

0021



**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

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Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

January 4, 1995

TELEFAXED

CERTIFIED RECEIPT REQUESTED  
P 074 976 257

Ed Kay, Deputy Director  
Office of Surface Mining  
Reclamation and Enforcement  
Department of the Interior  
1951 Constitution Avenue N.W.  
Washington, D.C. 20240

Re: TDNs X94-020-179-004 and X94-020-179-005, U.S. Fuel Co., Hiawatha Mine, ACT/007/011, Folder #5, Carbon County, Utah

Dear Mr. Kay:

Pursuant to my telephone call requesting an extension in response time due to holidays, the following is a request for an informal review of the Office of Surface Mining ("OSM") Albuquerque Field Office's ("AFO") finding that the Division of Oil, Gas and Mining's (the "Division") responses to the above cited TDNs are arbitrary, capricious and an abuse of discretion.

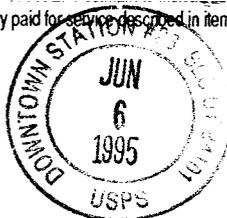
TDN X94-020-179-004 (#2 of 2) was issued October 11, 1994 for "failure to design and certify drainage control structures around topsoil stockpiles which are outside of other drainage control." The regulations alleged to be violated are: R. 645-301-742.213 (siltation structures impounding water); R. 645-301-514.3 (impoundments); and R. 645-301-531 (operational design criteria for permitted sediment ponds, water impoundments, dams or embankments).

The Division's October 24, 1994 response noted that the Utah and AFO inspector concurred (in the field) that the structures in question surrounded stored topsoil. This response also noted that the structures were permitted as topsoil protection measures, and provided citations from the approved plan to support this position. The October 24, 1994 response reminded the AFO that there is no regulatory requirement to certify topsoil protection measures as impoundments or siltation structures.



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previously paid for service described in item 2.



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**Ed Kay - OSM**

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ED KAY DEPUTY DIRECTOR  
OFFICE OF SURFACE MINING  
RECLAMATION AND ENFORCEMENT  
DEPARTMENT OF THE INTERIOR  
1951 CONSTITUTION AVENUE NW  
WASHINGTON DC 20240

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PS Form 3811-A, April 1992

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Ed Kay  
ACT/007/011  
January 4, 1995

AFO's position that topsoil piles protected by straw bales, berms or silt fences function as impoundments is misdirected. First, the structures in question are juxtaposed to the topsoil being protected such that only directly falling precipitation arrives within the protection measures. In contrast, siltation structures and impoundments collect water from larger runoff areas for containment. This distinction is made clear when the amount of precipitation encountered at the Hiawatha site is considered. The 100-year, 6-hour storm developed only 2.12 inches of precipitation.

I ask that you review the enclosed materials which affirm the Division's permitting decision for the topsoil protection measures in question, and I respectfully request that you find the Division acted in accordance with its regulations by requiring appropriate protection of topsoil resources.

I also ask that you give deference to Utah's position that structures approved for protecting stored topsoil are not "impoundments," and do not require the engineering design and certification that impoundments do.

OSM's definition of "impoundment" at 30 C.F.R. § 701.5 reads: "impoundments means all water, sediment, slurry or other liquid or semi-liquid holding structures and depressions, either naturally formed or artificially built." Utah's definition is identical.

While in a properly stored configuration, topsoil is neither water, sediment, slurry, a liquid or a semi-liquid. Neither OSM's definition of "topsoil" at 30 C.F.R. § 701.5, nor Utah's at R. 645-100 contain references to the topsoil being in a liquid or a semi-liquid state or existing as a slurry. Although neither OSM nor Utah have a regulatory definition of "sediment" per se, the definition of sediment found in the AGI Glossary of Geology describes sediment as solid materials that have settled from a liquid or materials which have been transported by air, water or ice. None of the terms "water," "sediment," "slurry," "liquid," or "semi-liquid" apply to stored topsoil. It is therefore neither necessary nor realistic to require that topsoil protection devices be designed and certified to contain "water," "sediment," "slurry," or "liquids" or "semi-liquids" as impoundments must be.

Impoundments are designed to protect human health and safety and to provide environmental protection to water resources. Topsoil protection measures are designed to conserve and protect stockpiled topsoil, and to a large extent their successful function is measured by their ability to keep runoff water away from the stockpile, rather than their ability to impound water. It is appropriate to note that federal and state regulations distinguish between topsoil protection and sediment control.

I therefore ask that you review the materials submitted by Utah in its original response to TDN X94-020-179-004 #2/2 and the materials cited above, and find Utah acted within its programmatic mandate with respect to the TDN.

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January 4, 1995

TDN X94-020-179-005 was issued "for failure to construct and certify drainage control for all areas disturbed by mining operations. Various topsoil stockpiles throughout the permit." Regulations alleged to be violated: R. 645-301-742 (sediment control measures), and R. 645-301-731.121 (surface water quality protection).

At this juncture, the two TDNs enter into a circular argument since the regulations require both protection of topsoil as well as drainage control. By asserting that the berms protecting topsoil are topsoil protection measures, the Division is now attacked by AFO for not having sediment control for these areas.

R. 645-301-731.121, one of the two regulations cited by AFO in the subject TDN, reads:

Surface water quality will be protected by handling earth materials, groundwater discharges and runoff in a manner that minimizes the formation of acidic or toxic drainage; prevents, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow outside the permit area; and, otherwise prevent water pollution. If drainage control, restabilization and vegetation of disturbed areas, diversion of runoff, mulching or other reclamation and remedial practices are not adequate to meet the requirements of R645-301-731.100 through R645-301-731-522, R645-301-731.800 and R645-301-751, the operator will use and maintain the necessary water treatment facilities or water quality controls....

R. 645-301-731.122 provides; "Surface-water quality and flow rates will be protected by handling earth materials and runoff in accordance with the steps outlined in the plan approved under R645-301-731."

If the argument developed above (that topsoil is not sediment) is correct, and given the historic performance of the topsoil protection measures and the Division's calculations demonstrating the ability of a one-foot-high bermed topsoil protection device to control the precipitation from a 100-year, 6-hour storm, thereby protecting the topsoil, one wonders what degree of additional protection is possible.

The operator has appropriately applied for, and has been granted approval by the Division, to maintain a one-foot-high berm around the topsoil piles (see attached materials). To the extent that the inslope of the berm itself does not erode and thereby affect the topsoil, the only area without sediment control would be the outslope of the berms, since the footprint of the topsoil/berm combination constitutes the only disturbance. The entire "footprint" will be reclaimed when the

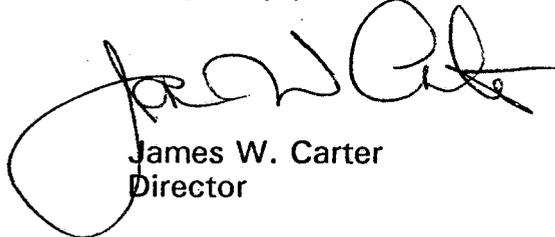
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stored topsoil is removed at the conclusion of mining. Surface water quality and flows (and not incidently the stored topsoil) are being protected by keeping runoff from contacting the stored topsoil. This is outlined in the plan, in compliance with R. 645-301-731.122.

The Division believes the berms function as Best Technology Currently Available ("BTCA"), and has accepted and approved a one-foot height as adequate design. The Division does not believe certification as impoundments is required for berms and other topsoil protection devices, nor does the Division believe a certification requirement exists for sediment control functioning as BTCA. The operator, however, has certified the map showing the topsoil stockpiles.

In conclusion, sediment control and topsoil protection at the cited topsoil stockpiles is afforded by preventing sheet flow from entering the bermed areas. The berms and topsoil stockpiles have functioned satisfactorily for years. The existing designs have been reviewed by the Division hydrology experts and have been approved as BTCA. The surface disturbance is minimized in the manner approved in the plan, and there are no allegations of water pollution resulting from erosion of the berm outsoles. I therefore respectfully ask that you find this response, in conjunction with the enclosed materials previously submitted to AFO, to be appropriate.

Very truly yours,



James W. Carter  
Director

bsj  
Enclosure  
cc: Price Field Office  
Lowell P. Braxton  
Darron Haddoch  
Tom Mitchell  
Joe C. Helfrich  
I:TDN7111230



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November 18, 1994

TO: Daron Haddock  
FROM: Tom Munson  
RE: Response to Ten Day Notice (TDN) X94-020-179-004 TV2,  
Hiawatha Mine, U.S. Fuel Company, ACT/007/011, File  
Folder #5, Carbon County, Utah

**SYNOPSIS**

The Division received a response to TDN X94-020-179-004 TV2 on November 4, 1994 and the response indicated a new TDN was being issued, TDN X94-020-179-005, which addresses drainage control related to the topsoil piles. This memo addresses the appropriateness of this TDN in relation to the requirements of the rules.

**ANALYSIS**

**The TDN states:**

"The failure to construct and certify drainage control for all areas disturbed by mining operations. Various topsoil piles throughout the permit. Cited Rules-{R645-301-742 and R645-301-731.121}"

The current plan lists all the Small Area Exemptions or as they are now called by many mining operations, BTCA areas, in appendix V-8. These areas either due to their size, topographic location, or inability to get their drainage to a sediment pond are treated with the Best Technology Currently Available to prevent additional contributions of sediment to streamflow outside the permit area and to minimize erosion. The plan calls out each of the topsoil piles as the following:

	<u>ACREAGE</u>
1. <u>Topsoil Pile Below Slurry Pond #5</u>	.28 acres
2. <u>Topsoil Pile Below Slurry Pond #4</u>	.25 acres
3. <u>Equipment Storage Yard Topsoil Pile</u>	.69 acres
4. <u>South Fork Topsoil Pile</u>	.30 acres
5. <u>North Fork Junction Topsoil Pile</u>	.06 acres



Maps providing the location of each site are also provided in Appendix V-8 and on Drawing II-1 and exhibit V-9. A description of the sediment controls are found in Appendix V-8 for each topsoil area.

An analysis of the topsoil pile drainage was completed using a curve number analysis, assuming a curve number of 70 and the 100 year-6 hour storm precipitation of 2.12 inches. The results of the analysis indicated, assuming a minimum berm height of 1 foot with 2H:1V sideslope, that the storage capacity contained 4 feet behind the 1 foot berm would be:

Cross-Sectional Areas of Impounded Water for Various Berm Heights, in Square Feet

		Distance behind Toe of Berm (feet)										
		4	10	20	30	40	50	60	70	80	90	100
Berm Height (feet)	1											
	2	5	11	21	31	41	51	61	71	81	91	101
	12	24	44	64	84	104	124	144	164	184	204	

$$\text{Berm Dia} = \sqrt{\frac{4 \times \text{Area} \times 43,560}{\pi}}$$

Example Calculation of storage volume contained behind a berm 1' high for a distance of four feet would be as follows:

$$\text{Circ} = \pi \text{ Dia}$$

.69 acres is largest topsoil area (equipment yard storage topsoil pile), therefore the linear circumference is 195.6 feet.

If you take that linear circumference and multiply it times the cross sectional area for a distance of four feet behind the berm you get a storage volume of 5 sq. ft. times the linear circumference of 195.6 ft. for a total storage volume contained behind the berm of 978 cubic feet. The 100 year-6 hour storm of 2.12 inches provides an excess runoff volume of .2874 inches (assuming a curve number of 70) times .69 acres equals .2 acre-inches of runoff volume. This equates to 726 cubic feet of runoff volume from the 100 year-6 hour storm for the .69 acres. Therefore, the 726 cubic feet of runoff volume is contained behind a berm 1 foot high which holds 978 cubic feet runoff four feet behind the berm. The important fact to note is that the 100 year-6 hour storm produces insignificant runoff.

The Division has required the operator to amend the permit

to include a statement which requires that all the berms will be maintained at a minimum height of 1 foot so that the storage volume for the 100 year-6 hour storm will be contained behind all topsoil berms treating all runoff and sediment.

No violation will be issued since the current areas have a minimum of a 1 foot berms around them and an a technical analysis demonstrates that this provides adequate treatment for retaining sediment within the disturbed area.

One topsoil area berm will be modified at the request of the permittee to provide rock gabion filter outlet. This topsoil pile is South Fork Topsoil Pile. A rock gabion filter of at least 2 feet wide, 2 feet high, and 2 feet long allows treated runoff to discharge.

The permittee has changed the heading language contained in Appendix V-8 to BTCA Alternate Sediment Control Areas to avoid confusion with the regulatory term, Small Area Exemption.

#### **FINDING**

The Division finds the permittee's plan for BTCA areas acceptable to meet the requirements of the regulations. The operator has provided the sediment controls and designs to demonstrate that no additional contributions of suspended sediment will flow to stream flow outside the permit area.



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December 7, 1994

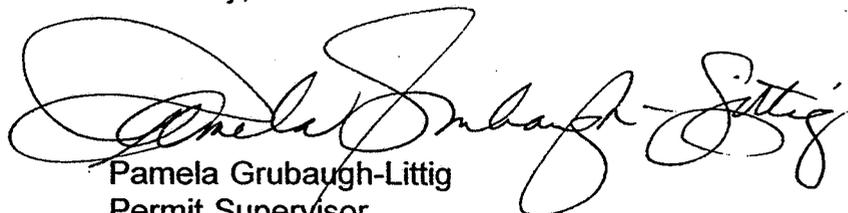
Mr. Michael Baum, President  
U.S. Fuel Company  
P.O. Box 887  
Price, UT 84501

Re: Topsoil Piles, BTCA Areas, Hiawatha Mine, U.S. Fuel Company, ACT/007/011-94J, Folder #3, Carbon County, Utah

Dear Mr. Baum:

The above-noted amendment is approved. This approval addresses drainage control related to the topsoil piles.

Sincerely,

  
Pamela Grubaugh-Littig  
Permit Supervisor

cc: Daron Haddock





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December 7, 1994

Thomas E. Ehmett, Acting Director  
Office of Surface Mining  
Reclamation and Enforcement  
505 Marquette N.W., Ste. 1200  
Albuquerque, NM 87102

Re: Topsoil Piles, BTCA Areas, Hiawatha Mine, U.S. Fuel Company, ACT/007/011-94J, Folder #3, Carbon County, Utah

Dear Mr. Ehmett:

Enclosed please find the finalized pages relative to the above-noted amendment. This permit change addresses drainage control related to the topsoil piles at the Hiawatha Mine.

Sincerely,

  
Pamela Grubaugh-Littig  
Permit Coordinator

Enclosure

cc: Richard Dawes, OSM-WSC  
Mark Bailey, BLM, Price  
Deane Zeller, Manti La Sal  
Robert Morgan, State Engineer  
Brent Bradford, DEQ  
Robert Valentine, DWR  
Price Field Office



**APPENDIX V-8**

**BTCA AREAS**

UNITED STATES FUEL COMPANY

BTCA ALTERNATE SEDIMENT CONTROL AREAS

The following list identifies locations in the permit area that because of their size and location employ alternative methods of sediment control. Figures 1 through 13, included with this appendix, delineate each area on a contour map and identify site locations by U.S. Fuel coordinates. The acreage comprising each site is summarized on page four of this appendix. The total area designated as BTCA areas is 9.78 acres. The total current disturbed acreage is 281.2 acres (May, 1991).

HIAWATHA AREA

1. Topsoil Pile Below Slurry Pond # 5

Topsoil stockpiled below slurry pond # 5 is shown in Figure 1 and on Exhibits II-1 and V-9. The stockpile has been revegetated. It is contained by a berm-ditch sediment control around its perimeter to control runoff from this site. The berm will be maintained at a minimum of 1 foot height.

2. Topsoil Pile Below Slurry Pond # 4

In 1988 topsoil was stripped from an area below slurry pond #4 and stockpiled adjacent to the site. The pile was seeded, mulched and a berm-ditch sediment control was constructed around the perimeter to control runoff. The dimensions of the stockpile are 145 feet long by 60 feet wide. The berm will be maintained at a minimum of 1 foot height. See Figure 1 and Exhibits II-1 and V-9 for the site location.

3. Equipment Storage Yard Topsoil Pile

Topsoil was stockpiled at this location in 1978. The pile has been revegetated. Runoff from the topsoil pile would run into the Equipment Storage Yard and be contained by the sediment control basin which treats drainage from the Equipment Storage Yard area. This stockpile is 515 feet long and 50 feet wide. Figure 1 and Exhibits II-1 and V-9 depict the location of this exemption.

4. Area East of Lower Rail Yard and North of Refuse Area

The area directly east of the lower rail yard and north of slurry Pond # 4 drains to sediment control structures east of the lower rail yard. Neither the lower rail yard nor the railroad right of way is included as part of U.S. Fuel's disturbed area, however U.S. Fuel has constructed two catch basins east of the rail yard to contain runoff from this site. These structures are shown on Exhibit V-9. The northern catch basin is designed to contain runoff from the area west of where the undisturbed drainage culvert passes beneath the railroad yard. This catch basin is shown in detail in Figure 9. The southern catch basin has no diversion ditches but collects drainage from a semi-circular zone above it. The location of this BTCA area is shown in Figure 2. Runoff containment calculations are included as well.

5. Water Truck Fill Site

Near the railroad crossing at the south end of the rail yard there is a small site where the water truck refills. A ditch collects water from the site and conveys it 20 feet into a small catch basin which has a rock gabion filter outlet. The basin measures 85 feet long by an average of 26 feet wide and 1.5 feet deep. Refer to Figure 10 for map of this site.

6. Southwest Corner #5 Slurry Pond

A 1.88 acre area near the southwest corner of #5 slurry pond has been designated a BTCA area as a result of an OSM inspection on February 13, 1991. Runoff from this area was being contained in a natural depression near by, however, the depression was not designated for this purpose in the permit application. Calculations were submitted showing that the depression was of adequate size to contain design storm runoff from the area and a request for small area exemption area was submitted. Figures 11, 12 and 13 of this appendix show the location of this site and the detail of the catch basin. Storm runoff calculations are also included. This site is within the disturbed area of #5 slurry pond and does not add to the total disturbed area of the permit.

**MIDDLE FORK CANYON AREA**

7. Middle Fork Substation and Water Tank Area

The substation and water tank area is shown on Figure 3 as area "c". It is located at the north end of the Middle Fork disturbed area. The minor amount of runoff from this site is adequately treated by the vegetation surrounding it. A water tight block wall has been constructed around the substation to contain any runoff or spillage within it. As this remote area contains only the substation and water tank, very little activity occurs here.

8. Middle Fork Timber Yard

Below the Middle Fork Mine yard and adjacent to the road is an area used to store timbers for use in the mine. Because of the nature of the material stored here and the small area of disturbance, drainage is treated in an alternate manner. Gravel berms help retain water within the disturbed area and channel it toward approved outflow locations. The outflow route passes through a gabian filter basket filled with gravel to filter any runoff leaving the disturbed area. Refer to Exhibit V-6 of the Permit Application and Figure 4 of this appendix for site locations.

**SOUTH FORK CANYON AREA**

9. South Fork Topsoil Pile

The topsoil site in South Fork was established during construction of the South Fork Loadout in 1981. The stockpile, made up of three adjacent piles, has been revegetated and is protected by a berm-ditch sediment control around the perimeter. At the lower end of each berm-ditch a rock gabion filter of at least 2 feet wide, 2 feet high, and 2 feet long allows filtered runoff to discharge. The first pile measure 45 feet wide by 55 feet long. The second pile is 35 feet in diameter. The largest pile measure 52 feet wide by 145 feet long. Exhibits II-1 and V-9 of the Permit and Figure 5 of this appendix depict the location of this stockpile.

10. South Fork Water Tank Area

The South Fork water tank and travel corridor are shown on Exhibit V-7. As the water tank and trail to it have been in place for many years, vegetative cover is effective in minimizing erosion and filtering runoff. The trail is utilized to access the water tank infrequently. Utilization of the vegetation cover appears to be the best choice of sediment control at this location for several reasons. First, vegetation has worked well in the past. No significant erosion is evident. Second, it requires minimal maintenance and is the most natural. Last, it creates no new disturbance as would the installation of sediment ponds and ditches.

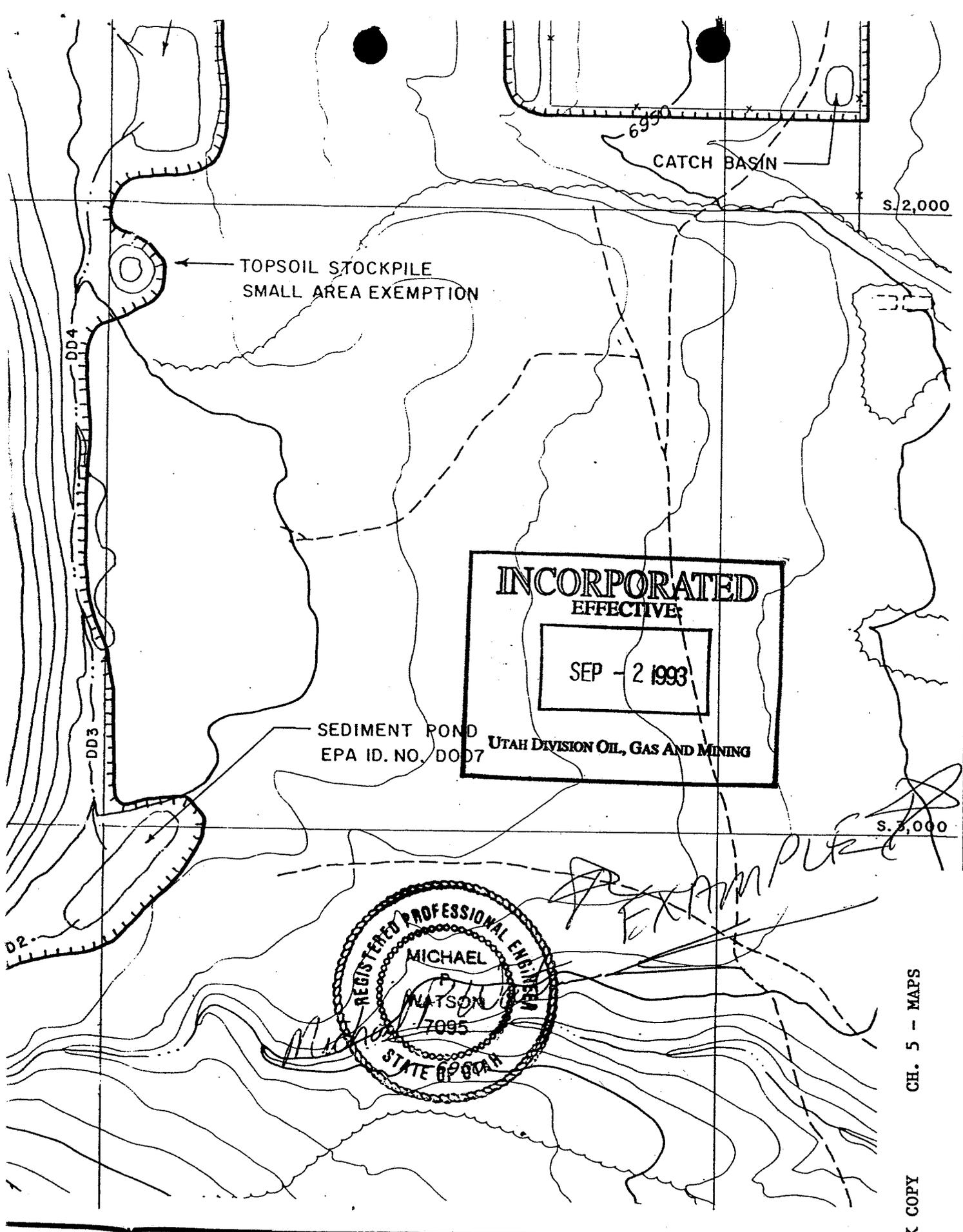
**NORTH FORK CANYON AREA**

11. North Fork Junction Topsoil Pile

At the junction of the Middle Fork and North Fork roads there is a small topsoil pile. This is the only one presently at this site although expansion is possible at some time in the future. The topsoil pile measures 50 foot in diameter and is protected by a berm-ditch sediment control and has been revegetated. The berm will be maintained at a minimum of 1 foot height. This site is depicted on Exhibit V-6 and Figure 7.

12. North Fork Ventilation Portal Pad

Runoff from the pad area is treated by passing through a filter fabric fence before leaving the disturbed area. Refer to Exhibit V-4 and Figure 8 for this location. The area has been revegetated. This location is remote and has negligible activity associated with it.



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*EXEMPTION*

CH. 5 - MAPS  
WORK COPY

HIAWATHA PROCESSING PLANT  
AND WASTE DISPOSAL SITES

R 645-301-  
521-165  
MAP CERTIFICATION

EXHIBIT V-9