

Hiawatha Coal Company

P.O. Box 1202
Huntington, UT 84528

(435) 637-1778
FAX (435) 637-1378

March 29, 1999

Coal Program
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

ACT/007/011 #6

To Whom It May Concern,

Re: Annual Report, 1998, Hiawatha Coal Company, Hiawatha Complex,
ACT/007/011, Carbon County, Utah

Enclosed is the Annual Report for 1998 for the Hiawatha Complex

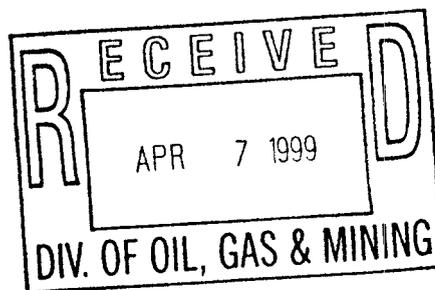
If you have any questions, please call me at (435) 637-1778.

Sincerely,

Elliot Finley
Elliot Finley
President

CR

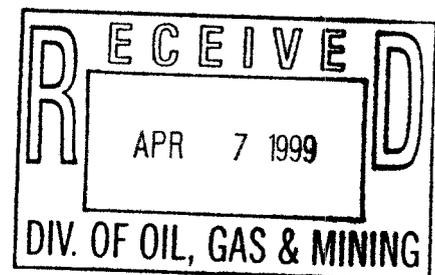
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HIAWATHA COAL COMPANY

ANNUAL REPORT 1998

Hiawatha Complex
ACT/007/011

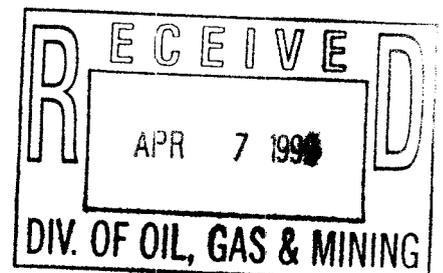


Prepared by

Charles Reynolds, P.E.
P.O. Box 1031
Huntington, Utah 84528
(435) 687-5057

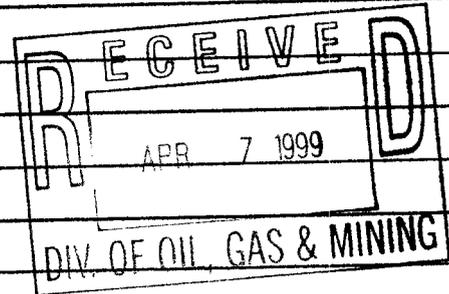
For

Hiawatha Coal Company, Inc.
P.O. Box 1202
Huntington, Utah 84528
(435) 637-1778



GENERAL INFORMATION

1. Permit Number	ACT/007/011
2. Mine Name	Hiawatha Complex
3. Permittee Name	Hiawatha Coal Company Inc.
4. Operator Name (if other than Permittee)	
5. Permit Expiration Date	3/14/02
6. Company Representative, Title	Elliot Finley
7. Phone Number	(435) 637-1778
8. Fax Number	(435) 637-1378
9. Mailing Address	P.O. Box 1202 Huntington, Utah 84528
10. Resident Agent, Title	Elliot Finley, President
Mailing Address	P.O. Box 1202 Huntington, Utah 84528



IDENTIFICATION OF OTHER PERMITS

Identify other permits which are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expires on
1. MSHA Mine ID(s)	42-02157	King Mines	
2. MSHA Impoundment(s)	01	Slurry Impoundment No. 1	
	03	Slurry Impoundment No. 5	
3. NPDES/UPDES Permit(s) (water)	UT-0023094	Minor Industrial	5/99
4. PSD (Air) Permit(s)	BAQE-502-89		
5.	04	Refuse Pile No. 1	
6.			

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX A to this Annual Report or currently ON FILE with the Division.

Certified Reports:	Reports Required?		INCLUDED or ON FILE w/DOGEM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Excess Spoil Files		X		X		
2. Refuse Files	X		X			
3. Impoundments	X		X			
4.						
5.						

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX B to this Annual Report or currently ON FILE with the Division.

Technical Data:	Reports Required?		INCLUDED or ON FILE w/DOGEM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Climatological Data		X		X		
2. Subsidence Monitoring Data	X		X			
3. Vegetation Monitoring Data		X		X		
5. Soils Monitoring Data		X		X		
6. Water Monitoring Data	X				X	
First Quarter Report	X				X	
Second Quarter Report	X				X	
Third Quarter Report	X				X	
Fourth Quarter Report	X				X	
7. Geological/Geophysical Data		X		X		
8. Engineering Data		X		X		
9. Other Data						

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

Changes in administration or corporate structure can often bring about necessary changes to information found in the mining and reclamation plan. The Division is requesting that each permittee review and update the legal, financial, compliance and related information in the plan as part of the Annual Report. Provide the Department of Commerce, Annual Report of Officers, or other equivalent information as necessary to ensure that the information provided in the plan is current. Provide any other changes as necessary regarding land ownership, lease acquisitions, legal results from appeals of violations, or other changes as necessary to update information required in the mining and reclamation plan. Include any certified financial statements, audits or worksheets which may be required to meet bonding requirements. Specify whether the information is currently ON FILE with the Division or included as APPENDIX C to this Annual Report.

Legal/Financial Data:	Report Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Department of Commerce, Annual Report of Officers	X		X			
2. Other						

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 1998, are to be provided to the Division as APPENDIX D to this Annual Report in accordance with the requirements of R645-301-525.270. These map copies shall be made in accordance with 30 CFR 75.1200, as required by MSHA. Upon request, mine maps shall be kept confidential by the Division.

Map Number(s)	Map Title / Description	Confidential?
Not Applicable		

OTHER INFORMATION

Please provide any comments or further information to be included as part of the Annual Report. Any other attachments are to be provided as APPENDIX E to this Annual Report.

Additional attachments to this report? No

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

as required under R645-301-514

CONTENTS

Slurry Impoundment No. 1
Slurry Impoundment No. 4
Slurry Impoundment No. 5 and 5a
Refuse Pile No. 1
Sediment Pond Annual Inspections

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		N/A	Page 1 of 2
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Slurry Impoundment No. 1	
	Impoundment Number	N/A	
	UPDES Permit Number	N/A	
	MSHA ID Number	1211-UT-09-00098-01	
IMPOUNDMENT INSPECTION			
Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>Minimal coal fines were recovered from the pond during 1998. In December, approximately 12,000 tons were removed and stockpiled for sale in 1999.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>The surface elevation of the unrecovered coal fines in the pond varies significantly, with an average elevation of 7160. The embankment top remains at elevation 7175.</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>N/A</p>		
<p>4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.</p> <p>The pond is currently inactive, with minimal water, but controls runoff from portions of the disturbed area. Ponds fines are currently being recovered from the impoundment.</p>			
<p>5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.</p> <p>Coal fine sale and removal is expected to continue in 1999.</p>			
Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u></p>		

CERTIFIED REPORT

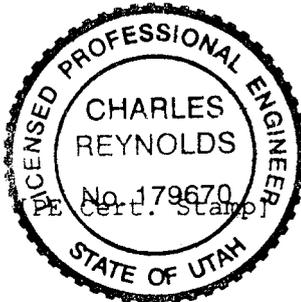
IMPOUNDMENT EVALUATION (If NO, explain under Comments)

YES NO

- 1. Is impoundment designed and constructed in accordance with the approved plan? X
- 2. Is impoundment free of instability, structural weakness, or any other hazardous condition? X
- 3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection? X

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Slurry Impoundment No. 5	
	Impoundment Number	N/A	
	UPDES Permit Number	N/A	
	MSHA ID Number	1211-UT-09-00098-03	

IMPOUNDMENT INSPECTION

Inspection Date	12/30/98
Inspected By	Charles Reynolds
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

Topsoiling of the outslopes of the main cell continued in 1998. In December, 1998, the topsoiled areas were reseeded. No slurry was added to or removed from the North Cell during 1998. No structural changes have been made to the outside embankment.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.
	The current elevation of the slurry sediment is 7,055.
	3. Principle and emergency spillway elevations.
	N/A

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

N/A

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The top of the outside embankment remains at elevation 7,068. The coal fines remain at elevation 7,055. There are no signs of instability and no fires have occurred.

Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u></p>
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Permit Number	ACT/007/011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Excess Spoil Pile or Refuse Pile Identification	File Name	Refuse Pile No. 1	
	File Number	1	
	MSHA ID Number	1211-UT-09-00098-04	
Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection <small>(Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)</small>	Annual		
	Attachments to Report? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		

Field Evaluation

1. **Foundation preparation, including the removal of all organic material and topsoil.**
File remains inactive.

2. **Placement of underdrains and protective filter systems.**
N/A

3. **Installation of final surface drainage systems.**
N/A

4. **Placement and compaction of fill materials.**
No material has been added to the pile.

Final grading and revegetation of fill.

N/A

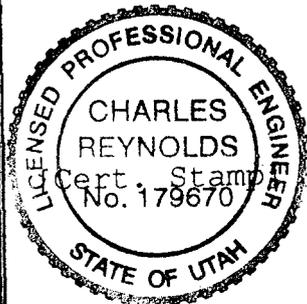
6. Appearances of instability, structural weakness, and other hazardous conditions.

No signs of embankment instability were observed. No fires have occurred.

7. Other Comments. Describe any changes in the geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and maximum lifts of materials placed in the pile, elevations of active benches, total and remaining storage capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.

No changes have been made to the configuration of the pile.

Certification Statement



I hereby certify that: I am experienced in the construction of earth and rock fills; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of earth and rock fills in accordance with the certified and approved designs for this structure; that the fill structure has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Charles Reynolds, Mining Engineer
(Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Upper Rail Yard	
	Impoundment Number	D003	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.60 ac-ft 60% cleanout elevation = 7,211.5 100% sediment storage elevation = 7,212.7 Existing sediment elevation = 7,210.5 (Average)</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,214.5 Emergency spillway elevation = 7,217.7</p>		
<p>4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.</p> <p>The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1997. Musk thistle plants are present inside the sediment pond.</p>			
<p>5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.</p> <p>The existing sediment volume is 0.19 ac-ft. The existing storage capacity is 1.96 ac-ft, which is greater than the 0.76 ac-ft required.</p>			
Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u></p>		

CERTIFIED REPORT

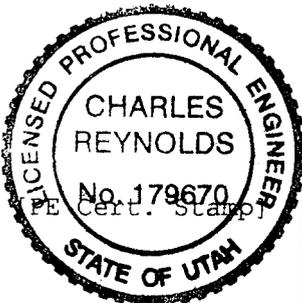
IMPOUNDMENT EVALUATION (if NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Sediment level is approaching the 60% cleanout level (approx. 12 inches remaining). Pond should be scheduled for cleaning in the Spring of 1999.

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mine Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond N. of Slurry pond #1	
	Impoundment Number	D004	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	

IMPOUNDMENT INSPECTION

Inspection Date	12/30/98
Inspected By	Charles Reynolds
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.
The pond banks showed no signs of instability or hazardous conditions.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment storage capacity = 0.48 ac-ft
60% cleanout elevation = 7,087.8
100% sediment storage elevation = 7,089.1
Existing sediment elevation = 7,087.1

3. Principle and emergency spillway elevations.

Principle spillway elevation = 7,089.3
Emergency spillway elevation = 7,093.5

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1998. Pond slopes are well vegetated.

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The existing sediment volume is 0.19 ac-ft. The existing storage capacity is 1.49 ac-ft, which is greater than the 0.54 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds Date: 12/30/98

CERTIFIED REPORT

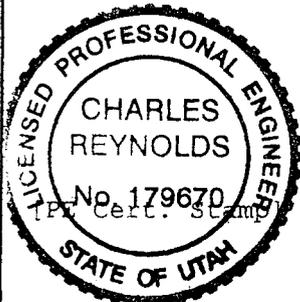
IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Sediment level is approaching the 60% cleanout level (approx. 9" remaining).
 Pond should be scheduled for cleanout in Spring, 1999.

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond E. of Slurry pond #4	
	Impoundment Number	D005	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.83 ac-ft 60% cleanout elevation = 7,039.4 100% sediment storage elevation = 7,040.5 Existing sediment elevation = 7,036.5</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,041.0 Emergency spillway elevation = 7,046.0</p>		
<p>4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.</p> <p>The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1998.</p>			
<p>5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.</p> <p>The existing sediment volume is 0.02 ac-ft. The existing storage capacity is 3.17 ac-ft, which is greater than the 0.91 ac-ft required.</p>			
Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u></p>		

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond NE. of Slurry pond #5	
	Impoundment Number	D006	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	

IMPOUNDMENT INSPECTION

Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection <small>(Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)</small>	Annual/Quarterly		

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.
The pond's bank showed no signs of instability or hazardous conditions.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment. Sediment storage capacity = 1.21 ac-ft 60% cleanout elevation = 6,990.0 100% sediment storage elevation = 6,991.1 Existing sediment elevation = 6,987.4
	3. Principle and emergency spillway elevations. Principle spillway elevation = 6,993.1 Emergency spillway elevation = 6,994.5

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.
The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1998.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.
The pond currently contains 0.04 sediment. The existing storage capacity is 2.96 ac-ft, which is greater than the 1.32 ac-ft required.

Qualification Statement	I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u>
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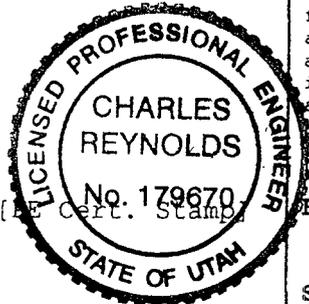
CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond SE. of Slurry pond #5	
	Impoundment Number	D007	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond bank showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.68 ac-ft 60% cleanout elevation = 6,990.9 100% sediment storage elevation = 6,992.2 Existing sediment elevation = 6,989.9</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 6,992.5 Emergency spillway elevation = 6,998.0</p>		
<p>4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.</p> <p>The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1998.</p>			
<p>5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.</p> <p>The pond currently contains 0.23 sediment. The existing storage capacity is 2.34 ac-ft, which is greater than the 0.74 ac-ft required.</p>			
Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature:  Date: <u>12/30/98</u></p>		

CERTIFIED REPORT

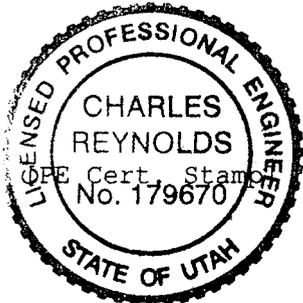
IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

The sediment level is approaching the 60% cleanout level (approx. 12 inches remaining). Pond should be scheduled for cleanout in the Spring, 1999.

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Middle Fork Pond	
	Impoundment Number	D008	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	

IMPOUNDMENT INSPECTION

Inspection Date	12/30/98
Inspected By	Charles Reynolds
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.
The pond banks showed no signs of instability or hazardous conditions.

Required for an impoundment which functions as a SEDIMENTATION POND.	2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment. Sediment storage capacity = 0.48 ac-ft 60% cleanout elevation = 8,034.8 100% sediment storage elevation = 8,036.1 Existing sediment elevation = 8,031.8
	3. Principle and emergency spillway elevations. Principle spillway elevation = 8,042.0 Emergency spillway elevation = 8,045.5

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.
The pond is covered with light snow in the bottom. The inlet and outlets appear in good condition. No discharges were reported during 1998.

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.
The pond currently contains 0.01 ac-ft of sediment. The existing storage capacity is 3.15 ac-ft, which is greater than the 0.92 ac-ft required.

Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u></p>
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CERTIFIED REPORT

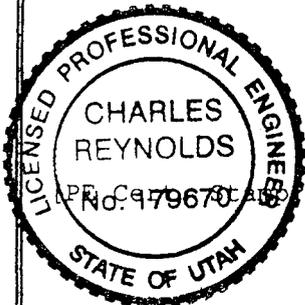
IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.



By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		D009	Page 1 of 2
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	South Fork Mine Yard	
	Impoundment Number	D009	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.76 ac-ft 60% cleanout elevation = 7,902.2 100% sediment storage elevation = 7,903.5 Existing sediment elevation = 7,901.1</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,903.5 Emergency spillway elevation = 7,910.6</p>		
<p>4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.</p> <p>The pond contains 2 inches of snow in the bottom. The inlet and outlets appear in good condition. Musk thistle is present in the pond, which should be sprayed in the Spring, 1999. No discharges were reported during 1998.</p>			
<p>5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.</p> <p>The pond currently contains sediment. The existing storage capacity is 3.54 ac-ft, which is greater than the 2.99 ac-ft required.</p>			
Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <i>Charles Reynolds</i> Date: <u>12/30/98</u></p>		

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

YES

NO

1. Is impoundment designed and constructed in accordance with the approved plan?

X

2. Is impoundment free of instability, structural weakness, or any other hazardous condition?

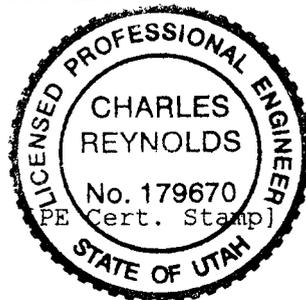
X

3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?

X

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		D011	Page 1 of 2
Permit Number	ACT\007\011	Report Date	12/30/98
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	South Fork Truck Loading Facility	
	Impoundment Number	D011	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/30/98		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.47 ac-ft 60% cleanout elevation = 7,712.3 100% sediment storage elevation = 7,714 Existing sediment elevation = 7,709.5</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,713 Emergency spillway elevation = 7,716.7</p>		
<p>4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.</p> <p>The pond contains 2 inches of snow in the bottom. The inlet and outlets appear in good condition. No discharges were reported during 1998.</p>			
<p>5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.</p> <p>The pond currently contains sediment. The existing storage capacity is 0.76 ac-ft, which is greater than the 0.31 ac-ft required.</p>			
Qualification Statement	<p>I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.</p> <p>Signature: <u>Charles Reynolds</u> Date: <u>12/30/98</u></p>		

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

YES

NO

1. Is impoundment designed and constructed in accordance with the approved plan?
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?

X

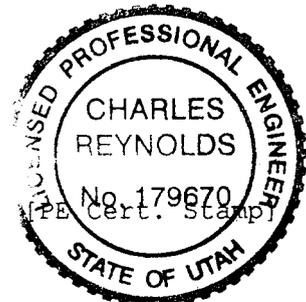
X

X

COMMENTS AND OTHER INFORMATION

Certification Statement:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.



By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12/30/98

P.E. Number & State: 179670, Utah

APPENDIX B

Reporting of Technical Data

including monitoring data, reports, maps, and other information
as required under the approved plan
or as required by the Division

in accordance with the requirements of R645-301-130 and R645-301-140.

CONTENTS

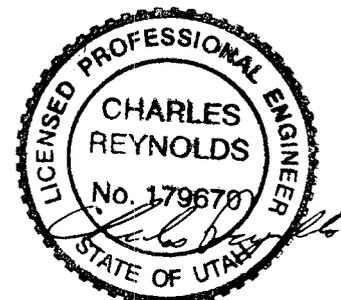
Subsidence Data
Water Monitoring Data

Olympus Aerial Surveys, Inc.
 Subsidence Study Report
 using elevation readings from photography dated
 October 9, 1998 versus those of September 28, 1988
 for
 HIAWATHA COAL COMPANY

1998 HIAWATHA SUBSIDENCE STUDY

USING 1998 REVISED CONTROL.

POINT	EASTING	NORTHING	1988	1998	POINT
			ELEVATION	DIFFERENCE	
300	-16154.84	9455.11	9145.11	-0.06	300
301	-19121.40	10685.80	9834.34	0.04	301
302	-19176.66	10300.36	9820.79	0.08	302
303	-18869.55	10206.93	9700.41	0.07	303
304	-18581.16	10303.30	9654.68	0.03	304
305	-18086.90	10234.14	9506.03	0.06	305
306	-17709.62	10335.41	9565.75	0.06	306
307	-17396.10	10215.50	9578.39	0.05	307
308	-17026.66	10492.97	9421.05	0.03	308
309	-16470.35	10432.95	9107.78	-0.07	309
310	-16010.35	10379.94	8892.65	0.03	310
311	-15534.21	10214.41	9658.30	0.03	311
312	-15030.33	10279.77	8555.36	-0.08	312
313	-19120.12	10030.57	9726.40	0.07	313
314	-19064.92	9847.59	9637.45	0.09	314
315	-18832.57	9843.37	9572.86	0.09	315
316	-18533.11	9941.48	9495.16	0.04	316
317	-18093.74	9870.18	9353.92	0.04	317
318	-17723.09	9760.03	9359.17	0.07	318
319	-17264.45	9925.78	9502.48	0.05	319
320	-17237.77	9502.10	9325.44	0.07	320
321	-17042.88	9835.38	9468.03	0.06	321
322	-16862.99	9375.28	9410.64	0.03	322
323	-16407.90	9639.15	9323.66	0.05	323
324	-16022.32	9703.75	8994.83	0.04	324
325	-15799.88	9592.11	8894.32	0.04	325
326	-15439.19	9670.87	8702.31	0.04	326
327	-14529.15	9520.17	9629.18	0.04	327
328	-14098.14	9468.10	8680.60	0.04	328
329	-13724.83	9466.06	9644.11	0.03	329
331	-19057.04	9390.63	9480.81	-0.18	331
332	-18770.99	9358.94	9450.32	-0.44	332
333	-18429.55	9256.83	9293.85	-0.18	333
334	-17992.74	9296.12	9004.63	-0.54	334
335	-17505.63	9482.54	9272.66	-0.01	335
336	-17290.22	8829.29	8940.62	0.11	336
337	-17042.45	9167.67	9216.47	0.12	337
338	-16634.56	8974.17	9327.09	0.11	338
339	-16314.62	9041.05	9307.09	0.10	339
340	-16079.12	9068.77	9303.68	0.08	340
341	-15915.27	9013.40	9190.97	0.10	341



12/15/98

342	-15592.65	8946.68	9109.82	0.08	342
343	-15148.10	8843.97	9083.49	0.06	343
344	-14876.36	8741.88	9076.67	0.04	344
345	-14506.67	8799.79	9019.29	0.04	345
346	-14038.53	8845.22	8830.35	0.03	346
347	-13740.43	8785.27	8694.90	0.03	347
348	-13309.51	8655.70	8500.94	-0.06	348
349	-19032.93	8822.29	9267.53	-0.28	349
350	-18890.63	8447.55	9009.19	0.03	350
351	-19344.28	8372.53	9011.03	0.04	351
352	-19439.16	7927.91	9252.92	-0.03	352
353	-18801.99	7864.43	8831.27	0.02	353
354	-18818.43	7465.64	8863.47	-0.03	354
355	-19385.66	7463.43	9253.96	0.00	355
356	-19380.47	7271.07	9182.23	0.04	356
357	-19063.20	6496.12	9430.72	-0.12	357
358	-19224.35	6288.24	9473.18	-0.13	358
359	-19198.78	5878.10	9389.51	-0.12	359
360	-18883.64	5414.38	9434.91	-0.19	360
361	-19002.72	5175.54	9524.31	-0.32	361
362	-18941.90	4764.81	9554.81	-0.38	362
363	-18853.51	3778.42	9634.85	0.03	363
364	-19168.25	3300.66	9776.17	-0.13	364
365	-19130.53	3130.86	9769.47	-0.31	365
366	-19053.54	2638.47	9737.63	-0.07	366
367	-18969.16	2264.18	9728.72	-0.06	367
368	-18935.45	1853.96	9723.52	-0.24	368
369	-20166.08	9321.90	9568.12	-0.17	369
370	-19829.94	9318.36	9647.95	-0.08	370
371	-21680.93	9106.98	9826.20	-0.25	371
372	-21298.94	9057.08	9817.95	0.00	372
373	-20819.75	8986.88	9753.99	0.05	373
374	-20367.54	9121.52	9580.42	0.01	374
375	-20036.82	8969.18	9459.61	-0.13	375
376	-19815.99	8907.58	9469.49	0.17	376
377	-19490.49	9064.17	9436.42	-0.20	377
378	-21666.05	8764.28	9801.68	0.03	378
379	-21356.45	8757.05	9813.42	0.05	379
380	-20916.70	8591.22	9783.38	-0.02	380
381	-20318.90	8603.66	9604.82	-0.68	381
382	-20069.16	8380.79	9531.26	0.04	382
383	-19859.97	8756.37	9383.86	-0.49	383
384	-19459.87	8502.21	9136.19	-0.76	384
385	-21704.69	8452.24	9791.02	0.02	385
386	-21286.26	8301.75	9845.03	-0.05	386
387	-20935.16	8329.74	9807.50	0.02	387
388	-20678.22	8266.42	9743.60	-0.08	388
389	-20436.99	8163.26	9686.01	-0.09	389
390	-20045.44	8071.42	9563.40	-0.05	390
391	-19591.36	7908.10	9329.55	-0.57	391
392	-20940.17	8042.87	9830.37	-0.01	392
393	-20514.77	7860.31	9765.70	0.01	393
394	-20298.03	7698.64	9712.00	0.00	394
395	-19343.99	7458.34	9226.76	-0.04	395

396	-20545.28	7554.42	9819.35	-0.03	396
397	-20715.05	7300.77	9871.54	0.02	397
398	-20203.05	7270.05	9630.36	-0.48	398
399	-18623.10	8438.53	8962.70	0.12	399
400	-18300.56	8438.86	8935.10	-0.02	400
401	-18085.67	8396.12	8872.62	0.10	401
402	-17712.05	8476.90	8659.57	-0.33	402
403	-17465.94	8461.25	8713.42	0.05	403
404	-17162.72	8423.47	8801.87	0.04	404
405	-16856.16	8485.74	8941.97	-0.20	405
406	-16533.80	8458.64	8995.07	-0.26	406
407	-16223.30	8454.41	9084.35	0.00	407
408	-15915.85	8443.88	8937.60	-0.11	408
409	-15606.06	8430.98	8867.10	-1.46	409
410	-15291.41	8442.89	8872.42	-0.01	410
411	-15000.03	8436.97	8899.24	-0.66	411
412	-14697.00	8451.37	8974.20	-0.24	412

NOTE: As in the prior reports, 1988 elevations for points 349 to 368 are using the revised values to reflect better information. This standing revision is in accordance with our prior discussions on the subject.

Quarterly Stream Monitoring Report

2nd Quarter 1998

	ST-1			ST-2			ST-2B			ST-3			ST-3A		
	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun
Sample Date	04/23/98	05/25/98	06/24/98	04/23/98	05/25/98	06/24/98	04/23/98	05/25/98	06/24/98	04/27/98	05/25/98	06/24/98	04/28/98	05/25/98	06/24/98
Sample Time		06:00 PM	03:30 PM		02:30 PM	05:00 PM		06:00 PM	01:50 PM	02:45 PM	02:50 PM	06:20 PM		03:10 PM	
Sampled By	CR	JS	MS	CR	JS	MS	CR	JS	MS	CR	JS	MS	CR	JS	MS
Flow Rate	Inaccessible	246	378	Inaccessible	1180	195	Inaccessible	1496	80	133	398	396	Inaccessible	65	DRY
Temperature		57.9	53.5		57	49.7		56	57.1	57	67.2	56.4		57.8	
PH		8.1	8.4		8.6	8.4		8.5	8.2	8.1	8.3	8.3		8.0	
Conductivity		1040	602		400	403		570	1376	3830	3250	3048		1960	
Dissolved Oxygen		6.3	7.8		7.3	7.7		8.2	8.1	6	5	6		7.3	
Acidity										<10	455				
Alkalinity, Bicarbonate (HCO3)										<5					
Alkalinity, Carbonate (CO3)										207					
Calcium (Ca)										772					
Chloride (Cl-)										1205					
Hardness, Total (CaCo3)										<0.1					
Iron (Fe) Dissolved										167					
Magnesium (Mg)										<0.1					
Manganese (Mn)										<2					
Oil and Grease										9					
Potassium (K)										319					
Sodium (Na)										684					
Sulfate (SO4-2)										2248					
Total Dissolved Solids										<0.5					
Total Settleable Solids										26					
Total Suspended Solids										6.50%					
Cation-Anion Balance															

	ST-3B			ST-4			ST-4A			ST-4B			ST-5		
	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun
Sample Date	04/28/98	05/25/98	06/24/98	04/28/98	05/25/98	06/24/98	04/28/98	05/25/98	06/22/98	04/28/98	05/25/98	06/24/98	04/27/98	05/28/98	06/22/98
Sample Time				Dry	07:30 AM	01:45 PM			09:35 AM				04:00 PM	07:50 AM	12:50 PM
Sampled By	CR	JS	MS	CR	JS	MS	CR	JS	MS	CR	JS	MS	CR	JS	MS
Flow Rate	Inaccessible	74	DRY	Dry	869	300	Dry	594	373	Dry	810	45	714	53.9	1269
Temperature		60			55.4	49.8		45.5	45.5		46.2	48.4	60.6	53.9	56.9
PH		7.93			7.68	8.44		8.65	8.61		8.25	8.56	8.41	8.4	8.45
Conductivity		2070			739	1105		587	645		600	636	1200	776	987
Dissolved Oxygen		6			8.5	7.3		8.4	8.4		8.3	8.6	8.2	7	8.2
Acidity													<10		
Alkalinity, Bicarbonate (HCO3)													388		
Alkalinity, Carbonate (CO3)													N/D		
Calcium (Ca)													130		
Chloride (Cl-1)													60		
Hardness, Total (CaCo3)													745		
Iron (Fe) Dissolved													<0.1		
Magnesium (Mg)													102		
Manganese (Mn)													<0.1		
Oil and Grease													<2		
Potassium (K)													5		
Sodium (Na)													29		
Sulfate (SO4-2)													374		
Total Dissolved Solids													1041		
Total Settleable Solids													<0.5		
Total Suspended Solids													26		
Cation-Anion Balance													1.30%		

Quarterly Spring Monitoring Report

1st Quarter 1998

	SP-2			SP-4			SP-5		
	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.
Sample Date	10/13/98			10/12/98			10/12/98		
Sample Time	03:25 PM			11:00 AM			02:15 PM		
Sampled By	MS			MS			KP		
Flow	7			6			3.9		
PH	7.74			7.58			*		
Specific Conductance	457			645			540		
Temperature	11.6			6.2			6.7		
Total Dissolved Solids	277			333			361		
Total Hardness (CaCO3)	234			299			300		
Carbonate	<5			<5			<5		
Bicarbonate	289			381			375		
Calcium	69			80			79		
Chloride	2			2			3		
Iron (Diss.)	<0.1			<0.1			<0.1		
Magnesium	15			24			25		
Manganese	<0.1			<0.1			<0.1		
Potassium	<1			<1			<1		
Sodium	2			3			6		
Sulfate	9			11			32		

	SP-11			SP-12			SP-13		
	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.
Sample Date	10/27/98			10/12/98			10/29/98		
Sample Time	03:15 PM			11:35 AM			04:40 PM		
Sampled By	MS			MS			MS		
Flow	5			12			5		
PH	7.23			7.66			7.27		
Specific Conductance	567			598			1254		
Temperature	7.9			6.1			4.8		
Total Dissolved Solids	337			298			9020		
Total Hardness (CaCO3)	293			280			675		
Carbonate	<5			<5			<5		
Bicarbonate	349			359			536		
Calcium	68			71			122		
Chloride	3			2			19		
Iron (Diss.)	<0.1			<0.1			<0.1		
Magnesium	30			25			90		
Manganese	<0.1			<0.1			<0.1		
Potassium	1			<1			3		
Sodium	3			3			13		
Sulfate	29			7			265		

* =Meter Malfunctioning

Quarterly Spring Monitoring Report

2nd Quarter 1998

	SP-2			SP-4			SP-5			OCT	SP-2	
	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun		NOV	DEC
Sample Date			06/23/98			06/23/98			06/23/98	10/13/98		
Sample Time			06:40 PM			04:00 PM			03:00 PM	03:25 PM		
Sampled By			CT&E			CT&E			CT&E	CT&E		
Flow			35			110			30	7		
PH			8.12			7.48			7.01	7.74		
Specific Conductance			525			628			743	457		
Temperature			5			4.3			5.6	11.6		
Total Dissolved Solids			1580			112			422	277		
Total Hardness (CaCO3)			238			269			321	234		
Carbonate			<5			<5			<5	<5		
Bicarbonate			301			355			471	289		
Calcium			74			78			84	69		
Chloride			3			2			7	2		
Iron (Diss.)			<0.1			<0.1			<0.1	<0.1		
Magnesium			13			18			27	15		
Manganese			<0.1			<0.1			<0.1	<0.1		
Potassium			<1			<1			<1	<1		
Sodium			2			2			5	2		
Sulfate			9			7			36	9		

	SP-11			SP-12			SP-13		
	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun
Sample Date			06/24/98			06/23/98			06/22/98
Sample Time			04:00 PM			05:40 PM			11:30 AM
Sampled By			CT&E			CT&E			CT&E
Flow			6gpm			40 gpm			5gpm
PH			7.52			7.35			7.37
Specific Conductance			675			647			1273
Temperature			7			3.6			6.1
Total Dissolved Solids			329			116			809
Total Hardness (CaCO3)			322			285			627
Carbonate			<5			<5			<5
Bicarbonate			388			381			482
Calcium			76			73			116
Chloride			6			4			16
Iron (Diss.)			<0.1			<0.1			<0.1
Magnesium			32			25			82
Manganese			<0.1			<0.1			<0.1
Potassium			<1			<1			2
Sodium			3			3			11
Sulfate			40			12			294

APPENDIX C

Legal, Financial, Compliance and Related Information

Annual Report of Officers
as submitted to the Utah Department of Commerce
and other changes in ownership and control information
as required under R645-301-110.

CONTENTS

Annual Report of Officers

STATE OF UTAH DEPARTMENT OF COMMERCE DIVISION OF CORPORATIONS AND COMMERCIAL CODE PHONE: (801) 530-4849



PROFIT CORPORATION ANNUAL REPORT

Following information is on file in this office. All profit corporations must file their annual reports and corrections within the month of their anniversary date. Failure to do so will result in Delinquency, Revocation or Involuntary Dissolution of the corporate charter.

THIS BOX MUST BE COMPLETED

Form section for Corporation Name, Registered Agent, Registered Office, City, State & ZIP. Includes fields for Corporation #, D, and agent information.

WHEN CHANGING THE REGISTERED AGENT THE NEW AGENT MUST SIGN.

Section 5: INCORPORATED IN THE STATE AND UNDER THE LAWS OF: UTAH

Section 6: ADDRESS OF THE PRINCIPAL OFFICE IN THE HOME STATE. Includes fields for Street Address, City, State or Country, and ZIP.

7. BUSINESS PURPOSE: NONCLASSIFIABLE ESTABLISHMENTS DOMESTIC. PROFIT CORPORATIONS ARE REQUIRED TO LIST A CORPORATE OFFICER.

Section 8: OFFICERS. Lists President, Vice President, Secretary, and Treasurer with their names and addresses. Includes handwritten notes: 'For Charter from Carl'.

Section 12-14: DIRECTORS. Lists Director names and addresses for E O FINLEY, N J FINLEY, and C A GUSTAFSON.

Section 15-17: Declaration and Signature. Includes text: 'Under penalties of perjury and as an authorized officer, I declare that this annual report and, if applicable, the statement change of registered office and/or agent, has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete.' Includes signature and date 19 98.

IF THERE ARE NO CHANGES FROM THE PREVIOUS YEAR, AND YOU HAVE ALL CORPORATE REQUIREMENTS FILLED PERTAINING TO OFFICER AND DIRECTOR INFORMATION YOU MAY DETACH THE COUPON BELOW, AND RETURN IT IN THE ENCLOSED ENVELOPE WITH YOUR PAYMENT. YOU MAY KEEP THE ABOVE REPORT FOR YOUR RECORDS.

HIAWATHA COAL COMPANY

ANNUAL REPORT 1997

Hiawatha Complex
ACT/007/011

Prepared by

Charles Reynolds, P.E.
P.O. Box 1031
Huntington, Utah 84528
(435) 687-5057

For

Hiawatha Coal Company, Inc.
P.O. Box 1202
Huntington, Utah 84528
(435) 637-1778

GENERAL INFORMATION

1. Permit Number	ACT/007/011
2. Mine Name	Hiawatha Complex
3. Permittee Name	Hiawatha Coal Company Inc.
4. Operator Name (if other than Permittee)	
5. Permit Expiration Date	3/14/02
6. Company Representative, Title	Elliot Finley, President
7. Phone Number	(435) 637-1778
8. Fax Number	(435) 637-1378
9. Mailing Address	P.O. Box 1202
	Huntington, Utah 84528
10. Resident Agent, Title	Elliot Finley, President
Mailing Address	P.O. Box 1202
	Huntington, Utah 84528

IDENTIFICATION OF OTHER PERMITS

Identify other permits which are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expires on
1. MSHA Mine ID(s)	42-02157	King Mines	
	*		
2. MSHA Impoundment(s) 1211-UT-09-0098-	01	Slurry Impoundment No. 1	
	02	Slurry Impoundment No. 4	
	03	Slurry Impoundment No. 5	
3. NPDES/UPDES Permit(s) (water)	UT-0023094	Minor Industrial	5/99
4. PSD (Air) Permit(s)	BAQE-502-89		
5. Refuse Piles 1211-UT-09-0098-	04	Refuse Pile No. 1	

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX A to this Annual Report or currently ON FILE with the Division.

Certified Reports:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Excess Spoil Files		X		X		
2. Refuse Files	X		X			
3. Impoundments	X		X			
4.						
5.						

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX B to this Annual Report or currently ON FILE with the Division.

Technical Data:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Climatological Data		X		X		
2. Subsidence Monitoring Data	X		X			
3. Vegetation Monitoring Data		X		X		
4. Soils Monitoring Data		X		X		
5. Water Monitoring Data	X		X			
First Quarter Report	X				X	
Second Quarter Report	X				X	
Third Quarter Report	X				X	
Fourth Quarter Report	X				X	
6. Geological/Geophysical Data		X		X		
7. Engineering Data		X		X		
8. Other Data						

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

as required under R645-301-514

CONTENTS

Slurry Impoundment No. 1
Slurry Impoundment No. 4
Slurry Impoundment No. 5 and 5a
Refuse Pile No. 1
Sediment Pond Annual Inspections

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE		Page 1 of 2	
Permit Number	ACT/007/011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Excess Spoil Pile or Refuse Pile Identification	Pile Name	Refuse Pile No. 1	
	Pile Number	1	
	MSHA ID Number	1211-UT-09-00098-04	
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Annual	
		Attachments to Report? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Field Evaluation			
1. Foundation preparation, including the removal of all organic material and topsoil. Pile remains inactive.			
2. Placement of underdrains and protective filter systems. N/A			
3. Installation of final surface drainage systems. N/A			
4. Placement and compaction of fill materials. No material has been added to the pile.			

5. Final grading and revegetation of fill.

N/A

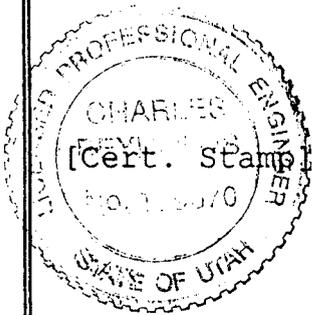
6. Appearances of instability, structural weakness, and other hazardous conditions.

No signs of embankment instability were observed. No fires have occurred.

7. Other Comments. Describe any changes in the geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and maximum lifts of materials placed in the pile, elevations of active benches, total and remaining storage capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.

No changes have been made to the configuration of the pile.

Certification Statement



I hereby certify that; I am experienced in the construction of earth and rock fills; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of earth and rock fills in accordance with the certified and approved designs for this structure; that the fill structure has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

By: Charles Reynolds, Mining Engineer
(Full Name and Title)
Signature: Charles Reynolds Date: 12-31-97
P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		N/A	Page 1 of 3
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Slurry Impoundment No. 1	
	Impoundment Number	N/A	
	UPDES Permit Number	N/A	
	MSHA ID Number	1211-UT-09-00098-01	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>A total of 32,173 tons were recovered during 1997.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>The surface elevation of the unrecovered coal fines in the pond remains at 7164, with an elevation of 7156 in the Northeast portion of the pond, where the majority of the coal fines were recovered in 1997. The embankment top remains at elevation 7175.</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>N/A</p>		

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond is currently inactive, with minimal water.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

Coal fines have been removed from the Northeast and West portions of the pond in 1997. Coal fine sale and removal is expected to continue in 1998.

**Qualification
Statement**

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds

Date: 12-31-97

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Slurry Impoundment No. 4	
	Impoundment Number	N/A	
	UPDES Permit Number	N/A	
	MSHA ID Number	1211-UT-09-00098-02	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Annual	
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>Slurry pond No. 4 was reclaimed in 1996. Notification of reclaimed status will be sent to MSHA by Hiawatha Coal Company in 1998.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>N/A</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>N/A</p>		

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

N/A

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

N/A

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Chas Reynolds Date: 12-3-97

CERTIFIED REPORT

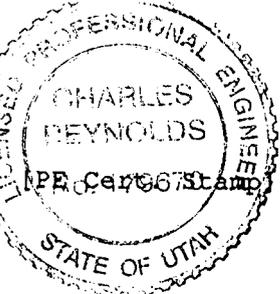
IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	N/A	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	N/A	

COMMENTS AND OTHER INFORMATION

(This section is currently blank.)

Certification Statement:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.



By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Slurry Impoundment No. 5	
	Impoundment Number	N/A	
	UPDES Permit Number	N/A	
	MSHA ID Number	1211-UT-09-00098-03	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Annual	
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>Topsoiling of the outslopes of the main cell continued in 1997. In November and December, 1997, the topsoiled areas were reseeded.</p> <p>No slurry was added to or removed from the North Cell during 1997. No structural changes have been made to the outside embankment.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.		
	3. Principle and emergency spillway elevations. N/A		

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.

N/A

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The top of the outside embankment remains at elevation 7,068. The coal fines remain at elevation 7,055. There are no signs of instability and no fires have occurred.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature:

Charles Reynolds

Date:

12-31-97

CERTIFIED REPORT

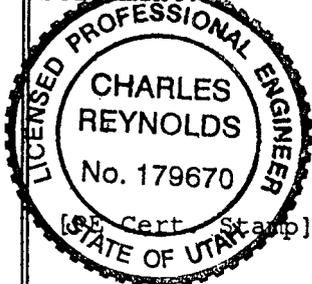
IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

(This area is currently blank for comments and other information.)

Certification Statement



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Upper Rail Yard	
	Impoundment Number	D003	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.60 ac-ft 60% cleanout elevation = 7,211.5 100% sediment storage elevation = 7,212.7 Existing sediment elevation = 7,207.8</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,214.5 Emergency spillway elevation = 7,217.7</p>		

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.

The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1997.

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The existing sediment volume is minimal (<0.01 ac-ft). The existing storage capacity is 2.15 ac-ft, which is greater than the 0.76 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds Date: 12-31-97

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

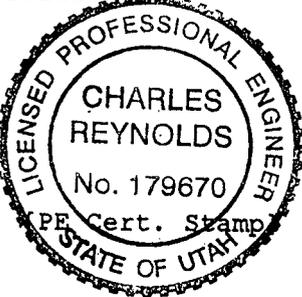
YES

NO

1. Is impoundment designed and constructed in accordance with the approved plan? X
2. Is impoundment free of instability, structural weakness, or any other hazardous condition? X
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection? X

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond N. of Slurry pond #1	
	Impoundment Number	D004	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.48 ac-ft 60% cleanout elevation = 7,087.8 100% sediment storage elevation = 7,089.1 Existing sediment elevation = 7,084.7</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,089.3 Emergency spillway elevation = 7,093.5</p>		

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.

The pond is dry, and contains approx. 3 inches of snow. The inlet and outlets appear in good condition. No discharges were reported during 1997.

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The existing sediment volume is 0.01 ac-ft. The existing storage capacity is 1.67 ac-ft, which is greater than the 0.54 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds Date: 12-31-97

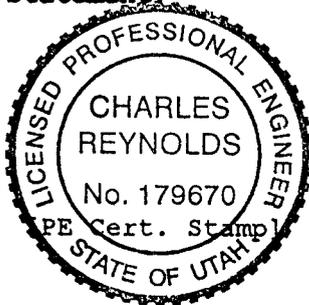
CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond E. of Slurry pond #4	
	Impoundment Number	D005	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.83 ac-ft 60% cleanout elevation = 7,039.4 100% sediment storage elevation = 7,040.5 Existing sediment elevation = 7,036.1</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,041.0 Emergency spillway elevation = 7,046.0</p>		

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1997.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The existing sediment volume is <0.01 ac-ft. The existing storage capacity is 3.19 ac-ft, which is greater than the 0.91 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds

Date: 12-31-97

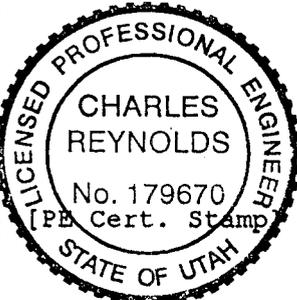
CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

(This area is currently blank for comments and other information.)

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond NE. of Slurry pond #5	
	Impoundment Number	D006	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond's bank showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 1.21 ac-ft 60% cleanout elevation = 6,990.0 100% sediment storage elevation = 6,991.1 Existing sediment elevation = 6,987.0</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 6,993.1 Emergency spillway elevation = 6,994.5</p>		

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1997.

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The pond currently contains little to no sediment. The existing storage capacity is 3.00 ac-ft, which is greater than the 1.32 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds Date: 12-31-97

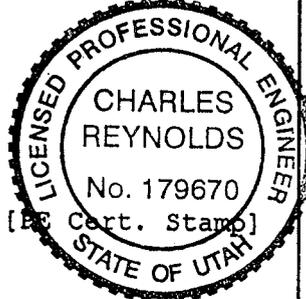
CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	Sed. Pond SE. of Slurry pond #5	
	Impoundment Number	D007	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond bank showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.68 ac-ft 60% cleanout elevation = 6,990.9 100% sediment storage elevation = 6,992.2 Existing sediment elevation = 6,986.9</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 6,992.5 Emergency spillway elevation = 6,998.0</p>		

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.

The pond is dry. The inlet and outlets appear in good condition. No discharges were reported during 1997.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The pond currently contains minimal sediment. The existing storage capacity is 2.57 ac-ft, which is greater than the 0.74 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

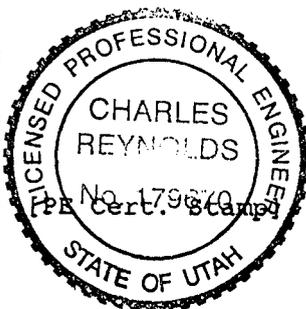
Signature: Charles Reynolds Date: 12-31-97

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

Permit Number	ACT\007\011	Report Date	12/31/97
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Mine Name: Hiawatha Complex

Company Name: Hiawatha Coal Company, Inc.

Impoundment Identification	Impoundment Name	Middle Fork Pond
	Impoundment Number	D008
	UPDES Permit Number	UT-0023094
	MSHA ID Number	N/A

IMPOUNDMENT INSPECTION

Inspection Date: 12/31/97

Inspected By: Charles Reynolds

Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual
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1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

The pond banks showed no signs of instability or hazardous conditions.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment storage capacity = 0.48 ac-ft
 60% cleanout elevation = 8,034.8
 100% sediment storage elevation = 8,036.1
 Existing sediment elevation = 8,031.2

3. Principle and emergency spillway elevations.

Principle spillway elevation = 8,042.0
 Emergency spillway elevation = 8,045.5

4. Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond contains 9 inches of snow in the bottom. The inlet and outlets appear in good condition. Everything is covered with snow. No discharges were reported during 1997.

5. Field Evaluation. Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The pond currently contains minimal sediment. The existing storage capacity is 3.16 ac-ft, which is greater than the 0.92 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Charles Reynolds

Date: 12-31-97

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

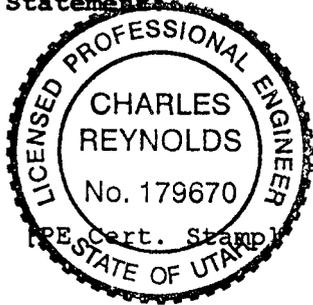
YES

NO

- 1. Is impoundment designed and constructed in accordance with the approved plan? X
- 2. Is impoundment free of instability, structural weakness, or any other hazardous condition? X
- 3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection? X

COMMENTS AND OTHER INFORMATION

Certification
Statement



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
(Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		D009	Page 1 of 3
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	South Fork Mine Yard	
	Impoundment Number	D009	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.76 ac-ft 60% cleanout elevation = 7,902.2 100% sediment storage elevation = 7,903.5 Existing sediment elevation = 7,901</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,903.5 Emergency spillway elevation = 7,910.6</p>		

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond contains 10 inches of snow in the bottom. The inlet and outlets appear in good condition. The banks and spillway are covered with snow. No discharges were reported during 1997.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The pond currently contains sediment. The existing storage capacity is 3.55 ac-ft, which is greater than the 2.99 ac-ft required.

**Qualification
Statement**

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: Chal Reynolds

Date: 12-31-97

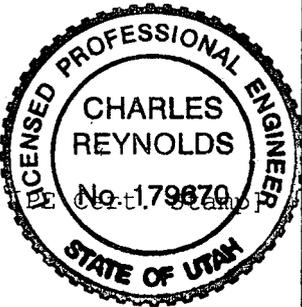
CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
 (Full Name and Title)

Signature: Chas Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		D011	Page 1 of 3
Permit Number	ACT\007\011	Report Date	12/31/97
Mine Name	Hiawatha Complex		
Company Name	Hiawatha Coal Company, Inc.		
Impoundment Identification	Impoundment Name	South Fork Truck Loading Facility	
	Impoundment Number	D011	
	UPDES Permit Number	UT-0023094	
	MSHA ID Number	N/A	
IMPOUNDMENT INSPECTION			
Inspection Date	12/31/97		
Inspected By	Charles Reynolds		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p>The pond banks showed no signs of instability or hazardous conditions.</p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p>Sediment storage capacity = 0.47 ac-ft 60% cleanout elevation = 7,712.3 100% sediment storage elevation = 7,714 Existing sediment elevation = 7,709.5</p>		
	<p>3. Principle and emergency spillway elevations.</p> <p>Principle spillway elevation = 7,713 Emergency spillway elevation = 7,718.7</p>		

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond contains 10 inches of snow in the bottom. The inlet and outlets appear in good condition. The banks and spillway are also covered with snow. No discharges were reported during 1997.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The pond currently contains sediment. The existing storage capacity is 0.76 ac-ft, which is greater than the 0.31 ac-ft required.

Qualification Statement

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature:

Charles Reynolds

Date:

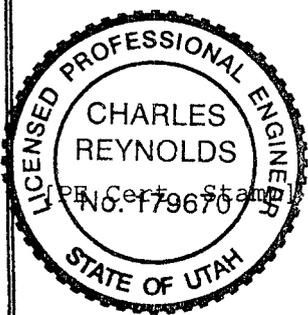
12-31-97

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	X	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:



I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Charles Reynolds, Mining Engineer
(Full Name and Title)

Signature: Charles Reynolds Date: 12-31-97

P.E. Number & State: 179670 Utah

APPENDIX B

Reporting of Technical Data

including monitoring data, reports, maps, and other information
as required under the approved plan
or as required by the Division

in accordance with the requirements of R645-301-130 and R645-301-140.

CONTENTS

Subsidence Data
Water Monitoring Data

Olympus Aerial Surveys, Inc
 Subsidence Study Report
 using elevation readings from photography dated
 September 29, 1997 versus those of September 28, 1988
 FOR
 U. S. FUEL Co.

1997 HIAWATHA SUBSIDENCE STUDY

USING SEPT 1997 REVISED CONTROL

POINT	EASTING	NORTHING	1988	1997	POINT
			ELEVATION	DIFFERENCE	
300	-16154.84	9455.11	9145.11	0.15	300
301	-19121.40	10685.80	9834.34	-0.04	301
302	-19173.66	10300.36	9820.79	-0.01	302
303	-18869.55	10206.93	9700.41	0.03	303
304	-18581.16	10303.30	9654.68	0.01	304
305	-18086.90	10234.14	9506.03	0.87	305
306	-17709.62	10335.41	9565.75	-0.13	306
307	-17396.10	10215.50	9578.39	-0.02	307
308	-17026.66	10492.97	9421.05	-0.04	308
309	-16470.35	10432.95	9107.78	0.01	309
310	-16010.35	10379.94	8892.65	0.06	310
311	-15534.21	10214.41	8658.30	0.11	311
312	-15030.33	10279.77	8555.36	0.27	312
313	-19120.12	10030.57	9726.74	0.40	313
314	-19064.92	9847.59	9637.45	0.06	314
315	-18832.57	9843.37	9572.86	0.04	315
316	-18533.11	9941.48	9495.16	0.03	316
317	-18093.74	9870.18	9353.92	-0.05	317
318	-17723.09	9760.03	9359.17	0.01	318
319	-17264.45	9925.78	9502.48	0.03	319
320	-17237.77	9502.10	9325.44	0.07	320
321	-17042.88	9835.38	9468.03	0.05	321
322	-16862.99	9375.28	9410.64	0.11	322
323	-16407.90	9639.15	9323.66	0.12	323
324	-16022.32	9703.75	8994.83	0.12	324
325	-15799.88	9592.11	8894.32	-0.15	325
326	-15439.19	9670.87	8702.31	0.01	326
327	-14529.15	9520.17	8629.18	0.20	327
328	-14098.14	9468.10	8680.60	-0.17	328
329	-13724.83	9466.06	8644.11	-0.05	329

331	-19057.04	9390.63	9480.81	0.03	331
332	-18770.99	9358.94	9450.32	0.05	332
333	-18429.55	9256.83	9293.85	0.06	333
334	-17992.74	9296.12	9004.63	0.05	334
335	-17505.63	9482.54	9272.66	0.42	335
336	-17290.22	8829.29	8940.62	0.16	336
337	-17042.45	9167.67	9216.47	0.20	337
338	-16634.56	8974.17	9327.09	0.12	338
339	-16314.62	9041.05	9307.09	0.13	339
340	-16079.12	9068.77	9303.68	-0.01	340
341	-15915.27	9013.40	9190.97	0.15	341
342	-15592.65	8946.68	9109.82	0.21	342
343	-15148.10	8843.97	9083.49	0.06	343
344	-14876.36	8741.88	9076.67	0.11	344
345	-14506.67	8799.79	9019.29	-0.20	345
346	-14038.53	8845.22	8830.35	-0.14	346
347	-13740.43	8785.27	8694.09	-0.02	347
348	-13309.51	8655.70	8500.94	-0.28	348
349	-19032.93	8822.29	9267.53	-0.16	349
350	-18890.63	8447.55	9009.19	-0.01	350
351	-19344.28	8372.53	9011.03	0.0	351
352	-19439.16	7927.91	9252.92	-0.01	352
353	-18801.99	7864.43	8831.27	0.0	353
354	-18818.43	7465.64	8863.47	-0.01	354
355	-19385.66	7463.43	9253.96	-0.01	355
356	-19380.47	7271.07	9182.23	-0.01	356
357	-19063.20	6496.12	9430.72	-0.20	357
358	-19224.35	6288.24	9473.18	-0.07	358
359	-19198.78	5878.10	9389.51	0.02	359
360	-18883.64	5414.38	9434.91	-0.23	360
361	-19002.72	5175.54	9524.31	-0.28	361
362	-18941.90	4764.81	9554.81	-0.20	362
363	-18853.51	3778.42	9634.85	0.03	363
364	-19168.25	3300.66	9776.17	0.05	364
365	-19130.53	3130.86	9769.47	-0.11	365
366	-19053.54	2638.47	9737.63	-0.05	366
367	-18969.16	2264.18	9728.72	0.02	367
368	-18935.45	1853.96	9723.52	-0.16	368
369	-20166.08	9321.90	9568.12	-0.35	369
370	-19829.94	9318.36	9647.95	0.03	370
371	-21680.93	9106.98	9826.20	-0.26	371
372	-21298.94	9057.08	9817.95	0.13	372
373	-20819.75	8986.88	9753.99	0.0	373
374	-20367.54	9121.52	9580.42	0.27	374
375	-20036.82	8969.18	9459.61	-0.31	375

376	-19815.99	8907.58	9469.49	-0.19	376
377	-19490.49	9064.17	9436.42	-0.08	377
378	-21666.05	8764.28	9801.68	0.08	378
379	-21356.45	8757.05	9813.42	0.11	379
380	-20916.70	8591.22	9783.38	0.08	380
381	-20318.90	8603.66	9604.82	-0.82	381
382	-20069.16	8380.79	9531.26	-0.01	382
383	-19859.97	8756.37	9383.86	-0.16	383
384	-19459.87	8502.21	9136.19	-0.81	384
385	-21704.69	8452.24	9791.02	-0.05	385
386	-21286.26	8301.75	9845.03	0.05	386
387	-20935.16	8329.74	9807.50	0.06	387
388	-20678.22	8266.42	9743.60	-0.02	388
389	-20436.99	8163.26	9686.01	-0.02	389
390	-20045.44	8071.42	9563.40	0.07	390
391	-19591.36	7908.10	9329.55	-0.64	391
392	-20940.17	8042.87	9830.37	0.02	392
393	-20514.77	7860.31	9765.70	0.0	393
394	-20298.03	7698.64	9712.00	-0.04	394
395	-19343.99	7458.34	9226.76	-0.14	395
396	-20545.28	7554.42	9819.35	0.0	396
397	-20715.05	7300.77	9871.54	-0.62	397
398	-20203.05	7270.05	9630.36	-0.47	398
399	-18623.10	8438.53	8962.70	0.10	399
400	-18300.56	8438.86	8935.10	0.15	400
401	-18085.67	8396.12	8872.62	0.15	401
402	-17712.05	8476.90	8659.57	0.11	402
403	-17465.94	8461.25	8713.42	0.16	403
404	-17162.72	8423.47	8801.87	0.18	404
405	-16856.16	8485.74	8941.97	-0.20	405
406	-16533.80	8458.64	8995.07	-0.78	406
407	-16223.30	8454.41	9084.35	-0.43	407
408	-15915.85	8443.88	8937.60	-0.47	408
409	-15606.06	8430.98	8867.10	-1.21	409
410	-15291.41	8442.89	8872.42	-0.76	410
411	-15000.03	8436.97	8899.24	-0.14	411
412	-14697.00	8451.37	8974.20	-0.21	412

NOTE:

As in the prior reports, 1988 elevations for points 349 to 368 are using the revised values to reflect better information. This standing revision is in accordance with our prior discussions on the subject.

**Monthly NPDES Monitoring Report
D001**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Min	Avg	Max
09-Jan	IA	IA	08-Apr	09-May	09-Jun	07-Jul	13-Aug	10-Sep	09-Oct	12-Nov	10-Dec			
IA	IA	IA	25-Apr	22-May	20-Jun	22-Jul	25-Aug	25-Sep	23-Oct	24-Nov	23-Dec			
10:25 AM			12:25 PM	09:50 AM	10:10 AM	10:15 AM	02:00 PM	10:20 AM	04:00 PM	03:50 PM	03:20 PM			
			09:45 AM	10:05 AM	10:15 AM	09:20 AM	11:20 AM	03:20 PM	10:15 AM	01:40 PM	03:30 PM			
242			171	171	148	319	374	186	132	284	215			
			133	171	265	292	160	132	265	217	99	99	209	374
7.0			6.9	6.9	6.7	6.8	7.04	7.0	6.95	7.1	7.2			
			6.9	6.8	6.8	6.9	7.0	7.0	6.98	7.1	7.4	6.7	7.0	7.4
795			809	894	752	858	1046	934	896	956	1015			
			751	807	847	866	910	1003	943	990	859	751	891	1046
NT			NT	NT	NT	NT	NT	NT	<2	NT	NT			
			<2	NT	NT	NT	NT	NT	<2	NT	NT			
789			790	810	790	770	790	790	770	760	790			
			790	760	780	790	800	810	790	780	790	760	786	810
<5			<5	<5	<5	<5	<5	<5	<5	<5	<5			
			<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5
<.1			<.1	<.1	<.1	<.1	<.1	<.1	<0.1	<0.1	0.5			
			<.1	<.1	<.1	0.1	<.1	<.1	<0.1	<0.1	<0.1	<.1	<.1	<.1

**Monthly NPDES Monitoring Report
D002**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Min	Avg	Max
09-Jan	10-Feb	10-Mar	08-Apr	09-May	09-Jun	07-Jul	13-Aug	10-Sep	09-Oct	12-Nov	10-Dec			
23-Jan	24-Feb	25-Mar	25-Apr	22-May	20-Jun	22-Jul	25-Aug	25-Sep	23-Oct	24-Nov	23-Dec			
09:35 AM	08:55 AM	08:55 AM	11:55 AM	09:25 AM	09:45 AM	09:50 AM	10:10 AM	07:50 PM	04:45 PM	04:20 PM	04:00 PM			
09:40 AM	09:15 AM	08:55 AM	09:15 AM	09:25 AM	09:50 AM	08:50 AM	11:57 AM	04:30 PM	11:00 AM	02:15 PM	04:30 PM			
265	275	250	215	242	215	215	374	186	132	216	104			
250	225	250	193	242	292	265	148	132	265	230	399	104	233	399
7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.37	7.32	7.31	7.34	7.62			
7.3	7.1	7.2	7.2	7.2	7.1	7.3	7.3	7.34	7.65	7.46	7.67	7.1	7.3	7.7
819	800	792	810	886	763	890	1065	988	1003	959	1002			
824	796	785	788	835	847	924	970	1055	969	917	924	763	892	1065
NT	<2	NT	NT											
NT	<2	NT	NT											
830	818	810	810	820	780	780	810	810	780	770	780			
823	802	820	800	790	790	770	790	820	780	790	790	770	798	830
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	0.4	<0.1	<0.1	<0.1			
<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<0.1	0.2	<0.1	<.1	<.1	<.1

Quarterly Stream Monitoring Report

2nd Quarter 1997

	ST-1			ST-2			ST-2B			ST-3			ST-3A		
	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun
Sample Date		05/06/97	06/10/97		05/06/97	06/10/97		05/06/97	06/10/97		05/06/97	06/10/97		05/06/97	06/10/97
Sample Time		11:15 AM	12:05 PM		11:00 AM	11:30 AM		11:07 AM	11:30 AM		12:01 PM	12:40 PM		10:22 AM	10:00 AM
Sampled By	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones
Flow Rate	gpm	103	130	IA	IA	736	IA	399	758	IA	31	20	IA	0	0
Temperature	deg. F	48	53			48		47	50		58	58			
PH	units	8.0	8.2			8.3		8.1	8.5		8.1	8.1			
Conductivity	umhos/cm	1452	916			349		580	427		2630	2660			
Dissolved Oxygen	ppm	5.8	4.7			6.1		5.7	5.4		4.9	4.1			
Acidity	mg/l		<10			<10			<10			<10			
Alkalinity, Bicarbonate (HCO3)	mg/l		310			256			262			380			
Alkalinity, Carbonate (CO3)	mg/l		8			8			6			<5			
Calcium (Ca)	mg/l		131			67			75			195			
Chloride (Cl-)	mg/l		9			9			6.5			690			
Hardness, Total (CaCo3)	mg/l		714			250			315			1088			
Iron (Fe) Dissolved	mg/l		<0.1			<0.1			<0.1			<0.1			
Magnesium (Mg)	mg/l		94			20			31			146			
Manganese (Mn)	mg/l		<0.1			<0.1			<0.1			0.1			
Oil and Grease	mg/l		<2			<2			<2			<2			
Potassium (K)	mg/l		5			<1			1			9			
Sodium (Na)	mg/l		8			3			4			338			
Sulfate (SO4-2)	mg/l		487			28			115			475			
Total Dissolved Solids	mg/l		970			250			340			1970			
Total Settleable Solids	mg/l		<0.5			<0.5			<0.5			<0.5			
Total Suspended Solids	mg/l		6			7			19			120			
Cation-Anion Balance	%		15.70%			5.10%			7.00%			35.60%			

	ST-3B			ST-4			ST-4A			ST-4B			ST-5			
	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	
Sample Date		05/06/97	06/10/97		05/06/97	06/10/97		05/06/97	06/10/97		05/06/97	06/10/97		05/06/97	06/10/97	
Sample Time		12:01 PM	10:10 AM		09:55 AM	02:00 PM		09:55 AM	08:35 AM		10:10 AM	09:10 AM		12:40 PM	01:25 PM	
Sampled By	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	
Flow Rate	gpm	IA	31	20	IA	0	162	IA	0	137	IA	0	129	IA	597	1050
Temperature	deg. F		58	55			55			47			48		59	63
PH	units		8.1	8.1			8.3			8.3			8.3		8.1	8.3
Conductivity	umhos/cm		2630	1960			744			448			541		906	692
Dissolved Oxygen	ppm		4.9	5.3			6.4			7.1			6.2		7.1	6
Acidity	mg/l			<10			<10			<10			<10			<10
Alkalinity, Bicarbonate (HCO3)	mg/l			495			349			303			323			296
Alkalinity, Carbonate (CO3)	mg/l			<5			6			8			10			6
Calcium (Ca)	mg/l			187			131			68			74			95
Chloride (Cl-1)	mg/l			518			68			4			18			35
Hardness, Total (CaCo3)	mg/l			796			619			310			345			476
Iron (Fe) Dissolved	mg/l			<0.1			<0.1			<0.1			<0.1			<0.1
Magnesium (Mg)	mg/l			80			71			34			39			58
Manganese (Mn)	mg/l			<0.1			0.1			<0.1			<0.1			<0.1
Oil and Grease	mg/l			<2			<2			<2			<2			<2
Potassium (K)	mg/l			6			2			1			2			3
Sodium (Na)	mg/l			303			32			5			13			18
Sulfate (SO4-2)	mg/l			292			184			59			76			202
Total Dissolved Solids	mg/l			1710			640			340			400			610
Total Settleable Solids	mg/l			<0.5			<0.5			<0.5			<0.5			<0.5
Total Suspended Solids	mg/l			<5			224			<5			11			34
Cation-Anion Balance	mg/l			28.80%			11.70%			1.10%			1.70%			10.20%

Quarterly Spring Monitoring Report

3rd Quarter 1997

	SP-2			SP-4			SP-5		
	JUL	AUG	SEP	JUL	AUG	SEP	JUL	AUG	SEP
Sample Date	07-Jul			07-Jul			07-Jul		
Sample Time	09:15 AM			10:50 AM			11:35 AM		
Sampled By	Jones			Jones			Jones		
Flow	9			14			11		
PH	8.1			7.8			7.1		
Specific Conductance	340			397			485		
Temperature	50			48			44		
Total Dissolved Solids	230			280			330		
Total Hardness (CaCO3)	254			294			328		
Carbonate	N/D			N/D			N/D		
Bicarbonate	256			348			361		
Calcium	77			83			87		
Chloride	2			2			5		
Iron (Diss.)	N/D			N/D			N/D		
Magnesium	15			21			27		
Manganese	N/D			N/D			N/D		
Potassium	1			N/D			1		
Sodium	2			3			5		
Sulfate	10			10			29		

	SP-11			SP-12			SP-13		
	JUL	AUG	SEP	JUL	AUG	SEP	JUL	AUG	SEP
Sample Date	07-Jul			07-Jul			07-Jul		
Sample Time	10:00 AM			10:10 AM			11:55 AM		
Sampled By	Jones			Jones			Jones		
Flow	8.5			20			DRY		
PH	8.1			8.2					
Specific Conductance	397			400					
Temperature	50			52					
Total Dissolved Solids	280			280					
Total Hardness (CaCO3)	295			288					
Carbonate	N/D			N/D					
Bicarbonate	295			314					
Calcium	57			74					
Chloride	3			2					
Iron (Diss.)	N/D			N/D					
Magnesium	37			25					
Manganese	N/D			N/D					
Potassium	1			1					
Sodium	4			5					
Sulfate	41			18					

Quarterly Spring Monitoring Report

4th Quarter 1997

	SP-2			SP-4			SP-5		
	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC
Sample Date	10-Oct			10-Oct			10-Oct		
Sample Time	01:15 PM			04:30 PM			07:00 PM		
Sampled By	Finley			Finley			Finley		
Flow	7.5			15			6		
PH	8.24			7.96			7.56		
Specific Conductance	353			468			522		
Temperature	55.9			51.4			48.2		
Total Dissolved Solids	250			310			310		
Total Hardness (CaCO3)	261			319			337		
Carbonate	N/D			N/D			N/D		
Bicarbonate	274			365			361		
Calcium	78			88			92		
Chloride	46			4			4		
Iron (Diss.)	N/D			N/D			N/D		
Magnesium	16			24			26		
Manganese	N/D			N/D			N/D		
Potassium	1			N/D			N/D		
Sodium	2			3			6		
Sulfate	11			10			36		

	SP-11			SP-12			SP-13		
	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC
Sample Date	10-Oct			10-Oct			10-Oct		
Sample Time	02:45 PM			06:00 PM			02:30 PM		
Sampled By	Finley			Finley			Finley		
Flow	7			20			DRY		
PH	7.55			8.25					
Specific Conductance	507			422					
Temperature	53.2			46.8					
Total Dissolved Solids	330			260					
Total Hardness (CaCO3)	332			268					
Carbonate	N/D			N/D					
Bicarbonate	347			312					
Calcium	80			66					
Chloride	4			3					
Iron (Diss.)	N/D			N/D					
Magnesium	32			25					
Manganese	N/D			N/D					
Potassium	1			1					
Sodium	4			7					
Sulfate	24			17					

APPENDIX C

Legal, Financial, Compliance and Related Information

Annual Report of Officers
as submitted to the Utah Department of Commerce
and other changes in ownership and control information
as required under R645-301-110.

CONTENTS

Annual Report of Officers

Utah Department of Commerce
Division of Corporations & Commercial Code
180 East 300 South 2nd Floor, Box 148705
Salt Lake City, Utah 84114-8705
Phone (801) 530-4849



Domestic Profit Corporation First Annual Report

This annual report will be due in the Division offices within 90 days of incorporating. **ALL AREAS MUST BE COMPLETED**

CORPORATION FILE # CO201598 INCORPORATED OR QUALIFIED DATE 6 / 87

1. CORPORATE NAME HIAWATHA COAL COMPANY, INC.

2. REGISTERED AGENT Carl E. Kingston

3. REGISTERED OFFICE ADDRESS 3212 South State Street

4. CITY, STATE & ZIP Salt Lake City UTAH 84115

THIS BOX MUST BE COMPLETED REGISTERED AGENT MUST BE IN UTAH

5. INCORPORATED IN THE STATE, AND UNDER THE LAWS OF Utah

6. ADDRESS OF THE PRINCIPAL OFFICE IN THE HOME STATE:

Street Address _____ City _____

State or Country _____ ZIP _____

7. BUSINESS PURPOSE

OFFICERS

8. PRESIDENT E. O. Finley ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

9. VICE PRESIDENT N. J. Finley ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

10. SECRETARY C. A. Gustafson ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

11. TREASURER C. A. Gustafson ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

IF YOU HAVE LESS THAN 3 SHAREHOLDERS YOU MAY LIST LESS THAN 3 DIRECTORS. IF YOU HAVE NO DIRECTORS DUE TO SECTION 16-10A-732 YOU MUST STATE SO IN THE BOX BELOW.

DIRECTORS

12. DIRECTOR E. O. Finley ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

13. DIRECTOR N. J. Finley ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

14. DIRECTOR C. A. Gustafson ADDRESS 3212 South State
CITY Salt Lake City STATE Utah ZIP 84115

Under penalties of perjury and as an authorized officer, I declare that this annual report and, if applicable, the statement change of registered office and/or agent, has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete.

15. BY _____

16. TITLE or Position _____

17. _____ 19

HIAWATHA MINES

ACT/007/011

ANNUAL REPORT

1996

007/011 #6

UNITED STATES FUEL COMPANY

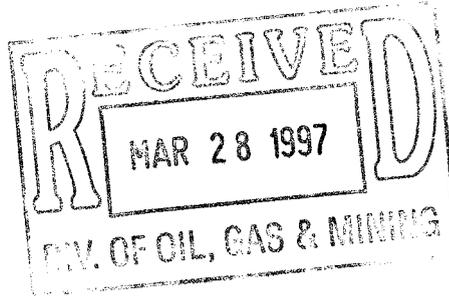
10 Hardscrabble Rd.
per, Utah 84526



(801) 472-3372
FAX (801) 472-3384

March 26, 1997

Utah Coal Regulatory Program
Division of Oil, Gas and Mining
Department of Natural Resources
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, UT 84114-5801



Re: United States Fuel Company Annual Report

Enclosed are two copies of the United States Fuel Company annual report. Please call if you require additional information.

Sincerely,

Michael P. Watson
President



State of Utah
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

BAQE-502-89

Norman H. Bangertzer
Governor

Suzanne Dandoy, M.D., M.P.H.
Executive Director

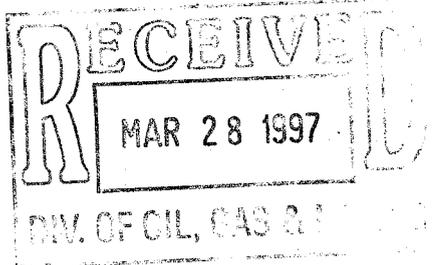
Kenneth L. Aikema
Director

Bureau of Air Quality
288 North 1460 West
P.O. Box 16690
Salt Lake City, Utah 84116-0690
(801) 538-6108

FILE COPY

July 25, 1989

Robert Eccli
United States Fuel Company
P.O. Box A
Hiawatha, Utah 84527



Dear Mr. Eccli:

Re: Approval Order for King #4 Coal Mine Surface Loadout Facilities
Modification 00032

The above-referenced project has been evaluated and found to be consistent with the requirements of the Utah Air Conservation Regulations (UACR) and the Utah Air Conservation Act. A 30-day public comment period was held and all comments received were evaluated. The conditions of this approval order reflect any changes to the proposed conditions which resulted from the evaluation of the comments received. This air quality approval order authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order:

1. ^{West-} United States Fuel Company, King # 4 coal mine located 3.5 miles south of Hiawatha, Carbon County shall install, construct and operate the new surface facilities according to the information submitted in the notice of intent dated March 1, 1989.
2. The modified approved installations shall consist of only the following equipment located at the site:
 - A. Scalper screen
 - B. Hammer mill
 - C. 100 ton storage silo
 - D. 3 new conveyors
 - E. Existing mine conveyors
 - F. Existing 13,000 tons storage pile
 - G. Existing reclaimed conveyor
 - H. Existing loader/dozer
3. This approval order shall replace and void any previously issued approval order for the King #4 mine surface facilities. (~~None Previous~~)
4. Visible emissions from the following emission points shall not exceed the following values:
 - A. ✓ All crushers - 15% opacity
 - B. ✓ All screens - 10% opacity
 - C. ✓ All conveyor transfer points - 10% opacity
 - E. Conveyor drop points to storage piles - 20% opacity
 - F. Haul roads, operations areas, disturbed areas, and storage piles - minimize emissions
 - G. All other points - 20% opacity

Robert Eccli
 July 25, 1989
 Page 2

Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. Opacity observations of intermittent sources shall use procedures similar to Method 9, but the requirement for observations to be made at 15-second intervals over a 6-minute period shall not apply. The averaging time shall be the actual time interval over which visible emissions are observed. Any time interval with no visible emissions shall not be included.

5. The following production limits shall not be exceeded without prior approval in accordance with Section 3.1, UACR:

A.	tons/hr	500
B.	tons/yr	1,000,000

Compliance with the annual limitations shall be determined on a rolling monthly total. On the first day of each month a new 12-month total shall be calculated using the previous 12 months. Records of production shall be kept for all periods when the plant is in operation. Records of production shall be made available to the Executive Secretary upon request, and shall include a period of two years ending with the date of the request. Coal production shall be determined by State mining reports.

6. The existing paved haul road shall be properly maintained and cleaned to minimize fugitive emission.
7. All unpaved roads and other unpaved operational areas which are used by mobile equipment shall be water sprayed and/or chemically treated to reduce fugitive dust. Control is required at all times (24 hours per day every day) for the duration of the project/operation. The application rate of water shall be a minimum of 0.25 gallons per square yard, and shall be made at least once every two hours during all times the installation is in use unless daily rainfall exceeds .10 of an inch, the road is in a damp condition, or if it is covered with snow. If chemical treatment is to be used, the plan must be approved by the Executive Secretary. Records of water treatment shall be kept for all periods when the plant is in operation. The records shall include the following items:

- A. Date
 B. Number of treatments made, dilution ratio, and quantity
 C. Rainfall received, if any, and approximate amount
 D. Time of day treatments were made

Records of treatment shall be made available to the Executive Secretary upon request and shall include a period of two years ending with the date of the request. The on site haul road length shall not exceed 1.0 miles without prior approval in accordance with Section 3.1, UACR. The speed of vehicles on the haul road shall not exceed 20 miles per hour without prior approval in accordance with Section 3.1, UACR.

Robert Eccli
July 25, 1989
Page 3

8. Water sprays or chemical dust suppression sprays shall be installed at the following points to control fugitive emissions:

- A. All crushers
- B. All screens

The sprays shall operate whenever dry conditions warrant or as determined necessary by the Executive Secretary.

9. In addition to the requirements of this approval order, all provisions of 40 CFR 60, NSPS Subparts A and Y apply to this installation.

10. For sources which are subject to NSPS, visible emission observations which are performed during the initial compliance inspection shall consist of 30 observations of six minutes each in accordance with 40 CFR 60, Appendix A, Method 9. It is the responsibility of the owner/operator of the source(s) to supply these observations to the Executive Secretary. Emission points which are subject to NSPS shall include the following:

- A. All crushers
- B. All screens
- C. All conveyor transfer points

11. The free moisture content of the coal shall be maintained at a value of no less than 5.0% by weight. The moisture content shall be tested if directed by the Executive Secretary using the appropriate ASTM method.

12. The storage piles shall be watered to minimize generation of fugitive dusts as dry conditions warrant or as determined necessary by the Executive Secretary.

13. Eighteen months from the date of this approval order the Executive Secretary shall be notified in writing of the status of construction of this project unless the construction is complete and operation has commenced.

14. All installations and facilities authorized by this approval order shall be adequately and properly maintained.

15. The Executive Secretary shall be notified in writing upon start-up of the installation, as an initial compliance inspection is required.

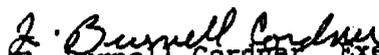
Any future modifications to the equipment approved by this order must also be approved in accordance with Section 3.1.1, UACR.

Robert Eccli
July 25, 1989
Page 4

This approval order in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the Utah Air Conservation Regulations.

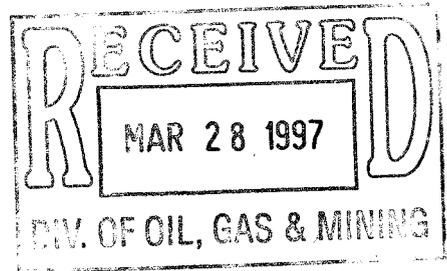
"Allowable emissions" as defined in Section 1.12, UACR, for this source (the entire plant) are currently calculated at 8.8 tons/yr for particulate and 6.4 tons/yr for PM₁₀. These calculations are for the purposes of determining the applicability of PSD and nonattainment area major source requirements of the UACR. They are not to be used for purposes of determining compliance.

Sincerely,


F. Burnell Cordner, Executive Secretary
Utah Air Conservation Committee

FBC:LCB:slt

cc: EPA Region VIII, John Dale
Southeastern Utah District Health Department



1996 ANNUAL REPORT

of

COAL MINING AND RECLAMATION OPERATIONS

at

UNITED STATES FUEL COMPANY

for

DIVISION OF OIL, GAS AND MINING

GENERAL INFORMATION

1. Permit Number	ACT/007/011
2. Mine Name	Hiawatha Complex, King 4 Mine
3. Permittee Name	United States Fuel Company
4. Operator Name (if other than Permittee)	
5. Permit Expiration Date	March 12, 1997
6. Company Representative, Title	K.C. Jones, Superintendent
7. Phone Number	(801) 637-2252
8. Fax Number	(801) 637-1070
9. Mailing Address	340 Hardscrabble Road Helper, Utah 84526
10. Resident Agent, Title	Michael P. Watson, President/Director U.S. Fuel Co.
Mailing Address	340 Hardscrabble Road Helper, Utah 84526
Fax No.	(801) 472-3384

IDENTIFICATION OF OTHER PERMITS

Identify other permits which are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expires on
1. MSHA Mine ID (s)	42-00098	King 4 Mine	N/A
2. MSHA Impoundment(s)	1211-UT-09-00098-01	Slurry Impoundment No. 1	N/A
	1211-UT-09-00098-02	Slurry Impoundment No. 4	N/A
	1211-UT-09-00098-03	Slurry Impoundment No. 5	N/A
3. NPDES/UPDES Permit(s) (water)	UT00023094	Utah/EPA Discharge Permit	05/31/99
4. PSD (Air) Permit(s)	070034	Utah Division of Air Quality	N/A
5.			
6.			

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX A to this Annual Report or currently ON FILE with the Division.

Certified Reports:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Excess Spoil Piles		X		X		
2. Refuse Piles	X		X			Refuse File No's. 1 & 2
3. Impoundments	X		X			Slurry Impoundments 1,4 & 5
4.	X		X			Sediment Ponds D003 - D011
5.	X		X			Re-certification, Sed. Pond D008

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX B to this Annual Report or currently ON FILE with the Division.

Technical Data:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Climatological Data		X		X		
2. Subsidence Monitoring Data	X		X			
3. Vegetation Monitoring Data	X			X		(See Other Data below)
4. Soils Monitoring Data	X		X			Slurry Impoundments 4 & 5
5. Water Monitoring Data	X		X			Streams, Springs & Mine Water Discharges
First Quarter Report	X		X			
Second Quarter Report	X		X			
Third Quarter Report	X		X			
Fourth Quarter Report	X		X			
6. Geological/Geophysical Data		X		X		
7. Engineering Data	X		X			Relinquishment of lease U-026583-058261
8. Other Data						
Seed Mix alterations & Substitutions	X		X			Slurry Pond No. 4 & Borrow Area F

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

as required under R645-301-514

CONTENTS

1. Annual Slurry Impoundment Report
2. Quarterly Refuse Pile & Waste Impoundments Reports
3. Quarterly Sediment Pond Inspection Reports
4. Sediment Pond D008 Recertification

UNITED STATES FUEL COMPANY

Slurry Impoundment Report - 1996

Slurry Impoundment No. 1 (1211-UT-09-00098-01)

Recovery of coal fines from Pond No. 1 commenced during the first quarter of 1996 and continued throughout the year. A total of 34,830 tons were recovered during 1996.

The embankment configuration remains as before except for a haul road constructed to access the coal fines. The embankment top remains at elevation 7175. The surface of the unrecovered coal fines is at elevation 7164. No fires have occurred in construction materials.

Slurry Impoundment No. 4 (1211-UT-09-00098-02)

Slurry Pond No. 4 has been reclaimed. First, regrading of the structure was completed. The material comprising Refuse Pile No. 2 was incorporated with that of Slurry Pond No. 4 to form a single, stable, regraded structure. Then, topsoil was placed over the entire regraded surface. Finally, during October, 1996 the topsoil was analyzed, fertilized, seeded and mulched.

Slurry Impoundment No. 5 (1211-UT-09-00098-03)

Main Cell

The regrading of the embankment of the main cell was completed in 1996. Refuse from the embankment was pushed into the excavated interior of the impoundment and shaped to a stable, uniform configuration with side slopes of approximately 5:1. Placement of a 16 inch thick cover of topsoil was started during the latter part of the year.

North Cell

No slurry was added to or removed from the North Cell during 1996. No structural changes have been made to the outside embankment. The inside embankment (separating the North Cell from the Main Cell) has been incorporated with the regraded Main Cell. The top of the outside embankment remains at elevation 7068. The

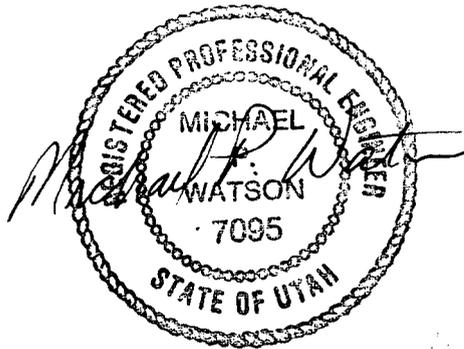
coal fines remain at elevation 7055. There are no signs of instability and no fires have occurred.

Refuse Pile No. 1 (1211-UT-09-00098-04)

Refuse Pile No. 1 remains inactive. No changes have been made to its configuration. No fires occurred and no signs of embankment instability were observed.

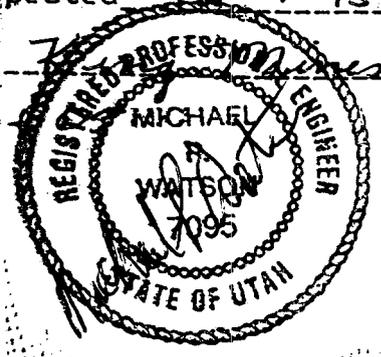
Certification

To the best of my knowledge, the foregoing report regarding the impoundments and refuse piles is an accurate representation of both the work performed during 1996 and the current status of these structures.



COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name K.C. Jones Title _____
 Date 3-1-96 Date last inspected 12-7-95
 Site Name Refuse Piles Mine Name _____
 Refuse Facility ID # 1211-4T-09-00098-04



Refuse piles---Part A only
 Impoundments---Part A and Part B

Part A

- | | | | |
|--|-------------|-----|--|
| 1. Foundation preparation (vegetation, topsoil removal?) | <u>DNA.</u> | Yes | No |
| 2. Lift Thickness (inches) | <u>DNA.</u> | Yes | No |
| 3. Compaction (4 to 6 complete passes) | <u>DNA.</u> | Yes | <input checked="" type="checkbox"/> No |
| 4. Burning* (specify extent and location) | | Yes | <input checked="" type="checkbox"/> No |
| 5. Angle of Slope (degrees) | <u>11°</u> | Yes | <input checked="" type="checkbox"/> No |
| 6. Seepage* (specify location, color, & appr. volume) | | Yes | <input checked="" type="checkbox"/> No |
| 7. Cracks or scarps* (location, size) | | Yes | <input checked="" type="checkbox"/> No |
| 8. Major erosion problems* (location and extent) | | Yes | <input checked="" type="checkbox"/> No |
| 9. Water impounding against toe* | | Yes | <input checked="" type="checkbox"/> No |

Part B

- | | | | |
|---|-------------|-----|--|
| 10. Embankment freeboard (feet) | <u>DNA.</u> | Yes | No |
| 11. Increase/Decrease in water level (feet) | <u>DNA.</u> | Yes | No |
| 12. Sumps or sinkholes in slurry surface | | Yes | <input checked="" type="checkbox"/> No |
| 13. Clogging* (pipes, ditches, spillway) | | Yes | <input checked="" type="checkbox"/> No |
| 14. Trash racks clear and in place | <u>DNA.</u> | Yes | No |

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection Category

Comments

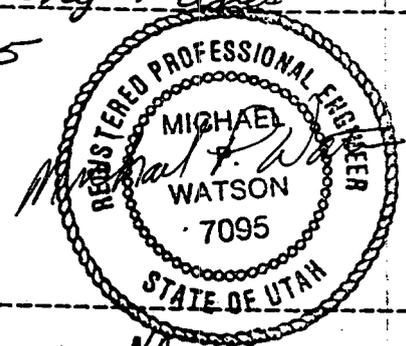
<u>3-1-96</u>	<u>#1 Inactive</u>
<u>3-1-96</u>	<u>#2 Topsoiled Ready For Seed</u>
<u>3-1-96</u>	<u>#4 Topsoil being Applied</u>
<u>3-1-96</u>	<u>#5 Leveled piles on Top</u>
<u>3-1-96</u>	<u>#5A Active</u>

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name K.C. Jones Title LEADMAN
 Date 6-11-96 Date last inspected 3-1-96
 Site Name Refuse Piles Mine Name King Mines
 Refuse Facility ID # 1211-4T-09-00098-04605

Refuse piles---Part A only
 Impoundments---Part A and Part B



Part A

- | | | | | |
|--|----|--|-----|--|
| 1. Foundation preparation (vegetation, topsoil removal?) | NA | | Yes | No |
| 2. Lift Thickness (inches) | NA | | Yes | No |
| 3. Compaction (4 to 6 complete passes) | NA | | Yes | No |
| 4. Burning* (specify extent and location) | | | Yes | <input checked="" type="checkbox"/> No |
| 5. Angle of Slope (degrees) | | | | <input checked="" type="checkbox"/> No |
| 6. Seepage* (specify location, color, & appr. volume) | | | Yes | <input checked="" type="checkbox"/> No |
| 7. Cracks or scarps* (location, size) | | | Yes | <input checked="" type="checkbox"/> No |
| 8. Major erosion problems* (location and extent) | | | Yes | <input checked="" type="checkbox"/> No |
| 9. Water impounding against toe* | | | Yes | <input checked="" type="checkbox"/> No |

Part B

- | | | | | |
|---|----|--|-----|--|
| 10. Embankment freeboard (feet) | NA | | Yes | No |
| 11. ___ Increase ___ Decrease in water level (feet) | NA | | Yes | No |
| 12. Sumps or sinkholes in slurry surface | | | Yes | <input checked="" type="checkbox"/> No |
| 13. Clogging* (pipes, ditches, spillway) | | | Yes | <input checked="" type="checkbox"/> No |
| 14. Trash racks clear and in place | NA | | Yes | No |

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection
Category

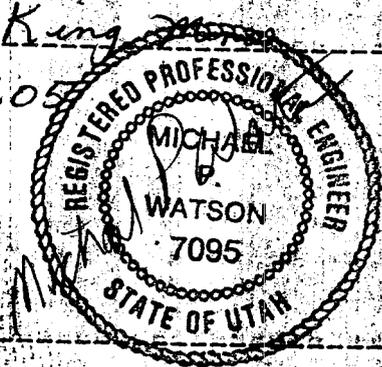
Comments

<u>6-11-96</u>	<u>#1 Inactive</u>
<u>6-11-96</u>	<u>#2 Topsoiled ready for seed</u>
<u>6-11-96</u>	<u>#4 Topsoiled ready for seed</u>
<u>6-11-96</u>	<u>#5 Sloping the sides</u>
<u>6-11-96</u>	<u>#5A ACTIVE</u>

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name K.C. Jones Title Supt
 Date 9-6-96 Date last inspected 6-11-96
 Site Name Refuse Piles Mine Name King
 Refuse Facility ID # 1211-UT-09-00098-04605



Refuse piles---Part A only
 Impoundments---Part A and Part B

Part A

- | | | | |
|--|----|-----|----|
| 1. Foundation preparation (vegetation, topsoil removal?) | NA | Yes | No |
| 2. Lift Thickness (inches) | NA | Yes | No |
| 3. Compaction (4 to 6 complete passes) | NA | Yes | No |
| 4. Burning* (specify extent and location) | | Yes | No |
| 5. Angle of Slope (degrees) | | Yes | No |
| 6. Seepage* (specify location, color, & appr. volume) | | Yes | No |
| 7. Cracks or scarps* (location, size) | | Yes | No |
| 8. Major erosion problems* (location and extent) | | Yes | No |
| 9. Water impounding against toe* | | Yes | No |

Part B

- | | | | |
|---|----|-----|----|
| 10. Embankment freeboard (feet) | NA | Yes | No |
| 11. Increase Decrease in water level (feet) | NA | Yes | No |
| 12. Sumps or sinkholes in slurry surface | | Yes | No |
| 13. Clogging* (pipes, ditches, spillway) | | Yes | No |
| 14. Trash racks clear and in place | NA | Yes | No |

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection
Category

Comments

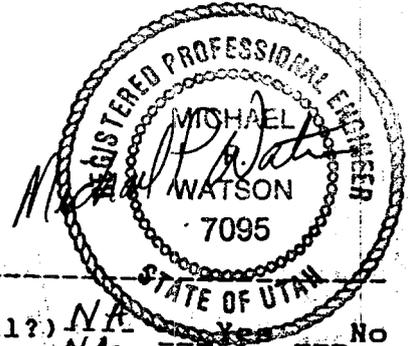
<u>9-6-96</u>	<u>#1 Inactive Removing com. Fines</u>
<u>9-6-96</u>	<u>#4 Topsoiled Ready for seed</u>
<u>9-6-96</u>	<u>#5 Sloped some grading left Ready for Topsoil</u>
<u>9-6-96</u>	<u>#5A Active</u>

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name K.C. Jones Title Supv.
 Date 12-5-96 Date last inspected 9-6-96
 Site Name Refuse Piles Mine Name King Mines
 Refuse Facility ID # 1211-UT-09-00098-04605

Refuse piles---Part A only
 Impoundments---Part A and Part B



Part A

- | | | | | |
|--|----|--|-----|--|
| 1. Foundation preparation (vegetation, topsoil removal?) | NA | | Yes | No |
| 2. Lift Thickness (inches) | NA | | | |
| 3. Compaction (4 to 6 complete passes) | NA | | Yes | No |
| 4. Burning* (specify extent and location) | | | Yes | <input checked="" type="checkbox"/> No |
| 5. Angle of Slope (degrees) | | | | |
| 6. Seepage* (specify location, color, & appr. volume) | | | Yes | <input checked="" type="checkbox"/> No |
| 7. Cracks or scarps* (location, size) | | | Yes | <input checked="" type="checkbox"/> No |
| 8. Major erosion problems* (location and extent) | | | Yes | <input checked="" type="checkbox"/> No |
| 9. Water impounding against toe* | | | Yes | <input checked="" type="checkbox"/> No |

Part B

- | | | | | |
|---|----|--|-----|--|
| 10. Embankment freeboard (feet) | NA | | | |
| 11. ___ Increase ___ Decrease in water level (feet) | NA | | Yes | No |
| 12. Sumps or sinkholes in slurry surface | | | Yes | <input checked="" type="checkbox"/> No |
| 13. Clogging* (pipes, ditches, spillway) | | | Yes | <input checked="" type="checkbox"/> No |
| 14. Trash racks clear and in place | NA | | Yes | No |

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection
Category

Comments

<u>12-4-96</u>	<u>#1</u>	<u>Inactive</u>	<u>Removing coal fines</u>
<u>12-4-96</u>	<u>#4</u>	<u>Topsoiled & reseeded</u>	
<u>12-4-96</u>	<u>#5</u>	<u>Topsoil being applied</u>	
	<u>#5A</u>	<u>Active</u>	

UNITED STATES FUEL COMPANY
Hiawatha Mines ACT #007/001

Quarterly Sediment Pond Inspection Sheet

Inspector's Name K.C. Jones
Sediment Pond Name see below
and Location see below

Date 3-1-96
Date Last Inspected 12-7-95

Observations Made

- 1) Seepage (specify location, color and approximate volume):
- at isolated spots on embankment slopes
- at natural hillside
- over sidespread areas

none
none
none
none

- 2) Cracks or scarps on crest

no

- 3) Cracks or scarps on slope

no

- 4) Sloughing or bulging on slope

no

- 5) Major erosional problems:

- spillway
- embankments
- diversion ditches

no
no
no

- 6) Existing embankment freeboard:

Water _____ Increase _____ Decrease No Water

- 7) Visible sumps or sinkholes

no

- 8) Clogging:

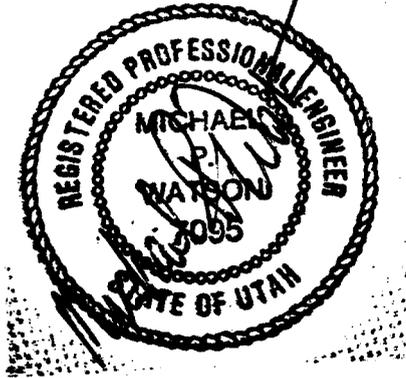
- spillway channels and pipes
- decant system
- diversion ditches

no
no
no

- 9) Cracking or crushing of pipes:

- spillway pipes
- decant system

no
no



Note additional comments below:

Pond	Location		Catch Basin		
0003	Upper Railroad	snow	#1	OK	snow
0004	North of slurry pond 1	snow	#2	OK	snow
0005	East of slurry pond 4	(ice) snow	#3	OK	snow
0006	NE Slurry pond 5	wet	#4	OK	snow
0007	SE Slurry pond 5	(ice) snow	#5	OK	snow
0008	Middle Fork Mine yard	snow	#6	OK	snow
0009	South Fork Mine yard	snow	#7	OK	snow
0011	South Fork Truck Roadcut	snow			

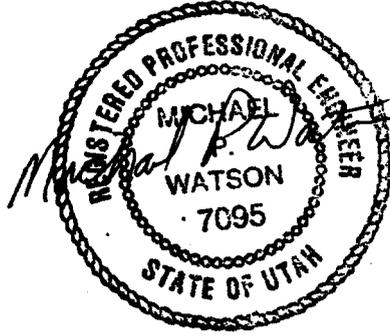
Quarterly Sediment Pond Inspection Sheet

Inspector's Name K.C. Jones
 Sediment Pond Name see below
 and Location see below

Date 6-11-96
 Date Last Inspected 3-1-96

Observations Made

- 1) Seepage (specify location, color and approximate volume):
 - at isolated spots on embankment slopes none
 - at natural hillside none
 - over sidespread areas none
- 2) Cracks or scarps on crest no
- 3) Cracks or scarps on slope no
- 4) Sloughing or bulging on slope no
- 5) Major erosional problems:
 - spillway no
 - embankments no
 - diversion ditches no
- 6) Existing embankment freeboard:
 - Water _____ Increase _____ Decrease No Water _____
- 7) Visible sumps or sinkholes no
- 8) Clogging:
 - spillway channels and pipes no
 - decant system no
 - diversion ditches no
- 9) Cracking or crushing of pipes:
 - spillway pipes no
 - decant system no



Note additional comments below:

Pond	Location	Condition	Catch Basin	Notes
D003	Upper Railroad	dry	#1	ok dry
D004	North of slurry pond 1	dry	#2	ok dry
D005	East of slurry pond 4	dry	#3	ok dry
D006	NE Slurry pond 5	dry	#4	small sinkhole dry
D007	SE Slurry pond 5	dry	#5	ok dry
D008	Middle Fork Mine yard	wet	#6	ok dry
D009	South Fork Mine yard	dry	#7	ok dry
D011	South Fork Truck Roadcut	water		

Investigate #4 catch basin when backhoe returns
 stamped dirt in hole.

Replaced 16' of 48" culvert under catch basin #4
 on 6-26-96

UNITED STATES FUEL COMPANY

Hiawatha Mines ACT #007/001

Quarterly Sediment Pond Inspection Sheet

Inspector's Name
Sediment Pond Name
and Location

K.C. Jones
see below
see below

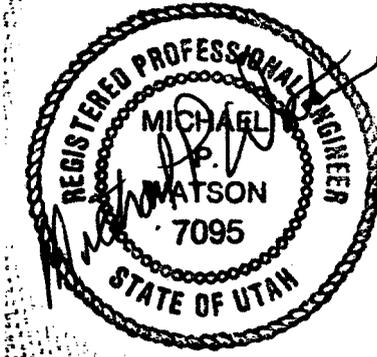
Date Sept 9-11

Date Last Inspected 6-11-96

Observations Made

- 1) Seepage (specify location, color and approximate volume):
 - at isolated spots on embankment slopes none
 - at natural hillside none
 - over sidespread areas none
- 2) Cracks or scarps on crest no
- 3) Cracks or scarps on slope no
- 4) Sloughing or bulging on slope no
- 5) Major erosional problems:
 - spillway no
 - embankments no
 - diversion ditches no
- 6) Existing embankment freeboard:

Water _____ Increase _____ Decrease No Water _____
- 7) Visible sumps or sinkholes no
- 8) Clogging:
 - spillway channels and pipes no
 - decant system no
 - diversion ditches no
- 9) Cracking or crushing of pipes:
 - spillway pipes no
 - decant system no



Note additional comments below:

Pond	Location		Catch Basins		
0003	Upper Railroad	dry	#1	OK	dry
0004	North of slurry pond #1	dry	#2	OK	dry
0005	East of slurry pond #4	dry	#3	OK	dry
0006	NE Slurry pond #5	dry	#4	OK	dry
0007	SE Slurry pond #5	dry	#5	OK	dry
0008	Middle Fork Mine Yard	dry	#6	OK	dry
0009	South Fork Mine Yard	dry	#7	OK	dry
0011	South Fork Truck Loadout	dry			

UNITED STATES FUEL COMPANY
 Hiawatha Mines ACT #007/001

Quarterly Sediment Pond Inspection Sheet

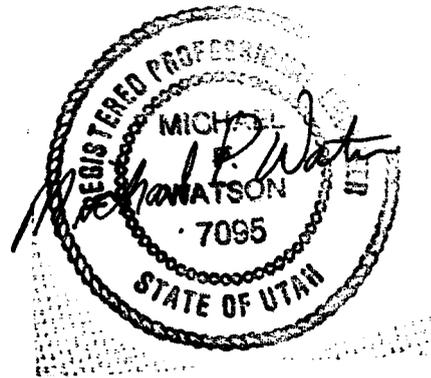
Inspector's Name K.C. Jones
 Sediment Pond Name see below
 and Location see below

Date 12-5-96
 Date Last Inspected 9-9-96

Observations Made

- 1) Seepage (specify location, color and approximate volume):
 - at isolated spots on embankment slopes none
 - at natural hillside none
 - over sidespread areas none
- 2) Cracks or scarps on crest no
- 3) Cracks or scarps on slope no
- 4) Sloughing or bulging on slope no
- 5) Major erosional problems:
 - spillway no
 - embankments no
 - diversion ditches no
- 6) Existing embankment freeboard:

Water _____ Increase _____ Decrease No Water _____
- 7) Visible sumps or sinkholes no
- 8) Clogging:
 - spillway channels and pipes no
 - decant system no
 - diversion ditches no
- 9) Cracking or crushing of pipes:
 - spillway pipes no
 - decant system no



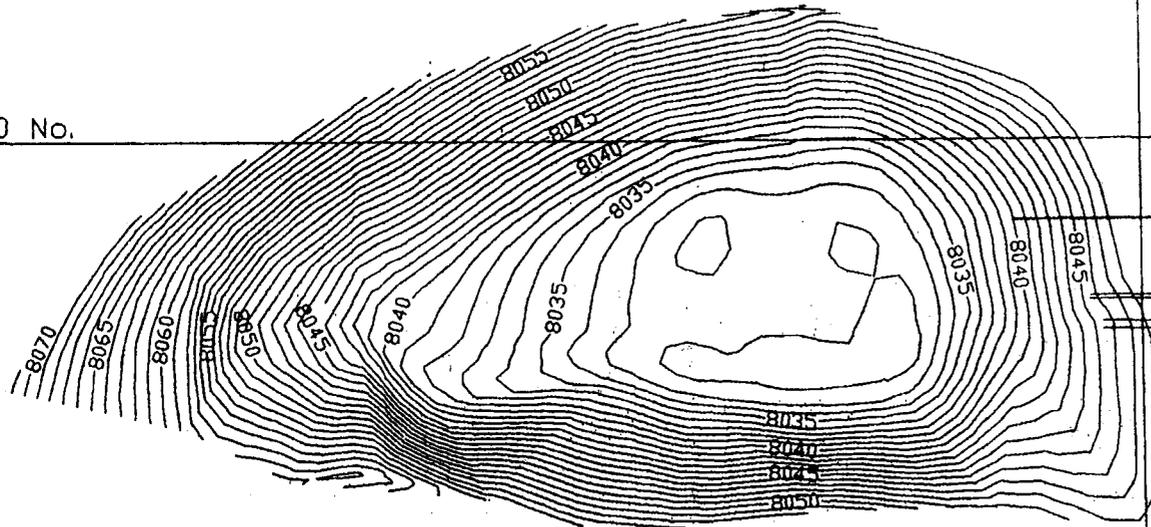
Note additional comments below:

Pond Location		Catch Basins		
D003 upper Railroad		#1	OK	snow
D004 North of slurry pond #1	Snow	#2	OK	snow
D005 East of slurry pond #4	Snow	#3	OK	snow
D006 NE of slurry pond #5	Snow	#4	OK	snow
D007 SE of slurry pond #5	Snow	#5	OK	snow
D008 Middle Fork Mine Yard	Snow	#6	OK	snow
D009 South Fork Mine Yard	Snow	#7		removed silt fence in place of
D011 South Fork Truck Loadout	Snow			

POND D008

2,500 No.

13,100 West



ELEV	AREA (sqft)	CUMULATIVE VOLUME (acft)
8031	0	0.00
8032	1186	0.01
8033	3994	0.07
8034	5143	0.18
8035	6167	0.31
8036	7201	0.46
8037	8245	0.64
8038	9305	0.84
8039	10370	1.07
8040	11402	1.32
8041	12418	1.59
8042	13423	1.89
8043	14479	2.21
8044	15607	2.55
8045	16791	2.92
8045.6	17560	3.16
8046	18073	3.32
8047	19439	3.75
8048	20933	4.22

	VOLUMES			ELEVATIONS	
	SEDIMENT	RUNOFF	TOTAL	SEDIMENT	RUNOFF
DESIGN	0.48 ac-ft	0.92 ac-ft	1.40 ac-ft	----	----
AS BUILT	0.48 ac-ft	2.68 ac-ft	3.16 ac-ft	8036.1	8045.6

U.S. Fuel Co.
GEG 1/8/96
Scale: 1" = 50'



APPENDIX B

Reporting of Technical Data

including monitoring data, reports, maps, and other information
as required under the approved plan
or as required by the Division

in accordance with the requirements of R645-301-130 and R645-301-140.

CONTENTS

1. Subsidence Monitoring Data
2. Soils Monitoring Data
 - A. Slurry Pond No. 4
 - B. Borrow Area F
 - C. Slurry Pond No. 5
3. Water Monitoring Data
 - A. Mine Water Discharge
 - B. Streams
 - C. Springs
4. Relinquishment of Lease
U-026583-058261
5. Requested Seed Mix Alteration
for Slurry Pond No. 4 & Borrow
Area F

Olympus Aerial Surveys, Inc.
 Subsidence Study Report
 using elevation readings from photography dated
 October 9, 1996 versus those of September 23, 1988
 FOR
 U. S. FUEL Co.

1996 HIAWATHA SUBSIDENCE STUDY

USING SEPT 1993 RE-SURVEYED CONTROL
 WITH 1995 REVISED ELEVATIONS:

POINT	EASTING	NORTHING	1988 ELEVATION	1996 DIFFERENCE	POINT
300	-16154.84	9455.11	9145.11	-0.27	300
301	-19121.40	10685.80	9334.34	-0.53	301
302	-19173.66	10300.36	9820.79	-0.44	302
303	-18869.55	10206.93	9700.41	-0.11	303
304	-13581.16	10303.30	9654.68	-0.44	304
305	-18086.90	10234.14	9506.03	+0.80	305
306	-17709.62	10335.41	9565.75	-0.53	306
307	-17396.10	10215.50	9573.39	-0.08	307
308	-17026.66	10492.97	9421.05	-0.35	308
309	-16470.35	10432.95	9107.78	-0.45	309
310	-16010.35	10379.94	8892.65	-0.20	310
311	-15534.21	10214.41	8653.30	-0.18	311
312	-15030.33	10279.77	8555.36	-0.02	312
313	-19120.12	10030.57	9726.74	-0.01	313
314	-19064.92	9847.59	9637.45	-0.07	314
315	-18832.57	9843.37	9572.86	-0.20	315
316	-18533.11	9941.48	9495.16	-0.48	316
317	-18093.74	9870.18	9353.92	-0.11	317
318	-17723.09	9760.03	9359.17	-0.04	318
319	-17264.45	9925.78	9502.48	-0.05	319
320	-17237.77	9502.10	9325.44	-0.06	320
321	-17042.88	9835.38	9468.03	+0.54	321
322	-16862.99	9375.28	9410.64	-0.10	322
323	-16407.90	9639.15	9323.66	-0.07	323
324	-16022.32	9703.75	8994.83	-0.07	324
325	-15799.88	9592.11	8894.32	-0.40	325
326	-15439.19	9670.87	8702.31	-0.18	326
327	-14529.15	9520.17	8629.18	-0.05	327
328	-14098.14	9468.10	8680.60	-0.03	328
329	-13724.83	9466.06	8644.11	-0.04	329
331	-19057.04	9390.63	9480.81	-0.07	331
332	-18770.99	9358.94	9450.32	-0.31	332
333	-18429.55	9256.83	9293.85	-0.59	333
334	-17992.74	9296.12	9004.63	-0.18	334
335	-17505.63	9482.54	9272.66	+0.48	335
336	-17290.22	8829.29	8940.62	-0.06	336
337	-17042.45	9167.67	9216.47	+0.07	337
338	-16634.56	8974.17	9327.09	-0.13	338
339	-16314.62	9041.05	9307.09	-0.05	339
340	-16079.12	9068.77	9303.68	-0.20	340
341	-15915.27	9013.40	9190.97	+0.77	341
342	-15592.65	8946.68	9109.82	+0.29	342
343	-15148.10	8843.97	9083.49	0.0	343
344	-14876.36	8741.88	9076.67	0.0	344

347	-13740.43	8735.27	3694.09	-0.11	347
348	-13309.51	8655.70	3500.94	-0.09	348
349	-19032.93	8822.29	9267.53	-0.16	349
350	-18890.63	8447.55	9009.19	-0.15	350
351	-19344.28	8372.53	9011.03	-0.11	351
352	-19439.16	7927.91	9252.92	-0.21	352
353	-13801.99	7864.43	8331.27	-0.15	353
354	-13818.43	7465.64	8863.47	-0.18	354
355	-19385.66	7463.43	9253.96	-0.09	355
356	-19380.47	7271.07	9182.23	+0.29	356
357	-19063.20	6496.12	9430.72	+0.08	357
358	-19224.35	6288.24	9473.18	+0.06	358
359	-19198.78	5878.10	9389.51	+0.02	359
360	-18883.64	5414.38	9434.91	+0.01	360
361	-19002.72	5175.54	9524.31	-0.41	361
362	-13941.90	4764.81	9554.31	-0.13	362
363	-18853.51	3773.42	9634.85	-0.17	363
364	-19168.25	3300.66	9776.17	-0.02	364
365	-19130.53	3130.86	9769.47	-0.12	365
366	-19053.54	2633.47	9737.63	-0.13	366
367	-13969.16	2264.18	9723.72	-0.09	367
368	-18935.45	1853.96	9723.52	-0.23	368
369	-20166.08	9321.90	9568.12	-1.33	369
370	-19829.94	9313.36	9647.95	-1.65	370
371	-21680.93	9106.98	9826.20	-0.31	371
372	-21293.94	9057.03	9817.95	-0.12	372
373	-20819.75	8986.88	9753.99	-0.77	373
374	-20367.54	9121.52	9580.42	-0.38	374
375	-20036.82	8969.18	9459.61	-1.80	375
376	-19815.99	8907.58	9469.49	-2.14	376
377	-19490.49	9064.17	9436.42	-0.92	377
378	-21666.05	8764.28	9801.68	-0.15	378
379	-21356.45	8757.05	9810.42	-0.36	379
380	-20916.70	8591.22	9783.33	-0.71	380
381	-20313.90	8603.66	9604.82	-3.57	381
382	-20069.16	3380.79	9531.26	-2.59	382
383	-19859.97	9756.37	9283.86	-4.31	383
384	-19459.87	8502.21	9136.19	-3.08	384
385	-21794.69	8452.24	9791.02	-0.81	385
386	-21286.26	8301.75	9845.03	-0.93	386
387	-20935.16	8329.74	9807.50	-0.62	387
388	-20678.22	8266.42	9743.60	-0.88	388
389	-20436.99	8163.26	9686.01	-1.48	389
390	-20045.44	8071.42	9563.40	-1.82	390
391	-19591.36	7908.10	9329.55	-2.31	391
392	-20940.17	8042.87	9330.37	-0.12	392
393	-20514.77	7860.31	9765.70	-0.05	393
394	-20298.03	7698.64	9712.00	-0.07	394
395	-19343.99	7458.34	9226.76	-1.14	395
396	-20545.28	7554.42	9819.35	-0.16	396
397	-20715.05	7300.77	9871.54	-0.19	397
398	-20203.05	7270.05	9630.36	-0.66	398
399	-18623.10	8438.53	8962.70	-0.03	399
400	-18300.56	8438.86	8935.10	-0.11	400
401	-18085.67	8396.12	8872.62	+0.01	401
402	-17712.05	8476.90	8659.57	-0.09	402
403	-17465.94	8461.25	8713.42	-0.15	403
404	-17162.72	8423.47	8801.87	-0.07	404

407	-16223.30	8454.41	9084.35	-1.44	407
408	-15915.85	8443.88	8937.60	-1.29	408
409	-15606.06	8430.98	8867.10	-1.57	409
410	-15291.41	8442.89	8872.42	-0.73	410
411	-15000.03	8436.97	8899.24	-0.33	411
412	-14697.00	8451.37	8974.20	-0.41	412

NOTE:

As in the prior reports, 1988 elevations for points 349 to 368 are using the revised values to reflect better information. This standing revision is in accordance with our prior discussions on the subject.

524



Inter-Mountain Laboratories, Inc.

2506 West Main Street

Farmington, New Mexico 87401

Tel. (505) 326-4737

U.S. FOLS CO.
Price, Utah

DATE REPORTED: September 26, 1996

Page 1 of 1

Lab No.	Location	Depths	P ppm	K ppm	Nitrate- Nitrogen ppm
48999	Borrow Area P		6.86	1.50	4.62
49000	Slurry Pond 4		7.56	2.00	4.08

14 12 14

250 146/2000

150

1 505 325 4182

FROM: IML-FARMINGTON, NM

TO:

801 472 3384

OCT 3, 1996

8:24AM

P.02



Inter-Mountain Laboratories, Inc.
Farmington, New Mexico 87401

2506 West Main Street

Tel. (505) 326-4737

U.S. FURD COMPANY
Hiawatha, UT

LOCATION: Slurry Pond No. 5

DATE SAMPLED: September 25, 1996
DATE REPORTED: October 23, 1996

Lab No.	Location	Depth Inches	pH	Br mbhos/cm @ 25°C
50456	5-1Top of Slope	6.0-8.0	6.8	4.48
50457	5-2Mid of Slope	6.0-8.0	6.2	4.67
50458	5-3Bot of Slope	6.0-8.0	6.5	5.22



Inter-Mountain Laboratories, Inc.

Farmington, New Mexico 87401

2506 West Main Street

Tel. (505) 326-4737

US FUEL COMPANY
Hiawatha, UT

LOCATION: Slurry Pond No. 5

DATE SAMPLED: September 25, 1996

DATE REPORTED: October 23, 1996

Lab No.	Location	Depths Inches	Boron ppm	H2O Sol Selenium ppm
50456	5-1Top of Slope	6.0-8.0	0.71	0.03
50457	5-2Mid of Slope	6.0-8.0	0.67	0.02
50458	5-3Bot of Slope	6.0-8.0	0.61	0.04

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, ABPTA= Ammonium Bicarbonate-DPTA, AAO= Acid Ammonium Oxalate



Inter-Mountain Laboratories, Inc.

2506 West Main Street

Farmington, New Mexico 87401

Tel. (505) 326-4737

US FUEL COMPANY
Hiawatha, UT

DATE SAMPLED: September 25, 1996
DATE REPORTED: October 23, 1996

LOCATION: Slurry Pond No. 5

Page 2

Lab No.	Location	Depths Inches	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t	Sulfate Sulfur %	Pyritic Sulfur %	Organic Sulfur %	PyrS AB t/1000t	PyrS ABP t/1000t
50456	5-1Top of Slope	6.0-8.0	1.64	51.2	16.3	-35.0	0.99	0.28	0.38	8.62	7.63
50457	5-2Mid of Slope	6.0-8.0	1.32	41.2	4.75	-36.5	0.86	0.16	0.30	4.94	-0.19
50458	5-3Bot of Slope	6.0-8.0	1.89	59.0	20.5	-38.5	1.14	0.42	0.33	13.0	7.50

Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neut. Pot.= Neutralization Potential

MINE WATER DISCHARGE REPORT
1996
DISCHARGE STATUS

DISCHARGE POINT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
D001	D D	IA IA	D D									
D002	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D
D003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D010	IA	IA	IA	ND								
D011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
D012	IA	IA	IA	ND								
D013	IA	IA	IA	ND								

D = DISCHARGE ND = NO DISCHARGE IA = INACCESSIBLE

MINE WATER DISCHARGE REPORT

STATION D001

1996

Parameters	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.	Min.	Max.
Date	01-12	02-08	03-12	04-10	05-15	06-11	07-10	08-08	09-06	10-08	11-07	12-09			
	01-29	02-28	03-27	04-24	05-30	06-24	07-25	08-23	09-24	10-28	11-25	12-20			
Time	13:10	IA	11:45	10:55	15:20	11:15	13:10	9:00	9:25	9:30	9:05	9:30			
	IA	IA	IA	12:05	12:45	10:45	10:20	9:15	9:30	10:05	9:20	10:40			
Flow Rate (gpm)	346	IA	105	193	52	373	373	292	242	242	242	265			
	IA	IA	IA	193	319	404	346	0-DRY	404	118	215	265	263	0	404
pH	6.75	IA	6.9	6.85	6.90	6.90	6.85	6.70	6.70	6.70	6.80	6.90			
	IA	IA	IA	6.85	6.90	6.85	6.65		6.70	6.80	6.90	6.90	6.82	6.7	6.9
Conductivity (umhos/cm)	1119	IA	1090	1110	1083	1064	1022	1053	1020	901	856	887			
	IA	IA	IA	1068	1060	1042	1071		940	912	849	850	1000	849	1119
Oil&Grease (mg/l)	NT	IA	NT												
	IA	IA	IA	NT											
T.D.S. (mg/l)	900	IA	903	901	874	911	855	854	856	855	832	847			
	IA	IA	IA	887	906	897	862		843	834	776	842	874	776	911
T.S.S. (mg/l)	<5	IA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
	IA	IA	IA	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5
Total Iron (mg/l)	<.1	IA	<.03	<.03	<.03	<.1	<.1	<.1	<.1	<.1	<.1	<.1			
	IA	IA	IA	<.03	<.1	<.1	<.1		0.10	<.1	<.1	<.1	<.08	<.03	0.1

IA = Inaccessible

NT = Not Tested

STATION D002

1996

Parameters	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avg.	Min.	Max.
Date	01-12	02-08	03-12	04-10	05-15	06-11	07-10	08-08	09-06	10-08	11-07	12-09			
	01-29	02-28	03-27	04-24	05-30	06-24	07-25	08-23	09-24	10-28	11-25	12-20			
Time	12:50	12:55	12:15	10:35	15:00	10:40	12:40	8:30	8:55	9:00	8:40	9:05			
	14:45	15:15	14:00	11:45	12:20	10:20	9:55	8:45	9:05	9:45	8:30	10:10			
Flow Rate (gpm)	319	350	62	274	346	157	94	238	162	288	103	285			
	300	50	100	305	116	157	111	404	7.4	228	189	332	203	7.4	404
pH	6.7	7.2	7.15	7.20	7.40	7.20	7.20	7.10	7.00	7.10	7.00	7.10			
	7.1	7.3	7.25	6.60	7.30	7.50	7.10	7.00	7.10	6.70	7.20	7.20	7.11	6.6	7.5
Conductivity (umhos/cm)	1107	1086	1067	1089	1108	1086	1052	1063	1025	942	878	817			
	1128	1099	1062	1115	1020	1034	1073	1003	938	919	828	832	1015	817	1128
Oil&Grease (mg/l)	NT														
	NT														
T.D.S. (mg/l)	890	920	894	914	890	882	901	845	857	845	844	835			
	940	913	879	890	920	892	856	866	913	860	827	831	879	832	940
T.S.S. (mg/l)	<5	<5	<5	<5	<5	<5	<5	6.0	<5	<5	<5	<5			
	<5	<5	5.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6
Total Iron (mg/l)	<.1	<.1	<.03	<.03	<.03	<.1	<.1	<.1	<.1	<.1	<.1	<.1			
	<.1	<.1	0.12	<.03	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.08	<.03	0.12

IA = Inaccessible
 NT = Not Tested

QUARTERLY STREAM MONITORING REPORT

1st Quarter 1996

	ST-1	ST-2	ST-2B	ST-3A	ST-3B	ST-3
Sample Date	IA	IA	IA	IA	IA	IA
Sample Time						
Sampled By						
Flow Rate gpm						
Air Temperature deg. F						
Water Temperature deg. F						
pH units						
Conductivity umhos/cm						
Dissolved Oxygen ppm						
Total Dissolved Solids mg/l						
Total Settleable Solids mg/l						
Total Suspended Solids mg/l						
Total Hardness (CaCO ₃) mg/l						
Acidity mg/l						
Aluminum (Al) mg/l						
Arsenic (As) mg/l						
Barium (Ba) mg/l						
Bicarbonate (HCO ₃) mg/l						
Boron (B) mg/l						
Carbonate (CO ₃) mg/l						
Cation-Anion Balance %						
Cadmium (Cd) mg/l						
Calcium (Ca) mg/l						
Chloride (Cl -1) mg/l						
Chromium (Cr) mg/l						
Copper (Cu) mg/l						
Fluoride (Fl) mg/l						
Iron (Fe) Dissolved mg/l						
Lead (Pb) mg/l						
Sulfate (SO ₄ -2) mg/l						
Sulfide (SO ₂ -1) mg/l						
Magnesium (Mg) mg/l						
Manganese (Mn) mg/l						
Mercury (Hg) mg/l						
Molybdenum (Mo) mg/l						
Nickel (Ni) mg/l						
Nitrogen: Ammonia (NH ₃) mg/l						
Nitrate (NO ₃ -1) mg/l						
Nitrite (NO ₂) mg/l						
Oil and Grease mg/l						
Potassium (K) mg/l						
Phosphate Total (PO ₄ -3) mg/l						
Selenium (Se) mg/l						
Sodium (Na) mg/l						
Zinc (Zn) mg/l						

IA = Inaccessible

QUARTERLY STREAM MONITORING REPORT

1st Quarter 1996 (Continued)

	ST-4A	ST-4B	ST-4	ST-5
Sample Date	IA	IA	IA	IA
Sample Time				
Sampled By				
Flow Rate gpm				
Air Temperature deg. F				
Water Temperature deg. F				
pH units				
Conductivity umhos/cm				
Dissolved Oxygen ppm				
Total Dissolved Solids mg/l				
Total Settleable Solids mg/l				
Total Suspended Solids mg/l				
Total Hardness (CaCO ₃) mg/l				
Acidity				
Aluminum (Al)				
Arsenic (As)				
Barium (Ba)				
Bicarbonate (HCO ₃)				
Boron (B)				
Carbonate (CO ₃)				
Cation-Anion Balance				
Cadmium (Cd)				
Calcium (Ca)				
Chloride (Cl -1)				
Chromium (Cr)				
Copper (Cu)				
Fluoride (F)				
Iron (Fe) Dissolved				
Lead (Pb)				
Sulfate (SO ₄ -2)				
Sulfide (SO ₂ -1)				
Magnesium (Mg)				
Manganese (Mn)				
Mercury (Hg)				
Molybdenum (Mo)				
Nickel (Ni)				
Nitrogen: Ammonia (NH ₃)				
Nitrate (NO ₃ -1)				
Nitrite (NO ₂)				
Oil and Grease				
Potassium (K)				
Phosphate Total (PO ₄ -3)				
Selenium (Se)				
Sodium (Na)				
Zinc (Zn)				

IA = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1996

	ST-1	ST-2	ST-2B	ST-3A	ST-3B	ST-3
Sample Date	5/16/96	5/16/96	5/16/96	5/16/96	5/16/96	5/16/96
Sample Time	1055	1145	1110	0945	0955	1035
Sampled By	GRAY	GRAY	GRAY	GRAY	GRAY	GRAY
Flow Rate gpm	175	1091	1159	DRY	DRY	6
Air Temperature deg. F						
Water Temperature deg. F	46	45	46			57
pH units	8.05	8.40	8.40			7.9
Conductivity umhos/cm	950	406	510			3240
Dissolved Oxygen ppm	7.1	7.3	7.5			6.1
Total Dissolved Solids mg/l	790	273	360			2406
Total Settleable Solids mg/l	<0.5	<0.5	<0.5			<0.5
Total Suspended Solids mg/l	27	88	84			<5
Total Hardness (CaCO ₃) mg/l	643	280	352			1450
Acidity mg/l	41	19	38			60
Aluminum (Al) mg/l	<1	<1	<1			<1
Arsenic (As) mg/l	<0.004	<0.004	<0.004			<0.004
Barium (Ba) mg/l	<0.6	<0.6	<0.6			<0.6
Bicarbonate (HCO ₃) mg/l	263	271	267			416
Boron (B) mg/l	0.34	0.16	0.17			0.50
Carbonate (CO ₃) mg/l	11	2	11			13
Cation-Anion Balance %	5.5	6.0	4.9			4.6
Cadmium (Cd) mg/l	<0.004	<0.004	<0.004			<0.004
Calcium (Ca) mg/l	108	64	71			220
Chloride (Cl -1) mg/l	9.0	3.0	4.0			830
Chromium (Cr) mg/l	<0.02	<0.02	<0.02			<0.02
Copper (Cu) mg/l	<0.03	<0.03	<0.03			<0.03
Fluoride (Fl) mg/l	0.142	0.105	0.126			0.180
Iron (Fe) Dissolved mg/l	<0.03	<0.03	<0.03			<0.03
Lead (Pb) mg/l	<0.08	<0.08	<0.08			<0.08
Sulfate (SO ₄ -2) mg/l	328	23	79			475
Sulfide (SO ₂ -1) mg/l	<0.06	<0.06	<0.06			<0.06
Magnesium (Mg) mg/l	76	18	25			183
Manganese (Mn) mg/l	<0.04	<0.04	<0.04			<0.07
Mercury (Hg) mg/l	<0.18	<0.18	<0.18			<0.18
Molybdenum (Mo) mg/l	<0.07	<0.07	<0.07			<0.07
Nickel (Ni) mg/l	<0.04	<0.04	<0.04			<0.04
Nitrogen: Ammonia (NH ₃) mg/l	<0.2	<0.2	<0.2			<0.2
Nitrate (NO ₃ -1) mg/l	0.44	0.45	0.39			0.37
Nitrite (NO ₂) mg/l	0.004	0.003	0.003			0.005
Oil and Grease mg/l	<2	<2	<2			<2
Potassium (K) mg/l	4.5	0.7	0.9			8.1
Phosphate Total (PO ₄ -3) mg/l						
Selenium (Se) mg/l	<0.003	<0.003	<0.003			<0.003
Sodium (Na) mg/l	7	2	3			320
Zinc (Zn) mg/l	<0.01	<0.01	<0.01			<0.01

IA = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1996 (Continued)

	ST-4A	ST-4B	ST-4	ST-5
Sample Date	5/16/96	5/16/96	5/16/96	5/16/96
Sample Time	0930	0935	0920	0855
Sampled By	GRAY	GRAY	GRAY	GRAY
Flow Rate gpm	DRY	DRY	DRY	1835
Air Temperature deg. F				
Water Temperature deg. F				47
pH units				8.35
Conductivity umhos/cm				748
Dissolved Oxygen ppm				7.7
Total Dissolved Solids mg/l				11
Total Settleable Solids mg/l				0.6
Total Suspended Solids mg/l				224
Total Hardness (CaCO ₃) mg/l				499
Acidity mg/l				30
Aluminum (Al) mg/l				<1
Arsenic (As) mg/l				<0.004
Barium (Ba) mg/l				<0.6
Bicarbonate (HCO ₃) mg/l				289
Boron (B) mg/l				0.22
Carbonate (CO ₃) mg/l				11
Cation-Anion Balance %				2.4
Cadmium (Cd) mg/l				<0.004
Calcium (Ca) mg/l				88
Chloride (Cl -1) mg/l				25
Chromium (Cr) mg/l				<0.02
Copper (Cu) mg/l				<0.03
Fluoride (Fl) mg/l				0.206
Iron (Fe) Dissolved mg/l				<0.03
Lead (Pb) mg/l				<0.08
Sulfate (SO ₄ -2) mg/l				204
Sulfide (SO ₂ -1) mg/l				<0.06
Magnesium (Mg) mg/l				48
Manganese (Mn) mg/l				<0.04
Mercury (Hg) mg/l				<0.18
Molybdenum (Mo) mg/l				<0.07
Nickel (Ni) mg/l				<0.04
Nitrogen: Ammonia (NH ₃) mg/l				<0.2
Nitrate (NO ₃ -1) mg/l				0.43
Nitrite (NO ₂) mg/l				0.004
Oil and Grease mg/l				<2
Potassium (K) mg/l				2.2
Phosphate Total (PO ₄ -3) mg/l				
Selenium (Se) mg/l				<0.003
Sodium (Na) mg/l				11
Zinc (Zn) mg/l				0.01

IA = Inaccessible

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1996

		ST-1	ST-2	ST-2B	ST-3A	ST-3B	ST-3
Sample Date		9/11/96	9/11/96	9/11/96	9/11/96	9/11/96	9/11/96
Sample Time		1045	1015	1040	0810	805	1105
Sampled By		JONES	JONES	JONES	JONES	JONES	JONES
Flow Rate	gpm	31	44	82	DRY	DRY	8
Air Temperature	deg. F	52	54	52			53
Water Temperature	deg. F	51	50	51			53
pH	units	7.30	7.90	7.90			8.20
Conductivity	umhos/cm	1257	630	925			2790
Dissolved Oxygen	ppm	6.4	7.2	6.1			5.4
Total Dissolved Solids	mg/l	1325	540	982			2060
Total Settleable Solids	mg/l						
Total Suspended Solids	mg/l	41	<5	5			96
Total Hardness (CaCo3)	mg/l	1322	470	802			1419
Acidity	mg/l						
Aluminum (Al)	mg/l						
Arsenic (As)	mg/l						
Barium (Ba)	mg/l						
Bicarbonate (HCO3)	mg/l	421	339	362			385
Boron (B)	mg/l						
Carbonate (CO3)	mg/l	<5	<5	<5			<5
Cation-Anion Balance	%		0.9	-0.3			
Cadmium (Cd)	mg/l						
Calcium (Ca)	mg/l	175	101	138			240
Chloride (Cl-1)	mg/l	18	6	10			576
Chromium (Cr)	mg/l						
Copper (Cu)	mg/l						
Fluoride (Fl)	mg/l						
Iron (Fe) Dissolved	mg/l	<.1	<.1	<.1			<.1
Lead (Pb)	mg/l						
Sulfate (SO4-2)	mg/l	570	181	498			545
Sulfide (SO2-1)	mg/l						
Magnesium (Mg)	mg/l	215	53	111			199
Manganese (Mn)	mg/l	<.1	<.1	<.1			0.2
Mercury (Hg)	mg/l						
Molybdenum (Mo)	mg/l						
Nickel (Ni)	mg/l						
Nitrogen: Ammonia (NH3)	mg/l						
Nitrate (NO3-1)	mg/l						
Nitrite (NO2)	mg/l						
Oil and Grease	mg/l	<5	<5	<5			<5
Potassium (K)	mg/l	10.00	2.00	5.00			14.00
Phosphate Total (PO4-3)	mg/l						
Selenium (Se)	mg/l						
Sodium (Na)	mg/l	14	5	8			353
Zinc (Zn)	mg/l						

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1996

	ST-4A	ST-4B	ST-4	ST-5
Sample Date	9/11/96	9/11/96	9/11/96	9/11/96
Sample Time	0755	0745	0730	0910
Sampled By	JONES	JONES	JONES	JONES
Flow Rate gpm	DRY	DRY	DRY	193
Air Temperature deg. F				60
Water Temperature deg. F				56
PH units				7.90
Conductivity umhos/cm				1078
Dissolved Oxygen ppm				7.1
Total Dissolved Solids mg/l				1078
Total Settleable Solids mg/l				
Total Suspended Solids mg/l				<.5
Total Hardness (CaCo3) mg/l				788
Acidity mg/l				
Aluminum (Al) mg/l				
Arsenic (As) mg/l				
Barium (Ba) mg/l				
Bicarbonate (HCO3) mg/l				355
Boron (B) mg/l				
Carbonate (CO3) mg/l				<5
Cation-Anion Balance %				
Cadmium (Cd) mg/l				
Calcium (Ca) mg/l				144
Chloride (Cl-1) mg/l				43
Chromium (Cr) mg/l				
Copper (Cu) mg/l				
Fluoride (Fl) mg/l				
Iron (Fe) Dissolved mg/l				<.1
Lead (Pb) mg/l				
Sulfate (SO4-2) mg/l				313
Sulfide (SO2-1) mg/l				
Magnesium (Mg) mg/l				104
Manganese (Mn) mg/l				<.1
Mercury (Hg) mg/l				
Molybdenum (Mo) mg/l				
Nickel (Ni) mg/l				
Nitrogen: Ammonia (NH3) mg/l				
Nitrate (NO3-1) mg/l				
Nitrite (NO2) mg/l				
Oil and Grease mg/l				<5
Potassium (K) mg/l				6.00
Phosphate Total (PO4-3) mg/l				
Selenium (Se) mg/l				
Sodium (Na) mg/l				25
Zinc (Zn) mg/l				

I/A = Inaccessible

STREAM MONITORING STATIONS											
MONTHLY FIELD & FLOW MEASUREMENTS											
QUARTERLY REPORT FOR 3rd QUARTER 1996											
STATION		ST-1	ST-2	ST-2B	ST-3A	ST-3B	ST-3	ST-4A	ST-4B	ST-4	ST-5
DATE		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96	7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
TIME		10:25	10:55	10:35	9:30	9:40	9:55	9:10	9:20	8:50	8:25
SAMPLED BY		GRAY									
FLOW	gpm	52	118	144	DRY	8	15	DRY	DRY	82	467
AIR TEMP	deg.F	76	78	76		76	77			76	72
H2O TEMP	deg.F	59	54	58		58	58			53	57
pH	std units	8.15	8.05	8.3		8	8.1			8.2	8.15
CONDCTY	umhos/cm	1494	534	824		3400	3220			1402	1106
DISS. O2	ppm	6.1	7.1	7		6.2	6.5			6.7	7.7
STATION		ST-1	ST-2	ST-2B	ST-3A	ST-3B	ST-3	ST-4A	ST-4B	ST-4	ST-5
DATE		8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96
TIME		11:15	11:45	11:20	10:50	10:40	11:00	10:20	10:25	10:00	9:30
SAMPLER		JONES									
FLOW	gpm	31	74	82	DRY	DRY	8	DRY	DRY	21	664
AIR TEMP	deg.F	75	74	75			74			69	67
H2O TEMP	deg.F	60	57	54			57			57	57
pH	std units	7.9	7.9	8			7.9			8.2	8
CONDCTY	umhos/cm	1488	725	1082			3220			1472	1063
DISS. O2	ppm	5.2	8.5	6.8			4.8			7.8	5.5
STATION		ST-1	ST-2	ST-2B	ST-3A	ST-3B	ST-3	ST-4A	ST-4B	ST-4	ST-5
DATE		9/11/96	9/11/96	9/11/96	9/10/96	9/10/96	9/11/96	9/10/96	9/10/96	9/10/96	9/11/96
TIME		10:45	10:05	10:40	8:10	8:05	11:05	7:55	7:45	7:30	9:10
SAMPLER		JONES									
FLOW	gpm	31	44	82	DRY	DRY	8	DRY	DRY	DRY	193
AIR TEMP	deg.F	52	54	52			53				60
H2O TEMP	deg.F	51	50	51			53				56
pH	std units	7.3	7.9	7.9			8.2				7.9
CONDCTY	umhos/cm	1257	630	925			2790				1078
DISS. O2	ppm	6.4	7.2	6.1			5.4				7.1

1996 SPRING MC DRI RESULTS

FIRST PERIOD

SECOND PERIOD

	SP-2	SP-4	SP-5	SP-11	SP-12	SP-13	SP-2	SP-4	SP-5	SP-11	SP-12	SP-13
Sample Date	6/25/96	6/25/96	6/25/96	6/27/96	6/25/96	6/26/96	10/1/96	10/2/96	10/2/96	10/1/96	10/1/96	10/1/96
Sample Time	9:50	11:45	8:45	13:25	10:40	10:42	2:00	10:00	10:50	9:25	12:45	11:15
Sampled By	GRAY	GRAY	GRAY	GRAY	GRAY	GRAY	JONES	JONES	JONES	JONES	JONES	JONES
Flow Rate gpm	10	17	8	13	13	Seep	2	3	4	6.5	3	DRY
Air Temperature deg. F	64	72	61	62	66		58	56	61	61	56	
Water Temperature deg. F	45	43	43	45	48		50	45	48	47	48	
pH units	7.4	7.1	7.1	8.2	8.1		7.8	7.7	7.1	8	7.8	
Conductivity umhos/cm	397	456	524	394	470		340	415	468	357	371	
Dissolved Oxygen ppm	6.9	4.9	6.7	5.4	8		6	7	5.8	7.5	5.5	
Total Dissolved Solids mg/l	226	297	365	235	326		245	290	336	260	258	
Total Settleable Solids mg/l												
Total Suspended Solids mg/l							140	6	<5	<5	17	
Total Hardness (CaCo3) mg/l	242	287	322	243	299		299	297	316	275	269	
Acidity mg/l							23	20	26	17	14	
Aluminum (Al) mg/l							<5	<1	<1	<1	<1	
Arsenic (As) mg/l							<.01	<.01	<.01	<.01	<.01	
Barium (Ba) mg/l							<1	<1	<1	<1	<1	
Bicarbonate (HCO3) mg/l	274	336	354	221	293		290	336	343	278	293	
Boron (B) mg/l							0.1	0.1	0.1	0.1	0.1	
Carbonate (CO3) mg/l	<5	<5	<5	15	15		<5	<5	<5	<5	<5	
Cation-Anion Balance %				1.7			9.3	1.1	0.6	1.6	4.1	
Cadmium (Cd) mg/l							<.01	<.01	<.01	<.01	<.01	
Calcium (Ca) mg/l	74	82	86	61	67		66	69	82	48	54	
Chloride (Cl-1) mg/l	3	3	5	4	9		4	6	6	6	4	
Chromium (Cr) mg/l							<.1	<.1	<.1	<.1	<.1	
Copper (Cu) mg/l							<.1	<.1	<.1	<.1	<.1	
Fluoride (Fl) mg/l												
Iron (Fe) Dissolved mg/l	<.1	<.1	<.1	<.1	<.1		<.1	<.1	<.1	<.1	<.1	
Iron (Fe) Total mg/l							3.3	0.2	<.1	<.1	0.3	
Lead (Pb) mg/l							<.1	<.1	<.1	<.1	<.1	
Sulfate (SO4-2) mg/l	9	8	33	28	28		10	13	35	36	20	
Sulfide (SO2-1) mg/l												
Magnesium (Mg) mg/l	14	20	26	22	32		15	21	23	32	24	
Manganese (Mn) mg/l	<.1	<.1	<.1	<.1	<.1		<.1	<.1	<.1	<.1	<.1	
Mercury (Hg) mg/l							<.2	<.2	<.2	<.2	<.2	
Molybdenum (Mo) mg/l							<.1	<.1	<.1	<.1	<.1	
Nickel (Ni) mg/l							<.1	<.1	<.1	<.1	<.1	
Nitrogen: Ammonia (NH3) mg/l							<.5	<.5	<.5	<.5	<.5	
Total Nitrate & Nitrite mg/l							0.5	<.1	<.1	<.1	0.3	
Nitrate (NO3-1) mg/l												
Nitrite (NO2) mg/l												
Oil and Grease mg/l							0.01	<.01	<.01	<.01	<.01	
Potassium (K) mg/l	<1	<1	<1	<1	<1		<.01	<1	1	1	1	
Phosphate Total (PO4-3) mg/l							0.28	<.05	<.05	<.05	<.05	
Selenium (Se) mg/l							<.01	<.01	<.01	<.01	<.01	
Sodium (Na) mg/l	2	2	5	3	4		2	2	5	3	7	
Zinc (Zn) mg/l							<.01	<.01	<.01	<.01	<.1	

UNITED STATES FUEL COMPANY



P. O. Box 887
Price, UTAH 84501

(801) 472-3372
FAX (801) 472-3384

June 17, 1996

Area Manager
Price River Resource Area
125 South 600 West
P. O. Box 7004
Price, UT 84501

Re: Relinquishment of lease U-026583-058261

Dear Sir:

In correspondence dated June 28, 1994, United States Fuel Company stated that it wished to relinquish Federal Coal Lease U-026583-058261. At that time, the agencies involved requested additional information relative to hydrologic, vegetation and subsidence monitoring prior to approving the relinquishment. Blackhawk Engineering was employed to respond to those questions. Three copies of their report have been included with this letter. I do not expect any additional subsidence of the area, nor hydrologic or vegetation impacts. If there are further objections, I would recommend a walk around on the lease area because there are no apparent signs of mining.

Please call if you have any questions.

Sincerely,

Michael P. Watson
President

cc: Am Fuel

UNITEL STATES FUEL COM. ANY



O. Box 887
PRICE, UTAH 84501

(801) 472-3372
FAX (801) 472-3384

August 27, 1996

Mr. Pete Hess
Reclamation Specialist
Division of Oil, Gas & Mining
Utah Department of Natural Resources
451 East 400 North
Price, UT 84501

Re: Seed Mix

Dear Pete,

In preparation for the revegetation of #4 pond, our contractor identified some minor problems with the seed mixes as listed in our permit. I have enclosed his letter. Please consider his recommendations and let me know your thoughts on the matter as soon as practicable.

Sincerely,

Michael P. Watson
President

Stephen B. Ellis Company
1330 Apple, Provo, Utah 84604
801-373-8871/ 372-0354

KC Jones
U. S. Fuels
Fax: 801-637-1070

SENT VIA FAX

page 1 of 1

Subject: Seed Availability for Mixes No. 1 and No. 2

Ref: (1) Seed mixture No. 1 - Sagebrush-dominated soil borrow areas - Table III-5
(2) Seed mixture No. 2 - Slurry impoundments and refuse disposal areas - III-6

Dear Mr. Jones:

In checking with our seed supplier the seeds in seed mix 1 (ref 1) are available except for **Northern sweetvetch** (*Hedysarum boreale*). The supply on this seed is very limited and the recommendation is to drop the rate from two (2) pls pounds per acre to one (.5) to have some of the seed over the entire reclaimed area.

Seed mix two (ref 2) cannot be provided as specified due to unavailability of two species.

Utah Serviceberry had a harvest failure (no seed was produced) and is not available. A recommended substitute would be '**Sascatoon Serviceberry**' (*Amalanchier alnifolia*). The rate also could be cut from five (5) pounds pls to two (2) pounds pls. Five pounds is considered high considering the overall rate per acre is 45.75 pounds pls.

Northern sweetvetch is limited as mentioned above. The recommendation for mix two (2) is to cut the rate from two (2) pounds pls down to 0.5 pounds pls per acre. Again this will put some seed over the entire area.

The recommendation is also made to drop the seeding rate of Antelope bitterbrush (*Purshia tridentata*) from five (5) pounds pls to two (2) pounds pls per acre. Five pounds is high and availability is becoming an issue.

If you would consider these recommendations and let me know so that I may get the seed reserved with the supplier. I will then be able to finalize the costs for my quote.

Sincerely,

Kelly Ellis
General Manager
Fax: 374-1812

October 3, 1996

Stephen B. Ellis Company
 1330 Apple, Provo, Utah 84604
 801-373-8871/ 372-0354

Mike Watson
 ARAVA
 Fax: 801-472-3384

SENT VIA FAX

page 1 of 2

RE: Pricing for Seeding/Mulching Disposal Area and Borrow Area

Dear Mr. Watson:

The following pricing is for seeding and mulching the disposal area (est. 40 acres) and the borrow area (est. 10 acres). As we discussed, due to the distribution and size of the rocks, my recommendation is to hydroseed (step 1) and then hydromulch (step 2).

Step 1: Hydroseed slurry - per acre

seed: mix #1 borrow area or seed mix # 2 disposal area

fertilizer: 100 pounds (16-16-8) unless changed by soil analysis

Step 2: Hydromulch slurry - per acre

mulch: 2000 pounds

tackifier: 120 pounds (on steeper slopes - estimate 10 acres)

This includes mobilization, taxes, all material, labor and equipment, except those items noted below.

For clarification, due to the seed changes, I have listed the seed mixes as I understand them based upon your fax of September 5, 1996. Bolded seeds are those which were changed or deleted.

Seed mix 1 - Soil borrow area Total pls pounds per acre = 27.25

<u>Shrubs</u>		<u>Grasses</u>		<u>Forbs</u>	
Wyoming big sage	1.0	Western wheatgrass	2.0	Lewis flax	1.0
Fourwing saltbush	3.0	Slender wheatgrass	2.0	Cicer milkvetch	1.0
Fringed sage	0.25	Thickspike wheatgrass	2.0	Palmer penstemon	1.0
Winterfat	2.0	Bluebunch wheatgrass	2.0	Northern sweetvetch	0.5
Green ephadra	<u>2.0</u>	Basin wildrye	2.0	Berryleaf globemallow	0.5
	8.25	Indian ricegras	2.0	Yellow sweetclover	<u>1.0</u>
		Needle & thread grass	<u>2.0</u>		5.0
			14.0		

change Fertilizer to 250 lbs/acre 16 16 8 @ \$ 150/lbs/acre ROI 0.60

372-0354

Stephen B. Ellis Company

page 2 of 2

Seed Mix 2 - Refuse disposal area

Total lbs pounds per acre = 29.25

<u>Shrubs</u>		<u>Grasses</u>		<u>Forbs</u>	
Utah serviceberry	del	Western wheatgrass	2.0	Lewis flax	1.0
Fringed sagewort	0.25	Slender wheatgrass	2.0	Cicer milkvetch	1.0
Green ephadra	2.0	Thickspike wheatgrass	2.0	Palmer penstemon	1.0
Winterfat, white sage	3.0	Bluebunch wheatgrass	2.0	Northern sweetvetch	0.5
Antelope bitterbrush	del	Basin wildrye	2.0	Berryleaf globemallow	0.5
Fourwing saltbush	<u>5.0</u>	Indian ricegrass	2.0	Yellow sweetclover	<u>1.0</u>
	10.25	Needle & thread grass	<u>2.0</u>		5.0
			14.0		

My costs are based upon:

(1) U.S. Fuels providing water available at the standpipe close to the railroad crossing (which we looked at) with a flow of at least 100 gallons per minute.

(2) U.S. Fuels blading reasonably passable paths around and through each area accessible for a ten wheel truck (my hydro seeders are 3000 gallon tanks mounted on tandem axle trucks). For planning purposes I can shoot 100 feet with my machines, with no wind.

(3) U.S. Fuels dragging the areas to loosen the surface prior to seeding. This is not essential to the seeding but I believe it will assist in loosening up the surface for better seed establishment.

Please let me know your timing preference.

If you have any questions please call.

Sincerely,

Kelly Ellis
 General Manager
 (O) 373-8871
 (M) 372-0354
 (Fax) 374-1812

APPENDIX C

Legal, Financial, Compliance and Related Information

Annual Report of Officers
as submitted to the Utah Department of Commerce
and other changes in ownership and control information
as required under R645-301-110.

CONTENTS

1. Revised R645-301-122 IDENTIFICATION OF INTEREST
 - A. Revised Corporate Officers
 - B. Revised Corporate Address

R645-301-100 GENERAL CONTENTS

R645-301-112 IDENTIFICATION OF INTERESTS

112.100 A STATEMENT AS TO WHETHER THE APPLICANT IS A CORPORATION, PARTNERSHIP, SINGLE PROPRIETORSHIP, ASSOCIATION, OR OTHER BUSINESS ENTITY:

United states Fuel Company is a corporation and is incorporated in the state of Nevada.

112.200 NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF THE APPLICANT, THE OPERATOR (IF DIFFERENT FROM THE APPLICANT) AND THE APPLICANT'S RESIDENT AGENT WHO WILL ACCEPT SERVICE OF PROCESS:

Applicant: United States Fuel Company
340 Hardscrabble Road
Helper, Utah 84526
(801) 472-3691

Resident Agent: Michael P. Watson, President/Director
340 Hardscrabble Road
Helper, Utah 84526
(801) 472-3691

112.300 FOR APPLICANTS OTHER THAN SINGLE PROPRIETORSHIPS:

112.301 NAME AND ADDRESS OF EACH OFFICER, PARTNER, PRINCIPAL, PRINCIPAL SHAREHOLDER, AND DIRECTOR OR OTHER PERSON PERFORMING A FUNCTION SIMILAR TO A DIRECTOR:

United States Fuel Company is a wholly owned subsidiary of Arava Natural Resources Company Inc. Arava Natural Resources is a wholly owned subsidiary of Mueller Industries Inc.

Officers authorized to act on behalf of United States Fuel Company are:

Michael P. Watson, President/Director
Richard W. Corman, Vice-President Finance and Treasurer
Gary L. Barker, Director
Dean Davis, Secretary
James E. Brown, Ass't Secretary

Corporate Office Address:

United States Fuel Company
340 Hardscrabble Road
Helper, Utah 84526

Officers authorized to act on behalf of Arava Natural Resources Company Inc.:

Gary L. Barker, President/Director
William H. Hensley, Vice-President/Director
Michael P. Watson, Vice-President/Secretary/Director
Henry L. Letzerich, Treasurer
Kent A. McKee, Assistant Secretary

Corporate Office Address:

Arava Natural Resources Co.
Administrative Office
340 Hardscrabble Road
Helper, Utah 84526

Officers authorized to act on behalf of Mueller Industries Incorporated:

Harvey L. Carp, Chairman of the Board
William D. O'Hagan, President and CEO
Earl W. Bunkers, Executive Vice-President and CFO
William H. Hensley, Vice-President, General Counsel
and Secretary
Kent A. McKee, Treasurer and Assistant Secretary

Corporate Office Address:

Mueller Industries Incorporated
6799 Great Oaks Road, Suite 200
Memphis, TN 38138-2572

112.320 ALL NAMES UNDER WHICH THE APPLICANT, PARTNER, OR PRINCIPAL SHAREHOLDER OPERATES OR PREVIOUSLY OPERATED A COAL MINE AND RECLAMATION OPERATION IN THE UNITED STATES WITHIN THE 5 YEARS PRECEDING THE DATE OF APPLICATION:

United States Fuel Company and Carpentertown Coal and Coke Company.

112.400 PENDING, CURRENT, AND PREVIOUS COAL MINING AND RECLAMATION OPERATION PERMIT APPLICATIONS:

U. S. Fuel Company and Carpentertown Coal and Coke both held coal mining permits subsequent to 1970. Listed on Table I-1 are permits presently or previously held by Carpentertown Coal and Coke. U. S. Fuel Company's mining permits have been listed in Table I-2.

112.500 Surface and subsurface ownership can be referenced on Exhibits IV-1 and IV-2. Appendix I-1 lists the ownership of surface coal and mineral rights in the permit area. The area is broken into five categories based on ownership and lease status. Refer to the legend and summary on page 8 of Appendix I-1 for acreages involved.

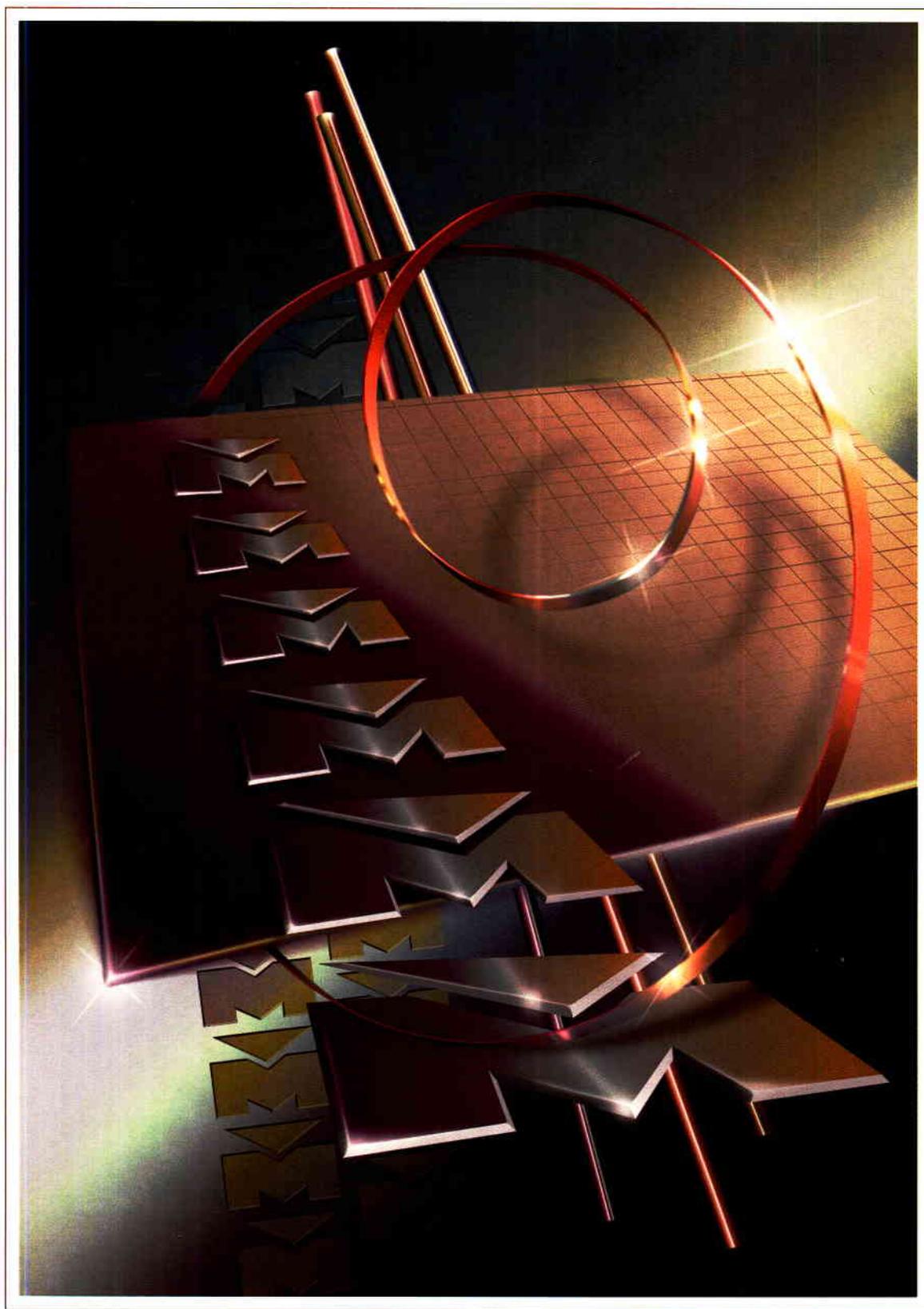
APPENDIX D

Mine Maps

as required under R645-301-525.270.

CONTENTS

No underground mining occurred during 1996,
therefore, no mine maps are included.



COMMITMENT TO EXCELLENCE

We are committed to being the supplier of choice in our industry. Continual investment in state-of-the-art technology, equipment, and people will set us apart...and allow us to anticipate and exceed the needs of our customers. Serving our customers and employees well should prove to be a worthwhile reward for our long-term shareholders.

In 1997, we will be able to better serve our customers' needs because of our recent investments:

- High efficiency extrusion and continuous tube drawing;
- Indirect extrusion press increasing yield at our brass rod mill;
- Plastic fittings capacity;
- Key item/high-volume copper fittings factory;
- Entry into the line set business; and
- Acquisition of Precision Tube Company business.

Our goal is to continually improve existing operations, pursue additional areas of growth, and provide our customers with superior service. Areas of focus in 1997 include:

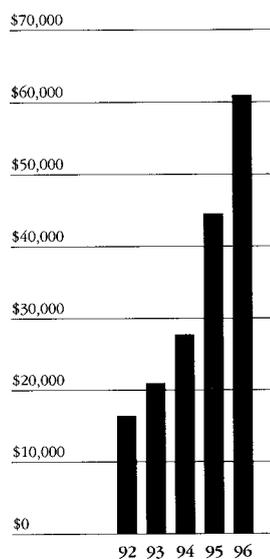
- Improving the utilization of scrap metal with enhanced refining processes;
- Broadening our plastics product offering;
- Building a prototype distribution center in Covington, Tennessee; and
- Streamlining our distribution network.

You will also see continuing focus in the future on external growth of our Company through strategic acquisitions.

As you can imagine, our employees are never satisfied with simply maintaining the status quo. Originality is the principal source of human improvement. Original thinkers don't fear change, they embrace it! They look forward to change because they know it is where they thrive. The happiness and well-being of our employees is dependent on their ability to be flexible and receptive to change. They can and will continue to meet every future challenge.

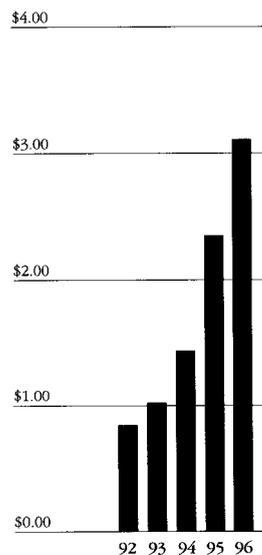
<i>(Dollars in thousands, except per share data)</i>	1992	1993	1994	1995	1996
SUMMARY OF OPERATIONS					
Net sales	\$ 517,339	\$ 501,885	\$ 550,003	\$ 678,838	\$ 718,312
Sales of manufactured products (in millions of pounds)	329.5	362.1	380.6	388.3	447.0
Net income	\$ 16,666	\$ 21,136	\$ 27,926	\$ 44,823	\$ 61,173
Average shares outstanding (in thousands)	20,110	20,886	19,780	19,149	19,497
Net income per share - primary	\$.83	\$ 1.01	\$ 1.41	\$ 2.34	\$ 3.14
SIGNIFICANT YEAR-END DATA					
Cash and cash equivalents	\$ 44,459	\$ 77,336	\$ 34,492	\$ 48,357	\$ 96,956
Ratio of current assets to current liabilities	3.1 to 1	4.1 to 1	2.7 to 1	3.1 to 1	3.5 to 1
Working capital	\$ 124,355	\$ 146,981	\$ 116,330	\$ 143,154	\$ 195,756
Long-term debt (including current portion)	\$ 69,477	\$ 62,711	\$ 94,736	\$ 75,902	\$ 59,650
Debt as a percent of total capitalization	25.4%	22.0%	28.1%	21.0%	14.6%
Stockholders' equity	\$ 204,421	\$ 222,114	\$ 241,948	\$ 285,875	\$ 348,082
Book value per share	\$ 10.61	\$ 11.59	\$ 13.91	\$ 16.48	\$ 19.96
Capital expenditures	\$ 10,952	\$ 11,083	\$ 48,152	\$ 40,980	\$ 18,868
Number of employees	2,055	2,010	2,256	2,274	2,339

NET INCOME
Dollars in Thousands



Net income increased at a compounded rate of 38 percent over the last four years.

PRIMARY EARNINGS PER SHARE



Earnings per share increased for the fifth consecutive year to \$3.14 per share.

In 1996, Mueller Industries, Inc. again achieved record earnings. Sales, net earnings, pounds of product shipped, and earnings per share all reached record levels. Our major capital investments of the past few years have resulted in increased production capacity, higher yields, and improved efficiency at the Company's manufacturing operations. Our excellent balance sheet, dedicated employees, and strong customer relationships provide Mueller with many opportunities for growth in the years ahead.

RECORD RESULTS

Net income increased to \$61.2 million in 1996, compared to \$44.8 million in 1995, a gain of 37 percent. Earnings per share rose 34 percent, to \$3.14 for 1996 from \$2.34 per share in 1995. Despite a decline in copper prices, which are largely incorporated into our selling prices, net sales climbed to \$718.3 million in 1996, from \$678.8 million in the prior year. Mueller shipped 447.0 million pounds of product in 1996, up 15 percent from 388.3 million pounds in 1995.

MANUFACTURING OPERATIONS

Mueller's copper tube mill, located in Fulton, Mississippi, had a busy and productive year. Market demand for tube products was strong, but by working around-the-clock, Mueller's employees beat all prior production records and met our customers' needs. An enlarged billet package and state-of-the-art drawing equipment enabled the mill to increase deliveries, while maintaining quality standards and reducing conversion costs.

Demand for wrought copper fittings was also strong in 1996. Selling prices dropped slightly, but overall, our margins remained solid. Manufacturing productivity at Mueller's low-volume copper fittings plant in Covington, Tennessee, improved. All production lines at our new high-volume copper fittings plant in Fulton, Mississippi, are now operational. Although this plant provides needed additional capacity, it is not yet operating at planned levels of throughput and yield. Mueller's Canadian copper fittings plant, located in Strathroy, Ontario, had another good year, despite the slow economy in Canada and Europe.

Our plastic fittings business had a breakthrough year. Mueller's plants in Ohio, Michigan, and California operated at unprecedented volume and efficiency. Our

decision in 1994 to expand our presence in the plastics business has proved worthwhile giving us the size and leverage to become one of the lowest cost producers in the industry.

Our refrigeration business, based in Hartsville, Tennessee, continued to grow both in sales and profitability. We are working to achieve further growth, while delivering products more effectively through our OEM and wholesale channels of distribution.

Mueller's Port Huron, Michigan, brass rod mill ran near capacity for the entire year. The new indirect extrusion press, installed in late 1995, permitted an increase in throughput to meet brisk market demand. Sales at our forgings plant, also in Port Huron, remained solid. Production improved significantly at our aluminum impact extrusion facility in Marysville, Michigan. This business has successfully transitioned from dependence on munitions to a more diverse product portfolio with greater potential for growth.

NATURAL RESOURCE OPERATIONS

The Utah Railway Company had its best year ever in 1996. Tonnage shipped increased by 14 percent, resulting in increased operating profits. As a result of the Union Pacific/Southern Pacific merger, the railroad gained trackage rights and access to additional coal mining customers. We are exploring these new opportunities.

In March 1996, Mueller acquired the minority interest in Alaska Gold Company, thereby making it a wholly-owned subsidiary. Alaska Gold, which operates open-pit placer gold mines in Nome, Alaska, had a difficult year due to lower grade pay gravel and increased exploration costs. In 1997, Alaska Gold will focus on profitable extraction of gold from ongoing open-pit operations.

INTERNAL GROWTH

The Company has begun a two-year program to upgrade its copper casting and refining processes at the Fulton copper tube mill. This investment, totaling approximately \$25 million, will increase copper tube capacity and allow greater flexibility in the use of copper scrap when market conditions warrant.

In the plastic fittings business, Mueller has embarked on an \$11 million capital investment program to increase productivity and capacity at our manufacturing plants. In addition, we will invest approximately \$7 million over the next two years in our Covington, Tennessee, low-volume copper fittings plant to increase output and improve efficiency.

Finally, Mueller is implementing several initiatives to improve our distribution systems. Warehouse capacity at the Fulton tube mill will expand substantially, permitting more large orders to ship direct to customers. Direct shipments will increase availability and reduce handling costs. We also plan to install a new, highly automated part-picking and shipping system in Covington, allowing for faster order processing.

ACQUISITIONS

Mueller made two acquisitions in 1996. In June, we entered the line sets business by acquiring the assets of Vanguard Industries, Inc. Line sets, made from copper tube, are used to control the flow of refrigerant gases. The acquisition was immediately accretive to earnings. Our sales force has had considerable success distributing line sets to both OEMs and wholesalers. To keep up with anticipated demand, we will construct a new line sets factory in Fulton, Mississippi, during 1997.

On December 30, 1996, Mueller acquired the assets of Precision Tube Company, Inc., with operations in North Wales, Pennsylvania, and Salisbury, Maryland. Precision Tube manufactures copper tubing, copper alloy tubing, aluminum tubing, and fabricated tubular products. Precision Tube's largest market is the baseboard heating industry. The acquisition should be accretive to earnings in 1997.

Mueller will continue to seek acquisitions, on a global basis, that will add to the basic value of our Company. We look for logical extensions to our existing product lines that can benefit from our manufacturing or marketing expertise. In anticipation of continued growth, Mueller increased its unsecured line-of-credit facility to \$100 million in December 1996.

PHILOSOPHY

Mueller is committed to long-term business relationships. We work every day to understand and anticipate our customers' needs. We will continue to invest the care and capital to ensure quality, availability, and service.

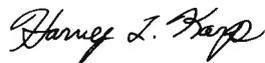
Empowering employees is the key to successful change. The progress of the past few years would not have been possible without the dedication and enthusiasm of our many talented and hard-working employees. Mueller will continue to respect and to support our employees, to reward thoughtful initiative, and to provide opportunities for career advancement.

OUTLOOK

Economic indicators going into 1997 are favorable for our business. Housing starts are near the highest levels of the 1990s. Larger homes are being built, with more bathrooms, generating increasing demand for our products. Consumer confidence is high. Fixed rate 30-year mortgages are available at interest rates below 8 percent. These favorable economic conditions hold the promise for another good year for Mueller.

Enthusiasm and excitement pervade Mueller. Our Company has achieved much in the past five years with each accomplishment creating new opportunities. We will pursue these opportunities with energy and purpose.

Sincerely,



Harvey L. Karp

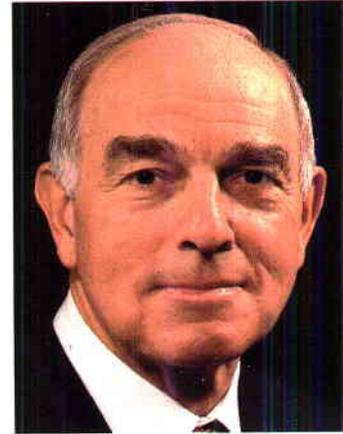
Chairman of the Board



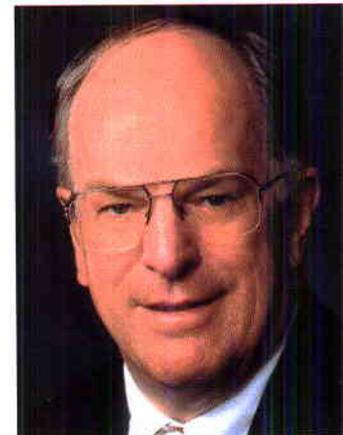
William D. O'Hagan

President and Chief Executive Officer

March 18, 1997



Harvey L. Karp
Chairman of the Board



William D. O'Hagan
President and
Chief Executive Officer

STANDARD PRODUCTS DIVISION

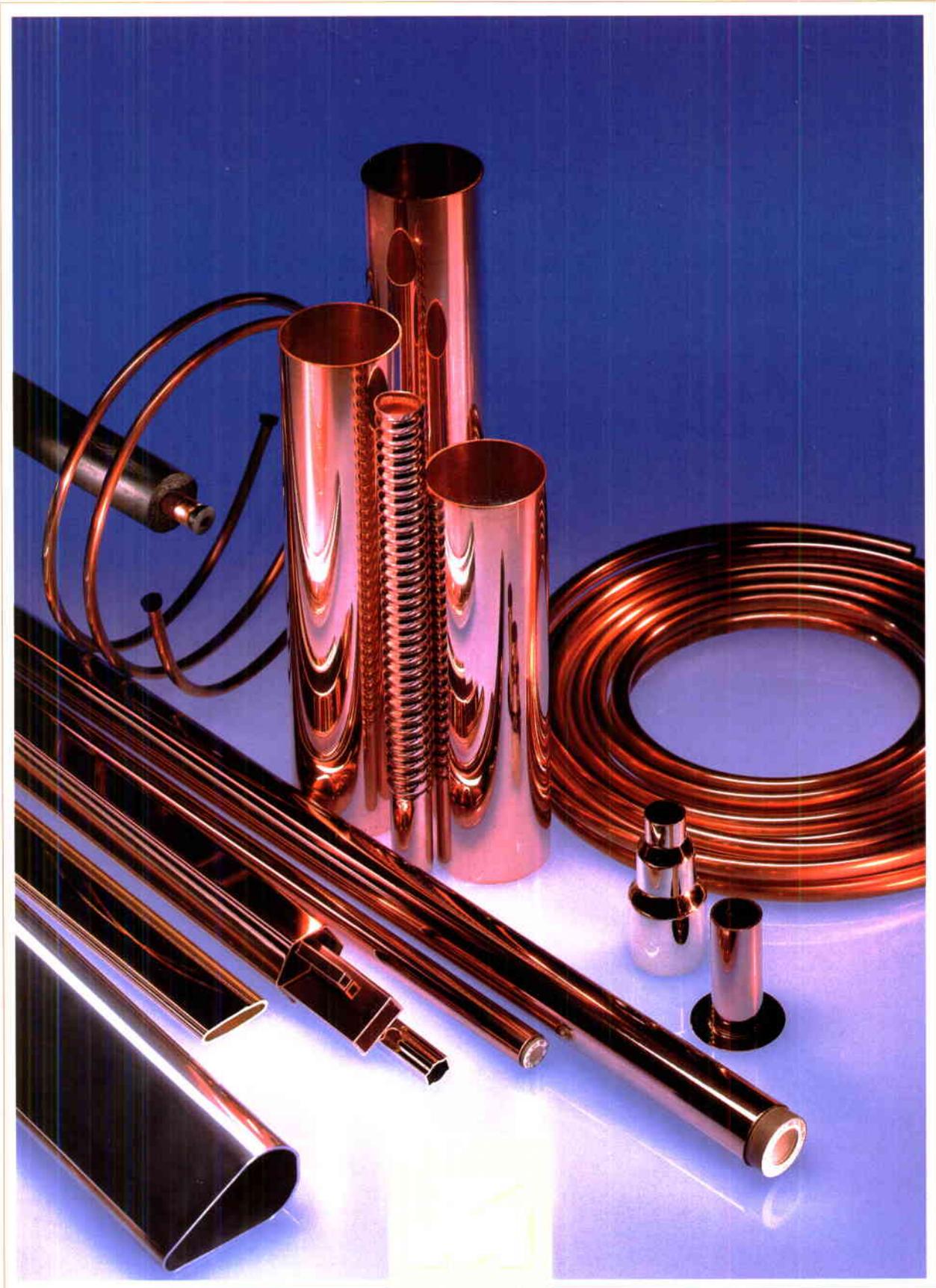
COPPER FITTINGS

Copper fittings are found in virtually all water distribution systems, heating systems, and air-conditioning and refrigeration applications in residential, office and commercial construction. Mueller manufactures Streamline® wrought copper fittings at four plants located in Fulton, Mississippi; Covington, Tennessee; Port Huron, Michigan; and Strathroy, Ontario, Canada. The plants convert tube produced at Mueller's copper tube mill and copper rod into over 1,500 different sizes and shapes. Our newest facility, a high-volume copper fittings plant, is adjacent to our tube mill in Fulton. This plant opened in late 1995 and increased Mueller's capacity to produce its most popular copper fittings. This specialized high-volume factory enables the Company's facility in Covington to focus on a much broader range of low-volume items, where careful scheduling and quick changeovers are critical to profitable and efficient operation. Mueller is also undertaking a modernization program at this plant in Covington to reduce conversion costs and expand capacity. Our Strathroy facility produces inch and metric sized fittings and is ISO certified. The Strathroy operation serves many of our European customers where metric sized products are required.

Mueller's manufacturing plants in the United States and Canada fabricate fittings and valves for plumbing and refrigeration applications. The fittings are made from copper and plastic.

PLASTIC FITTINGS

Mueller manufactures a full DWV plastic fittings product line. These operations are located in Kalamazoo, Michigan; Cerritos, California; and Upper Sandusky, Ohio. Injection molding equipment at these three plants produces over 1,000 different parts in PVC and ABS in various diameters. Recent investments in new production equipment and processing technology have greatly enhanced the Company's efficiency making Mueller a low cost producer of plastic fittings and valves. The Company plans to broaden its plastics offering in the future to better supply our customers' needs.



COPPER TUBE

The Company's copper tube mill, located in Fulton, Mississippi, produces one of the broadest lines of copper tube offered by any single manufacturer. Products include dehydrated coils and nitrogen-charged straight lengths used primarily for refrigeration and air-conditioning, copper water tube in straight lengths and coils used for plumbing and construction, and redraw tubing for OEMs. We sell to plumbing and refrigeration wholesalers and to OEM customers in North America and numerous foreign countries.

A mill modernization program, completed in 1995, included an upgrade of extrusion technology and installation of state-of-the-art tube drawing and material handling equipment, significantly increasing productivity and efficiency. Because of this investment, the Company was better able to serve its customers' growing demand for tube in 1996.

LINE SETS

The Company entered the line sets business during the second quarter by acquiring the assets of Vanguard Industries, Inc. We sell this product, which is used for controlling the flow of refrigerant gases, to both OEMs and wholesalers. Line sets are a logical extension of our product line as they are made from copper tube and are distributed by our present sales organization. The Company manufactures line sets at a separate factory in Fulton, Mississippi.

PRECISION TUBE COMPANY

Precision Tube manufactures copper tubing, copper alloy tubing, aluminum tubing and fabricated tubular products. Precision Tube's principal product line, manufactured at its plant in North Wales, Pennsylvania, is copper tubing for the baseboard heating industry. Other applications include appliances, aircraft, connectors, medical instruments, musical instruments, and sports and leisure products.

Precision Tube also manufactures semi-rigid and flexible coaxial cables and assemblies at its facility in Salisbury, Maryland (Coaxitube Division). Applications of these products include defense and microwave technologies. The Coaxitube Division also has exclusive North American rights to market and distribute Spinner GmbH connectors, which are used in applications where precise tolerances are critical.

The Precision Tube acquisition, completed on December 30, 1996, is a logical extension of the Company's copper fabricating business. With access to additional capital, Precision Tube should be able to expand its customer base and improve its operating efficiency and profitability.

Manufacturing plants in Fulton, Mississippi, produce copper tube in straight lengths and coils used for plumbing and refrigeration applications, and line sets for air-conditioning systems. The newly acquired Precision Tube business in North Wales, Pennsylvania, fabricates custom tubular parts, straight lengths and coils from various alloys.

INDUSTRIAL PRODUCTS DIVISION

Mueller rod products, hot forgings and impact extrusions are found in a variety of end products including plumbing brass, automotive components, valves and fittings, and industrial machinery and equipment. Industrial products are sold through service centers and to OEM customers.

BRASS ROD

The Port Huron, Michigan, mill is a leading extruder of free-machining brass rod. Mueller produces a broad range of rounds, squares, and hexagons for machining, thread rolling, and forging applications. The rod mill also produces special purpose alloys and continues to expand its line of special shapes and profiles.

During 1996, Mueller completed a two-year, \$16 million investment program at its brass rod mill. This investment included the installation of a state-of-the-art indirect extrusion press, new billet heating furnaces, rod coilers and run out conveyors, and product cleaning and material handling systems. This modernization program significantly upgrades the manufacturing process. Mueller is enhancing these operations to achieve greater throughput enabling us to satisfy the growing, changing needs of our customers.

FORGINGS

The forging operation, also located in Port Huron, Michigan, produces a wide variety of brass and aluminum parts. The Company continues to invest in automated forging technology. This has opened new market opportunities for the production of high-volume, close tolerance custom parts close to final shape and dimensions.

Mueller's manufacturing plants in Port Huron and Marysville, Michigan, produce brass rod and a wide range of custom brass and aluminum forgings and impact extrusions. The Hartsville, Tennessee, facility produces valves and fittings used in the control of air-conditioning and refrigeration systems.

IMPACT EXTRUSIONS

Impact extrusions produced at Marysville, Michigan, are QS 9000 certified. These cold formed aluminum and copper wrought products combine toughness with versatility of design and finish. Mueller impacts enable customers to replace multi-part assemblies with simple one piece designs, resulting in increased strength, reduced weight, and improved appearance.

REFRIGERATION PRODUCTS DIVISION

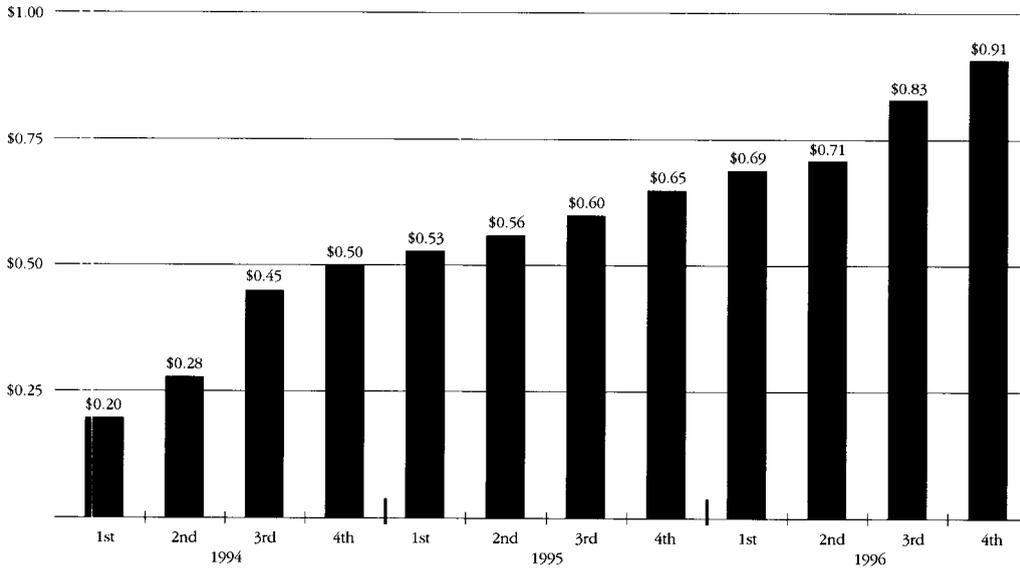
Mueller manufactures a broad line of valves, fittings, filters, driers and custom OEM products for refrigeration and air-conditioning applications at its Hartsville, Tennessee, plant. Many Hartsville products are machined and assembled from rod stock and forged products manufactured in the Company's Port Huron plants. These fittings and assemblies are used in refrigeration applications such as residential and commercial air-conditioning systems, walk-in coolers, and ice and vending machines. Customers for Mueller's refrigeration products include OEMs and refrigeration wholesalers in the United States and throughout the world.

NATURAL RESOURCE OPERATIONS

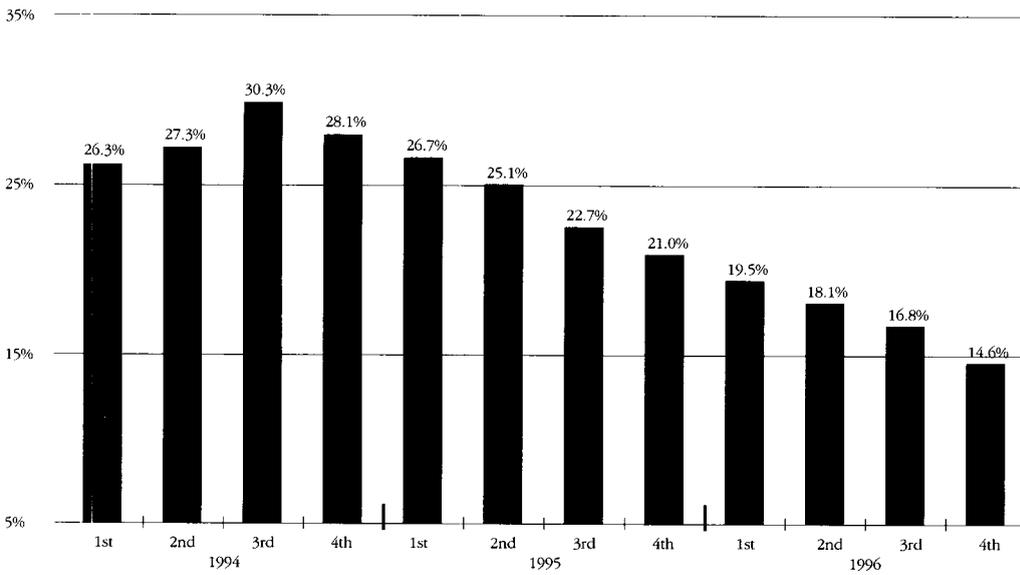
The Utah Railway Company, established in 1912, hauls coal to connections with national carriers, power plants and to other destinations. In 1996, Utah Railway hauled 6.2 million tons of coal mined primarily in Carbon and Emery Counties, Utah. In February 1996, Utah Railway reached an agreement with the Union Pacific Railroad granting us overhead trackage rights to Grand Junction, Colorado, and access to additional coal mining customers.

In 1996, Alaska Gold Company mined approximately 24,100 ounces of gold through open-pit and other operations. Alaska Gold will continue open-pit mining in Nome during 1997.

EARNINGS PER SHARE BY QUARTER



DEBT AS A PERCENT OF TOTAL CAPITALIZATION BY QUARTER



OVERVIEW

The Company's principal business is the manufacture and sale of copper tube, brass rod, copper and plastic fittings, forgings, valves, and other products made of copper, brass, bronze, plastic and aluminum. New housing starts and commercial construction are important determinants of the Company's sales to the air-conditioning, refrigeration, and plumbing markets because the principal end use of a significant portion of the Company's products is in the construction of single and multi-family housing, commercial buildings, and other construction. A majority of the Company's product is sold through wholesalers in the plumbing, air-conditioning and refrigeration markets and to OEMs in these and other markets.

Profitability of certain of the Company's product lines depends upon the "spreads" between the cost of metal and the gross selling prices of its completed products. The open market price for copper cathode, for example, directly influences the selling price of copper tubing, a principal product manufactured by the Company. The Company minimizes the effects of changes in copper prices by passing base metal costs through to its customers as metal prices fluctuate.

In 1994, Mueller adopted the LIFO method of accounting for the copper component of certain of its copper tube and fittings inventories. Management believes the LIFO method results in a better matching of current costs with current revenues. The market price of copper does, however, indirectly affect the carrying value (FIFO basis) of the Company's brass and other inventories. The Company's copper and brass inventories customarily total between 30 and 40 million pounds. "Spreads" between material costs and selling prices of finished products fluctuate based upon competitive market conditions.

The Company also owns various natural resource properties in the Western United States and Canada. It operates a short line railroad in Utah and a placer gold mining company in Alaska. Also, certain other natural resource properties are leased while others are offered for sale. Certain properties produce rental or royalty income.

RESULTS OF OPERATIONS

1996 PERFORMANCE COMPARED TO 1995

Consolidated net sales were \$718.3 million in 1996, up \$39.5 million or 5.8 percent from net sales of \$678.8 million in 1995. In the manufacturing businesses, sales reached 447.0 million pounds, for a 15.1 percent volume increase over the prior year. Lower copper raw material costs, which are largely reflected in the selling price of the Company's products, account for the

difference in the rates of increase in sales dollars and pounds. Natural resource sales declined to \$20.3 million in 1996 from \$31.9 million in 1995 due to the timing of gold sales.

Cost of goods sold increased \$4.7 million to \$554.6 million in 1996. This increase is primarily attributable to higher sales volume. The Company's gross profit increased \$34.8 million, or 27 percent, to \$163.7 million as the Company leveraged its operating costs. This increase reflects cost reductions and yield improvements in our manufacturing operations as well as price improvements in certain product lines.

Depreciation and amortization totaled \$18.5 million in 1996 compared with \$15.5 million in 1995. This increase results from heavy capital expenditure programs in recent years.

Selling, general, and administrative expense increased \$5.3 million in 1996 from \$49.5 million in 1995. This increase was due mainly to the relocation of the Company's corporate office to Memphis, Tennessee, higher sales volume in 1996, increased employee incentive compensation, and growth related expenses.

Interest expense in 1996 totaled \$5.3 million, or \$1.2 million more than in 1995. The Company capitalized \$2.6 million less interest in 1996 on major, long-term, capital improvement programs than it capitalized in 1995 because most of these capital programs became operational in late 1995 and early 1996. Total interest payments in 1996 decreased due to reductions in long-term debt.

The 1996 provision for environmental reserves totaled \$2.0 million compared to \$1.4 million in 1995. This additional provision is mainly for Mueller's Mining Remedial Recovery Company and is based on updated information and results of ongoing environmental remediation and monitoring programs for previously identified environmental sites.

Other income decreased to \$5.3 million in 1996 from \$6.1 million in 1995. This decrease was due mainly to lower rent and royalty income and a reduced gain from disposal of properties, both in our natural resource businesses. This decrease was partially offset by higher interest income as the Company's cash balance increased during 1996.

The Company provided \$27.2 million for income taxes in 1996, of which \$4.1 million was deferred. The current tax expense of \$23.1 million for 1996 increased due to higher taxable income. During 1996, the effective tax rate of 30.8 percent reflects the recognition of certain tax attributes discussed in Note 6 and certain favorable state tax credits including IRB financings.

MANUFACTURING GROUP

In 1996, net sales increased \$51.1 million to \$698.0 million, a 7.9 percent increase over 1995. Sales volume, measured in pounds of product sold, increased 15.1 percent in 1996. Copper raw material costs were lower in 1996 than they were in 1995. Pricing changes incorporate fluctuations in raw material cost. Increased volume and spread, combined with improved operating efficiency and yield, resulted in a 35 percent improvement in gross profit.

Operating income increased primarily due to: (i) productivity and yield improvements in manufacturing operations; (ii) selective price increases in fittings; and (iii) higher margins on copper tube.

NATURAL RESOURCES GROUP

Net sales of the Company's natural resources segment were \$20.3 million in 1996 compared to \$31.9 million in 1995. This decline was primarily due to lower gold sales, offset by increased revenues at Utah Railway. Transportation revenues of Utah Railway were \$20.0 million in 1996, a 9.8 percent increase over 1995. Utah Railway hauled 6.2 million tons of coal in 1996, which was a 13.6 percent increase over 1995. Alaska Gold did not sell gold during 1996; in 1995, gold sales totaled \$13.0 million (33,820 ounces). At December 28, 1996, approximately 24,100 ounces of gold remained in inventory.

1995 PERFORMANCE COMPARED TO 1994

Consolidated net sales of \$678.8 million in 1995 compares with \$550.0 million in 1994. The increase is primarily attributable to higher copper prices, which are generally passed through to customers, and to higher volumes. In 1995, the Company's core manufacturing businesses shipped 388.3 million pounds of product compared to 380.6 million pounds in 1994. This improvement in shipments was due to modest market share gains in certain core product lines and the acquisition of two plastic fittings manufacturing facilities in September, 1994.

Depreciation and amortization totaled \$15.5 million in 1995, an increase from the 1994 level of \$12.7 million. The increase is due primarily to added depreciation from higher capital investments.

Selling, general, and administrative expenses were \$49.5 million in 1995 compared with \$44.9 million in 1994. This increase is primarily attributable to increased sales activity.

Interest expense totaled \$4.2 million in 1995, down from \$6.7 million in 1994. The decrease is due to scheduled debt repayments and capitalized interest of approximately \$2.9 million related to three major capital improvement programs. Environmental charges of \$1.4 million in 1995 were expensed.

These charges pertain to certain added costs incurred or to be incurred at various, previously identified environmental sites. Other income declined to \$6.1 million in 1995 from \$7.6 million due primarily to fewer gains on asset disposals.

The Company's 1995 effective tax rate of 30.6 percent is primarily due to the recognition of NOLs available to offset future federal taxable income. Recognition of NOLs, along with all other tax attributes, requires judgmental estimates of, among other things, the Company's ability to generate future federal taxable income.

MANUFACTURING GROUP

During 1995, net sales of the Company's manufacturing segment were \$646.9 million. This compares to net sales of \$533.4 million in 1994. This change was primarily attributable to: (i) sales volume increases and (ii) pricing increases due to higher average raw material costs (primarily copper) in 1995. The Company's core manufacturing businesses shipped 388.3 million pounds of product in 1995 which compares to 380.6 million pounds in 1994.

Operating income increased primarily due to: (i) productivity improvements at the manufacturing plants; (ii) selective price increases for copper fittings and brass rod products; and (iii) leveraging and containment of certain other costs and expenses throughout the Company.

NATURAL RESOURCES GROUP

Net sales of the natural resources segment were \$31.9 million in 1995 compared to \$16.6 million in 1994. Transportation revenues of Utah Railway increased 14.5 percent in 1995 over 1994. Utah Railway hauled 5.5 million tons of coal in 1995, compared with 4.9 million tons of coal in 1994. Gold sales were \$13.0 million (33,820 ounces) in 1995 compared to \$3 million (594 ounces) in 1994. Approximately 14,500 ounces of gold, held in inventory at December, 1994, were included in the total ounces sold during 1995.

LIQUIDITY AND CAPITAL RESOURCES

The Company's cash and cash equivalent balance increased \$48.6 million during 1996 to \$97.0 million at year-end. Major components of the 1996 change include \$78.7 million of cash provided by operating activities, \$19.3 million of cash used for capital expenditures and acquisitions, and \$16.3 million of cash used for repayment of long-term debt.

Net income of \$61.2 million in 1996 was the primary component of cash provided by operating activities. Depreciation and amortization of \$18.5 million and deferred income taxes of \$4.1 million were the primary non-cash adjustments. Major changes in working capital included a \$10.1 million increase in inventories, a \$5.6 million increase in receivables, and a \$12.5

million increase in current liabilities. Much of this increase in inventories is attributable to gold, whereas receivables increased \$5.6 million primarily from higher 1996 sales volume. Current liabilities increased due to higher federal and state tax liabilities, increased discounts and allowances from higher 1996 sales volume, certain railroad track maintenance costs and interline charges, higher accounts payable and accrued employee costs and increased reserves for certain medical, workers' compensation and insurance costs.

Net cash used in investing activities in 1996 was \$15.1 million, \$19.3 million for capital expenditures and a business acquisition, offset by \$4.1 million received from the sale of properties. Capital expenditures were primarily related to improvements in manufacturing technology, cost reductions, increased productivity and yield, quality improvements, and capacity expansion. A majority of these expenditures is associated with the Company's major capital improvement programs in its manufacturing businesses.

Net cash used in financing activities totaled \$15.0 million which includes \$16.3 million for repayment of debt, offset by \$1.3 million from sales of treasury stock under terms of outstanding stock option grants and the employee stock purchase plan.

The Company has a \$100.0 million unsecured line-of-credit agreement which expires in December 1999, but which may be extended for successive one year periods by agreement of the parties. This credit facility was increased from \$50.0 million in December 1996. There are no outstanding borrowings against the credit facility. However, the Company did have \$4.7 million in letters of credit backed by the credit facility at the end of 1996. At December 28, 1996, the Company's total debt was \$59.7 million or 14.6 percent of its total capitalization, down from 21.0 percent at the end of 1995.

The Company's financing obligations contain various covenants which require, among other things, the maintenance of minimum levels of working capital, tangible net worth, and debt service coverage ratios. The Company is in compliance with all of its debt covenants.

Management believes that cash provided by operations, and currently available cash of \$97.0 million at the end of 1996, will be adequate to meet the Company's normal future capital expenditure and operational needs. The Company's current ratio is 3.5 to 1 at December 1996, compared to 3.1 to 1 at December 1995.

The Company has approved a \$25.0 million capital improvement project at its Fulton copper tube mill to improve the utilization of scrap metal and

enhance the mill's refining processes. This project is also expected to improve yield and productivity and increase capacity. Moreover, the project, when completed in approximately two years, will allow the tube mill to use more scrap copper when market conditions warrant.

The Company is also committed to an \$11.0 million capital investment program to increase productivity and capacity at its plastic fittings manufacturing operations. Another important ongoing program is the modernization of the Company's low-volume, copper fittings plant in Covington, Tennessee. Modernization of this facility, which produces a broad range of low-volume copper fittings, is estimated to require approximately \$7.1 million in capital improvements and will be completed in 1998. This project, when completed, will also increase output and improve efficiency. Further, the Company has approved capital expenditures totaling approximately \$4.5 million to develop a prototype copper fittings distribution center in Covington, Tennessee, and expand its Fulton, Mississippi, copper tube distribution capabilities.

These capital improvement projects will be funded with existing cash balances and cash generated by operations. Additionally, the Company is evaluating other financing alternatives for certain of these projects.

The Company has also completed two acquisitions in fiscal 1997 as discussed in Note 12. The purchase price and working capital requirements for these acquisitions are funded from existing cash.

OTHER MATTERS

At December 28, 1996, the Company has total environmental reserves of approximately \$9.1 million. Based upon information currently available, management believes that the outcome of pending environmental matters will not materially affect the overall financial position and results of operations of the Company.

The Company anticipates that the 1997 adoption of a recently issued accounting standard, as discussed in Note 1, will not have a material impact on the Company's financial statements.

The impact of inflation on the Company's operations in 1996, 1995 and 1994 was not material.

OUTLOOK

New housing starts and commercial construction are important determinants of Mueller's sales to the plumbing, air-conditioning and refrigeration markets and to OEMs. We remain optimistic about 1997 due to prevailing low mortgage interest rates which have historically stimulated the housing market.

CONSOLIDATED STATEMENTS OF INCOME

Years Ended December 28, 1996, December 30, 1995 and December 31, 1994

<i>(In thousands, except per share data)</i>	1996	1995	1994
Net sales	\$ 718,312	\$ 678,838	\$ 550,003
Cost of goods sold	554,570	549,884	448,467
Gross profit	163,742	128,954	101,536
Depreciation and amortization	18,472	15,452	12,689
Selling, general, and administrative expense	54,808	49,491	44,895
Operating income	90,462	64,011	43,952
Interest expense	(5,346)	(4,168)	(6,718)
Environmental reserves	(2,045)	(1,421)	(2,914)
Other income, net	5,341	6,127	6,504
Income before income taxes	88,412	64,549	40,824
Income tax expense	(27,239)	(19,726)	(12,898)
Net income	\$ 61,173	\$ 44,823	\$ 27,926
Net income per share:			
Primary			
Average shares outstanding	19,497	19,149	19,780
Net income	\$ 3.14	\$ 2.34	\$ 1.41
Fully diluted			
Average shares outstanding	19,499	19,328	19,780
Net income	\$ 3.14	\$ 2.32	\$ 1.41

See accompanying notes to consolidated financial statements.

CONSOLIDATED BALANCE SHEETS

As of December 28, 1996 and December 30, 1995

(In thousands, except share data)

	1996	1995
ASSETS		
Current assets		
Cash and cash equivalents	\$ 96,956	\$ 48,357
Accounts receivable, less allowance for doubtful accounts of \$3,188 in 1996 and \$2,986 in 1995	88,905	83,712
Inventories	76,647	66,360
Current deferred income taxes	6,508	7,354
Other current assets	5,696	5,255
Total current assets	274,712	211,038
Property, plant and equipment, net	219,855	221,012
Deferred income taxes	10,064	13,174
Other assets	4,726	5,611
TOTAL ASSETS	\$ 509,357	\$ 450,835
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Current portion of long-term debt	\$ 14,844	\$ 16,249
Accounts payable	18,305	16,931
Accrued wages and other employee costs	16,872	14,499
Other current liabilities	28,935	20,205
Total current liabilities	78,956	67,884
Long-term debt	44,806	59,653
Pension liabilities	7,735	7,093
Postretirement benefits other than pensions	8,140	8,883
Environmental reserves	9,105	9,585
Deferred income taxes	2,922	2,734
Other noncurrent liabilities	9,214	9,128
Total liabilities	160,878	164,960
Minority interest in subsidiaries	397	-
Stockholders' equity		
Preferred stock - shares authorized 4,985,000; none outstanding	-	-
Series A junior participating preferred stock - \$1.00 par value; shares authorized 15,000; none outstanding	-	-
Common stock - \$.01 par value; shares authorized 50,000,000; issued 20,000,000; outstanding 17,434,888 in 1996 and 17,349,498 in 1995	200	200
Additional paid-in capital, common	254,214	253,969
Retained earnings since January 1, 1991	127,983	66,810
Cumulative translation adjustments	(2,805)	(2,545)
Treasury common stock, at cost	(31,510)	(32,559)
Total stockholders' equity	348,082	285,875
Commitments and contingencies	-	-
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 509,357	\$ 450,835

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years Ended December 28, 1996, December 30, 1995 and December 31, 1994

(In thousands)

	1996	1995	1994
OPERATING ACTIVITIES:			
Net income	\$ 61,173	\$ 44,823	\$ 27,926
Reconciliation of net income to net cash provided by operating activities:			
Depreciation and amortization	18,472	15,452	12,689
Provision for doubtful accounts receivable	435	75	186
Minority interest in subsidiaries	397	-	-
Deferred income taxes	4,144	7,112	4,748
Gain on disposal of properties	(973)	(1,835)	(3,159)
Changes in assets and liabilities:			
Receivables	(5,628)	(16,862)	(7,914)
Inventories	(10,070)	8,008	(20,835)
Other assets	(793)	(1,885)	(382)
Current liabilities	12,477	3,491	8,801
Other liabilities	(495)	(3,856)	376
Other, net	(439)	445	(473)
Net cash provided by operating activities	78,700	54,968	21,963
INVESTING ACTIVITIES:			
Acquisition of business	(417)	-	(12,815)
Capital expenditures	(18,868)	(40,980)	(48,152)
Proceeds from sales of properties	4,142	3,827	5,333
Escrowed IRB proceeds	-	16,067	(16,078)
Net cash used in investing activities	(15,143)	(21,086)	(71,712)
FINANCING ACTIVITIES:			
Proceeds from issuance of long-term debt	-	-	45,343
Repayments of long-term debt	(16,252)	(18,834)	(13,318)
Acquisition of treasury stock	-	(2,055)	(25,897)
Proceeds from the sale of treasury stock	1,294	872	777
Net cash (used in) provided by financing activities	(14,958)	(20,017)	6,905
Increase (decrease) in cash and cash equivalents	48,599	13,865	(42,844)
Cash and cash equivalents at the beginning of the year	48,357	34,492	77,336
Cash and cash equivalents at the end of the year	\$ 96,956	\$ 48,357	\$ 34,492

For supplemental disclosures of cash flow information, see Notes 1, 4, and 6. See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

Years Ended December 28, 1996, December 30, 1995 and December 31, 1994

<i>(In thousands)</i>	Common Stock		Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Cumulative Translation Adjustments	Treasury Stock		Total
	Number of Shares	Amount				Number of Shares	Cost	
Balance, December 25, 1993	20,000	\$ 100	\$ 236,406	\$ (5,939)	\$ (1,944)	834	\$ (6,509)	\$ 222,114
Repurchase of common stock	-	-	-	-	-	1,850	(25,897)	(25,897)
Net income	-	-	-	27,926	-	-	-	27,926
Issuance of shares under employee stock purchase plan	-	-	103	-	-	(43)	515	618
Recognition of income tax benefits of preconfirmation net operating loss carryforwards	-	-	17,916	-	-	-	-	17,916
Issuance of shares under incentive stock option plan	-	-	(174)	-	-	(39)	333	159
Cumulative translation adjustments	-	-	-	-	(888)	-	-	(888)
Balance, December 31, 1994	20,000	100	254,251	21,987	(2,832)	2,602	(31,558)	241,948
Repurchase of common stock	-	-	-	-	-	135	(2,055)	(2,055)
Net income	-	-	-	44,823	-	-	-	44,823
Issuance of shares under employee stock purchase plan	-	-	110	-	-	(46)	559	669
Issuance of shares under incentive stock option plan	-	-	(292)	-	-	(40)	495	203
Cumulative translation adjustments	-	-	-	-	287	-	-	287
Par value of shares issued in connection with a two-for-one stock split	-	100	(100)	-	-	-	-	-
Balance, December 30, 1995	20,000	200	253,969	66,810	(2,545)	2,651	(32,559)	285,875
Net income	-	-	-	61,173	-	-	-	61,173
Issuance of shares under employee stock purchase plan	-	-	484	-	-	(40)	484	968
Issuance of shares under incentive stock option plan	-	-	(239)	-	-	(46)	565	326
Cumulative translation adjustments	-	-	-	-	(260)	-	-	(260)
Balance, December 28, 1996	20,000	\$200	\$254,214	\$127,983	\$ (2,805)	2,565	\$(31,510)	\$348,082

See accompanying notes to consolidated financial statements.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**NATURE OF OPERATIONS**

The principal business of Mueller Industries, Inc. is the manufacture and sale of copper tube and fittings; brass and copper alloy rods, bars and shapes; aluminum and brass forgings; aluminum and copper impact extrusions; plastic fittings and valves; and refrigeration valves, driers and flare fittings. The Company markets its products to the heating and air-conditioning, refrigeration, plumbing, hardware and other industries. During 1996, the Company operated thirteen factories in five states and Canada and had distribution facilities nationwide and sales representation worldwide.

The Company also operates a short line railroad through its subsidiary Utah Railway Company and conducts placer gold mining through its subsidiary Alaska Gold Company. In addition, the Company owns interests in or leases other natural resource properties.

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of Mueller Industries, Inc. and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The minority interest represents separate private ownership of 25 percent of Ruby Hill Mining Company and 19 percent of Richmond-Eureka Mining Company.

INVENTORIES

The Company's inventories are valued at the lower of cost or market. The material component of certain of its copper tube and copper fittings inventories is valued on a last-in, first-out (LIFO) basis. Other inventories, including the non-material components of copper tube and copper fittings inventories, are valued on a first-in, first-out (FIFO) basis. Generally, inventory costs include material, labor costs and manufacturing overhead. Prior to 1994, all inventories were accounted for on a FIFO basis. See Note 2 for discussion of the accounting change.

DEPRECIATION AND AMORTIZATION

In general, depreciation of buildings, machinery and equipment, and amortization of intangibles are provided on the straight-line method over the estimated useful lives ranging from 20 to 40 years for buildings, 5 to 20 years for machinery and equipment, and 3 to 10 years for intangibles.

REVENUE RECOGNITION

Revenue from the sale of products is recognized upon passage of title to the customer, which, in most cases, coincides with shipment.

EMPLOYEE BENEFITS

The Company sponsors certain defined benefit pension plans that are non-contributory and cover certain union employees. The plans provide pension benefits based on years of service and stated benefit amounts for each year of service.

In addition to providing pension benefits, the Company sponsors certain postretirement health and life insurance programs for certain union and salaried employees, which are accounted for on the accrual method in accordance with SFAS No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*. These benefits are funded on a pay-as-you-go basis and the cost is recognized as earned during the active service life of employees. Certain retirees pay a premium for health insurance which is based on benefits paid less an agreed upon amount that is paid by the Company.

STOCK-BASED COMPENSATION

The Company accounts for stock-based compensation using the intrinsic value method prescribed in Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB No. 25), and related Interpretations.

EARNINGS PER COMMON SHARE

Primary earnings per common share are based upon the weighted average number of common and common equivalent shares outstanding during each period. Fully diluted earnings per share are based upon the weighted average number of common shares outstanding plus the dilutive effects of all outstanding stock options.

INCOME TAXES

The Company accounts for income taxes using the liability method required by SFAS No. 109, *Accounting for Income Taxes*.

CASH EQUIVALENTS

Temporary investments with maturities of three months or less are considered to be cash equivalents. These investments are stated at cost. At December 28, 1996, and December 30, 1995, temporary investments consisted of certificates of deposit, commercial paper, bank repurchase agreements, and U.S. and foreign government securities totaling \$98.1 million and \$51.7 million, respectively. These carrying amounts approximate fair value.

CONCENTRATIONS OF CREDIT AND MARKET RISK

Concentrations of credit risk with respect to accounts receivable are limited due to the large number of customers comprising the Company's customer base, and their dispersion across different industries, including air-conditioning, refrigeration, plumbing, hardware, automotive, OEMs, and others.

The Company minimizes its market risk of base metal price fluctuations through various strategies. Generally, it prices an equivalent amount of copper raw material, under flexible pricing arrangements it maintains with its suppliers, at the time it determines the selling price to its customers.

Occasionally, the Company hedges portions of its inventories against price fluctuations through the purchase of option contracts. Gains and losses on hedging transactions are recognized in income at the time the underlying inventory is sold. At year-end, there were no open hedge transactions nor any deferred gains or losses.

The Company's sales are principally denominated and collected in U.S. currency. Certain sales of the Company's foreign operations are collected in foreign currencies. Occasionally, the market risk regarding foreign currency exchange rate fluctuations is hedged using forward contracts. At year-end, there were no open forward contracts nor any deferred gains or losses.

FOREIGN CURRENCY TRANSLATION

For foreign subsidiaries, the functional currency is the local foreign currency. Balance sheet accounts are translated at exchange rates in effect at the end of the year and income statement accounts are translated at average exchange rates for the year. Translation gains and losses are included as a separate component of stockholders' equity. Transaction gains and losses included in the statement of income were not significant.

USE OF ESTIMATES

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

RECENTLY ISSUED ACCOUNTING STANDARDS

During 1996, the American Institute of Certified Public Accountants issued Statement of Position 96-1, *Environmental Remediation Liabilities* (SOP 96-1), effective for fiscal years beginning after December 15, 1996. SOP 96-1 provides authoritative guidance on the recognition, measurement and disclosure of environmental remediation liabilities. The Company will adopt SOP

96-1 in the first quarter of 1997 and, based on current circumstances, does not believe the effect of the adoption will be material.

RECLASSIFICATIONS

Certain amounts in the 1995 and 1994 consolidated financial statements have been reclassified to conform with the 1996 presentation.

NOTE 2 - INVENTORIES

Inventories consist of the following:

<i>(In thousands)</i>	1996	1995
Raw material and supplies	\$ 15,416	\$ 14,538
Work-in-process	12,540	17,133
Finished goods	42,041	34,681
Gold	6,650	8
Inventories	\$ 76,647	\$ 66,360

During 1994, the Company elected to change its method of valuing the material component of certain of its copper tube and copper fittings inventory from the FIFO method to the LIFO method. This change in accounting principle was applied to the beginning of fiscal 1994. Management believes the LIFO method results in a better matching of current costs with current revenues. Additionally, the LIFO method is widely used within the copper tube and copper fittings industry. The effect of this change reduced net income for the year ended December 31, 1994, by \$9.0 million (or 46 cents per share).

Inventories valued using the LIFO method were \$20.9 million in 1996 and \$21.2 million in 1995. The approximate FIFO current cost of such inventories was \$26.7 million at December 28, 1996, and \$35.4 million at December 30, 1995.

NOTE 3 - PROPERTIES

Properties stated at fair value as of December 28, 1990, with subsequent additions recorded at cost, are as follows:

<i>(In thousands)</i>	1996	1995
Land and land improvements	\$ 6,646	\$ 7,464
Buildings, machinery and equipment	279,116	247,655
Construction in progress	5,001	20,182
	290,763	275,301
Less accumulated depreciation	(70,908)	(54,289)
Property, plant and equipment, net	\$219,855	\$221,012

NOTE 4 - LONG-TERM DEBT

Long-term debt consists of the following:

<i>(In thousands)</i>	1996	1995
8.38% Unsecured Notes, due through 2000	\$ 14,286	\$ 17,857
7.54% Unsecured Note Payable, due through 1999	13,000	16,000
1993 Series IRBs with interest at 6.95%, due through 2000	11,429	14,286
1994 Series IRBs with interest at 8.825%, due through 2001	11,571	14,143
Other, including capitalized lease obligations	9,364	13,616
	59,650	75,902
Less current portion of long-term debt	(14,844)	(16,249)
Long-term debt	\$ 44,806	\$ 59,653

Aggregate annual maturities of such debt are \$14.8 million, \$15.0 million, \$15.3 million, \$10.0 million and \$2.4 million for the years 1997 through 2001, respectively. Interest paid in 1996, 1995 and 1994 was \$5.2 million, \$7.1 million and \$8.1 million, respectively. During 1996 and 1995, the Company capitalized interest of \$.3 million and \$2.9 million, respectively, related to its major capital improvement programs. Using a discounted cash flow analysis, the book value of the Company's long-term debt approximates fair value, based on the estimated current incremental borrowing rates for similar types of borrowing arrangements.

During the fourth quarter of 1996, the Company increased to \$100.0 million its unsecured line-of-credit agreement (the Credit Facility) which expires on December 15, 1999, but may be extended for successive one year periods by agreement of the parties. Borrowings under the Credit Facility bear interest, at the Company's option, at (i) prime rate less .50 percent, (ii) LIBOR plus .27 percent, or (iii) Federal Funds Rate plus .65 percent. An annual commitment fee of 11 basis points per annum on the unused portion of the Credit Facility is payable quarterly. Currently, the Company has no outstanding borrowings under the Credit Facility. Availability of funds under the Credit Facility is reduced by the amount of certain outstanding letters of credit which totaled approximately \$4.7 million at December 28, 1996.

Borrowings under the above agreements require the Company, among other things, to maintain certain minimum levels of net worth and meet certain minimum financial ratios. The Company is in compliance with all covenants.

The Company leases certain facilities and equipment under operating leases expiring on various dates through 2001. The lease payments under these agreements aggregate to approximately \$4.7 million in 1997, \$4.4 million in 1998, \$3.9 million in 1999, \$2.5 million in 2000, and \$.6 million in 2001. Total lease and rent expense amounted to \$7.7 million in 1996, \$7.4 million in 1995 and \$6.9 million in 1994.

NOTE 5 - STOCKHOLDERS' EQUITY

In 1995, the Company declared a two-for-one stock split to be effected in the form of a 100 percent stock dividend. All presentations of share data herein, including earnings per share, have been restated to reflect the split for all periods presented.

On November 10, 1994, the Company declared a dividend distribution of one Right for each outstanding share of the Company's common stock. Each Right entitles the holder to purchase one unit consisting of one-thousandth of a share of Series A Junior Participating Preferred Stock at a purchase price of \$160 per unit, subject to adjustment. The Rights will not be exercisable, or transferable apart from the Company's common stock, until 10 days following an announcement that a person or affiliated group has acquired, or obtained the right to acquire, beneficial ownership of 15 percent or more of its common stock other than pursuant to certain offers for all shares of the Company's common stock that have been determined to be fair to, and in the best interest of, the Company's stockholders. The Rights, which do not have voting rights, will be exercisable by all holders (except for a holder or affiliated group beneficially owning 15 percent or more of the Company's common stock, whose Rights will be void) so that each holder of a Right shall have the right to receive, upon the exercise thereof, at the then current exercise price, the number of shares of the Company's common stock having a market value of two times the exercise price of the Rights. All Rights expire on November 10, 2004, and may be redeemed by the Company at a price of \$.01 at any time prior to either their expiration or such time that the Rights become exercisable.

In the event that the Company is acquired in a merger or other business combination or certain other events occur, provision shall be made so that each holder of a Right (except Rights previously voided) shall have the right to receive, upon exercise thereof at the then current exercise price, the number of shares of common stock of the surviving company which at the time of such transaction would have a market value of two times the exercise price of the Right.

On June 3, 1994, the Company purchased 1,849,750 shares of its common stock, for an aggregate purchase price of approximately \$25.9 million. These shares were placed in treasury and may be used for general corporate purposes, such as requirements for future exercises of options under various option plans.

As of December 28, 1996, the Company had reserved 2,562,656 shares of its common stock for issuance pursuant to certain stock option plans. Additionally, the Company had reserved 15,000 shares of preferred stock for issuance pursuant to the Shareholder Rights Plan.

NOTE 6 - INCOME TAXES

The components of income before income taxes were taxed under the following jurisdictions:

<i>(In thousands)</i>	1996	1995	1994
Domestic	\$ 80,557	\$ 56,632	\$ 35,641
Foreign	7,855	7,917	5,183
Income before income taxes	\$ 88,412	\$ 64,549	\$ 40,824

Income tax expense consists of the following:

<i>(In thousands)</i>	1996	1995	1994
Current tax expense:			
Federal	\$ 18,296	\$ 7,838	\$ 4,172
Foreign	3,249	2,769	2,476
State and local	1,550	2,007	1,502
Current tax expense	23,095	12,614	8,150
Deferred tax expense (benefit):			
Federal	3,995	7,031	5,621
State and local	149	81	(873)
Deferred tax expense	4,144	7,112	4,748
Income tax expense	\$ 27,239	\$ 19,726	\$ 12,898

The difference between the reported income tax expense and a tax determined by applying the applicable U.S. federal statutory income tax rate to income before income taxes, is reconciled as follows:

<i>(In thousands)</i>	1996	1995	1994
Expected income tax expense	\$ 30,944	\$ 22,592	\$ 14,288
State and local income tax, net of federal benefit	1,027	1,357	976
Foreign income taxes	1,035	230	641
Reduction in valuation allowance	(4,622)	(5,006)	(1,495)
Other, net	(1,145)	553	(1,512)
Income tax expense	\$ 27,239	\$ 19,726	\$ 12,898

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are presented below:

<i>(In thousands)</i>	1996	1995
Deferred tax assets:		
Accounts receivable	\$ 1,140	\$ 1,013
Inventories	3,617	4,864
Pension, OPEB and accrued items	11,109	10,661
Other reserves	11,134	10,519
Net operating loss carryforwards	43,924	47,143
Loss carryforward-prior abandonment of preferred stock	41,301	45,228
Alternative minimum tax credit carryforwards	4,053	4,217
Total deferred tax assets	116,278	123,645
Less valuation allowance	(56,299)	(60,921)
Deferred tax assets, net of valuation allowance	59,979	62,724
Deferred tax liabilities:		
Property, plant and equipment	44,398	42,940
Undistributed income of foreign subsidiaries	1,931	1,931
Other	—	59
Total deferred tax liabilities	46,329	44,930
Net deferred tax asset	\$ 13,650	\$ 17,794

The Company's net operating loss carryforwards (NOLs) for federal income tax purposes that expire prior to 2007 are subject to an annual limitation of approximately \$17.3 million through 2001 and approximately \$14.4 million through 2006. This annual limitation is, among other things, based upon the Company's value and certain statutory interest rates in effect at the time a "change in ownership" occurs. A future "change in ownership", should it occur, could result in further limitations.

The Internal Revenue Service (IRS) audit for 1992 and prior years was concluded in 1994 and resulted in no material changes. Following conclusion of that audit, the Company entered into a Closing Agreement with the IRS. This Agreement is a definitive determination on certain tax attributes, including NOLs. Following execution of this Agreement, the Company revised its estimates with respect to realization of the related deferred tax assets in future

years. During 1994, the Company recognized \$17.9 million of these tax attributes, which reduced the valuation allowance and allocated the benefit to paid-in capital. During 1996 and 1995, the Company recognized \$.7 million and \$4.5 million, respectively, of these tax attributes, reducing the deferred income tax provision in each year. As additional NOLs are utilized, the Company expects to recognize additional tax attributes over the next several years by reducing the valuation allowance. The tax effect of future recognition of any of the remaining NOLs of approximately \$31.7 million will reduce the deferred income tax provisions in the periods recognized.

As of December 28, 1996, the Company had net operating loss carryforwards available to offset future federal taxable income of \$125.5 million of which \$93.8 million have been recognized. These NOLs expire as follows: \$31.7 million in 2000, \$20.7 million in 2001, \$6.5 million in 2002, \$59.8 million in 2005, and \$6.8 million in 2006. Realization is dependent on generating sufficient taxable income prior to expiration of the loss carryforwards. Although realization is not assured, management believes it is more likely than not that much of the deferred tax asset will be realized. The amount of the deferred tax asset considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced. In addition, the Company has alternative minimum tax credit carryforwards of approximately \$4.1 million which are available to reduce future federal regular income taxes, if any, over an indefinite period.

In 1995, the Company "abandoned" all its rights and interests in the Preferred Stock of Sharon Specialty Steel Inc. (a Delaware corporation) which filed for bankruptcy protection. The fair value of the preferred stock was negligible and, for book purposes, had been previously written down. However, the Preferred Stock had a tax basis of approximately \$120 million. The "abandonment" of the Preferred Stock resulted in the Company recognizing a tax loss. The character of the tax loss, capital or ordinary, has not yet been definitively determined. Pending this determination, the Company reduced its valuation allowance by \$3.9 million in 1996 and \$1.2 million in 1995. If the character of this loss is determined to be capital, the Company's ability to realize additional benefit, if any, will be limited and recognition will occur as certain gains are realized for federal tax purposes. If this loss is determined to be ordinary, the Company may realize a substantial benefit by reducing its federal taxable income. The tax benefits relating to this loss will be recognized primarily as additions to paid-in capital and, to a lesser extent, reductions to current income tax expense. Based on current facts and circumstances, management cannot predict the likelihood that a favorable outcome will be achieved. The tax loss carryforwards from this loss will expire in 2000 if the loss is determined to be capital and will expire in 2010 if the loss is determined to be ordinary.

Income taxes paid were approximately \$19.3 million in 1996, \$12.0 million in 1995 and \$7.8 million in 1994.

NOTE 7 - OTHER CURRENT LIABILITIES

Other current liabilities consist of the following:

<i>(In thousands)</i>	1996	1995
Accrued discounts and allowances	\$ 6,923	\$ 4,102
Freight settlements due to other railroads	6,166	4,991
Income taxes payable	3,389	75
Other	12,457	11,037
Other current liabilities	\$ 28,935	\$ 20,205

NOTE 8 - EMPLOYEE BENEFITS

PENSION PLANS

Pension cost for the defined benefit plans sponsored by the Company includes the following components:

<i>(In thousands)</i>	1996	1995	1994
Service cost of benefits earned during the year	\$ 490	\$ 473	\$ 377
Interest cost on the projected benefit obligation	3,232	3,214	3,144
Actual return on plan assets	(6,530)	(9,846)	127
Net amortization and deferral	3,120	7,792	(2,681)
Net periodic pension cost	\$ 312	\$ 1,633	\$ 967

The expected long-term rate of return on plan assets was 8.5 percent in 1996, 1995, and 1994. Differences between the actual returns and the related expected returns on plan assets are deferred and considered in the determination of net pension cost in future periods. The decrease in 1996 pension cost resulted primarily from the amortization of actual over expected investment returns on plan assets.

Generally, the Company contributes such amounts as are necessary to pay benefits to plan participants and to meet ERISA minimum funding requirements. The plans' investments are held by bank-administered trust funds. Prior service costs and unrecognized net gains or losses are amortized on a straight-line basis over the average future service lives of the covered group.

A reconciliation of the funded status of the plans at December 28, 1996, and December 30, 1995, respectively, to the amounts recognized in the consolidated balance sheet is as follows:

<i>(In thousands)</i>	1996	1995
Actuarial present value of:		
Vested benefit obligation	\$ (39,920)	\$ (39,811)
Accumulated benefit obligation	(43,766)	(43,482)
Projected benefit obligation	(43,766)	(43,482)
Plan assets at fair value held in the pension plan trusts, primarily listed stocks and U.S. Government obligations	45,512	40,205
Projected benefit obligation less than (in excess of) plan assets	1,746	(3,277)
Unrecognized net gain from past experience different from that assumed and effects of changes in assumptions	(13,708)	(11,061)
Prior service cost not yet recognized in net periodic pension cost	3,434	3,993
Accrued pension cost	\$ (8,528)	\$ (10,345)

The range of assumed discount rates used in determining the actuarial present value of the projected benefit obligations presented above was 7.0 percent to 7.75 percent for 1996 and 1995.

The Company makes contributions to certain multiemployer defined benefit pension trusts that cover union employees based on collective bargaining agreements. Contributions by employees are not required nor are they

permitted. Pension expense under the multiemployer defined benefit pension plans was \$3 million for 1996, 1995 and 1994.

The Company has employee savings plans that qualify under Section 401(k). Most employees of the Company (other than those covered by certain collective bargaining agreements) may participate by deferring from 1 percent to 15 percent of their eligible compensation. Beginning July 1, 1995, for employees not covered by collective bargaining agreements, the Company began matching 10 percent of each employee's contribution. The Company increased the matching percentage to 50 percent of the first 4 percent of each employee's contribution effective January 1, 1996, and 50 percent of the first 6 percent of each employee's contribution effective January 1, 1997. The Company's match vests 25 percent for each year of service. Compensation expense for the 401(k) match was \$5.5 million in 1996 and \$1 million in 1995.

In 1996, the Company established a nonqualified, deferred compensation plan which permits certain management employees to annually elect to defer a portion of their compensation, on a pre-tax basis, until their retirement. The retirement benefit to be provided is based on the amount of compensation deferred, Company match, and earnings on the deferrals. The expense associated with the deferred compensation plan was \$1 million in 1996. The Company has invested in corporate-owned life insurance policies to assist in funding this plan. The cash surrender value of these policies, included in "other assets", was \$8 million at December 28, 1996.

POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

In addition to providing pension benefits, the Company provides a fixed portion of the costs of medical and life insurance benefits to certain retired hourly and salary employees. Contribution rates are dictated by the employees' retirement plan which is subject to periodic contract renegotiation. The Company also provides the full cost of medical and life benefits to certain United Mine Workers of America (UMWA) retirees and certain qualified dependents.

In October 1992, the Coal Industry Retiree Health Benefit Act of 1992 (the Act) was enacted. The Act mandates a method of providing for postretirement benefits to UMWA current and retired employees, including some retirees who were never employed by the Company. In October 1993, beneficiaries were assigned to the Company and the Company began its mandated contributions to the UMWA Combined Benefit Fund, a multiemployer trust. Beginning in 1994, the Company was required to make contributions for assigned beneficiaries under an additional multiemployer trust created by the Act, the UMWA 1992 Benefit Plan. The ultimate amount of this liability will vary due to factors which include, among other things, the validity, interpretation and regulation of the Act, its joint and several obligation, the number of valid beneficiaries assigned, and the extent to which funding for this obligation will be satisfied by transfers of excess assets from the 1950 UMWA pension plan and transfers from the Abandoned Mine Reclamation Fund. Nonetheless, the Company believes it has an adequate reserve for this liability, which is classified as other noncurrent liabilities.

The following table shows funded status reconciled with the amounts recognized in the Company's financial statements:

<i>(In thousands)</i>	1996	1995
Accumulated postretirement benefit obligation:		
Retirees	\$ (8,364)	\$ (8,671)
Fully eligible active plan participants	(506)	(496)
Other active plan participants	(450)	(464)
	<u>(9,320)</u>	<u>(9,631)</u>
Plan assets at fair value	—	—
Accumulated postretirement benefit obligation in excess of plan assets	(9,320)	(9,631)
Unrecognized net loss	139	554
Accrued postretirement benefit cost	<u>\$ (9,181)</u>	<u>\$ (9,077)</u>

Net periodic postretirement benefit cost was \$2.0 million in 1996, \$8 million in 1995, and \$8 million in 1994. The 1996 cost includes charges of \$1.3 million to establish a provision for certain of the health care and life insurance benefits described above.

The cost of medical and life insurance benefits for retired employees reflected above does not include \$9 million at December 28, 1996, and \$9 million at December 30, 1995, related to the provision of medical and other welfare benefits under certain defined benefit multiemployer plans. The actuarially determined present value of the accumulated postretirement benefit obligation was calculated using discount rates ranging from 7.0 percent to 8.5 percent for 1996 and 1995.

The assumed weighted average annual rate of increase in the per capita cost of covered benefits ranges from 9.05 percent to 9.95 percent for 1997 and is assumed to ultimately decrease to a rate of 6.25 percent by 2003 and remain at that level thereafter. A one percentage point increase in the assumed trend rates for each year would not have a significant effect on the expected postretirement benefit obligation.

Included in the caption "Accrued wages and other employee costs" is the current portion of postretirement benefit obligation of \$8 million in 1996 and \$7 million in 1995.

NOTE 9 - COMMITMENTS AND CONTINGENCIES

ENVIRONMENTAL

The Company is subject to environmental standards imposed by federal, state and local environmental laws and regulations. It has provided and charged to income \$2.0 million in 1996, \$1.4 million in 1995, and \$2.9 million in 1994 for pending environmental matters related to natural resources operations. The basis for the increase is updated information and results of ongoing remediation and monitoring programs. Management believes that the outcome of pending environmental matters will not materially affect the financial condition or results of operations of the Company.

LITIGATION

The Company is involved in certain litigation as a result of claims that arise in the ordinary course of business, which management believes will not have a material adverse effect on the Company's financial condition or results of operations.

NOTE 10 - OTHER INCOME

Other income, net included in the consolidated statements of income consists of the following:

(In thousands)	1996	1995	1994
Rent and royalties	\$ 1,413	\$ 2,009	\$ 1,068
Interest income	3,352	2,283	2,865
Gain on disposal of properties, net	973	1,835	3,159
Minority interest in income of subsidiaries	(397)	—	—
Unusual items	—	—	(1,140)
Other	—	—	552
Other income, net	\$ 5,341	\$ 6,127	\$ 6,504

During 1994, the Company recognized as unusual items a \$1.1 million charge for outstanding insurance matters primarily related to estimated workers' compensation claims for years prior to 1993.

NOTE 11 - STOCK OPTIONS AND EMPLOYEE STOCK PURCHASE PLANS

The Company follows APB No. 25 in accounting for its employee stock options. Under APB No. 25, no compensation expense is recognized because the exercise price of the Company's incentive employee stock options equals the market price of the underlying stock on the date of grant.

During 1994, the stockholders approved the adoption of the 1994 Stock Option Plan (SOP Plan). Under this plan, the Company may grant options to purchase up to 400,000 shares of common stock at prices not less than the fair market value of the stock on the day of the grant. Generally, the options vest annually in 20 percent increments over a five year period beginning one year from the date of the grant. Any unexercised options expire after not more than ten years. No options may be granted under this plan after ten years from the date the SOP Plan was adopted. The stockholders also approved the adoption of the 1994 Non-Employee Director Stock Option Plan. Options to purchase up to 50,000 shares of common stock may be granted under this plan at a price not less than the fair market value of the stock on the day of the grant. Generally, any unexercised options granted under this plan shall expire on a date which is five years from the date of option grant.

Under the 1991 Incentive Stock Option Plan (ISO Plan), the Company may grant options to purchase up to 500,000 shares of common stock at prices not less than the fair market value of the stock on the date of grant. Generally, the options vest annually in 20 percent increments over a five year period beginning one year from the date of the grant. Any unexercised options expire after not more than ten years. No options may be granted under this plan after ten years from the date the ISO Plan was adopted.

On December 4, 1991, the Company authorized a special stock option grant of 1,000,000 shares to induce Mr. Harvey L. Karp to enter into an employment agreement with the Company. The exercise price, \$4.125 per share, was the fair market value on the date of grant. Generally, the options expire one year after Mr. Karp's separation from employment with the Company

unless Mr. Karp is terminated for cause. On January 30, 1992, the Board approved and authorized a transaction whereby Mr. Karp was granted options to purchase an additional 1,000,000 shares, which was subsequently reduced by 200,000 option shares which the Company issued to secure the employment of Mr. William D. O'Hagan. Mr. Karp's additional grant of options is on the same terms and conditions, and at the same price, as the original grant. Although neither Mr. Karp's nor Mr. O'Hagan's options were granted under the ISO Plan, the terms and conditions of Mr. O'Hagan's options are generally similar to those granted under the ISO Plan.

A summary of the Company's stock option activity and related information follows:

	1996		1995	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of year	2,650,606	\$ 7.37	2,532,106	\$ 5.94
Granted	74,500	37.41	179,000	26.31
Exercised	(45,950)	7.14	(40,500)	5.00
Expired, cancelled or surrendered	(5,000)	4.06	(20,000)	7.06
Outstanding at year-end	2,674,156	\$ 8.22	2,650,606	\$ 7.37
Options exercisable at year-end	2,191,456	\$ 5.49	2,086,606	\$ 4.87
Weighted average fair value per option granted during the year	\$ 16.89		\$ 11.99	

Exercise prices for stock options outstanding at December 28, 1996, ranged from \$4.06 to \$40.25. Of the 2,674,156 stock options that are outstanding at year-end, 1,800,000 are owned by Mr. Harvey Karp, and, as explained above, these options expire one year after Mr. Karp's separation from employment with the Company. The weighted average remaining life of the remaining 874,156 shares is 1.6 years, and the weighted average exercise price of these shares is \$16.64.

Pro forma information regarding net income and earnings per share is required by Statement of Financial Accounting Standards No. 123, *Accounting for Stock-Based Compensation* (SFAS No. 123), and has been determined as if the Company had accounted for its employee stock options under the fair value method. The fair value for these options at the date of grant was estimated using a Black-Scholes option pricing model with the following weighted average assumptions for the years 1996 and 1995: volatility factor of the expected market value of the Company's common stock of 0.344; weighted average expected life of the options of 6 years; risk free interest rate of 6.5%; and no dividend payments.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require highly subjective assumptions including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the

subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. The Company's pro forma information follows:

<i>(In thousands, except per share data)</i>	1996	1995
Net income	\$ 61,173	\$ 44,823
SFAS No. 123 compensation expense	(560)	(164)
SFAS No. 123 pro forma net income	<u>\$ 60,613</u>	<u>\$ 44,659</u>
Pro forma earnings per share:		
Primary	\$ 3.12	\$ 2.34
Fully diluted	\$ 3.12	\$ 2.31

Because SFAS No. 123 applies only to stock-based compensation awards for 1995 and future years, the pro forma disclosures under SFAS No. 123 are not likely to be indicative of future disclosures until the disclosures reflect all outstanding, nonvested awards.

The Amended and Restated Mueller Industries, Inc. 1991 Employee Stock Purchase Plan (the EMSP Plan) expired on June 30, 1996. Under this plan, the Company could offer to eligible employees (generally all full-time employees) options to purchase up to six shares of the Company's common stock for each \$1,000 of compensation. The option price was the lower of (i) 85 percent of the fair value of the stock on the offering date, or (ii) 85 percent of the fair value of the stock on the last day of the one-year offering period. The maximum number of shares available for sale under the EMSP Plan during all offerings was 900,000 shares. Under the EMSP Plan, 215,714 shares were issued. During the final offering period beginning July 1, 1995, and ending June 30, 1996, 39,440 shares were issued at an exercise price of \$20.88 per share.

NOTE 12 - SUBSEQUENT EVENTS

On December 30, 1996, the Company acquired the assets and certain liabilities of Precision Tube Company, Inc. (Precision) for approximately \$6.8 million. Precision, which fabricates tubing and coaxial cables and assemblies, had net sales of approximately \$20.0 million in 1996. Precision's tubing and coaxial divisions are located in North Wales, Pennsylvania, and Salisbury, Maryland, respectively.

On February 28, 1997, the Company acquired certain assets of Wednesbury Tube Company (Wednesbury) for approximately \$20.3 million. Wednesbury, which manufactures copper tube and is located in Bilston, West Midlands, England, had net sales of approximately \$94.0 million in 1996.

Both acquisitions will be accounted for using the purchase method.

NOTE 13 - INDUSTRY SEGMENTS

The Company is engaged in the manufacture and sale of copper, brass, bronze, aluminum, and plastic products, and in natural resource operations consisting principally of a short line railroad, as well as the operation of a placer gold mine. Income and expenses not allocated to industry segments in computing operating income include general corporate income and expense, interest expense and interest income. General corporate assets are principally cash and temporary investments. There are no intersegment sales. During

1996, 1995 and 1994 the Company did not have significant foreign operations and, accordingly, geographical segment information is not presented. Industry segment information is as follows:

<i>(In thousands)</i>	1996	1995	1994
Net sales:			
Manufacturing	\$ 698,026	\$ 646,894	\$ 533,389
Natural resources	20,286	31,944	16,614
	<u>\$ 718,312</u>	<u>\$ 678,838</u>	<u>\$ 550,003</u>
Operating income:			
Manufacturing	\$ 98,669	\$ 61,384	\$ 47,932
Natural resources	2,037	7,874	1,651
General corporate	(10,244)	(5,247)	(5,631)
	90,462	64,011	43,952
Non-operating income, net	3,296	4,706	3,590
Interest expense	(5,346)	(4,168)	(6,718)
Consolidated income before income taxes	<u>\$ 88,412</u>	<u>\$ 64,549</u>	<u>\$ 40,824</u>
Provision for depreciation and amortization:			
Manufacturing	\$ 14,594	\$ 11,967	\$ 9,845
Natural resources	1,388	1,157	1,159
General corporate	2,490	2,328	1,685
	<u>\$ 18,472</u>	<u>\$ 15,452</u>	<u>\$ 12,689</u>
Capital expenditures:			
Manufacturing	\$ 14,277	\$ 38,478	\$ 37,095
Natural resources	3,131	2,198	4,028
General corporate	1,460	304	7,029
	<u>\$ 18,868</u>	<u>\$ 40,980</u>	<u>\$ 48,152</u>
Identifiable assets:			
Manufacturing	\$ 355,429	\$ 339,764	\$ 318,351
Natural resources	65,785	47,453	38,042
	421,214	387,217	356,393
General corporate	88,143	63,618	74,362
	<u>\$ 509,357</u>	<u>\$ 450,835</u>	<u>\$ 430,755</u>

**NOTE 14 - QUARTERLY FINANCIAL INFORMATION
(UNAUDITED)**

Financial results by quarter are as follows:

<i>(In thousands, except per share data)</i>	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
1996				
Net sales	\$ 180,515	\$ 189,557	\$ 175,991	\$ 172,249
Gross profit ⁽¹⁾	36,983	40,021	42,787	43,951
Net income	13,292	13,897	16,182	17,802
Net income per share	.69	.71	.83	.91
1995				
Net sales	\$ 171,770	\$ 181,380	\$ 171,549	\$ 154,139
Gross profit ⁽¹⁾	31,210	31,793	34,139	31,812 ⁽²⁾
Net income	10,050	10,663	11,605	12,505 ⁽²⁾
Net income per share	.53	.56	.60	.65 ⁽²⁾

(1) Gross profit is net sales less cost of goods sold, which excludes depreciation and amortization.

(2) A change in inventory estimate was recognized.

REPORT OF INDEPENDENT AUDITORS

THE STOCKHOLDERS OF MUELLER INDUSTRIES, INC.

We have audited the accompanying consolidated balance sheets of Mueller Industries, Inc. as of December 28, 1996 and December 30, 1995 and the related consolidated statements of income, stockholders' equity and cash flows for each of the three years in the period ended December 28, 1996. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Mueller Industries, Inc. at December 28, 1996 and December 30, 1995, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 28, 1996, in conformity with generally accepted accounting principles.

Ernst & Young LLP

Memphis, Tennessee

February 7, 1997,

except for the second paragraph of Note 12,

as to which the date is February 28, 1997

CAPITAL STOCK INFORMATION

The high, low and closing prices of Mueller's common stock on the New York Stock Exchange for each fiscal quarter of 1996 and 1995 were as follows:

1996	High	Low	Close
Fourth quarter	\$ 42 ⁵ / ₈	\$ 36 ¹ / ₈	\$ 36 ¹ / ₈
Third quarter	42 ³ / ₈	31 ³ / ₈	39 ³ / ₄
Second quarter	44 ¹ / ₄	35 ¹ / ₄	41 ¹ / ₂
First quarter	35 ⁵ / ₈	26	35 ³ / ₈
1995	High	Low	Close
Fourth quarter	\$ 29 ¹ / ₂	\$ 22 ¹ / ₄	\$ 29 ¹ / ₄
Third quarter	28 ¹ / ₄	24 ¹ / ₈	25 ¹⁵ / ₁₆
Second quarter	24 ¹⁵ / ₁₆	16 ³ / ₈	24 ⁵ / ₈
First quarter	17 ¹ / ₈	14 ¹ / ₄	16 ¹¹ / ₁₆

As of March 7, 1997, the number of holders of record of Mueller's common stock was 3,656. The New York Stock Exchange's closing price for Mueller's common stock on March 7, 1997 was \$44 ³/₄.

The Company has paid no cash dividends on its common stock and presently does not anticipate paying cash dividends in the near future.

SELECTED FINANCIAL DATA

<i>(In thousands, except per share data)</i>	1992	1993	1994	1995	1996
For the fiscal year:					
Net sales	\$ 517,339	\$ 501,885	\$ 550,003	\$ 678,838	\$ 718,312
Operating income ⁽¹⁾	29,318	38,027	43,952	64,011	90,462
Net income ⁽²⁾	16,666	21,136	27,926	44,823	61,173
Net income per common share ⁽²⁾⁽³⁾	.83	1.01	1.41	2.34	3.14
At year-end:					
Total assets	372,547	369,743	430,755	450,835	509,357
Long-term debt	62,376	54,320	76,125	59,653	44,806

(1) In 1994, the Company changed its method of accounting for the copper component of certain of its copper tube and copper fittings inventories to the LIFO method.

(2) Includes charges for unusual items of \$1.1 million, or \$.06 per common share, in 1994, \$2.0 million, or \$.10 per common share, in 1993, and \$5.6 million, or \$.28 per common share, in 1992.

(3) Per share amounts have been restated for a two-for-one stock split effected in September, 1995.

BOARD OF DIRECTORS

Harvey L. Karp
Chairman of the Board
Mueller Industries, Inc.

Robert B. Hodes ⁽¹⁾⁽³⁾
Counsel,
Willkie Farr & Gallagher

Allan Mactier ⁽¹⁾⁽²⁾⁽³⁾
Private Investor

William D. O'Hagan
President and Chief Executive Officer
Mueller Industries, Inc.

Robert J. Pasquarelli ⁽¹⁾⁽²⁾
Metals Industry Consultant

- (1) *Member of the Audit Committee*
(2) *Member of the Compensation Committee*
(3) *Member of the Nominating Committee*

CORPORATE OFFICERS

Harvey L. Karp
Chairman of the Board

William D. O'Hagan
President and
Chief Executive Officer

Earl W. Bunkers
Executive Vice President and
Chief Financial Officer

William H. Hensley
Vice President, General Counsel and Secretary

Lowell J. Hill
Vice President Human Resources

Kent A. McKee
Vice President
Business Development / Investor Relations

Richard G. Miller
Vice President and Chief Information Officer

Lee R. Nyman
Vice President
Manufacturing / Management Engineering

James H. Rourke
Group Vice President
Industrial Products Division

DIVISIONAL MANAGEMENT

STANDARD PRODUCTS DIVISION

Harvey W. Clements
Vice President - Copper Tube Manufacturing

Roy C. Harris
Controller

Larry D. Birch
Vice President - Domestic Sales and Marketing

Robert L. Fleeman
Vice President - International Sales

Gregory L. Christopher
Vice President - Supply Chain Management

Louis F. Pereira
General Manager - Canadian Operations

Daniel R. Corbin
General Manager - Plastic Fittings Manufacturing

Tommy L. Jamison
General Manager - Copper Fittings Manufacturing

INDUSTRIAL PRODUCTS DIVISION

Felista S. Amburgey
Vice President Sales - Rod

Timothy J. Keck
Vice President Sales - Forgings / Impacts

William F. Navarre
Vice President Manufacturing - Rod/Forgings

David F. O'Brien
Plant Manager - Impacts

Richard D. Holmes
Controller

REFRIGERATION PRODUCTS DIVISION

Roland P. Robichaud
General Manager

Dennis K. Anthony
Vice President - Sales

Kent K. Miller
Director of Engineering

Anthony D. Donato
Plant Manager

PRECISION TUBE DIVISION

H. Eugene Passmore
President

Charles W. Blackledge
Vice President - Operations

John R. Gentile
Director of Sales & Marketing

Thomas M. Sarisky
Director of Engineering

ARAVA NATURAL RESOURCES DIVISION

Gary L. Barker
President - Arava Natural
Resources Company, Inc., Utah Railway Company
and Alaska Gold Company

Michael P. Watson
Vice President - Arava Natural
Resources Company, Inc.

Michael W. Baum
President - Mining Remedial
Recovery Company

John E. West III
Executive Vice President
Utah Railway Company

CORPORATE HEADQUARTERS

Mueller Industries, Inc.
6799 Great Oaks Road, Suite 200
Memphis, TN 38138-2572

ANNUAL MEETING

The Annual Meeting of Stockholders will be held at the Fogelman Executive Center at The University of Memphis, 330 DeLoach Street, Memphis, Tennessee, 10:00 A.M. local time, May 7, 1997.

FORM 10-K

Copies of the Company's Annual Report on Form 10-K are available upon written request c/o Mueller Industries, Inc., P.O. Box 382100, Memphis, TN 38183-2100
Attention: Investor Relations

COMMON STOCK

Mueller common stock is traded on the NYSE - Symbol MLI.

INDEPENDENT AUDITORS

Ernst & Young LLP, Memphis, Tennessee

TRANSFER AGENT AND REGISTRAR

Continental Stock Transfer & Trust Co.,
2 Broadway, New York, NY 10004

STOCKHOLDER INQUIRIES

To notify the Company of address changes or lost certificates, stockholders can call Continental Stock Transfer & Trust Co. at (212) 509-4000.



Mueller Industries, Inc.
6799 Great Oaks Road, Suite 200
Memphis, TN 38138-2572

COAL MINING AND RECLAMATION OPERATIONS FOR 1992

(Must be submitted to the Division by March 31, 1993)

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1203
(801) 538-5340

Permittee: United states Fuel Company

Mine Name: King 4 Mine

Mailing Address: P.O. Box 887 Price, Utah 84501

Company Representative: Robert Eccli

Resident Agent: Michael W. Baum

Permit Number: ACT 007/011

MSHA ID Number: 4200098

Date of Initial Permanent Program Permit: March 13, 1987

Date of Permit Renewal: March 13, 1992

Quantity of Coal Mined (tonnage) 1992: 108,000 Tons

Attach Updated Mine Sequence Map(s) showing mine development through December 31, 1992.
(Same as Lease Royalty Payment Map and/or MSHA Progress Map)

All monitoring activities during the report period to be submitted with this report (including, but not limited to):

A. Summarized Water Monitoring Data:

1. List of monitoring points and their locations and respective frequencies of monitoring (monthly, quarterly, etc.) as approved in the PAP;
2. UPDES permit number, UPDES discharge points and their locations;
3. Summary of findings based on water monitoring during 1992; and
4. Submit water monitoring as database files (ASCII, Lotus, dBase, etc.)
(Please contact Ken Wyatt if you have any questions).

B. Precipitation or Other Climatological Data (please submit as database files: ASCII, Lotus, dBase, etc.-- Contact Ken Wyatt if you have any questions).

Page 2
Annual Report
02/25/93

- G. A current listing of company officers and ownership control was submitted to the division on 10/29/92 in connection with our permit renewal requirements. See Chapter I of our MRP.

Sincerely,

A handwritten signature in cursive script that reads "Robert Eccli".

Robert Eccli
Senior Engineer

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**ANNUAL
REPORT**

ACT/007/011

1996

HIAWATHA COAL COMPANY - ANNUAL REPORT 1997
Hiawatha Complex ACT/007/011

UNITED STATES FUEL COMPANY

*Priscilla
Account
new to mine job*

BOX 887
PRICE, UTAH 85401



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

February 25, 1993

RECEIVED

MAR 01 1993

DIVISION OF
OIL GAS & MINING

Mr. Lowell Braxton
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Annual Report for 1992, United States Fuel Company,
ACT/007/011

Dear Mr. Braxton:

Please find enclosed, United States Fuel Company's Annual Report for 1992. Along with the annual cover sheet is an updated mine sequence map showing areas where coal was mined during 1992. The following is also provided as per your summary sheet:

- A. Summarized Water Monitoring Data for springs, streams and UPDES discharge points.
- B. No precipitation or climatological data was collected.
- C. Subsidence monitoring information, including a listing of ground point elevation differences between the 1992 survey and the 1988 baseline survey and a monitoring map showing the locations of subsidence point readings and ground control survey monuments.
- D. Vegetation monitoring data collected from test plots 1 and 2 during 1992.
- E.
 1. A copy of our certified annual slurry impoundment and refuse pile report.
 2. Certified quarterly sediment pond and refuse pile inspection reports for 1992.
 3. Copies of the Hiawatha No. 2 mine bulkhead inspection records and annual photographs for 1992.
- F. Analysis results for a composite sample of refuse material collected from slurry pond embankments in 1992. See page 18 of Chapter VI of our MRP for details.

WATER MONITORING REPORT

1st Quarter 1992

**UNITED STATES FUEL COMPANY
Hiawatha, Utah 84527**

**MINE WATER DISCHARGE REPORT
1992
DISCHARGE STATUS**

Discharge Point	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
D001	D	D	D	-----	-----	-----	-----	-----	-----			
D002	D	D	D	-----	-----	-----	-----	-----	-----			
D003	ND	ND	ND									
D004	ND	ND	ND									
D005	ND	ND	ND									
D006	ND	ND	ND									
D007	ND	ND	ND									
D008	ND	ND	ND									
D009	ND	ND	ND									
D010	ND	ND	ND									
D011	ND	ND	ND									
D012	ND	ND	ND									
D013	ND	ND	ND									

D = Discharge occurred ND = No discharge

MINE WATER DISCHARGE REPORT

STATION D001

1992

Parameters	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Date	01-24	02-21	03-26									
Time	1015	IA	1400									
Flow Rate (gpm)	265		215									
PH	6.69		7.13									
Conductivity (umhos/cm)	900		845									
Oil&Grease (mg/l)	2.1		<1									
T.D.S. (mg/l)	684		720									
T.S.S. (mg/l)	2.0		5.0									
Total Iron (mg/l)	0.04		0.02									

IA = Inaccessible

MINE WATER DISCHARGE REPORT

STATION D010

1992

Parameters	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Date	IA	IA	IA	-----	-----	-----	-----	-----	-----	-----	-----	-----
Time				-----	-----	-----	-----	-----	-----	-----	-----	-----
Flow Rate (gpm)				-----	-----	-----	-----	-----	-----	-----	-----	-----
PH				-----	-----	-----	-----	-----	-----	-----	-----	-----
Conductivity (umhos/cm)				-----	-----	-----	-----	-----	-----	-----	-----	-----
Oil&Grease (mg/l)				-----	-----	-----	-----	-----	-----	-----	-----	-----
T.D.S. (mg/l)				-----	-----	-----	-----	-----	-----	-----	-----	-----
T.S.S. (mg/l)				-----	-----	-----	-----	-----	-----	-----	-----	-----
Total Iron (mg/l)				-----	-----	-----	-----	-----	-----	-----	-----	-----

IA = Inaccessible

WATER MONITORING REPORT

2nd Quarter 1992

**UNITED STATES FUEL COMPANY
Hiawatha, Utah 84527**

**MINE WATER DISCHARGE REPORT
1992
DISCHARGE STATUS**

Discharge Point	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
D001	D	D	D	D ----- D	D ----- D	D ----- D	-----	-----	-----			
D002	D	D	D	D ----- D	D ----- D	D ----- D	-----	-----	-----			
D003	ND	ND	ND	ND	ND	ND						
D004	ND	ND	ND	ND	ND	ND						
D005	ND	ND	ND	ND	ND	ND						
D006	ND	ND	ND	ND	ND	ND						
D007	ND	ND	ND	ND	ND	ND						
D008	ND	ND	ND	ND	ND	ND						
D009	ND	ND	ND	ND	ND	ND						
D010	ND	ND	ND	IA	D	D						
D011	ND	ND	ND	ND	ND	ND						
D012	ND	ND	ND	ND	ND	ND						
D013	ND	ND	ND	ND	ND	ND						

D = Discharge occurred ND = No discharge IA = Inaccessible

MINE WATER DISCHARGE REPORT

STATION D001

1992

Parameters	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Date	01-24	02-21	03-26	04-09 04-30	05-14 05-28	06-11 06-26						
Time	1015	IA	1400	0920 0945	1115 1100	1230 1120						
Flow Rate (gpm)	265		215	242 809	193 346	373 373						
PH	6.69		7.13	7.05 6.92	6.98 6.97	6.94 6.97						
Conductivity (umhos/cm)	900		845	1180 1044	930 967	968 885						
Oil&Grease (mg/l)	2.1		<1	<1 1.4	1.2 0.3	0.2 0.2						
T.D.S. (mg/l)	684		720	698 713	667 730	662 671						
T.S.S. (mg/l)	2.0		5.0	<0.5 8.0	5.0 1.0	4.0 3.0						
Total Iron (mg/l)	0.04		0.02	0.05 <0.02	<0.02 0.06	0.02 0.19						

IA = Inaccessible

MINE WATER DISCHARGE REPORT

STATION D010

1992

Parameters	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Date	IA	IA	IA	IA	05-14	06-11						
Time					0900	0945						
Flow Rate (gpm)					1.24	0.75						
PH					7.95	7.83						
Conductivity (umhos/cm)					720	517						
Oil&Grease (mg/l)					0.4	0.4						
T.D.S. (mg/l)					359	369						
T.S.S. (mg/l)					2.0	1.0						
Total Iron (mg/l)					<0.02	<0.02						

IA = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1992

	ST-1			ST-2		
	Apr.	May	Jun.	Apr.	May	Jun.
Sample Date	4/24/92	5/12/92	6/11/92	I/A	5/12/92	6/11/92
Sample Time	1120	0845	0845		1005	0940
Sampled By	Eccli	Eccli	Eccli		Eccli	Eccli
Flow Rate	gpm	92.7	72.1	61.8	265	148
Air Temperature	deg. F	54	64	58	56	58
Water Temperature	deg. F	45	52	52	45	48
PH	units	8.04	8.01	8.01	8.21	7.99
Conductivity	umhos/cm	1850	1763	1610	477	420
Dissolved Oxygen	ppm	5.2	5.6	6.0	5.5	6.0
Total Dissolved Solids	mg/l		1720		280	
Total Settleable Solids	mg/l		<0.1		0.1	
Total Hardness (CaCo3)	mg/l		1350		247	
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l		364		271	
Boron (B)	mg/l					
Carbonate (CO3)	mg/l		0		0	
Cation-Anion Balance	%		1.5		1.7	
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l					
Chloride (Cl-1)	mg/l		18.4		4.25	
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (Fl)	mg/l					
Iron (Fe) Dissolved	mg/l		0.17		0.11	
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l		991		34.4	
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l		196		18.3	
Manganese (Mn)	mg/l		0.03		<0.02	
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l		<0.25		<0.25	
Potassium (K)	mg/l		7.51		1.16	
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l		16.5		3.3	
Zinc (Zn)	mg/l					

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1992

	ST-2B			ST-3		
	Apr.	May	Jun.	Apr.	May	Jun.
Sample Date	4/24/92	5/12/92	6/11/92	4/24/92	5/12/92	6/12/92
Sample Time	1140	1120	0915	1050	1330	0855
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate gpm	319	310	144	31	31	21
Air Temperature deg. F	52	57	58	56	60	55
Water Temperature deg. F	42	47	48	42	51	48
PH units	8.12	8.27	8.20	7.82	8.02	8.05
Conductivity umhos/cm	611	549	522	2910	2950	2590
Dissolved Oxygen ppm	5.5	5.5	6.6	4.4	4.4	4.9
Total Dissolved Solids mg/l		350			2160	
Total Settleable Solids mg/l		0.2			0.2	
Total Hardness (CaCo3) mg/l		309			1390	
Acidity mg/l						
Aluminum (Al) mg/l						
Arsenic (As) mg/l						
Barium (Ba) mg/l						
Bicarbonate (HCO3) mg/l		296			465	
Boron (B) mg/l						
Carbonate (CO3) mg/l		0			0	
Cation-Anion Balance %		1.82			0.1	
Cadmium (Cd) mg/l						
Calcium (Ca) mg/l						
Chloride (Cl-1) mg/l		5.58			614	
Chromium (Cr) mg/l						
Copper (Cu) mg/l						
Fluoride (Fl) mg/l						
Iron (Fe) Dissolved mg/l		0.06			0.07	
Iron (Fe) Total mg/l						
Lead (Pb) mg/l						
Sulfate (SO4-2) mg/l		80.1			605	
Sulfide (SO2-1) mg/l						
Magnesium (Mg) mg/l		37.3			194	
Manganese (Mn) mg/l		0.02			0.12	
Mercury (Hg) mg/l						
Molybdenum (Mo) mg/l						
Nickel (Ni) mg/l						
Nitrogen: Ammonia (NH3) mg/l						
Nitrate (NO3-1) mg/l						
Nitrite (NO2) mg/l						
Oil and Grease mg/l		<0.25			<0.25	
Potassium (K) mg/l		1.89			8.00	
Phosphate Total (PO4-3) mg/l						
Selenium (Se) mg/l						
Sodium (Na) mg/l		5.1			223	
Zinc (Zn) mg/l						

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1992

	ST-3A			ST-3B		
	Apr.	May	Jun.	Apr.	May	Jun.
Sample Date	4/24/92	5/12/92	6/11/92	4/24/92	5/12/92	6/11/92
Sample Time	1005		1130	1050	1545	1415
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate gpm	Dry	Dry	Dry	4.8	3.4	3.4
Air Temperature deg. F				60	62	66
Water Temperature deg. F				52	51	58
PH units				7.95	7.78	7.83
Conductivity umhos/cm				5350	5510	5300
Dissolved Oxygen ppm				5.0	4.5	4.2
Total Dissolved Solids mg/l					3790	
Total Settleable Solids mg/l					<0.1	
Total Hardness (CaCo3) mg/l					1390	
Acidity mg/l						
Aluminum (Al) mg/l						
Arsenic (As) mg/l						
Barium (Ba) mg/l						
Bicarbonate (HCO3) mg/l					443	
Boron (B) mg/l						
Carbonate (CO3) mg/l					0	
Cation-Anion Balance %					0.09	
Cadmium (Cd) mg/l						
Calcium (Ca) mg/l						
Chloride (Cl-1) mg/l					1620	
Chromium (Cr) mg/l						
Copper (Cu) mg/l						
Fluoride (Fl) mg/l						
Iron (Fe) Dissolved mg/l					0.07	
Iron (Fe) Total mg/l						
Lead (Pb) mg/l						
Sulfate (SO4-2) mg/l					354	
Sulfide (SO2-1) mg/l						
Magnesium (Mg) mg/l					5.86	
Manganese (Mn) mg/l					0.12	
Mercury (Hg) mg/l						
Molybdenum (Mo) mg/l						
Nickel (Ni) mg/l						
Nitrogen: Ammonia (NH3) mg/l						
Nitrate (NO3-1) mg/l						
Nitrite (NO2) mg/l						
Oil and Grease mg/l					<0.25	
Potassium (K) mg/l					10.50	
Phosphate Total (PO4-3) mg/l						
Selenium (Se) mg/l						
Sodium (Na) mg/l					746	
Zinc (Zn) mg/l						

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1992

	ST-4			ST-4A		
	Apr.	May	Jun.	Apr.	May	Jun.
Sample Date	4/24/92	5/12/92	6/11/92	4/24/92	5/12/92	6/11/92
Sample Time	1135		1510	1110		1600
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	Dry	Dry	Dry	Dry	Dry
Air Temperature	deg. F					
Water Temperature	deg. F					
PH	units					
Conductivity	umhos/cm					
Dissolved Oxygen	ppm					
Total Dissolved Solids	mg/l					
Total Settleable Solids	mg/l					
Total Hardness (CaCo3)	mg/l					
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l					
Boron (B)	mg/l					
Carbonate (CO3)	mg/l					
Cation-Anion Balance	%					
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l					
Chloride (Cl-1)	mg/l					
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (Fl)	mg/l					
Iron (Fe) Dissolved	mg/l					
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l					
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l					
Manganese (Mn)	mg/l					
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l					
Potassium (K)	mg/l					
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l					
Zinc (Zn)	mg/l					

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

2nd Quarter 1992

	ST-4B			ST-5		
	Apr.	May	Jun.	Apr.	May	Jun.
Sample Date	4/24/92	5/12/92	6/11/92	4/24/92	5/12/92	6/11/92
Sample Time	1120		1530	1145	1420	1445
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	Dry	Dry	292	373	242
Air Temperature	deg. F			70	62	62
Water Temperature	deg. F			52	55	60
PH	units			8.14	8.06	7.95
Conductivity	umhos/cm			1470	1200	1290
Dissolved Oxygen	ppm			5.0	4.5	5.4
Total Dissolved Solids	mg/l				854	
Total Settleable Solids	mg/l				0.1	
Total Hardness (CaCo3)	mg/l				652	
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l				325	
Boron (B)	mg/l					
Carbonate (CO3)	mg/l				0	
Cation-Anion Balance	%				0.42	
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l					
Chloride (Cl-1)	mg/l				57	
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (Fl)	mg/l					
Iron (Fe) Dissolved	mg/l				0.04	
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l				356	
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l				91.2	
Manganese (Mn)	mg/l				0.03	
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l				<0.25	
Potassium (K)	mg/l				4.13	
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l				30.9	
Zinc (Zn)	mg/l					

I/A = Inaccessible

WATER MONITORING REPORT

3rd Quarter 1992

**UNITED STATES FUEL COMPANY
Hiawatha, Utah 84527**

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1992

		ST-1			ST-2		
		Jul.	Aug.	Sep.	Jul.	Aug.	Sep.
Sample Date		7/9/92	8/5/92	9/8/92	7/9/92	8/5/92	9/8/92
Sample Time		0955	1230	1140	0900	1130	1055
Sampled By		Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	51.5	41.2	30.9	89	52	89
Air Temperature	deg. F	65	72	68	65	69	66
Water Temperature	deg. F	59	64	55	51	57	47
PH	units	8.11	8.16	8.10	8.31	8.24	8.19
Conductivity	umhos/cm	1790	1690	1450	490	538	657
Dissolved Oxygen	ppm	5.9	5.4	5.5	5.7	5.5	5.0
Total Dissolved Solids	mg/l			1580			511
Total Settleable Solids	mg/l			<0.1			<0.1
Total Suspended Solids	mg/l			23			5
Total Hardness (CaCo3)	mg/l			1110			476
Acidity	mg/l						
Aluminum (Al)	mg/l						
Arsenic (As)	mg/l						
Barium (Ba)	mg/l						
Bicarbonate (HCO3)	mg/l			432			365
Boron (B)	mg/l						
Carbonate (CO3)	mg/l			<0.10			<0.1
Cation-Anion Balance	%			0.44			1.43
Cadmium (Cd)	mg/l						
Calcium (Ca)	mg/l			181			83.4
Chloride (Cl-1)	mg/l			14.4			6.79
Chromium (Cr)	mg/l						
Copper (Cu)	mg/l						
Fluoride (Fl)	mg/l						
Iron (Fe) Dissolved	mg/l			<0.05			<0.05
Iron (Fe) Total	mg/l						
Lead (Pb)	mg/l						
Sulfate (SO4-2)	mg/l			738			165
Sulfide (SO2-1)	mg/l						
Magnesium (Mg)	mg/l			161			65.1
Manganese (Mn)	mg/l			0.09			0.06
Mercury (Hg)	mg/l						
Molybdenum (Mo)	mg/l						
Nickel (Ni)	mg/l						
Nitrogen: Ammonia (NH3)	mg/l						
Nitrate (NO3-1)	mg/l						
Nitrite (NO2)	mg/l						
Oil and Grease	mg/l			<0.05			<0.5
Potassium (K)	mg/l			6.72			2.98
Phosphate Total (PO4-3)	mg/l						
Selenium (Se)	mg/l						
Sodium (Na)	mg/l			14			7.3
Zinc (Zn)	mg/l						

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1992

	ST-2B			ST-3		
	Jul.	Aug.	Sep.	Jul.	Aug.	Sep.
Sample Date	7/9/92	8/5/92	9/8/92	7/9/92	8/5/92	9/9/92
Sample Time	0930	1215	0930	1025	1430	1105
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	93	62	31	10	5
Air Temperature	deg. F	67	69	64	66	74
Water Temperature	deg. F	55	59	48	58	60
PH	unite	8.26	8.29	8.21	8.17	7.76
Conductivity	umhos/cm	704	726	490	2930	2850
Dissolved Oxygen	ppm	5.6	5.5	4.4	5.5	4.0
Total Dissolved Solids	mg/l			422		2130
Total Settleable Solids	mg/l			<0.1		<0.1
Total Suspended Solids	mg/l			4		12
Total Hardness (CaCo3)	mg/l			334		1170
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l			324		410
Boron (B)	mg/l					
Carbonate (CO3)	mg/l			<0.1		<0.1
Cation-Anion Balance	%			1.56		1.06
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l			68.7		182
Chloride (Cl-1)	mg/l			4.63		544
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (Fl)	mg/l			0.14		0.23
Iron (Fe) Dissolved	mg/l			<0.05		<0.05
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l			84		530
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l			39.5		174
Manganese (Mn)	mg/l			0.08		0.1
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l			<0.5		<0.5
Potassium (K)	mg/l			1.54		8.24
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l			5.7		202
Zinc (Zn)	mg/l					

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1992

	ST-3A			ST-3B		
	Jul.	Aug.	Sep.	Jul.	Aug.	Sep.
Sample Date	7/9/92	8/5/92	9/9/92	7/9/92	8/5/92	9/9/92
Sample Time	1200	1445	0930	1215	1540	1000
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	Dry	Dry	2	1.2	1.2
Air Temperature	deg. F			67	69	64
Water Temperature	deg. F			60	62	49
PH	unite			8.05	7.95	7.92
Conductivity	umhos/cm			5180	4800	4540
Dissolved Oxygen	ppm			5.8	2.2	4.1
Total Dissolved Solids	mg/l					3740
Total Settleable Solids	mg/l					<0.1
Total Suspended Solids	mg/l					9
Total Hardness (CaCo3)	mg/l					1300
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l					488
Boron (B)	mg/l					
Carbonate (CO3)	mg/l					<0.1
Cation-Anion Balance	%					0.61
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l					291
Chloride (Cl-1)	mg/l					1410
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (F)	mg/l					0.19
Iron (Fe) Dissolved	mg/l					<0.05
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l					357
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l					140
Manganese (Mn)	mg/l					0.19
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l					<0.5
Potassium (K)	mg/l					10.20
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l					652
Zinc (Zn)	mg/l					

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1992

	ST-4			ST-4A		
	Jul.	Aug.	Sep.	Jul.	Aug.	Sep.
Sample Date	7/9/92	8/5/92	9/8/92	7/9/92	8/5/92	9/8/92
Sample Time	1430	1625	1335	1230	1555	1250
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	Dry	Dry	Dry	Dry	Dry
Air Temperature	deg. F					
Water Temperature	deg. F					
PH	units					
Conductivity	umhos/cm					
Dissolved Oxygen	ppm					
Total Dissolved Solids	mg/l					
Total Settleable Solids	mg/l					
Total Suspended Solids	mg/l					
Total Hardness (CaCo3)	mg/l					
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l					
Boron (B)	mg/l					
Carbonate (CO3)	mg/l					
Cation-Anion Balance	%					
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l					
Chloride (Cl-1)	mg/l					
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (Fl)	mg/l					
Iron (Fe) Dissolved	mg/l					
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l					
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l					
Manganese (Mn)	mg/l					
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l					
Potassium (K)	mg/l					
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l					
Zinc (Zn)	mg/l					

I/A = Inaccessible

QUARTERLY STREAM MONITORING REPORT

3rd Quarter 1992

	ST-4B			ST-5		
	Jul.	Aug.	Sep.	Jul.	Aug.	Sep.
Sample Date	7/9/92	8/5/92	9/8/92	7/9/92	8/5/92	9/9/92
Sample Time	1248	1610	1310	1450	1525	0845
Sampled By	Eccli	Eccli	Eccli	Eccli	Eccli	Eccli
Flow Rate	gpm	Dry	Dry	Dry	118	74
Air Temperature	deg. F				78	70
Water Temperature	deg. F				69	66
PH	units				8.22	8.21
Conductivity	umhos/cm				1510	1490
Dissolved Oxygen	ppm				5.5	6.1
Total Dissolved Solids	mg/l					1320
Total Settleable Solids	mg/l					<0.10
Total Suspended Solids	mg/l					5
Total Hardness (CaCo3)	mg/l					827
Acidity	mg/l					
Aluminum (Al)	mg/l					
Arsenic (As)	mg/l					
Barium (Ba)	mg/l					
Bicarbonate (HCO3)	mg/l					365
Boron (B)	mg/l					
Carbonate (CO3)	mg/l					<0.10
Cation-Anion Balance	%					0.12
Cadmium (Cd)	mg/l					
Calcium (Ca)	mg/l					123
Chloride (Cl-1)	mg/l					66.4
Chromium (Cr)	mg/l					
Copper (Cu)	mg/l					
Fluoride (Fl)	mg/l					0.18
Iron (Fe) Dissolved	mg/l					<0.05
Iron (Fe) Total	mg/l					
Lead (Pb)	mg/l					
Sulfate (SO4-2)	mg/l					509
Sulfide (SO2-1)	mg/l					
Magnesium (Mg)	mg/l					126
Manganese (Mn)	mg/l					0.09
Mercury (Hg)	mg/l					
Molybdenum (Mo)	mg/l					
Nickel (Ni)	mg/l					
Nitrogen: Ammonia (NH3)	mg/l					
Nitrate (NO3-1)	mg/l					
Nitrite (NO2)	mg/l					
Oil and Grease	mg/l					<0.50
Potassium (K)	mg/l					4.89
Phosphate Total (PO4-3)	mg/l					
Selenium (Se)	mg/l					
Sodium (Na)	mg/l					40.5
Zinc (Zn)	mg/l					

I/A = Inaccessible