The U.S. Environmental Protection Agency has made provisions (see p. A5) for U.S. citizens to turn certain excess pesticides into their regional offices. However, the EPA does not have land available to serve for disposal sites. The Interior Department has as yet not made available any Bureau of Land Management or other public land for such purposes. The Department of Health and Environmental Sciences exhausted all avenues in its attempts to acquire Bureau of Land Management land from the Interior Department for use in this disposal project.

Even if federal lands were available for hazardous waste disposal, the ownership of the land would not alter any effects inherent in locating and operating such a site. As an example, there is Bureau of Land Management land located within the same township as the proposed site north of Ingomar. The land ownership is not the important issue; locating a site according to adequate selection criteria and proper site operation are the factors that insure the safety of pesticide disposal operations.

Sumatra, Montana
February 9, 1977

Terrance Carmody
Solid Waste Management Bureau
Montana Department of Health and Environmental Sciences
Helena, Mont. 59601

Dear Sir:

We are writing in regard to the Pesticide Disposal Demonstration Project. We are completely against this project. We feel it would be much safer to leave the pesticides at their present location than to place them in your proposed site north of Ingomar. There are also alternate ways to get rid of them, one of which would be to ship them to the disposal site in Idaho.

We do not feel that the soil has been tested out satisfactorily. There are several dry holes from oil well exploration drilling in the area. These wells are not plugged between each formation, even though they are supposed to be. There are numerous seismograph holes in the immediate area. These holes can range from 40 feet to 300 feet, and they are never plugged. Any of these, could allow the chemicals to move from the Bearpaw into the Judith River, which is the source of some stock water wells.

You state on Page 17, of your Draft statement, that there are no LARGE reservoirs within 20 miles of the disposal site. We don't know what you consider LARGE, but there are several reservoirs in the area used for stock and wildlife water, also some contain fish.

On page 26, you state that the people of Ingomar haul their water because surface and ground water is not available. This is not true. There is a considerable amount of water available around Ingomar, but it is not fit for human use.

The county road leading to this site is gumbo, hardpan, and bentonite. A sudden shower could send a truck into the ditch with the possibility of overturning. This would be a catastrophe to those living downstream.

We hope you do some further and more complete research on this project before you establish this site!

The informal hearing, which was held in Ingomar on Feb. 7, 1977, was not as well attended as it could have been, had the people in the area all been notified.

We suggest that a formal hearing be conducted on this matter, both in Ingomar and Forsyth, and the public be informed of the date, time, and place of such hearings.

Sincerely,

Phillip Messer	Rancher	Sumatra, Mont.
Irene Messer	Wife	" "
Jerome R Hecker	Rancher	" "
Frances E. Hecker	Wife	" "
George Hapff	Rancher	" "
Alpha Hapff	wife	" "
Russ Kesterson	rancher	" "
Fern E Kesterson	Wife	Sumatra Mont.
Vern Kesterson	Rancher	Sumatra Mont
Dorothy Kesterson	wife	Sumatra Mont
Anton J Franzel	Rancher	Sumatra Mont
C.M. Coffee	Rancher	Sumatra, Mont.
Robert Thomas	Rancher	Sumatra, Mont
Gene Messer	Foreman	" "
Leo Hecker		Sumatra Mont.
Daniel R. Clifton	Country worker	Sumatra Mont
Meredith A. Clifton	Postmaster	Sumatra, Mt. 59083

Response to written comments of area residents:

1. Exploration wells and seismic holes (p. 20). There are no records of any wells having been drilled closer than two miles to the disposal site. Records of seismic investigations are not maintained. However, according to the Oil and Gas Commission in Billings, the only known seismology work done in the Ingomar area was in the early 1950's. Mr. Robert Bergantino, hydrogeologist with the Montana Bureau of Mines and Geology, states that such holes will have become plugged by natural causes even if they were not plugged by the oil companies. He also emphasized that such holes doubtfully extended deeper than 150 feet, and could not provide an avenue for any leachate to pass through the 500 feet of Bearpaw Shale to underlying formations.

2. Reservoirs and stock ponds (pp. 17 and 25). The Department recognizes that there are many stock ponds in this region. There are none however, in the drainage system on which the disposal site is located. According to Department of Fish and Game records, the nearest ponds supporting public fishing are more than 15 miles distant from the disposal site.

3. Condition of county road providing site access. No trucks carrying pesticide wastes will travel on this road when it is wet and muddy. Transport to the site will occur only during favorable weather and road conditions.

Director,
Dept. of Health
Helena, Montana



Kodut Anderson
509 N. Center
Hardin, Montana
59034

Sir:

As a long time resident of the state of Montana I am forced to comment critically on the proposed burial of 150,000 pounds of pesticide and pesticide containers in Rosebud County.

The article reported in the Billings Gazette, Thursday, Dec. 30 was a masterpiece of scanty information. Indeed I cannot see how if an article was to be prepared less could have been said.

Areas within this void include:

- Alternative site possibilities.
- Criteria for site selection.
- Alternative methods of disposal.
- The opinion of other state & federal agencies.
- Safeguards during transport.
- Long term safety.

It is this type of scanty reporting which allows such controversial and potentially dangerous projects to go virtually unnoticed.

It is the responsibility of the Dept. of Health to ensure proper and adequate information to be dispensed to the people so that comment may be solicited.

I must comment very strongly against the disposal by burial of these pesticides. I object most strongly to this short term remedy to a very long term problem.

Finally, what is to insure that these "environmentally unsafe" material will be rendered harmless when buried?

Robert Henderson

XXXXXXXXXX
A. C. Knight, M.D.
Acting Director

January 11, 1977

Mr. Robert Anderson
509 N. Custer
Hardin, Montana 59034

Dear Mr. Anderson:

I am writing in response to your letter regarding this department's waste pesticide disposal project as reported in the Billings Gazette last month.

First, let me mention that the subject news article was not developed by the Health Department, but was written by the newspaper after their review of an environmental impact statement written by the Solid Waste Management Bureau for the project. I am enclosing a copy of the environmental statement, which you will note does address those subject matters mentioned in your letter.

This disposal site was selected after a long and careful selection and evaluation process and does, we feel, provide a safe solution to Montana's waste pesticide problem. It is felt that disposal of pesticide wastes in this state owned site will provide a highly desirable alternative to the existing pesticide situation. The materials which will be disposed of at the site are mostly excess pesticides which farmers and ranchers had been storing on their premises (often in dilapidated buildings) or had been planned for disposal in the local community refuse site.

The state disposal site has been selected and the disposal methods planned after consultation with experts in the fields of soils, geology and hydrology, among others. In addition, this site will be carefully monitored to ensure the safe containment of the wastes.

I hope that the enclosed statement will answer your concerns relating to the project. If you have further questions or comments, please contact Terrence Carmody, Chief of the Department's Solid Waste Management Bureau.

Sincerely,

A. C. Knight, M.D., F.C.C.P.
Acting Director

ACK/RCT/lb

Enclosure