

PERMIT AMENDMENT APPROVAL

Title: HYDROLOGIC DATA	PERMIT NUMBER: ACT/007/035
Description: COARSE REFUSE TOE POND	PERMIT CHANGE #: 930
	MINE: REFUSE & SQUIREY
	PERMITTEE: SCA

WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL

YES, NO or N/A

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

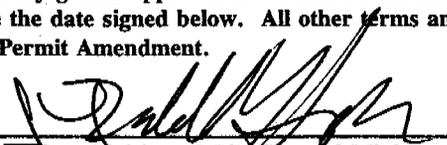
SPECIAL CONDITIONS OR STIPULATIONS TO THE PERMIT AMENDMENT APPROVAL

YES NO

1. Are there any variances associated with this permit amendment approval? If yes, attach.			
2. Are there any special conditions associated with this permit amendment approval? If yes, attach.	X		
3. Are there any stipulations associated with this permit amendment approval? If yes, attach.			

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

Signed


Director, Division of Oil, Gas and Mining

1-13-94
EFFECTIVE DATE



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

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

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

PERMIT CHANGE
SPECIAL CONDITIONS TO THE PERMIT
ACT/007/035-930
January 13, 1994

The Division hereby approves Permit Change ACT/007/035-930 for incorporation into the plan, subject to the following Special Conditions:

1. The text, drawings, plans and other information included in this proposed permit change have been found sufficiently complete for incorporation of the information into the plan. The Division has accepted this information as an Amendment to the currently approved Plan subject to the provisions of violation N93-13-2-1. Any changes ordered by the Division following the Division's technical review for abatement of violation N93-13-2-1 may require changes to the information provided in this Permit Change.



PERMIT CHANGE TRACKING FORM

DATE RECEIVED	November 30, 1993	PERMIT NUMBER	ACT/007/035
Title of Proposal:	Hydrologic Data	PERMIT CHANGE #	930
Description:	Hydrologic Data for Coarse Refuse Toe Pond	PERMITTEE	Sunnyside Cogeneration Assoc.
		MINE NAME	Sunnyside Refuse/Slurry

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

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input checked="" type="checkbox"/> Administrative <i>JK</i>		1-13-94				
<input type="checkbox"/> Biology						
<input type="checkbox"/> Engineering						
<input type="checkbox"/> Geology						
<input type="checkbox"/> Soils						
<input type="checkbox"/> Hydrology						
<input type="checkbox"/> Bonding						
<input type="checkbox"/> AVS Check						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<input type="checkbox"/> US Forest Service						
<input type="checkbox"/> Bureau of Land Management						
<input type="checkbox"/> US Fish and Wildlife Service						
<input type="checkbox"/> US National Parks Service						
<input type="checkbox"/> UT Environmental Quality						
<input type="checkbox"/> UT Water Resources						
<input type="checkbox"/> UT Water Rights						
<input type="checkbox"/> UT Wildlife Resources						
<input type="checkbox"/> UT State History						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)		<input checked="" type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied.	
<input type="checkbox"/> Copies of permit change marked and ready for MRP.		<input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.	
<input checked="" type="checkbox"/> Special Conditions/Stipulations written for approval.	1-13-94	<input type="checkbox"/> Copy of Approved Permit Change to File.	
<input type="checkbox"/> TA and CHIA modified as required.		<input type="checkbox"/> Copy of Approved Permit Change to Permittee.	

SUNNYSIDE COGENERATION ASSOCIATES

POST OFFICE BOX 58087
SALT LAKE CITY, UTAH 84158-0087

November 30, 1993

Randy Harden
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RECEIVED

NOV 30 1993

DIVISION OF
OIL, GAS & MINING

Dear Randy:

Enclosed with this submittal is the hydrologic data and calculations showing that the 36" CMP north of the Coarse Refuse Toe Pond will carry the peak flow from the 100 year 6 hour storm. These calculations can be inserted with miscellaneous flows in Appendix 7-3.

Also included is a revision of the text for Chapter Seven. This includes an addition to the list of plates and statements concerning use of sediment fences to improve erosion control. Although only relatively few pages have changed, the entire chapter is submitted to avoid the time required to shuffle individual pages into the existing document.

Sincerely,

S.S.C. for
David R Pearce

Authorized Member, Management Committee

Scott Carlson

Scott Carlson

Engineer

Eckhoff, Watson and Preator Engineering

cc: Brian Burnett/Callister, Duncan and Nebeker

APPLICATION FOR PERMIT CHANGE

Title of Change: <h2 style="text-align: center;">SUNNYSIDE COGENERATION ASSOCIATES</h2> <p style="text-align: center;">Hydrologic Calculations - Appendix 7-3</p>	Permit Number: PRO/007/035 <hr/> Mine: Sunnyside Cogen. Assoc. <hr/> Permittee: Sunnyside Cogen. Assoc.
--	--

Description - include reason for change and timing required to implement:
 DOGM requirement for calcs of all miscellaneous flows -- 36" CMP North of the Coarse Refuse Toe Pond
 Revise Chapter 7 text to include statements about possible siltation fencing

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

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

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

Alane E. Boyd, P.E. 11/29/93

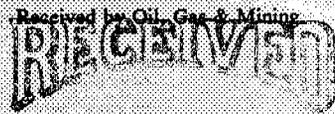
Signed - Name - Position - Date

Subscribed and sworn to before me this 29th day of November, 1993

Notary Public



My Commission Expires: _____
 Attest: STATE OF _____
 COUNTY OF _____



NOV 30 1993

OIL, GAS & MINING

930

NOTARY PUBLIC
MARILLYN YOUNG
 1121 E. 3900 So. #C 100
 Salt Lake City, Utah 84124
 My Commission Expires
 March 8, 1997
 STATE OF UTAH

SUNNYSIDE COGENERATION ASSOCIATES

POST OFFICE BOX 58087
SALT LAKE CITY, UTAH 84158-0087

*Ken
for your review*

November 30, 1993

Randy Harden
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RECEIVED

NOV 30 1993

DIVISION OF
OIL, GAS & MINING

Dear Randy:

Enclosed with this submittal is the hydrologic data and calculations showing that the 36" CMP north of the Coarse Refuse Toe Pond will carry the peak flow from the 100 year 6 hour storm. These calculations can be inserted with miscellaneous flows in Appendix 7-3.

Also included is a revision of the text for Chapter Seven. This includes an addition to the list of plates and statements concerning use of sediment fences to improve erosion control. Although only relatively few pages have changed, the entire chapter is submitted to avoid the time required to shuffle individual pages into the existing document.

Sincerely,

S.S.C. for
David R Pearce

Authorized Member, Management Committee

S. Scott Carlson

Scott Carlson
Engineer
Eckhoff, Watson and Preator Engineering

cc: Brian Burnett/Callister, Duncan and Nebeker

APPLICATION FOR PERMIT CHANGE

Title of Change:

SUNNYSIDE COGENERATION ASSOCIATES

Hydrologic Calculations - Appendix 7-3

Permit Number: PRO/007/035

Mine: Sunnyside Cogen. Assoc.

Permittee: Sunnyside Cogen. Assoc.

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

DOGMA requirement for calcs of all miscellaneous flows -- 36" CMP North of the Coarse Refuse Toe Pond
Revise Chapter 7 text to include statements about possible siltation fencing

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

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

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

Alane E. Boyd, P.E. 11/29/93
Signed - Name - Position - Date

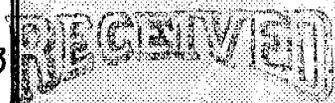
Subscribed and sworn to before me this _____ day of _____, 1993.

Marilyn Young
Notary Public
3/8/97
Salt Lake



NOTARY PUBLIC
MARILYN YOUNG
1121 E. 3900 So. #C 300
Salt Lake City, Utah 84124
My Commission Expires
March 8, 1997
STATE OF UTAH

Received by Oil, Gas & Mining



NOV 30 1993

ASSIGNED PERMIT CHANGE NUMBER
OIL, GAS & MINING

My Commission Expires:
Attest: STATE OF
COUNTY OF

SUNNYSIDE COGENERATION ASSOCIATES

POST OFFICE BOX 58087
SALT LAKE CITY, UTAH 84158-0087

November 30, 1993

Randy Harden
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Randy:

Enclosed with this submittal is the hydrologic data and calculations showing that the 36" CMP north of the Coarse Refuse Toe Pond will carry the peak flow from the 100 year 6 hour storm. These calculations can be inserted with miscellaneous flows in Appendix 7-3.

Also included is a revision of the text for Chapter Seven. This includes an addition to the list of plates and statements concerning use of sediment fences to improve erosion control. Although only relatively few pages have changed, the entire chapter is submitted to avoid the time required to shuffle individual pages into the existing document.

Sincerely,


David R Pearce

Authorized Member, Management Committee



Scott Carlson

Engineer

Eckhoff, Watson and Preator Engineering

cc: Brian Burnett/Callister, Duncan and Nebeker

APPLICATION FOR PERMIT CHANGE

Title of Change:

SUNNYSIDE COGENERATION ASSOCIATES

Hydrologic Calculations - Appendix 7-3

Permit Number: PRO/007/035

Mine: Sunnyside Cogen. Assoc.

Permittee: Sunnyside Cogen. Assoc.

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

DOGMA requirement for calcs of all miscellaneous flows -- 36" CMP North of the Coarse Refuse Toe Pond
Revise Chapter 7 text to include statements about possible siltation fencing

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

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

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

Alam E. Boyd, P.E. 11/29/93
Signed - Name - Position - Date

Subscribed and sworn to before me this _____ day of _____, 1993.
Notary Public



NOTARY PUBLIC
MARILLYN YOUNG
1121 E. 3900 So. #C 300
Salt Lake City, Utah 84124
My Commission Expires
March 8, 1997
STATE OF UTAH

Received by Oil, Gas & Mining

NOV. 30, 1993

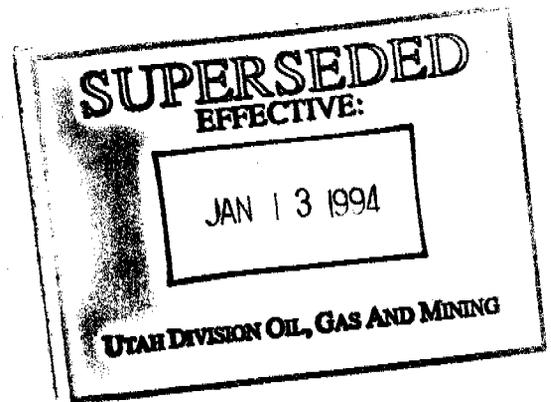
My Commission Expires:
Asst: STATE OF
COUNTY OF

ASSIGNED PERMIT CHANGE NUMBER

930

**APPENDIX 7-3
HYDROLOGIC DESIGN OF SEDIMENT PONDS**

(NOT COMPLETELY UPDATED AT THIS TIME. PLEASE SEE PREVIOUS SUBMITTAL FOR INFORMATION ON CLEAR WATER POND, RAILCUT POND, COARSE REFUSE TOE POND, AND BORROW AREA POND.)



September 15, 1993

TABLE OF CONTENTS (cont'd)
CHAPTER SEVEN
R645-301-700 (HYDROLOGY)

PLATES

- Plate 7-1, Hydrologic Index Map
- Plate 7-1A, Pasture Pond Drainage
- Plate 7-1B, Old Coarse Refuse Road Pond Drainage
- ~~Plate 7-1C, Coarse Refuse Toe Pond Drainage~~
- ~~Plate 7-1D, Rail Cut Pond Drainage~~
- Plate 7-2, Baseline Water Monitoring Locations
- Plate 7-3, Operational (UPDES) Water Monitoring Locations
- Plate 7-4, Coal Slurry Water Sediment Control System
- Plate 7-5, Slurry Ditch and Surrounding Areas Drainage Patterns
- Plate 7-6, Diversion and Culvert Locations
- Plate 7-7, Course Refuse Toe Sediment Pond Design
- Plate 7-8, Rail Cut Sediment Pond Design and Topsoil Pile
- Plate 7-9, Pasture Sediment Pond Design
- Plate 7-10, Old Coarse Refuse Road Sediment Pond Design
- Plate 7-11, Borrow Area Sediment Pond Design
- Plate 7-11B, Borrow Area Pond Drainage
- Plate 7-12, East and West Slurry Cell Design
- Plate 7-13, Coarse Refuse Toe Sediment/Rail Cut Sediment Pond Cross-sections
- Plate 7-14, Old Coarse Refuse Road/Pasture Pond Cross-sections
- Plate 7-15, Borrow Area Pond Cross-section
- Plate 7-16, East and West Slurry Cell Cross-sections

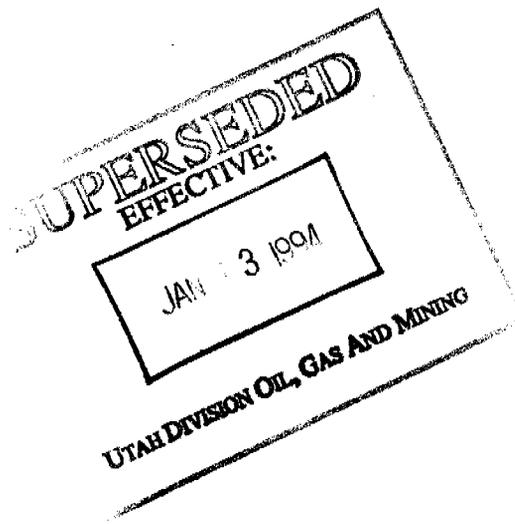


TABLE OF CONTENTS
CHAPTER SEVEN
R645-301-700 (HYDROLOGY)

R645-301-700 HYDROLOGY

710 Introduction	700-1
720 Environmental Description	700-2
730 Operation Plan	700-10
740 Design Criteria and Plans	700-15
750 Performance Standards	700-23
760 Reclamation	700-25

LIST OF FIGURES

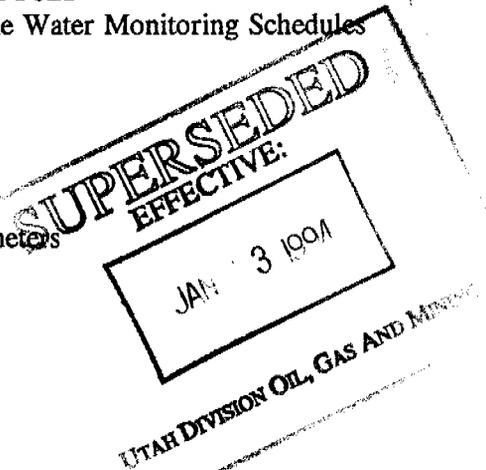
- Figure 7-1, Appropriation Certificate of East Carbon City Water Well
- Figure 7-2, Underground Water Rights Search

APPENDICES

- Appendix 7-1, UPDES Permit
- Appendix 7-2, Climatology Data from the Utah Climate Center
- Appendix 7-3, Hydrologic Design of Sediment Ponds
- Appendix 7-4, Baseline Water Quality Data
- Appendix 7-5, Special Coarse Refuse Use Study Report
- Appendix 7-6, Coarse Refuse Seep Water Quality Results
- Appendix 7-7, Hydrologic Data for Areas not Served by a Sediment Pond
- Appendix 7-8, Operational (UPDES) Water Monitoring and Baseline Water Monitoring Schedules

***TABLES**

- Table 7-1A, Operational (UPDES) Water Monitoring Locations
- Table 7-1B, Operational (UPDES) Water Quality Monitoring Parameters
- Table 7-2A, Baseline Water Monitoring Locations
- Table 7-2B, Baseline Water Monitoring Quality Parameters



*All tables are included in Appendix 7-8, Operational (UPDES) Water Monitoring and Baseline Water Monitoring Schedules.

CHAPTER SEVEN 700 HYDROLOGY

710 thru 712 INTRODUCTION

Sunnyside Coal Company's (SCC) refuse disposal area has been acquired by Sunnyside Cogeneration Associates (SCA) to serve as a long-term supply of waste fuel for its coal mine waste-to-energy facility, located adjacent to the SCA Permit Area. SCA has contracted with SCC to provide alternative disposal for coal mine waste generated by SCC, both past and future. SCA's alternative energy project has been approved by the Federal Energy Regulatory Commission as a Qualifying Facility, based on the usage of coal mine waste as fuel in its fluidized-bed combustion boiler. SCA will use both "active waste", from the processing plant, and "accumulated waste", from the refuse pile, as sources of waste fuel for the facility. SCA's fueling plan will require excavation of coal mine waste from the existing refuse pile, beginning as early as January 1993, and continuing for approximately thirty years.

Based on SCA's contract for the sale of electricity to Utah Power and Light, handling coal mine waste to serve as an alternative energy fuel will be a consistent and continuous process. Coal mine waste that continues to be generated by SCC's preparation plant will also be factored into SCA's fueling strategy, which can allow direct acceptance of coal mine waste at the facility, or temporary placement within the refuse disposal area prior to utilization.

SCA will excavate coal mine waste from the refuse disposal area based on detailed sampling and analyses and a materials handling plan which will be continuously updated by SCA. Excavation of the coal mine waste will be considerate of material quality, pile and embankment stability, and mine operation. Over the life of SCA's facility, nearly all of the coal mine waste will be burned to generate electricity, resulting in significantly less material that will need final reclamation. Final reclamation of the refuse pile will be accomplished after all of the coal mine waste is either burned as a fuel, or repositioned within the refuse disposal area for final disposal, if determined to be non-combustible (i.e., ashes, rock).

The information in this chapter includes hydrologic resources (both surface and groundwater), proposed operations and potential impacts on hydrology, methods and calculations used in hydrologic design. Performance standards and reclamation activities are discussed in Chapter Nine and Ten..

Cross sections, maps, plans, and analytical data included in this chapter have been taken from previous applications for the SCC mines on file at the Utah Division of Oil Gas and Mining (DOGMM); or from previously issued reports prepared by other consultants. As such, the appropriate cross sections, maps, and plans were certified by the authors. It should be noted that Eckhoff, Watson and Preator Engineering has compiled and relied on data and maps from previous approved permits for the SCC mines. The hydrology section has been appended to reflect the SCA Permit Area. In this chapter where the "permit area" is referred to, the SCA Permit Area is to be assumed unless the larger overall area for the SCC is specifically referred to in the text as the "original SCC permit area."

Currently, there are activities that occur outside the Sunnyside Cogeneration Associates Permit Boundary that have significant bearing on the operations of the SCA Cogeneration facility and the SCA Permit Area. These activities occur in conjunction with the SCA permit site

700-1

SUPERSEDED
EFFECTIVE:

JAN 13 1991

September 15, 1993

UTAH DIVISION OIL, GAS AND MINING

As discussed in other areas of the PAP, Sunnyside Coal Company's (SCC) refuse disposal area has been acquired by SCA to serve as a long-term supply of waste fuel for its coal mine waste-to-energy facility, located adjacent to the SCA Permit Area. SCA has contracted with SCC to provide alternative disposal for coal mine waste generated by SCC, both past and future. In order for SCA to acquire the quality and quantity of fuel for the cogeneration facility, coarse refuse is accepted from the SCC mine on a continual basis. The refuse is stockpiled in designated areas within the SCA permit site then mixed with existing refuse on the SCA permit site and transported to the cogeneration facility. These operations; acceptance of coarse refuse from the SCC mine and the transporting of coarse refuse to the cogeneration facility, requires access roads that extend beyond the limits of the SCA permit boundary. The main access for the transferring of coarse refuse from the SCC mine begins at the SCC mine and extends to the northeast side of the SCA Permit boundary. To transport coarse refuse from the SCA Permit Area to the cogeneration facility, the access road lies within the SCA permit boundary, with the exception of approximately 300 feet that extends beyond the SCA Permit Area north of the boundary line near the cogeneration facility.

In addition to the access roads mentioned above, there are access roads to the south of the SCA permit boundary that are utilized for the purposes of the SCA operations. These roads are utilized to access areas of the SCA permit site that are inaccessible from the north side of the permit area. They are used by authorized contractors of SCA for the purposes of such activities as: water quality monitoring, periodic inspections, and site maintenance as needed.

Activities that occur outside the SCA Permit Area also include watersheds outside the permit area that drain into contained areas within the permit area. Chapter Seven of the PAP outlines these watersheds and the areas to which they drain. Also included are detailed maps and calculations showing the amount of water from each watershed and the capacity of the drainages and ponds that were constructed to contain them. In some instances, a drainage commencing within the SCA Permit Area may extend beyond the limits of the SCA permit boundary. An example of this is the outlet of the Pasture Sediment Pond. In such a case, SCA commits to maintaining this drainage and providing the necessary information to the Division to show its adequacy to handle the required storm event. In the event that this occurs elsewhere within the permit area, SCA will handle each instance on a case-by-case basis and notify the DOGM of any proposed changes to the PAP.

It should be noted that the SCA operations encompass a number of entities that do not necessarily lie or operate within the permitted area. The activities that occur outside of the permitted area are done so in a controlled manner, under permits from other agencies, and have been incorporated into the entire design and plan of the SCA Cogeneration facility. SCA understands the implications of utilizing entities outside of the permitted area and commits to maintaining the applicable areas in accordance with DOGM requirements.

SUPERSEDED
EFFECTIVE
JAN 13 1991
UTAH DEPARTMENT OF OIL, GAS AND MINING

713 IMPOUNDMENT INSPECTIONS

There are ten existing impoundments within the SCA Permit Area which have been, and will continue to be used during the remining and reclamation operations. These impoundments will control sediment from SCA's refuse excavation activities as well as some of the SCC mining operations. The impoundments are described in sections 732 and 733. All impoundments will be inspected quarterly for structural stability and proper performance by a qualified individual, in accordance with R645-301-514.300, as required in regulation 713.

720 ENVIRONMENTAL DESCRIPTION

721 HYDROLOGIC RESOURCES

This section of the Permit Application describes the groundwater and surface hydrology for the SCA Permit Area, and adjacent areas. Cross sections and maps showing the locations of subsurface and surface hydrologic features are described here, and are found in the exhibits of this chapter. The locations of monitoring stations used to gather baseline data on water quality and quantity are provided in these maps.

Groundwater has been encountered in the permit area on a limited basis. The various drilling records discussed in Chapter Six do not indicate the presence of groundwater in any of the holes drilled in the SCA Permit Area. This includes some holes over 200 ft deep, which reach the bed rock.

The only perennial surface stream within the SCA Permit Area is Iceland Creek. Grassy Trail Creek, which drains Whitmore Canyon, is a perennial stream which flows through the area immediately north of the SCA Permit Area. Tributaries to Iceland Creek flow around both the northwest and the south borders of the SCA Permit Area. The surface water hydrology is discussed in greater detail in various sections of this chapter.

A more detailed description of surface and groundwater hydrology is found within Section 722 with water quality issues being discussed in Section 724.

722 CROSS SECTIONS AND MAPS

The cross sections and maps required are described in sections 722.100 thru 722.500. The cross sections and maps relevant to this chapter consist of the following:

- Plate 5-4, Culvert and Ditch Protection
- Plate 5-6, Existing Refuse Piles Limits
- Plate 5-7, Slope Stability Criteria Map
- Plate 6-3, Index Map (Cross Section Locations, Map View)
- Plate 6-4 thru 6-6, Cross Sections AA', BB', and CC'
- Plate 7-1, Hydrologic Index Map
- Plate 7-1A, Pasture Pond Drainage
- Plate 7-1B, Old Coarse Refuse Road Pond Drainage
- ~~Plate 7-1C, Coarse Refuse Toe Pond Drainage~~
- ~~Plate 7-1D, Rail Cut Pond Drainage~~
- Plate 7-2, Baseline Water Monitoring Locations
- Plate 7-3, Operational (UPDES) Water Monitoring Locations
- Plate 7-4, Coal Slurry Water Sediment Control System
- Plate 7-5, Slurry Ditch and Surrounding Areas Drainage Patterns
- Plate 7-6, Diversion and Culvert Locations
- Plate 7-7, Course Refuse Toe Sediment Pond Design
- Plate 7-8, Rail Cut Sediment Pond Design and Topsoil Pile
- Plate 7-9, Pasture Sediment Pond Design
- Plate 7-10, Old Course Refuse Road Sediment Pond Design

SUPERSEDED
EFFECTIVE:

JAN 13 1994

UTAH DIVISION OIL, GAS AND MINING

- Plate 7-11, Borrow Area Sediment Pond Design
- Plate 7-11B, Borrow Area Pond Drainage
- Plate 7-12, East and West Slurry Cell Design
- Plate 7-13, Coarse Refuse Toe Sediment/Rail Cut Sediment Pond Cross-sections
- Plate 7-14, Old Coarse Refuse Road/Pasture Pond Cross-sections
- Plate 7-15, Borrow Area Pond Cross-section
- Plate 7-16, East and West Slurry Cell Cross-sections
- Plate 9-1, Reclamation Sequencing
- Plate 10-1, Final Reclamation Plan

722.100 Location and Extent of Subsurface Water

As discussed above, drilling records of the SCA Permit Area show that little groundwater was encountered in the holes drilled in the SCA Permit Area. This includes drill holes over 200 ft. deep and into bedrock.

722.200 Location of Surface Water Bodies

The natural surface streams in and adjacent to the SCA Permit Area include Grassy Trail Creek (north of the SCA Permit Area) and Icelander Creek tributaries (border the northwest and southern portions of the SCA Permit Area). No water from Grassy Trail Creek enters the permit area, and no water from the SCA Permit Area discharges into it. Therefore, Grassy Trail Creek is not discussed further in this chapter.

West of the northern portion of the SCA Permit Area is a spring which feeds Icelander Creek. The location of this spring is shown in Plate 7-2. It is labeled by its monitoring station number, F-2.

The SCA Permit Area has been used as the refuse disposal area for the SCC mines for many decades. Six sedimentation ponds have been constructed in the area, with collector ditches, to control runoff sediment from the roads and disturbed areas. Other existing water bodies include four slurry ponds used in the disposal of coal fines from the Sunnyside mine processing plant. Slurry from the plant carries the fines to the ponds in the slurry channel.

The locations of all the water bodies mentioned above are shown on Plates 7-1 and 7-6. All water bodies mentioned above, except Grassy Trail Creek, are discussed in more detail in various sections of this chapter.

SUPERSEDED
EFFECTIVE
JAN 21 1994

722.300 Location of Monitoring Stations

The baseline water quality monitoring stations are shown on ~~Plate 7-2~~. The locations of Operational (UPDES) water monitoring sites are shown separately on Plate 7-3.

UTAH DIVISION OIL, GAS AND MINING

722.400 Location of Water Wells

There is only one water well within a 1 mile radius of the SCA Permit Area. It is located north of the western portion of the permit boundary near the railroad tracks. The well location is shown in Plate 7-2. This well is certified as having a 200 ft collection gallery which begins at the bottom of a 48 ft. shaft. The water right is described in section 724.100.

722.500 Contour Maps

The contours of the SCA Permit Area are shown in Plate 7-1. The topography of the area is also shown in cross sections AA', BB', and CC', (Plates 6-4 through 6-6). Cross section locations are shown in Plate 6-3.

723 SAMPLING AND ANALYSIS

All water quality analyses and sampling will be performed according to the methodology set forth in the current edition of "Standard Methods for the Examination of Water and Wastewater" or according to the methodology in 40.CFR Parts 136 and 434.

724 BASELINE INFORMATION

724.100 Ground Water Information

An underground water rights search showed one appropriated water well in the area adjacent to the SCA Permit Area. The water rights are held by East Carbon City, but will be used by SCA in the cogeneration facility pursuant to a contract. The certificate of appropriation is shown in Figure 7-1. The search was conducted on a one mile radius around the south quarter corner of section 6, T 15 S, R 14 E. The results of the water rights search are shown in Figure 7-2.

There is a spring approximately 1/4 mile west of the SCA Permit Area. This spring and the East Carbon City well are both shown in Plate 7-2. The spring, labeled F-2, flows into Icelander Creek, and becomes subject to the water rights and irrigation uses of Icelander Creek. This spring is also the subject of a contract between East Carbon City and SCA. The water from the spring will be used in the cogeneration facility. Baseline water quality data is found in Appendix 7-4.

724.200 Surface Water Information

Icelander Creek

Tributaries to Icelander Creek are found near the northwest and southern boundaries of the SCA Permit Area. One tributary lies just outside of the northwestern border, another tributary cuts in and out of the southern border. The Utah Division of Water Quality has classified Icelander Creek as 3C (protected for non-game fish and other aquatic life, including the necessary organisms in their food chain), and 4 (protected for agricultural uses including irrigation of crops and stock watering).

Slurry Water

The only water flowing onto the SCA Permit Area is in the slurry ditch from the SCC preparation plant. This slurry water is filtered in the slurry ponds and further settles in the Clear Water Pond, or it is sent to the east slurry cell and evaporated. Outfall from the Clear Water Pond is channeled to the Icelander tributary north of the SCA Permit Area.

UTAH DIVISION OIL, GAS AND MINING

JAN 13 1994

Drainage and Sediment Control System

There is a system of collector ditches throughout the area to collect runoff from roads and disturbed areas. These flow into the six sedimentation ponds found periodically around the permit boundary. These ponds outfall into the previously mentioned Icelander tributaries, if they fill to their decant drains. The discharges to the Icelander drainage must be adequate in quality to be suitable for the irrigation uses downstream. The discharges are subject to the UPDES permit limitations discussed later in this chapter.

The six sedimentation ponds are described as follows:

<u>Outfall No.</u>	<u>Location</u>	
004	Clear Water Pond Lat: 39° 32' 52" Long: 110° 23' 11"	Mine water discharged from coal preparation plant to slurry settling pond. Outfall is to Grassy Trail Creek.
007	Rail Cut Pond Lat: 39° 32' 14" Long: 110° 23' 48"	Surface runoff discharged from sediment ponds to Icelander Creek.
008	Old Coarse Refuse Pond Lat: 39° 32' 20" Long: 110° 23' 03"	Surface runoff discharged from sediment ponds to Icelander Creek.
009	Pasture Pond Lat: 39° 32' 36" Long: 110° 23' 58"	Surface runoff discharged from sediment ponds to Icelander Creek.
012	Coarse Refuse Toe Lat: 39° 32' 28" Long: 110° 23' 58"	Surface runoff discharged from sediment ponds to Icelander Creek.
016	Borrow Area Pond Lat: 39° 32' 25" Long: 110° 23' 45"	Sedimentation pond containing runoff from soil borrow area. Discharge to Icelander Creek.

SUPERSEDED
EFFECTIVE
JAN 13 1994
UTAH DIVISION OIL, GAS AND MINING

Baseline water quality data has been obtained for the Baseline Data Monitoring Stations shown on Plate 7-2. The data are found in Appendix 7-4.

The water quality data shows that the discharge from station 004 generally meets the limitations of the UPDES permit. The discharge from the Coarse Refuse Toe Sediment Pond is within the limitations except for the TDS concentrations. Discharge has occurred only once in the last three years.

There is an additional area located north of the Clear Water Pond which has surface runoff that does not discharge into a sediment pond. The Best Technology Currently Available (BTCA) will be implemented for this area. It should be noted that the information included in this chapter concerning this area is supplemental to information and data implemented in the SCC PAP.

The area is approximately 0.7% (1.9 acres) of the Total Disturbed Area. This area will not cause impacts to the soil resources nor are there anticipated impacts to the vegetative and/or wildlife resources. The area currently lies in the "Post-Disturbed Area" as shown on Plate 3-1. The vegetative cover protects the area from wind and water erosion, thus, no additional sediment and/or erosion control methods will be implemented.

724.300 thru 724.320 Geologic Information

The geology of the surrounding areas described in detail in section R645-301-624. In summary, the SCA Permit Area consists of alluvial fan deposits overlying pediment deposits, which overlay a deep Mancos Shale layer. The Mancos Shale is exposed along the southern border of the permit area. The combined alluvium and pediment deposits range from in thickness from a few feet to about one hundred feet. This natural geology has since been overlaid with refuse in several areas of the SCA Permit Area.

There has been very little groundwater encountered in the SCA Permit Area drilling explorations, and consequently the proposed operations are projected to have a negligible effect on groundwater. The operations will not affect the surface water quality. The proposed excavations will be designed such that the existing and sedimentation ponds will not be disturbed.

724.400 thru 724.410 Climatological Information

A statement of climatological factors which are representative of the SCA Permit Area are included in sections 724.411 thru 724.413. These factors include estimates of average precipitation, prevailing winds, and seasonal temperature ranges. Climate averages and data were obtained from The Utah Climate Center at Utah State University. The data tables are found in Appendix G. The measurements were made at the Sunnyside mine weather station, which operated from 1984 thru 1988, and at the Sunnyside City Center station which has operated since 1989. The averages reported here are from the five years of data measured at the Sunnyside mine station.

STIPULATED SUPERSEDED
EFFECTIVE
JAN 1989
UTAH DIVISION OIL, GAS AND MINING

724.411 Average Precipitation

The average annual precipitation for the Sunnyside area is 15 inches. The rainfall amounts are fairly evenly distributed from March to November, averaging 1.4 inches per month. The total snowfall accumulations average 41 inches per winter. Snow can begin in October and can continue through April.

724.412 Average Wind Direction and Velocity

The Utah Weather Guide estimates that the wind velocities, in the area of the Price weather station, average 3.3 miles per hour for an entire year. March and April have the highest wind averages. The average velocity for these months is 5 miles per hour for the entire month. No prevailing wind direction is listed in the Weather Guide.

724.412 Seasonal Temperature Ranges

The hottest month in the Sunnyside area is July. The average maximum temperature for a day in July is 82°F, the average minimum temperature is 54°F. The coldest month is January, with an average daily maximum of 33°F, and an average daily minimum of 12.9°F.

724.420 thru 724.500 Additional Information

No additional or supplemental information has been requested by DOGM at this time.

724.600 Survey of Aquifer Recharge Lands

Groundwater aquifers have not been encountered in the SCA Permit Area. The drilling records presented in Chapter Six, Geology, suggest that if an aquifer does exist, that it is deep in the Mancos Shale layer, or lower. The proposed operations will therefore have negligible effect on groundwater aquifers.

724.700 Alluvial Valley Floor Determination

The following discussion demonstrates that the SCA Permit Area and the downstream areas receiving discharge from the SCA Permit Area are not appropriately classified as alluvial valley floors. The proposed operations should therefore not be subject to the special requirements of R645-302.320.

Statutory language specifically excludes "upland areas" for consideration as alluvial valley floors [P.L. 95-87, 701(1)]. The areas to be excluded from consideration include the upper portion of alluvial fans, pediment surfaces, etc. Areas underlain by bedrock and covered with residual weathered material and debris deposited by sheet and rill wash are also upland areas.

All of these descriptions can be applied to the SCA Permit Area. The geology of the SCA Permit Area consists primarily of alluvial fan and pediment deposits, at the base of the Book Cliffs, in the lower Price River drainage. In the steeper southern and western portions of the SCA Permit Area the bed rock Mancos Shale layer is very near the ground surface. Just a few feet of sheet and rill wash cover this layer. Further to the south and west is an area classified as additional alluvial fan deposits.

Icelander Creek tributaries flow through the areas to the south and to the northwest of the SCA Permit Area, however, it is a small creek and has carved only a shallow channel in the alluvial fan deposits. All the surface discharge from the SCA Permit Area flows into the Icelander drainage.

SUPERSEDED
EFFECTIVE:

725 BASELINE CUMULATIVE IMPACT AREA INFORMATION

725.100 thru 725.300 Hydrologic and Geologic Information

Hydrologic and geologic information from federal and state agencies has been used to generate this Permit Application. Other information was gathered from studies and surveys conducted by SCA, or its predecessors in this project. A great deal of information regarding potential impacts on the hydrologic balance of the area by the proposed excavation and reclamation activities was obtained from studies and surveys conducted by SCC or their predecessors at the Sunnyside mines. The information presented in this Permit is provided as a resource for DOGM use to assess the probable cumulative hydrologic impacts of the proposed excavation and reclamation operations on surface and groundwater systems in the cumulative impact area as required by R645-301-729.

JAN 13 1994

UTAH DIVISION OF OIL, GAS AND MINING

726 MODELING

No modeling or statistical parameter interpolation techniques were used to determine any of the information presented to fulfill the regulations of this chapter. Only data from actual observations, and laboratory testing is presented as baseline information here.

727 ALTERNATIVE WATER SOURCE INFORMATION

The proposed refuse excavating operations will not have an effect on the current water quantity and quality downstream of the permit area. Because of this, no alternate water sources have been determined.

728 PROBABLE HYDROLOGIC CONSEQUENCES (PHC) DETERMINATION

728.100 thru 728.300 Determination of PHC

A description of probable hydrologic consequences related to the hydrologic regime and the quantity and quality of water under seasonal conditions is presented within this section. The PHC determination is established from baseline information presented in this chapter, and in Chapter Six (Geology).

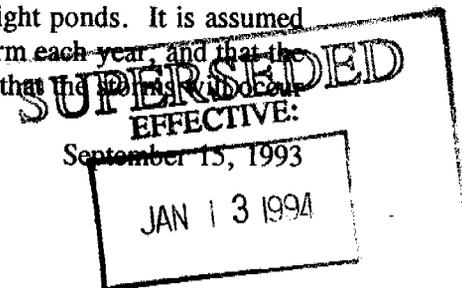
728.310 Impacts to the Hydrologic Balance

The hydrologic conditions in term of water quality could be affected by two types of activities, application of water for fugitive dust control and evaporation from sediment ponds and/or slurry cells, within the Sunnyside Cogeneration Permit Area. The fugitive dust control will consume certain amount of water through spraying water on the proposed roads. The proposed sediment pond and/or slurry cells will increase water evaporation losses.

There are approximately 1.2 miles of roads to be sprayed to control fugitive dust (including upper and lower Haul Road and the Coal Access Road) within the permit area. From April through October, three trips for spraying are needed per day on average. From November through March, two trips per month are needed. This gives a total of 649 trips per year. To assume that the average road width is 30 feet and an 1/8-inch water depth per trip is needed, a total of $((649 \times 1.2 \times 5280 \times 30 \times .125) / (12 \times 43560)) = 29.5$ acre-feet of water is needed for fugitive dust control per year. This amount of water will be totally evaporated.

There are ten sediment ponds and/or slurry cells within the permit area (as shown in Plates 7-1 and 7-6). Except for the East Slurry Cell and the West Slurry Cell, each pond has an outlet structure. The outflow from each pond will eventually be discharged to Icelander Creek. There are no outlet structures for either the East Slurry Cell or the West Slurry Cell. The East Slurry Cell receives water from the slurry ditch. The West Slurry Cell receives water from precipitation on the cell itself. Water in both cells will eventually evaporate to the atmosphere or infiltrate through the slurry deposited within the cells. The infiltrated water will eventually drain to the Icelander Creek.

Conservatively estimated, there is total water surface area of 8 acres for the eight ponds. It is assumed that there is one storm which is equivalent or greater than 10-year 24-hour storm each year, and that the dewatering time for each pond is five days (0.167 month). Also it is assumed that the



from April to September when evaporation is higher. From the Utah Weather Guide (Brough, et al, 1983), Price Station (#7026), there is an average monthly pan evaporation rate of eight inches. Assume a pan evaporation correction factor of 0.7, there is total annual evaporation loss of $(8 \times 8 \times 0.7 \times 0.167/12) = 0.6$ acre-feet.

The total water surface area for the East Slurry Cell and the West Slurry Cell is approximately 43 acres. If a full cell needs 15 days (0.5 month) to infiltrate to empty, conservatively estimated, the evaporation loss will be $(43 \times 8 \times 0.7 \times 0.5/12) = 10.0$ acre-feet.

The total water loss from fugitive dust control and pond evaporation is 40.1 acre-feet per year. Thus, the proposed operations will slightly affect the existing stream hydrological conditions in terms of water volume.

The Clear Water Pond acts to deposit sediments from the slurry water after it has been treated in Slurry Ponds One and Two. The Clear Water Pond discharge is labeled as station 004 for the Utah Pollutant Discharge Elimination System (UPDES) permit limitations discussed in section 731.220. The discharge from the Clear Water Pond has thus far generally met the effluent requirements of its UPDES permit, No. UT0024759, found in Appendix 7-1. The permit also covers the six sedimentation ponds in the SCA Permit Area. The proposed operations should not affect the quality or quantity of the current discharge situation.

COARSE REFUSE SEEP

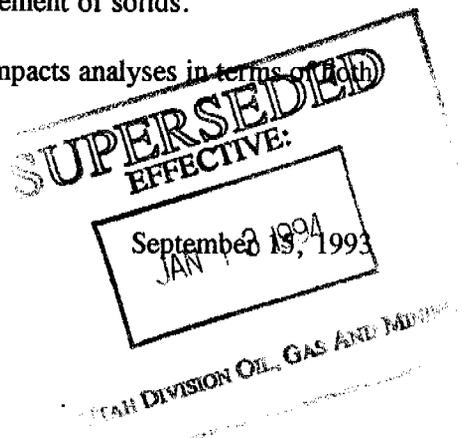
The water emerging from the base of the coarse refuse pile has two possible sources. Water trapped in the alluvium under Grassy Trail Creek could be flowing over the Mancos Shale contact and through faults, cracks, joints or other pipes to emerge under the refuse pile. The other source could be water from the east slurry cell infiltrating through fill material to the coarse refuse pile. Water quality data for this seep is presented in Appendix 7-6. Further water monitoring will be done to determine where the this water comes from. Additional information concerning this seep can be found in Chapter Nine.

If the water is coming from the slurry cell, a mass balance will be made to determine if more water is present at the coarse refuse pile than can be accounted for. Weirs will be installed in the slurry ditch and in the coarse refuse drainage.

If some of the water is not coming from the slurry pond, a sediment basin will be designed and constructed. Polymer flocculents will be used to aid in settlement of solids. Design of the sediment basin will be approved by DOGM prior to construction.

If all the water is coming from the slurry pond, the use of the east slurry cell as a slurry dewatering pond will be discontinued or a new discharge point will be permitted through the Utah Pollution Discharge Elimination System (UPDES). Water quality going into the slurry pond is better than the water at the base of the coarse refuse pile. A sediment pond will be designed and constructed if the use of the east slurry cell is continued. Polymer flocculents will be used to aid in settlement of solids.

Water monitoring will be done based on the above probable hydrologic impacts analyses in terms of both water quantity and quality.



BTCA AREA

The additional BTCA area north of the Clear Water Pond, discussed in Section 724.200, will have total runoff of .036 acre-feet from a 10-year, 24 hour storm. Watershed data for this area is included as Appendix 7-7. Due to the topography of the area, the runoff does not concentrate to a single outlet point. It flows overland across a 200-foot section of the permit boundary. This means that over the 10-year, 24-hour storm period, the peak flow is 0.0024 cfs per linear foot of boundary. The surface elevation of this area is below existing drainage controls and is on the permit boundary on two sides. There is no future use planned for the area.

728.320 Acid or Toxic Forming Materials

A discussion of the material properties of the refuse found in the SCA Permit Area related to acid or toxic forming substances is found in section R645-301-624.220. The discussion refers to studies and analyses performed specifically to determine the effectiveness of the refuse as a power plant fuel.

A Special Coarse Refuse Use Study Report prepared by John S. Huefner in February 1981 (Appendix 7-5) took samples of the coarse refuse and raw coal to verify the refuse to be non-toxic and non-acidic. The chemical testing was done by American Chemical and Research Lab in Provo and by Ford Chemical Lab in Salt Lake City. Only one sample of refuse tested by Ford Chemical showed the manganese to be three times above the allowable limit, however, this does not show-up in other samples. This report, however, omits analysis of the Acid-Base Potential of Selenium and Boron.

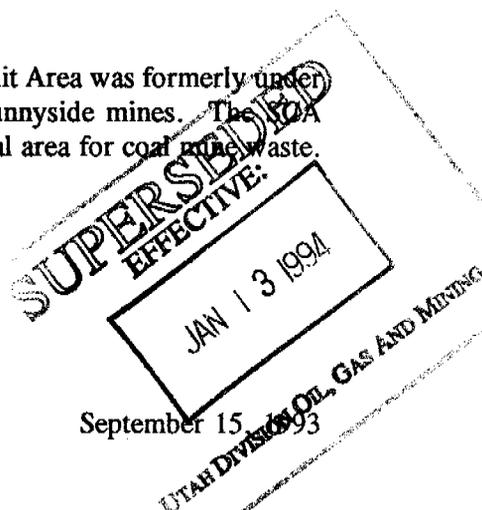
Additional studies of the material properties of the refuse piles will be ongoing through the duration of the project. See Appendix 6-5 for a proposed sampling plan. If acid or toxic forming substances are encountered in future testing, a report of the concentration and volume of the material will be prepared for DOGM. This report will include a plan, for appropriate disposal of the material, which would protect the water resources in the area.

728.330 thru 340 Impacts From Mining and Reclamation

Existing or projected impacts to the hydrologic regime from mining and reclamation activities are discussed within section 728.100 and in more detail throughout other sections. Information related to runoff conveyance and sediment control is included in sections 732 and 733. Information related to general hydrology, water quality monitoring, and channel reclamation can be found in Sections 722, 724, and 760 respectively.

728.400 Permit Revisions

This Permit Application is not a request for a permit revision. The SCA Permit Area was formerly under the control of the SCC, and used as a disposal area for refuse from the Sunnyside mines. The SCA Permit Area is now controlled by SCA, and will be used by SCC as a disposal area for coal mine waste.



729 CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

729.100 thru 200 Cumulative Hydrologic Assessment by DOGM

As stated in R645-729.100 and 729.200, DOGM will provide a Cumulative Hydrologic Impact Assessment.

730 OPERATION PLAN

731 GENERAL REQUIREMENTS

General requirements given under this section are discussed specifically in the following sections: 731.100 Hydrologic-Balance Protection, 731.200 Water Monitoring, 731.300 Acid and Toxic Forming Materials, 731.400 Transfer of Wells, 731.600 Stream Buffer Zones.

731.100 thru 731.122 Hydrologic Balance Protection

Section 728.310 has discussed how the operations proposed will not affect the existing pre-operational hydrologic balance. For groundwater, this assessment is based on the lack of encountering much groundwater in drilling records for the SCA Permit Area.

The excavation of the refuse pile will not affect any of the sedimentation ponds within the SCA Permit Area. The excavated areas will likely yield somewhat higher amounts of sediment but this will easily be treated in the sedimentation ponds. Sediment Control is discussed in detail in section 732.

731.200 WATER MONITORING

A water monitoring schedule will be developed based on the PHC determination. This monitoring will be performed to characterize all the water within the and adjacent to the permit area. This includes all the UPDES discharge sites, all surface water streams, all ground water sources, and the seep at the toe of the refuse pile. The proposed water monitoring will be performed based on the Guidelines for Establishment of Surface and Ground Water Monitoring Programs for Coal Mining and Reclamation Operations (Guidelines) (Division of Oil, Gas and Mining, 1986). The Operational (UPDES) and Baseline Water Monitoring Schedules, which are included in Appendix 7-8, outline the sampling schedule along with the measurement frequency for each parameter at each monitoring location. Plate 7-3 shows the locations of the operational (UPDES) water monitoring sites and Plate 7-2 shows the locations of the baseline water monitoring sites.

731.210 thru 731.215 Groundwater Monitoring

Groundwater monitoring will be performed based on the existing East Carbon well. The Palms and monitoring schedule will be performed based on the requirements listed in Table 3 and 4 included in the Guidelines. A minimum two years of baseline data collection will be performed.

SUPERSEDED
REVISION:
JAN 13 1994

September 15, 1993

UTAH DIVISION OIL, GAS AND MINING

731.220 Surface Water Monitoring

Each of the UPDES discharge locations as well as the seep at the toe of the refuse pile and the seep at the property boundary will be sampled in accordance with Guidelines and the UPDES Permit.

731.221 thru 731.222 Surface Water Monitoring Plan

The surface water monitoring plan will be based on the PHC determination of section 728. The only determined hydrologic consequence is possible increased sedimentation in the excavated areas. This will generally be controlled by the sedimentation ponds. The monitoring plan will include sampling and testing of the sedimentation pond water as they discharge. Only the Clear Water Pond discharges consistently. The other ponds have intermittent discharges. As discussed in section 732, this is because they were designed for a capacity equal to a 10 year 24 hour storm event runoff. These ponds will be monitored once a month for water quality parameters as shown in the UPDES permit No. UT0024759 found in Appendix 7-1. Flow rate and TSS will be monitored twice a month as set forth in the permit.

Monitoring for Acute Toxicity

Pursuant to the UPDES permit requirements, beginning July 1, 1992 the permittee will conduct quarterly acute static replacement toxicity tests on composite samples from station 004.

Impacts on Icelander Creek

Impacts on Icelander Creek will be monitored by performing field tests at the ICE-1 (Icelander Creek) and the F-2 (spring) sites once a month. Field measurements include: flow rate, pH, temperature, conductivity, and dissolved oxygen. These sites will be sampled quarterly for water quality parameters. If the water is cloudy, or if the conductivity is abnormally high, samples will be taken during the field testing visits to these sites and tested for Total Suspended Solids (TSS) and Total Dissolved Solids (TDS) concentrations.

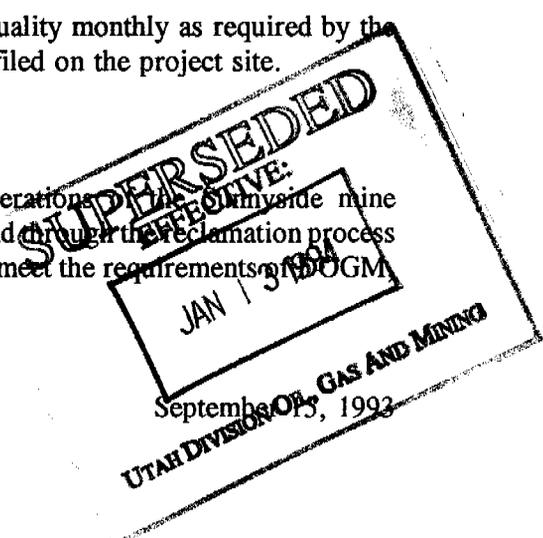
731.223 Surface Monitoring Data Submittal Requirements

The surface monitoring data will be submitted to DOGM every three months for each monitoring location. Monitoring submittal will include analytical results from each sample taken during the approved reporting period. Sunnyside Cogeneration takes responsibility for complying with all regulations set forth by DOGM and meeting the UPDES discharge authorization limitations shown in the UPDES Permit (Appendix 7-1).

The monitoring data will be supplied to the Utah Division of Water Quality monthly as required by the UPDES permit. Results of the water quality monitoring will also be filed on the project site.

731.224 thru 731.224.2 Surface Water Monitoring Requirements

Surface water monitoring will continue through the end of the operations of the Sunnyside mine preparation plant (end of necessary slurry and coarse refuse disposal), and through the reclamation process until the bond release. The monitoring plan will always be arranged to meet the requirements of DOGM and of the Division of Water Quality via the UPDES permits.



The monitoring will be conducted to attempt to minimize disturbance to the hydrologic balance, and to achieve the goals of the approved monitoring plan.

731.225 Surface Water Monitoring Equipment and Structures

Equipment, structures and other devices utilized in conjunction with the surface water monitoring program will be properly installed, maintained and operated. The equipment and structures will be removed when no longer needed.

731.300 thru 731.320 ACID AND TOXICITY FORMING MATERIALS

Acid and toxic forming potentials are appropriately discussed in section R645-624.220 and 628.320

731.400 Transfer of Wells

Exploration wells or monitoring wells will only be transferred after approval by DOGM and in accordance with the Utah State water laws and regulations. Approval of well transfer will also be required from the State Engineer. There are no wells currently on the SCA Permit Area. There has been significant drilling exploration of the SCA Permit Area. These drill holes will be sealed in a manner appropriate for the environment and for the proposed excavation activities.

731.500 thru 731.522 Discharges into and out of Underground Mines

The proposed operations of this Permit Application consist only of excavation of coal mine waste and refuse piles. Therefore this section does not apply.

731.600 thru 731.620 Stream Buffer Zones

All disturbance caused by the proposed operations will be well over 100 feet from any natural stream. Therefore this requirement does not apply.

731.700 Cross Section and Maps

731.710 Water Supply Intakes and Waters Receiving Discharge

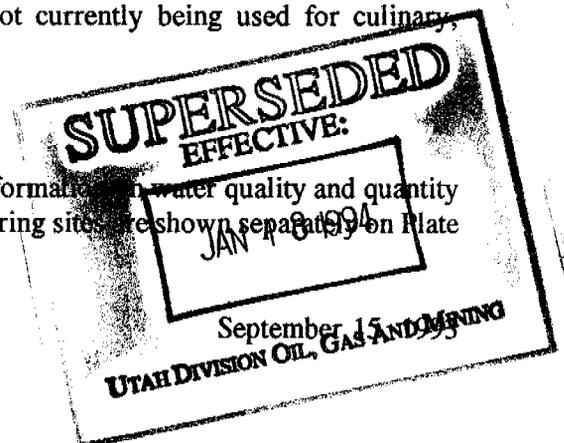
All discharges from the SCA Permit Area flow into tributaries of Icelander Creek. This is shown in Plates 7-3 and 7-6. Icelander Creek is not currently used as a culinary or irrigation supply.

731.720 Map Showing Diversions, Conveyance and Treatment Facilities

This requirement does not apply because Icelander Creek is not currently being used for culinary, irrigation, or industrial uses.

731.730 Locations of Monitoring Stations

The locations of the monitoring stations used to gather baseline information on water quality and quantity are shown in Plate 7-2. The locations of UPDES discharge monitoring sites are shown separately on Plate 7-3.



731.740 Map Showing the Locations of Sediment Ponds

The locations of the six sedimentation ponds and the four slurry ponds are discussed in section 733 are shown in Plate 7-1. Plate 5-6 also shows the location of the refuse pile.

731.750 Cross Sections for Each Sediment Pond and Other Impoundments

See Section 732.

731.800 Water Rights

The majority of the rights in the area are held by the municipalities, SCC and SCA. The rights mostly relate to Grassy Trail Creek and discharges from the Whitmore Canyon Dam. The operations taking place on the SCA Permit Area do not affect any currently held water right.

732 SEDIMENT CONTROL MEASURES

732.100 Siltation Structures

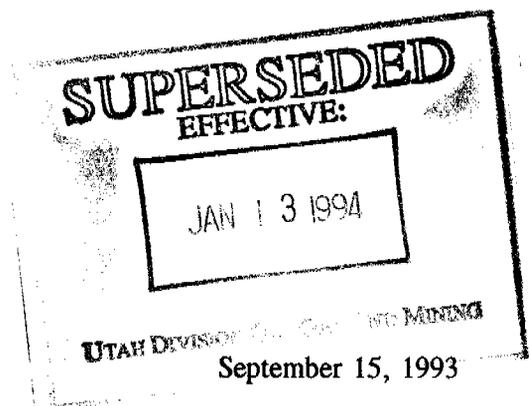
The existing siltation structures which are a part of the refuse disposal, and proposed refuse excavation activities will be maintained to comply with the requirements of this regulation. Siltation structures that impound water are considered herein as treatment facilities and sedimentation ponds. A discussion of these facilities is set forth in Section 732.200

732.200 Sedimentation Ponds

732.210 Compliance Requirements

There are ten impounding structures in the SCA Permit Area which are all shown on Plate 7-1. Out of the ten impounding structures, six are sedimentation ponds serving the disturbed portions of the SCA Permit Area. Each sedimentation pond is governed by an UPDES permit which controls water quality discharges. Operational requirements of the six sedimentation ponds located in the SCA Permit Area as outlined by this regulation will be met. Detail designs related to the facilities are given in Appendix 7-3.

Below is an outline of various design parameters for the sediment ponds found within the SCA Permit Area.



<u>Pond Description</u>	<u>Reference Plate</u>	<u>Maximum Depth (ft)</u>	<u>Volume (c.f.)</u>
Coarse Refuse Toe	7-7	10.8	100,190
Rail Cut	7-8	10	653,840
Pasture	7-9	7	42,700
Old Coarse Refuse Road	7-10	10	40,100
Coal Slurry Ponds (Ponds Number 1 and 2 and Clear Water Pond)	7-4	10	1,563,800
Borrow Area Pond	7-11	6.9	200,070

Topsoil stockpile sediment will be controlled by construction of a berm around the perimeter of each stockpile. Detailed calculations for each berm are found in Appendix 7-7.

732.220 MSHA Requirements

The six sedimentation ponds within the SCA Permit Area comply with the MSHA requirements given under R645-301-513.100 and 513.200. The BTCA area north of the Clear Water Pond does not meet the criteria of MSHA 30 CFR regulations, thus no additional calculations have been made concerning MSHA regulations.

732.300 Diversions

An extensive network of runoff collector ditches has been constructed within the permit area. A layout of these facilities and a typical cross-section is shown on Plate 7-6. Individual diversion dimensions can be found in Appendix 7-3. The ditches will be maintained to comply with the requirements of this regulation.

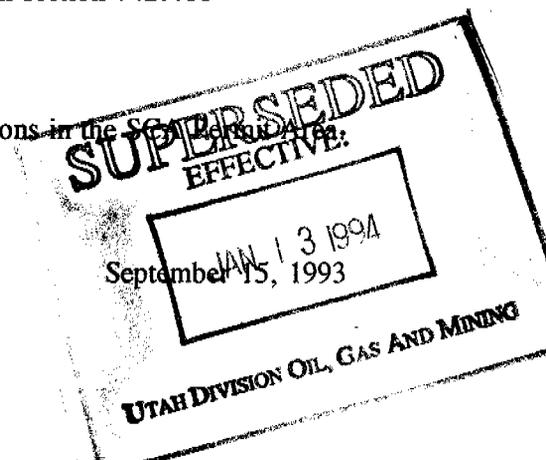
The runoff from the BTCA area, located north of the Clear Water Pond, does not enter a sediment pond or runoff ditch. The area is well-vegetated and the runoff will be dissipated naturally through existing vegetation. A berm at the toe of the topsoil pile controls the erosion of this resource. The site is approximately 1.3 acres and is referenced on Plate 7-1. See also Appendix 7-7 for more information.

732.400 Road Drainage

All roads will be constructed, maintained and reconstructed to comply with section 742.400

732.410 Alteration and Relocation of Natural Drainageways

No alterations to existing natural drainageways are planned for the operations in the permit area.



732.420 Inlet Protection

Measures to be taken to protect the inlet end of ditch relief culverts (when required) within the SCA Permit Area may include revegetation, installation of riprap, or a drop box inlet. Flows applicable to runoff control ditches are generally small and inlet protection is not required to protect against erosion. If it is found that significant erosion does occur at the inlet to a ditch culvert, the items listed above will be implemented as appropriate. Details for inlet and outlet protection are given in Chapter Five.

733 IMPOUNDMENTS

There are no additional impoundments proposed for the SCA Permit Area. If the need for an additional impoundment is observed, it will be designed and certified according to the requirements of these regulations, and the other regulations within the State of Utah Coal Mining Rules. The plans and certification will then be submitted to DOGM for approval.

734 DISCHARGE STRUCTURES

The operations proposed for the SCA Permit Area do not involve any underground mining and therefore requirements regarding discharge structures do not apply.

735 DISPOSAL OF EXCESS SPOIL

See Chapter Nine, Sections 9.6 through 9.7.

736 DISPOSAL OF COAL MINE WASTE

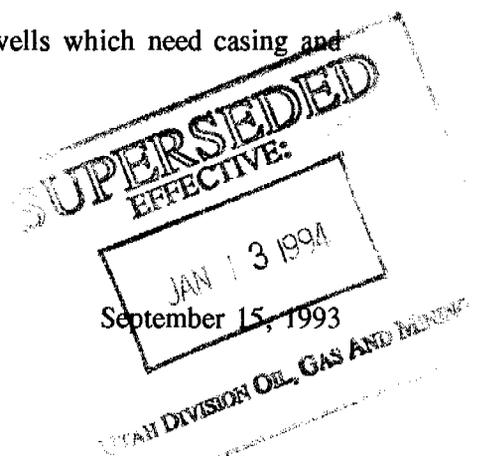
See Chapter Nine, Sections 9.6 through 9.7.

737 NONCOAL MINE WASTE

Non-coal mine waste will be deposited in the industrial waste dump area, the Sunnyside City Landfill, or the noncombustible waste pile. This is discussed further in Chapter Nine, Section 9.7.

738 CASING AND SEALING OF WELLS

For reasons previously discussed, there are no groundwater monitoring wells which need casing and sealing during the operations or reclamation activities.



740 DESIGN CRITERIA AND PLANS

741 GENERAL REQUIREMENTS

Site specific plans used for the design and control of surface drainage are discussed in the following sections.

742 SEDIMENT CONTROL MEASURES

See Section 732 for detailed designs of all sediment control structures. The runoff and sediment control measures in the SCA Permit Area include only collector ditches and sedimentation ponds.

742.220 Sedimentation Ponds

Inspection

All sedimentation ponds will be inspected a minimum of four (4) times per year for structural weakness, erosion, proper function, sediment levels and other hazardous conditions. A written record of findings will be maintained at the SCA cogeneration facility for inspection. Reports of adverse embankment conditions including erosion, structural weakness or other hazardous conditions will be submitted to DOGM within thirty (30) days of the inspection. Hazardous conditions will be reported directly to DOGM immediately after the finding.

Sediment Disposal

Sediments removed from the ponds will be disposed in the Noncombustible Waste Material Pile (Plate 9-1), or used as a borrow material. If the material is to be used as a borrow material, the material will be tested. SCA will contact DOGM to receive approval of the location and the amount of material to be used.

MSHA REQUIREMENTS

The East Slurry Cell is used as needed to allow the cleaning of Slurry Ponds One and Two. The East Slurry Cell meets or exceeds the size criteria of 30 CFR 77-216(a) of the Mine Safety and Health Administration and has an MSHA ID number 1211-UT-9-0017. The impoundments will comply with the requirements of this regulation.

742.230 thru 742.240 Other Treatment Facilities

There are no other types of treatment facilities separate from the collector ditches and sedimentation ponds.

SUPERSEDED
EFFECTIVE:

JAN 13 1994

UTAH DIVISION OIL, GAS AND MINING

742.300 Diversions

742.310 thru 742.311 General Requirements

All diversions located within the SCA Permit Area, which are shown in Plate 7-6, have been designed to minimize adverse impacts to the hydrologic balance of the permit and adjacent areas, to prevent material damage outside the SCA Permit Area and to assure the safety of the public. No diversions have been designed or are planned to divert water into underground mines. Any underground mining is significantly upstream from the SCA Permit Area.

742.312 thru 742.333 Diversion Design

See Section 732.

742.400 thru 742.423.5 Road Drainage

The roads in the SCA Permit Area are used primarily for refuse hauling and area maintenance. The road drainage control system utilized at the SCA Permit Area was discussed earlier in section 732. The collector ditches for this purpose are shown on Plate 7-6. The drainage system has been designed to safely convey surface runoff away from road surfaces through a network of collector ditches and culverts. The system has been designed to collect all runoff waters thereby protecting downstream water quality and reducing potential for flooding. The fact that the road system does not cross local stream channels helps protect downstream water quality.

Ditches have been designed according to methodology discussed previously. The design is to safely pass a 10-year, 24-hour storm. Culvert sizes have been selected to ensure design capacity and structural integrity. The capacity of the road drainage system will be maintained. If the system is ever damaged reducing capacity of a ditch or culvert, repairs will be implemented immediately.

743 IMPOUNDMENTS

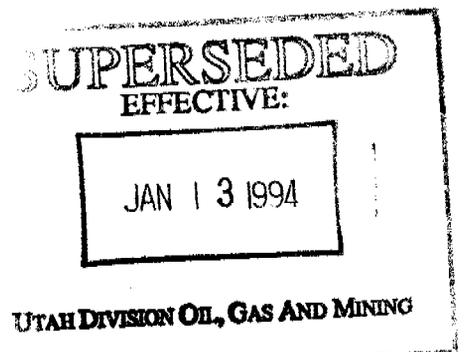
See Section 732.

744 DISCHARGE STRUCTURES

See Section 734.

745 DISPOSAL OF EXCESS SPOIL

See Section 735.



746 COAL MINE WASTE

746.110 thru 746-430 Waste Disposal Plans

The slurry ponds and refuse pile are shown on Plate 7-1. Details for the slurry pond are shown in Plate 7-4 and 7-13.

Slurry Ponds

Fine refuse from the preparation plant is moved to dewatering or disposal areas by slurry transport in an open ditch. There are four slurry ponds that lie within the SCA Permit Area: the West Slurry Cell, the East Slurry Cell, Slurry Pond One, and Slurry Pond Two. The East and West Slurry Cells are settling and evaporating impoundments that were constructed prior to or during 1974. Slurry Ponds One and Two are settling ponds. Presently, Slurry Pond One and Slurry Pond Two are actively used, while the East Slurry Cell is used as an overflow for Slurry Ponds One and Two when they are not in service. The West Slurry Cell is used as a disposal area for dried slurry from Slurry Ponds One and Two.

The West Slurry Cell was the first impoundment to be constructed for the disposal of slurry and coal mine waste in the late fifties to early seventies. Coal mine waste and other waste was used as fill material to block a wash in the pediment material at the mouth of Whitmore Canyon overlooking the Icelander Drainage. Slurry from the preparation plant was transported to the impoundment by ditch for disposal. As the level of the slurry increased, additional coal mine waste was added to the top and sides of the impoundment. The present level of the slurry in the impoundment is over 200 feet above the bottom of the wash. Currently, the impoundment is used as a disposal area for dried slurry material from Slurry Ponds One and Two. Trucks end-dump the slurry material onto the northwest side of the cell from the top of the dike. A large dozer then spreads and compacts the material.

Construction of the East Slurry Cell on the east side of the West Slurry Cell was in 1974. Coal mine waste was placed and compacted in dikes. After the dikes were completed and covered with soil material, the impoundment was filled with slurry. Disposal of slurry continued until 1983. Presently, the impoundment is used as an overflow for Slurry Ponds One and Two.

Slurry Ponds One and Two were constructed in 1978 to the north of the East and West Slurry Cells. These ponds were constructed by excavating a depression in the colluvium at a gentle slope. Material from the depression was spread out down slope of the ponds for approximately 50 to 100 feet. Slurry Ponds One and Two are used in rotation. Slurry is introduced into a pond where it settles and is then filtered (Plate 7-4). During the use of the first pond, the second pond is decanted and the dried slurry removed by truck to the West Slurry Cell. After the second pond is cleaned, the cycle is reversed. If both ponds are in the drying and cleaning cycle, the slurry will be diverted to the East Slurry Cell. Water from Slurry Ponds One and Two is filtered and discharged the Clear Water Pond into Icelander Drainage (Outfall 004 in the UPDES Permit).

Design and construction of the slurry ponds was conducted pre-law, consequently, some design standards were not met. A geotechnical evaluation, certification of the alternate methods of construction, and current static and seismic safety factors was conducted to determine compliance. Results of the evaluations are found in Appendix 5-3 and 5-4. It was found that the impoundment dikes constructed of coal mine waste are stable with the exception of the west dike of the West Slurry Cell. The refuse pile has been specifically constructed since that time to stabilize the dike wall to meet MSHA requirements.

UPDES PERMIT
EFFECTIVE
JAN 3 1994
September 15, 1993
UTAH DIVISION OIL, GAS AND MINING

All surface drainage from the areas above the slurry ponds is diverted away from the embankments by diversion ditches designed to carry the peak runoff from 100-year, 24-hour precipitation event. The diversion structures will be maintained to prevent blockage.

Visual inspections by a qualified registered professional engineer or a qualified MSHA impoundment inspector will be conducted according to 30 CFR 77.216-3 to assess the stability of the impoundments and determine the amount of seepage, if any. If the inspection discloses that potential hazards exists, DOGM will be informed promptly of the findings, emergency procedures formulated for public protection, and remedial action measures will be implemented.

Maintenance of the embankments will consist of filling and grading any erosion or other failure features discovered by the above inspections.

Subsidence will not affect the pond and embankments since the structures do not overlie the coal seam and are located several miles west of the nearest outcrop. Mudflows, rock debris falls or other landslides are not expected to be a problem because the embankments are located at or above the level of the surrounding topography. Possibility of failure downhill of the embankments is limited to a thin layer of colluvial material on bedrock. Failure of this material would not threaten the embankments.

Coarse Refuse Pile

The outer slope of the refuse pile is maintained at a 27° slope. At 50 feet vertical increments, a 20-foot wide terrace is constructed for water runoff and erosion control. Construction of the refuse pile was started before the 1977 enactment of the current regulations. As a result, the sub-drainage system required by current regulations was not incorporated in the design; however, a 24-inch perforated culvert was placed in the drainage bottom to collect groundwater seepage.

All surface water drainage from the area above the waste bank and from the crest and face of the final structure will be diverted away from the fill into stabilized diversion channels designed to pass safely the runoff from a 100-year, 24-hour precipitation event. A plan view of the diversion ditches is found in Plate 7-6.

747 DISPOSAL OF NON-COAL MINE WASTE

See Chapter Nine, Sections 9.6 and 9.7.

748 WELL CASING AND SEALING

Groundwater monitoring wells that may be utilized within the SCA Permit Area will be drilled and installed by a driller licensed in the State of Utah. Procedures and materials used to drill and install the groundwater monitoring wells will be in accordance with the State of Utah Administrative Rules and Water Well Drillers (July 15, 1987) Appendix I, Monitor Well Installation Guidelines. Drilling and sealing of groundwater monitoring wells will also be in accordance with Rule 20 of the Utah rules. Currently there are no groundwater monitoring or supply wells in the SCA Permit Area. There are some piezometer tubes near some of the impoundments.

RECEIVED
EFFECTIVE
JAN 13 1994
September 15, 1993
UTAH DIVISION OF OIL, GAS AND MINING

Exploration boreholes that are drilled on or within the refuse pile for the purposes of determining the thickness of the coal mine waste, or the suitability of the coal mine waste for use in the cogeneration plant, will not be sealed through the interval within the refuse pile. However, intervals of native soil or bedrock that are penetrated by exploration boreholes will be sealed with bentonite or other suitable grout in accordance with Utah Administrative Rules for Water Well Drillers (July 15, 1987), Rule 12.

750 PERFORMANCE STANDARDS

751 WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS

Discharges of water from the disturbed areas, via the collector ditches and sedimentation ponds will continue to be made to comply with all Utah and federal quality laws and regulation. Effluent will be according to 40 CFR Part 434.

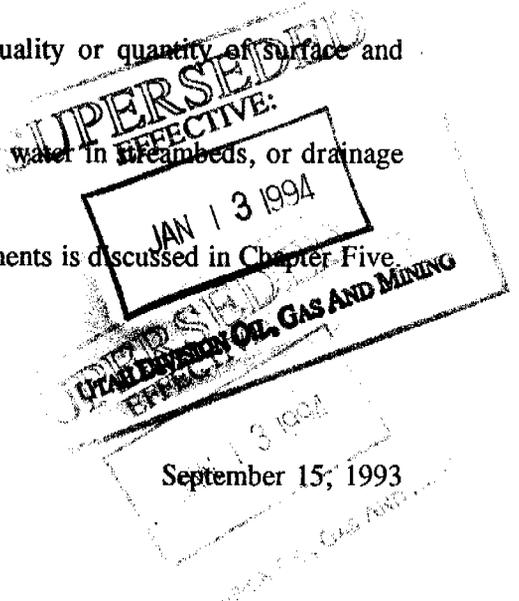
752 SEDIMENTATION CONTROL MEASURES

Sedimentation control measures will be maintained, reclaimed and constructed if needed and approved, according to R645-301-732, 742, and 763. Additional details can be found in each respective section referenced.

Existing, and new roads (if needed) will be located, designed, constructed, reconstructed, used, maintained, and reclaimed according to R645-301-732.400, R645-301-742.400, and R645-301-762 to achieve the following objectives:

1. The control or prevention of erosion, siltation and air pollution. This is obtained through the revegetating or stabilizing of all exposed surfaces subject to increased erosion
2. The control or prevention of addition contributions of suspended solids to stream flow or runoff outside the permit area.
3. Prevent the violation of effluent standards given under section 751.
4. Minimize the diminution to or degradation of the quality or quantity of surface and ground water systems.
5. Refrain from significantly altering the normal flow or water in streambeds, or drainage channels.

A proposed road which meets all of the previously mentioned requirements is discussed in Chapter Five



753 IMPOUNDMENTS AND DISCHARGE STRUCTURES

Sections 732 through 734 discuss the locations of discharge structures and impoundments, and how they will be maintained, and reclaimed.

754 EXCESS SPOIL, COAL MINE WASTE, AND NON-COAL MINE WASTE

See Chapter Nine and Chapter Ten.

755 CASING AND SEALING OF WELLS

As has been previously discussed there are no wells to case and secure in the SCA Permit Area.

760 RECLAMATION

761 GENERAL REQUIREMENTS

See Chapter Nine, Mine Plan for details on contemporaneous reclamation. See Chapter Ten, Reclamation Plan for details on final reclamation.

765 PERMANENT CASING AND SEALING OF WELLS

Any type of existing drill hole will be appropriately cased and sealed, or back filled during the reclamation process.

SUPERSEDED
EFFECTIVE:

JAN 13 1994

UTAH DIVISION OIL, GAS AND MINING

APPENDIX 7-3
HYDROLOGIC DESIGN OF SEDIMENT PONDS

SUPERSEDED
EFFECTIVE:
JAN 13 1994

UTAH DIVISION OIL, GAS AND MINES