

## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	8/6/93 - FAX	PERMIT NUMBER	ACT/000/007
Title of Proposal:	Inditled - 500' - 4" pipe	PERMIT CHANGE #	93 Q
Description:	Emergency - Amendment will be submitted later.	PERMITTEE	BCC
		MINE NAME	Summitside Mine

	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"/> Request additional review copies prior to Division/Other Agency review.			<input type="checkbox"/> Significant Permit Revision
<input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.)			<input type="checkbox"/> Permit Amendment
<input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.			<input type="checkbox"/> Incidental Boundary Change

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative _____						
<input type="checkbox"/> Biology _____						
<input checked="" type="checkbox"/> Engineering <u>JK</u>	10/7					
<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 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 type="checkbox"/> Special Conditions/Stipulations written for approval.	<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.
<input type="checkbox"/> Permit Change Approval Form ready for approval.	<input type="checkbox"/> Copies to Other Agencies and Price Field Office.



## PERMIT AMENDMENT APPROVAL

Title: <b>INSULATED - 500' - 4" PIPE</b>	PERMIT NUMBER: <b>ACT/007/007</b>
Description: <b>EMERGENCY -- AMENDMENT WILL BE SUBMITTED LATER</b>	PERMIT CHANGE #: <b>93Q</b>
	MINE: <b>SUNNYSIDE MINE</b>
	PERMITTEE: <b>SUNNYSIDE COAL</b>

### 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.	
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.	
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.		
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

EFFECTIVE DATE \_\_\_\_\_

# APPLICATION FOR PERMIT CHANGE

Title of Change:  Manshaft Pump Line/Culinary Water Line	Permit Number: ACT / 007 / 007
	Mine: Sunnyside
	Permittee: Sunnyside Coal Company

Description, include reason for change and timing required to implement: The underground culinary water pumping system has been activated in order to remove water that the existing pump had lost the efficiency to move. This mine water has been routed to the 001 Pond. Additionally, this permit change addresses the installation of a hookup into an existing, unused ten-inch culinary water line, which will allow the transfer of mine water to 002A and 002B Ponds and Twin Tanks for possible treatment for high TDS.

- Yes  No 1. Change in the size of the Permit Area? \_\_\_\_\_ acres  increase  decrease.
- Yes  No 2. Change in the size of the Disturbed Area? 3.0 acres  increase  decrease.
- Yes  No 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
- Yes  No 4. Will permit change include operations in hydrologic basins other than currently approved?
- Yes  No 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes  No 6. Does permit change require or include public notice publication?
- Yes  No 7. Permit change as a result of a Violation? Violation # 93-32-4-1
- Yes  No 8. Permit change as a result of a Division Order? D.O.#
- Yes  No 9. Permit change as a result of other laws or regulations? Explain:
- Yes  No 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
- Yes  No 11. Does the permit change affect the surface landowner or change the post mining land use?
- Yes  No 12. Does permit change require or include collection and reporting of any baseline information?
- Yes  No 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
- Yes  No 14. Does permit change require or include soil removal, storage or placement?
- Yes  No 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
- Yes  No 16. Does permit change require or include construction, modification, or removal of surface facilities?
- Yes  No 17. Does permit change require or include water monitoring, sediment or drainage control measures?
- Yes  No 18. Does permit change require or include certified designs, maps, or calculations?
- Yes  No 19. Does permit change require or include underground design or mine sequence and timing?
- Yes  No 20. Does permit change require or include subsidence control or monitoring?
- Yes  No 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
- Yes  No 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
- Yes  No 23. Is this permit change coal exploration activity  inside  outside of the permit area?

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

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

*J. J. J. J.* 9/1/93  
Signed - Name - Position - Date

Subscribed and sworn to before me this 1st day of September, 19 93.  
*Tawnee H. Tze*  
Notary Public

My Commission Expires: 5-8, 19 97  
Attest: STATE OF Utah  
COUNTY OF Carbon



Received by Oil, Gas & Mining

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ASSIGNED PERMIT CHANGE NUMBER

## Application for Permit Change DETAILED SCHEDULE OF CHANGES TO THE PERMIT

Title of Change:  <div style="text-align: center; font-size: 1.2em;">Manshaft Pump Line/Culinary Water Line</div>	Permit Number: ACT / 007 / 007 <hr/> Mine: Sunnyside <hr/> Permittee: Sunnyside Coal Company
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Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate III-33 (2 of 12)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate III-33 (11 of 12)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-24
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Drawing B4-0081 (Chapter 3)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Drawing B4-0082 (Chapter 3)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate III-20
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate III-21
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 48, Chapter 3
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 7, Chapter VII, With New Pages 7 And 7A
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-1A And Table III-1A (i) To Table III-1
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-29
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-25
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-11
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-19
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 62 (Chapter 3) With New Pages 62 And 62A
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 10 (Chapter 3) With New Pages 10 And 10A
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Table III-50
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate III-14
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
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<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

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

## CHAPTER III

### 3.2.10 Permit Term Disturbance Area

The Sunnyside permit contains 14,475 acres. The permit boundary is delineated on Plate II-1. A total of ~~310.0~~ 313 acres have been disturbed. ~~Of the disturbed acres,~~ An additional 5.88 acres have been contemporaneously reclaimed in Slaughter Canyon. ~~6.81 acres Sunnyside City responsibility and~~ 23 acres of the disturbed area are excluded for permanent roads and right-of-ways. The remaining ~~289.36~~ 290 acres are to be reclaimed (Table III-24).<sup>1</sup>

### 3.2.11 Additional Areas for Surface Disturbance for Life of Mine

There are no new planned areas of disturbance during the permit term.

### 3.2.12 Detailed Construction Schedule

There is no new planned construction during the permit term.

## 3.3 Operating Plan

### 3.3.1 Mining Plans

The Sunnyside coal property has been mined continuously since the late 1890's. Over sixty million tons of coal have been extracted during this period. Kaiser Steel Corporation leased the No. 2 Mine from Utah Fuel Company in 1942 to provide coking coal to the newly constructed steel mill at Fontana, California. In 1950, Kaiser Steel purchased the entire property. Since 1950, the major production areas have been shifted from the No. 2 Mine near the southeast boundary to the No. 1 Mine area to the northwest (see Plate III-3).

At the present time, the Sunnyside workings extend along the strike from the Columbia Mine northwestward to the boundary of the B Canyon Federal Lease a distance of approximately 6-1/2 miles. Workings down-dip from the outcrop have reached a maximum of 2-1/2

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<sup>1</sup>Revised 8/31/93

## CHAPTER III

miles. Future workings will be further extensions down-dip (see Plate III-4).

The Sunnyside complex encompasses three mines, each with its separate ventilation, access and haulage systems. At present, the

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## CHAPTER III

### 3.5.3.2 Removal of Surface Structures

(a) At the conclusion of mining, all surface structures, with the exception of those permanent structures marked on Plate III-1 and noted on Table III-1, will be dismantled, removed and the land graded to blend with the surrounding areas. The archway over the No. 2 Canyon Drainage is a temporary design and will be removed during final reclamation.

(b) Outlying surface facilities including portals, ventilation shafts, substations, upper bathhouse, equipment and material storage areas, preparation plant, power transmission lines, mine water lines,<sup>1</sup> and unit train loadout, will be dismantled and eliminated.

(c) Most roads will be left to provide access for grazing and recreational activities. Those roads not left for future use will be ripped, contoured and revegetated. The roads which will not be reclaimed are illustrated on Plate III-1.

(d) The area at the mouth of Pasture Canyon, containing the rodeo grounds and stables will be left intact.

(e) The water supply facilities will remain after completion of mining to supply culinary water to residents of the towns. Since new mines are being planned in nearby areas, it is believed the towns will remain occupied beyond the projected life of the existing mines.

(f) The preparation plant reject and industrial waste disposal facilities are in areas approved by MSHA and the Utah State Department of Health (see Plates III-1 and III-5). During the period the disposal sites are active, they will conform to applicable state regulations such as degree of slope, compaction, and coverage with inert material. Upon completion of mining activity, these areas will be scarified, covered with topsoil or material capable of supporting plant life, if necessary, and revegetated. Disposal and regrading are ongoing processes. Plans for final revegetation for the refuse are still being evaluated (Chapter VIII and 3.5), however, a conservative estimate of borrow cover and revegetation are included in the bond calculations.

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<sup>1</sup>Revised 8/13/93

## CHAPTER III

### Portal Closure and Fill

Portal closure and fill costs (Table III-9) include the transport of enough fill material to cover portals to blend with topography where no highwall regrading was calculated. Costs are also included to blast shut portals on top of cliffs that cannot be accessed by equipment. There would be major surface disturbance to construct access roads to close the portals that the operator is proposing to blast shut.

### Dismantling and Removing Facilities

A complete list of facilities is included in Table III-1 and shown on Plate III-1. Several of the facilities are to remain after closure for use by the towns of Sunnyside and East Carbon. The cost of facilities removal was derived from the Means Construction Handbook (1986). These costs include facility dismantling and removal from the site. Foundation breakage and burial sufficient for regrading and reclamation is included. Table III-1 gives the breakdown and cost estimate for facility removal. Unit costs for floor slab removal were converted from costs per square foot to costs per cubic foot for slabs and foundations to allow for ease of calculations when slab thickness varied. Footing removal unit costs were also converted from cost per linear foot to cubic foot. Some of the foundations are covered when the area is regraded and will not be removed.

Tables III-1A and III-1A(i) give calculations and costs associated with the removal of the mine water pipelines.<sup>1</sup>

Power line removal costs were an average of previous removal cost estimates and bids.

### Culvert Removal

A total of 26 culverts (Table III-22) are to be removed inside the permit boundary during reclamation. Cost and source of information are shown on the table.

### Drill Hole Plugging

Two drill holes are known to be open, based on presently available records. Cementing costs are shown in Table III-10.

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<sup>1</sup>Revised 8/30/93

## CHAPTER III

### Highwall Regrading

Highwall regrading will be done at portal and shaft locations where cut/fill excavations were done on side hills to place facilities. Regrading involves pulling previous cut material back into the cut with a backhoe and dozing the material into approximate original contours using a dozer. Volumes for areas 2

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## CHAPTER VII

storage tanks on the surface or is discharged at the Whitmore fan. Water from these tanks is used as process water for the coal preparation plant and as irrigation water for several alfalfa fields in the area, the city park and golf course. Kaiser Steel holds application UWM 28812 (91-231) which allows usage of ground-water developed within the mine.

Quantity and quality of mine water are discussed in the next two sections.

Based on long-established practices and similar levels of future operation, little change in quantity and quality of underground mine water is anticipated during the permit period. Mining areas will be generally adjacent to and down-dip from the present workings. Water usage should continue to be similar to the present level.

There are no water wells in or adjacent to the mine plan area. Springs are used for stock and wildlife watering. Water quantity and source are listed in Table VII-5 and located on Plates III-1, III-4 and VII-3. Water quality is enclosed in Appendix VII-2.

The following describes the procedures for handling and measurement of underground mine water at the Sunnyside Mines:

(1) Water in the No. 1 Slope is pumped from various areas to a large sump in a mined-out area near the bottom of the main haulage slope. As the sump fills, water is picked up by a 450 HP sump pumps and piped to the active mining section for use in dust abatement and fire fighting facilities. Excess water beyond these needs is pumped to the outside. One means of egress is via a line up a 770-foot deep concrete-lined 16-foot diameter return air shaft. A flowmeter at the end of this line records the gallonage. The other means is a pipeline extending from the pump station up-dip approximately 7,500 feet to the main parting area and then along the strike to the outside to two 500,000 gallon storage tanks. A flowmeter located in this line records the flow prior to entering the storage tanks.

(2) Water from the Manshaft Slope is pumped from the bottom sump to the Johnston sump between 18th and 19th Left. A vertical turbine pump is used to pump water from this sump up the slope to one of the Twin Shafts, then up the Twin Shafts to a mine water pond on the surface. Due to a decrease in efficiency in the vertical turbine pump, an additional pump, which in the past was used to pump water used for culinary purposes from the manshaft to<sup>1</sup>

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<sup>1</sup> Revised 8/13/93

## CHAPTER VII

the surface, has been put back into service. The pumpline, which originally fed into the old 10" Culinary Water Line, has been routed to discharge into the 001 Mine Water Pond. The location of the Manshaft Pumpline is shown on Drawing B4-0082, "Detailed Surface Facilities Area - 6", and the location of the old 10" Culinary Water Line is shown on Plate III-16.

SCC has additional plans to attach the Manshaft Pumpline and the Twinshafts Pumpline to the old 10" Culinary Water Line, owned by the cities of Sunnyside and East Carbon and leased to SCC, in order to complete a system that will permit the diversion of mine water to any point on its property in order to allow for additional settling and treatment of mine water. Connections will be made from the Manshaft Pumpline and the Twinshafts Pumpline to the old 10" Culinary Water Line at the 001 Mine Water Pond (see Drawing No. B4-0081), and from the Culinary Water Line to the 002A and 002B Mine Water Ponds via a connection at the Whitmore Fan Return Air Shaft (see Drawing No. B4-0082). A valve installed at this connection will allow either the diversion of water to the 002A and 002B Ponds or continuation of flow through the 10" Culinary water line to the Twin Tanks. The location of the old 10" Culinary Water Line is shown on Plate III-16.<sup>1</sup>

(3) A pair of entries completed in the early 1060's was driven across a portion of U.S. Steel's B Canyon Federal Lease and to the outside. Permission was granted by U.S. Steel to Kaiser Steel to use these entries as return air courses. As there was some water build-up in these entries, a 4-inch steel line was installed from this area to the main portal of No. 1 Slope. The flowmeter installed in this line showed an average discharge rate of 4 gpm over a one year period.

(4) Excess water from the No. 3 Slope, not used underground,

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<sup>1</sup> Revised 8/13/93

## CHAPTER III

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE - RECLAMATION BOND  
BOND ESTIMATE  
PROPOSED REVISION 8/26/93

TABLE III-1A

Minewater Pipeline Removal

Area	Description	Pipe Length	Excavation Length	Excavation	Costs: Removal	Total
9	Twinshaft Discharge	1,100'	400'	\$1,000	\$600	\$1,600
9	Manshaft Discharge	900'	100'	300	500	800
3	Whitmore Discharge	2,400'	400'	1,000	1,200	2,200
3	002A & 002B X-connection	300'	200'	500	200	700
1	Twin Tanks Feed	3,000'	2,900'	7,600	1,500	9,100
	<b>Grand Totals</b>	<b>7,700'</b>	<b>4,000'</b>	<b>\$10,400</b>	<b>\$4,000</b>	<b>\$14,400</b>

- Note: 1. Excavation cost is based only on the portion of pipe which is buried underground.  
2. Cost calculations are given on Table III-1A(i).

## CHAPTER III

SUNNYSIDE COAL COMPANY  
SUNNYSIDE MINE - RECLAMATION BOND  
BOND ESTIMATE  
PROPOSED REVISION 8/26/93

TABLE III-1A(i)  
Mine Water Pipeline Removal

Excavation: (5/8 CY capacity backhoe)

Trench: 100' @ 1.5' wide x 3' deep = 22 LCY  
@ 1/2 LCY/swing = 44 swings to excavate  
@ 2 min./swing = 88 min. to excavate 100'

Using excavation rate of 1.0'/min.:  
@ 390 min./day and 65% efficiency = 250'  
excavation/day.

Backhoe Costs:   Rental ----- \$198./day\*  
                  Labor----- \$236./day\*\*  
                  Operating @ 6.55/hr--\$43./day)\*  
                  Daily Cost----- \$477./day

Direct Cost @ 250'/day----- \$1.91/ft.  
Overhead and Profit @ 25% ----- .48/ft.  
10% Contingency----- .19/ft.  
Total----- \$2.58/ft.  
(Use \$2.60/ft.)

Dismantling: (Victaulic Coupled Pipe)

20' Section:

1 man - unbolt connection = 2 min.  
2 men - load 20' section = 2 min.

390 min. per day/2 min. per pipe = 195 sections per day  
@ 65% efficiency = 127 sections/day  
@ 20'/section = 2,540'/day

Labor Costs:   3 men @ \$118.32/day\*\* each ----- \$355./day  
                  Burden @ 100% ----- \$710./day  
                  Total @ 2,500'/day ----- \$0.28/ft.

Truck (3 ton flatbed) Cost: Rental ----- \$125./day\*  
                  Operating - 6 1/2 hrs @ \$10.10/hr.\* ----- \$66./day  
                  Total = \$191./day  
                  @ 2,500'/day = \$0.08/ft.

Total Direct Removal ----- \$0.36/ft.  
Overhead and Profit @ 25% ----- \$0.09  
10% Contingency ----- \$0.04  
Total = \$0.49/ft.  
(Use \$0.50/ft.)

\* 1993 Mean's Sitework Cost Data

\*\* 1989 UMWA Contract Wage

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE - RECLAMATION BOND  
 BOND ESTIMATE  
 REVISED 8/30/93

TABLE III-11  
 REVEGETATION COST SUMMARY

AREA NUMBER	AREA DESCRIPTION	VEGETATION TYPE	TOTAL ACRES	% STEEP SLOPES	HYDROSEEDING			ACRES	DRILLING COST /ACRE	DRILLED COST	TOTAL REVEGETATION COST
					ACRES	COST /ACRE	COST				
1	Main complex, including offices, shop, warehouse, parking lot, unit train, preparation plant, No. 3 Mine fan, industrial water tanks, mine portals, & substations.	Sagebrush grass	55.83	0%	0.00	\$642	\$0	55.83	\$403	\$22,498	\$22,498
2	No. 2 Mine fan, substations, portals, & road.	Sagebrush grass	2.95	0%	0.00	\$642	\$0	2.95	\$403	\$1,189	\$1,189
3	No. 1 Mine Whitmore Canyon	Sagebrush grass	6.83	0%	0.00	\$642	\$0	6.83	\$403	\$2,752	\$2,752
4	Storage yard, No. 2 Canyon fan & portal.	Sagebrush grass	7.82	0%	0.00	\$642	\$0	7.82	\$403	\$3,151	\$3,151
5	No. 2 Mine Water Canyon portals & road.	Sagebrush grass	10.71	0%	0.00	\$642	\$0	10.71	\$403	\$4,316	\$4,316
6	Test plot, camp, manshaft pond road, methane vent, sediment pond, and mine water discharge.	Sagebrush grass	8.23	0%	0.00	\$642	\$0	8.23	\$403	\$3,316	\$3,316
7	Refuse disposal areas, industrial waste borrow area, and slurry pond. No revegetation at Columbia bleeders.	Pinyon-juniper & grass	175.42	20%	35.08	\$701	\$24,577	140.34	\$441	\$61,842	\$86,419
8	No. 1 Mine outcrop fan, substations, portals, roads, and Outside Raise	Pinyon-juniper	8.35	36%	3.01	\$696	\$2,092	5.34	\$436	\$2,331	\$4,423
9	Upper changehouse, twin shaft fan, manshaft, hoisthouse, Pole Canyon shaft, and B Canyon portal.	Mountain brush	13.88	100%	13.88	\$744	\$10,329	0.00	\$494	\$0	\$10,329
TOTAL REVEGETATION			290.02		51.97		\$36,998	238.05		\$101,395	\$138,393

See equipment operating cost sheets for hourly and unit cost backup.

Average Revegetation Cost/Acre

\$477

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE  
 BOND ESTIMATE  
 REVISED 8/30/93

TABLE III-19  
 REGRADE AREAS OUTSIDE HIGHWALL

AREA	DESCRIPTION	DISTURBED ACRES	CY REGRADE @ 1' DEPTH	CAT D8L WITH S BLADE				CAT D8L TRIPLE SHANK RIPPER				TRUCK C.Y.	CAT 769C TRUCK		CAT 988B LOADER		TOTAL COST	AVERAGE COST		
				DOZER C.Y.	PUSH DISTANCE	RATE /C.Y.	DOZING COST	RIPPING C.Y.	RIP DISTANCE	RATE /C.Y.	RIPPING COST		RATE /C.Y.	TRUCK COST	LOADER C.Y.	RATE /C.Y.			LOADER COST	
1	General Area Grading	55.83	90,072	90,072	150	\$0.300	\$27,022	90,072	400	\$0.091	\$8,197	0		\$0			\$35,218	\$0.391		
2	General Area Grading	2.95	4,759	4,759	50	\$0.140	\$666	4,759	150	\$0.099	\$471				0	\$0	\$1,137	\$0.239		
3	General Area Grading	3.73	6,018	6,018	50	\$0.140	\$842	6,018	150	\$0.099	\$596				0	\$0	\$1,438	\$0.239		
		3.10	5,001	5,001	100	\$0.220	\$1,100	5,001	100	\$0.105	\$525						\$1,625	\$0.325		
4	General Area Grading	7.82	12,616	12,616	150	\$0.300	\$3,785	12,616	300	\$0.093	\$1,173					\$0	\$4,958	\$0.393		
5	Water Canyon Refuse Borrow Haul General Area Grading (Area not covered in H.W. regrade or refuse area)	3.73	6,018	6,018	50	\$0.140	\$842	6,018	300	\$0.093	\$560	6,018	2.0	\$1,250	\$7,522	6,018	\$0.662	\$3,984	\$12,908	\$2.145
		5.91	9,535	9,535	50	\$0.140	\$1,335	9,535	100	\$0.105	\$1,001								\$2,336	\$0.245
6	General Area Grading	8.23	13,278	13,278	50	\$0.140	\$1,859	13,278	100	\$0.105	\$1,394						\$3,253	\$0.245		
7	Slurry Area Coarse Refuse (4' Depth) Areas Not Covered by Borrow	71.49	115,337	115,337	50	\$0.140	\$16,147	115,337	400	\$0.046	\$5,306	115,337	0.5	\$0.780	\$89,963	115,337	\$0.380	\$43,828	\$155,244	\$1.346
		47.04	303,565	303,565	50	\$0.140	\$42,499	303,565	400	\$0.046	\$13,964	303,565	0.5	\$0.780	\$236,781	303,565	\$0.380	\$115,355	\$408,598	\$1.346
		56.89	91,783	91,783	50	\$0.140	\$12,850	91,783	400	\$0.046	\$4,222							\$17,072	\$0.186	
8	General Area Grading	8.35	13,471	13,471	50	\$0.140	\$1,886	13,471	100	\$0.105	\$1,414						\$3,300	\$0.245		
9	General Area Grading	9.88	15,940	15,940	150	\$0.300	\$4,782	15,940	300	\$0.093	\$1,482						\$6,264	\$0.393		
SUB-TOTAL		284.95		687,393			\$115,616	687,393		\$40,305		424,920		\$334,266	424,920	\$163,166	\$653,353	\$0.950		
TOTAL			687,393																	

See equipment operating cost sheets for hourly and unit cost backup.

Table III-24

Disturbed Acreage within the Sunnyside Permit Area

	<u>Description</u>	<u>Total Acreage</u>	<u>Excluded Acreage</u>
AREA 1	Facilities Area	69.40	
	No. 2 Wash Pre-law Exclusion		(2.84)
	Railroad Right-of-Way Exclusion		(4.50)
	Post Mine Road to Upper No. 2 Canyon Exclusion		(2.78)
		<u>69.40</u>	<u>(10.12)</u>
AREA 2	Fan Canyon - No.2 Mine Fan	0.93	
	Fan Canyon Road	<u>2.02</u>	
		2.95	<u>(0.0)</u>
AREA 3	Whitmore Fan	2.87	
	Whitmore Return	<u>0.86</u>	
		3.73	<u>(0.0)</u>
AREA 4	No. 2 Canyon	14.07	
	No. 2 Canyon Road Exclusion		(6.25)
		<u>14.07</u>	<u>(6.25)</u>
AREA 5	Water Canyon Portals - No. 2 Mine	5.29	
	Water Canyon Road	<u>5.42</u>	
		10.71	<u>(0.0)</u>
AREA 6	Manshaft Substation Area	4.45	
	Manshaft Mine-Water Pond	6.04	
	West Ridge Road Exclusion		(1.26)
	Whitmore Canyon Road Exclusion		(1.09)
	Reclamation Test Plot	<u>0.09</u>	
		10.58	<u>(2.35)</u>
AREA 7	Refuse Disposal Plate III-22	8.36	
	Plate III-23	169.20	
	Railroad Exclusion		(2.14)
		<u>177.56</u>	<u>(2.14)</u>
AREA 8	Outcrop Fan Road	6.40	
	Outcrop Fan Pad - No. 1 Mine	<u>1.95</u>	
		8.35	<u>(0.0)</u>
AREA 9	Pole Canyon Shaft Pad	3.11	
	Pole Canyon Road Exclusion		(1.78)
	Manshaft - Twinshaft	<u>12.55</u>	
		15.66	<u>(1.78)</u>
TOTAL		313.01	(22.64)

Revised 8/26/93

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE - RECLAMATION BOND  
 BOND ESTIMATE  
 REVISED 8/30/93

TABLE III-25  
 RECLAMATION & REVEGETATION COST SUMMARY

AREA NUMBER	AREA DESCRIPTION	TOTAL ACRES	MINE SEALING	REGRADING DISTURBED AREAS	REGRADING HIGHWALL AREAS	PORTAL CLOSURE & FILL	SOIL TEST FERTILIZE & PREPARE	REVEGETATE	POND RECLAIM	SUB-TOTAL RECLAMATION COST
1	Main complex, including offices, shop, warehouse, parking lot, unit train, preparation plant, No. 3 Mine fan, industrial water tanks, mine portals, & substations.	55.83	\$10,590	\$38,530	\$82,472	\$199	\$11,404	\$22,498	\$5,237	\$170,930
2	No. 2 Mine fan, substations, portals, & road.	2.95	\$4,907	\$1,137	\$2,048	\$1,372	\$603	\$1,189		\$11,256
3	No. 1 Mine Whitmore Canyon shafts, road, & ponds	6.83	\$5,200	\$1,323	\$476		\$1,395	\$2,752	\$2,920	\$14,066
4	Storage yard, No. 2 Canyon fan & portal.	7.82	\$5,619	\$4,958	\$49,430	\$1,700	\$1,597	\$3,151	\$85	\$66,541
5	No. 2 Mine Water Canyon portals & road.	10.71	\$7,833	\$15,244	\$2,604		\$2,188	\$4,316		\$32,184
6	Test plot, camp, manshaft pond road, methane vent, sediment pond, and mine water discharge.	8.23		\$2,261			\$1,681	\$3,316		\$7,259
7	Refuse disposal areas, industrial waste borrow area, & slurry ponds.  Columbia bleeders have no regrade.	175.42		\$580,915		\$5,100	\$35,831	\$86,419	\$19,438	\$727,703
8	No. 1 Mine outcrop fan, substations, portals, roads, and Outside Raise	8.35	\$12,713	\$3,300		\$4,594	\$1,706	\$4,423		\$26,735
9	Upper changehouse, twin shaft fan, manshaft, hoisthouse, Pole Canyon shaft, and B Canyon portal.	13.88	\$6,057	\$6,264	\$35,315	\$870	\$2,835	\$10,329	\$2,512	\$64,181
<b>TOTAL</b>		<b>290.02</b>	<b>\$52,919</b>	<b>\$653,932</b>	<b>\$172,346</b>	<b>\$13,835</b>	<b>\$59,239</b>	<b>\$138,393</b>	<b>\$30,191</b>	<b>\$1,120,855</b>

Note: Soil Test, Fertilize, & Prepare cost based on acres x \$204.26/acre  
 See backup cost calculation sheet.

SUNNYSIDE COAL COMPANY  
 SUNNYSIDE MINE - RECLAMATION BOND  
 BOND ESTIMATE  
 REVISED 8/30/93

TABLE III-29  
 TOTAL PERFORMANCE BOND ESTIMATE

	SCC AREA	SCA AREA	TOTAL
Mine Sealing	\$52,919		\$52,919
Regrading Disturbed Areas (2,3)	\$79,874	\$580,914	\$660,788
Regrading Highwall Areas	\$172,346		\$172,346
Portal Closure & Fill	\$13,835		\$13,835
Soil Testing, Preparation & Fertilizing	\$23,408	\$35,831	\$59,239
Revegetation (1,3)	\$53,852	\$86,419	\$140,271
Pond Reclamation	\$10,112	\$19,438	\$29,550
Dismantling & Removing Facilities (2,3)	\$1,065,645		\$1,065,645
Culvert Removal	\$7,879	\$1,605	\$9,484
Plug Drill Holes	\$1,956		\$1,956
Contractor Mobilization & Demobilization	\$10,000		\$10,000
Monitoring During 10 Year Responsibility	\$97,180	\$69,840	\$167,020
Revegetation @ 40% Failure Rate *	\$30,904	\$48,900	\$79,804
On-Site Manager - (8 mo. x \$4,000/mo.)	\$32,000		\$32,000
	\$1,651,910	\$842,947	\$2,494,857
Contingency - 10%	\$165,191	\$84,295	\$249,486
	\$1,817,101	\$927,242	\$2,744,343
	(YEAR)	(ESCALATED) (FACTOR)	(TOTAL) (BOND)
	1989		\$2,744,343
	1990	1.93%	\$2,797,309
	1991	1.93%	\$2,851,297
TOTAL PERFORMANCE BOND ESTIMATE			
* Calculation for Revegetation Failure Rate Cost			
Soil Testing, Prep., & Fertilizing	\$23,408	\$35,831	\$59,239
Revegetation	\$53,852	\$86,419	\$140,271
Total Revegetation & Soil Testing	\$77,260	\$122,250	\$199,510
Disturbed Acres	135	178	313
Cost/Disturbed Acre	\$572	\$687	\$637
Cost at 40% Failure Rate	\$30,904	\$48,900	\$79,804

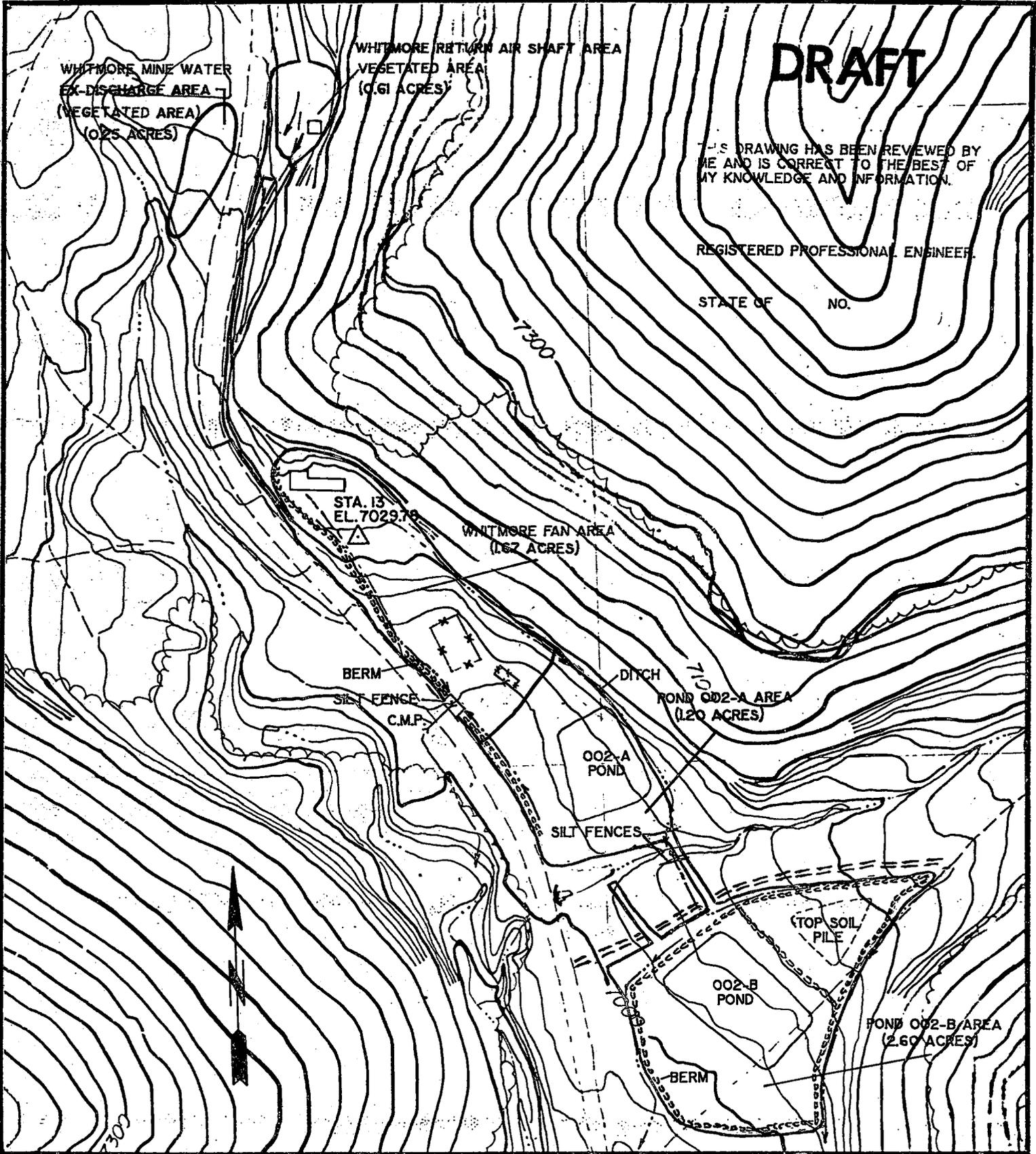
- (1) Includes costs for AMENDMENT 92-F (EXTENSION OF BORROW AREA 1)  
 (2) Includes costs for AMENDMENT 92-C (#2 CYN ARCHES)  
 (3) Includes costs for Mine-Water Pipeline Amendment

TABLE III-50

SUNNYSIDE COAL COMPANY  
ACT/007/007  
BEST TECHNOLOGY CURRENTLY AVAILABLE  
SEDIMENT CONTROL METHODS  
FOR SMALL PERMIT AREAS

Plate III-33 No.	Affected Area	(BTCA) Yes/No	Drawing Number	Area (Acres)	Calculated **Runoff (Acre Feet)	Treatment Utilized	Comments
1 of 12	*Manshaft Substation Area, General Area	Yes	A4-0213	0.13	0.0031	Silt Fence/or Straw Bales	
1 of 12	Manshaft Substation Area, East Field	Yes	A4-0213	1.29	0.0096	Vegetative Filter	
1 of 12	Manshaft Substation Area, West Field	Yes	A4-0213	1.19	0.0045	Vegetative Filter	
2 of 12	*Whitmore Area	Yes	A5-0109	6.33	0.0372	Silt Fence/or Straw Bales	
3 of 12	Whitmore Test Plot	Yes	A4-0265	0.12	0.0005	Vegetative Filter	
4 of 12	*Pole Canyon Shaft Area	Yes	A5-0108	0.41	0.0054	Silt Fence/or Straw Bales	
5 of 12	Safety Training Field	Yes	A4-0264	2.17	0.1113	Vegetative Filter	
5 of 12	Rock Dust Bulk Tank	Yes	A4-0264	0.06	0.0124	Veg Filter, Silt Fence	Temporary Silt Fence 4/30/93, NOV 93-32-3-8
6 of 12	*#2 Canyon Fan	Yes	A5-0106	0.50	0.0105	Silt Fence/or Straw Bales	Scheduled for Reclamation in 1991.
7 of 12	*Fan Canyon Area	Yes	A5-0110	0.95	0.0728	Silt Fence/or Straw Bales	Being Reclaimed 1990-1991.
8 of 12	*Water Canyon Area	Yes	A5-0107	4.72	0.1272	Silt Fence/or Straw Bales	Being Reclaimed
9 of 12	*Outcrop Fan Area	Yes	A5-0111	2.78	0.1614	Silt Fence/or Straw Bales	Rock gabian is also in place.
10 of 12	Roadside Substation	Yes	A4-0263	0.38	0.0055	Silt Fence/Straw Bales/Veg F	
11 of 12	Twin Shafts (001) Mine Water Pond Topsoil Pile	Yes	A5-0276	0.07	0.0100	Veg Filter/Silt Fence	
11 of 12	Manshaft Pipeline Corridor	Yes	A5-0276	0.43	0.0650	Vegetative Filter	
12 of 12	--- AVAILABLE FOR FUTURE USE ---						

Total BTCA Area = 21.53  
 Total Disturbed Area = 313.01  
 Total Permit Area = 14,475  
 % Disturbed Area utilizing BTCA 6.88% For 10-Year 24-Hour event.  
 % Permit Area utilizing BTCA 0.15%  
 Total BTCA Runoff in Acre Feet 0.64  
 \* Originally Permitted as Small Area Exemptions.  
 \*\*Calculated Runoff is for Total Drainage, not just BTCA Acreage



**DRAFT**

THIS DRAWING HAS BEEN REVIEWED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND INFORMATION.

REGISTERED PROFESSIONAL ENGINEER

STATE OF NO.

Sunnyside Coal Company

**SUNNYSIDE MINES**

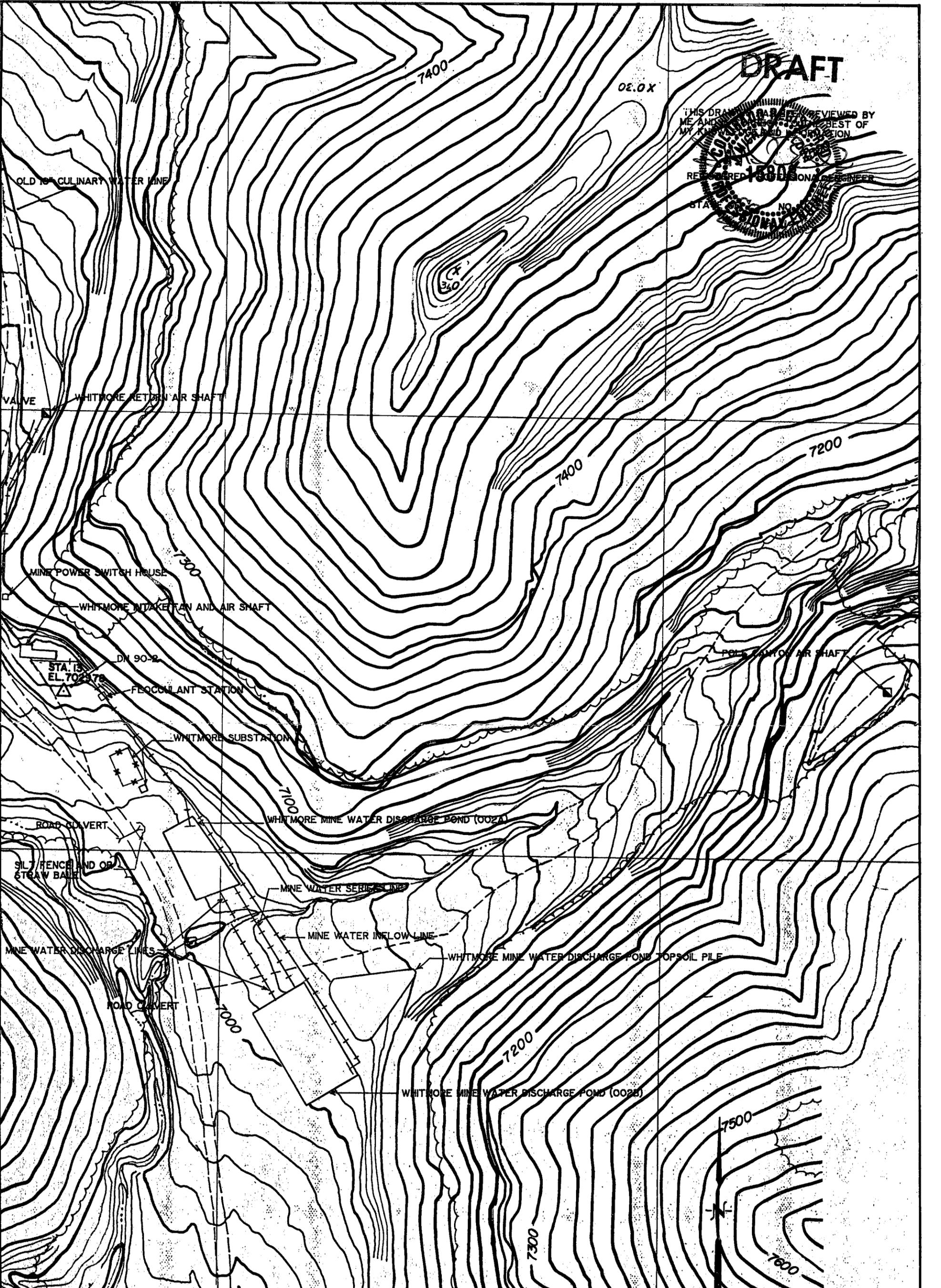
REVISIONS		
NO.	DATE	BY
1	11/14/84	D.C.P.
2	7/10/88	B.F.A.
3	8/27/90	B.F.A.
4	3/21/91	K.R.H.

WHITMORE B.T.C.A. AREA		
PLATE III-33 (2 OF 12)		
DRAWN BY	D.C.P.	DATE 11/23/83
CHECKED BY		DATE
APPROVED		SCALE 200'

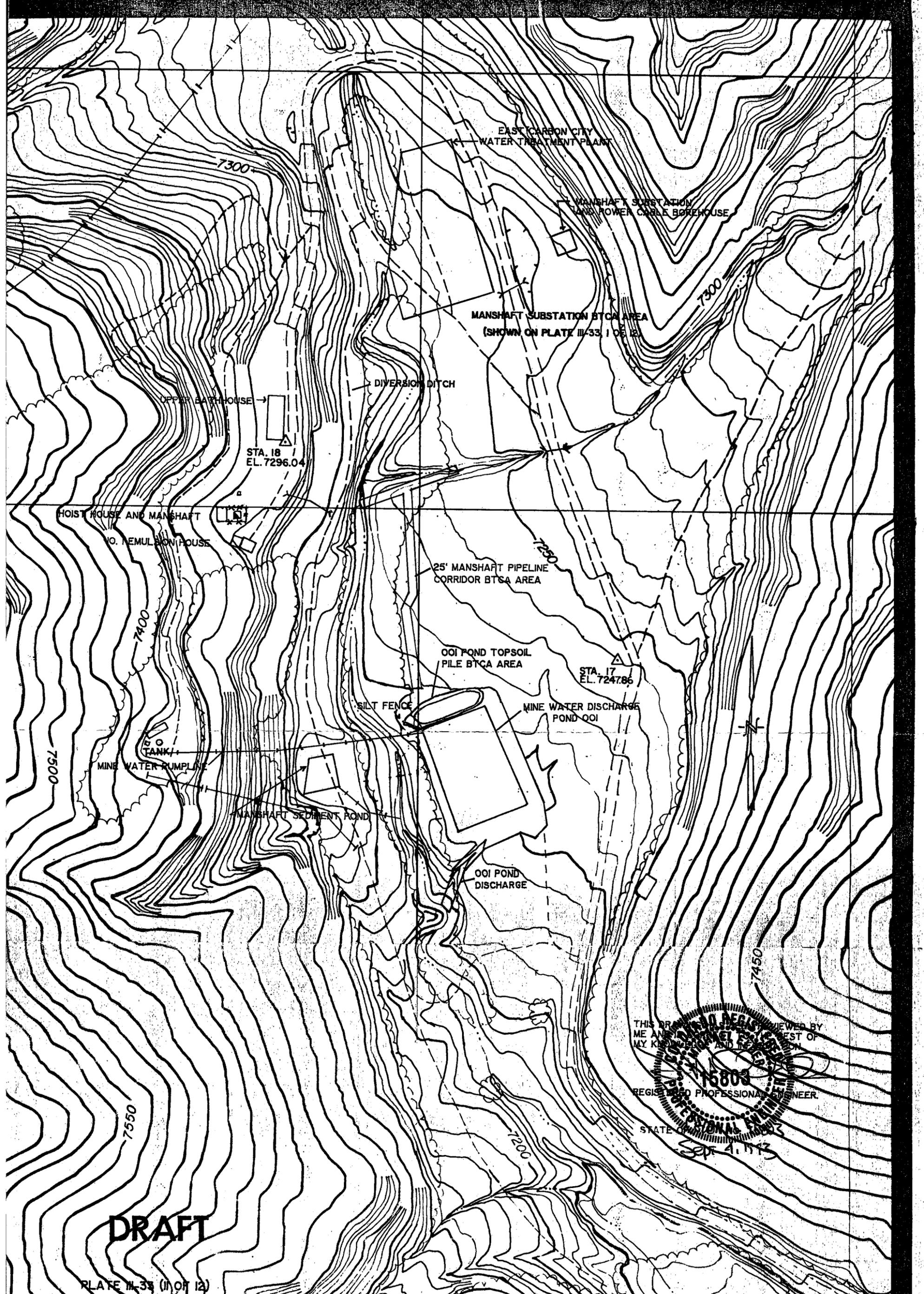
DRAWING NO. A5-0109

DRAFT

THIS DRAWING HAS BEEN REVIEWED BY  
ME AND I ACCEPT IT AS THE BEST OF  
MY KNOWLEDGE AND INFORMATION  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF MICHIGAN NO. 18805



<b>Sunnyside Coal Company</b>	
Drawing No. B4-0081	Drawn By: Karl R. Houskeeper
<b>DETAILED SURFACE FACILITIES AREA - 3</b>	
Date: January 17, 1991	Scale: 1" = 200'



**DRAFT**

PLATE III-33 (11 OF 12)

**Sunnyside Coal Company**

DRAWING NO. A5-0276 DRAWN BY: C. REMPES

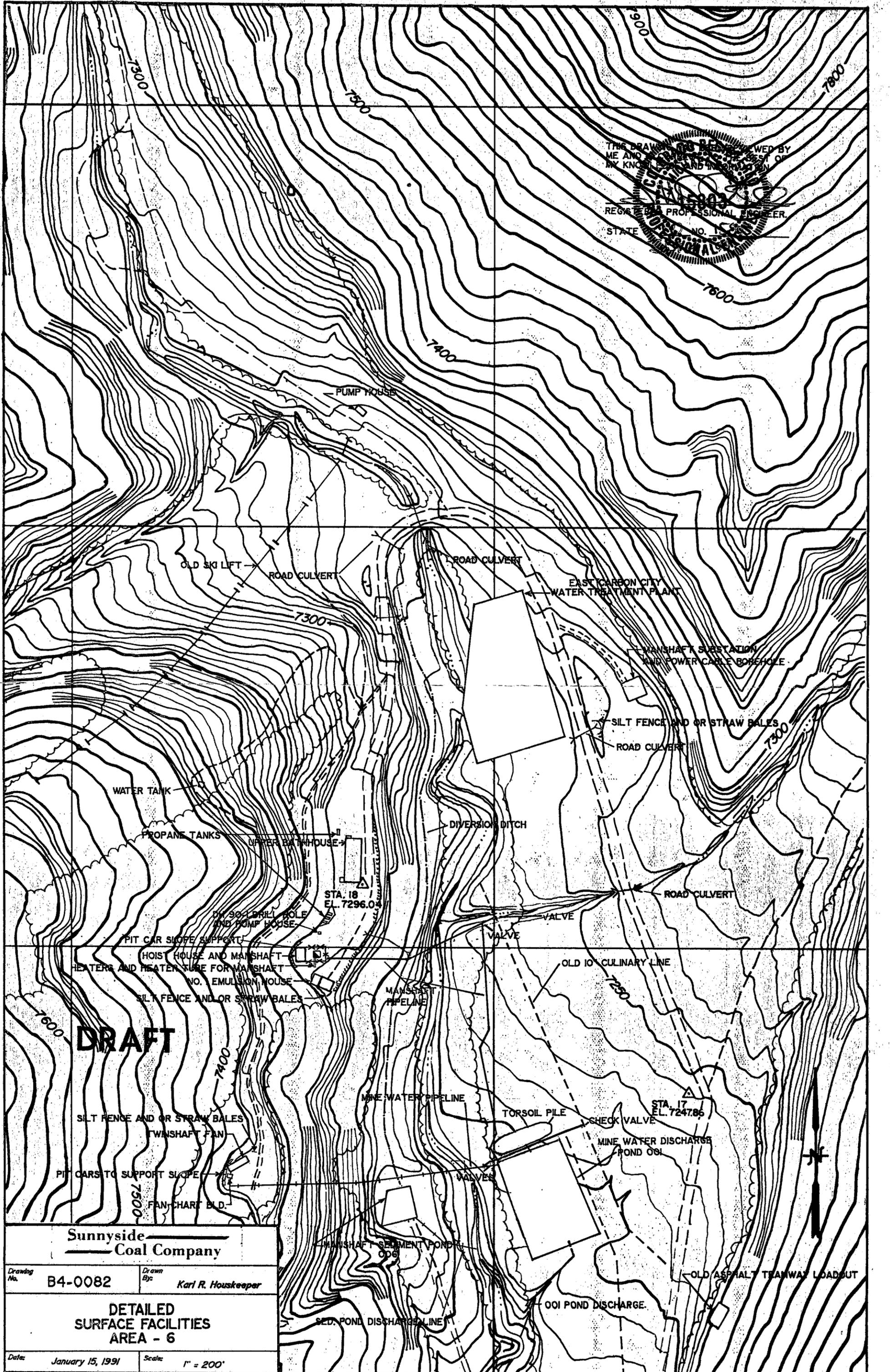
MANSHAFT/TWINSHAFT FACILITIES  
BTCA AREAS

DATE: 5/5/93 SCALE: 1" = 200'

REVISIONS	
NO.	DATE
1	8/27/93

THIS DRAWING HAS BEEN REVIEWED BY ME AND I HEREBY CERTIFY THAT IT IS IN ACCORDANCE WITH THE BEST OF MY KNOWLEDGE AND BELIEF.  
**15808**  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF WEST VIRGINIA  
 SEPT. 4, 1993

THE DRAWING IS REVIEWED BY  
 ME AND I ACCEPT THE BEST OF  
 MY KNOWLEDGE AND INFORMATION  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF MONTANA NO. 15000  
 JOHN J. O'NEAL



**DRAFT**

Sunnyside  
 Coal Company

Drawing No. B4-0082 Drawn By: Karl R. Houskeeper

DETAILED  
 SURFACE FACILITIES  
 AREA - 6

Date: January 15, 1991 Scale: 1" = 200'

# Sunnyside Coal Company

Operations • Highway 123 • P.O. Box 99 • Sunnyside, Utah 84539

73Q  
ACT/007/007 #5  
Copy FAM

August 31, 1993

Ms. Pamela Grubaugh-Littig  
Permit Supervisor  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

RECEIVED

SEP 09 1993

DIVISION OF  
OIL, GAS & MINING

Dear Pam:

Re: Permit Amendment for Adding the Manshaft Pipeline to the  
001 Pond and Connecting all Mine Water Pipelines to an  
Existing Old Culinary Water Pipeline.

Enclosed please find an Application for Permit Change that outlines  
Sunnyside Coal Company's plans for a line from the underground  
culinary water pump line at the Manshaft to the 001 Mine Water Pond  
in order to alleviate flooding in the Manshaft Dips area.

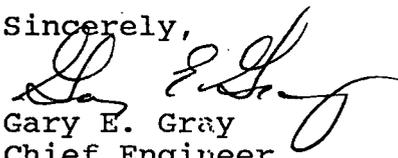
This Application for Permit Change also outlines SCC's plans to  
establish connections between mine water effluents and the 001  
Pond, 002A and 002B Ponds, and the Twin Tanks via the old 10"  
Culinary Water Line, in order to allow for possible greater  
settling treatment of mine water prior to discharge into Grassy  
Trail Creek.

Text to be added is shown in bold, and all relevant Tables and  
Plates have been updated and are enclosed.

Approval of this Permit Change will abate NOV #93-32-4-1.

We appreciate your assistance in this matter and trust that this  
request will meet with your approval. Please contact me if there  
are any problems or concerns.

Sincerely,

  
Gary E. Gray  
Chief Engineer

Corporate Offices  
The Registry  
1113 Spruce Street  
Boulder, CO 80302  
303-938-1506  
FAX: 303-938-5050

Operations  
Highway 123  
P.O. Box 99  
Sunnyside, UT 84539  
801-888-4421  
FAX: 801-888-2581



# Sunnyside Coal Company

Operations • Highway 123 • P.O. Box 99 • Sunnyside, Utah 84539

August 5, 1993

Ms. Pamela Grubaugh-Littig  
Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Dear Pam:

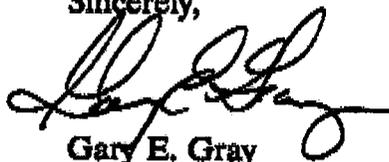
On Monday, August 2, Sunnyside Coal installed, on an emergency basis, 500 feet of 4-inch diameter pipe across an existing disturbed surface area to the Twin Shaft Mine Water Pond (001). The underground culinary water pumping system at the Manshaft has been reactivated due to the loss of efficiency of the main pump which pumps out Twinshaft to 001 Pond. This loss of efficiency had caused the Manshaft Dips area to flood out.

By activating the above culinary water pump, the volume of water (approximately 75 to 100 gpm) to the main pump was diverted and pumped out of the mine separately. This water is of culinary quality. Only changes in regulations required the city to stop using this water. The mine personnel discharged this water into the ditch leading to the Manshaft Sediment Pond (006). Since this water is supposed to go to 001 Pond, we installed this additional pipe.

We are preparing a permit amendment to have this system shown on the facilities map and a description of the operations. This should be submitted to you by the end of next week.

I have been meaning to call you to discuss this, but other things have pushed it to the back of my mind. For this, I am sorry for the delay.

Sincerely,



Gary E. Gray  
Chief Engineer

GEG:th

**Corporate Offices**  
The Registry  
1113 Spruce Street  
Boulder, CO 80302  
303-938-1506  
FAX: 303-938-5050

**Operations**  
Highway 123  
P.O. Box 99  
Sunnyside, UT 84539  
801-888-4421  
FAX: 801-888-2581