R645-301-412 RECLAMATION PLAN

412.100 POST-MINING LAND USE PLAN

After the recoverable coal reserves have been extracted and final reclamation accomplished it is expected and anticipated that the current status of the existing land use area will remain unchanged. Mining in this immediate area has been ongoing since the turn of the century without any significant disruptions to existing land use.

The permit area and surrounding lands are classified as recreation, forestry, grazing and mining lands under local county zoning ordinances.

United States Fuel Company's post-mining land use plan is to utilize the land presently within the permit area for wildlife habitat, livestock grazing (ranching) and outdoor recreation. Towards this end, the access roads leading to the mine sites are not proposed to be reclaimed but will be left in place to support these activities.

U. S. Fuel owns ranch sites and agricultural lands outside the permit boundary on Miller Creek and Cedar Creek. U. S. Fuel also holds water rights and approved diversions for industrial, municipal, domestic, livestock watering and irrigation purposes on both streams.

The 640 acre Millerton ranch and the 794 acre Cedar Creek ranch along with 11,000 acres of mountain rangeland (all privately owned) comprise a viable and ongoing enterprise which has been leased to local ranching families for many decades.

412.110 The proposed post-mining land use will be achieved by regrading and revegetating mining related disturbed areas, except canyon access roads, to support wildlife habitat, livestock grazing and outdoor recreation. If the roads are removed during reclamation operations they will almost certainly be regraded at some time thereafter and very likely without any of the currently existing runoff and drainage control structures.

412.120 Range and grazing is one of the proposed post-mining uses. The Soil Conservation Service, at the request of U. S. Fuel Company, compiled a grazing plan for the mine property area. this plan identifies five range types and discusses soils, vegetation and productivity. The plan is given in Appendix IV-3. The range site locations are shown on Exhibit IV-4.

412.130 No land use different from the pre-mining land use is proposed.

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412.140 Consideration has been given to making all of the proposed coal mining and reclamation operations consistent with surface owner plans and applicable Utah and local land use plans. Letters describing U. S. Fuel's proposed post-mining land use plans and requesting comments, approvals or authorizations have been sent to the following Agencies:

U. S. Forest Service
Carbon County
Emery County
Southeastern Utah Association of Governments
Utah Division of Water Rights
Utah Division of State Lands and Forestry
Utah Division of Wildlife Resources

Copies of letters sent and responses from those agencies which chose to respond are given in Appendix IV-5.

412.200 **LAND OWNER OR SURFACE MANAGER COMMENTS**

Surface land status of the mine plan area is a combination of fee lands on the eastern side and the Manti-LaSal National Forest lands on the western portion.

Ownership of the surface is detailed on Exhibit IV-1 with the subsurface ownership detailed on Exhibit IV-2. Specific legal descriptions of property control are provided in Chapter I, Appendix I-1.

Surface managing authorities consist of two separate and distinct agencies. United States Fuel Company fee lands are bordered on the east, southeast and northeast by the Bureau of Land Management, with the United States Forest Service Manti-LaSal National Forest bordering the fee lands on the west, southwest and northwest. Federal surface control is illustrated on Exhibit IV-1.

Utility corridors traversing the eastern edge of the United States Fuel Company property consist of two Utah Power & Light Company transmission lines. The first transmission line is a 340 KV north-south line connecting Huntington to Provo, Utah. The second transmission line is a 45 KV north-south line connecting into a substation southeast of the town of Hiawatha that supplies electricity to the mine and town. The Utah Railway Company holds title to a railroad corridor bisecting the eastern portion of the property.

Special use permits and leases are limited primarily to grazing leases issued by the Bureau of Land Management and the United States Forest Service Manti-LaSal National Forest region.

The only coal leases on the property are federal leases which are listed below:

SL-069985
SL-025431
U-026583-058261 (combined)
U-51923

These leases are confined mainly to the western portion of the property and are illustrated on Exhibit IV-2. Appendix I-1 in Chapter I gives the legal description and land area of each lease. Comments and stipulations relating to these federal lands are made a part of each lease document. Appendix IV-4 gives a listing of these comments and stipulations.

Mineral ownership in the area is comprised of fee and federal lands. Coal is the only valuable commodity mined in the area.

412.300 SUITABILITY AND COMPATIBILITY

Plans for final fills and surface regrading operations for each disturbed site are discussed in Chapter V. Materials to be utilized for final reclamation have all proven to be of a quality suitable for reclamation purposes. See Chapter II, (Soil Resources) and the five year vegetation test plot study given in Appendix III-5.

R645-301-420 AIR QUALITY

R645-301-421 COMPLIANCE WITH THE CLEAN AIR ACT

Coal mining and reclamation operations at U. S. Fuel Company's properties are conducted in compliance with the Clean Air Act and the Utah State Department of Health Air Conservation Regulations. All new and previously existing potential sources of air pollution are inspected on a regular basis by the Utah Bureau of Air Quality.

R645-301-422 COORDINATION AND COMPLIANCE WITH UTAH BUREAU OF AIR QUALITY

All new installations which could be a source of air pollution constructed after the implementation of the Clean Air Act have been reviewed by and received approval orders from the Utah Bureau of Air Quality. U. S. Fuel submits annual emission inventory reports which include the rate and period of emissions, specific plant sources of pollution, composition of contaminants and types and efficiencies of control equipment. A copy of the most recent air quality approval order is included in Appendix IV-6.

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Reclamation of Roads

Canyon Roads

The roads in South Fork, Middle Fork and North Fork will not be totally reclaimed but will be left in place to support the post mining land use as discussed in Chapter IV. These roads will be reclaimed to an unimproved condition by removing and disposing of the pavement, ripping the underlying surface and revegetating with plant species favorable to wildlife. Existing drainage structures will be left in place to serve a single lane road. The full width of the existing subgrades will be left as is and no regrading to approximate original contour is proposed. A request for variance from approximate original contour is included as Appendix IV-7 in Chapter IV. Fertilizer, seed and mulch will be applied by hand broadcasting or by use of farm type equipment. Seed mixtures 1 or 2 will be used in the vicinity of Hiawatha and seed mixture No. 3 (less nursery grown stock) will be used at higher elevations. Mulch will be applied at the rate of 1.5 tons per acre and will be crimped into the soil by discing.

Access Road to Sediment Pond D003

A short unpaved access road exists between the preparation plant area and sediment pond D003 (see Exhibits II-4 and II-5). Only limited excavation was necessary to construct the road, therefore, it will be reclaimed by ripping the surface and revegetating the insitu soils. Fertilizer, seed and mulch will be applied by hand broadcasting or by use of farm type equipment. The soil is the same Haverdad series comprising substitute borrow areas B, C, and D. Seed mix No. 1 for sagebrush dominated borrow areas (described in Chapter III) will be used. Mulch will be applied at the rate of 1.5 tons per acre and will be crimped into the soil by discing.

Truck Runaway Spur to Middle Fork Haul Road

The truck runaway spur is shown on Exhibit V-6. The only excavation required to construct the road was to blade off the vegetation, cut a runoff diversion ditch and install a 24 inch culvert. A mound of gravel (approximately 18 inches high) was placed down the center of the road to retard potential runaway vehicles. Reclamation will involve removing the culvert and gravel and regrading the diversion ditch. The surface of the disturbed area will then be ripped to a depth of 18 inches and the insitu soils revegetated. Fertilizer, seed and mulch will be applied by hand broadcasting or by use of farm type equipment. Seed mix No. 2 will be utilized. Mulch will be applied at the rate of 1.5 tons per acre and will be crimped into the soil by discing.

Substitute Topsoil Haul Roads

Roads which will be used to access substitute topsoil sites currently exist and have been in place for at least 30 years, no topsoil was salvaged. Except for one short section (200 feet) of cutslope, the topsoil is still in place, although it is highly [illegible]. Therefore,

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CHAPTER VII PERMIT APPLICATION REQUIREMENTS: HYDROLOGY

LIST OF APPENDICES

embankments. A natural meandering shape for this stream will be maintained by the diversion structure. The stream gradient, modified by the diversion spillway, is less than the gradient above and below. Appropriately sized riprap in the spillway will preclude erosion or downcutting even during the 100 year, 24 hour event. The path and configuration of the diversion presently approximates natural stream channel characteristics. This diversion does not impound water and does not present any threat to the environment or structures downstream.

Only a small portal opening exists for entry of the pipeline into the Hiawatha No. 2 mine. This entry will be sealed and the contiguous surface area will be reclaimed.

A timetable for completion of each major step of North Fork reclamation along with discussions of topsoil removal, segregation, storage and redistribution are given under R645-301-240 in Chapter II. Reclamation of the North Fork road, if found to be required, as well as seeding, fertilizing, mulching and monitoring techniques are also discussed in the above reference. A detailed statement of reclamation costs for the North Fork area is given under R645-301-830 in Chapter VIII.

MIDDLE FORK RECLAMATION

Surface areas in Middle Fork canyon, related to mining in the Hiawatha No.1 and 2 mines and the King No.4 and No. 5 mines were disturbed prior to the Surface Mining and Reclamation Act, therefore, no topsoil was removed and stockpiled for future reclamation. At the time of reclamation, substitute topsoil material from the pad itself will be salvaged. Plans for topsoil suitability, removal and redistribution are given in Chapter II (Soils) under the Middle Fork heading.

Proposed post mining backfill and grading plans are shown on Exhibit V-11. The proposed final surface configuration was developed to provide a balanced cut and fill situation and configuration similar to other canyons in the area. A shrink factor of 5 percent was used in balancing the cuts and fills. Calculations for earthwork volumes are based on the cross-sections shown on Exhibit V-11. Quantity computations, based on cross-section areas and the average end-area method, are given in Appendix V-15. A detailed statement of reclamation costs for the Middle Fork area are also given in Chapter VIII.

After completion of surface facility removal and sealing of entry portals to the King 4, King 5, Hiawatha No. 1 and Hiawatha No. 2 mines the regrading operations will commence. A discussion of structure removal, backfilling, compacting and grading along with a timetable for Middle Fork reclamation activities is given in Chapter II (Soils).

The existing culverted stream diversions beneath the mine yard and sediment pond will be removed and the channel restored as a permanent open channel. The design of the channel, including peak flow and stability calculations, are given in Chapter VII (Hydrology). The restored stream channel will be revegetated using Seed Mix No. 4, for riparian habitat,

NORTH FORK RECLAMATION

The intake ventilation portal in North Fork was constructed in 1979 -80 for the King 4 mine. Trees and large brush were cleared from the site before topsoil was removed. Topsoil was salvaged and redistributed on the regraded slopes after completion of the portal. Following the topsoil redistribution, the site was seeded to protect against erosion. A list of the seed mix applied, as recommended by the Division, is included in Appendix V-7 along with the plan approval by DOGM and OSM.

Postmining grading plans and cross sections for the North Fork portal area are shown on Exhibit V-10. The proposed final surface configuration was developed to provide a balanced cut and fill situation and a configuration consistent with the surrounding area. A shrink factor of 5 percent was used in balancing the cut and fill. Calculations for earthwork volumes are based on the cross-sections shown on Exhibit V-10. Quantity computations, based on cross-section areas and the average end method are given in Appendix V-15. If during regrading operations, it is found that the earthwork volumes will not balance as planned, the grading plans will be adjusted to achieve a balanced condition.

The only surface structure which exists on the North Fork intake portal pad is a ventilation portal. After the ventilation portal has been sealed, regrading of the pad will be done. Fill will be pushed up against the high wall with a dozer. All fills will be constructed on 2:1 slopes or greater. Additional topsoil is available from Borrow Area D for use at North Fork. See the narrative on topsoil borrow areas in Chapter II. A timetable for completion of each major step of reclamation is given in Table II-25 in Chapter II.

A stream diversion, constructed in 1951, is located approximately 1/4 mile downstream from the King 4 ventilation portal. Water from this diversion is piped approximately 2,100 feet further downstream to an old ventilation opening in the Hiawatha No. 2 mine. The ventilation opening is inaccessible due to natural caving of the portal over time. During final reclamation, those portions of the pipeline exposed on the surface will be removed and disposed of. Buried pipe will be left in place and will be capped by welding steel plates on both ends. The diversion structure and catch basin will remain in place as it was designed as a permanent structure. Over time, the structure has filled in with sediment and assists in stabilizing the stream. In August 1984 U. S. Fuel received violation N84-8-1-3, 3 of 3 from the Division requesting appropriate calculations and plans for the spillway of the diversion. On August 21, 1984 detailed plans for reconstruction of the spillway as a stable, permanent structure, capable of passing a 100 year, 24 hour, event were submitted to and approved by the Division (see Appendix V-14). U. S. Fuel proposed to treat this diversion as a permanent structure and let it exist after cessation of mining operations because it is already in close similarity to the natural stream channel and will have a stabilizing effect. In the approved plan the capacity of the altered section is greater than the unmodified channel immediately upstream and downstream. Riparian habitat will be maintained on the diversion and stream

536.310 See 536.300.

536.320 See 536.300.

536.330 See 536.300.

536.400 See 536.300.

536.410 See 536.300.

536.420 See 536.300.

536.500 See 536.300.

536.510 No coal mine waste from activities outside the permit area will be disposed of in the permit area without Division Approval.

536.520 See R645-301-513.300

536.600 See R645-301-528.340

536.700 See R645-301-513.300

536.800 See R645-301-513, 513.200, 513.400, 514.200, 514.300, 515.200, 528.322, 528.322, 528.340 and 528.400.

536.820 See R645-301-528.322 and 528.400.

536.821 See R645-301-528.322 and 538.400.

536.822 See R645-301-528.322 and 538.400.

536.823 See R645-301-528.322 and 538.400.

536.824 See R645-301-528.322 and 538.400.

536.900 See R645-301-528.322.

537 **REGRADED SLOPES**

537.100 No alternative specifications are proposed.

537.200 See R645-301-231.200 (Coal Refuse Materials) ~~and R645-301-241~~ (Regrading Refuse Materials).

537.210 See R645-301-231.200 (Coal Refuse Materials) ~~and R645-301-241~~ (Regrading Refuse Materials).

537.220 See R645-301-231.200 (Coal Refuse Materials) and R645-301-241 (Regrading Refuse Materials).

537.230 See R645-301-231.200 (Coal Refuse Materials) and R645-301-241 (Regrading Refuse Materials).

537.240 See R645-301-356, R645-301-357 and R645-301-742.300.

537.250 See R645-301-231.200 (Coal Refuse Materials) and R645-301-241 (Regrading Refuse Materials).

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CHAPTER V PERMIT APPLICATION REQUIREMENTS: ENGINEERING

LIST OF EXHIBITS

Form DOGM - C2 (Last Revised 6/93)

File Folder # 3

Application for Permit Change
Detailed Schedule of Changes to the Permit

Title of Change: CATCH BASIN DESIGN	Permit Number: ACT/ 007 / 011
	Mine: HIAWATHA
	Permittee: U.S. FUEL COMPANY

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☒ ADD	☐ REPLACE	☐ REMOVE	APPENDIX VII-15 CHAPTER VII.
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

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APPENDIX VII-15

HYDROLOGIC CALCULATIONS

FOR

CATCH BASINS 1,3,4 & 6.

PREPARED BY: *BLACKHAWK ENGINEERING CO.*
DAN W. GUY, P.E.

NOVEMBER 8, 1994

Hydrologic Calculations for Catch Basins

Purpose: The following information is submitted as remedial action for Part 1 of N.O.V. 94-41-5-6, Violation No. 4.

General: United States Fuel Company has a number of sites on its Hiawatha Property which do not drain to sedimentation ponds. These various sites are designated as Small Area Exemptions, and sediment control from some of the sites is provided by small catch basins. There are presently 7 catch basins located at the Hiawatha Site at the following locations:

(1) Gravel Storage Area
(2) Haul Truck Maintenance Yard
(3) North Railroad Yard Slope Area
(4) South Railroad Yard Slope Area
(5) Water Truck Fill Location
(6) South West Corner of No. 5 Slurry Pond
(7) Equipment Storage Yard Area

Basin No. 2 is detailed under Appendix VII-11, and basin No. 7 is shown in Appendix VII-9. Catch Basin No. 5 will be eliminated and replaced with a rock gabion discharge structure as described in this Appendix.

This Appendix will describe the design, construction and maintenance of Catch Basins 1, 3, 4, and 6.

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Design/Construction

The catch basins have been designed and constructed to adequately contain the runoff from the respective watersheds for a 10 year-24 hour storm, in addition to a 3 year sediment load.

The following formulas and parameters were used to evaluate the basin designs:

$$Q = \frac{(P - 0.2\,S)^2}{P + 0.8\,S} \quad ; \quad S = \frac{1000}{CN} - 10 \quad ;$$

Where: Q = Direct runoff in inches
P = Rainfall depth in inches
CN = Runoff Curve Number

Disturbed Area:

$P = 2.25$ inches
$CN = 90$
$S = \frac{1000}{90} - 10 = 1.11$

$Q = 1.31$ inches

Undisturbed Area:

$P = 2.25$ inches
$CN = 74$
$S = \frac{1000}{74} - 10 = 3.51$

$Q = 0.473$ inches

Required Volumes:

Runoff

Required runoff volumes were calculated according to the following:

$$V = \frac{Q \times A}{12} ;$$

Where: V = Required Volume in Cubic Feet
Q = Direct Runoff in Inches
A = Watershed Area in Square Feet.

All calculations were performed using the "OSM Storm 6.21 Program by Gary McIntosh." Computer backup sheets are included with this Appendix. All basins were surveyed, and existing configurations are shown on the certified drawings included in this Appendix.

Sediment Yield

The Universal Soil Loss Equation (USLE) was used to estimate sediment yield from disturbed areas. All soil loss from this area was assumed to be delivered to, and deposited in the respective catch basins.

Erosion rate (A) in tons-per-acre-per-year is determined using the USLE as follows:

$$A = (R)\ (K)\ (LS)\ (CP)$$

Where the variables R, K, LS, and CP are defined as follows:

Variable "R" is the rainfall factor which can be estimated from $R = 27P^{2.1}$; where P is the 2-year, 6-hour precipitation value. P for the Hiawatha area is 0.85 as shown on the attached Table 1. Therefore, the estimated value of "R" for this area is 24.12.

Variable "K" is the soil erodibility factor. For disturbed areas, the "K" value is conservatively estimated to be 0.5.

Variable "LS" is the length-slope factor. This figure was determined by applying the slope length and percentage for each sub-drainage area to the chart in Figure 5.15, p. 334, "Applied Hydrology and Sedimentology for Disturbed Areas", Barfield, Warner and Haan, 1983.

Variable "CP" is the control practice factor, which can be divided into a cover and a practice factor. For purposes of these calculations, a conservative "CP" value of 1.00 was used.

The sediment volume is based on a density of 100 pounds per cubic foot of sediment.

Sediment Yield Calculations - USLE

Catch Basin	1	3	4	6
"R"	24.12	24.12	24.12	24.12
"K"	0.5	0.5	0.5	0.5
Acres	4.03	3.87	0.83	0.82
Slope Length	500'	500'	150'	300'
Slope	17.00%	6.00%	6.00%	17.33%
"LS"	7.0	1.5	0.8	5.2
"CP"	1.0	1.0	1.0	1.0
A*	84.42	18.09	9.65	62.71
Yield**	20,413	4,182	521	3,436

*A = Tons/acres

**Yield = Cu.Ft./3 years

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TABLE 1

Estimated precipitation depths for various return periods and durations at Hiawatha, Utah (from Richardson, 1971)

	DURATION									
*Yrs	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	.03	.04	.05	.07	.09	.24	.39	.76	1.09	1.43
2	.07	.10	.13	.18	.23	.40	.55	.95	1.30	1.67
5	.13	.20	.25	.35	.44	.62	.79	1.22	1.60	2.00
10	.16	.25	.31	.43	.55	.75	.93	1.40	1.82	2.25
25	.23	.35	.44	.62	.78	.99	1.19	1.69	2.14	2.60
50	.26	.40	.50	.70	.88	1.11	1.33	1.89	2.38	2.90
100	.31	.48	.60	.84	1.06	1.30	1.54	2.12	2.64	3.18

*Return Period

The following table is a breakdown of the design and actual construction criteria for each basin:

Basin No.	1	3	4	6
Watershed Area (sq.ft)	175,570.08	168,577.20	36,154.80	35,912.06
Precipitation 10/24 (in.)	2.25	2.25	2.25	2.25
Runoff 10/24 (in.)	1.31	0.47	0.47	1.31
Runoff CN	90	74	74	90
Req'd Runoff Volume (cu.ft.)	19,166.40	6,534.00	1,306.80	3,920.40
Req'd Sediment Volume-3yrs (cu.ft.)	20,413.00	4,182.00	523.00	3,136.00
Total Req'd Volume (cu.ft.)	39,579.40	10,716.00	1,829.80	7,056.40
Constructed Volume (cu.ft.)	42,928.50	36,071.50	26,764.30	20,920.40

Gabion Discharge Structure (Catch Basin 5):

Due to the extremely small area draining from the Water Truck Fill Location, Catch Basin No. 5 will be eliminated and replaced with a rock gabion discharge structure. The area will remain designated as a Small Area Exemption; however, runoff treatment will be through the gabion rather than by the basin.

The gabion will be installed at the location of the existing dam for the basin, as shown on the attached drawing. Water impounded by the gabion will be less than 0.0005 acre-feet; therefore, this structure will no longer be considered an impoundment.

A typical gabion design and proposed installation are included with the drawings in this Appendix.

11/08/94

Certification:

The design and construction of all basins have been certified by a registered professional engineer in accordance with the R645 regulations. All basins meeting the final criteria for impoundments will be inspected on a quarterly basis and certified annually as required.

Maintenance:

All basins will be inspected at least quarterly for stability, erosion and capacity. Any problems noted will be corrected as soon as practical thereafter. Basins will be cleaned as necessary to ensure adequate storage capacity as shown in the respective designs.

Conclusion:

Basins 1,3,4 and 6 are shown to be more than adequate to contain the expected runoff from a 10 year-24 hour storm, in addition to a 3-year sediment storage, as required.

CATCH BASIN 1

SCALE 1" = 50'

BASIN INFORMATION:

BOTTOM OF BASIN:	EL. 7203.00
SPILLWAY:	EL. 7210.50
TOP OF DAM:	EL. 7213.00
BASIN VOLUME:	42,928.50 CU.FT.
REQUIRED VOLUME:	19,166.40 CU.FT.

CATCH BASIN 3

SCALE 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
10/9/94
STATE OF UTAH

BASIN INFORMATION:

BOTTOM OF BASIN:	EL. 7102.00
TOP OF DAM:	EL. 7114.50
BASIN VOLUME:	36,071.50 CU.FT.
REQUIRED VOLUME:	6,534.00 CU.FT.

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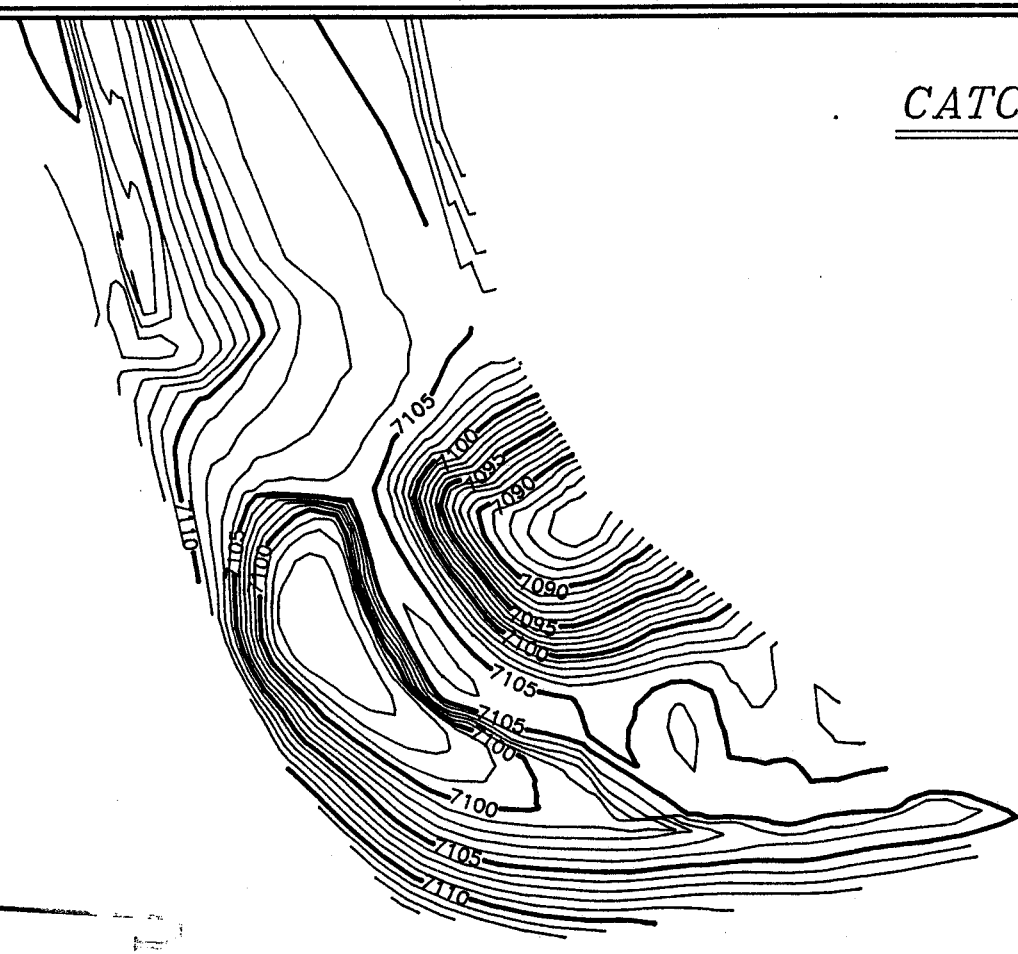
CATCH BASIN 4



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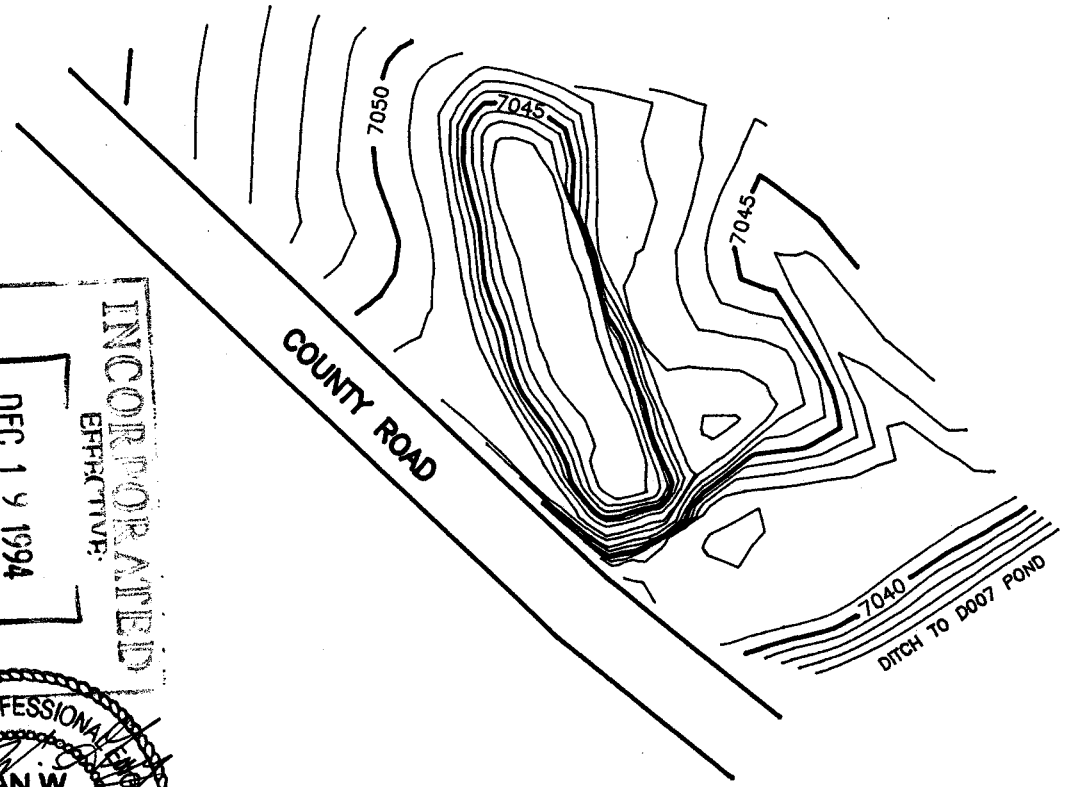
SCALE 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
10/9/94
STATE OF UTAH

BASIN INFORMATION:

BOTTOM OF BASIN:	EL. 7095.00
TOP OF DAM:	EL. 7105.50
BASIN VOLUME:	26,764.30 CU.FT.
REQUIRED VOLUME:	1,306.80 CU.FT.

CATCH BASIN 6



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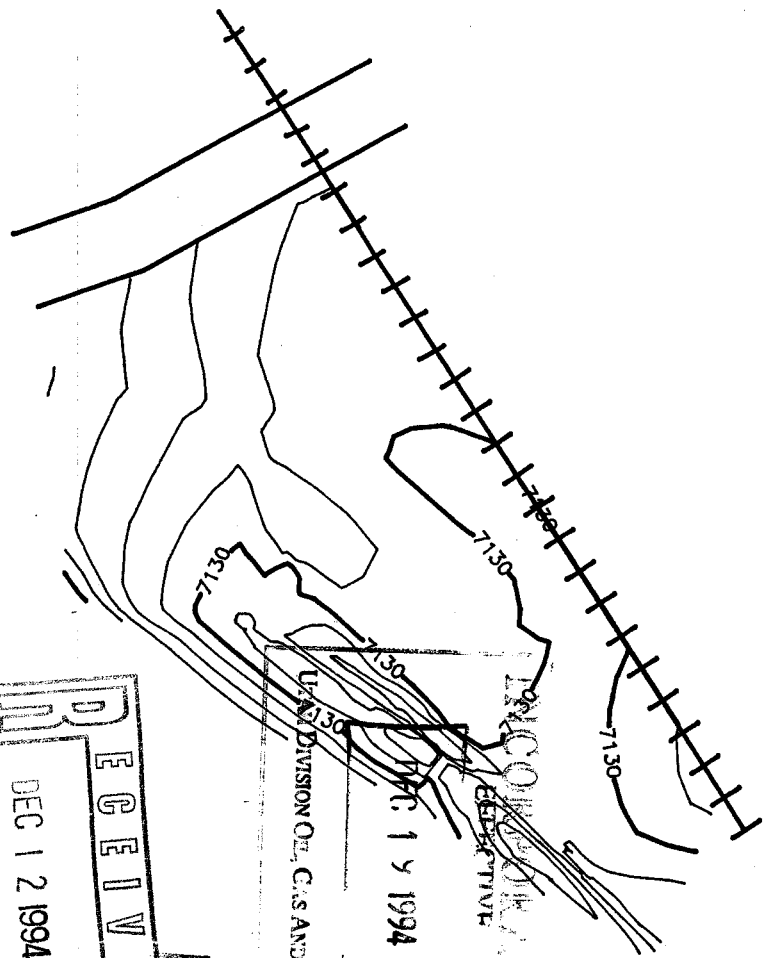
SCALE: 1" = 50'

NOTE: BASIN IS SUPPLEMENTARY TO POND 007.

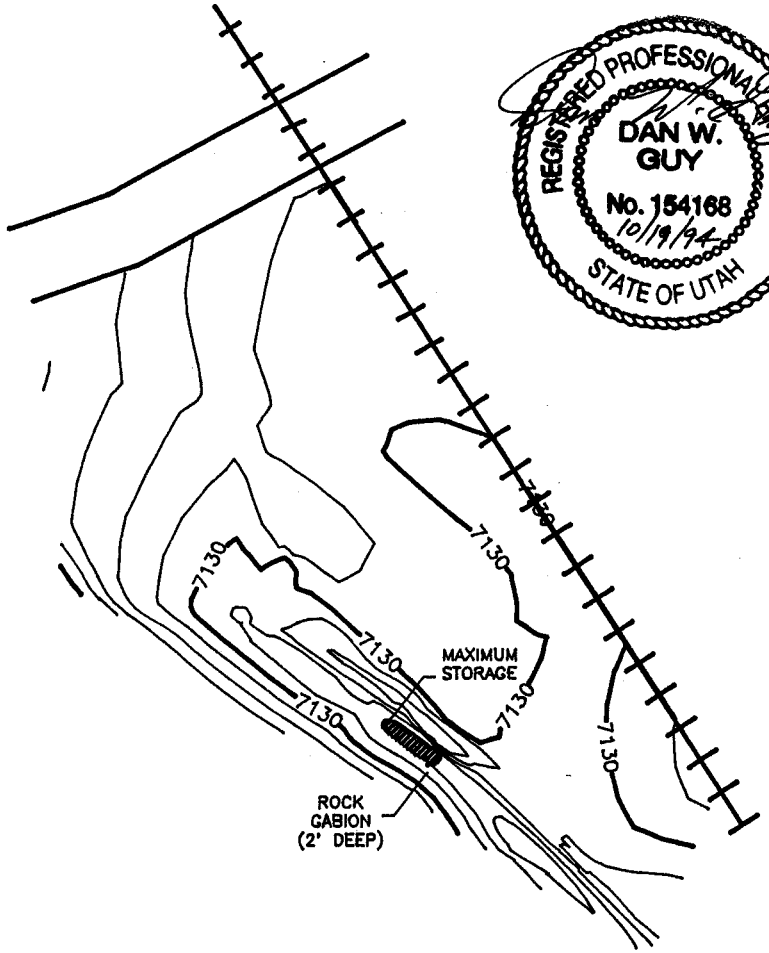
BASIN INFORMATION:

BOTTOM OF BASIN:	EL. 7041.00
TOP OF DAM:	EL. 7048.50
BASIN VOLUME:	20,461.00 CU.FT.
REQUIRED VOLUME:	3,920.40 CU.FT.

PROPOSED ROCK GABION #5



EXISTING BASIN



PROPOSED ROCK GABION

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
10/19/94
STATE OF UTAH

RECEIVED
DEC 12 1994
DIV OF OIL, GAS & MINING

UTAH DIVISION OIL, GAS AND MINING

SUPERSEDED
EFFECTIVE:
JUN 19 1995

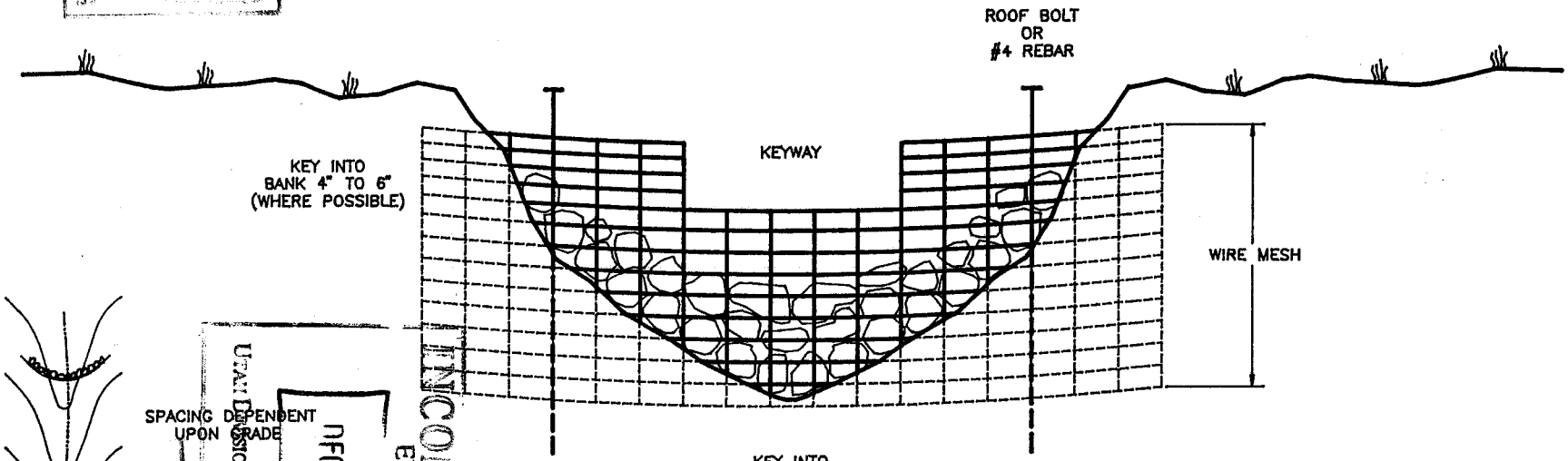
DEC 19 1994
UTAH DIVISION OIL, GAS AND MINING

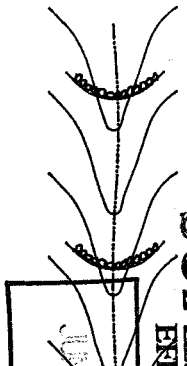
SCALE: 1" = 50'

NOTE: CATCH BASIN #5 TO BE REPLACED WITH ROCK GABION BASKET DISCHARGE.
ROCK GABION CAPACITY TO BE LESS THAN .0025 AC.FT.

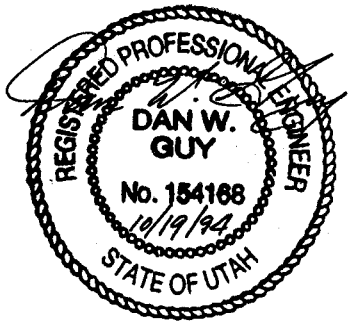
D092A, pg

TYPICAL WIRE GABION





RIP-RAP PLACED BEHIND WIRE MESH
USED TO STABILIZE CHANNEL



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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CATCH BASIN #1 (10/24)                                                    :
:WATERSHED HYDROGRAPH                                                                               :
:     Inflow into structure #  1                                                                    :
:     Structure type:          Null                                                                 :
:                                                                                                   :
:                                                                                                   :
:-- Watershed data for watershed # 1                                                               :
:    Curve number             =    90.0                                                           :
:    Area                     =     4.0 acres                                                     :
:    Hydraulic length         =    0.00 feet                                                      :
:    Elevation change         =     0.0 feet.                                                     :
:    Concentration time       =    0.10 hours                                                     :
:    Unit hydrograph type = Disturbed                                                             :
:                                                                                                   :
:-- Total Area              =     4.0 acres                                                       :
:                                                                                                   :
:-- Storm data                                                                                     :
:    Total precipitation      =     2.3 inches                                                    :
:    Storm type               = SCS Type 2 storm, 24 hour storm                                   :
     Peak Discharge           =    5.11 cfs                                                       :
:    Discharge volume         =    0.44 acre ft                                                   :
:                                                                                                   :
: <press return to continue or {esc} to skip detail printout>                                      :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CATCH BASIN #3 (10/24)                                                    :
:WATERSHED HYDROGRAPH                                                                              :
:      Inflow into structure #  1                                                                  :
:      Structure type:          Null                                                               :
:                                                                                                  :
:                                                                                                  :
:-- Watershed data for watershed # 1                                                              :
:     Curve number             =     74.0                                                        :
:     Area                     =      3.9 acres                                                  :
:     Hydraulic length         =     0.00 feet                                                   :
:     Elevation change         =      0.0 feet.                                                  :
:     Concentration time       =     0.10 hours                                                  :
:     Unit hydrograph type     = Disturbed                                                        :
:                                                                                                  :
:-- Total Area                =      3.9 acres                                                  :
:                                                                                                  :
:-- Storm data                                                                                    :
:     Total precipitation      =      2.3 inches                                                 :
:     Storm type               = SCS Type 2 storm, 24 hour storm                                  :
      Peak Discharge           =     1.79 cfs                                                    :
:     Discharge volume         =     0.15 acre ft                                                :
:                                                                                                  :
: <press return to continue or {esc} to skip detail printout>                                     :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CATCH BASIN #4 (10/24)                                      :
:WATERSHED HYDROGRAPH                                                                  :
:     Inflow into structure #  1                                                      :
:     Structure type:           Null                                                  :
:                                                                                      :
:                                                                                      :
:-- Watershed data for watershed # 1                                                  :
:    Curve number             =    74.0                                               :
:    Area                     =     0.8 acres                                         :
:    Hydraulic length         =    0.00 feet                                          :
:    Elevation change         =     0.0 feet.                                         :
:    Concentration time       =    0.10 hours                                         :
:    Unit hydrograph type = Disturbed                                                  :
:                                                                                      :
:-- Total Area               =     0.8 acres                                          :
:                                                                                      :
:-- Storm data                                                                         :
:    Total precipitation      =     2.3 inches                                        :
:    Storm type               = SCS Type 2 storm, 24 hour storm                       :
     Peak Discharge           =    0.38 cfs                                           :
     Discharge volume         =    0.03 acre ft                                       :
:                                                                                      :
: <press return to continue or {esc} to skip detail printout>                         :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CATCH BASIN #6 (10/24)                                                    :
:WATERSHED HYDROGRAPH                                                                               :
:      Inflow into structure #  1                                                                   :
:      Structure type:          Null                                                                :
:                                                                                                   :
:                                                                                                   :
:-- Watershed data for watershed # 1                                                               :
:     Curve number             =    77.0                                                          :
:     Area                     =     1.9 acres                                                    :
:     Hydraulic length         =    0.00 feet                                                     :
:     Elevation change         =     0.0 feet.                                                    :
:     Concentration time       =    0.10 hours                                                    :
:     Unit hydrograph type = Disturbed                                                            :
:                                                                                                 :
:-- Total Area              =     1.9 acres                                                      :
:                                                                                                 :
:-- Storm data                                                                                    :
:     Total precipitation  =     2.3 inches                                                     :
:     Storm type           = SCS Type 2 storm, 24 hour storm                                     :
      Peak Discharge       =    1.11 cfs                                                       :
      Discharge volume     =    0.09 acre ft                                                   :
:                                                                                                 :
: <press return to continue or {esc} to skip detail printout>                                     :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

June 15, 1995

Art Abbs, Acting Director
Office of Surface Mining
Reclamation and Enforcement
505 Marquette N.W. Suite 1200
Albuquerque, NM 87102

Re: Midterm Approved Changes, Hiawatha Mine, U.S. Fuel Company, ACT/007/011-DO-92A and 94C, Folder #2, Carbon County, Utah

Dear Mr. Abbs:

Enclosed please find updated and approved information for the Hiawatha Mine mining and reclamation plan, effective May 17, 1995, which represents changes to the description of the final reclamation of roads.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

Enclosure
cc: Chief of Federal Programs, OSM, WRRC
Mark Bailey, BLM, Price
Janette Kaiser, Forest Supervisor, Manti La Sal Naitonal Forest
Mark Page, Water Rights, Price
Brent Bradford, DEQ
Robert Valentine, DWR
Price Field Office
Michael Watson, Hiawatha Mine

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

May 17, 1995

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

Re: Midterm and Permit Renewal Responses, Hiawatha Mine, U.S. Fuel Company, ACT/007/011-DO-92A and ACT/007/011-94C, Folder #3, Carbon County, Utah

Dear Mr. Watson:

The midterm review has been completed with approved changes to the plan and the Division Order relative to the permit renewal (ACT/007/011-DO-92A) has been adequately addressed. Please submit twelve finalized copies of the text and plates for these permit changes by June 16, 1995.

If you have any questions, please call me.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

cc: Daron Haddock
Joe Helfrich

Form DOGM - D2 (Last Revised 6/93)

#3

File Folder #3

SIGNIFICANT PERMIT REVISION APPROVAL

Title: Mid Term & Permit Renewal Response	PERMIT NUMBER: ACT/007/011
Description:	PERMIT CHANGE #: DO 92A & 94C
	MINE: Hiawatha
	PERMITTEE: U.S. Fuel

WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL		YES, NO or N/A
1.	The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	Yes
2.	The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless:	Yes
	A. The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or	Yes
	B. The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230.	Yes
3.	For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	Yes
4.	The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	Yes
5.	The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et.seq.).	Yes
6.	The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	Yes
7.	The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	Yes
8.	The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	Yes
9.	The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	Yes
10.	The Applicant has satisfied the applicable requirements of R645-302.	Yes
11.	The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	NA
12.	Public notice, comment period, and any subsequent hearings or appeals prior to approval of the proposed permit change have been completed with no adverse decision regarding this Significant Permit Revision.	NA

SPECIAL CONDITIONS OR STIPULATIONS TO THE SIGNIFICANT PERMIT REVISION APPROVAL		YES	NO
1.	Are there any variances associated with this significant permit revision approval? If yes, attach.		X
2.	Are there any special conditions associated with this significant permit revision approval? If yes, attach. Copies needed	X	
3.	Are there any stipulations associated with this significant permit revision approval? If yes, attach.		X

The Division hereby grants approval for a Significant Permit Revision to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Significant Permit Revision.

Signed Dianne R. Haddock

[redacted], Division of Oil, Gas and Mining

5/17/95

EFFECTIVE DATE

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

September 29, 1994

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

Re: Midterm Review, Hiawatha Mine, U. S. Fuels Company, ACT/007/011-94C, Folder #3, Carbon County, Utah

Dear Mr. Baum:

The Division is commencing the midterm review for the Hiawatha Mine. This midterm review will include a review of the reclamation bond estimate and contemporaneous reclamation. The anticipated date for completion of this midterm review is November 4, 1994. At that time, the Division will notify you of the midterm review findings.

If you have any questions, please call me.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

cc: Daron Haddock

PERMIT TRACKING FORM

Type of Proposal:

MRP AMENDMENT ____
MRP REVISION ____
EXPLORATION ____
I.B.C. ____
PERMIT RENEWAL ____
NEW PAP ____

Title of Proposal: ____

Company/Mine Name: ____

File # (INA / PRO / AC

PROJECT LEADER: ____

Enforcement Action Involved:

NOV #N___ ___ ___ ___, #___ of ___
CO #C___ ___ ___ ___, #___ of ___
TDN #X___ ___ ___ ___, #___ of ___

Road rec. SJ Road. 495
Steve and I have looked at this and are both recommending approval. We both have some reservations.
Paul

Reviewers

HYDROLOGY	~~Tim~~ Stev		
BIOLOGY	Paul		
ENGINEER	Wayne		
SOILS	~~Priscilla~~		
GEOLOGY	~~Jim~~		
LEGAL/FIN		( ) ( )	
		( ) ( )	

Dates:

(1) Initial Plan Received 11/13/92
Tech Review Due 12/13/92
Tech Review Complete
Deficiencies Sent 1/28/93
Operator Response Due 3/1/93

(2) Operator Response Rc'd 2/24/93
Tech Review Due 3/24/93
Tech Review Complete
Deficiency Sent 1/7/94
Operator Response Rc'd 4/7/94
Review due 5/6/94

(3) Publication Approval ____

(4) Conditional Approval ____
Stipulations Due ____
Stipulations Recieved ____

(5) Final Approval ____
Filed in MRP ____
Author ____

(6) Proposal Denied ____

OTHER AGENCY INVOLVEMENT:

	Agency	Transmittal Date	Sign-off
( )	OSMRE		
( )	USFS		
( )	BLM		
( )	USFWS		
( )	NPS		
( )	HEALTH		
( )	UDWR		
( )	H2O RTS.		
( )	HISTORY		

COMMENTS:

~~Response received 4/18/95~~
Review due 5/20/95
We only received one copy
~~Make~~ Save this gets routed!

PERMIT TRACKING FORM

Type of Proposal:

MRP AMENDMENT	
MRP REVISION	
EXPLORATION	
I.B.C.	
PERMIT RENEWAL	X
NEW PAP	

Enforcement Action Involved:

NOV #N___ ___ ___ ___, #___ of ___
CO #C___ ___ ___ ___, #___ of ___
TDN #X___ ___ ___ ___, #___ of ___
TDL #X___ ___ ___ ___, #___ of ___
DIVISION ORDER: date DO 92A

Title of Proposal: Renewal Response (Roads)

Company/Mine Name: Hiawatha

File # (INA / PRO / ACT / CEP) 007 / 011 - DO 92A

PROJECT LEADER: _____

	Reviewers	Tech Memo Drafted Yes	No	Date Completed
HYDROLOGY	~~Tom~~ Steve	(X)	( )	5/3/94 4/24/95
BIOLOGY	Paul	(X)	( )	
ENGINEER	Wayne	(X)	( )	5/4/94
SOILS	~~Priscilla~~	( )	( )	
GEOLOGY	~~Jim~~	( )	( )	
LEGAL/FIN		( )	( )	

Dates:

(1) Initial Plan Received 11/13/92
Tech Review Due 12/13/92
Tech Review Complete
Deficiencies Sent 1/28/93
Operator Response Due 3/1/93

(2) Operator Response Rc'd 2/24/93
Tech Review Due 3/24/93
Tech Review Complete
Deficiency Sent 1/7/94
Operator Response Rc'd 4/7/94
Review due 5/6/94

(3) Publication Approval

(4) Conditional Approval
Stipulations Due
Stipulations Recieved

(5) Final Approval
Filed in MRP
Author

(6) Proposal Denied

OTHER AGENCY INVOLVEMENT:

	Agency	Transmittal Date	Sign-off
( )	OSMRE		
( )	USFS		
( )	BLM		
( )	USFWS		
( )	NPS		
( )	HEALTH		
( )	UDWR		
( )	H2O RTS.		
( )	HISTORY		

COMMENTS:

Response received 4/18/95
Review due 5/20/95
We only received one copy
Make / Save this gets routed!

UNITED STATES FUEL COMPANY

P.O. BOX 887
PRICE, UTAH 84501

(801) 637-2252
FAX (801) 343-2344

April 7, 1995

Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Re: Permit Renewal Deficiency Response to Reclamation of Roads, U.S. Fuel Company, Hiawatha Mine, ACT/007/011

#2 Copy Dave

Dear Sirs,

U.S. Fuel is submitting this change to the renewal permit in response to our meeting on March 6th relating to the reclamation of the roads in the permit.

Please call me if there are any questions regarding this technical review response.

4/18
Dave -
What is this??
Was this DO-92A?

Sincerely,

Michael P. Watson

Michael P. Watson
President

Form DOGM - C1 (Last Revised 6/93) File Folder # 3

APPLICATION FOR PERMIT CHANGE

Title of Change: RECLAMATION OF ROADS

Permit Number: ACT/ 007 / 011

Mine: HIAWATHA

Permittee: U.S. FUEL COMPANY

Description, include reason for change and timing required to implement: Changes to the description of the final reclamation of roads are made in the permit due to the condition of the renewal of the permit. Work will be done during final reclamation.

☐ Yes	☒ No	1. Change in the size of the Permit Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	2. Change in the size of the Disturbed Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
☐ Yes	☒ No	4. Will permit change include operations in hydrologic basins other than currently approved?
☐ Yes	☒ No	5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	☒ No	6. Does permit change require or include public notice publication?
☐ Yes	☒ No	7. Permit change as a result of a Violation? Violation #
☐ Yes	☒ No	8. Permit change as a result of a Division Order? D.O.#
☒ Yes	☐ No	9. Permit change as a result of other laws or regulations? Explain: Condition of Permit Renewal
☐ Yes	☒ No	10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
☐ Yes	☒ No	11. Does the permit change affect the surface landowner or change the post mining land use?
☐ Yes	☒ No	12. Does permit change require or include collection and reporting of any baseline information?
☐ Yes	☒ No	13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes	☒ No	14. Does permit change require or include soil removal, storage or placement?
☐ Yes	☒ No	15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
☒ Yes	☐ No	16. Does permit change require or include construction, modification, or removal of surface facilities?
☒ Yes	☐ No	17. Does permit change require or include water monitoring, sediment or drainage control measures?
☒ Yes	☐ No	18. Does permit change require or include certified designs, maps, or calculations?
☐ Yes	☒ No	19. Does permit change require or include underground design or mine sequence and timing?
☐ Yes	☒ No	20. Does permit change require or include subsidence control or monitoring?
☐ Yes	☒ No	21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
☐ Yes	☒ No	22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
☐ Yes	☒ No	23. Is this permit change coal exploration activity ☐ inside ☐ outside of the permit area?

☐ Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Michael P. Watson MICHAEL P. WATSON PRESIDENT 4/10/95

Signed - Name - Position - Date

Subscribed and sworn to before me this 10 day of APRIL, 19 95.

Diana B. Houghton

Notary Public

My Commission Expires: 8-14, 19 97

Attest: STATE OF Utah

COUNTY OF Carbon

DIANA B. HOUGHTON
NOTARY PUBLIC - STATE of UTAH
1401 WEST 2060 NORTH
HELPER, UTAH 84526
COMM. EXP. 8-14-97

Received by Oil, Gas & Mining

ASSIGNED PERMIT CHANGE NUMBER

Application for Permit Change
Detailed Schedule of Changes to the Permit

Title of Change:

RECLAMATION OF ROADS

Permit Number: ACT / 007 / 011

Mine: HIAWATHA

Permittee: U.S. FUEL COMPANY

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	Page 89 in Chapter 2
☐ ADD	☒ REPLACE	☐ REMOVE	Pages 9, 10, and 11 in Chapter 4
☐ ADD	☒ REPLACE	☐ REMOVE	List of Exhibits page in Chapter 5
☐ ADD	☒ REPLACE	☐ REMOVE	Pages 54 and 55 and 59 and 60 in Chapter 5
☐ ADD	☒ REPLACE	☐ REMOVE	List of Appendices in Chapter 7
☒ ADD	☐ REPLACE	☐ REMOVE	Appendix VIII-15 in Chapter 7
☒ ADD	☐ REPLACE	☐ REMOVE	Exhibits V-19 and V-20 in Chapter 5
☐ ADD	☒ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

Reclamation of Roads

Canyon Roads

The roads in South Fork, Middle Fork and North Fork will not be totally reclaimed but will be left in place to support the post mining land use as discussed in Chapter IV. These roads will be reclaimed to an unimproved condition by removing and disposing of the pavement, ripping the underlying material and revegetating with plant species favorable to wildlife. Existing drainage structures will be replaced with water barss. The full width of the existing roads will be left as is and the approximate original contour will be the existing contour. The justification for not regrading is based on R645-301-553.400, R645-301-553.600 and R645-302-270. Fertilizer, seed and mulch will be applied by hand broadcasting or by use of farm type equipment. Seed mixtures 1 or 2 will be used in the vicinity of Hiawatha and seed mixture 3 (w/o nursery stock) will be used at higher elevations.

Access Road to Sediment Pond D003

A short unpaved access road exists between the preparation plant area and sediment pond D003 (see Exhibits II-4 and II-5). Only limited excavation was necessary to construct the road, therefore, it will be reclaimed by ripping the surface and revegetating the insitu soils. Fertilizer, seed and mulch will be applied by hand broadcasting or by use of farm type equipment. The soil is the same Haverdad series comprising substitute borrow areas B, C, and D. Seed mix No. 1 for sagebrush dominated borrow areas (described in Chapter III) will be used. Mulch will be applied at the rate of 1.5 tons per acre and will be crimped into the soil by discing.

Truck Runaway Spur to Middle Fork Haul Road

The truck runaway spur is shown on Exhibit V-6. The only excavation required to construct the road was to blade off the vegetation, cut a runoff diversion ditch and install a 24 inch culvert. A mound of gravel (approximately 18 inches high) was placed down the center of the road to retard potential runaway vehicles. Reclamation will involve removing the culvert and gravel and regrading the diversion ditch. The surface of the disturbed area will then be ripped to a depth of 18 inches and the insitu soils revegetated. Fertilizer, seed and mulch will be applied by hand broadcasting or by use of farm type equipment. Seed mix No. 2 will be utilized. Mulch will be applied at the rate of 1.5 tons per acre and will be crimped into the soil by discing.

Substitute Topsoil Haul Roads

Roads which will be used to access substitute topsoil sites currently exist and have been in place for at least 30 years, no topsoil was salvaged. Except for one short section (200 feet) of cutslope, the topsoil is still in place, although it is highly compacted. Therefore,

R645-301-412 RECLAMATION PLAN

412.100 POST-MINING LAND USE PLAN

After the recoverable coal reserves have been extracted and final reclamation accomplished it is expected and anticipated that the current status of the existing land use area will remain unchanged. Mining in this immediate area has been ongoing since the turn of the century without any significant disruptions to existing land use.

The permit area and surrounding lands are classified as recreation, forestry, grazing and mining lands under local county zoning ordinances.

United States Fuel Company's post-mining land use plan is to utilize the land presently within the permit area for livestock grazing (ranching), forestry (logging), wildlife habitat and outdoor recreation. Towards this end, the access roads leading to the mine sites will be reclaimed to an unimproved basis and will be left in place to support these activities.

WILDLIFE HABITAT

The land within the permit area is already used as wildlife habitat and conforms with the existing land use, supports the recreational land use plan and has co-existed with the livestock grazing and forestry practices of the past. The roads will be used to allow wildlife population inspections, habitat condition evaluations and forage assistance in severe winters.

In response to U.S. Fuel's requests, the Division of Wildlife Resources commented on U.S. Fuel's post-mining land use plan on 2/14/84 and again on 4/12/92. In their 1984 letter DWR noted they would prefer that roads along with other surface facilities be reclaimed with habitat more suitable to wildlife. In their 1992 letter DWR did not comment on retention of roads but rather expressed concern about possible subsidence effects on wildlife habitat and loss of water resources.

DWR concerns about the degree of accessibility and use of the roads are addressed as follows. Access to the roads in the permit area is controlled by a lockgate at the end of State Highway 122. The traffic on the roads will primarily reflect the other land uses and is expected to be light during the spring, summer and fall seasons. The roads will be closed to outside traffic during the winter season.

LIVESTOCK GRAZING

U. S. Fuel owns ranch sites and agricultural lands outside the permit boundary on Miller Creek and Cedar Creek. U. S. Fuel also holds water rights and approved diversions for industrial, municipal, domestic, livestock watering and irrigation purposes on both streams.

The 640 acre Millerton ranch and the 794 acre Cedar Creek ranch along with 11,000 acres of mountain rangeland (all privately owned) comprise a viable and ongoing enterprise which has been leased to local ranching families for many decades.

The canyon roads are an asset to modern ranching operations and contribute to the value of the land for that purpose. Cattle are trucked to the mouths of the canyons from distant lowland winter ranges in the spring and trucked back in the fall. Roads provide ready access to gates and fences required to confine livestock to selected grazing sites and to rotate them between forage areas as the summer progresses. Roads also allow quick inspection of the location and condition of widely scattered groups of livestock. The road traffic for these purposes will be light and will occur in the late spring, summer and early fall.

FORESTRY

U.S. Fuel plans to use the surface land which it owns for forestry purposes. Existing timber stands can be logged profitably under the current market conditions. U.S. Fuel understands the cyclical nature of the industry and the time required to renew this natural resource. Current interest in the timber is requiring U.S. Fuel to consider how to co-ordinate this land use with the other uses.

The existing roads as reclaimed will greatly facilitate both the logging operations and the re-planting process. In both cases the use of the roads will be in the spring, summer and fall. The existing roads as reclaimed should be able to handle the heavy loads of timber removed from the property. Traffic volume for these truckloads is expected to be light.

OUTDOOR RECREATION

The canyons and surrounding lowlands in the vicinity of Hiawatha are scenic, diverse in land forms, wildlife and vegetation; and are historically significant to local, state and county residents as well as out of state visitors. Many former residents of Hiawatha, now living in other states, return to visit the area during the spring, summer and fall months for sentimental and recreational purposes.

In review of U.S. Fuel's post-mining land use plan, Carbon County has expressed concern about any possible road closures (see letter in Appendix IV-5). The county would like to retain all roads that provide access to otherwise inaccessible regions of the county. Access to historic and scenic areas provide recreation to county residents and enhance the local economy by attracting and holding out of state visitors.

In addition to the historic and scenic recreational use, camping, hiking, horseback riding, wildlife photography, and big game hunting are other recreational activities for the land. Although no developed campsites are planned, the roads provide access up the canyons to many natural camping areas. The roads also allow greater access to trailheads for the remaining activities. Except for the hunting season the road traffic will be light.

412.110 The proposed post-mining land use will be achieved by regrading and revegetating mining related disturbed areas, including the canyon access roads, to support wildlife habitat, livestock grazing, forestry and outdoor recreation. The roads are necessary to support these uses; and they will be maintained thereafter.

412.120 Range and grazing is one of the proposed post-mining uses. The Soil Conservation Service, at the request of U. S. Fuel Company, compiled a grazing plan for the mine property area. this plan identifies five range types and addresses soils, vegetation and productivity. The plan is given in Appendix IV-3. The range site locations are shown on Exhibit IV-4.

412.130 No land use different from the pre-mining land use is proposed.

412.140 Consideration has been given to making all of the proposed coal mining and reclamation operations consistent with surface owner plans and applicable Utah and local land use plans. Letters describing U. S. Fuel's proposed post-mining land use plans and requesting comments, approvals or authorizations have been sent to the following Agencies:

U. S. Forest Service
Carbon County
Emery County
Southeastern Utah Association of Governments
Utah Division of Water Rights
Utah Division of State Lands and Forestry
Utah Division of Wildlife Resources

Copies of letters sent and responses from those agencies which chose to respond are given in Appendix IV-5.

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CHAPTER V PERMIT APPLICATION REQUIREMENTS: ENGINEERING

LIST OF EXHIBITS

536.310 See 536.300.

536.320 See 536.300.

536.330 See 536.300.

536.400 See 536.300.

536.410 See 536.300.

536.420 See 536.300.

536.500 See 536.300.

536.510 No coal mine waste from activities outside the permit area will be disposed of in the permit area without Division Approval.

536.520 See R645-301-513.300

536.600 See R645-301-528.340

536.700 See R645-301-513.300

536.800 See R645-301-513, 513.200, 513.400, 514.200, 514.300, 515.200, 528.322, 528.322, 528.340 and 528.400.

536.820 See R645-301-528.322 and 528.400.

536.821 See R645-301-528.322 and 538.400.

536.822 See R645-301-528.322 and 538.400.

536.823 See R645-301-528.322 and 538.400.

536.824 See R645-301-528.322 and 538.400.

536.900 See R645-301-528.322.

537 REGRADED SLOPES

537.100 No alternative specifications are proposed.

537.200 As provided by this rule, U.S. Fuel is proposing to not restore the canyon access roads to approximate original contour. Justification is given in rules 537.210 through 537.250 below and in R645-302-270 addressed in Appendix IV-7 of Chapter IV.

537.210 The settled and revegetated fills comprising the access road grades and outslopes consist of natural material derived from the immediate location of the roads.

537.220 The spoil associated with the roads has not been located so as to be detrimental to the environment, to the health and safety of the public or to the proposed postmining land use.

537.230 Stability of the existing road grades and outslopes has been demonstrated to be consistent with backfilling and grading requirements as evidenced by 20 to 45 years of continual use without any signs of instability. OSM makes the following statement regarding performance standards in their 1985 Technical Review of the Permit Application "All existing structures comply with UMC 700.11 (e) (1) (i) and the applicable performance standards of Subchapter B or UMC Subchapter K and no significant harm to the environment or public health or safety will result from use of the structures.

537.240 The reclaimed surface of the roads will be vegetated according to R645-301-356 and 357 (see Chapter III). Surface runoff will be controlled in accordance with R645-301-742.300 since existing approved runoff control structures are proposed to be left in place.

537.250 No response required by operator.

NORTH FORK RECLAMATION

The intake ventilation portal in North Fork was constructed in 1979 -80 for the King 4 mine. Trees and large brush were cleared from the site before topsoil was removed. Topsoil was salvaged and redistributed on the regraded slopes after completion of the portal. Following the topsoil redistribution, the site was seeded to protect against erosion. A list of the seed mix applied, as recommended by the Division, is included in Appendix V-7 along with the plan approval by DOGM and OSM.

Postmining grading plans and cross sections for the North Fork portal area are shown on Exhibit V-10. The proposed final surface configuration was developed to provide a balanced cut and fill situation and a configuration consistent with the surrounding area. A shrink factor of 5 percent was used in balancing the cut and fill. Calculations for earthwork volumes are based on the cross-sections shown on Exhibit V-10. Quantity computations, based on cross-section areas and the average end method are given in Appendix V-15. If during regrading operations, it is found that the earthwork volumes will not balance as planned, the grading plans will be adjusted to achieve a balanced condition.

The only surface structure which exists on the North Fork intake portal pad is a ventilation portal. After the ventilation portal has been sealed, regrading of the pad will be done. Fill will be pushed up against the high wall with a dozer. All fills will be constructed on 2:1 slopes or greater. Additional topsoil is available from Borrow Area D for use at North Fork. See the narrative on topsoil borrow areas in Chapter II. A timetable for completion of each major step of reclamation is given in Table II-25 in Chapter II.

A stream diversion, constructed in 1951, is located approximately 1/4 mile downstream from the King 4 ventilation portal. Water from this diversion is piped approximately 2,100 feet further downstream to an old ventilation opening in the Hiawatha No. 2 mine. The ventilation opening is inaccessible due to natural caving of the portal over time. During final reclamation, those portions of the pipeline exposed on the surface will be removed and disposed of. Buried pipe will be left in place and will be capped by welding steel plates on both ends. The diversion structure and catch basin will remain in place as it was designed as a permanent structure. Over time, the structure has filled in with sediment and assists in stabilizing the stream. In August 1984 U. S. Fuel received violation N84-8-1-3, 3 of 3 from the Division requesting appropriate calculations and plans for the spillway of the diversion. On August 21, 1984 detailed plans for reconstruction of the spillway as a stable, permanent structure, capable of passing a 100 year 24 hour event were submitted to and approved by the Division (see Appendix V-14). U. S. Fuel proposed to treat this diversion as a permanent structure and let it exist after cessation of mining operations because it is already in close similarity to the natural stream channel and will have a stabilizing effect. In the approved plan the capacity of the altered section is greater than the unmodified channel immediately upstream and downstream. Riparian habitat will be maintained on the diversion and stream embankments. A natural meandering shape for this stream will be maintained by the diversion structure. The stream gradient, modified by the

diversion spillway, is less than the gradient above and below. Appropriately sized riprap in the spillway will preclude erosion or downcutting even during the 100 year, 24 hour event. The path and configuration of the diversion presently approximates natural stream channel characteristics. This diversion does not impound water and does not present any threat to the environment or structures downstream.

Only a small portal opening exists for entry of the pipeline into the Hiawatha No. 2 mine. This entry will be sealed and the contiguous surface area will be reclaimed.

A timetable for completion of each major step of North Fork reclamation along with discussions of topsoil removal, segregation, storage and redistribution are given under R645-301-240 in Chapter II. A detailed statement of reclamation costs for the North Fork area is given under R645-301-830 in Chapter VIII.

MIDDLE FORK RECLAMATION

Surface areas in Middle Fork canyon, related to mining in the Hiawatha No.1 and 2 mines and the King No.4 and No. 5 mines were disturbed prior to the Surface Mining and Reclamation Act, therefore, no topsoil was removed and stockpiled for future reclamation. At the time of reclamation, substitute topsoil material from the pad itself will be salvaged. Plans for topsoil suitability, removal and redistribution are given in Chapter II (Soils) under the Middle Fork heading.

Proposed post mining backfill and grading plans are shown on Exhibit V-11. The proposed final surface configuration was developed to provide a balanced cut and fill situation and configuration similar to other canyons in the area. A shrink factor of 5 percent was used in balancing the cuts and fills. Calculations for earthwork volumes are based on the cross-sections shown on Exhibit V-11. Quantity computations, based on cross-section areas and the average end-area method, are given in Appendix V-15. A detailed statement of reclamation costs for the Middle Fork area are also given in Chapter VIII.

After completion of surface facility removal and sealing of entry portals to the King 4, King 5, Hiawatha No. 1 and Hiawatha No. 2 mines the regrading operations will commence. A discussion of structure removal, backfilling, compacting and grading along with a timetable for Middle Fork reclamation activities is given in Chapter II (Soils).

The existing culverted stream diversions beneath the mine yard and sediment pond will be removed and the channel restored as a permanent open channel. The design of the channel, including peak flow and stability calculations, are given in Chapter VII (Hydrology). The restored stream channel will be revegetated using Seed Mix No. 4, for riparian habitat,

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CHAPTER VII PERMIT APPLICATION REQUIREMENTS: HYDROLOGY

LIST OF APPENDICES

APPENDIX VII-15

RECLAIMED ROAD HYDROLOGY

APPENDIX VII-15

RECLAIMED ROAD HYDROLOGY

Scope:

This Appendix will describe the proposed general reclamation of the roads in the South and Middle Fork areas of the U.S. Fuel permit, and a detailed hydrologic protection plan for those areas.

General:

It is proposed to leave the roads in place to provide landowner access into the South Fork and Middle Fork Canyons. During reclamation, the asphalt will be removed from the surface and properly disposed of. The gravel base of the road is intended to remain.

Certain, essential culverts will be left in place; however, all non-essential culverts will be removed. In areas where culverts are removed, road drainage control will be provided by construction of water bars as shown on Exhibits V-19 and V-20. Water bars will be constructed according to the design shown on Figure 1 of this Appendix.

The following section will describe the methodology and calculations used to establish minimum spacings for the water bars for both canyons. Information specific to each canyon is then provided in the respective Section for that area.

Hydrology:

The areas in which the water bars were to be placed were analyzed in 2 ways:

1) *Flows for the 100 year-6 hour precipitation event were first calculated for the larger areas draining to the culverts scheduled for removal;*

2) *A conservative watershed area of 40 acres was established from the maps, using a hydraulic length of 2100', an elevation change of 1100', and a spacing on the water bars of 1150'.*

The flows from each of the above scenarios were then routed through the typical water bar section (Figure 1), and evaluated for flow depth and velocity. Table 1 is a summary of the results of the calculations. Back-up computer sheets are included with this Appendix. All calculations were performed using the Storm 6.0 computer program. Watershed data was taken directly from the topographic maps and from the Hydrology Report entitled "Surface Hydrology and Culvert Adequacy of the Hiawatha and Mohrland, Utah Areas", prepared for United States Fuel Company by Vaughn Hansen Associates, August 1978.

The maximum depth of the proposed water bars will be 1.0' as shown on Figure 1. As indicated on Table 1, this would be adequate to convey the flows from most of the replaced culverts, but not from all. The minimum spacing of 1150' for the water bars would allow for a maximum drainage area of 40 acres, and provide for flow depths below 1.0', while maintaining runoff velocities below the erosive level of 5.0 fps. It was therefore decided that the water bars would be placed at intervals not to exceed 1000' to ensure a conservative runoff estimate. In many cases, the interval will be less due to specific ground conditions as described in the following sections.

TABLE 1

RUNOFF CALCULATIONS FOR WATER BARS

Drainage	30	31	32	33	24	41	43	45	*AVE
Area (ac)	20.95	44.19	43.90	121.96	98.14	28.70	44.19	51.65	40.00
100 yr-6 hr (in)	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12
Hydraulic Length (ft)	1600	2200	2200	3800	3300	1600	1900	2300	2100
Elevation Diff. (ft)	908	930	1010	1260	1300	810	920	1120	1100
Time of Conc. (hrs)	0.06	0.09	0.09	0.18	0.15	0.06	0.08	0.09	0.08
Runoff CN	75	75	75	75	75	75	75	75	75
Peak Flow (cfs)	4.28	7.99	8.12	16.69	14.51	5.83	8.69	9.48	7.78
Flow Depth (ft)	0.67	0.85	0.85	1.12	1.06	0.75	0.88	0.90	0.84
Velocity (fps)	3.80	4.44	4.46	5.34	5.16	4.11	4.54	4.64	4.41
Water Bar Adequate	YES	YES	YES	NO	NO	YES	YES	YES	YES

Based on 40.0 acre drainage area, 2100' Hydraulic Length, 1100' elevation change (allows water bar spacing of 1150'; however, water bars will be placed on 1000' intervals).

South Fork:

Water bars along the South Fork road are proposed to start at station 7+00 and end above the sediment pond at station 100+00, as shown on Exhibit V-20. Culvert numbers 13 and 51 are below station 7+00. These culverts are considered essential to the existing road alignment, and since they are sized adequately for the 100 year-6 hour precipitation event, are proposed to be left in place.

All culverts between stations 7+00 and 100+00 will be removed. After the asphalt is removed, water bars will be placed at intervals not to exceed 1000' along the road. Actual location of water bars may vary to meet existing drainage patterns, as shown on Exhibit V-20; however, spacing will not exceed 1000' as designed. Water bars will be constructed to meet the road drainage ditch upstream, and cross the road at approximately 30° - 45° diagonally to the downstream exit. Water bars will be placed to minimize runoff velocities below outlets.

Middle Fork:

Water bars along the Middle Fork Road are proposed to start at station 82+00 and end above the sediment pond at station 143+10, as shown on Exhibit V-19. Culvert numbers 27, 28 and 29 are considered essential to existing road alignment, and are therefore proposed to be left. These culverts are adequate to carry the 100 year-6 hour storm runoff, and are located below the area of proposed water bars.

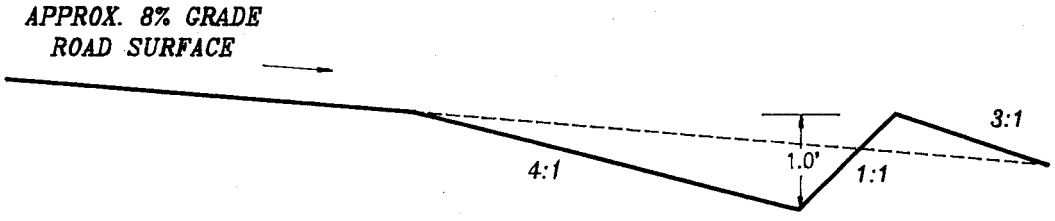
All culverts between stations 82+00 and 143+10 will be removed. After the asphalt is removed, water bars will be placed across the road at intervals not to exceed 1000'. Actual location of water bars may vary to meet existing drainage patterns, as shown on Exhibit V-19; however, spacing will not exceed the 1000' as designed. Water bars will be constructed to intersect the road drainage ditch upstream and cross the road at 30° - 45° diagonally to the downstream exit. Water bars will be placed to minimize runoff velocities below outlets.

Conclusion:

The roads are proposed to be left in place in the South and Middle Fork Canyons upon final reclamation. The asphalt finish will be removed, and all non-essential culverts will also be removed, as described in the previous sections. Drainage for the reclaimed road will be provided by water bars spaced at intervals no to exceed 1000'. The proposed spacing will limit runoff areas contributing to each water bar to 40 acres or less. Based on the maximum hydraulic length and elevation change for a 40 acre area, the calculated flow depth for each water bar will be less than 1.0' and the velocity will be less than 5.0 feet-per-second. The 1000' spacing is actually quite conservative, since the approximate 40 acre drainage areas for culverts 31, 32, and 43 have spacings of 1050' to 1200'.

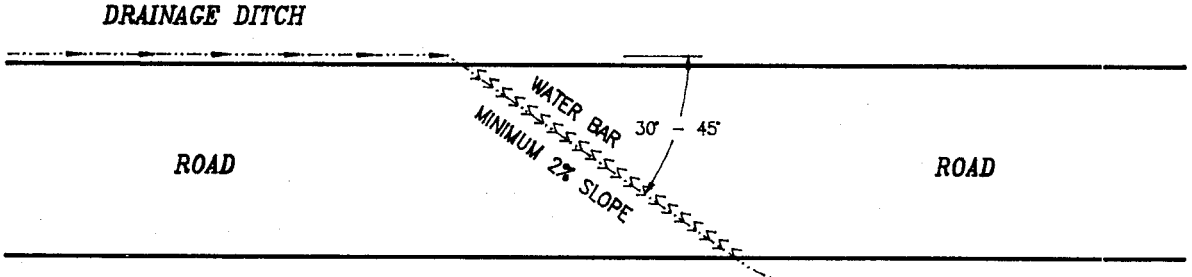
The designed water bars, as shown in Figure 1, are therefore considered adequate to safely convey the expected runoff from a 100 year-6 hour precipitation event, as required.

TYPICAL WATER BAR
U.S. FUEL – ROAD RECLAMATION



SECTION VIEW

NOTE: SLOPES MAY VARY; HOWEVER, CROSS–SECTIONAL AREA AND DEPTH WILL BE MINIMUM SHOWN.



REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
3/24/95
STATE OF UTAH

PLAN VIEW

FIGURE 1

STORM 6.0

COMPUTER BACK-UP

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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = UA-31                                                :
:WATERSHED HYDROGRAPH                                                          :
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:     Structure type:          Null                                            :
:                                                                              :
:                                                                              :
:-- Watershed data for watershed # 1                                           :
:    Curve number            =    75.0                                         :
:    Area                    =    44.2 acres                                   :
:    Hydraulic length        = 2200.00 feet                                    :
:    Elevation change        =   930.0 feet.                                   :
:    Concentration time      =    0.09 hours                                   :
:    Unit hydrograph type = Forested                                           :
:                                                                              :
:-- Total Area               =    44.2 acres                                   :
:                                                                              :
:-- Storm data                                                                 :
:    Total precipitation     =     2.1 inches                                  :
:    Storm type              = SCS 6 hour design storm                         :
:    Peak Discharge          =    7.99 cfs                                     :
:    Discharge volume        =    1.62 acre ft                                 :
:                                                                              :
: <press return to continue or {esc} to skip detail printout>                  :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=

VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
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:                                                                              :
:                                                                              :
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:    Hydraulic length        = 1600.00 feet                                    :
:    Elevation change        =   908.0 feet.                                   :
:    Concentration time      =    0.06 hours                                   :
:    Unit hydrograph type = Forested                                           :
:                                                                              :
:-- Total Area               =    21.0 acres                                   :
:                                                                              :
:-- Storm data                                                                 :
:    Total precipitation     =     2.1 inches                                  :
:    Storm type              = SCS 6 hour design storm                         :
:    Peak Discharge          =    4.28 cfs                                     :
:    Discharge volume        =    0.77 acre ft                                 :
:                                                                              :
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:     Elevation change       =  1260.0 feet.                                     :
:     Concentration time     =    0.18 hours                                     :
:     Unit hydrograph type = Forested                                            :
:                                                                                  :
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:                                                                                  :
:-- Storm data                                                                    :
:     Total precipitation  =     2.1 inches                                      :
:     Storm type           = SCS 6 hour design storm                             :
:     Peak Discharge       =   16.69 cfs                                         :
:     Discharge volume     =    4.48 acre ft                                     :
:                                                                                  :
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SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=

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:                                                                                  :
:                                                                                  :
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:                                                                                  :
:-- Storm data                                                                    :
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:     Storm type           = SCS 6 hour design storm                             :
:     Peak Discharge       =    8.12 cfs                                         :
:     Discharge volume     =    1.61 acre ft                                     :
:                                                                                  :
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:                                                                                                   :
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:                                                                                                   :
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:                                                                                                   :
:-- Storm data                                                                                      :
:     Total precipitation  =      2.1 inches                                                     :
:     Storm type           = SCS 6 hour design storm                                             :
:     Peak Discharge       =    14.51 cfs                                                        :
:     Discharge volume     =     3.61 acre ft                                                    :
:                                                                                                   :
: <press return to continue or {esc} to skip detail printout>                                       :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=

VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = UA-41                                                                      :
:WATERSHED HYDROGRAPH                                                                               :
:      Inflow into structure #  1                                                                   :
:      Structure type:          Null                                                                :
:                                                                                                   :
:                                                                                                   :
:-- Watershed data for watershed # 1                                                                :
:     Curve number           =     75.0                                                           :
:     Area                   =     28.7 acres                                                     :
:     Hydraulic length       = 1600.00 feet                                                       :
:     Elevation change       =    810.0 feet.                                                     :
:     Concentration time     =     0.06 hours                                                     :
:     Unit hydrograph type = Forested                                                            :
:                                                                                                   :
:-- Total Area             =     28.7 acres                                                       :
:                                                                                                   :
:-- Storm data                                                                                      :
:     Total precipitation  =      2.1 inches                                                     :
:     Storm type           = SCS 6 hour design storm                                             :
:     Peak Discharge       =     5.83 cfs                                                        :
:     Discharge volume     =     1.06 acre ft                                                    :
:                                                                                                   :
: <press return to continue or {esc} to skip detail printout>                                       :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = UA-43                                                  :
:WATERSHED HYDROGRAPH                                                            :
:      Inflow into structure #  1                                                :
:      Structure type:          Null                                             :
:                                                                                :
:                                                                                :
:-- Watershed data for watershed # 1                                             :
:     Curve number              =    75.0                                        :
:     Area                      =    44.2 acres                                  :
:     Hydraulic length          = 1900.00 feet                                   :
:     Elevation change          =   920.0 feet.                                  :
:     Concentration time        =    0.08 hours                                  :
:     Unit hydrograph type = Forested                                            :
:                                                                                :
:-- Total Area              =     44.2 acres                                     :
:                                                                                :
:-- Storm data                                                                   :
:     Total precipitation   =      2.1 inches                                    :
:     Storm type                = SCS 6 hour design storm                        :
:     Peak Discharge            =    8.69 cfs                                    :
:     Discharge volume          =    1.62 acre ft                                :
:                                                                                :
: <press return to continue or {esc} to skip detail printout>                    :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=

VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = UA-45                                                  :
:WATERSHED HYDROGRAPH                                                            :
:      Inflow into structure #  1                                                :
:      Structure type:          Null                                             :
:                                                                                :
:                                                                                :
:-- Watershed data for watershed # 1                                             :
:     Curve number              =    75.0                                        :
:     Area                      =    51.7 acres                                  :
:     Hydraulic length          = 2300.00 feet                                   :
:     Elevation change          =  1120.0 feet.                                  :
:     Concentration time        =    0.09 hours                                  :
:     Unit hydrograph type = Forested                                            :
:                                                                                :
:-- Total Area              =     51.7 acres                                     :
:                                                                                :
:-- Storm data                                                                   :
:     Total precipitation   =      2.1 inches                                    :
:     Storm type                = SCS 6 hour design storm                        :
:     Peak Discharge            =    9.48 cfs                                    :
:     Discharge volume          =    1.90 acre ft                                :
:                                                                                :
: <press return to continue or {esc} to skip detail printout>                    :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

```
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = 40 ACRE AVERAGE                                          :
:WATERSHED HYDROGRAPH                                                              :
:     Inflow into structure #  1                                                   :
:     Structure type:          Null                                                :
:                                                                                  :
:                                                                                  :
:-- Watershed data for watershed # 1                                               :
:    Curve number             =    75.0                                            :
:    Area                     =    40.0 acres                                      :
:    Hydraulic length         = 2100.00 feet                                       :
:    Elevation change         =  1100.0 feet.                                      :
:    Concentration time       =    0.08 hours                                      :
:    Unit hydrograph type = Forested                                               :
:                                                                                  :
:-- Total Area               =    40.0 acres                                       :
:                                                                                  :
:-- Storm data                                                                     :
:    Total precipitation      =     2.1 inches                                     :
:    Storm type               = SCS 6 hour design storm                            :
:    Peak Discharge           =    7.78 cfs                                        :
:    Discharge volume         =    1.47 acre ft                                    :
:                                                                                  :
: <press return to continue or {esc} to skip detail printout>                      :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

Title of run: UA-30

Solving for	=	Depth Normal Triangle
Flow depth (ft)	=	0.67
First Side slope	=	4.0
Second Side slope	=	1.0
Slope of diversion	=	0.0200
Manning"s n	=	0.025
CFS	=	4.28
Cross section area (sqft)	=	1.13
Hydrualic radius	=	0.30
fps	=	3.80
Froude number	=	1.22

Title of run: UA-31

Solving for	=	Depth Normal Triangle
Flow depth (ft)	=	0.85
First Side slope	=	4.0
Second Side slope	=	1.0
Slope of diversion	=	0.0200
Manning"s n	=	0.025
CFS	=	7.99
Cross section area (sqft)	=	1.80
Hydrualic radius	=	0.38
fps	=	4.44
Froude number	=	1.27

Title of run: UA-32

Solving for	Depth Normal
Triangle	
Flow depth (ft)	0.85
First Side slope	4.0
Second Side slope	1.0
Slope of diversion	0.0200
Manning"s n	0.025
CFS	8.12
Cross section area (sqft)	1.82
Hydrualic radius	0.39
fps	4.46
Froude number	1.27

Title of run: UA-33

Solving for	Depth Normal
Triangle	
Flow depth (ft)	1.12
First Side slope	4.0
Second Side slope	1.0
Slope of diversion	0.0200
Manning"s n	0.025
CFS	16.69
Cross section area (sqft)	3.12
Hydrualic radius	0.50
fps	5.34
Froude number	1.33

Title of run: UA-24

Solving for	= Depth Normal Triangle
Flow depth (ft)	= 1.06
First Side slope	= 4.0
Second Side slope	= 1.0
Slope of diversion	= 0.0200
Manning"s n	= 0.025
CFS	= 14.51
Cross section area (sqft)	= 2.81
Hydrualic radius	= 0.48
fps	= 5.16
Froude number	= 1.31

Title of run: UA-41

Solving for	= Depth Normal Triangle
Flow depth (ft)	= 0.75
First Side slope	= 4.0
Second Side slope	= 1.0
Slope of diversion	= 0.0200
Manning"s n	= 0.025
CFS	= 5.83
Cross section area (sqft)	= 1.42
Hydrualic radius	= 0.34
fps	= 4.11
Froude number	= 1.24

Title of run: UA-43

Solving for	Depth Normal Triangle
Flow depth (ft)	0.88
First Side slope	4.0
Second Side slope	1.0
Slope of diversion	0.0200
Manning"s n	0.025
CFS	8.69
Cross section area (sqft)	1.91
Hydrualic radius	0.40
fps	4.54
Froude number	1.27

Title of run: UA-45

Solving for	Depth Normal Triangle
Flow depth (ft)	0.90
First Side slope	4.0
Second Side slope	1.0
Slope of diversion	0.0200
Manning"s n	0.025
CFS	9.48
Cross section area (sqft)	2.04
Hydrualic radius	0.41
fps	4.64
Froude number	1.28

Title of run: 40 ACRE AVERAGE

Solving for	=	*Depth Normal*
Triangle		
Flow depth (ft)	=	*0.84*
First Side slope	=	*4.0*
Second Side slope	=	*1.0*
Slope of diversion	=	*0.0200*
Manning"s n	=	*0.025*
CFS	=	*7.78*
Cross section area (sqft)	=	*1.76*
Hydrualic radius	=	*0.38*
fps	=	*4.41*
Froude number	=	*1.26*

```
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CULVERT 13  (108")                                                        :
:WATERSHED HYDROGRAPH                                                                              :
:      Inflow into structure #  1                                                                  :
:      Structure type:          Null                                                               :
:                                                                                                  :
:                                                                                                  :
:-- Watershed data for watershed # 1                                                              :
:     Curve number            =    75.0                                                          :
:     Area                    =  2106.0 acres                                                    :
:     Hydraulic length        = 18330.00 feet                                                    :
:     Elevation change        =     0.0 feet.                                                    :
:     Concentration time      =    0.85 hours                                                    :
:     Unit hydrograph type    = Forested                                                         :
:                                                                                                  :
:-- Total Area             =  2106.0 acres                                                       :
:                                                                                                  :
:-- Storm data                                                                                    :
:     Total precipitation   =     2.1 inches                                                     :
:     Storm type            = SCS 6 hour design storm                                          :
:     Peak Discharge        =  174.76 cfs                                                      :
:     Discharge volume      =   77.44 acre ft                                                  :
:                                                                                                  :
: <press return to continue or {esc} to skip detail printout>                                      :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: US FUEL

Comment: CULVERT NO. 13 (108")

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0300 ft/ft
Manning's n.....	0.020
Discharge.....	174.76 cfs

Computed Results:

Full Flow Diameter.....	4.12 ft
Full Flow Depth.....	4.12 ft
Velocity.....	13.12 fps
Flow Area.....	13.32 sf
Critical Depth....	3.79 ft
Critical Slope....	0.0260 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	174.76 cfs
QMAX @.94D.....	187.99 cfs
Froude Number.....	FULL

```
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CULVERT 51  (24")                                              :
:WATERSHED HYDROGRAPH                                                                    :
:      Inflow into structure #  1                                                        :
:      Structure type:          Null                                                     :
:                                                                                        :
:                                                                                        :
:-- Watershed data for watershed # 1                                                     :
:     Curve number            =    75.0                                                  :
:     Area                    =    17.5 acres                                            :
:     Hydraulic length        = 2100.00 feet                                             :
:     Elevation change        =   590.0 feet.                                            :
:     Concentration time      =    0.11 hours                                            :
:     Unit hydrograph type = Forested                                                    :
:                                                                                        :
:-- Total Area               =    17.5 acres                                             :
:                                                                                        :
:-- Storm data                                                                           :
:     Total precipitation     =     2.1 inches                                           :
:     Storm type              = SCS 6 hour design storm                                  :
:     Peak Discharge          =    2.88 cfs                                              :
:     Discharge volume        =    0.64 acre ft                                          :
:                                                                                        :
: <press return to continue or {esc} to skip detail printout>                            :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: US FUEL

Comment: CULVERT 51 (24")

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0300 ft/ft
Manning's n.....	0.020
Discharge.....	2.88 cfs

Computed Results:

Full Flow Diameter.....	0.88 ft
Full Flow Depth.....	0.88 ft
Velocity.....	4.70 fps
Flow Area.....	0.61 sf
Critical Depth....	0.74 ft
Critical Slope....	0.0287 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	2.88 cfs
QMAX @.94D.....	3.10 cfs
Froude Number.....	FULL

```
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title           = CULVERT 27 (36")                                       :
:WATERSHED HYDROGRAPH                                                             :
:     Inflow into structure #  1                                                  :
:     Structure type:          Null                                               :
:                                                                                 :
:                                                                                 :
:-- Watershed data for watershed # 1                                              :
:    Curve number            =    75.0                                            :
:    Area                    =    49.0 acres                                      :
:    Hydraulic length        = 3300.00 feet                                       :
:    Elevation change        =     0.0 feet.                                      :
:    Concentration time      =    0.27 hours                                      :
:    Unit hydrograph type = Forested                                              :
:                                                                                 :
:-- Total Area              =    49.0 acres                                       :
:                                                                                 :
:-- Storm data                                                                    :
:    Total precipitation     =     2.1 inches                                     :
:    Storm type              = SCS 6 hour design storm                            :
:    Peak Discharge          =    5.67 cfs                                        :
:    Discharge volume        =    1.80 acre ft                                    :
:                                                                                 :
: <press return to continue or {esc} to skip detail printout>                     :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: US FUEL

Comment: CULVERT 27 (36")

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0300 ft/ft
Manning's n.....	0.020
Discharge.....	5.67 cfs

Computed Results:

Full Flow Diameter.....	1.14 ft
Full Flow Depth.....	1.14 ft
Velocity.....	5.57 fps
Flow Area.....	1.02 sf
Critical Depth....	0.97 ft
Critical Slope....	0.0280 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	5.67 cfs
QMAX @.94D.....	6.10 cfs
Froude Number.....	FULL

```
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CULVERT 28 (36")                                                          :
:WATERSHED HYDROGRAPH                                                                              :
:      Inflow into structure #  1                                                                  :
:      Structure type:          Null                                                               :
:                                                                                                  :
:                                                                                                  :
:-- Watershed data for watershed # 1                                                              :
:     Curve number            =    75.0                                                          :
:     Area                    =    23.0 acres                                                    :
:     Hydraulic length        = 2100.00 feet                                                     :
:     Elevation change        =     0.0 feet.                                                    :
:     Concentration time      =    0.16 hours                                                    :
:     Unit hydrograph type = Forested                                                            :
:                                                                                                  :
:-- Total Area             =    23.0 acres                                                       :
:                                                                                                  :
:-- Storm data                                                                                     :
:     Total precipitation  =     2.1 inches                                                     :
:     Storm type           = SCS 6 hour design storm                                            :
:     Peak Discharge       =    3.31 cfs                                                        :
:     Discharge volume     =    0.85 acre ft                                                    :
:                                                                                                  :
: <press return to continue or {esc} to skip detail printout>                                      :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: US FUEL

Comment: CULVERT 28 (36")

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0300 ft/ft
Manning's n.....	0.020
Discharge.....	3.31 cfs

Computed Results:

Full Flow Diameter.....	0.93 ft
Full Flow Depth.....	0.93 ft
Velocity.....	4.87 fps
Flow Area.....	0.68 sf
Critical Depth....	0.79 ft
Critical Slope....	0.0285 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	3.31 cfs
QMAX @.94D.....	3.56 cfs
Froude Number.....	FULL

```
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = CULVERT 29 (60")                                    :
:WATERSHED HYDROGRAPH                                                          :
:     Inflow into structure #  1                                               :
:     Structure type:          Null                                            :
:                                                                              :
:                                                                              :
:-- Watershed data for watershed # 1                                           :
:    Curve number           =     75.0                                         :
:    Area                   =   1239.0 acres                                   :
:    Hydraulic length       = 13950.00 feet                                    :
:    Elevation change       =      0.0 feet.                                   :
:    Concentration time     =     0.69 hours                                   :
:    Unit hydrograph type = Forested                                           :
:                                                                              :
:-- Total Area              =   1239.0 acres                                   :
:                                                                              :
:-- Storm data                                                                 :
:    Total precipitation    =      2.1 inches                                  :
:    Storm type             = SCS 6 hour design storm                          :
:    Peak Discharge         =   110.66 cfs                                     :
:    Discharge volume       =    45.56 acre ft                                 :
:                                                                              :
: <press return to continue or {esc} to skip detail printout>                  :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: US FUEL

Comment: CULVERT 29 (60")

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0300 ft/ft
Manning's n.....	0.020
Discharge.....	110.66 cfs

Computed Results:

Full Flow Diameter.....	3.47 ft
Full Flow Depth.....	3.47 ft
Velocity.....	11.70 fps
Flow Area.....	9.45 sf
Critical Depth....	3.17 ft
Critical Slope....	0.0261 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	110.66 cfs
QMAX @.94D.....	119.04 cfs
Froude Number.....	FULL

Form DOGM - D1 (Last Revised 6/93)

Original + 2 Copies to Permit File

File Folder #3

PERMIT AMENDMENT APPROVAL

Title: South Fork Culvert Removal	PERMIT NUMBER: ACT/007/014
Description:	PERMIT CHANGE #: 94I
	MINE: Hiawatha
	PERMITTEE: U-S. Fuel

WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL	YES, NO or N/A
1. The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	Yes
2. The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless:	Yes
A. The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or	Yes
B. The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230.	Yes
3. For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	Yes
4. The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	Yes
5. The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et.seq.).	Yes
6. The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	Yes
7. The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	Yes
8. The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	Yes
9. The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	Yes
10. The Applicant has satisfied the applicable requirements of R645-302.	NA
11. The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	NA

SPECIAL CONDITIONS OR STIPULATIONS TO THE PERMIT AMENDMENT APPROVAL	YES	NO
1. Are there any variances associated with this permit amendment approval? If yes, attach.		X
2. Are there any special conditions associated with this permit amendment approval? If yes, attach. that copies be submitted	X	
3. Are there any stipulations associated with this permit amendment approval? If yes, attach.		X

The Division hereby grants approval for Permit Amendment to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Permit Amendment.

Signed Dana R Haddock

[redacted], Division of Oil, Gas and Mining

12/12/94

EFFECTIVE DATE

Form DOGM - E (Last Revised 6/93)

File Copy # 3

PERMIT CHANGE TRACKING FORM

DATE RECEIVED	11/14/94	PERMIT NUMBER	ACT/007/001
Title of Proposal:	South Fork	PERMIT CHANGE #	94I
Description:	Culvert Removal	PERMITTEE	US Fuel
		MINE NAME	Wilberth Mine

	DATE DUE	DATE DONE	RESULT	
☑ 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION	11/28		☐ ACCEPTED	☐ REJECTED
☐ Notice of Review Status of proposed permit change sent to the Permittee.			Permit Change Classification	
☐ Request additional review copies prior to Division/Other Agency review.			☐ Significant Permit Revision	
☐ Notice of Approval of Publication. (If change is a Significant Revision.)			☐ Permit Amendment	
☐ Notice of request to modify proposed permit change prior to approval.			☐ Incidental Boundary Change	

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
☐ Administrative ____						
☐ Biology ____						
☐ Engineering ____						
☐ Geology ____						
☐ Soils ____						
☑ Hydrology ____	12/14					
☐ Bonding ____						
☐ AVS Check ____						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
☐ OSMRE						
☐ US Forest Service						
☐ Bureau of Land Management						
☐ US Fish and Wildlife Service						
☐ US National Parks Service					11/28/94	
☐ UT Environmental Quality						
☐ UT Water Resources						
☐ UT Water Rights						
☐ UT Wildlife Resources			11 Copies due			
☐ UT State History						
☐ Other						

☐ Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)		☑ Permit Change Approval Form signed and approved effective as of this date. ☐ Permit Change Denied.	12/12/94
☐ Copies of permit change marked and ready for MRP.		☑ Notice of ☐ Approval ☐ Denial to Permittee.	12/12/94
☐ Special Conditions/Stipulations written for approval.		☐ Copy of Approved Permit Change to File.	
☐ TA and CHIA modified as required.		☐ Copy of Approved Permit Change to Permittee.	
☐ Permit Change Approval Form ready for approval.		☐ Copies to Other Agencies and Price Field Office.	

Form DOGM - C2 (Last Revised 6/93)

File Folder # 3

Application for Permit Change
Detailed Schedule of Changes to the Permit

Title of Change:

SOUTH FORK CULVERT REMOVAL

Permit Number: ACT/ 007 /011

Mine: Hiawatha

Permittee: U.S. Fuel Company

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	EXHIBIT V-7 IN MAPS BOOK OF CHAPTER 5
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

Form DOGM - C1 (Last Revised 6/93)

APPLICATION FOR PERMIT CHANGE

Title of Change: SOUTH FORK CULVERT REMOVAL

Permit Number: ACT/007/007

Mine: Hiawatha

Permittee: U.S. Fuel Company

Description, include reason for change and timing required to implement:

A culvert in South Fork above bathhouse located in Ditch DD24 is no longer needed.

☐ Yes	☒ No	1. Change in the size of the Permit Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	2. Change in the size of the Disturbed Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
☐ Yes	☒ No	4. Will permit change include operations in hydrologic basins other than currently approved?
☐ Yes	☒ No	5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	☒ No	6. Does permit change require or include public notice publication?
☐ Yes	☒ No	7. Permit change as a result of a Violation? Violation #
☐ Yes	☒ No	8. Permit change as a result of a Division Order? D.O.#
☐ Yes	☒ No	9. Permit change as a result of other laws or regulations? Explain:
☐ Yes	☒ No	10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
☐ Yes	☒ No	11. Does the permit change affect the surface landowner or change the post mining land use?
☐ Yes	☒ No	12. Does permit change require or include collection and reporting of any baseline information?
☐ Yes	☒ No	13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes	☒ No	14. Does permit change require or include soil removal, storage or placement?
☐ Yes	☒ No	15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
☒ Yes	☐ No	16. Does permit change require or include construction, modification, or removal of surface facilities?
☒ Yes	☐ No	17. Does permit change require or include water monitoring, sediment or drainage control measures?
☒ Yes	☐ No	18. Does permit change require or include certified designs, maps, or calculations?
☐ Yes	☒ No	19. Does permit change require or include underground design or mine sequence and timing?
☐ Yes	☒ No	20. Does permit change require or include subsidence control or monitoring?
☐ Yes	☒ No	21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
☐ Yes	☒ No	22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
☐ Yes	☒ No	23. Is this permit change coal exploration activity ☐ inside ☐ outside of the permit area?

☐ Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Michael P. Watson President 11/10/94

Signed - Name - Position - Date

Subscribed and sworn to before me this 10 day of NOVEMBER, 1994.

Diana B. Houghton

Notary Public

My Commission Expires: August 14, 1997

Attest: STATE OF Utah

COUNTY OF Carbon

DIANA B. HOUGHTON
NOTARY PUBLIC - STATE of UTAH
1401 WEST 2060 NORTH
HELPER, UTAH 84526
COMM. EXP. 8-14-97

Received by Oil, Gas & Mining

RECEIVED

NOV 14 1994

DIV OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

007/011 #2

UNITED STATES FUEL COMPANY

P.O. BOX 887
PRICE, UTAH 84501

(801) 637-2252
FAX (801) 343-2344

December 21, 1994

Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: Removal of Culvert at South Fork Facilities; U.S. Fuel Company, Hiawatha Mine, Permit ACT/007/011.

Dear Sirs,

U. S. Fuel Company is submitting the requested 11 copies of Exhibit V-7 for the above amendment. The culvert was removed in a manner to minimize the amount of sediment reporting to the sediment pond. The exhibit is located in the Chapter 5 Maps Book of the permit; please remove the old exhibit and insert the new exhibit.

Please give us a phone call if you have any questions.

Sincerely,

Gary E. Gray,
Mine Engineer

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

December 12, 1994

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

Re: South Fork Culvert Removal, Hiawatha Mine, U.S. Fuel Company, ACT/007/004, Folder #3, Carbon County, Utah

Dear Mr. Baum:

The above-noted amendment is approved. The removal of this culvert must be done is such a manner that this activity does not increase the amount of sediment in the stream.

Please submit eleven finalized copies of Exhibit V-7 by January 12, 1994.

Sincerely,

Pamela Grubaugh-Littig
Permit Coordinator

cc: Daron Haddock

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

December 12, 1994

TO: Daron Haddock, Permit Supervisor

FROM: Steven M. Johnson, Reclamation Hydrologist SMJ

RE: Draft Review, South Fork Culvert Removal, Hiawatha Mine, U.S. Fuel, ACT/007/011-94I, Working File, Carbon County, Utah

#2

U.S. Fuel submitted to the Division an amendment to the plan on November 14, 1994. The amendment requested that a culvert be removed because it was not needed. Included was an update of Exhibit V-7 showing that a 24-inch culvert was removed from the stream near the Bath house location. The culvert is not needed any longer so this plan for removal should be approved. However, U.S. Fuel should do the work in a manner that would not increase the amount of sediment in the stream and according to the regulation.

CLVERTRM.SJ

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

December 30, 1994

Mr. Thomas E. Ehmett
Office of Surface Mining
505 Marquette N W ste 1200
Albuquerque NM 87102

RE: Permit amendment, Culvert removal and revised exhibit V-7, U. S. Fuel Company, Hiawatha Mine, ACT/007/011-94I, Folder #2, Carbon County, Utah

Dear Mr. Ehmett:

Enclosed is one copy of United States Fuel Company's final approved plans for PAP Amendment for the Hiawatha Mine in Carbon County, Utah. This material should be used to update your file copy of the approved Permit Application Package for this Mine. The amendment involves the removal of a culvert that is no longer needed.

The Division approved this permit change on December 12, 1994. If you have any questions or need additional information, please contact me or Steven Johnson, Reclamation Hydrologist, at your earliest convenience.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

Enclosures
cc:
S. Johnson
P. Grubaugh-Littig

UNITED STATES FUEL COMPANY

P.O. BOX 887
PRICE, UTAH 84501

(801) 637-2252
FAX (801) ~~343-2344~~
637-1070

November 7, 1994

Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

94I

RE: Permit Change Application -- Culvert Removal at South Fork Facility; U.S. Fuel Company, Hiawatha Mine, Permit ACT/007/011. #2

Baron - 12/12
Do Steve's memo a finding for TA format...? Does not seem!!
THX. Pam

Dear Sirs,

U.S. Fuel Company is submi[illegible]permit change application for your appr[illegible]moves a culvert which is not needed.

Please give me a phone ca[illegible]uestions.

Sincerely,

I had Steve fix the language in his memo so it is clear that the culvert is not needed.
The removal of the culvert should not alter the TA.
Thanks, Baron

E

INING

UNITED STATES FUEL COMPANY

P.O. BOX 887
PRICE, UTAH 84501

(801) 637-2252
FAX (801) ~~343-2344~~
637-1070

November 7, 1994

Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

94I

RE: Permit Change Application -- Culvert Removal at South Fork Facility; U.S. Fuel Company, Hiawatha Mine, Permit ACT/007/011. #2

Dear Sirs,

U.S. Fuel Company is submitting the attached permit change application for your approval. The change removes a culvert which is not needed.

Please give me a phone call if you have any questions.

Sincerely,

Gary E. Gray,
Mine Engineer

File Folder # 3

PERMIT CHANGE TRACKING FORM

DATE RECEIVED	9/29/94	PERMIT NUMBER	ACT/007/011
Title of Proposal:	Portable Screening	PERMIT CHANGE #	94D
Description:	@ Crushing Plant	PERMITTEE	US Fuel Co.
		MINE NAME	Hiawatha

	DATE DUE	DATE DONE	RESULT
☐ 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION			☐ ACCEPTED ☐ REJECTED
☐ Notice of Review Status of proposed permit change sent to the Permittee.			Permit Change Classification
☐ Request additional review copies prior to Division/Other Agency review.			☐ Significant Permit Revision
☐ Notice of Approval of Publication. (If change is a Significant Revision.)			☐ Permit Amendment
☐ Notice of request to modify proposed permit change prior to approval.			☐ Incidental Boundary Change

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
☐ Administrative Paul						
☐ Biology ____						
☐ Engineering Wayne						
☐ Geology ____						
☐ Soils ____						
☐ Hydrology ____						
☐ Bonding ____						
☐ AVS Check ____						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
☐ OSMRE						
☐ US Forest Service						
☐ Bureau of Land Management						
☐ US Fish and Wildlife Service						
☐ US National Parks Service						
☐ UT Environmental Quality						
☐ UT Water Resources						
☐ UT Water Rights						
☐ UT Wildlife Resources						
☐ UT State History						
☐ Other						

☐ Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)		☑ Permit Change Approval Form signed and approved effective as of this date. ☐ Permit Change Denied.	3/15/95
☐ Copies of permit change marked and ready for MRP.		☐ Notice of ☑ Approval ☐ Denial to Permittee.	3/17/95
☐ Special Conditions/Stipulations written for approval.		☐ Copy of Approved Permit Change to File.	
☐ TA and CHIA modified as required.		☐ Copy of Approved Permit Change to Permittee.	
☐ Permit Change Approval Form ready for approval.		☐ Copies to Other Agencies and Price Field Office.	

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

March 19, 1995

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

Re: Approval of Portable Screening and Crushing Plant, Hiawatha Mine, U.S. Fuel Company, ACT/007/011-94D, Folder #3, Carbon County, Utah

Dear Mr. Watson:

The above-noted amendment is approved with the condition that U.S. Fuel Company maintains responsibility for insuring that the portable screening and crushing facility is operated in compliance with all Utah Coal Mining Regulatory performance standard (R645 et al).

Additionally, please submit by April 17, 1995, 11 copies of finalized pages 12 and 13 and Exhibit V-9 for insertion into Chapter V of the Hiawatha Mine mining and reclamation plan.

Sincerely,

Pamela Grubaugh-Littig
Permit Coordinator

Enclosure
cc: Daron Haddock

PERMIT AMENDMENT APPROVAL

Title: Portable Screening + Crushing plant	PERMIT NUMBER: ACT/007/011
Description:	PERMIT CHANGE #: 941
	MINE: Hiawatha
	PERMITTEE: U.S. Fuel Co.

	WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL	YES, NO or N/A
1.	The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	Yes
2.	The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless:	Yes
	A. The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or	Yes
	B. The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230.	Yes
3.	For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	Yes
4.	The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	Yes
5.	The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et.seq.).	Yes
6.	The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	Yes
7.	The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	Yes
8.	The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	Yes
9.	The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	Yes
10.	The Applicant has satisfied the applicable requirements of R645-302.	NA
11.	The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	NA

	SPECIAL CONDITIONS OR STIPULATIONS TO THE PERMIT AMENDMENT APPROVAL	YES	NO
1.	Are there any variances associated with this permit amendment approval? If yes, attach.		X
2.	Are there any special conditions associated with this permit amendment approval? If yes, attach. See attached	X	
3.	Are there any stipulations associated with this permit amendment approval? If yes, attach.		X

The Division hereby grants approval for Permit Amendment to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Permit Amendment.

Signed Daron R. Haddock
Division of Oil, Gas and Mining

3/15/95
EFFECTIVE DATE

CONDITION OF APPROVAL

PORTABLE SCREENING AND CRUSHING PLANT AMENDMENT

U. S. FUEL COMPANY
ACT/007/011-94D

March 15, 1995

1) Within 30 days U. S. Fuel must submit the appropriate number of copies for updating the Mining and Reclamation Plan and for distribution to other agencies.

2) U. S. Fuel remains responsible for insuring that the portable screening and crushing facility is operated in compliance with the SMCRA performance standards.

UNITED STATES FUEL COMPANY

P.O. BOX 887
PRICE, UTAH 84501

(801) 637-2252
FAX (801) 343-2344

94D

September 26, 1994

RECEIVED
SEP 29 1994
DIV. OF OIL, GAS & MINING

Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: Permit Change Application -- Portable Crushing and Screening ~~Plant Location~~; U.S. Fuel Company, Hiawatha Mine, Permit ACT/007/011.

#2 Original to file - Copy to amendment file

Dear Sirs,

U.S. Fuel Company is submitting the attached permit change application for your approval. The change should correct a conflict in the wording of the text on pages 12 and 13 in Chapter V and the depiction on Exhibit V-9. This conflict was discovered during the last inspection.

U.S. Fuel has not and did not intend to use the Utah Railway yard as a location for any crushing and screening for any of its permitted operations. If any contractor or Utah Railway customer wishes to use our disturbed areas to perform any crushing and screening operations we will submit an updated identification of interests permit change application prior to their operations.

Please give me a phone call if you have any questions.

Sincerely,

Gary E. Gray,
Mine Engineer

Form DOGM - C1 (Last Revised 6/93) File Folder # 3

APPLICATION FOR PERMIT CHANGE

Title of Change: PORTABLE CRUSHING & SCREENING PLANT

Permit Number: ACT / 007 / 011

Mine: HIAWATHA

Permittee: U.S. FUEL COMPANY

Description, include reason for change and timing required to implement:

Wording in permit allowed use in Utah Railway yard area which is not part of disturbed area of permit. Wording is changed to allow use only in disturbed area of permit.

☐ Yes	☒ No	1. Change in the size of the Permit Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	2. Change in the size of the Disturbed Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
☐ Yes	☒ No	4. Will permit change include operations in hydrologic basins other than currently approved?
☐ Yes	☒ No	5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	☒ No	6. Does permit change require or include public notice publication?
☐ Yes	☒ No	7. Permit change as a result of a Violation? Violation #
☐ Yes	☒ No	8. Permit change as a result of a Division Order? D.O.#
☒ Yes	☐ No	9. Permit change as a result of other laws or regulations? Explain: OSM Interpretation
		...quire or include ownership, control, right-of-entry, or compliance information?
		... affect the surface landowner or change the post mining land use?
		...uire or include collection and reporting of any baseline information?
		... have any effect on wildlife or vegetation outside the current disturbed area?
		...ire or include soil removal, storage or placement?
		...ire or include vegetation monitoring, removal or revegetation activities?
		...ire or include construction, modification, or removal of surface facilities?
		...re or include water monitoring, sediment or drainage control measures?
		...re or include certified designs, maps, or calculations?
		...e or include underground design or mine sequence and timing?
		...e or include subsidence control or monitoring?
☐ Yes	☒ No	21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
☐ Yes	☒ No	22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
☐ Yes	☒ No	23. Is this permit change coal exploration activity ☐ inside ☐ outside of the permit area?

Pam - 10/5 NOV will be written I need to talk to you about this. Thanks. Paul

☐ Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Michael P. Watts President 9/27/94
Signed - Name - Position - Date

Subscribed and sworn to before me this 27 day of Sept., 19 94.

Diana B. Houghton
Notary Public

My Commission Expires: 8/14, 1997

Attest: STATE OF UTAH
COUNTY OF CARBON

DIANA B. HOUGHTON
NOTARY PUBLIC - STATE OF UTAH
1401 WEST 2060 NORTH
HELPER, UTAH 84526
COMM. EXP. 8-14-97

Received by Oil, Gas & Mining
RECEIVED
SEP 29 1994
DIV. OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

Form DOGM - C1 (Last Revised 6/93) File Folder # 3

APPLICATION FOR PERMIT CHANGE

Title of Change: PORTABLE CRUSHING & SCREENING PLANT

Permit Number: ACT / 007 / 011

Mine: HIAWATHA

Permittee: U.S. FUEL COMPANY

Description, include reason for change and timing required to implement:

Wording in permit allowed use in Utah Railway yard area which is not part of disturbed area of permit. Wording is changed to allow use only in disturbed area of permit.

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☐ Yes	☒ No	23. Is this permit change coal exploration activity ☐ inside ☐ outside of the permit area?

☐ Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Michael L. Watson President 9/27/94
Signed - Name - Position - Date

Subscribed and sworn to before me this 27 day of Sept., 19 94.

Diane B. Houghton
Notary Public

My Commission Expires: 8/14, 1997

Attest: STATE OF UTAH
COUNTY OF CARBON

DIANA B. HOUGHTON
NOTARY PUBLIC - STATE of UTAH
1401 WEST 2060 NORTH
HELPER, UTAH 84526
COMM. EXP. 8-14-97

Received by Oil, Gas & Mining

RECEIVED
SEP 29 1994
DIV. OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

Form DOGM - C2 (Last Revised 6/93)

File Folder #3

Application for Permit Change
Detailed Schedule of Changes to the Permit

Title of Change:

PORTABLE CRUSHING & SCREENING PLANT

Permit Number: ACT / 007 / 011

Mine: HIAWATHA

Permittee: U.S. FUEL COMPANY

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	Exhibit V-9 in Chapter V in Book of Engineering (Maps)
☐ ADD	☒ REPLACE	☐ REMOVE	Pages 12 & 13 in Chapter V.
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

R645-301-522 COAL RECOVERY

It is in the interest of U.S. Fuel to maximize the recovery of coal resources. As can be readily observed from Exhibit V-1 the majority of reserves have already been extracted from the permit area. The extended life of operations is directly tied to the maximum recovery of remaining reserves. U.S. Fuel has employed the room and pillar method of coal extraction and plans to continue its use. Figure V-1 shows U.S. Fuel's current development and pillar recovery method. This method is designed for maximum safe recovery of coal resources. State of the art room and pillar mining equipment is utilized. Multiple seam mining has been accomplished at several locations and though more costly due to adverse geological and engineering conditions is projected for future development of remaining reserves.

A large portion of U.S. Fuel's coal resources are contained in Federal leases. A major condition of each lease agreement is maximum recovery of resources. Mine workings in each lease are inspected on a regular basis by Bureau of Land Management personnel experienced in underground coal mining methods.

By letter to OSM dated May 8, 1984, the Chief, Branch of Mining Law and Solid Minerals, BLM, Salt Lake City makes the following comments regarding U. S. Fuel's Resource Recovery and Protection Plan: "We have determined that the Resource Recovery and Protection Plan (R2P2) or underground mining part of the subject PAP on file in this office and listed above, conforms with 43 CFR 3482.1(c) rules and regulations. The proposed coal recovery procedures should safely obtain maximum economic recovery of the coal resource within the plan area by following the planned technology and by using the types of equipment listed in the plan. The R2P2 part of the PAP is adequate for BLM administration of the associated Federal coal leases".

Justification for not recovering coal deposits that may be detrimentally affected in terms of future recovery by the proposed operations include the following:

A. Seams that are too thin to be economically minable given existing or reasonably foreseeable technology.

B. Coal seams separated by insufficient rock intervals to allow safe mining above or below worked out areas.

C. Seams that are relatively thick but not extensive, and isolated by thin coal which would make development cost prohibitive.

In the interest of reducing the amount of substandard coal material that would have to be buried or otherwise disposed of during final reclamation, U.S. Fuel or its customers may utilize a portable screening, crushing and blending facility to be located within the Hiawatha processing plant and slurry impoundment **disturbed areas** ~~and Utah Railroad right-of-way portion of the permit area~~ depicted on Exhibit V-9.

The screening, crushing and blending facility will attempt to remove foreign objects, i.e. metal, large rocks, etc., and size coal to the final user specification. U.S. Fuel may elect to sell coal or waste to the customer as needed. In order to produce a salable or economic product it may be necessary to import additional coals for the purpose of blending, to meet a customer specification. In addition, material from the screening operation may be loaded on railcars **at the Utah Railway Yard** or trucks at the site. The facility may be relocated within the specified area from time to time at the direction of U.S. Fuel in order to minimize cost and facilitate reclamation efforts.

R645-301-523 MINING METHOD

Exhibit V-1 shows mine workings developed in the Hiawatha area from the beginning of mining in the early nineteenth century to the present. The current permit boundary reflects the sale of approximately 467 acres of coal lands to Plateau Mining in December, 1985 and approximately 6,500 acres to Intermountain Power Agency in April, 1986.

Coal reserves held in fee and Federal lease rights are currently accessible through workings in three mines. These are the King 4, King 5 and King 6 mines which will be discussed separately.

KING 4 MINE

The King 4 mine is located in sections 13, 24 and 25, T.15S., R.7E.; and sections 18,19,20, and 30, T.15S., R.8E., SLBM. It is bounded by the Bear Canyon fault on the west, property boundaries on the north, coal seam outcrops on the east and mined-out workings of the King 1 mine on the south. Portals are located in the Middle Fork canyon of Miller Creek, 3 miles northwest of Hiawatha. The mine was opened in 1974 when haulage and ventilation entries were driven outward from the northern extension of the King 1 mine to the B seam outcrop in Middle Fork. Once portals were established, the King 1 mine, which had been mined out in earlier years, was sealed off and abandoned to the south. A set of entries which connect with South Fork were left open and maintained for access and ventilation but are now sealed.

The mine area initially comprised 3,000 acres, however a sale of approximately 467 acres of fee land to Plateau Mining in 1985 reduced this area to 2,693 acres. At the present time the mine contains 1,783 acres of fee land, 720 acres are held under Federal Consolidated Lease No's. U-026583 and U-05826; 160 acres are under Federal lease No. U-51923 and 30 acres are under Federal lease No. SL-069985.

In April of 1991 production was cut back from three production shifts per day to one production shift per day. Current production is 120,000 tons per year. It is not anticipated that this production will change over the next few years. No changes in mining methods have resulted due to