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The resident agent of Applicant for the purpose of service of notices and orders related to operations under this application is:

W. L. Wright  
President & Chief Operating Officer  
Valley Camp of Utah, Inc.  
Scofield Route  
Helper, Utah 84526  
(801) 448-9456

The resident agent of Applicant pursuant to the laws of the State of Utah for service of civil process is:

C. T. Corporation  
175 South Main Street  
Salt Lake City, Utah 84111  
(801) 364-1228

Valley Camp, Inc. is a Utah Corporation. The capital stock of Valley Camp, Inc., is 100 percent owned and controlled by The Valley Camp Coal Company. The Valley Camp Coal Company's principal corporate offices are located at 206 Seneca Street, P. O. Box 900, Oil City, Pa. 16301. The Valley Camp Coal Company is a corporation organized and existing under the laws of the State of Delaware. The capital stock of The Valley Camp Coal Company is 100 percent owned and controlled by Quaker State Oil Corporation, P. O. Box 989, Oil City, Pa. 16301. A list of Valley Camp, Inc., and its parent company's officers and directors are shown in Figures 1-2 and 1-3, respectively, of this volume, along with their addresses.

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Valley Camp, Inc. has not operated any surface coal mining operation in the United States within the five years preceding the date of this application. Valley Camp, Inc. has operated underground coal mining operations during the stated time period under the same corporate name. A listing of those mines, associated permit numbers and regulatory agency responsible for such permits is found in Appendix B, Volume I.

Kanawha and Hocking Coal and Coke Company is also a subsidiary of the Valley Camp Coal Company, and provides rights necessary for conducting mining operations by Valley Camp of Utah, Inc., through various property agreements. A listing of the officers and directors for Kanawha and Hocking Coal and Coke Company is shown in Figure 1-3-1.

The resident agent for Kanawha and Hocking Coal and Coke Company is:

Walter L. Wright  
President & Chief Operating Officer  
Valley Camp of Utah, Inc.  
Scofield Route  
Helper, Utah 84526  
(801) 448-9456

## OFFICERS OF THE VALLEY CAMP COAL COMPANY

OFFICER	POSITION	ADDRESS
Roger A. Markle	Chairman & Chief Executive Officer	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Robert E. Olson	Vice Chairman	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Richard C. Harris	President & Chief Operating Officer	206 Seneca Street P. O. Box 900 Oil City, PA 16301
James L. Litman	Vice President of Production	P. O. Box 218 Triadelphia, WV 26059
David E. Lung	Vice President Finance & Administration Secretary & Treasurer	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Roy E. Nicely	Vice President - Marketing Assistant Secretary	206 Seneca Street P. O. Box 900 Oil City, PA 16301

Figure 1-2  
(Continued)

OFFICERS OF THE VALLEY CAMP OF UTAH, INC.

OFFICER	POSITION	ADDRESS
Robert E. Olson	Chairman	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Richard C. Harris	Vice Chairman & Chief Executive Officer	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Walter L. Wright	President & Chief Operating Officer	Scotfield Route Helper, UT 84526
David E. Lung	Secretary & Treasurer	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Richard K. Sager	Assistant Secretary	50 South Main, Suite 1600 P. O. Box 45340 Salt Lake City, UT 84145
John S. Kirkham	Assistant Secretary	50 South Main, Suite 1600 P. O. Box 45340 Salt Lake City, UT 84145

Figure 1-3

DIRECTORS OF THE VALLEY CAMP COAL COMPANY

<u>DIRECTORS</u>	<u>ADDRESS</u>
Lee R. Forker	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Richard C. Harris	206 Seneca Street P. O. Box 900 Oil City, PA 16301
James L. Litman	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Roger A. Markle	206 Seneca Street P. O. Box 900 Oil City, PA 16301
William J. McFate	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Robert E. Olson	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Quentin E. Wood	206 Seneca Street P. O. Box 900 Oil City, PA 16301

Figure 1-3  
(Continued)

DIRECTORS OF THE VALLEY CAMP OF UTAH, INC.

<u>DIRECTORS</u>	<u>ADDRESS</u>
Richard C. Harris	206 Seneca Street P. O. Box 900 Oil City, PA 16301
David E. Lung	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Roger A. Markle	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Robert E. Olson	206 Seneca Street P. O. Box 900 Oil City, PA 16301

Figure 1-3-(1)

## OFFICERS AND DIRECTORS OF KANAWHA AND HOGKING COAL AND COKE COMPANY

<u>OFFICERS</u>	<u>POSITION</u>	<u>ADDRESS</u>
Robert E. Olson	President	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Richard C. Harris	Executive Vice President	206 Seneca Street P. O. Box 900 Oil City, PA 16301
Wendell H. Bolden	Vice President - Coal Reserve Acquisition	P. O. Box 218 Triadelphia, WV 26059
David E. Lung	Secretary & Treasurer	206 Seneca Street P. O. Box 900 Oil City, PA 16301
John S. Kirkham	Assistant Secretary	50 South Main, Suite 1600 P. O. Box 45340 Salt Lake City, UT 84145
Roy E. Nicely	Assistant Secretary	206 Seneca Street P. O. Box 900 Oil City, PA 16301

Figure 1-3-(1)  
(Continued)

OFFICERS AND DIRECTORS OF KANAWHA AND HOCKING COAL AND COKE COMPANY

DIRECTORS

ADDRESS

Roger A. Markle

206 Seneca Street  
P. O. Box 900  
Oil City, PA 16301

Richard C. Harris

206 Seneca Street  
P. O. Box 900  
Oil City, PA 16301

A. Perry Mason

206 Seneca Street  
P. O. Box 900  
Oil City, PA 16301

Robert E. Olson

206 Seneca Street  
P. O. Box 900  
Oil City, PA 16301

A proposed assessment of \$15,750.00 was issued on September 9, 1983. A request for assessment conference was made on September 14, 1983. This violation was terminated on August 18, 1983. On December 8, 1983, an assessment conference was held at the Valley Camp of Utah, Inc. office. The finalized assessment was received December 21, 1983, for 0 points and \$0.00, and the order was vacated.

17. On February 1, 1984, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N84-7-2-10, of the SMCRA of 1977 (P.L. 95-87), with respect to ten (10) violations. A description and status report follows:

(a) Violation 1 of 10 - 10 of 10

"Failure to meet effluent limitations", provisions of regulations violated being: U.C.A. 1953 40-10-18(2)(i)(ii) and UMC 817.42 (a)(7); the violation applying to the discharge of the Belina sediment pond No. 004, from October, 1982, thru October, 1983. The remedial action required was to "meet effluent limitations", and time for abatement, "none". On March 7, 1984, the proposed assessment was received for the above mentioned violations for 292 points and \$4,640.00. On March 16, 1984, a request for an assessment conference was made by Valley Camp of Utah, Inc.

The assessment conference for this violation was held April 23, 1986.

The finalized assessment resulting from the April 23, 1986, assessment conference is as follows:

Violation No. N84-7-2-10	Amount of Assessment as Revised
1 of 10 = 43 Pts.	\$ 720.00
2 of 10 = 18 Pts.	\$ 180.00
3 of 10 = 21 Pts.	\$ 220.00
Total <u>82 Pts.</u>	<u>\$1,120.00</u>

Violation 4 of 10 through 10 of 10 were vacated by acting assessment officer on May 10, 1984.

On May 16, 1986, a check in the amount of \$1,120.00, representing full payment of this assessment, was issued to the Division.

18. On April 26, 1984, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation No. N84-7-6-1, of the SMCRA of 1977 (p.L. 95-87), with respect to one (1) violation.

A description and status report follows:

- (a) Violation 1 of 1

"Failure to meet effluent limitation", provisions of regulations violated being: U.C.A. 1953 40-10-18(2)(i)(ii) and U.M.C. 817.42 (a) (7); the violation applying to the discharge of the Belina sediment Pond No. 004.

Remedial Action Required:

- (a) Sample sediment pond discharge for four (4) consecutive days in the presence of Division representatives following receipt of notice.
- (b) Demonstrate adequate pond volume to contain runoff from a ten (10) year, 24 hour precipitation event.

The time for abatement was ten (10) days, no later than June 9, 1984.

On June 6, 1984, a modification to the violation was received for remedial action. For Part A, delete: "Sample sediment pond discharge for four (4) consecutive days in the presence of Division representatives following receipt of notice", and add: "Meet effluent limitations". The time for abatement changed to, delete: "Ten (10) days, no later than June 9, 1984, and to add: "Sixteen (16) days, no later than 8:00 AM, June 15, 1984."

On July 5, 1984, a second modification to the violation was received for which the abatement deadline was extended to allow Valley Camp to respond to the Division's review (July 5, 1984 letter) of Valley Camp's proposed abatement, dated June 14, 1984.

The new abatement deadline was no later than July 27, 1984, for submittal of response. On August 9, 1984,

a termination notice was received for Part A of the violation. On August 9, 1984, modification to the violation was received where the abatement deadline was extended for Part B until August 28, 1984. A termination notice was received August 30, 1984 for Part B. A proposed assessment of 37 points and \$540.00 was received August 31, 1984. On October 22, 1984, a proposed assessment of 28 points and \$360.00 was received. No assessment conference was held for this violation. On November 26, 1984, Valley Camp of Utah, Inc. issued check No. 2779, in the amount of \$880.00, representing full payment of Notices of Violation Nos. N84-7-9-1 (\$520.00) and N84-7-6-1 (\$360.00). Final approval of abatement plans for N.O.V. N84-7-6-1 were received October 28, 1985.

19. On August 8, 1984, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N84-7-9-1, of the SMCRA of 1977 (P.L. 95-87), with respect to one (1) violation. A description and status follows:

(a) Violation 1 of 1

"Failure to meet effluent limitation", provisions of the regulations violated being: U.C.A. 1953 40-10-18(2)(i)(ii), and U.M.C. 817.42 (a) (7); the violation applying to the discharge of the Belina sediment pond No. 004.

Remedial Action Required: "Meet effluent limitations", and time for abatement was thirty days; no later than September 7, 1984. The proposed assessment received was August 31, 1984, for the violation was 37 points and \$540.00. On September 10, 1984, a termination notice was received. No assessment conference was held for this violation. The finalized assessment of 36 points and \$520.00 was received on October 26, 1984. Payment for this violation was included on check No. 2779, issued November 26, 1984, for the payment of N.O.V. Nos. N84-7-9-1 and N84-7-6-1 inclusively.

20. On November 15, 1984, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N84-2-23-1, of the SMCRA of 19 (P.L. 95-87), with respect to one (1) violation. A description and status follows:

(a) Violation 1 of 1

"Failure to maintain sediment control measures to function as designed". Provisions of regulations violated being U.M.C. 817.45 and U.M.C. 771.19, the violation applying to (a) drainage bypassing the culvert inlet into sediment pond No. 002, and (b) roadside ditch and gabion installation adjacent to the truck scale on the south side of the road.

Remedial Action Required: (a) Divert all disturbed area drainage into the mine sediment pond No. 002 as designed, and (b) remove coal fines from roadside ditch, repair and maintain the southern gabion as necessary to function as designed. Time for abatement was two (2) weeks or no later than November 29, 1984. On November 27, 1984, a termination notice was received with an effective date of November 16, 1984. On May 15, 1985, the proposed assessment of 27 points and \$340.00 was received.

On May 21, 1985, a request for an assessment conference was made by Valley Camp of Utah, Inc. The assessment conference was held at the Division office in Salt Lake City, Utah. On July 19, 1985, a finalized assessment was received for 27 points and \$80.00. Valley Camp of Utah, Inc. issued check No. 2851 in the amount of \$80.00 on July 24, 1985, representing full payment.

21. On March 5, 1985, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N85-2-3-2 of the SMCRA of 1977 (P.L. 95-87), with respect to two (2) violations. A description and status report follows:

- (a) Violation 1 of 2

"Failure to maintain runoff diversions in order to pass all surface drainage from the disturbed

area through a sedimentation pond". Provisions of regulations violated being: U.M.C. 817.42 (a)(1), U.M.C. 817.45, U.C.A. 40-10-18 (2)(i) (ii); the violation applying to the drainage diversion along the base of the stacker pad and truck dump.

Remedial Action Required: "Reconstruct and maintain the diversion to meet design standards of U.M.C. 817.43 (a) for a ten (10) year - 24 hour precipitation event, and U.M.C. 817.43 (f) (2), requiring a minimum .3 foot freeboard. Submit sizing calculations, maps, and cross-sections of the drainage diversion for DOGM review and approval". Time for abatement: 1) establish drainage controls to divert all disturbed area to a sedimentation pond within two (2) weeks, or by March 20, 1985, 2) submit diversion design (or reference approved designs in MRP) within 30 days, or by April 5, 1985, and 3) establish the drainage ditch to meet design standard by April 5, 1985.

(b) Violation 2 of 2

"Failure to maintain sediment control measures to function in accordance with approved designs". Provisions of the regulations violated being: U.M.C. 817.45, U.M.C. 771.19, U.C.A. 40-10-18

(2)(i)(ii), and drainage control plans for the truck scale installation approved August 13, 1983, and rock gabion filter designs submitted July 25, 1984. The violation applying to: (a) drainage from the area at the base of the truck dump, bypassing the culvert inlet to sediment pond No. 002; (b) truck scale drainage area; and (c) rock gabion filters along the load-out access road.

Remedial Action Required: (a) Divert drainage to the sediment pond and maintain diversion as necessary, (b) establish adequate surface grades and maintain ditchline to divert drainage to sediment pond No. 002, as designed, so that only drainage off the first 75 feet of access road flows through the gabion filters or submit modifications, and (c) maintain filters as designed. Remove sediment and replace straw, and repair rock filter as necessary to ensure that the structure is well secured to prevent short circuiting around rock or straw. The time for abatement was two (2) weeks, or by March 20, 1985.

On April 8, 1985, a Modification of Violation was received. For Violation No. 1, the abatement deadline was extended one (1) week until April 12, 1985. On Violation No. 2, the abate-

ment deadline was extended until April 19, 1985, to allow time necessary for DOGM's review of the plans submitted March 22, 1985. For Violation No. 2, under Remedial Action, add: Obtain DOGM approval of modification to drainage control plans approved August 13, 1983. On April 23, 1985, a second notice was received: On Violation No. 1, the abatement deadline was extended until April 25, 1985, and on Violation No. 2, the abatement deadline was extended until April 25, 1985, to allow DOGM time necessary for review of abatement plans submitted April, 11, 1985. On May 6, 1985, a termination notice was received for both violations. On October 15, 1985, a proposed assessment of 25 points and \$300.00 was received for Violation 1 of 2, and 36 points, and \$520.00 for Violation 2 of 2. On October 15, 1985, a request for an assessment conference was made by Valley Camp of Utah, Inc. On January 21, 1986, an assessment conference was held at the Division office in Salt Lake City, Utah. For Violation Nos. N85-2-3-2, N85-2-10-2, N85-2-11-1, and N85-2-12-1. On March 10, 1986, the finalized assessment for Violation No. N85-2-3-2 was reviewed. Zero points were assessed and the civil penalty was vacated.

22. On June 27, 1985, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of

Violation, No. N85-2-10-2 of the SMCRA of 1977 (P.L. 95-87), with respect to two (2) violations. A description and status report follows:

(a) Violation 1 of 2

"Failure to notify the Division within five (5) days of receipt of analytical results of N.P.D.E.S. discharge samples, which indicated non-compliance with the applicable effluent limitations". The provision of the regulations violated being, U.M.C. 817.52 (b)(i)(ii). The violation applies to samples obtained from N.P.D.E.S. Point 004 in February, March, April and May, and samples obtained from N.P.D.E.S. Point 005 in May.

Remedial Action Required: Submit written notification and a copy of the analytical results for all samples which exceeded the N.P.D.E.S. permit effluent limitations to the Division. Time for abatement was five (5) days, or no later than July 2, 1985.

(b) Violation 2 of 2

"Failure to clearly mark buffer zone". Provisions of the regulations violated being, U.M.C 817.11 (e) and U.M.C. 817.57 (b), the violation applying to the buffer zone at the inlet to Whisky Creek bypass culvert and at the outlet bypass culvert by the pumphouse.

Remedial Action Required: Clearly mark buffer zones to prevent disturbance of the stream by surface operations. The time for abatement was two (2) weeks, or by July 11, 1985. On August 29, 1985, a proposed assessment was received for 18 points and \$180.00 for Violation 1 of 2, and 8 points and \$80.00 for Violation 2 of 2. On July 12, 1985, a termination notice for Part 1 of 2 of the violation was received. On July 16, 1985, a termination notice for Part 2 of 2 of the violation was received. On September 12, 1985, a request for an assessment conference was submitted. The assessment conference was held at the Division office in Salt Lake City, Utah on January 21, 1986. The finalized assessment was received March 10, 1986, for zero points and the civil penalty was vacated.

23. On July 12, 1985, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N85-2-11-1, of the SMCRA of 1977 (P.L. 95-87), with respect to one (1) violation. A description and status report follows:

(a) Violation 1 of 1

"Failure to meet applicable effluent limitations".

Provisions of the regulations violated being:

U.M.C. 817.42(b) and U.C.A. 40-10-18(2)(i)(ii);

and applying to the Belina Mine Discharge, NPDES

Point 005, sampled May 17, 1985.

Remedial Action Required: Meet effluent limitations, and the time for abatement was "immediately". On July 12, 1985, a termination notice was received. On August 29, 1985, Valley Camp of Utah, Inc. received a proposed assessment of 40 points and a \$600.00 civil penalty. On September 12, 1985, Valley Camp of Utah, Inc. requested an assessment conference for this violation. On January 21, 1986, an assessment conference was held at the Division office. On March 10, 1986, the finalized assessment of 40 points and \$420.00 was received for the violation. On March 26, 1986, Valley Camp of Utah, Inc. issued check No.2018 for the amount of \$420.00, representing full payment for the finalized civil penalty assessed to the subject violation.

24. On August 3, 1985, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N85-2-12-1, of the SMCRA of 1977 (P.L. 95-87), with respect to one (1) violation. A description and status report follows:

(a) Violation 1 of 1

"Conducting mining activities without a permit".

Provisions of the regulations violated being:

U.M.C. 771.19 and U.C.A. 40-10-9(1); and applying to extension of sediment pond No. 002 at the Utah No. 2 Load-out.

## Remedial Action Required:

1. Submit complete and adequate as-built designs and maps for the sediment pond, which are certified by a registered P.E.; obtain D.O.G.M. approval.
2. Submit soil samples of the material excavated in extending the pond to a lab for analyses, as required by U.M.C. 817.22(e) and guidelines.
3. Provide adequate protection for excavated soil.
4. Submit plans describing the volume of the excavated soil, the storage site, and the intended use of it; obtain D.O.G.M. approval.

## Time for abatement was:

1. September 1, 1985;
2. August 14, 1985;
3. August 14, 1985;
4. September 1, 1985.

A proposed assessment of 33 points and a civil penalty of \$460.00 was received on September 6, 1985.

On September 12, 1985, Valley Camp of Utah, Inc. requested an assessment conference for this violation.

A Modification Notice was received on February 3, 1986, and extended remedial actions until January 30, 1986. A termination notice for Remedial Action Part No. 2, "samples collected by operator and sent to lab for analysis", was received February 3, 1986.

Termination of Violation, Part 1 of 1 - Complete termination of this violation can now be made because Item No. 1 of the original violation has been abated as of April 28, 1986. Twelve copies of pond drawings were received on the above date. The diagram has been stamped certified by a registered P.E.

A modification of the violation, Part 1 of 1, was received April 3, 1986. The Violation Termination Notice, issued by Tom Wright on January 31, 1986, was no longer valid. Item Nos. 1 and 4, under Remedial Action Required, had not been abated at the time the above termination notice was served. The abatement date was extended to May 5, 1986, due to administrative delays between January 31, 1986, and April 2, 1986. Item No. 1 remains to be abated at this point in time. A termination notice was received April 3, 1986, for Remedial Action Nos. 2, 3 and 4.

On May 14, 1986, a termination notice was issued

by the Division for Remedial Action on Item No. 1. The assessment conference was held at the Division office in Salt Lake City, Utah on January 21, 1986. On March 10, 1986, finalized assessment for Violation N85-2-12-2, being 24 points and \$0.00.

25. On January 17, 1986, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation, No. N86-8-2-1, of the SMCRA of 1977 (P.L. 95-87), with respect to one (1) violation. A description and status report follows:

(a) Violation 1 of 1

"Failure to maintain class one (1) road, and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property". Provisions of the regulations violated being: U.M.C. 817.150 et al, U.M.C. 817.153, and U.C.A. 40-10-18(2)(ii)(j); and applying to "snow removed from Valley Camp road, stockpiled on pad above Mud Creek, on the east side of State Route 96, north of Clear Creek".

Remedial Action Required: Retrieve snow removed from Valley Camp Class 1 Road, and place in a permitted, proper snow storage area. A termination notice was received January 30, 1986. On February 5, 1986, a proposed assessment of 11 points and \$110.00 was received. On February 6, 1986, a request for an assessment

Conference for this violation was submitted. On March 18, 1986, an assessment conference was held at the Division office in Salt Lake City, Utah. The finalized assessment was received March 24, 1986, for 0 points and \$0.00.

26. On July 18, 1986, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc. a Notice of Violation, No. N86-9-8-1, of the SMCRA of 1977 (P.L. 95-87), with respect to one (1) violation. A description and status report follows:

(a) Violation 1 of 1

"Failure to pass surface drainage through a treatment facility before leaving permit area". Provisions of the regulations violated being: U.M.C. 817.42(a)(1), U.C.A. 40-10-18(i), and U.C.A. 40-10-18(i)(ii). The violation applying to: 1. The west embankment of the Belina haul road turn in has been used for the disposal of road material during winter snow maintenance, and; 2. The area has been disturbed during the installation of road drainage pipes. In both situations above, no sediment control measures were taken to control drainage from the disturbed areas.

Remedial Action Required:

1. Install sediment control devices to protect stream from runoff coming from dis-

turbed areas, (a) along base of pipe installation disturbance; (b) along diversion ditch where snow blown material was deposited.

2. Seed disturbed areas.
3. Clean diversion ditch from haul road to creek (or reriprap).

Time for abatement was:

1. By July 23, 1986;
2. By August 7, 1986;
3. By July 23, 1986.

On August 4, 1986, a proposed assessment for this violation, in the amount of 26 points and \$320.00, was received. On August 4, 1986, a Modification Notice was received as follows: Under nature of violation add: "Failure to prevent, to extent, possible additional contributions of sediment to stream flow or runoff outside permit area". Under provisions of act or regulations violated, add: U.M.C. 817.45 (i). These changes more specifically address the nature of the violations. On August 5, 1986, Valley Camp submitted a request for an assessment conference. A second Modification Notice was received on August 12, 1986, and is as follows: "Item No. 2 is changed to read, seed area disturbed by pipe installation. Item

No. 3 is changed to read, install straw bales along diversion ditch from haul road to creek". The reason for modification was "after further discussion between inspector and the operator, it was agreed that these changes be acceptable". A termination notice for this violation was received on approximately August 19, 1986. On September 4, 1986, an assessment conference was held at the Division office in Salt Lake City, Utah. On September 24, 1986, the finalized assessment was received for 13 points and \$130.00. On October 26, 1986, Valley Camp of Utah, Inc. issued check No. 2983, in the amount of \$130.00 for full payment of the assessment for this violation.

27. On September 30, 1986, the Division of Oil, Gas & Mining issued to Valley Camp of Utah, Inc., a Notice of Violation No. N86-9-11-1, of the SMCRA of 1977 (P.L. 95-87), with respect to one (1) violation. A description and status report follows:

(a) Violation 1 of 1

"Failure to comply with terms and conditions of the permit approved by the State Regulation Program. Specifically, failure to collect water monitoring data at the approved frequency".

Provisions of the regulations violated being, U.M.C. 771.19 and U.M.C. 817.52, and apply to surface and ground water; monitoring data was

not available for the months of April and May of 1986.

Remedial Action required was none. The abatement time was N/A. This violation was terminated the same day of issuance. On October 14, 1986, a Modification Notice was received as follows: "Under portion of operation to which notice applies, change surface and ground water monitoring to read, surface water monitoring, only". On October 20, 1986, a proposed assessment of 22 points and \$240.00 was received. On November 11, 1986, a check was issued for \$240.00 to the Division.

## T13S, R7E (Continued)

Section 20: NE 1/4 NE 1/4, Less 1.29 acres to Milton E. and Calvin K. Jacob.

Section 21: That portion of N 1/2 NW 1/4 and N 1/2 NE 1/4 lying North of the Centerline of Broads Canyon Creek.

Volume 1  
Appendix A  
Page 3

June 27, 1973, the lease was assigned from the North American Coal Corporation to Kanawha and Hocking Coal and Coke Company. A renewal of this lease in favor of Kanawha and Hocking Coal and Coke Company was issued May 1, 1974, for a period of ten (10) years. A sublease of the lease was entered into January 1, 1978, between Kanawha and Hocking, and Valley Camp of Utah, Inc.

U. S. Coal Lease U-47974

This lease was issued to Kanawha and Hocking Coal and Coke Company effective December 1, 1981. Kanawha and Hocking Coal and Coke Company is a sister corporation to Valley Camp of Utah, Inc., and the necessary lease required for mining privileges will be entered into prior to the initiation of mining activities on this lease.

All the documents necessary to accomplish this transfer are of record, and have been approved by the Bureau of Land Management.

U. S. Coal Lease U-47975

This lease was issued to Kanawha and Hocking Coal and Coke Company effective December 1, 1981. Kanawha and Hocking Coal and Coke Company is a sister corporation to Valley Camp of Utah, Inc., and the necessary lease required for mining privileges will be entered into prior to the initiation of mining activities on this lease.

All the documents necessary to accomplish this transfer are of record, and have been approved by the Bureau of Land Management.

16 January 1987

BELINA MINE PERMIT NO. UT-0013  
MID-PERMIT REVIEW SUBMITTAL - BY VOLUMES

VOLUME I

Section	Revision - Addition	Description
782.13	Revised page nos. 5 and 5a	are enclosed as replacements. Mr. Wright's title has been changed.
782.13	A revised listing of officers and directors for Valley Camp of Utah, Inc., Valley Camp Coal Co., and Kanawha and Hocking Coal and Coke Co.	is enclosed as replacement page nos. 6 through 9a.
782.14	This section is updated with enclosed page nos. 16-18 through 16-36.	Insert behind page no. 16-17.
782.15	New page no. 22a is enclosed for insertion behind page no. 22.	This page corrects the Marakis Lease description found in paragraph 3 on page 22.
782.15	Revised page no. 44 is enclosed as a replacement for the same page in Appendix A.	

This page reflects revised comments for Lease Nos. U-47947 and U-47975.

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DIVISION OF OIL  
GAS & MINING

VOLUME III

Page iii has been revised to include additional figures.

- 784.11 Revised page nos. 2 through 5 are enclosed as replacements for corresponding page numbers. This revision includes the full seam method of mining. Figure 3-1, page no. 6, is also revised to reflect the anticipated 5-year production tonnages.
- 784.12 Revised page nos. 13 through 15 are enclosed as replacements. This revision reflects the change in frequency of sediment pond inspections.
- 784.12 A revised drawing, No. B4-0010, "Concrete Filter Pond," is enclosed as Figure 3-6C, page no. 20C, for replacement of that figure presently in the plan.
- 784.12 A new drawing, No. B3-0020, for typical gabion structures, is enclosed as Figure 3-6D, page no. 20D.
- 784.12 A new drawing, No. A4-0092, for typical decant pipes, is enclosed as Figure 3-6E, page no. 20E.
- 784.12 A new drawing, No. B4-0038, "Belina Mine Wash Bay and Retaining Wall," is enclosed as Figure 3-6F, page no. 20F.
- 784.12 A new drawing, No. A4-0056, "Truck Scale Location and Approach - Utah No. 2," is enclosed as Figure 3-6G, page no. 20G.
- 784.13 Figure 3-8 (page 23) has been revised to reflect 1987 dollars.
- 784.13 Appendix A has been revised to reflect 1987 reclamation costs.
- 784.13 Appendix B has been revised to reduce the number of different seed mixes.
- 784.14 Figure 3-13 on page 45 has been revised to reflect the present water monitoring.
- 784.14 Page Nos. 46 and 47 have been revised to reflect the present discharge (flow) determination procedure.

- 784.24 Page 92 has been revised to include recent road paving activities.
- 784.24 Figure 3-32, Drawing No. A5-0067, has been revised to show recent paving activities. This figure has been numbered as page no. 92A. Refer also to Map No. D4-0085, Envelope 9 of Volume IV, for general site location.

VOLUME IV

Map B-3, No. D2-0060, "Belina No. 2 Mine Progress Map," is submitted in lieu of a five (5) year forecast map. See Section 782.17 of Volume VI.

Map C-5, No. C5-0034 (Rev. 1), "Area Over Underground Works," has been updated and is submitted as a replacement for the same map in Envelope No. 10.

Map A, "Surface Ownership," has been updated and is enclosed as a replacement for the same map in Envelope No. 1.

Map A-1, "Coal Ownership," has been updated and is submitted as a replacement for the same map in Envelope No. 2.

Map C has been revised to show an enlarged topsoil storage location, and, also, the proposed sediment disposal area. This map replaces the present Map C in Envelope No. 7.

Map No. D4-0085, "Utah No. 2 Loadout Surface Facility," is enclosed as an updated replacement for Map C-3 in Envelope No. 9 of Volume IV. See also Section 784.24 of Volume III.

VOLUME V

## Section

- 817.52 An update of the monitoring of mine water discharge facility and practices is enclosed as page 9A-1, for insertion into this section. This update applies to Sections 784.14 and 784.16 of Volume VI.
- 817.52 The in-mine ground water monitoring plan has been revised as a result of meetings with Division personnel. A new plan is enclosed, pursuant to Condition No. 3 of the mine permit approval, for insertion into this section as page nos. 9D, 9E and 9F.
- 817.46  
[784.16  
(b) 1 &  
2] New page no. 10B-1, showing the new capacity of Sediment Pond No. 2, is enclosed for insertion behind page no. 10B of this section. New page no. 10B-2, Drawing No. B3-0033, "Utah No. 2 Pond-Stage Capacity and Curve," is also enclosed for insertion.
- 782.19 The MSHA identification number for the Loadout area (Utah No. 2) has been changed. An updated page no. 4C is enclosed for replacement of corresponding pages in this section of Volume Nos. V and VI.
- \*\*\* Updated Roof Control and Ventilation plans are enclosed for replacement of those found in Appendix B.

VOLUME VI

## Section

- 784.12 A revised list of maps and drawings certified by Mr. E. B. Foust is enclosed on page 18 for insertion into this section.
- 782.17 An updated underground development schedule for Belina No. 1 is enclosed. New pages 782.17-1 and 782.17-2 replace those with corresponding page numbers dated November 14, 1983.
- 783.15 A "Revised Alternative Water Supply Information," is enclosed for insertion into Appendix N. New pages 41 and 42 replace corresponding pages presently enclosed in the plan.

## Maps

The No. 2 Sediment Pond (Loadout Facility) has been cleaned out and enlarged. A revised drawing, No. C4-0060, Rev. 1, showing the new configuration and capacities is enclosed for insertion into Map Section P-1 to P-3 of Volume VI. This drawing should replace Drawing No. C5-0027 found in Map Envelope P-1 to P-3.

New Map No. D4-0084, "Belina Surface Facility," is enclosed for insertion into the envelope containing Map No. C-6. The new map will update old Map C-6, and show new installations and paving of the roads.

The new cross-drains placed on the Belina Mine Road are shown on Map T-1. Revised sheets P-4 through P-7 are enclosed as replacements.

84.11 OPERATIONS PLAN

Valley Camp of Utah, Inc. operates the Belina No. 1, and Belina No. 2 Mines at Whiskey Canyon, approximately 4½ miles south of Scofield, Utah. The mining is currently being conducted in accordance with a Mine Plan (30 CFR 211) approved February 10, 1977, and Utah Division of Oil, Gas and Mining Permits ACT/007/001 and ACT/007/014.

The Belina No. 1 and No. 2 Mines are located in the Upper and Lower O'Connor Seams, respectively. Each seam varies in thickness from five (5) feet to twenty-five (25) feet, with the average of each being approximately sixteen (16) feet. Utah No. 2 Mine is located just north of the preparation plant, and allowed for entry into the Upper O'Connor seam at that location. This mine was officially idled in July, 1978, and the main entries were sealed. Ventilation is being provided to the seals, as well as all unsealed entries, to prevent any gas accumulation. The location of this mine is shown on Coal Map, Map B, Volume IV.

Mining Method

Belina No. 1 and No. 2 Mines are developed in the upper twelve (12) feet of the coal seam. The top two (2) feet of which is left in place to aid with roof support. The lower portion of the coal seam is extracted later during section retreat.

Mine development utilizes the standard practice of using main entries, sub-main entries, and room-and-pillar sections. The mines are developed around two (2) sets of main entries, the West Mains and the South Mains. The West Mains comprise a relatively short segment of five (5) entries developed from the mine portals into the coal reserves; for ventilation these are set up with two (2) intake entries, two (2) return entries, and one (1) neutral belt entry.

The South Mains is the backbone of the mine and is made up of eleven (11) entries, five (5) middle entries (four [4] intake and one [1] neutral belt). On each side of the intake entries are three (3) return entries approximately 180 feet removed.

The sub-main system is developed the same as the West Mains with five (5) entries.

The room-and-pillar sections are developed off of the sub-mains as typical room-and-pillar sections. There are four (4) entries, two (2) intake, one (1) return and one

(1) neutral belt. Rooms are developed off either side of these entries. On section retreat, one (1) of two (2) methods is used: 1) If the coal is less than twelve (12) feet thick, pillars are removed as in typical pillar mining. 2) If the coal is thicker than twelve (12) feet, the pillars are split; two (2) 20 feet x 60 feet pillars are left and the bottom coal is removed.

There are numerous natural gas pipelines throughout the mine area. In order to support these pipelines from subsidence, full 60 feet x 60 feet pillars are left in place to prevent damaging the pipelines. At present, an angle of draw of  $35^\circ$  is being used. It is hoped, however, that this draw angle will be steepened in the future to increase coal recovery.

Non-recovery areas within the mine plan area are only those areas left between mined out sections used for ventilation barriers, property line barriers, areas where the seams are so small that mining is economically impossible with the equipment presently employed, and areas extending at least 150 feet in all directions from all oil and gas wells.

### OPERATIONS PLAN

The Belina No. 1 and No. 2 Mines were designed for an annual production rate of 1.2 million tons each. The previous mining and projected rates are below this designed level, due to market conditions and current sales. Figure 3-1 shows the production through 1986, and the projected production through the life of each mine.

Coal is mined by continuous miners and transported to a feeder breaker by 6.5 ton shuttle cars. A complete list of major equipment used is found in Figure 3-2. A conveyor belt system then moves the coal to an outside stockpile. From the stockpile, the coal is loaded, via an underground reclaimer, into a 30 ton truck loading bin (Map C-6a). The coal is trucked to the main load-out facility at the Utah No. 2 Mine site by a contract hauler. The contractor utilizes tandem 25 ton bottom dump trailers, as weather permits. During inclement conditions, single 30 ton trailers are used. Dust has not been a problem due to the moisture content of the coal. Should dust become a problem, measures such as covering, spraying, etc., will be used. Spillage is controlled by limiting loads, and leaving dump gates closed during return trips.

A preliminary engineering design has been done on an overland conveyor system to transport coal from the Belina No. 1 and No. 2 Mines to the Utah No. 2 load-out facility. This conveyor system will not be constructed during this permit term. A detailed design of the conveyor system will be incorporated into the next permit renewal application, if appropriate. The preliminary design is found in Envelope 26, Volume IV.

The mine is scheduled to work 240 days per year, with six (6) unit shifts per day (three [3] sections for two [2] shifts). The third shift will be used for maintenance. The mine employees approximately 115 union workers and 44 salaried personnel.

The geologic effects of mining and existing geotechnical information is considered in developing a roof control plan for the mine. Valley Camp, Inc., has a roof control plan that has been approved by the state and federal regulatory agencies. State and federal agencies base their approvals on specific site conditions, mining experience in the area, and geologic and geotechnical information available. The approved roof control plan addresses size of underground openings, pillar size, roof support methods, crosscut centers, mining techniques, room centers, and pillar recovery methods.

All portals will be sealed and sites regraded and reclaimed upon completion of mining activity. All roads, building,

conveyors and preparation facilities will be removed at the end of the end of the life of the mines, unless prior agreement is made with the regulatory authority. Specific plans are included in Section 784.13, Reclamation Plan.

The design and operation of the mines complies with accepted engineering practices, and with all regulatory requirements. Ventilation plans, roof support plans, and all other MSHA required plans are on file with MSHA, and in the mine office, and are based on current engineering standards. A copy of these plans is provided as Appendix B of Volume V of this permit application.

### Facilities

Map C-66 illustrates the facilities present at the Belina No. 1 and No. 2 sites. The facilities at the Utah No. 2 site are shown on Map C-3. Section 784.12 describes those structures already on site.

The following text will describe the existing and proposed facilities in this order:

- Dams and impoundments;
- Overburden and topsoil storage;
- Coal removal, storage, and hauling;
- Waste materials;
- Mine facilities;
- Pollution control facilities;
- Water supply and fire protection;
- Explosives storage; and
- Signs and markers.

There are three (3) sedimentation ponds at the Utah No. 2 site (Map C-3), and one (1) at the Belina site (Map C-6). All were constructed on parallel lifts, and meet OSM requirements. All are used to protect the quality of surface water run-off and will be maintained by the mine personnel. In addition to normal maintenance, ponds will be cleaned when they reach 60% of sediment capacity. The sedimentation ponds at the Utah No. 2 site will be removed and reclaimed at the end of the mine life. The pond at the Belina site will be incorporated into the reclaimed surface to enhance the riparian wildlife habitat, as described in Section 784.15, and Appendix M. Pond design performance and removal are addressed specifically in Section 784.16, Existing Structures. Design details are provided on Maps P-1 through P-4.

There are no overburden stockpiles at either the Belina or Utah No. 1 sites. Earth materials removed during the construction of the benches at the Belina site were utilized to construct the coal stockpile and truck turnaround pad. There are no existing topsoil stockpiles at either site. The Utah No. 2 area, and part of the Belina area, were constructed prior to the enactment of the regulations requiring that topsoil be salvaged. The topsoil salvaged from the more recent disturbances at the Belina site has been redistributed over those areas which have been temporarily reclaimed.

Coal is removed from the mines via conveyors from the No. 1 and No. 2 portals to the stacker tube (Map C-6), which allows the stockpiling of up to 18,000 tons of coal. An underground reclaimer (Figure 3-6) feeds coal from the stockpile to the truck loading bin (Map C-6). The coal is then hauled to the railroad load-out at the Utah No. 2 site, or directly to the consumer by a contract hauler. The hauler uses tandem 25 ton trailers in good weather, and single 30 ton trailers in inclement weather. The Utah No. 2 load-out (Map C-3) includes a truck dump, conveyor, crusher, stockpile, reclaimer, and a railcar loading facility. This coal is transported to the consumer via unit trains on the Denver and Rio Grande tracks. These facilities are maintained on a routine basis. They will be removed prior to reclamation, except for the reclaim tunnels which will be sealed and covered prior to final grading and seeding.

Waste materials are produced in only modest quantities. Underground development wastes are minimal due to the thick, essentially continuous seams, and are left in the mine. No coal processing wastes are generated as crushing is the only on-site coal preparation process. Non-coal wastes are stored in metal trash containers prior to being transported to the Carbon County Sanitary Landfill. Large items, such as machinery, are stored in a manner which does not adversely impact the site. No wastes are deposited within eight (8) feet of the coal outcrop or stockpile, or adjacent to the sediment pond.

The mining support facilities include the:

Office/Warehouse constructed 1/4 mile west of the Utah No. 2 site (Map C);

Belina Shop/Warehouse (Map C-6); and

Belina Bathhouse (Map C-6).

These facilities are maintained on a regular basis. The shop/warehouse, and the bathhouse, will be removed prior to reclamation. The office/warehouse may be removed or left intact. See Section 784.15 for additional information.

Pollution control programs and facilities are devised and

constructed to prevent water and air pollution. Water pollution control is achieved through use of sedimentation ponds, filtering ponds, sewage disposal and treatment units, spill prevention and control countermeasure plans and hydrologic monitoring programs. Domestic wastewater is hauled to an approved dumping station by a contract hauler. Mine waste water is treated with a 5-cell settling and filtration unit (Figure 3-6c). The previously described sedimentation ponds control the runoff from the disturbed areas. Air pollution control measures will be for fugitive dust control. Measures will include water sprays, conveyor covers, dust flaps and road watering or paving. Air pollution control measures are covered specifically in Section 784.26. All pollution control facilities are maintained on a routine basis. They will be removed prior to reclamation, except for the mine waste water treatment facility, which will be buried in-place, and the Belina sedimentation pond, which will be retained as part of the reclaimed surface.

The water supply for the Belina Mine Portal area comes from a well at the site (Figure 3-6a). The water supply for the Utah No. 2 Load-out area comes from a well at that site, and the water supply for the general office and warehouse is obtained from the Alpine School water system. Fire protection for the mine and plant facilities is in accordance with state and federal regulations. The only coal in storage at the mine or load-out facilities is in active stockpiles. If heated areas develop, the coal is removed with a front-end loader, and spread out to cool, or buried before a fire breaks out.

Explosives are not stored on-site in large quantities. No surface blasting is done. When required for special underground situations, the explosives are purchased in small quantities, as necessary for immediate use, and stored underground in accordance with state and federal regulations.

Signs and markers are placed in conformance with state and federal regulations. Large signs, as illustrated by Figure 3-2a, are placed at the entrances to the Utah No. 2 and Belina sites. Smaller signs, as illustrated by Figure 3-2b, are used to mark the mine perimeter and buffer zones along streams. Blasting signs are not used due to the absence of any surface blasting. Topsoil stockpile signs are not used, as the topsoil which was salvaged has been respread on reclaimed areas.

## Figure 3-1 (Rev.)

Production and Projected Tonnage by Year Per Seam for  
the Belina Mines

## During the Mine Permit Term

Belina No. 1 Mine (Upper O'Connor)		Belina No. 2 Mine (Lower O'Connor)	
<u>Production</u>		<u>Production</u>	
1976 - 1986 - - -	5,503,496	1981-1986 - - - - -	199,644
<u>Projected</u>		<u>Projected</u>	
1987 - - - - -	624,000	1987 - - - - -	0
1988 - - - - -	624,000	1988 - - - - -	0

## Anticipated Tonnage by 5 Year Increments

## Per Seam for the Belina Mines

## for Life of Each Mine

Belina No. 1		Belina No. 2	
1989-1993 - - - -	3,120,000	1989-1993	0
1994-1998 - - - -	3,120,000	1994-1998	0
1999-2003 - - - -	2,902,000	1999-2003 - - - -	218,000
2004-2008	0	2004-2008 - - - -	3,120,000
2009-2013	0	2009-2013 - - - -	3,120,000
2014-2018	0	2014-2018 - - - -	3,120,000
2019-2023	0	2019-2023 - - - -	3,120,000
2024-2028	0	2024-2028 - - - -	2,833,000

In accordance with the regulations, the accumulated sediment must be removed when it reaches 60% of maximum. It should be noted that, with the fixed decant system, it may be necessary to dewater the pond by pumping after some precipitation events in order to provide storm surcharge capacity or by using a dewatering device (See Figure 3-4).

The emergency spillway was designed to handle the OSM Regulation's design storm of 25 year - 24 hours. OSM regulations require at least 1.0 feet of clearance between the maximum elevation of water in the emergency spillway and the crest of the embankment. The spillways were designed to handle the flow rates of a 25 year - 24 hour storm (2.92 inches) and still satisfy the freeboard requirements.

Sediment ponds will be periodically maintained to remove deposited sediments so that storage volume can be preserved. This will occur when the design sediment storage volume has been 60% displaced. Prior to undertaking cleaning activities, specific plans for cleaning and disposal of material will be submitted to the regulatory authority for approval.

A thorough inspection of the sediment ponds and embankments will be undertaken at least once per

quarter. When examining for stability and performing a general inspection, the inspector will be looking for any of the following conditions:

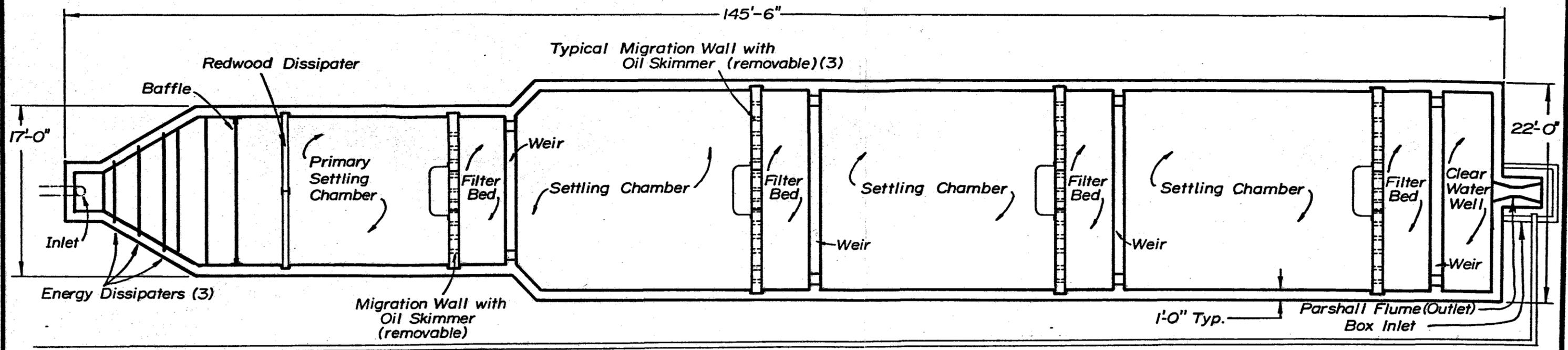
- Seepage from anywhere on the down-stream side of the embankment, but especially around the discharge pipe;
- Erosion of embankment slopes;
- Continuity of emergency spillway;
- Erosion around entrance or exit of discharge pipe;
- Clogged principal or emergency spillway;
- Check slope stakes for obvious slope movement (if utilized);
- Level of sediment;
- Placement of wave erosion protection (if utilized);
- Erosion at spillway discharges;
- Clogging of dewatering device.

Monitoring for embankment movement (Skelly and Loy, 1979) will also be a part of this inspection where applicable. This will be performed by setting stakes in the embankment along the toe and several rows proceeding up from the toe. The original position and elevation will be recorded with reference to a permanent landmark. These positions will be checked during inspection. If unstable or potentially un-

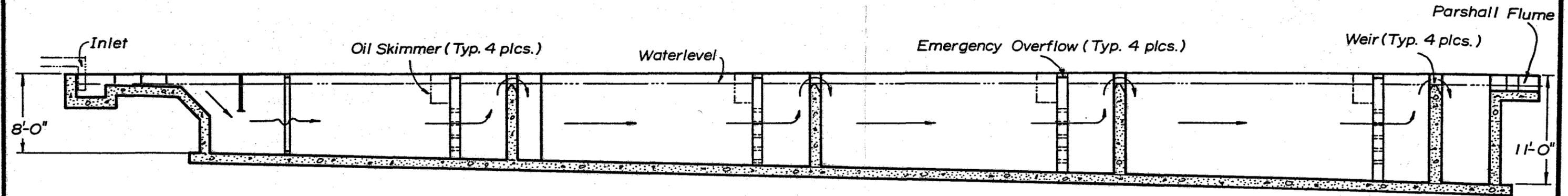
stable conditions exist, corrective measures will be taken immediately.

The below ground structures are the reclaim tunnels at the load-out facility and the Belina Mine (Figure 3-6), the Belina culinary well (Figure 3-6A), concrete filter pond (Figure 3-6C), and the mine portals. Reclamation of all structures addressed in this section is covered in detail in the following reclamation plan, Section 784.13.

The Utah No. 2 Mine is sealed as shown in Figure 3-7 at approximately 700 feet underground. The portals for this mine are presently closed off with chain link fencing; the fan is turned off and the fanhouse door is kept locked. The mine, at present, is temporarily abandoned. At the closing of the mine, the portals will be sealed, and the area reclaimed as described in Section 784.13.



PLAN VIEW

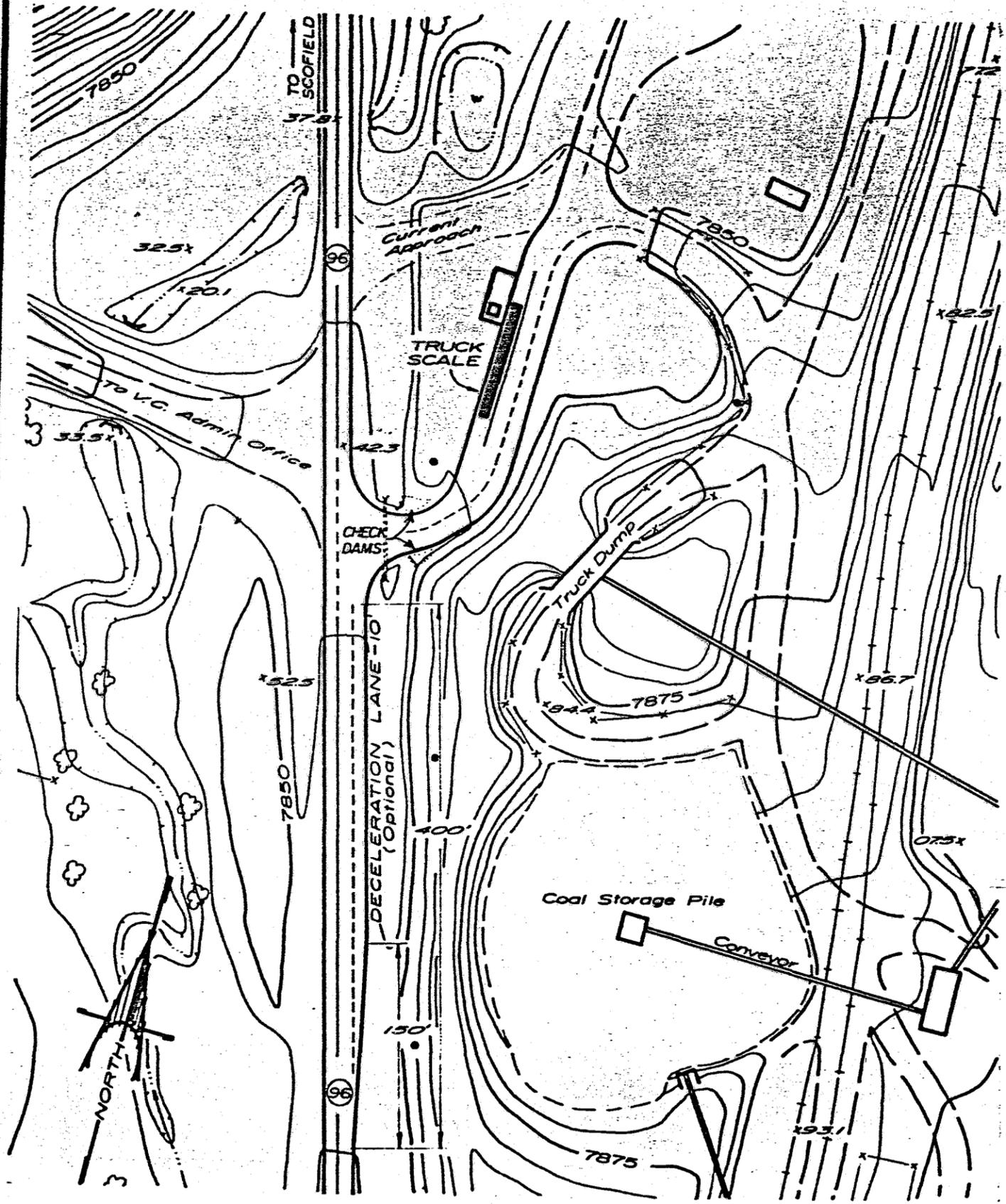


SECTION VIEW & FLOW DIAGRAM

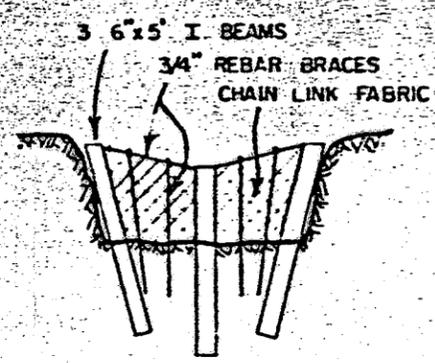
Figure 3-6C

DRAWN BY:	Ed Sanderson
DATE:	Sept. 12, 1983
CHECKED BY:	
DATE:	
APPROVAL:	
APPROVAL:	
APPROVAL:	

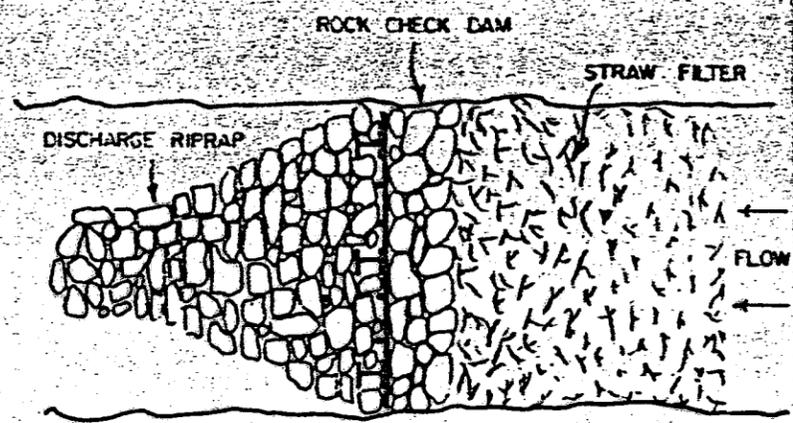
	<b>VALLEY CAMP OF UTAH, INC.</b> <b>SCOFIELD ROUTE</b> <b>HELPER, UTAH 84526</b>	
	TITLE: <b>CONCRETE FILTER POND</b>	
SCALE: NONE	DRAWING NO. <b>B4-0010</b>	



LOCATION MAP  
1" = 100'

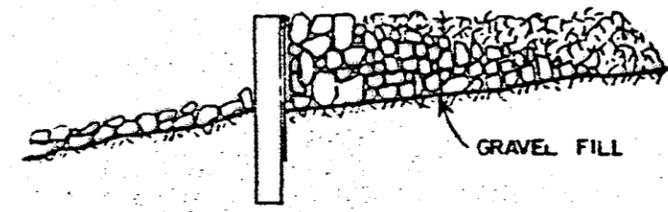


FRONT SECTION VIEW



PLAN VIEW

DETAILS: 1" = 5'



CROSS SECTION VIEW

Figure 3-6D

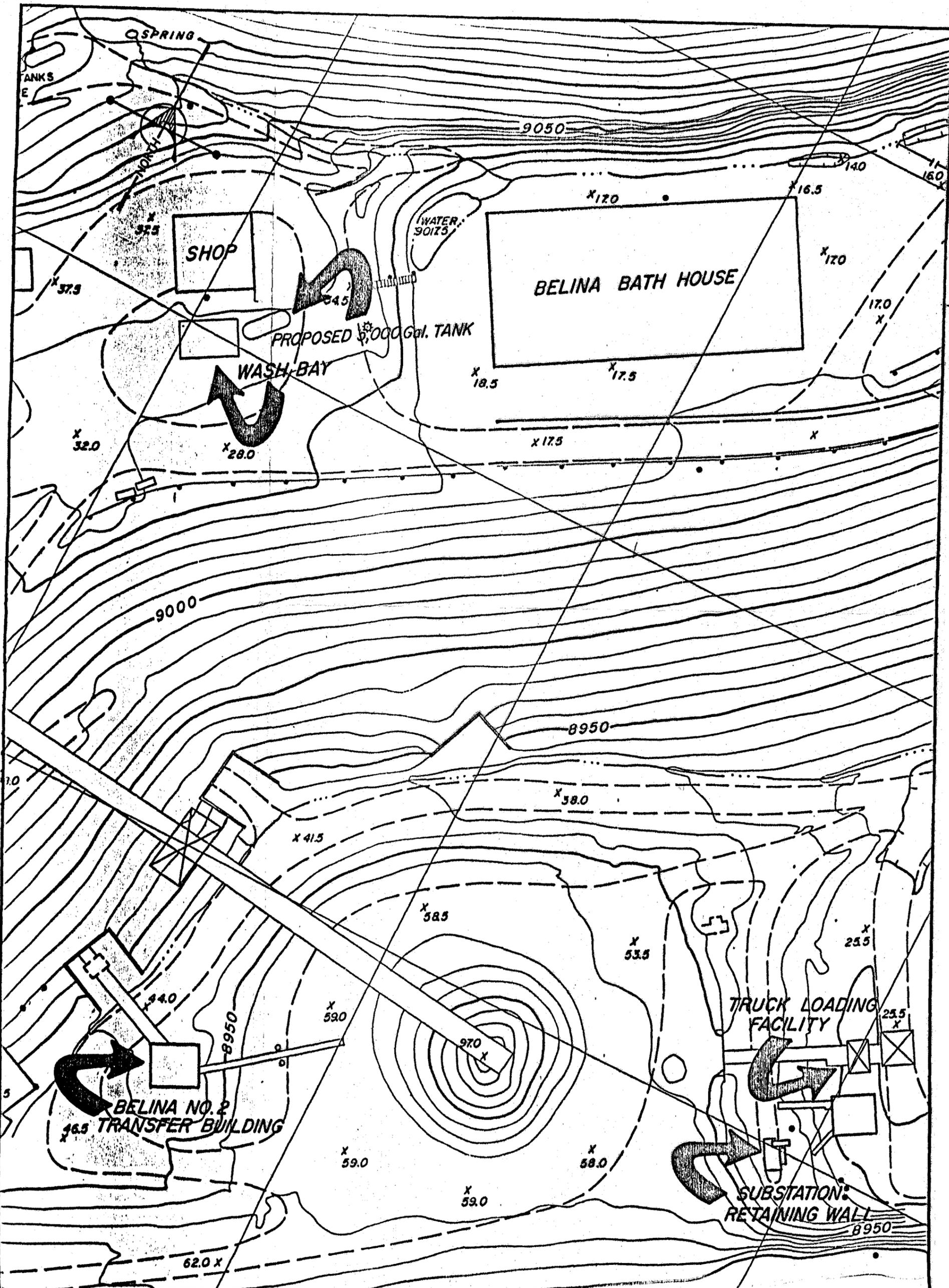
DRAWN BY:	J.A.U.
DATE:	7-26-84
CHECKED BY:	
DATE:	
APPROVAL:	
APPROVAL:	
APPROVAL:	



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE:  
**LOCATION AND TYPICAL DETAILS OF INSTALLED SINGLE FENCE CHECK DAMS.**

SCALE: \_\_\_\_\_ DRAWING NO. **B3-0020**



**VALLEY CAMP OF UTAH, Inc.**  
 SCOFIELD ROUTE  
 HELPER, UTAH 84526

TITLE: **BELINA MINE COMPLEX  
 WASH BAY & SUBSTATION RETAINING WALL  
 LOCATIONS**

DRAWN BY: <i>S. Tanner</i>	DATE: <i>Sept. 1986</i>	SCALE: <i>1" = 50'</i>
CHECKED BY: <i>T.G. Whiteside</i>	DATE:	REV.   DATE:
APPROVAL BY: <i>T.G.W.</i>	DATE:	DRAWING NO. <i>B4-0038</i>
APPROVAL BY:	DATE:	

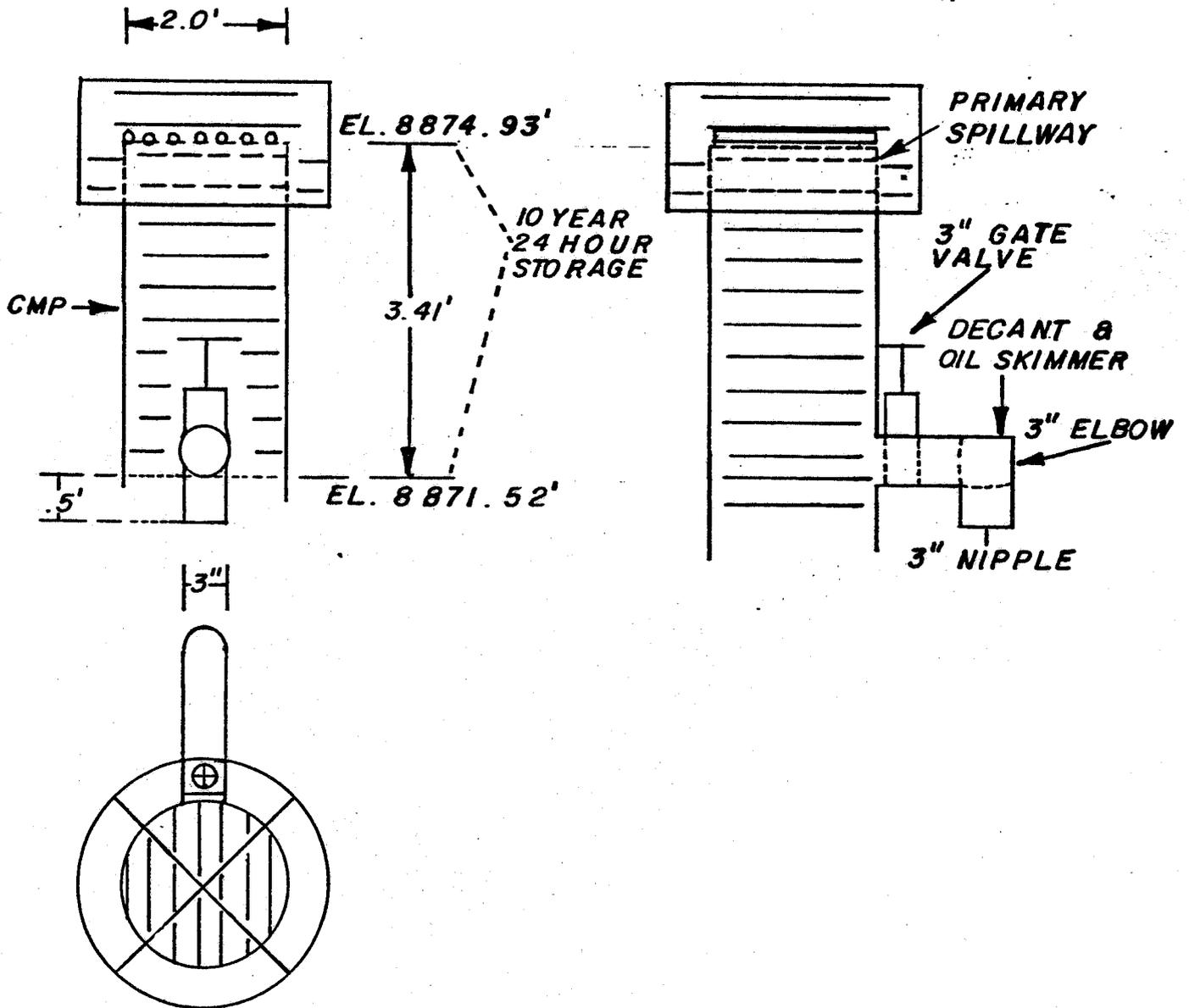
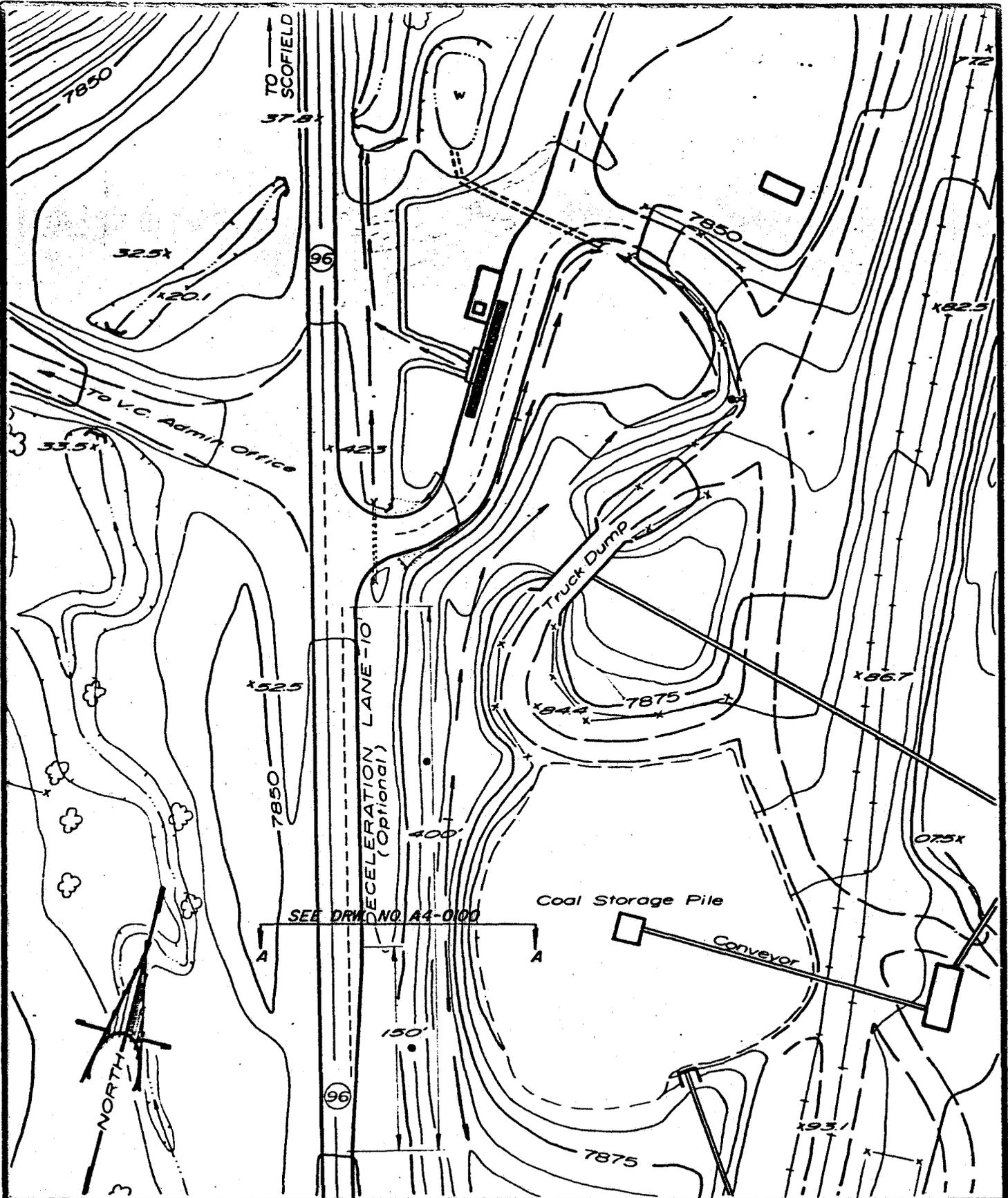


Figure 3-6E

DRAWN BY: <b>K. PAPPAS</b>	DATE: <b>11-16-84</b>	 <b>VALLEY CAMP of UTAH</b> <b>SCOFIELD ROUTE</b> <b>HELPER, UTAH 84526</b>	DRAWING NO.	REV. NO.	
CHECKED BY: <b>S. K. T.</b>	DATE:		<b>004 SEDIMENT POND</b> <b>DECANT REVISION</b>	<b>A4-0092</b>	<b>1</b>
REVISED BY:	SCALE: <b>NONE</b>				
APPROVAL ENG.:	TITLE:				
APPROVAL SAFETY:					
APPROVAL MINE:					



DRAWN BY: <b>Ed Sanderson</b>	DATE: <b>MARCH 20, 85</b>
CHECKED BY:	DATE:
REVISED BY:	SCALE: <b>1" = 100'</b>
APPROVAL ENG.:	TITLE: <b>TRUCK SCALE LOCATION &amp; APPROACH - UTAH NO. 2</b>
APPROVAL SAFETY:	DRAWING NO. <b>A4-0056</b>
APPROVAL MINE:	REV. NO. <b>1</b>



**VALLEY CAMP of UTAH**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

Figure 3-8  
(Revised)

January 13, 1987

Area \ Time-Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16						
Belina Mines	Remove all buildings and structures Load-out & haul \$135,876								Belina #1 Grading		Coal Storage Areas	\$6,452	Belina #2 Grading		Topsoil \$69,010	\$44,044						
Portals					Seal all entries \$26,658				\$18,228								\$14,810					
Utah #2 Load-out and preparation plant	Seal all entries \$12,101		(Including conveyor system) Remove all buildings and structures \$87,068 Remove parking areas and roads Load and haul										Coal Storage Areas		\$19,663	Load-out Grading \$9,541				Topsoil \$36,800		\$18,173
General Office and Warehouse	Remove buildings, structures and roads \$15,746				Grading \$1,862												Topsoil \$4,163		\$4,163			
Revegetation and Mulching																						

Estimated Cost of Final Reclamation \$524,358  
 Plus Contingency (10%) 52,436  
 Plus Profit and Administration (13%) 68,167  
 Plus Mobilization (In and Out) (10%) 52,436  
 Belina Haul (See Exhibit 1) 205,563

TOTAL BOND: \$902,960

Timetable for  
reclamation activity  
Valley Camp of Utah, Inc.

ESTIMATED RECLAMATION COST  
(1987 DOLLARS)

Belina Mines Area

A. Portal Reclamation		<u>\$26,658.00</u>
No. 1 Mine - 5 Portals, each 12' x 20'		
Backfilling = 120 yds. ea. @ \$3.83 per yd.	\$ 2,298.00	
Sealing = 6,000 blocks @ \$.99 ea.	5,940.00	
Man Days = 60 @ \$109.54 per day	6,572.00	
Subtotal	<u>\$14,810.00</u>	
No. 2 Mine - 4 Portals, each 12' x 20'		
Backfilling = 120 yds. ea. @ \$3.83 per yd.	\$ 1,838.00	
Sealing = 4,800 blocks @ \$.99 ea.	4,752.00	
Man Days = 48 @ \$109.54 per day	5,258.00	
Subtotal	<u>\$11,848.00</u>	
B. Concrete Structure Removal Cost		<u>\$ 7,494.00</u>
Belina No. 1 Fanhouse 20' x 50' x 14'		
Belina No. 2 Fanhouse 20' x 50' x 14'		
Pumphouse 20' x 20' x 10'		
Bathhouse 80' x 160' x 15'		
Sewer Building 30' x 50' x 15'		
No. 2 MCC Building 20' x 20' x 4'		
Shop Building 40' x 40'		
Substation Pads 2@ 30' x 30'		
Coal Transfer Building 20' x 20' x 4'		
Portals 9 @ 20 yds. each		
Misc. concrete 50 yds.		
Total yardage of flat material 909 cu.		
yds. @ \$4.93 per	\$ 4,481.00	
Total yardage of wall material 688 cu.		
yds. @ \$4.38 per	3,013.00	
Total Cost of Concrete Structure Removal	<u>\$ 7,494.00</u>	
C. Steel Building Removal Cost		<u>\$33,410.00</u>
Belina Shop 40' x 40' x 25'	\$ 6,572.00	
Coal Transfer Building 20' x 20' x 50'	3,286.00	
Truck Load-out Bin	5,258.00	
No. 2 MCC Building 20' x 20' x 30'	4,382.00	
Bathhouse (roof) 80' x 160'	8,216.00	
Stacking Silo	5,696.00	
D. Conveyor Structure Removal Cost		<u>\$24,099.00</u>
Steel Structure	\$13,145.00	
Conveyor Foundations	2,191.00	
Transportation	8,763.00	

E. Miscellaneous Cost		<u>\$70,873.00</u>
Equipment Removal	\$32,862.00	
Drainage Pipe Removal	1,643.00	
Tank Removal	8,763.00	
Power Line Removal	5,477.00	
Guardrail Removal	2,739.00	
Substation Removal	10,954.00	
Water Line Removal	3,286.00	
Load-out Tunnel Fan	219.00	
General Refuse Removal	4,382.00	
Mine Fan (2 @ \$274.00)	548.00	
F. Parking Areas and Roads Cost		<u>\$ 2,191.00</u>
Scarifying	\$ 2,191.00	
Removal Abandonment (A-F) Subtotal	\$164,725.00	

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G. Grading		<u>\$39,490.00</u>
1. Belina No. 1		<u>\$18,220.00</u>
12,200 yards to move		
500 foot push/haul distance - 2 dozers,		
2 loaders		
153 yards per operating hour		
80 total operating hours for dozers,		
@ \$131.45/hr. with operator		
80 total operating hours for loaders,		
@ \$96.40/hr. with operator		
Belina No. 2		<u>\$14,810.00</u>
8,600 yards to move		
500 foot push/haul distance - 2 dozers,		
2 loaders		
132 yards per operating hour		
65 total operating hours for dozers,		
@ \$131.45/hr. with operator		
65 total operating hours for loaders,		
@ \$96.40/hr. with operator		
2. Coal Storage Areas		<u>\$ 3,987.00</u>
a. Portal Area		
860 yards to move @ 1.2 tons/yd., 28% swell		
600 foot push/haul distance - 2 trucks, 1 loader,		
2 dozers		
16.0 total operating hours for trucks @ \$71.20		
per hour with operator		
8.0 total operating hours for loader @ \$93.11		
per hour with operator		
16.0 total operating hours for dozers @ \$131.45		
per hour with operator		
b. Truck Bin & Clean Coal Stockpile		<u>\$ 2,465.00</u>
800 yards to move @ 1.2 tons/yd., 28% swell		
300 foot push/haul distance - 2 trucks, 1 loader,		
2 dozers		

12.0 total operating hours for trucks @ \$71.20  
per hour with operator  
6.0 total operating hours for loader @ \$93.11  
per hour with operator  
8.0 total operating hours for dozer @ \$131.45  
per hour with operator

H. Revegetation Cost			<u>\$41,853.00</u>
1. Handseeding	AC.	Unit/Cost	Item Cost
Flat/slight slope areas	4.0	\$112.83	\$ 451.00
North Facing slopes	3.0	\$123.78	\$ 371.00
plus 1,100 shrubs & trees		\$ 0.822	\$ 904.00
South Facing slopes	3.0	\$118.30	\$ 355.00
Riparian areas	2.0	\$118.30	\$ 237.00
plus 500 shrubs & trees		\$ 0.822	\$ 411.00
	12.0 AC		<u>\$ 2,729.00</u>
2. Hydroseeding			
Flat/slight slope areas	8.9	\$766.78	\$ 6,824.00
North Facing slopes	14.0	\$766.78	\$10,735.00
South Facing slopes	13.0	\$766.78	\$ 9,968.00
Steep roadcuts	3.0	\$766.78	\$ 2,300.00
plus 250 shrubs & trees		\$ 0.822	\$ 205.00
	38.9AC		<u>\$30,032.00</u>
3. Total Mulching Cost		\$5,477.00	
12.5 acres @ \$438.16			
4. Total Labor Cost		\$3,615.00	
33 man days @ \$109.54/man day			
I. Additional costs may be encountered for additional fertilizer and moisture retention components. Such costs should be covered under the estimated contingency provided.			
J. Topsoil Cost			<u>\$69,010.00</u>
30 acres @ \$2,300.00/AC			
K. Total Reclamation Cost - Belina Mines Area			
Estimated		\$315,078.00	
10% Contingency		31,508.00	
Total Estimate		<u>\$346,586.00</u>	

Utah No. 2 - Load-out Area

A. Portals		<u>\$12,101.00</u>
7 portals @ 10' x 18' ea.		
Backfilling = 100 yds. ea. @ \$3.83 per yd.	\$ 2,681.00	
Sealing = 4,536 blocks @ \$.99 per	4,491.00	
Man Days = 45 @ \$109.54/day	4,929.00	
	<u>\$12,101.00</u>	
B. Concrete Structure Removal Cost		<u>\$ 3,295.00</u>
Fanhouse 20' x 30' x 12'		
Storage Shed 14' x 30'		
Crusher Building 44' x 20' x 2'		
Stacking Tube 13.5' x 73'		
Liquid Storage 20' x 20'		
Load-out Footers		
Substation pads 2 @ 12' x 20'		
Shop 40' x 60'		
MCC 8' x 10'		
Truck Dump		
Portals		
Total yardage of flat material -		
456 cu. yds. @ \$4.93	\$ 2,248.00	
Total yardage of wall material		
239 cu. yds. @ \$4.38	1,047.00	
	<u>\$ 3,295.00</u>	
C. Steel Structure Removal Cost		<u>\$32,728.00</u>
Storage Shed 14' x 30' x 12'	\$ 828.00	
Shop 40' x 60' x 14'	5,521.00	
Crusher 44' x 20' x 49'	7,085.00	
Load-out 20' x 18' x 57'	3,372.00	
Substation 2 @ 12' x 12' x 8'	3,533.00	
Liquid Storage 20' x 20' x 8'	526.00	
Truck Dump 20' x 43' x 15'	2,169.00	
Bathhouse Trailers (2)	438.00	
Water Tank	493.00	
Transportation	8,763.00	
D. Conveyor Structure Removal Cost		<u>\$ 9,311.00</u>
Steel Structure	\$ 8,763.00	
Foundations	548.00	
E. Parking Areas and Road Cost		<u>\$ 2,739.00</u>
Scarifying	\$ 2,739.00	
F. Miscellaneous		<u>\$41,734.00</u>
Equipment Removal	\$ 6,572.00	
Power Line Removal	3,505.00	
Substations Removal	9,311.00	
Tank Removal (4)	4,820.00	
Guardrail Removal	767.00	

Water and Sewer Line Removal	1,095.00
Drainage Pipe Removal	8,763.00
Load-out Tunnel Fan	329.00
General Refuse Removal	6,572.00

Removal - Abandonment (A-F) Subtotal \$101,908.00

G. Grading Cost			<u>\$29,204.00</u>
1. Utah No. 2 Portal Area		\$ 9,541.00	
5,200 yds. to move @ 1.2 tons/yd., 28% swell			
300 foot push/haul distance - 1 dozer, 2 trucks, 1 loader			
52 total operating hours for trucks, @ \$71.20/hour with operator			
26 total operating hours for loader, @ \$93.11/hour with operator			
26 total operating hours for dozer, @ \$131.45/hour with operator			
2. Coal Storage Area			<u>\$19,663.00</u>
8,500 yards to move			
500 foot push/haul distance - 1 dozer, 1 loader, 2 trucks			
60 total operating hours for dozer, @ \$131.45/hour with operator			
50 total operating hours for loader, @ \$93.11/hour with operator			
100 total operating hours for trucks, @ \$71.20/hour with operator			
H. Revegetation Cost			<u>\$15,434.00</u>
1. Handseeding	AC.	Unit/Cost	Item Cost
Flat/slight slope areas	19.3	\$112.83	\$ 2,178.00
North Facing slopes	1.0	\$123.78	\$ 124.00
plus 100 shrubs & trees		\$ 0.822	\$ 82.00
South Facing slopes	2.0	\$118.30	\$ 237.00
Riparian areas	1.5	\$118.30	\$ 177.00
plus 250 shrubs & trees		\$ 0.822	\$ 206.00
	<u>23.8</u>		<u>\$ 3,005.00</u>
2. Hydroseeding			
Steep cuts/slopes	1.5	\$766.78	\$ 1,150.00
North Facing slopes	1.0	\$766.78	\$ 767.00
	<u>2.5</u>		<u>\$ 1,917.00</u>
3. Total Mulching Cost		\$10,512.00	
24.0 acres @ \$438.00			
I. Topsoil Cost			<u>\$36,800.00</u>
16.0 acres @ \$2,300.00/AC			
J. Total Reclamation Cost - Utah No. 2 Load-out Area			
Estimated Cost		\$183,346.00	
10% Contingency		18,335.00	
Total Estimate		<u>\$201,681.00</u>	

Main Office Area

Steel Building Removal Cost		<u>\$11,912.00</u>
Office-Warehouse Building 58' x 125' x 10'		
Concrete Structure Removal Cost		<u>\$ 1,095.00</u>
Office Warehouse Building 58' x 125'		
Road and Parking Lot Removal		<u>\$10,188.00</u>
Regrading (1.9 acres)	\$1,862.00	
Topsoiling (\$2,191.00/AC)	4,163.00	
Reseeding & Fertilization (\$2,191.00/AC)	4,163.00	
Miscellaneous Cost		<u>\$ 2,739.00</u>
Remove Water Line		
Remove Sewer Line and Tank		
Total Office-Warehouse Reclamation Cost		
Estimated Cost	\$25,934.00	
10% Contingency	2,593.00	
Total Estimate	<u>\$28,527.00</u>	

## SUMMARY OF ESTIMATION RECLAMATION COSTS 1987

Reclamation Bond Calculations

A. Portal Reclamation (PAP Volume III, Appendix A)	
1. Belina No. 1	\$ 14,810.00
2. Belina No. 2	11,848.00
3. Utah No. 2	<u>12,101.00</u>
Total Item A	<u>\$ 38,759.00</u>
B. Structural Removal (PAP Volume III, Appendix A)	
1. Concrete Structures	\$ 11,884.00
2. Steel Structures	78,050.00
3. Conveyors	33,410.00
4. Misc. (Waterline, Sewer, Powerlines)	<u>115,346.00</u>
Total Item B	<u>\$238,690.00</u>
C. Grading and Topsoil Application (PAP Volume III, Appendix A)	
Cost to move and spread 76,858 cu. yds. of topsoil @ \$2.35	<u>\$180,529.00</u>
Total Item C	<u>\$180,529.00</u>
D. Revegetation (Total Acres = 79.1, PAP Volume III, Appendix A)	
Cost of preparation, handseeding, hydroseeding, mulching, trees, and shrubs, scarifyings, and labor	<u>\$ 66,380.00</u>
Total Item D	<u>\$ 66,380.00</u>
Subtotal (Items A, B, C, & D)	\$524,358.00
10% Contingency (Items A, B, C, & D)	\$ 52,436.00
13% Profit and Administration	\$ 68,167.00
10% Mobilization (In & Out)	<u>\$ 52,436.00</u>
Total	\$697,397.00
Haul Road (See Exhibit I)	<u>\$205,563.00</u>
TOTAL BOND	<u>\$902,960.00</u>

Note: Revised to indicate 1987 dollars.

PERMANENT SEED MIXTURE  
(North-East Facing Aspects)

SPECIES	PLS LBS/AC
<b>Grasses:</b>	
Agropyron trachycaulm - Slender wheatgrass	3.0
Bromus marginatus - Mountain brome	3.0
Poa Pratensis - Kentucky bluegrass	0.2
Agropyron Smithii - Western wheatgrass	3.0
Poa Canbyi - Canby bluegrass	0.3
	9.5
<b>Forbs:</b>	
Achillia millefolium - Yarrow	0.2
Penstemon strictus - 'Bandera' Rocky Mountain penstemon	0.5
Osmorhiza occidentalis - Sweet anise	1.0
Melilotus officinalis - Yellow sweetclover	2.0
Lupinus sericeus - Silky lupine	2.0
Hedysarum boreale - Northern sweetvetch	1.0
	6.7
<b>Shrubs and trees:</b>	
Prunus virginiana - Chokecherry	0.5
Symphoricarpos oreophilus - Mountain snow- berry	2.0
Sambucus coerulea - Blue elderberry	1.0
	3.5
<b>HANDSETS (Plants per acre)</b>	
Abies Concolor - White fir	200
Picea englemanii - Engleman spruce	200
Picea pungens - Blue spruce	150
	550

PERMANENT SEED MIXTURE  
(South-West Facing Aspects)

SPECIES	PLS LBS/AC
<b>Grasses:</b>	
Agropyron riparium - Streambank wheatgrass	3.0
Agropyron dasystachyum - Thickspike wheatgrass	3.0
Bromus marginatus - Mountain brome	3.0
Poa Canbyi - Canby bluegrass	0.3
Poa pratensis - Kentucky bluegrass	0.1
	9.4
<b>Forbs:</b>	
Achillia millefolium - Yarrow	0.2
Lupinus sericeus - Silky lupine	2.0
Melilotus officinalis - Yellow sweetclover	2.0
Penstemon strictus - 'Bandera' Rocky Mountain penstemon	0.8
	5.0
<b>Shrubs and trees:</b>	
Artemisia ludoviciana - Prairie Sage	0.1
Amelanchier alnifolia - Serviceberry	2.0
Artemisia tridentata vaseyana - Mountain big sagebrush	0.2
Symphoricarpos oreophilus - Mountain snow- berry	2.0
Chrysothamnus nauseosus - Rubber rabbitbrush	0.4
Rosa woodsii - Woods-rose	1.0
	5.7
<b>HANDSETS (Plants per acre)</b>	
Populus tremuloides - Quaking aspen (Aspen will be placed on 5' to 6' centers in $\frac{1}{4}$ - $\frac{1}{2}$ acre clumps)	400

## PERMANENT SEED MIXTURE

## Utah No. 2 Area

SPECIES	PLS LBS/AC
Grasses:	
Agropyron smithii - Western wheatgrass	4.0
Agropyron dasystachyum - Thickspike wheatgrass	4.0
Bromus marginatus - Mountain brome	4.0
Poa pratensis - Kentucky bluegrass	0.1
	<u>12.1</u>

## Forbs:

Melilotus officinalis - Yellow sweetclover	2.0
Medicago sativa - Ladak alfalfa	1.5
Penstemon strictus - 'Bandera' Rocky Mountain penstemon	0.5
	<u>4.0</u>

## Shrubs and Trees:

Artemisia ludoviciana - Prairie sage	0.1
Artemisia tridentata vaseyana - Mountain big sagebrush	1.0
Chrysothamnus nauseosus - Rubber rabbitbrush	0.5
Rosa Woodsii - Woods rose	1.0
	<u>2.6</u>

NOTE: Seed application is calculated for a broadcast application, and may be reduced if drill seeding is utilized.

Riparian areas within the permit area (1.5 ac. max.) will have the following shrubs and trees supplemented to the regular mixtures:

SPECIES:	NO./ACRE
Shrub - Mahonia repens - Creeping Oregon grape	300
Shrub - Rubus idaeus sachalinensis - American red raspberry	300
Tree - Salix rigida - Willow (cuttings)	2,000
Symphoricarpos albus - Common snowberry	300
	<u>2,900</u>

Figure 3-13 WATER QUALITY MONITORING SCHEDULE  
FOR VALLEY CAMP MINE DISCHARGE

Parameter	Monitoring Requirements	
	Measurement Frequency	Sample Type
Flow	Two per month	Measured
Total Suspended Solids	Two per month	Grab
Total Iron	Two per month	Grab
Total Dissolved Solids	Two per month	Grab
Oil & Grease	Two per month	Grab
pH	Two per month	Grab

at the ground water monitoring stations. Locations of the ground water monitoring stations can be found on Hydrology Map, Map F, Volume IV.

Mine water discharge is currently being monitored at the Belina Mine Complex at the discharge point from filter pond No. 5. This discharge is allowed by an NPDES permit, No. UT-0022985. Mine water discharge has been monitored since 1977, and, as a result, baseline data was acquired early in the mine life.

Mine discharge flow is determined by a parshall flume, and the monitoring parameters, measurement frequency, and sample type are shown on Figure 3-13.

In addition to mine discharge, water consumption losses are also calculated utilizing coal moisture content, and ventilation and evaporation losses.

Significant changes in the sources of water in the mine will be reported during the period of operation.

The Valley Camp permit area is located within the Book Cliffs, and the adjacent Wasatch Plateau,

which act as recharge areas for regional ground water systems (Price and Arnow, 1974). Only a small portion of the annual precipitation, much less than 5%, recharges the ground water supply (Price and Arnow, 1974; U. S. Geological Survey, 1979). This is due to the presence of relatively impermeable shale layers near the surface over much of the area. For this reason, little, if any, impact is expected to occur due to mining operations; therefore, no plan has been undertaken for recharge of ground water other than by natural means.

The mining activities should not adversely affect the hydrologic regime. Existing seasonal water quality is described in Appendix B, Volume II. Also refer to Hydrology Map, Map F-3, Volume IV, for additional seasonal water quality data.

Section 784.13 describes measures taken during the mine reclamation to provide protection for the hydrologic balance.

UMC784.24 TRANSPORTATION FACILITIES

The roads associated with the Belina No. 1 and No. 2 Mines are shown on Maps C, C-3, and C-6. The proposed conveyor shown on Map C is in a preliminary design stage and will not be constructed during this five year term of permit.

The access road up Whisky Canyon is described in detail on Map T-1. The road is 1.8 miles long, has an average grade of 8.3 percent, and a paved width of 24 feet. Paving was completed in September, 1983. The previous status of the road was described in the Compliance Survey prepared by Vaughn Hansen Associates in 1978. A geotechnical report addressing the stability of the steep slopes is available as Appendix L.

The ancillary roads (the access road to the office and warehouse, and the haul road at Utah No. 2) are constructed as follows:

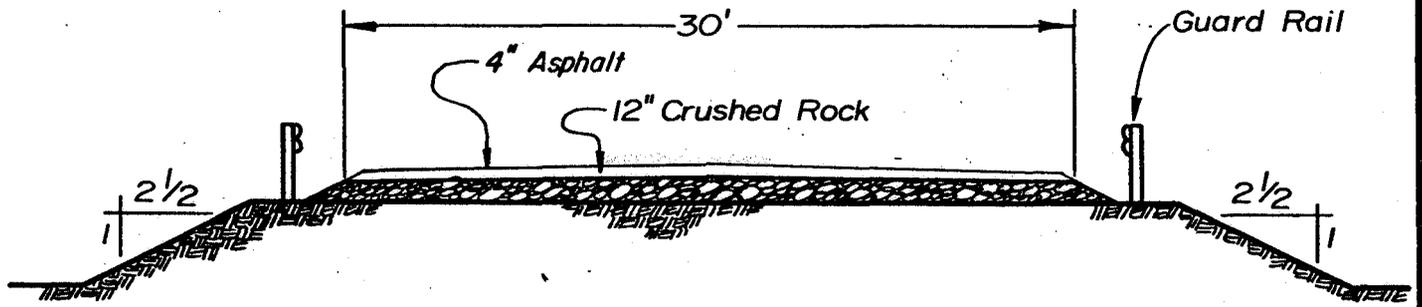
Office/Warehouse Road

- Minimum width of 24 feet
- Maximum grade of 2 percent
- Base course of 8 inches of minus 2 inch rock
- Surface course of 4 inches of minus 3/4 inch rock
- Bituminous asphalt of 3 inches

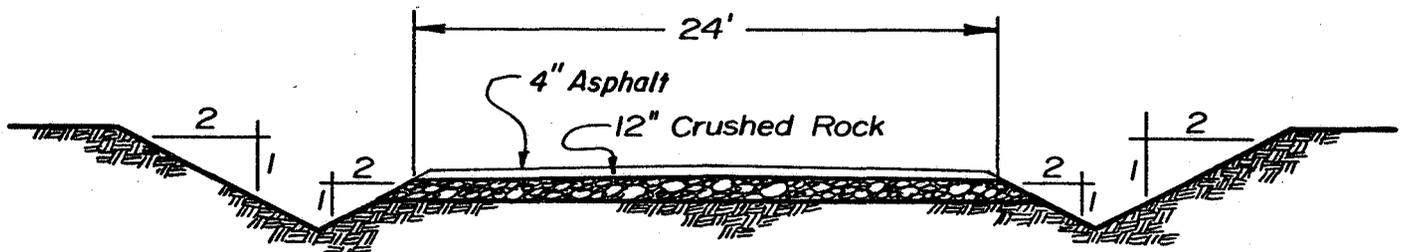
Utah No. 2 Haul Road

- Minimum width of 24 feet
- Maximum grade of 10 percent
- Base course of 8 inches of minus 2 inch rock
- Surface course of 4 inches of minus 3/4 inch rock
- Bituminous asphalt of 4 inches

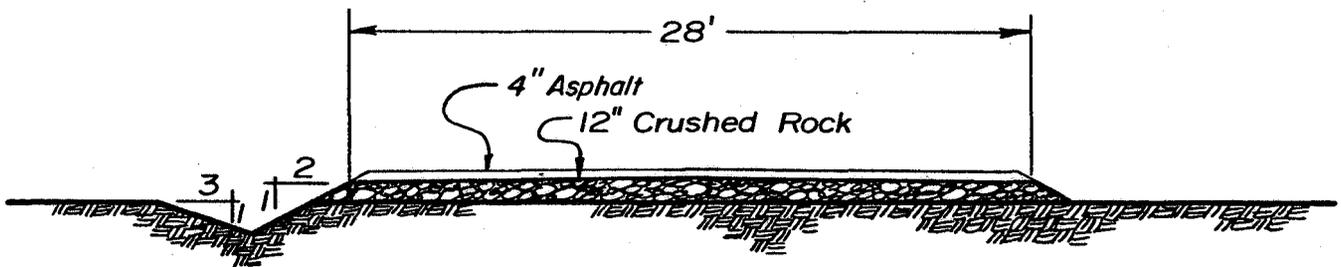
Typical cross-sections of the office and Utah No. 2 roads are shown on Figure 3-32 (Rev. 1). The access road to the office (0.25 miles) and the haul road at Utah No. 2 load-out (0.33 miles), were paved in July of 1986. The locations of the two roads is shown on Map D4-0085, Vol IV.



UTAH NO. 2 AREA ACCESS ROAD  
CROSS SECTION



UTAH NO. 2 AREA ACCESS ROAD  
CROSS SECTION



OFFICE & WAREHOUSE ACCESS ROAD  
CROSS SECTION

Fig. 3-32

DRAWN BY: Ed Sanderson	DATE: Sept. 12, 83	 <b>VALLEY CAMP of UTAH</b> <b>SCOFIELD ROUTE</b> <b>HELPER, UTAH 84526</b>	
CHECKED BY:	DATE:		
REVISED BY:	SCALE: NONE		
APPROVAL ENG.:			
APPROVAL SAFETY:	TITLE: UTAH NO. 2 AREA TYPICAL ROAD CROSS SECTIONS	DRAWING NO. A5-0067	REV. NO. 1
APPROVAL MINE:			

The maps and drawings listed below and included in Volume VI of Valley Camp of Utah, Inc. mining permit application were prepared under my supervision, and to the best of my knowledge can be certified as correct.

DRAWINGS

No. A5-0069  
 No. A5-0064  
 No. A5-0063  
 No. A5-0066  
 No. A5-0062  
 No. B4-0010  
 No. A5-0082  
 No. A5-0065  
 No. A5-0081  
 No. A5-0078  
 No. A5-0079  
 No. A5-0070  
 No. A5-0071  
 No. A5-0068  
 No. B5-0011  
 No. A5-0072  
 No. A5-0075  
 No. A5-0076  
 No. A5-0013  
 No. A4-0056  
 No. B4-0038  
 No. A4-0092  
 No. B3-0020

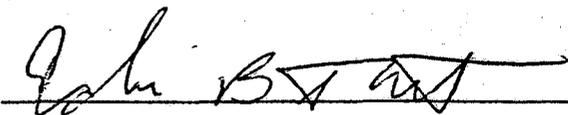
MAPS

D5-0087  
 D5-0088  
 D1-0089  
 D1-0090  
 D4-0084 Rev. 1  
 C-6 (D4-0084)  
 D-1 (D4-0044)  
 D-2 (D4-0046)  
 Map J  
 P-1 (C5-0026)  
 P-2 (C4-0060)  
 T-1 (P1-P7 Rev.)  
 D5-0095  
 P-3 (C5-0028)

**RECEIVED**

**JAN 22 1987**

**DIVISION OF OIL  
 GAS & MINING**

  
 Edwin B. Foust, P. E.  
 Utah Registration #05323-0916-0

1/20/87

UMC 782.17 PERMIT TERM INFORMATION

The applicant states that two seams will be mined and refers the reader to Volume III, page 2. The page lists three seams to be mined. A date is given for areas to be mined, but whether it is the beginning or end date is not noted. The applicant states that 120 acres will be disturbed at the end of the permit term and 150 acres at the end of the mine life. The additional 30 acres are not accounted for. The applicant should provide both beginning and end dates for each phase of the mining operation. The discrepancies in seams to be mined and acreage to be disturbed must be resolved.

COMMENTS

The applicant presently has developed operations in two (2) seams. The Belina No. 1 is in the Upper O'Connor Seam and the Belina No. 2 is located in the Lower O'Connor Seam. The McKinnon Seam (mentioned on Page 2, Volume III) will not be mined until such time as additional coal leases, if acquired, provide a large enough area to make development in this seam economically feasible. The statement concerning the possible future mining in the McKinnon Seam was simply a commitment to mining that seam when and if circumstances warranted. Additionally, the applicant was acknowledging the existence of that seam and not indicating any planned mining activity.

The schedule for underground development for each mine during the permit term is as follows, with approximate land locations indicated. Also, refer to Volume IV, Map B-2, Belina No. 1 Mine Forecast; and Map B-3, Belina No. 2 Mine - Current Progress, for area projections. Note that production dates beyond the permit term are for reference only.

Belina No. 1 Mine

<u>Miner</u>	<u>Start</u>	<u>End</u>	<u>Location (Section, Township, Range)</u>
<u>Section</u>	<u>Date</u>	<u>Date</u>	
1	01-01-87	05-31-87	NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 36, T13S, R6E
	06-01-87	11-30-87	SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 36, T13S, R6E
	12-01-87	10-31-88	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 36, T13S, R6E
	11-01-87	12-31-88	NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 36, T13S, R6E
	01-01-89	03-31-89	NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 36, T13S, R6E
	04-01-89	06-31-89	SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 25, T13S, R6E
	07-01-89	09-15-89	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E
	09-16-89	12-31-89	SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 30, T13S, R7E
	01-01-90	07-15-90	SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 30, T13S, R7E
	07-16-90	12-31-90	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E
	01-01-91	03-31-91	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E
	04-01-91	-	NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T13S, R6E

<u>Miner Section</u>	<u>Start Date</u>	<u>End Date</u>	<u>Location (Section, Township, Range)</u>
	-	-	SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 30, T13S, R7E
	-	12-31-91	SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 25, T13S, R6E
2	01-01-87	05-31-87	SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 25, T13S, R6E
	06-01-87	11-30-87	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25, T13S, R6E
	12-01-87	12-31-87	NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 25, T13S, R6E
	01-01-88	09-30-88	NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 25, T13S, R6E
	10-01-88	-	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25, T13S, R6E
	-	12-31-88	NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 25, T13S, R6E
	01-01-89	07-31-89	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25, T13S, R6E
	08-01-89	12-31-89	NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 25, T13S, R6E
	01-01-90	04-31-90	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T13S, R6E
	05-01-90	12-31-90	NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 36, T13S, R6E
	01-01-91	12-31-91	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T13S, R6E
3	01-01-87	10-15-87	NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T13S, R6E
	10-16-87	12-31-87	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E
	01-01-88	09-30-88	SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T13S, R6E
	10-01-88	12-31-88	NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 36, T13S, R6E
	01-01-89	12-31-89	NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 30, T13S, R7E
	01-01-90	-	SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T13S, R6E
	-	12-31-90	SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E
	01-01-91	02-31-91	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E
	03-01-91	03-31-91	SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 30, T13S, R7E
	09-01-91	12-31-91	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T13S, R7E

Belina No. 2 Mine

No advance is forecast for the duration of this permit term. In lieu of a forecast map, a current progress map is substituted for Map B-3, and is shown in this submittal as Drawing No. D2-0062...

Alternative Water Supply Information

In the event Valley Camp's water monitoring program determines the impact of mining has caused a significant measurable decrease, or interruption of flow to the water supply within the mine plan area, Valley Camp has nearby water rights available that could be developed to replace existing sources, if necessary.

These water rights include: Clear Creek Springs (0.5 CFS), Clear Creek Mine Tunnel No. 3 (0.446 CFS), Utah No. 1 Mine (0.15 CFS), O'Connor Mines (0.047 CFS and 0.030 CFS), the Belina Mine well (7.7 acre-feet/yr.), and stockwater rights on Boardinghouse and Finn Creeks (unspecified amounts). The free flow sources mentioned above, that are not being utilized by Valley Camp, are in fact, presently benefiting the water users downstream from the point source.

Inserted to hold true page numbers.

Comment Update for A & B

The present Belina Mine water discharge facility is a concrete settling-filtering unit situated near the fan portal of the Belina No. 1 Mine. The facility was constructed during the third quarter of 1983. The unit is approximately 22' x 145', and varies in depth from 8 feet to 11 feet. The pond is a multi-cell unit, consisting of five (5) cells or chambers. Details of this structure can be seen by referring to Drawing No. B4-0010 in Section 784.12 of Volume III.

Monitored flows from the Belina Mine discharge have increased from a previously reported 0.6 cubic feet per second maximum, to a maximum flow of 1.10 cubic feet per second. The mine water discharge is monitored according to the current NPDES permit and is referred to as pond 005A in the permit. Grab samples, a minimum of twice monthly, are analyzed for pH, TSS, TDS, iron, and oil and grease. Flow is measured for each sample by observing final discharge through a Parshall Flume installed at the outlet of the pond. The data for these parameters and sample results is on file at the Division's office.

This discharge is permitted through the U. S. Environmental Protection Agency as No. Ut-0022985, approved August 24, 1977, and renewed June 30, 1982.

This section also applies to Sections 784.14 and 784.16.

**RECEIVED**

**JAN 22 1987**

**DIVISION OF OIL  
GAS & MINING**

8 January 1987

UMC 817.52

GROUND WATER MONITORING

The in-mine ground water monitoring program at Valley Camp, Inc. consists of: (1) monitoring ground water inflow to the Belina Mine from individual or collected sources which exceed five (5) gpm discharge for periods in excess of thirty (30) consecutive days; and (2) determining the consumption of ground water through evaporation, production and mine discharge.

Upon encountering new sources or areas of measurable flow (five [5] gpm or more), which continue for at least thirty (30) days, sampling will begin and continue on a quarterly basis. The first sample taken will have a full suite of analysis performed, as per Table 1, with subsequent quarterly samples being examined for field measurements only.

On a quarterly basis, a report will be submitted to the regulatory authority providing the analytical data, and a brief historical discussion describing any changes in source activity for each monitoring point. The quarterly report shall also include a map locating all measurable monitoring points, i.e. faults, roof drippers, sumps, etc., as well as indicating the suspected geologic source of the flow (channel sandstone, fault, fracture, lineament system, etc.).

8 January 1987

Quarterly monitoring will continue until source flows diminish to less than five (5) gpm, or until the regulatory authority approves discontinuance of the site.

An annual in-mine ground water monitoring report will be submitted within ninety (90) days after the end of the reporting year. This report will be a summary of the previous year's data, and an estimate of ground water consumption resulting from ventilation, evaporation, coal production and mine discharge.

TABLE 1  
IN-MINE GROUND WATER MONITORING  
WATER QUALITY PARAMETER LIST FOR  
OPERATIONAL MONITORING

Field Measurements

Flow

PH

Specific Conductance

Temperature (C°)

Laboratory Measurements (Mg/L)

Total Dissolved Solids

Total Hardness (As Ca CO<sub>3</sub>)

Bicarbonate (HCO<sub>3</sub><sup>-</sup>)

Calcium (Ca)

Chloride (CL<sup>-</sup>)

Iron (FE)

Magnesium (Mg)

Manganese (MN)

Potassium (K)

Sodium (Na)

Sulfate (SO<sub>4</sub><sup>-2</sup>)

NOTE: Major, minor ions and trace elements are to be analyzed in dissolved form only.

A cation/anion balance shall be calculated on all comprehensive analyses.

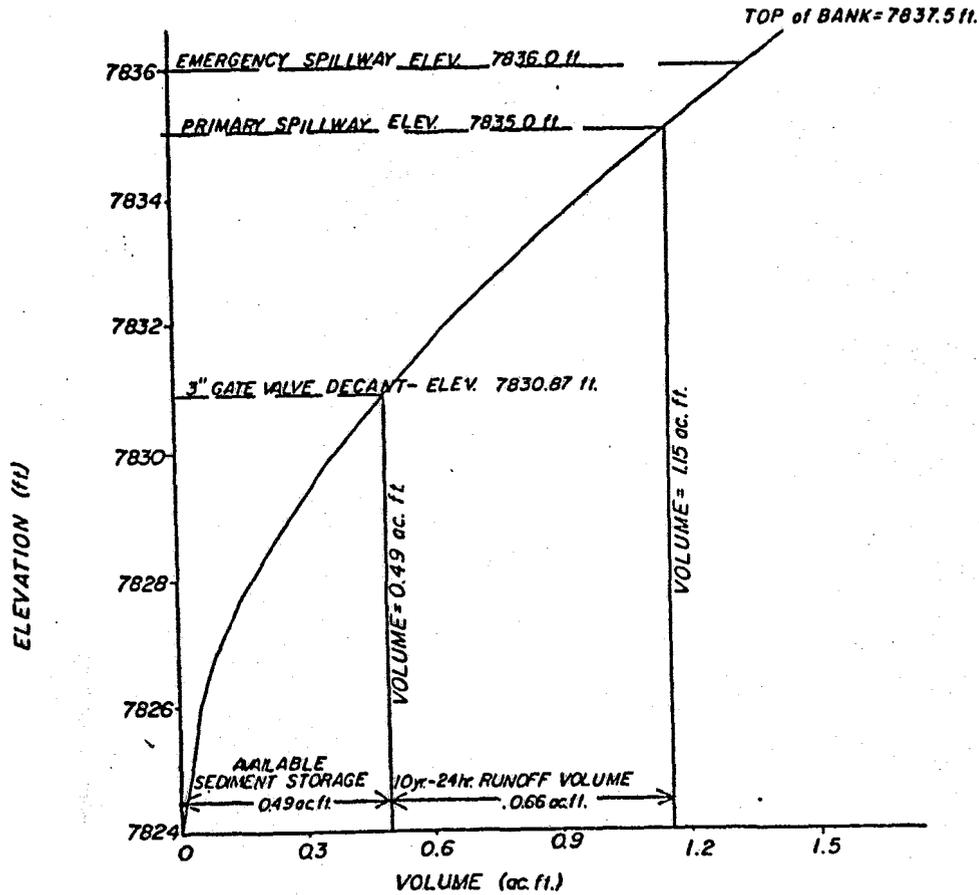
UMC 817.46 Hydrologic Balance Sedimentation Ponds

In August of 1985, Valley Camp enlarged the No. 002 sediment pond at Utah No. 2, to a total capacity of 1.31 acre feet. A composite of the individual capacities are as follows:

No. 002 Sediment Pond Capacity

Sediment Storage to Decant	=	0.49 Acre Ft.
Water Storage From Decant to Primary Outlet	=	<u>0.66 Acre Ft.</u>
Total Storage to Primary Outlet	=	1.15 Acre Ft.
Storage From Primary to Emergency Outlet	=	<u>0.16 Acre Ft.</u>
TOTAL CAPACITY	=	1.31 Acre Ft.

For further information, see Drawing No. C4-0060 (Rev. 1)  
Map P-2 of Volume VI.



ELEV. ft.	AREA ac.	VOLUME ac. ft.	Σ VOLUME ac. ft.
7824	0.01		0
		0.05	
7826	0.04	0.13	0.05
7828	0.09	0.21	0.18
7830	0.12	0.36	0.39
7832.63	0.15	0.39	0.75
7834.93	0.19		1.14

10B-2

DRAWN BY: K. PAPPAS  
 DATE: SEPT 10, 1985  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 APPROVAL: \_\_\_\_\_  
 APPROVAL: \_\_\_\_\_  
 APPROVAL: \_\_\_\_\_



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE: UTAH NO. 2 POND - STAGE CAPACITY & CURVE  
 SCALE: NONE DRAWING NO. B-3-0033

Figure ACR 5  
 Figure 1-7: Continued  
 (Revised)

16 January 1987

Permit Name and Address	License #, Approval, or Submittal Date	Requirements, Contents, and Remarks
<u>U. S. FEDERAL COMMUNICATION            COMMISSION</u> Washington, D.C.	License No. 23744-IS-86	Issued 9-17-76
License in the Private Operational Fixed Micro- wave Radio Service		
<u>MINE SAFETY AND HEALTH            ADMINISTRATION</u>		
U. S. Dept. of Labor P. O. Box 25367 Denver Federal Center Denver, CO 80225		
ID No. and Safety Plans Operator & Contractors	Belina No. 1 - No. 42-01279 Coal Handling Facilities No. 42-01995 Belina No. 2 - No. 42-01280	Issued 2-12-76 Issued 3-29-74 Issued 2-12-76
Roof Control Plan - Mine	August 11, 1986 Approved	Reviewed every 6 months. Commencing mine development after establishing mine ventilation
Ventilation System-Methane and Dust Control Plan-Mine	December 31, 1986	Review every 6 months. Commencing mine development after establishing mine ventilation
Escapeway Map	July 28, 1980 Approved Updated Monthly	Underground Mine. Commencing under- ground mining
Fan Installation Plan	July 28, 1980	Commencing mine development after construction

# VALLEY CAMP OF UTAH, INC.

Scofield Route  
Helper, Utah 84526

VENTILATION, METHANE AND DUST CONTROL PLAN

FOR

BELINA NO. 1 MINE

I. D. NO. 42-01279

JUNE 9, 1986



E. Average tons of coal produced per day: 2,200

Average quantity of methane produced per day:

0 ft.<sup>3</sup>

Number of active sections: development 2;

pillar extraction 1; longwall 0

Name and average height of coal seam being mined:

Upper O'Connor Seam 16 feet

F. Number of citations, orders, and extensions received for exceeding the respirable dust standard listed by Mechanized Mining Unit (MMU) for the last 12 months.

	MMU No. <u>001</u>	MMU No. <u>003</u>	MMU No. <u>004</u>	MMU No. <u>006</u>	MMU No. <u>008</u>
<u>Citations</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>Orders</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>Extensions</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

G. Plan Status (Check One):

New plan.

Current plan has been reviewed and no changes are proposed.

Find enclosed proposed revisions or supplements to the current plan, listed by page number with a brief description of each.

## II. MAIN FANS

- A. The main fans will be installed and operated according to the requirements of Sections 75.300-2 and 75.300-3. Should it be necessary to deviate from these requirements, the substitution will provide no less than the same measure of protection to the miners, and the District Manager will be contacted for approval.
- B. Inspection, examinations and records of fan operation will be conducted and kept by a qualified person in accordance with Section 75.300-4.
- C. In the event of mine fan failure or stoppage, the requirements of Sections 75.321 and 75.321-1 will be followed.

## III. GENERAL METHANE AND DUST CONTROL PRACTICES

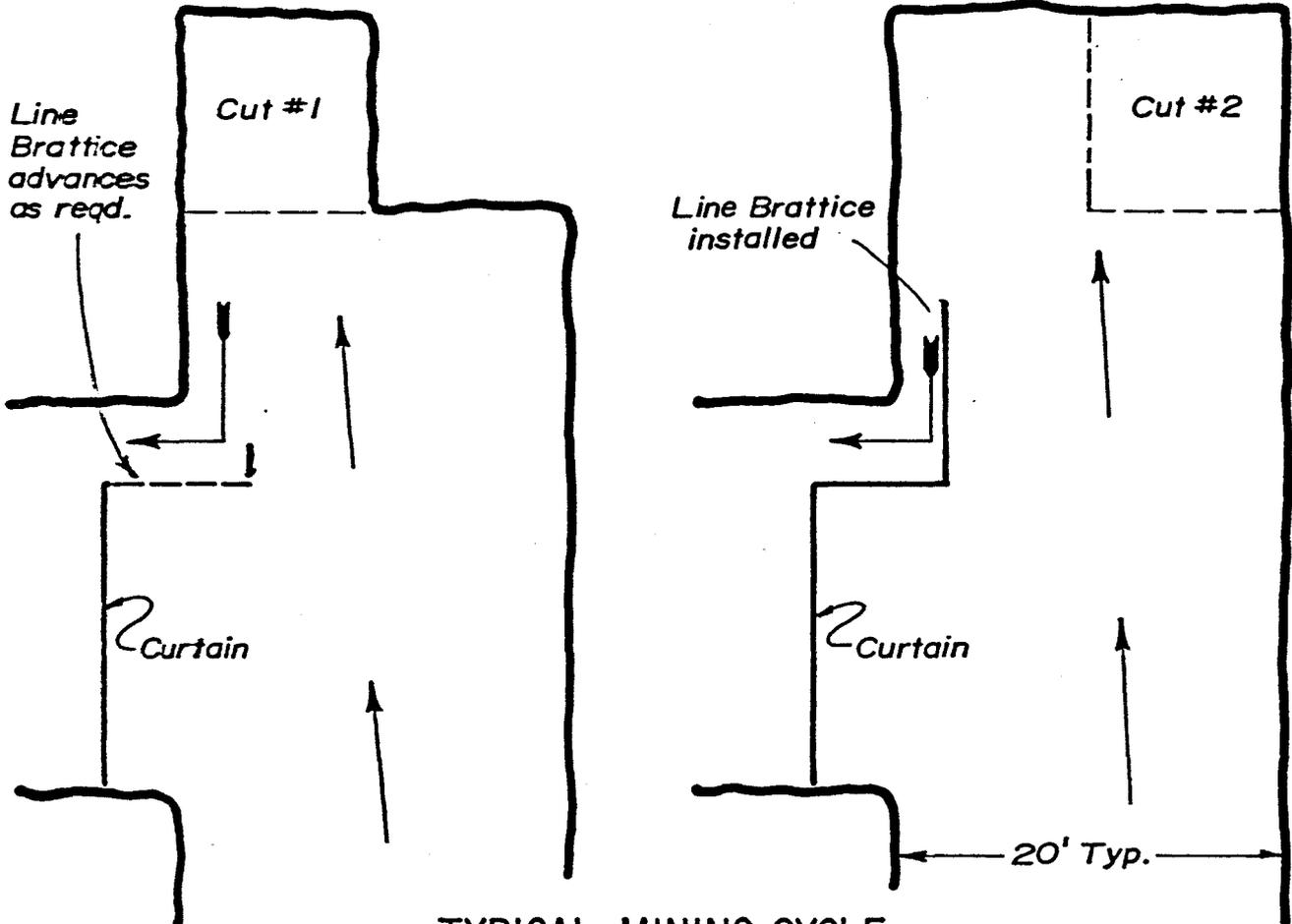
- A. Methane content in any return air course other than air courses returning the split of air from a working section (as provided in Section 75.309 and Section 75.310) will not exceed 2.0 volume per centum.
- B. Shuttle car haulageways will be kept in a damp condition.
- C. No underground crushers or dumps are anticipated.
- D. The maximum distance an entry or room will be advanced in by the breakthrough before the next breakthrough is made into the entry or crosscut will be 125 feet and 100 feet, respectively.
- E. The sequence of mining will be from the intake to the return. This sequence will keep the roof bolter operators from working in the return air current during most cutting cycles. When roof bolting does occur in return air, respirators will be available.
- F. In the event a connection cannot be made between entries or rooms, and a dead end is left, line brattice will be installed within twenty (20) feet of the face before the area is abandoned.
- G. "Line brattice or any other approved device used to provide ventilation to the working face from which coal is being cut, mined or loaded, will be installed at a distance no greater than fifteen (15) feet from the area of deepest penetration, to which any portion of the face has been advanced."  
NOTE: This does not apply during mining of bottom coal.

- H. Dust suppression on roof bolters will be accomplished by the use of either an approved dust collection system or a wet (water) drilling system.

During roof bolting, the line curtain or vent tubing will be maintained to within twenty (20) feet of the face.

- I. The maximum distance a ventilation device will be maintained from an idle face will be twenty (20) feet. Only a perceptible movement of air for ventilation will be required in these faces until electrical or diesel equipment is taken in by the last open crosscut.
- J. A conventional type trickle duster will be used in the return to help neutralize float coal dust. Auxiliary exhaust-type fans may also be used in conjunction with trickle dusters. Trickle dusters will be either mounted on the fan, or the conventional type will be located in a return air course exhausting simultaneously with the auxiliary fan.

Intake Air →  
Return Air →



TYPICAL MINING CYCLE

Notes:

1. Maximum sump cut of Continuous Miner shall be 10 feet.
2. Brattice shall be maintained to within 15 ft. of the face.
3. The minimum mean air velocity shall be 60 ft. per minute.
4. Brattice line will be extended as cut progresses.

DRAWN BY:  
*Ed Sanderson*

DATE:  
*April 16, 1981*

CHECKED:

APPROVAL:  
*(Signature)*

APPROVAL:  
*W.L. (Signature)*

SCALE: *1" = 10'*

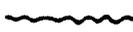
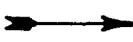


**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE *TYPICAL MINING CYCLE*

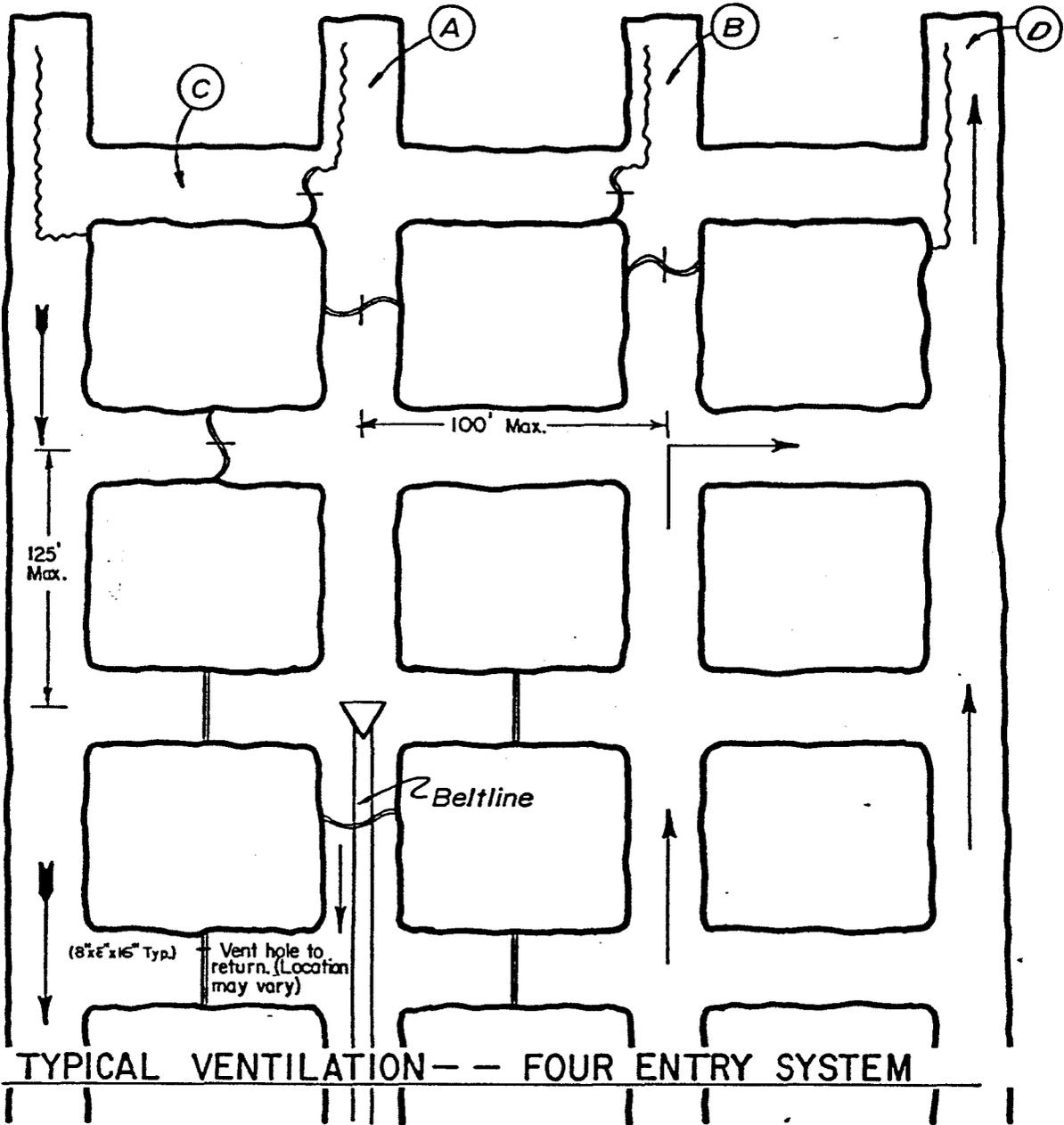
DRAWING NO. *A5-0030*

LEGEND

-  Line Brattice
-  Curtains
-  Short Term Stoppings
-  Intake Air
-  Return Air

EXPLANATION

- (A) Mining face
- (B) Bolting face
- (C) Last open crosscut
- (D) Idle face



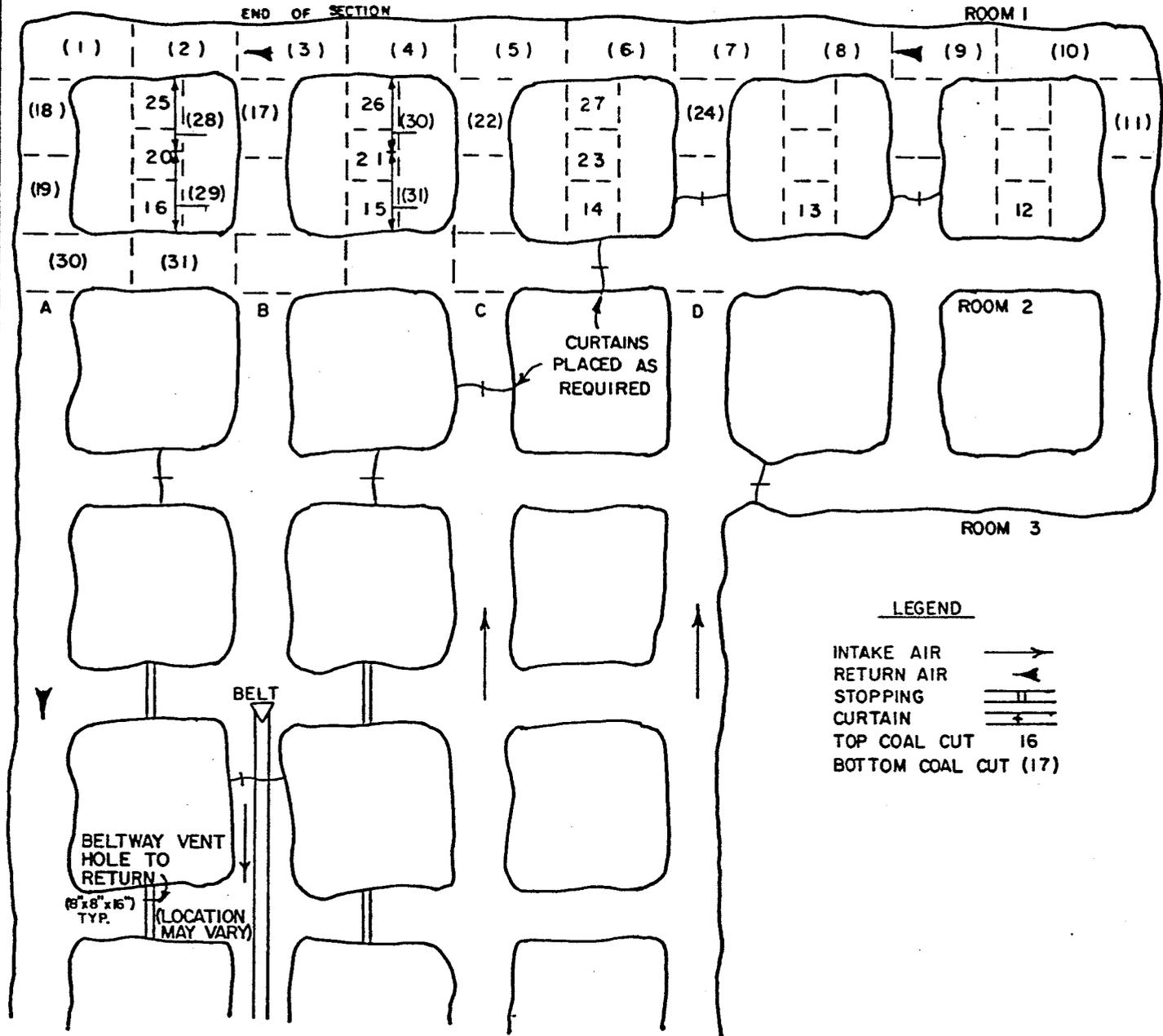
DRAWN BY:  
 Ed Sanderson  
 DATE: April 16, 1981  
 CHECKED:  
 APPROVAL: *[Signature]*  
 APPROVAL: *[Signature]*  
 SCALE: None



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE **4 ENTRY VENTILATION SYS.**

DRAWING NO. **A5-0031**



1. DEVELOPE 3 ROOMS AT A TIME.
2. BOTTOM COAL CUTS WILL HAVE AT LEAST 45 f.p.m. OF AIR PASSING OVER THE MINER DURING MINING WITH AT LEAST 18,000 c.f.m. AT THE LAST OPEN CROSSCUT.
3. TOP COAL PILLAR SPLITS WILL BE VENTILATED AS SHOWN ON PAGE 5 (Dwg. A5-0030) AND PAGE 6 (Dwg. A5-0031) OF THE APPROVED VENTILATION PLAN.
4. TEMPORARY BARRICADES AND WARNING SIGNS WILL BE PLACED AT TYPICAL POINTS A THRU D UPON COMPLETION OF OUTBY FLOOR CUTS.
5. ROOM LENGTHS, CUT SEQUENCE AND DIRECTION OF PILLAR SPLITS MAY VARY DEPENDING UPON CONDITIONS.

DRAWN BY: <b>J.A.U.</b>	DATE: <b>4-10-84</b>
CHECKED BY: <i>SKM</i>	DATE: <i>NOV. 26, 84</i>
REVISED BY:	SCALE:
APPROVAL ENG: <i>JAW</i>	
APPROVAL SAFETY:	
APPROVAL MINE:	



**VALLEY CAMP of UTAH**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE:  
**TYPICAL VENTILATION FOR FULL SEAM ROOM DEVELOPMENT**

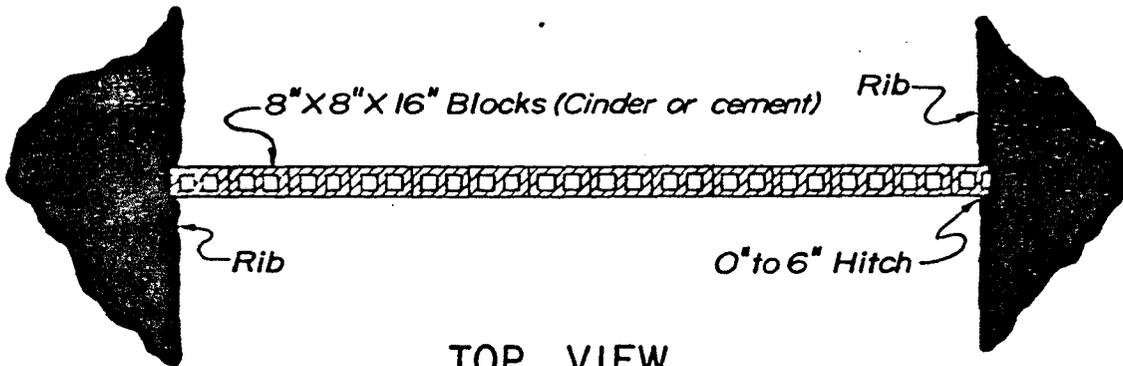
DRAWING NO.  
**A5-0083**

REV. NO.

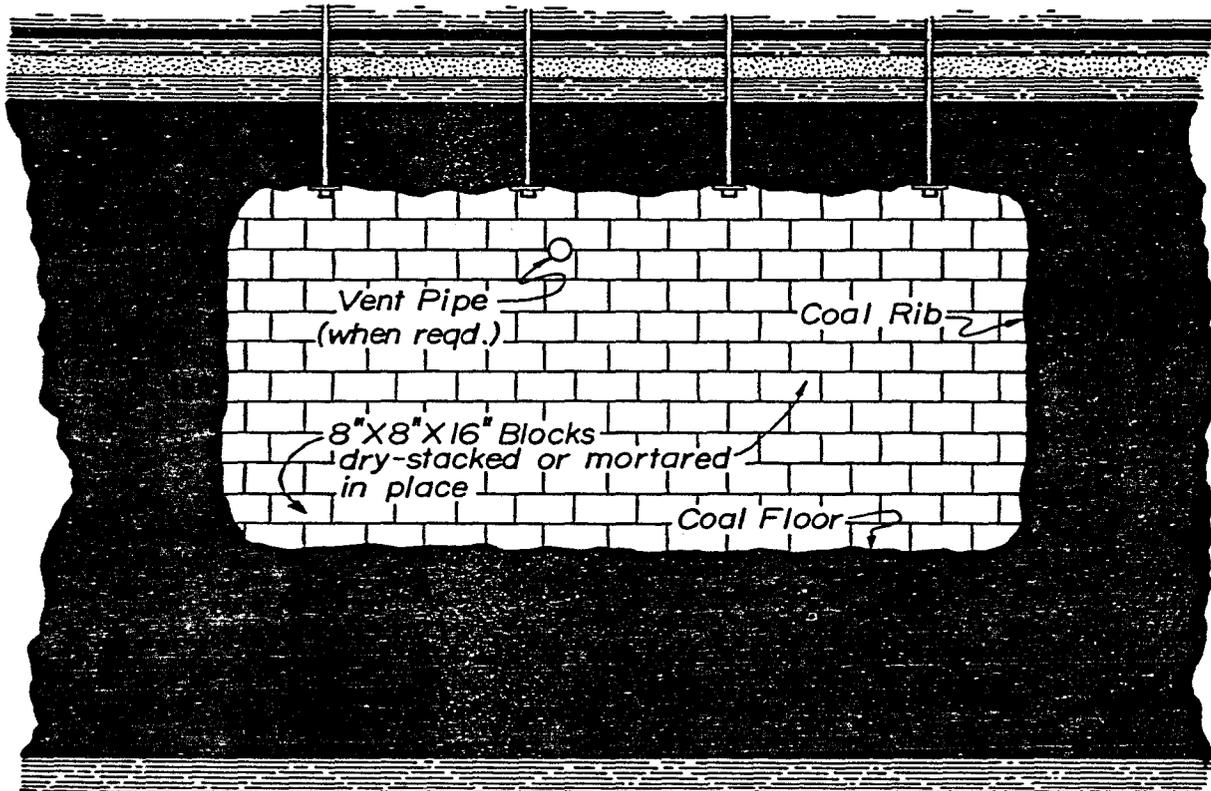


IV. CONSTRUCTION AND USE OF VENTILATION CONTROLS

- A. "All ventilating controls such as stoppings, overcasts, undercasts, doors, regulators, shaft partitions, etc., shall be of substantial and incombustible construction, installed in a workmanlike manner and maintained in the condition to serve the purpose for which they were intended. The intent being to direct air to the sections and working faces, and to separate entries for escapeway purposes."
- B. "Permanent stoppings erected between the intake and return air courses shall be maintained to, and including, the third connecting crosscut out-by the faces of the entries. Whenever the third connecting crosscut is broken through, work shall be started on building the stopping as soon as possible, and shall be continued in a reasonable and diligent manner until completed. Similarly, whenever a belt move is completed, temporary stoppings shall be installed immediately and work shall be started on building the permanent stoppings as soon as possible, and shall be continued in a reasonable and diligent manner until completed."
- C. The use of wooden materials to assist in the installation of the above ventilation devices will be kept to a minimum, and will be treated with an M.S.H.A. approved fire retardant.
- D. In the event irregular holes in any of the utilized ventilation devices or controls are created by the normal and accepted construction procedures, they will be "filled" with M.S.H.A. "approved materials." Approved materials may consist of incombustible material as described in 30 CFR 75.316-2(b), or steel, tin, mortar or an approved fiber sealant.



TOP VIEW

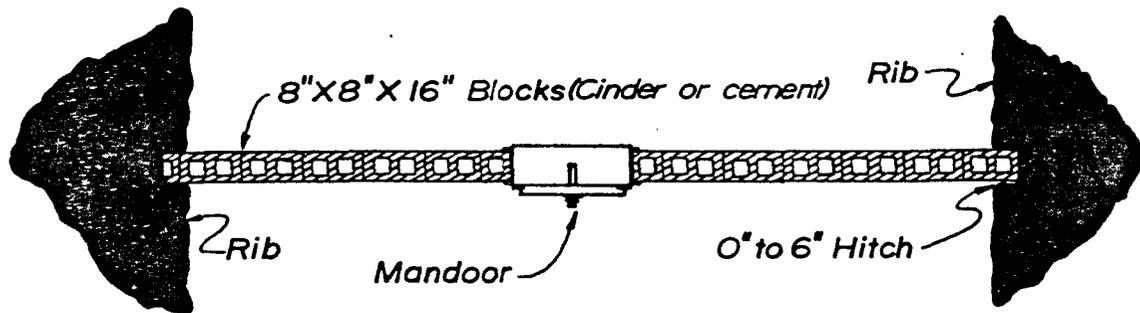


FRONT VIEW

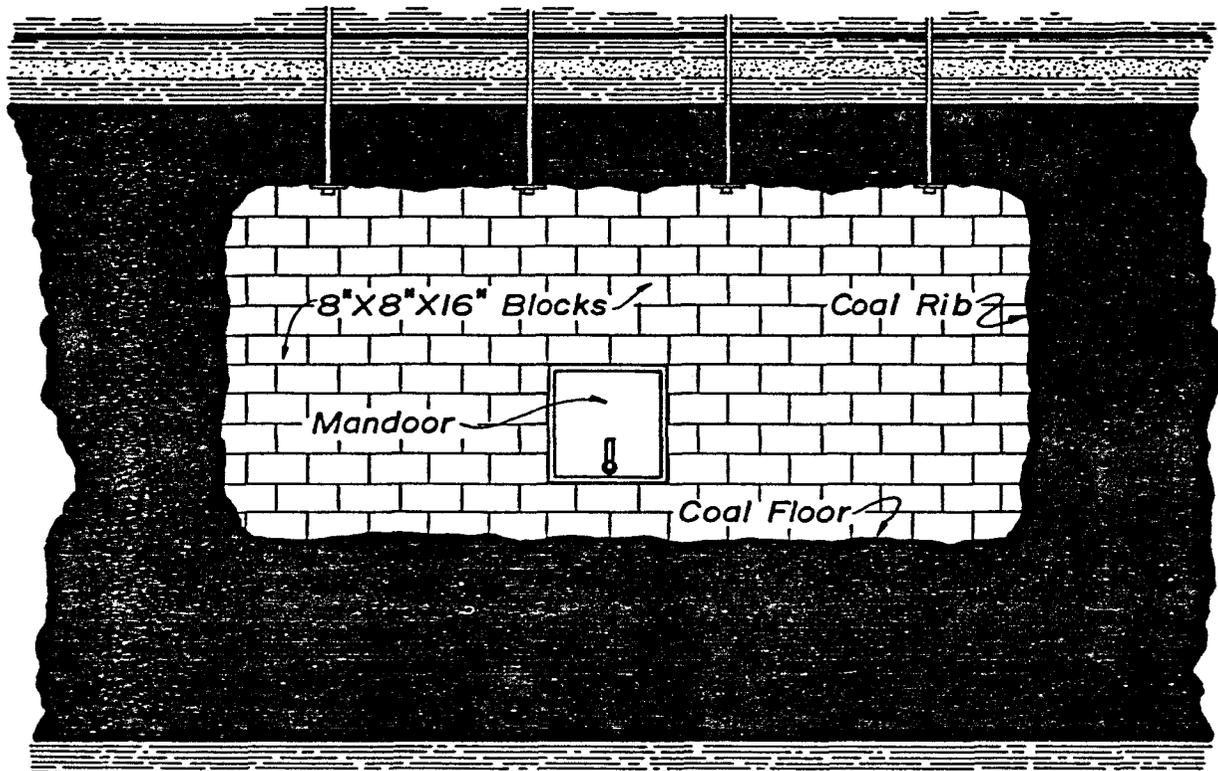
**NOTES:**

1. All stoppings (permanent) shall be made with 8" x 8" x 16" blocks, dry-stacked or mortared in place. Dry-stacked blocks will be coated on both sides with an approved construction type sealant. Mortared blocks may be coated on one side with mortar or an approved fiber type sealant, a minimum of 1/8" in thickness.
2. Ventilation pipe for belt lines, etc., will be used when required.
3. Permanent stoppings will be used for long term (2 years or more) controls, and may be used for short term controls, depending on conditions.

DRAWN BY: <i>Ed Sanderson</i>	DATE: <i>June 22, 82</i>	 <p><b>VALLEY CAMP of UTAH</b> SCOFIELD ROUTE HELPER, UTAH 84526</p>	DRAWING NO. <b>A5-0049</b>	REV. NO. <b>1</b>
CHECKED BY:	DATE:			
REVISIED BY:	SCALE: <i>1" = 5'</i>			
APPROVAL ENG: <i>[Signature]</i>	TITLE: <b>PERMANENT STOPPING, TYP.</b>			
APPROVAL SAFETY:				
APPROVAL MINE:				



TOP VIEW



FRONT VIEW

**NOTES:**

1. Mandoor stoppings will be constructed with the same workmanship and materials as permanent stoppings.
2. Self-closing, fire proof manddoors (may vary in dimensions) will be located at intervals not to exceed 500' in any given entry or ventilation split.

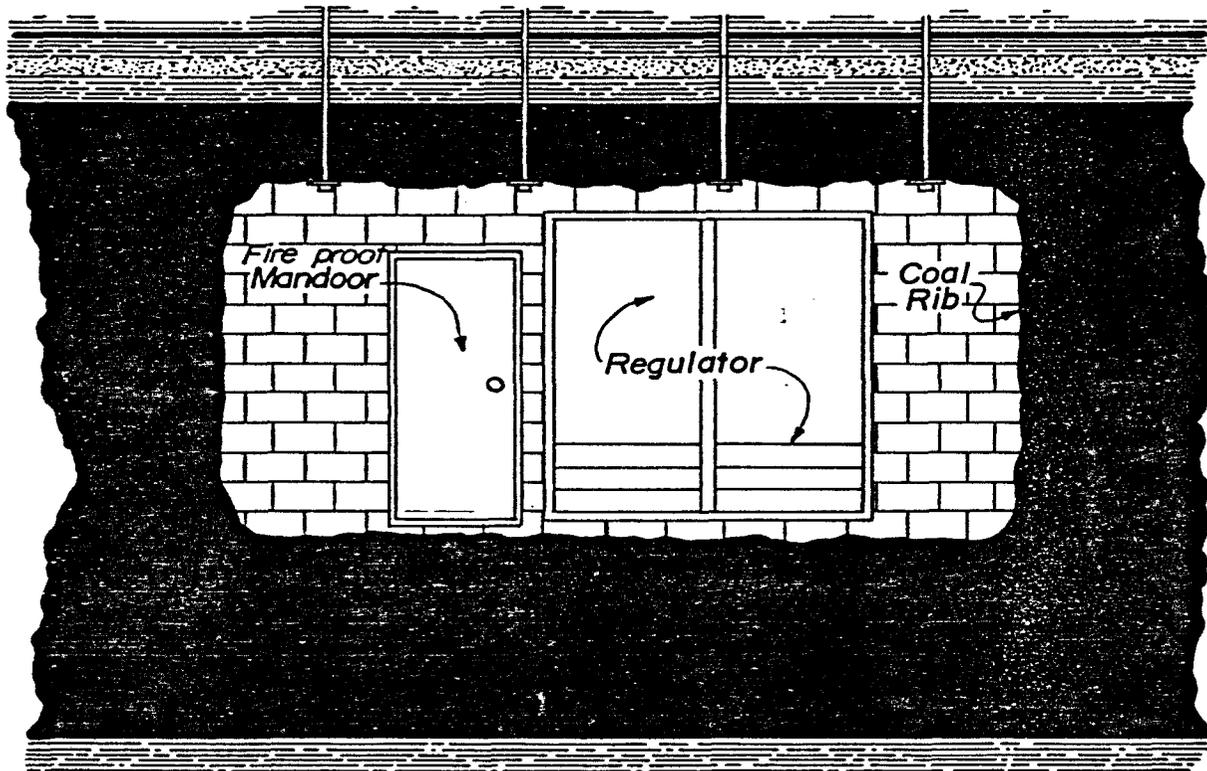
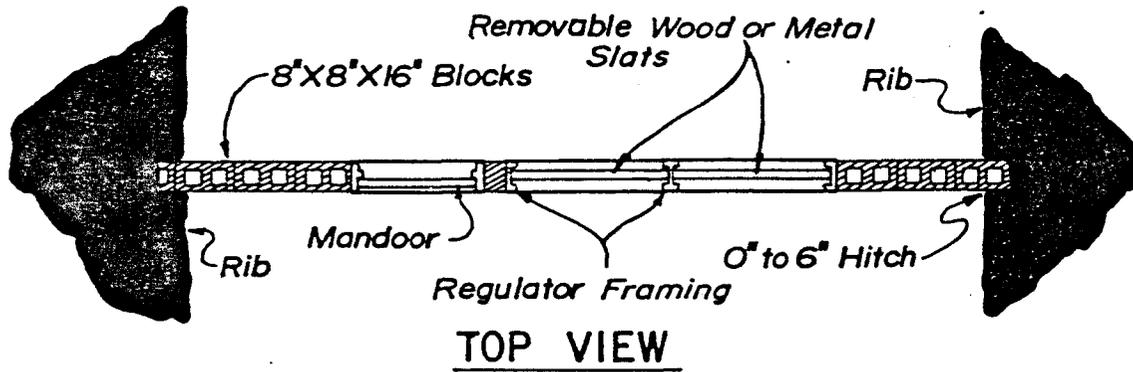
DRAWN BY:  
Ed Sanderson  
DATE:  
April 13, 1981  
CHECKED:  
APPROVAL:  
APPROVAL:  
SCALE:  
1" = 5'



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE  
**STOPPING W/ MANDLOOR, TYP.**

DRAWING NO.  
**A5-0026**



FRONT VIEW

**NOTES:**

1. Regulators will be constructed with the same materials and workmanship as permanent stoppings.
2. Combustible products used in construction will be kept to a minimum.

DRAWN BY:  
Ed Sanderson  
DATE: April 13, 1981  
CHECKED:  
APPROVAL: [Signature]  
APPROVAL: [Signature]  
SCALE: 1" = 5'



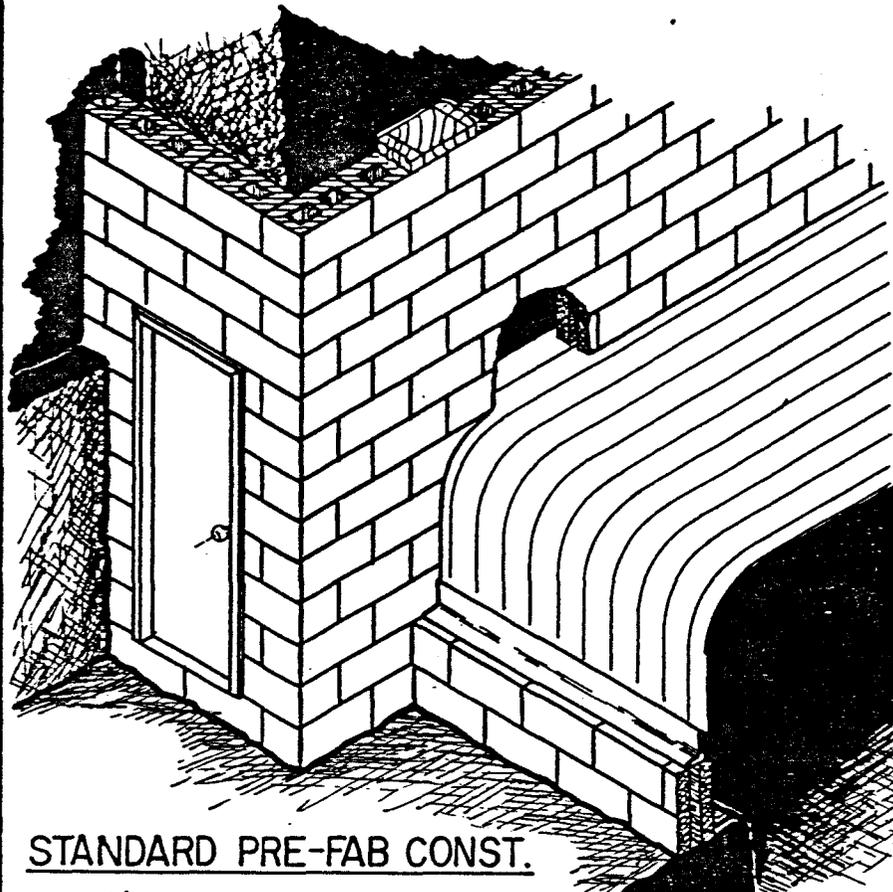
**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE **REGULATOR, TYPICAL**

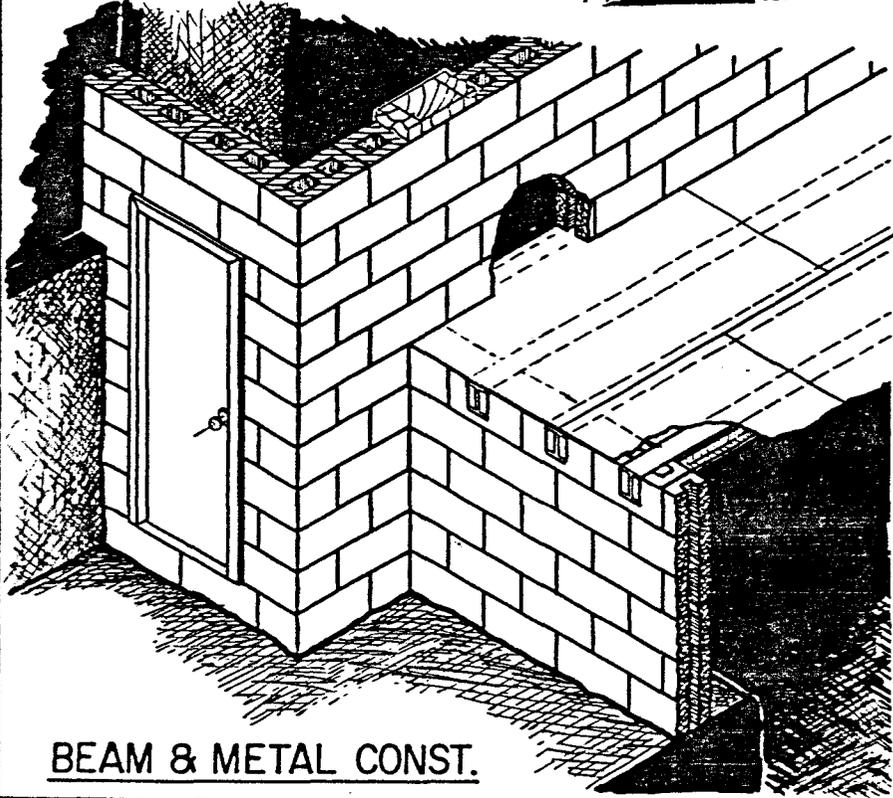
DRAWING NO. **A5-0019**

NOTES:

1. Overcasts shall be constructed with concrete or cinder blocks. (8"X8"X16")
2. Blocks may be dry-stacked or mortared in place.
3. Overcasts that are dry-stacked must be coated on both sides with an approved fiber type sealant (min.  $\frac{1}{8}$ " thick)
4. Mortared overcasts may be coated on one side with mortar or an approved fiber type sealant.
5. Overcasts may be constructed with other materials, tin, steel, wood treated with fire retardent, or any combination of the above.
6. Pre-fab metal is ribbed steel and at least 21 gauge.
7. Metal on beam type will be flat sheets of steel and at least 21 gauge.
8. Wood used in the construction of overcasts are cap pieces used as squeeze blocks against the roof in areas prone to weight stress. Cap pieces are pre-treated and mortared in place for additional safety.
9. Overhead beams will be at least 3" channel, 'I' or 'H' type.



STANDARD PRE-FAB CONST.



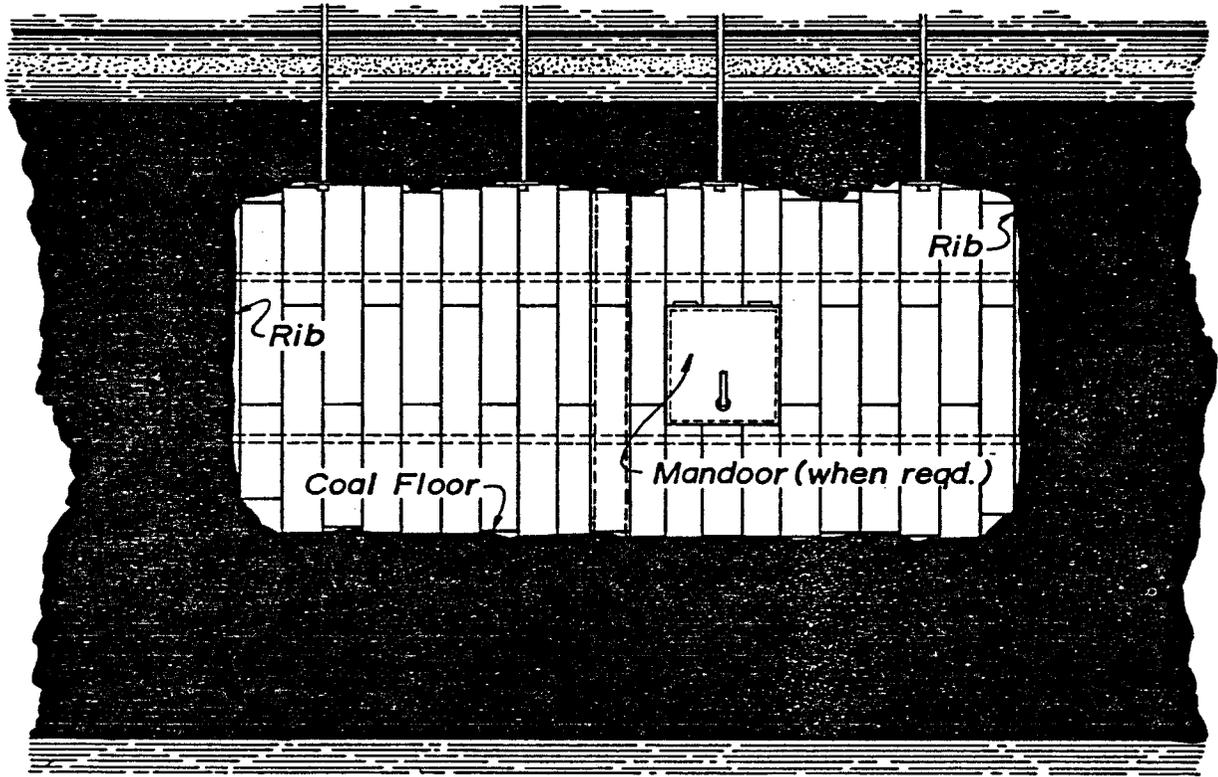
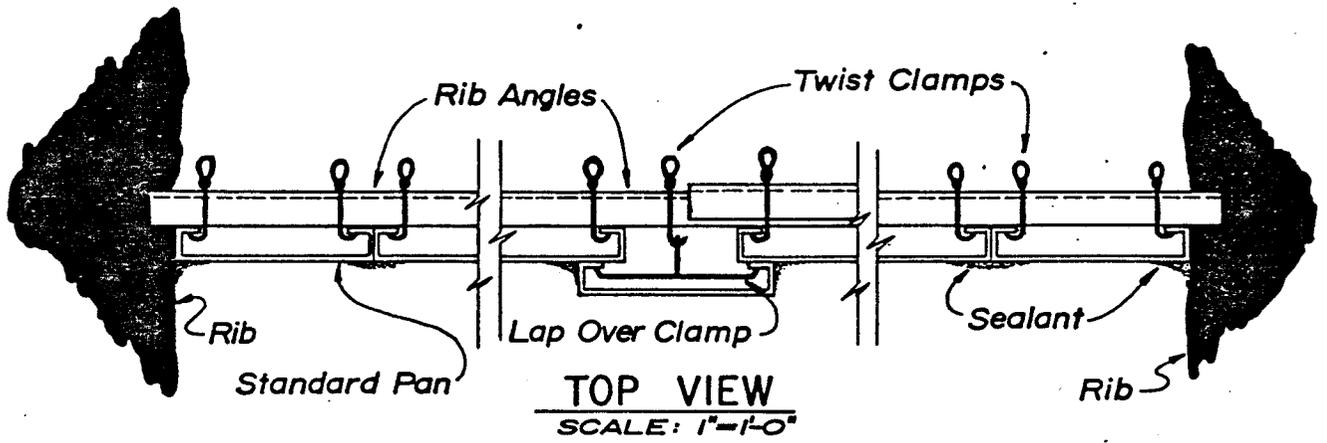
BEAM & METAL CONST.

DRAWN BY: <i>Ed Sanderson</i>	DATE: <i>June 22, 82</i>
CHECKED BY:	DATE:
REVISED BY:	SCALE: <i>NONE</i>
APPROVAL ENG.: <i>[Signature]</i>	
APPROVAL SAFETY:	TITLE: <i>PERMANENT OVERCASTS, TYP.</i>
APPROVAL MINE:	



**VALLEY CAMP of UTAH**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

DRAWING NO. <i>A5-0047</i>	REV. NO. <i>0</i>
-------------------------------	----------------------



Notes:

1. Short term stoppings to be constructed of standard packaged Kennedy Panels and accessories.
2. All irregular holes to be filled with approved materials. (See p. 9).
3. Joints to be coated with an approved sealant.
4. Stoppings to be used for short term (less than 2 years) controls only, with no more than 36 per series of development.

DRAWN BY:  
Ed Sanderson

DATE:  
April 14, 1981

CHECKED:

APPROVAL: *[Signature]*

APPROVAL:  
W.L. WEIGHT

SCALE: II  
as noted



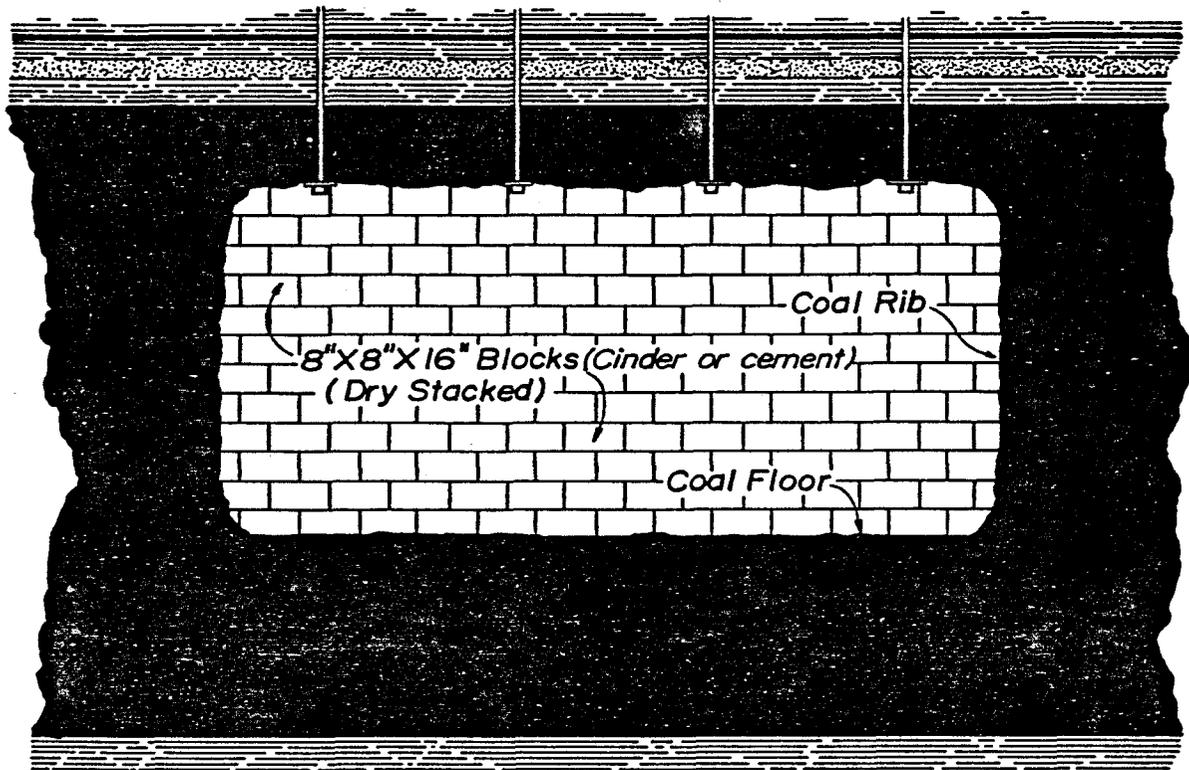
**VALLEY CAMP OF UTAH, INC.**

**SCOFIELD ROUTE**

**HELPER, UTAH 84526**

TITLE  
**SHORT TERM STOPPING, Kennedy**

DRAWING NO.  
**A5-0028**



FRONT VIEW

*Notes:*

1. All irregular holes to be filled with approved materials. (See p. 9).
2. Intake side of stopping to be coated with mortar or an approved fiber type sealant.
3. Stoppings to be used for short term (less than 2 years) controls only, with no more than 36 per series of development.

DRAWN BY:  
*Ed Sanderson*

DATE:  
*April 15, 1981*

CHECKED:

APPROVAL: *[Signature]*

APPROVAL:  
*W.L. WRIGHT*

SCALE: *1" = 5'*



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE *SHORT TERM STOPPING, Block*

DRAWING NO. *A5-0029*

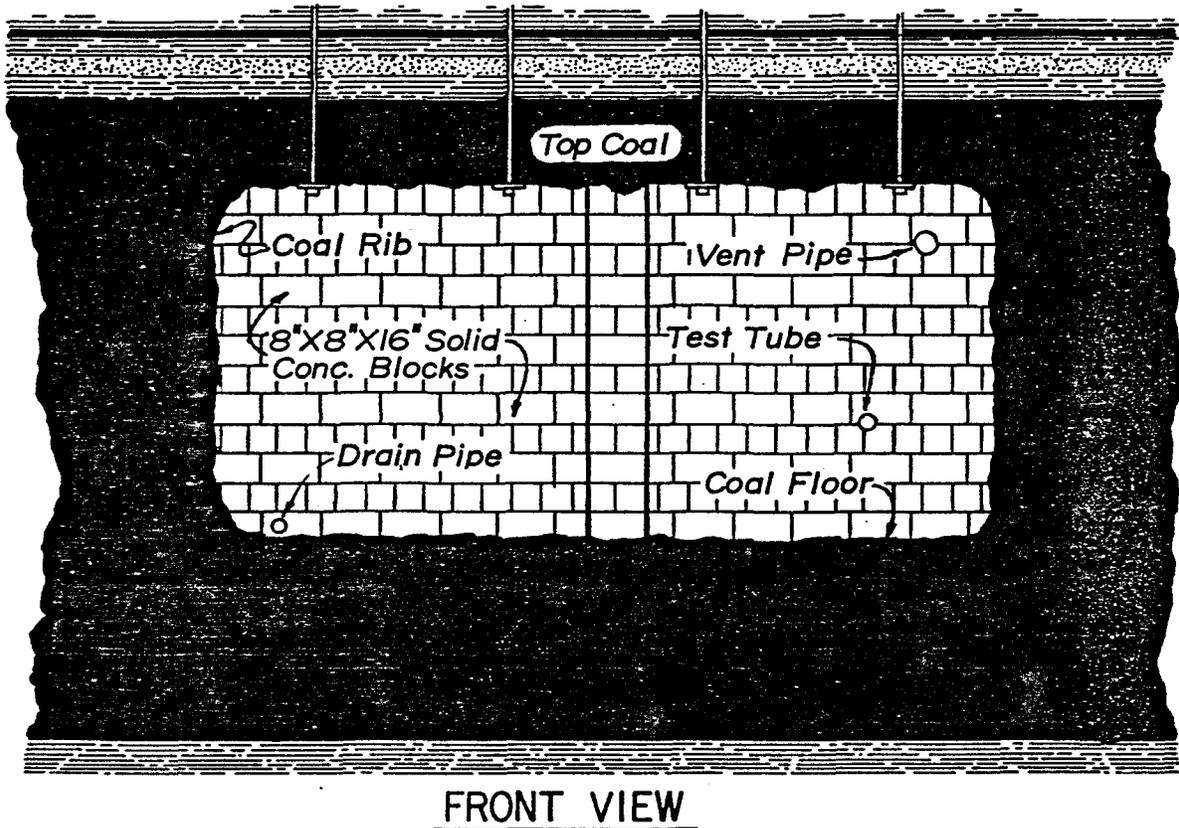
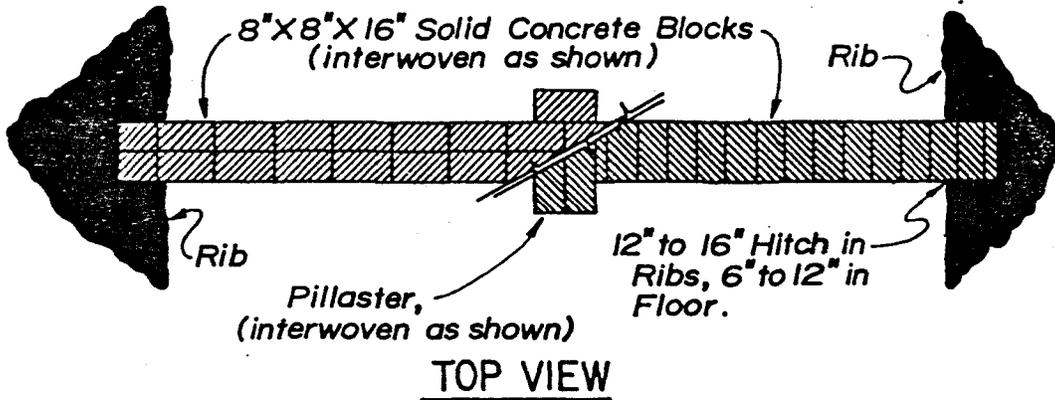
V. SEALS AND BULKHEADS

Materials and methods for construction:

- A. Seals, when required, will be installed as soon as possible after the areas are mined out. Permanent seals will be constructed of solid concrete blocks which will withstand a minimum static load of 20 PSIG.
- B. The permanent seal location will not be less than ten (10) feet from the nearest corners of a pillar, and in an area as stable as possible. Prior to installation, all loose materials will be removed from ribs, roof and floor for at least three (3) feet from either end of the proposed location of the seal, and questionable roof will be properly supported.
- C. A vent pipe will be installed through at least one (1) seal of each set in each panel, and extend into a return air course. This pipe will be less than eight (8) inches, but more than two (2) inches in diameter, and will have a strength equal to Schedule 40 steel pipe. It will be packed with coarse gravel or minus one inch (-1") crushed stone with fines removed for at least ten (10) feet, or provided with an equivalent flame arrestor. This pipe will be located near the roof, at least four (4) feet from a rib, and not on center line of the seal, and will be closed at each end with perforated caps or equivalents.
- D. At least one (1) seal of each set of seals will be fitted with a surveillance tube to permit sampling of gases. This tube will be 1/4 inch copper tubing, or equivalent, and will be sealed at the accessible outlet end with a valve. The tube and valve will be capable of withstanding a minimum of 75 PSIG pressure.
- E. A pipe for water drainage will be installed in at least one (1) seal of each set of seals. The pipe will be located no greater than eighteen (18) inches above the floor level in the lowest seal of each set, and will be of corrosion resistant material (one [1] to four [4] inches) in diameter and equal in strength to Schedule 40 steel pipe. A U-tube trap will be installed to prevent airflow through the pipe when water is not present. A sealing cap or valve may also be used to prevent air flow through the pipe.
- F. In sealed adjoining intake airways (none anticipated), a pre-shift exam for methane will be made in the passageway adjoining the seals.

- G. Before bulkheads are constructed, the return air from the area to be sealed will be examined for carbon monoxide. If detectable concentrations of carbon monoxide are present in the atmosphere, bulkheads will be constructed in accordance with procedures approved by the Secretary or his authorized representative.
- H. The bulkheads will not be used to impound water in the sealed areas unless approved by the Secretary or his authorized representative.
- I. Seals will be of solid concrete blocks (average minimum compressive strength of 1800 PSI tested in accordance with A.S.T.M. C-140-70) and mortar one [1] part cement, three [3] parts sand, and not more than seven [7] gallons of water per sack of cement). Seals will be installed in the following manner: the bulkhead will be recessed at least twelve (12) inches deep in the rib, and at least six (6) inches deep in the floor (no recess will be made in the roof). The blocks will be at least six (6) inches high, except in the top course, and eight (8) inches wide. The blocks will be laid in mortar in a transverse pattern. In the bottom course, the blocks will be laid with a long axis parallel to the rib. The long axis in succeeding courses will be perpendicular to the long axis of the block in the preceding course. An interlaced pilaster will be constructed in the approximate center of the bulkhead.
- J. Sequence of seal construction will be as follows:
- (1) Belt entry;
  - (2) Intake entries;
  - (3) Return entries;

Return entries will be done simultaneously, when possible.



**Notes:**

1. Blocks to be 8"X8"X16" solid concrete (min. compressive strength 1800 PSIG); hitched 12" to 16" into the ribs and 6" to 12" into the floor.
2. Vent pipe and test tubes shall be placed in one seal in each set.
3. A drain pipe shall be provided in one seal in each set.
4. Interwoven Pillaster shall be built in the approximate center of the seal.
5. Seals shall be 16" thick and sealed with an approved sealant material.

DRAWN BY:  
Ed Sanderson

DATE:  
April 8, 1981

CHECKED:

APPROVAL: *[Signature]*

APPROVAL: *[Signature]* WRIGHT

SCALE:  
1" = 5'



**VALLEY CAMP OF UTAH, INC.**

**SCOFIELD ROUTE**

**HELPER, UTAH 84526**

TITLE  
**SEAL, TYPICAL (CONC. BLOCK)**

DRAWING NO. **A5-0018**

## VI. DIESEL EQUIPMENT

- A. "Any diesel equipment used in or inby the last open crosscut shall comply with Title 30, Part 36, of the Code of Federal Regulation."
- B. "All diesel equipment shall be operated and maintained in accordance with the manufacturer's operating specifications and the maintenance manual. These manuals and specifications shall be made available for reference."
- C. The exhaust from operating diesel equipment will be sampled daily at the operator's station with the engine running; if the analysis of the samples exceeds five (5) parts per million nitrogen dioxide, or fifty (50) parts per million of carbon monoxide, or both, corrective measures will be taken immediately. Sampling device will be a DRAEGER MULTI-GAS DETECTOR unit or equivalent.
- D. The atmosphere returning from any working place where diesel-powered equipment is being used will be tested at least once each shift while the equipment is in operation, and if the analysis of the samples exceeds five (5) parts per million nitrogen dioxide, or fifty (50) parts per million carbon monoxide, or both, corrective measures will be taken immediately.
- E. The date, time, machine identification and results of analysis of samples will be recorded in a book maintained for this purpose, and kept available for reference for a period of one (1) month.
- F. NOTE: Positive ventilation will be maintained over diesel equipment at all times. In accordance with 30 CFR 36, a minimum of one-half ( $\frac{1}{2}$ ) the recommended 150 CFM per brake horsepower will be maintained over each unit during operation. When more than one unit is required to be operated in one (1) section, the minimum quantity of air in the last open crosscut will be one-half of the total recommended CFM of all those operating units, or a minimum of 75 CFM per brake horsepower. Example: 2 Elmacs @ 50 b.h.p. x 150 CFM (7,500) each = 15,000 CFM; plus 1 Eimco @ 84 b.h.p. x 150 CFM (12,600) = 27,600 TOTAL CFM, which divided by 2 equals the required minimum of 13,800 CFM in the last open crosscut. Regardless of type and quantity of equipment used, the total required quantity of air shall not be less than 12,000 CFM.
- G. Equipment used to transport men or materials into each section that is then parked will be exempt from the multiple equipment requirements. If left unattended, these units will be shut off. Attended equipment may be left running until assigned work is completed or equipment is removed from section.

CLASSIFICATION OF UNDERGROUND VEHICLES

DIESEL EQUIPMENT - BELINA MINES

Personnel Carriers

1. Make: Elmac  
Type: Boss buggy  
Serial No.: 605BH-11101-9001  
Date Mfg.: 1979  
Engine: 2 cyl.  
HP: 17  
Ventilation recommended: 2,550 CFM
2. Make: Elmac  
Type: Boss buggy  
Serial No.: 605BH-11125-9073  
Date Mfg.: 1979  
Engine: 2 cyl.  
HP: 17  
Ventilation recommended: 2,550 CFM
3. Make: Elmac  
Type: Boss buggy  
Serial No.: 605BH-11125-9074  
Date Mfg.: 1979  
Engine: 2 cyl.  
HP: 17  
Ventilation recommended: 2,550 CFM
4. Make: Jeep  
Type: CJ5  
Serial No.: JEFM85H66T025263  
Date Mfg.: 1981  
Engine: 4 cyl.  
HP: 65  
Ventilation recommended: 9,750 CFM
5. Make: Jeep  
Type: CJ5  
Serial No.: JEFM85H4CT025262  
Date Mfg.: 1981  
Engine: 4 cyl.  
HP: 65  
Ventilation recommended: 9,750 CFM
6. Make: International  
Type: Scout II  
Serial No.: K0063-KGD21369  
Date Mfg.: 1980  
Engine: 6 cyl.  
HP: 110  
Ventilation recommended: 16,500 CFM

DIESEL EQUIPMENT (CONT.)

7. Make: Ford - Elmac  
Type: Mantrip  
Serial No.: P14-4-11101-9002  
Date Mfg.: 1979  
Engine: 3 cyl.  
HP: 50  
Ventilation recommended: 7,500 CFM
8. Make: Ford - Elmac  
Type: Mantrip  
Serial No.: P14-4-50752-9093  
Date Mfg.: 1979  
Engine: 3 cyl.  
HP: 50  
Ventilation recommended: 7,500 CFM
9. Make: Ford - Elmac  
Type: Mantrip  
Serial No.: P14-4-51252-9096  
Date Mfg.: 1979  
Engine: 3 cyl.  
HP: 50  
Ventilation recommended: 7,500 CFM
10. Make: Ford - Elmac  
Type: Mantrip  
Serial No.: P14-4-51252-9097  
Date Mfg.: 1979  
Engine: 3 cyl.  
HP: 50  
Ventilation recommended: 7,500 CFM
11. Make: Ford - Elmac  
Type: Mantrip  
Serial No.: P14-4-51252-9098  
Date Mfg.: 1979  
Engine: 3 cyl.  
HP: 50  
Ventilation recommended: 7,500 CFM
12. Make: Ford - Elmac  
Type: Mantrip  
Serial No.: P14-4-51252-9099  
Date Mfg.: 1979  
Engine: 3 cyl.  
HP: 50  
Ventilation recommended: 7,500 CFM
13. Make: EIMCO  
Type: Flatbed  
Serial No.: 975-0472  
Date Mfg.: 1981  
Engine: 6 cyl.  
HP: 84  
Ventilation recommended: 12,600 CFM

## DIESEL EQUIPMENT (CONT.)

14. Make: EIMCO  
Type: Flatbed  
Serial No.: 975-0473  
Date Mfg.: 1981  
Engine: 6 cyl.  
HP: 84  
Ventilation recommended: 12,600 CFM
15. Make: Isuzu  
Type: 4x4 Pickup  
Serial No.: JAABR14U3G0711985  
Date Mfg.: 1985  
Engine: 4 cyl. Turbo  
HP: 80  
Ventilation recommended: 12,000 CFM
16. Make: Isuzu  
Type: 4x4 Pickup  
Serial No.: JAABR14U9G0712168  
Date Mfg.: 1985  
Engine: 4 cyl. Turbo  
HP: 80  
Ventilation recommended: 12,000 CFM
17. Make: Isuzu  
Type: 4x4 Pickup  
Serial No.: JAABR14U3G0720606  
Date Mfg.: 1985  
Engine: 4 cyl. Turbo  
HP: 80  
Ventilation recommended: 12,000 CFM

### Maintenance and Material Vehicles

1. Make: Wagner  
Type: 4 Wheel Drive Scooptram  
Serial No.: 306 80  
Date Mfg.: 1980  
Engine: 6 cyl.  
HP: 150  
Ventilation recommended: 22,500 CFM
2. Make: Wagner  
Type: 4 Wheel Drive Scooptram  
Serial No.: 211 80  
Date Mfg.: 1980  
Engine: 6 cyl.  
HP: 150  
Ventilation recommended: 22,500 CFM
3. Make: Wagner  
Type: 4 Wheel Drive Scooptram  
Serial No.: 175 82  
Date Mfg.: 1982  
Engine: 6 cyl.  
HP: 150  
Ventilation recommended: 22,500 CFM

DIESEL EQUIPMENT (CONT.)

4. Make: EIMCO  
Type: Luber Truck  
Serial No.: 975-0537  
Date Mfg.: 1981  
Engine: 6 cyl.  
HP: 40  
Ventilation recommended: 6,000 CFM
5. Make: Jeffrey  
Type: Dresser Ram Car  
Serial No.: 37688 (23C-1512)  
Date Mfg.: 1980  
Engine: 6 cyl.  
HP: 150  
Ventilation recommended: 22,500 CFM
6. Make: Jeffrey  
Type: Dresser Ram Car  
Serial No.: 37904 (23C-1511)  
Date Mfg.: 1981  
Engine: 6 cyl.  
HP: 150  
Ventilation recommended: 22,500 CFM
7. Make: Ford - Huber  
Type: Grader  
Serial No.: M269-M850  
Date Mfg.: 1980  
Engine: 4 cyl.  
HP: 52  
Ventilation recommended: 7,800 CFM
8. Make: John Deere  
Type: 350C Crawler-Dozer  
Serial No.: 705052  
Date Mfg.: 1985  
Engine: 3 cyl.  
HP: 32  
Ventilation recommended: 4,800 CFM
9. Make: John Deere  
Type: 350C Crawler-Dozer  
Serial No.: 705302  
Date Mfg.: 1985  
Engine: 3 cyl.  
HP: 32  
Ventilation recommended: 4,800 CFM

VII. BLEEDER SYSTEM

- A. Inasmuch as this mine, as well as this area, has a history of being "gas free", the use of a typical forced-air bleeder system is not anticipated.
- B. When mining is completed in panels and sub-mains, seals will be installed at the entrance to these areas nearby the first open crosscut as shown on Drawing Nos. A5-0037, Page 8, and A1-0097, Page 28. These seals will be installed as described in Section V.

VIII. FIREPROOF ENCLOSURES UNDERGROUND

Housings for underground transformer stations, battery-charging stations, substations, compressor stations, shops and permanent pump stations, shall be housed in fireproof enclosures. Typical ventilation and construction shall be as shown on Drawing No. A1-0104 (page 29).

# DESIGNATED AREA SAMPLING

<b>MINE</b>	BELINA NO. 1	<b>MINE I.D. NO.</b>	42-01279
<b>LOCATION OF DESIGNATED AREA:</b> Main West belt line return air course regulator, at Mine Station 10.		<b>DESIGNATED AREA I.D. NO.</b>	<u>200-0</u>
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b> Approximately 50 feet upwind (opposite direction of airflow) from the center of the intersection where air is directed into the return airway. Placed at normal breathing level but not less than 1 ft. from the roof or rib on the walkway side.			
<b>LOCATION OF DESIGNATED AREA:</b> Main South belt line return air course regulator, at Mine Station 55.		<b>DESIGNATED AREA I.D. NO.</b>	<u>201-0</u>
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b> Approximately 50 feet upwind (opposite direction of airflow) from the center of the intersection where air is directed into the return airway. Placed at normal breathing level but not less than 1 ft. from the roof or rib on the walkway side.			
<b>LOCATION OF DESIGNATED AREA:</b> 3rd East head drive transfer point to Main South belt line, at Mine Station 1478.		<b>DESIGNATED AREA I.D. NO.</b>	<u>202-0</u>
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b> Within 10 to 40 ft. downwind (with direction of airflow) of the dust generating source. On the walkway side of the Main South belt line, but not less than 1 ft. from the roof or rib.			
<b>LOCATION OF DESIGNATED AREA:</b> 3rd West main belt line return air course regulator, at Mine Station 1302.		<b>DESIGNATED AREA I.D. NO.</b>	<u>206-0</u>
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b> Approximately 50 feet upwind (opposite direction of air flow) from the center on the intersection where air is directed into the return airway. Placed at normal breathing level but not less than 1 ft. from the roof or rib on the walkway side.			
<b>LOCATION OF DESIGNATED AREA:</b> 3rd East belt line return air course regulator, at Mine Station 1488.		<b>DESIGNATED AREA I.D. NO.</b>	<u>208-0</u>
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b> Approximately 50 feet upwind (opposite direction of airflow) from the center of the intersection where air is directed into the return airway. Placed at normal breathing level but not less than 1 ft. from the roof or rib on the walkway side.			
<b>REMARKS:</b>			

# DESIGNATED AREA SAMPLING

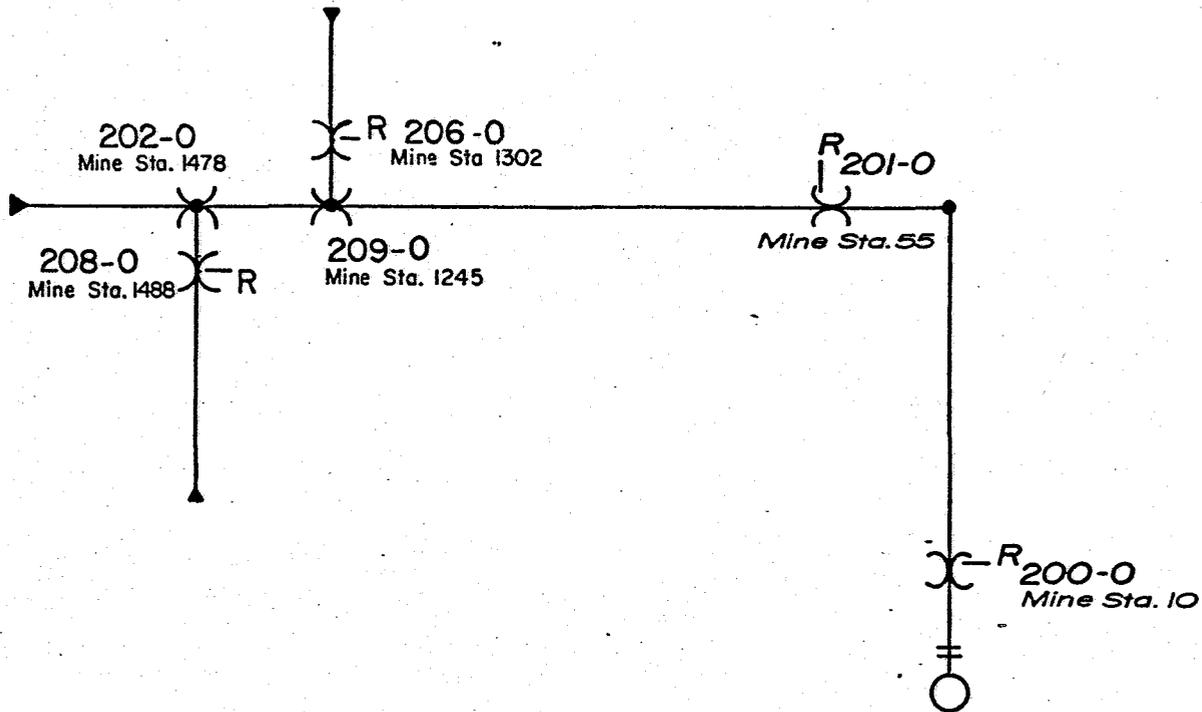
<b>MINE</b> BELTNA NO. 1 (CONT.)	<b>MINE I.D. NO.</b> 42-01279
<b>LOCATION OF DESIGNATED AREA:</b> 3rd West Return belt drive transfer point onto Main South belt, at Mine Station 1245.	<b>DESIGNATED AREA ID. NO.</b> <u>209-0</u>
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b> Within 10 to 40 ft. downwind (with direction of airflow) of the dust generating source. On the walkway side of the Main South belt line, but not less than 1 ft. from the roof or rib.	
<b>LOCATION OF DESIGNATED AREA:</b>	<b>DESIGNATED AREA ID. NO.</b> _____
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b>	
<b>LOCATION OF DESIGNATED AREA:</b>	<b>DESIGNATED AREA ID. NO.</b> _____
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b>	
<b>LOCATION OF DESIGNATED AREA:</b>	<b>DESIGNATED AREA ID. NO.</b> _____
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b>	
<b>LOCATION OF DESIGNATED AREA:</b>	<b>DESIGNATED AREA ID. NO.</b> _____
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b>	
<b>LOCATION OF DESIGNATED AREA:</b>	<b>DESIGNATED AREA ID. NO.</b> _____
<b>POSITION OF SAMPLING INSTRUMENT WITHIN DESIGNATED AREA:</b>	
<b>REMARKS:</b>	

LEGEND

STANDBY NO.

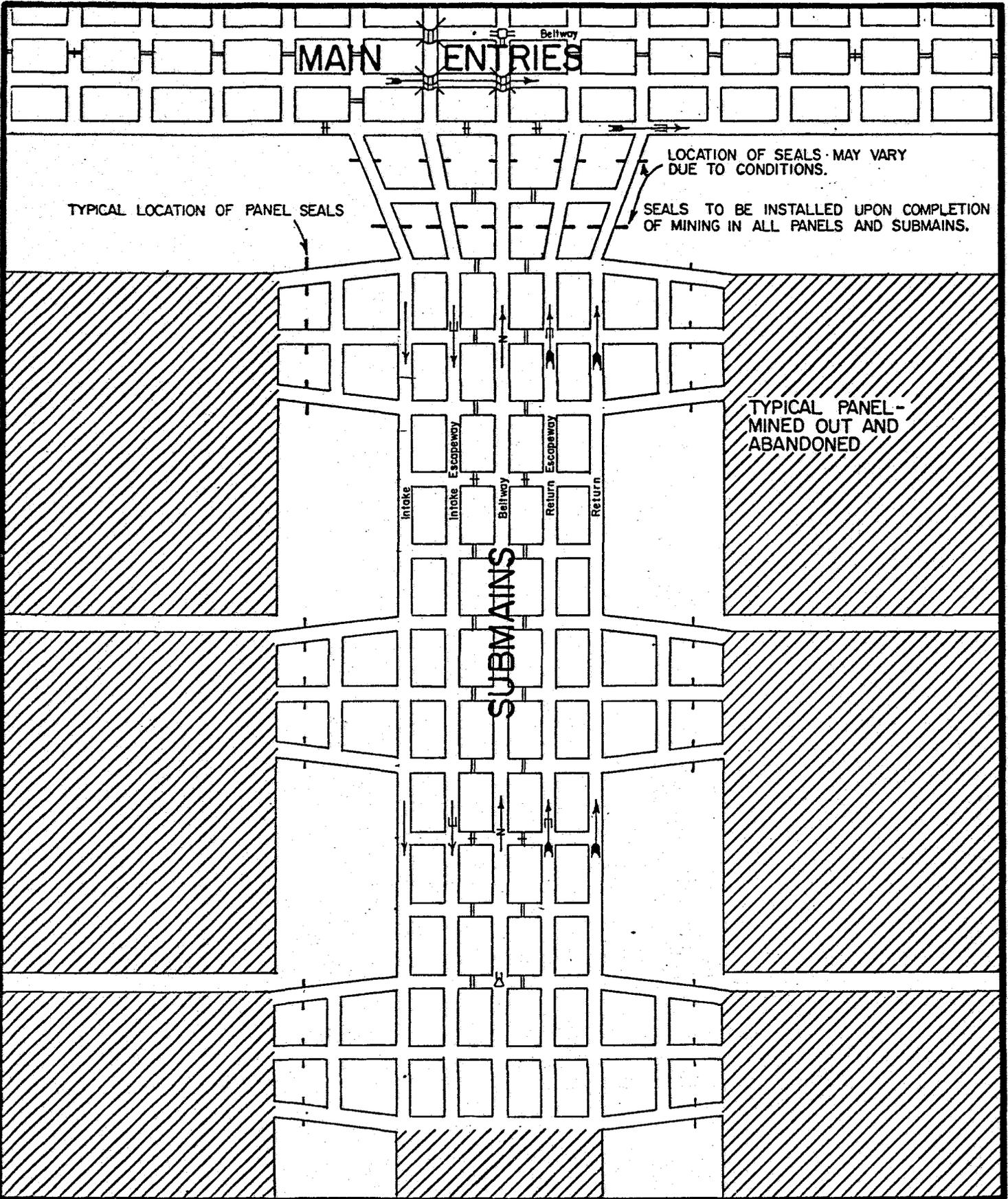
-  Mine Opening
-  Belt Transfer Point
-  Section Loading Point
-  Designated Area
-  Air Regulator
-  Air Movement
-  Stopping

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



"SUPERCEDES DWG. NO. A5-0032"

DRAWN BY: <i>Ed Sanderson</i>	DATE: <i>Mar. 22, 82</i>	 <b>VALLEY CAMP of UTAH</b> SCOFIELD ROUTE HELPER, UTAH 84526
CHECKED BY:	DATE:	
REVISED BY:	SCALE: <i>None</i>	
APPROVAL ENG.:		
APPROVAL SAFETY:	TITLE: <i>DESIGNATED AREA LINE DIAG.</i>	DRAWING NO. <i>A5-0044</i>
APPROVAL MINE:		REV. NO. <i>2</i>



DRAWN BY: J.A.U.	DATE: 1-16-85
CHECKED BY: <i>[Signature]</i>	DATE:
REVISED BY:	SCALE: 1" = 200'
APPROVAL ENG.:	
APPROVAL SAFETY:	
APPROVAL MINE:	

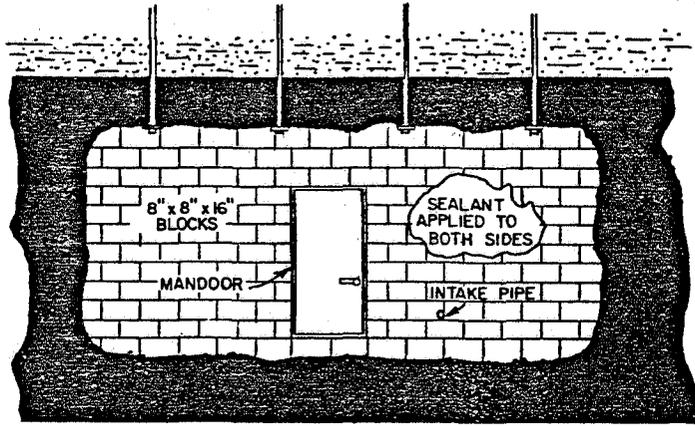


**VALLEY CAMP of UTAH**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

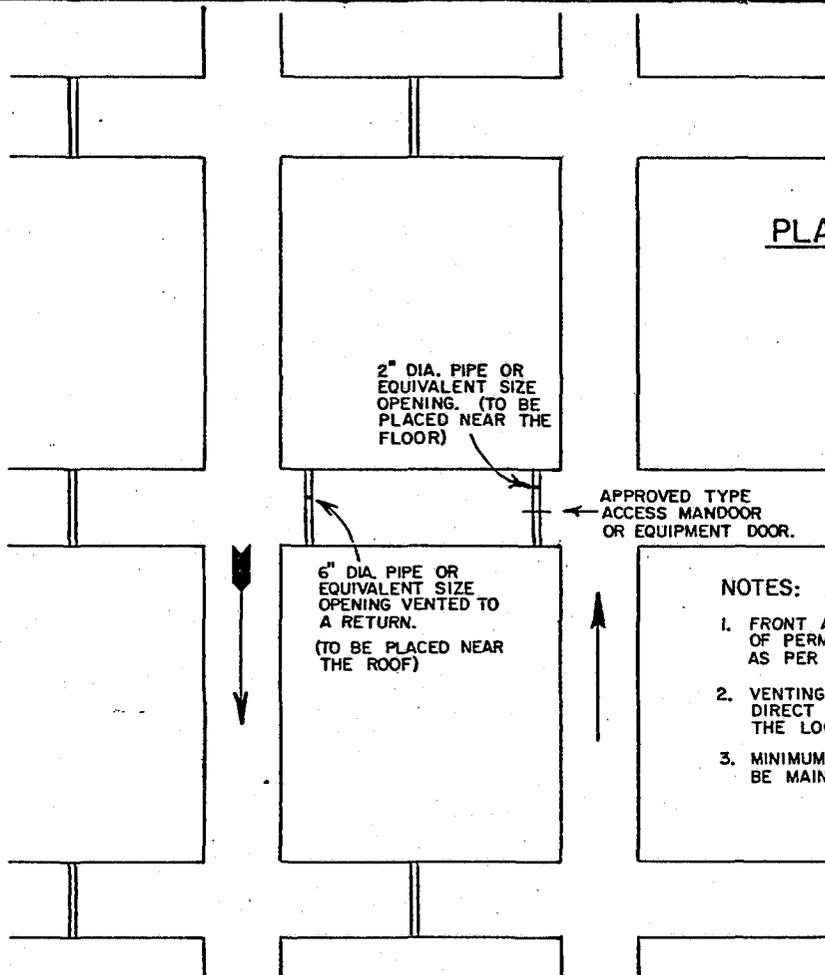
TITLE:  
**ALTERNATE METHOD OF SEALING  
 ABANDONED AREAS**

DRAWING NO.  
**AI-0097**

REV. NO.



DETAIL OF TYPICAL ISOLATION STOPPING



PLAN VIEW

NOTES:

1. FRONT AND REAR STOPPINGS WILL BE OF PERMANENT DESIGN AND CONSTRUCTED AS PER THE APPROVED VENTILATION PLAN.
2. VENTING TO THE RETURN WILL BE DIRECT OR BY PIPING, DEPENDING ON THE LOCATION OF THE INSTALLATION.
3. MINIMUM VELOCITY OF 1200 f.p.m. WILL BE MAINTAINED AT THE ENTRANCE.

DRAWN BY: J.A.U.	DATE: 6-13-85
CHECKED BY:	DATE:
REVISED BY:	SCALE:
APPROVAL ENG: <i>[Signature]</i>	
APPROVAL SAFETY:	
APPROVAL MINE:	



**VALLEY CAMP of UTAH**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE: TYPICAL DETAILS OF PERMANENT UNDERGROUND INSTALLATION HOUSINGS

DRAWING NO. AI-0104

REV. NO.

DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS

MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR

MMU I.D. NO. 001-0 SECTION: 3 WEST 2 LEFT

DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

- at working faces . . . . . 6,000 cfm
- at bolting faces . . . . . 3,000 cfm
- at idle faces . . perceptible movement. \_\_\_\_\_ cfm
- at the last open crosscut . . . . . 12,000 cfm
- at the intake end of the pillar line . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

<u>EQUIPMENT DESCRIPTION</u>	<u>NUMBER OF SPRAYS</u>	<u>TYPE OF SPRAYS</u>	<u>MINIMUM OPERATING PRESSURE</u>
<u>Joy 12CM3 (S.N. JM 2007)</u>	<u>36</u>	<u>1,2&amp;3</u>	<u>100 PSI</u>
<u>Long-Airdox Feeder Breaker</u>	<u>6</u>	<u></u>	<u>50 PSI</u>

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W.L. WRIGHT  
(Signature - Company Official)

DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS  
 MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR  
 MMU I.D. NO. 003-0 SECTION: IDLE  
 DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

at working faces . . . . . 6,000 cfm  
 at bolting faces . . . . . 3,000 cfm  
 at idle faces . . . . . perceptible movement \_\_\_\_\_ cfm  
 at the last open crosscut . . . . . 12,000 cfm  
 at the intake end of the pillar line . . . . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

<u>EQUIPMENT DESCRIPTION</u>	<u>NUMBER OF SPRAYS</u>	<u>TYPE OF SPRAYS</u>	<u>MINIMUM OPERATING PRESSURE</u>
<u>Joy 12CM3 (S.N. JM 2009)</u>	<u>36</u>	<u>1,2&amp;3</u>	<u>100 PSI</u>
<u>Long-Airdox Feeder Breaker</u>	<u>6</u>		<u>50 PSI</u>

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W.L. WIGGAT  
 (Signature - Company Official)

DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS  
 MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR  
 MMU I.D. NO. 004-0 SECTION: 3 WEST 2 RIGHT  
 DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

at working faces . . . . . 6,000 cfm  
 at bolting faces . . . . . 3,000 cfm  
 at idle faces . . . perceptible movement            cfm  
 at the last open crosscut . . . . . 12,000 cfm  
 at the intake end of the pillar line . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

<u>EQUIPMENT DESCRIPTION</u>	<u>NUMBER OF SPRAYS</u>	<u>TYPE OF SPRAYS</u>	<u>MINIMUM OPERATING PRESSURE</u>
<u>Joy 12CM3 (S.N. JM 2010)</u>	<u>36</u>	<u>1,2&amp;3</u>	<u>100 PSI</u>
<u>Long-Airdox Feeder Breaker</u>	<u>6</u>	<u>          </u>	<u>50 PSI</u>

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W.C. WRIGHT  
 (Signature - Company Official)

DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS  
 MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR  
 MMU I.D. NO. 005-0 SECTION: IDLE  
 DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

at working faces . . . . . 6,000 cfm  
 at bolting faces . . . . . 3,000 cfm  
 at idle faces . . .perceptible movement.          cfm  
 at the last open crosscut . . . . . 12,000 cfm  
 at the intake end of the pillar line . . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

<u>EQUIPMENT DESCRIPTION</u>	<u>NUMBER OF SPRAYS</u>	<u>TYPE OF SPRAYS</u>	<u>MINIMUM OPERATING PRESSURE</u>
<u>Joy 12CM3 (S.N. JM 2008)</u>	<u>36</u>	<u>1,2&amp;3</u>	<u>100 PSI</u>
<u>Long-Airdox Feeder Breaker</u>	<u>6</u>	<u>        </u>	<u>50 PSI</u>

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W.L. WUGAT  
 (Signature - Company Official)

DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS  
 MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR  
 MMU I.D. NO. 006-0 SECTION: IDLE  
 DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

- at working faces . . . . . 6,000 cfm
- at bolting faces . . . . . 3,000 cfm
- at idle faces . . . . . perceptible movement cfm
- at the last open crosscut . . . . . 12,000 cfm
- at the intake end of the pillar line . . . . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

<u>EQUIPMENT DESCRIPTION</u>	<u>NUMBER OF SPRAYS</u>	<u>TYPE OF SPRAYS</u>	<u>MINIMUM OPERATING PRESSURE</u>
<u>Joy 12CM3 (S.N. JM 2012)</u>	<u>36</u>	<u>1,2&amp;3</u>	<u>100 PSI</u>
<u>Long-Airdox Feeder Breaker</u>	<u>6</u>	<u></u>	<u>50 PSI</u>

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W.L. WRIGHT  
(Signature - Company Official)

DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS  
 MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR  
 MMU I.D. NO. 007-0 SECTION: IDLE  
 DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

- at working faces . . . . . 6,000 cfm
- at bolting faces . . . . . 3,000 cfm
- at idle faces . . . perceptible movement . . . . .          cfm
- at the last open crosscut . . . . . 12,000 cfm
- at the intake end of the pillar line . . . . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

<u>EQUIPMENT DESCRIPTION</u>	<u>NUMBER OF SPRAYS</u>	<u>TYPE OF SPRAYS</u>	<u>MINIMUM OPERATING PRESSURE</u>
<u>Joy 12CM3 (S.N. JM 2011)</u>	<u>36</u>	<u>1,2&amp;3</u>	<u>100 PSI</u>
<u>Long-Airdox Feeder Breaker</u>	<u>6</u>	<u>        </u>	<u>50 PSI</u>

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W.L. WRIGHT  
(Signature - Company Official)



DUST CONTROL PRACTICES IN THE FACE AREA

MINE NAME: BELINA NO. 1 EQUIPMENT TYPE: CONTINUOUS  
 MINE I.D. NO. 42-01279 HAULAGE: ELECTRICAL SHUTTLE CAR  
 MMU I.D. NO. 008-0 SECTION: 3 WEST 1 LEFT  
 DESIGNATED OCCUPATION (D.O.) 036 IS BELT AIR USED AT THE FACE? NO

The following parameters are hereby adopted into the ventilation system and methane and dust control plan as per 30 CFR 75.316:

1. Minimum air quantities shall be as follows:

at working faces . . . . . 6,000 cfm  
 at bolting faces . . . . . 3,000 cfm  
 at idle faces . . . . . perceptible movement cfm  
 at the last open crosscut . . . . . 12,000 cfm  
 at the intake end of the pillar line . . . . . 12,000 cfm

2. The minimum mean entry air velocity in the working place shall be 60 ft/min on advance; 45 ft/min while pulling bottom coal.

Positive airflow shall be maintained in all entries in active areas of the mine.

3. The maximum distance the line curtain is maintained from the point of deepest penetration of the face shall be: 15 feet

4. The following water suppression system shall be maintained and operated as follows:

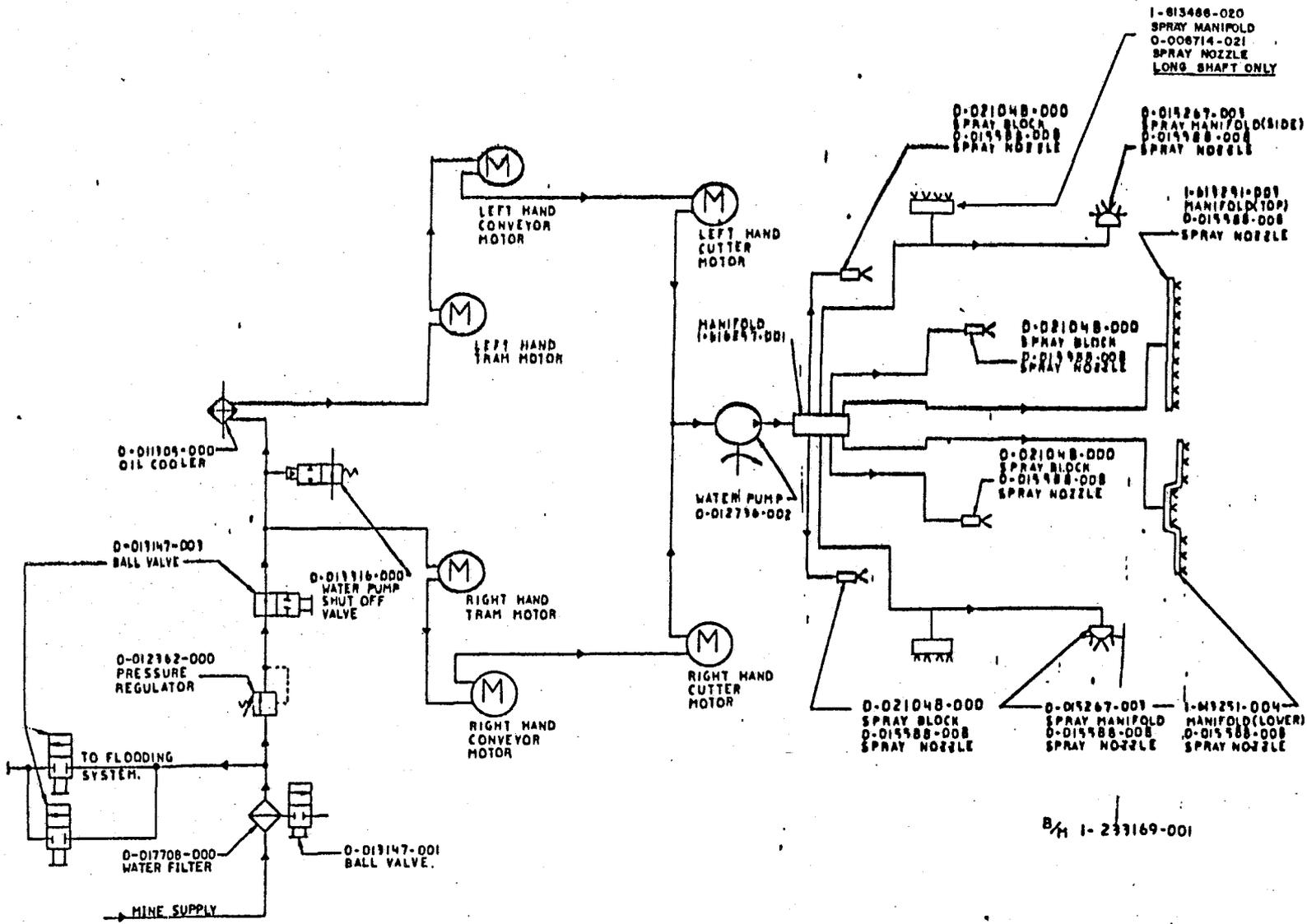
EQUIPMENT DESCRIPTION	NUMBER OF SPRAYS	TYPE OF SPRAYS	MINIMUM OPERATING PRESSURE
Lee-Norse LN-800 (S.N. 9231)	36	1,2&3	100 PSI
Long-Airdox Feeder Breaker	6		50 PSI

Use of feeder breaker sprays are dependent on moisture of coal.

5. Other controls or practices: (additional sheets will be identified by MMU I. D. Number).

6. Water system schematic, percentage of operating sprays and spray bank locations on machinery listed above follow all MMU sheets.

W. L. WIGGAT  
 (Signature - Company Official)



NOTE: A MINIMUM OF 90% OF ALL SPRAYS SHALL BE IN WORKING ORDER, AT 100 P.S.I. MINIMUM.

B/M 1-233169-001

DRAWN BY: J.A.U. DATE: 2-25-85

CHECKED BY: DATE:

REVISED BY: SCALE:

APPROVAL ENG:

APPROVAL SAFETY:

APPROVAL MINE:

VALLEY CAMP of UTAH

SCOFIELD ROUTE  
HELPER, UTAH 84526

TITLE: LEE NORSE LN-800 WATER SYSTEM

DRAWING NO. AS-0099

REV. NO.

ROOF CONTROL PLAN

FOR  
BELINA NO. 1 MINE

I.D. #42-01279

August 23, 1976

Revised May 2, 1977

Revised September 1, 1979

Revised August 28, 1979

Revised March 18, 1981

Revised December 13, 1982 ✓



H. ROOF-SUPPORT MATERIALS - Roof Bolts

Manufacturer	<u>CF&amp;I Steel Corp.</u>	Manufacturer's	<u>5772-1238-141.2</u>
	<u>Mikco Industries</u>	Designation	<u>None</u>
	<u>OR Equivalent</u>		
Minimum length	<u>60"</u>	Diameter	<u>3/4 High Strength</u> <u>5/8 Extra High Strength</u>
Type steel	<u>Hot Rolled</u>	Type thread	<u>Rolled</u>
Length of thread	<u>6" to 8"</u>	Type head	<u>Standard</u>
Dimensions of bolt head: Nut	<u>1-1/8"</u>	(Standard, Self Centering, Cone Neck)	<u>Flange</u>
			<u>1-1/2"</u>

I. BEARING PLATES

Manufacture	<u>Mikco Industries</u>	Manufacturer's	<u>None</u>
	<u>Pattin-West</u>	Designation	<u>None</u>
	<u>OR Equivalent</u>		
Dimensions	<u>1/4" x 6" x 6"</u>		
	<u>3/16" x 6" x 6" High Tensil</u>		
Shape	<u>Square and Embossed</u>	Center	<u>Hole Size 13/16"</u>

J. WASHERS

Manufacturer	<u>N/A</u>	Manufacturer's	<u>N/A</u>
		Designation	
Type steel	<u>N/A</u>	Size	<u>N/A</u>
Shape	<u>N/A</u>	Hole Size	<u>N/A</u>
(Donut embossed, Bell embossed, Flat)			

K. ANCHORAGE UNIT

Manufacturer	<u>Ohio Brass</u>	Manufacturer's	<u>OB22378</u>
	<u>Pattin-West</u>		<u>5792-0125-9</u>
	<u>OR Equivalent</u>	Size of	
Type	<u>Standard Expansion Shell</u>	Finished Hole	<u>1-3/8"</u>
Method of Drilling	<u>Rotary, Percussion</u>	Dust Control	<u>Vacuum and/or water</u>
	<u>or Combination</u>		
Installed torque	<u>150 to 200 Foot-Pounds, Conventional</u>		

L. MATERIALS USED IN CONJUNCTION WITH ROOF BOLTS

Cottonwood Blocks 2" x 8" x 12" (Min.) with one hole

Roof Bolt Mats as required --- See Drawing

M. FACE EQUIPMENT AND SECTION HAULAGE EQUIPMENT ASSOCIATED WITH EACH

1. Joy Continous Miner 12CM1-10BX; 950 AC Volt

2. 2 -- 10SC-22 Joy Shuttle Cars; 250 DC Volt

3. 1 -- Lee Norse Model TD-2-43-5-4E Roof Bolter

4. 1 -- Galis Model 320A Roof Bolter; 440 AC Volt

5. Kersey Scoop Tractor; Model PAST-24-S

6. MSA Trickle Duster

7. Galis Auxillary Fans; Model 1520 480 Volts

8. Wagner Scooptram

9. Jeffery Diesel Ramcar Model 37688

10. Joy RCS 220 Air Compressor

N. SEQUENCE OF MINING AND INSTALLATION OF SUPPORTS INCLUDING TEMPORARY SUPPORTS

Plan drawing showing sequence of mining including pillar mining where applicable, sequence of installation and spacing of supports including temporary supports and maximum width of entries, rooms intersections, crosscuts and pillar lifts are attached.

Entry Width 20 Feet

Entry Centers 70' - 100' Main Entries

Crosscut Width 20 Feet

Crosscut Centers 75 Feet - 120 Feet

Room Width 20 Feet

Room Centers 40 Feet - 80 Feet

Room Crosscut Width 19 Feet

Room Crosscut Centers 60 Feet Minimum

Slope Width (Anthracite) N/A

Gangway Width (Anthracite) N/A

O. ROOF SUPPORT MATERIAL-Conventional or Temporary and Supplemental  
Length of Post As Required

Diameter of Post One (1) inch for each 15 inches in length up to 8 feet, but in no case will the diameter be less than 4 inches. For heights over 8 feet, the minimum allowable diameter will be 8 inches. Split posts shall have a cross-section area equal to that required for round posts of equivalent lengths. Smaller posts may be used provided they are set in clusters to provide equivalent support.

Type of Post Round or split of solid straight grain wood with the ends sawed square and free from defects which would affect their strength.

Cap blocks, size and shape (2"x4") x 6" x 30" Minimum

Wedges, size and shape (0"x1") x 6" x 10" Minimum

Crossbars, type Straight grain solid wood or metal - When required

Crossbars, size A minimum of 3 inches by 8 inches of varying length- when required

Planks, size A minimum of 1 inch by 8 inches of varying length- when required

Cribbing blocks, size A minimum of 30 inches in length of varying cross section - when required

Mats 1/16 Ga. metal steel 2"-11" wide, 3'-9' long; 4-15 holes (2" dia.) per 9 sheet; corrugation spacing 5-7 1/2"; corrugation depth 6 13/16"; corrugation width 7' 2 3/4".

Wire mesh American Fence or equivalent

P. ARCH SUPPORT MATERIAL

Manufacturer Commercial Shearing Manufacturer's Designation  
OR Equivalent

Maximum width 20' 0" Minimum width 14' 0"

Maximum height 14' 0" Minimum height 9' 0"

Size W8 x 24#/Ft. Minimum load

Material A572 Grade 50

Lagging 3" x 12" x 3' 11 1/2" Minimum

Rods 3/4" x 51" with 3" thread at each end. (Min.) Nuts 3/4" (2 per rod)

Pipe spacers Schedule 40 Minimum length 3' 11 1/2"  
Minimum

ROOF SUPPORT MATERIALS FOR RESIN GROUTED RODS

A. RODS

Manufacturer Pattin-West Manufacturer's Designation \_\_\_\_\_  
Safeloc Systems \_\_\_\_\_  
CF&I \_\_\_\_\_  
OR Equivalent \_\_\_\_\_

Minimum length 60 inches Diameter 3/4 inch Min.  
Type Steel Grade 40 ASTM A-615 Type Head Square  
Minimum Yield \_\_\_\_\_  
Dimensions of bolt head : Nut 1-1/8 inch Flange 2 inch

B. BEARING PLATES

Manufacturer Mikco Ind. Manufacturer's Designation \_\_\_\_\_  
OR Equivalent \_\_\_\_\_  
\_\_\_\_\_

Dimensions 6" x 6" x 3/16" Pressed with bent corner and  
1" OR 1-1/8" Center Hole

Shape Square Center Hole Size 1" and 1-1/8"

C. RESIN

Manufacturer Dupont Manufacturer's Designation \_\_\_\_\_  
Carboloy \_\_\_\_\_  
OR Equivalent \_\_\_\_\_

Type Tube Method of Drilling Rotary, percussion or combination

Size of Finished Hole 1" - 1 1/32" Dust Control Water and/or Vacuum

SAFETY PRECAUTIONS FOR FULL  
BOLTING AND COMBINATION PLANS

1. This is the minimum roof control plan and was formulated for normal roof conditions while using the mining system(s) described. In areas where subnormal roof conditions are encountered, indicated, or anticipated, the operator shall provide additional support where necessary. If changes are to be made in the mining system that necessitates any change in the roof control plan, the plan shall be revised and approved prior to implementing the new mining system.
2. (a) All personnel required to install roof supports shall be trained by a qualified supervisor designated by mine management before being assigned to perform such work. This training shall insure that such persons are familiar with the functions of the support being used, proper installation procedures, and the approved roof control plan.  
  
(b) Supervisors in charge, and miners who install supports, shall be informed of an approved roof control plan and any changes in a previously approved roof control plan not later than their first working shift following receipt of the approved plan. As soon as possible, but no later than three weeks after receipt of this approved plan, all provisions contained herein shall be fully explained to all miners whose duties require them to be on a "working section." All new miners shall have the hazards of mine roof and ribs and the content of this plan explained to them before they start to work.
3. (a) Upon completion of the loading cycle, a reflectorized warning device, such as a "Stop" sign, shall be conspicuously placed to warn persons approaching any area that it is not permanently supported. It is to be emphasized that the warning device has been placed to cause the person to stop, examine, and evaluate the roof and rib conditions prior to entering the area.  
  
(b) Where required, the installation of temporary supports shall begin prior to moving the roof bolting machine into the place, unless roof bolting machines are equipped with acceptable automated temporary supports.
4. Only those persons engaged in installing temporary supports shall be allowed to proceed beyond the last row of permanent supports until temporary supports are installed. Before any person proceeds inby permanently supported roof, a

thorough visual examination of the unsupported roof and ribs shall be made. If the visual examination does not disclose any hazardous condition, persons proceeding in by permanent supports for the purpose of testing the roof by sound and vibration method and installing supports shall do so with caution and shall be within 5 feet (less if indicated on sketches) of a temporary or permanent support. If hazardous conditions are detected, corrective action shall be taken to give adequate protection to the workmen in the area involved.

5. When wooden material such as planks, header blocks, or crossbars are used between the plate and the roof for additional bearing surfaces, the use shall be limited to short-life openings (not to exceed 3 years) unless treated. Bearing plates used in conjunction with wooden materials shall be not less than 4 inches square or of equivalent area.
6. When installing permanent supports, temporary supports may be re-positioned in the sequence indicated on the attached sketches (pgs. 18 & 26). However, if it is necessary to remove temporary supports (other than those specified above) before permanent supports are installed, such temporary supports shall be removed by some remote means, or another temporary support shall be installed in such a manner that the workman removing the support remains in a supported area. Means of removal of such supports shall be approved by the District Manager.
7. Where it is necessary to perform any work such as extend line curtains or other ventilation devices in by the roof bolts, or to make methane tests in by the roof bolts, a minimum of two temporary supports shall be installed. This minimum is applicable only if they are within 5 feet of the face or rib and the work is done between such supports and the nearest face or rib. Other methods of providing temporary supports for this work will be used if equivalent protection is provided.
8. Where rehabilitation work is being done, the following temporary support pattern shall apply:
  - (a) Where bolts are being replaced in isolated instances (such as where equipment has knocked bolts loose), one temporary support shall be installed within a radius of 2 feet from each bolt to be replaced. Does not apply when roof bolting machine is equipped with an ATRS system.
  - (b) Where crossbars or roof bolts are being installed in an area where roof failure is indicated, a minimum

of two rows of temporary supports shall be installed on not more than 5 feet centers across the place so that the work in progress is done between the installed temporary supports and adequate permanent supports in sound roof.

9. (a) Where loose material is being taken down, a minimum of two temporary supports on not more than 5 foot centers shall be installed between the miner and the material being taken down, unless such work can be done from an area supported adequately by permanent roof supports.
- (b) To enable miners to perform their duties from a safe position without exposure to falling material, a bar of suitable length and design shall be provided on all mobile face equipment, except haulage equipment, and such bar shall be used when prying down loose material. (The length of the bar shall be suitable for the area involved in its use; i.e. construction area, roof-fall areas, and other mining areas require a bar of suitable length).
10. All metal jacks shall be installed with a cap block between the jack and the roof, unless an oversize bearing plate is provided (not less than 36 square inches).
11. Roof bolts shall be installed in the sequence shown in the drawings.
12. In each active working place where roof bolts are installed, at least one roof bolt hole shall be drilled to a depth of at least 12 inches above the anchorage horizon of the bolts being used to determine the nature of the strata. Such test holes shall be drilled at intervals not to exceed 22 feet. The test hole shall be either left open for examination or a roof bolt of a length equal to (or greater than) the required test hole depth may be installed and tightened provided adequate anchorage is obtained.
13. \*An approved, calibrated torque wrench that will indicate the actual torque on the roof bolts by a direct reading shall be provided in each working section.
14. \*Immediately after the first bolt is installed in each place, the torque shall be tested and, thereafter, at least one roof bolt out of every four shall be tested by a qualified person. If any of the bolts tested do not fall within the required torque range, the remaining previously installed bolts on this cycle shall be tested.

15. \*On a daily basis, a spot check of torques will be performed on at least one out of each ten of the roof bolts from the outby corner of the last open crosscut to the face and a record kept of the results. The torque range is 150-200 ft. lb. This record is to show the number of roof bolts tested, number of roof bolts below the recommended range, and the number of the roof bolts above the recommended range. If the results show that a majority of the roof bolts are not maintaining at least seventy percent of the minimum torque required (fifty percent if plates bear against wood), or have exceeded the maximum required torque by fifty percent, supplementary support such as additional roof bolts, longer roof bolts with adequate anchorage, posts, cribs, or crossbars to be installed until a review of the adequacy of the roof control plan is made by an authorized representative of the Secretary of the Interior.
16. (a) Sidecuts will be started only in areas that are supported with permanent roof supports. Where the installation of additional supports is required prior to starting the sidecut, such supports shall be set on 5 foot centers. Once the sidecut has been completed, the sidecut shall be supported by either temporary or permanent supports prior to working in the intersection.  
  
(b) During development, except where old workings are involved, mine openings shall not be holed through into unsupported areas. When a mine opening holes through into a permanently supported entry, room, or crosscut, the intersection so created shall be considered unsupported, and no work shall be done in or inby such intersections until either:
  - (i) The newly created opening is permanently supported as indicated in the approved roof control plan, or;
  - (ii) The newly created opening is timbered off with at least one row of posts installed on not more than 5 foot centers across the opening.
17. Posts installed for the purpose of roof support, shall have a wooden cap block, plank or crossbar between the post and roof. Where crossbars or planks are installed, they shall be blocked to equally distribute the load across their length.
18. Posts shall be installed tight and on solid footing. Not more than two wooden wedges shall be used to install a post.

19. A supply of suitable roof support material including temporary supports sufficient to support the roof during one complete cycle of mining shall be provided within 5 cross-cuts outby each section dumping point.
20. An additional supply of supplementary roof support material consisting of roof bolts, at least 12 inches longer than the bolt length being used, and posts of proper length with sufficient cap pieces and wedges, shall be provided at the mine site or a dumping point inside which would allow for delivery to any section of the mine within 30 minutes. (The roof bolts, 12 inches longer, do not apply to resin installations).
21. A suitable roof sounding device shall be provided with all mobile face equipment except haulage equipment. If face workmen who are not operators or helpers on such equipment do not carry a roof sounding device, such device shall be available within 250 feet of their working area.
22. (a) Where roof falls have occurred and at all overcast, boom holes, and other construction sites that require removal of mine roof material, (e.g. by blasting, by ripping with a continuous mining machine, by cutting with a cutting machine, or any other means), the roof shall be considered unsupported. If miners are required to enter such areas either to travel over the fallen material, to clean it up, or perform other duties, the roof shall be supported adequately. Mine Management shall devise and have posted in writing at the scene of such unsupported roof, a plan describing the procedures to be followed for Working Roof Falls.  
  
(b) All roof falls and other areas in the active workings where the mine roof material has been removed from its natural location by any means, and is not being cleaned up, shall be posted off at each entrance to the area by at least one row of post (or the equivalent) installed on not more than 5-foot centers across the opening.
23. On all active haulageways, all crossbars or beams shall be installed with some means of support that will prevent the beam or crossbar from falling, in the event the supporting legs are accidentally dislodged.
24. Devices such as spherical washers, angle washers, or slotted wood wedges, should be used to compensate for the angle when roof bolts are installed at angles greater than 5° from the perpendicular to the roof line.

25. All roof bolt materials shall be stored and handled in such a manner that will minimize damage to the materials.
26. All unintentional roof falls defined in Title 30, CFR Part 50, shall be investigated and the results of the investigation recorded in a book provided for that purpose. Such falls shall be shown on a map of the mine.
27. In areas where steel arch supports (Dwg. No. A5-0016) or crossbars (Dwg. No. A5-0014) are being installed, roof bolting, as normally done, will be required. Roof bolting may however, be used to supplement the installation of either crossbars or steel arches.
28. All roof bolts will be installed at least to a depth of 24" above the coal seam.

\*NOTE: Does not apply to Resin Bolting Procedures

*Revised  
19 8-27-84*

## SAFETY PRECAUTIONS

### AUTOMATED TEMPORARY ROOF SUPPORT

- | 1. | <u>Roof Bolter<br/>Manufacturer</u> | <u>Model<br/>Number</u> | <u>Serial<br/>Number</u> | <u>Minimum Load<br/>Carrying Capacity</u> |
|----|-------------------------------------|-------------------------|--------------------------|---|
|    | 1. Lee-Norse                        | TD2-43                  | 21271                    | 17,318 lbs.                               |
|    | 2. Lee-Norse                        | TD2-43                  | 21343                    | 17,318 lbs.                               |
|    | 3. Lee-Norse                        | TD2-43                  | 21374                    | 17,318 lbs.                               |
|    | 4. Lee-Norse                        | TD2-43                  | 21447                    | 17,318 lbs.                               |
|    | 5. Lee-Norse                        | TD2-43                  | 21449                    | 17,318 lbs.                               |
- Automated temporary roof support systems shall be used in lieu of conventional temporary supports in all faces where they will reach the roof. (See also Item No. 14).
  - Upon completion of the loading cycle, a reflectorized warning sign, such as "STOP" or "CAUTION - UNSUPPORTED ROOF", etc., shall be provided to warn persons approaching the area that it is not permanently supported, and such signs, etc., shall remain in place until installation of permanent supports is started.
  - The controls necessary to position and set the automated support shall be located in such a manner that they can be operated from under permanent support.
  - This automated support system may be used in all working sections and falls, or construction areas where it can be used safely and correctly.
  - A check valve or equivalent protection shall be incorporated in the automated temporary support system to eliminate the danger of collapse through sudden loss of oil due to a broken hose.
  - No one shall proceed in by the automated support system unless a minimum of two temporary supports are installed not more than five feet apart and within five feet of permanent support, face or ribs, and the work is done between such supports and/or the nearest face or rib.
  - The roof bolter operator shall not proceed in by the last complete row of bolts until the safety arm support is placed firmly against the roof at the point where the work is to be performed.

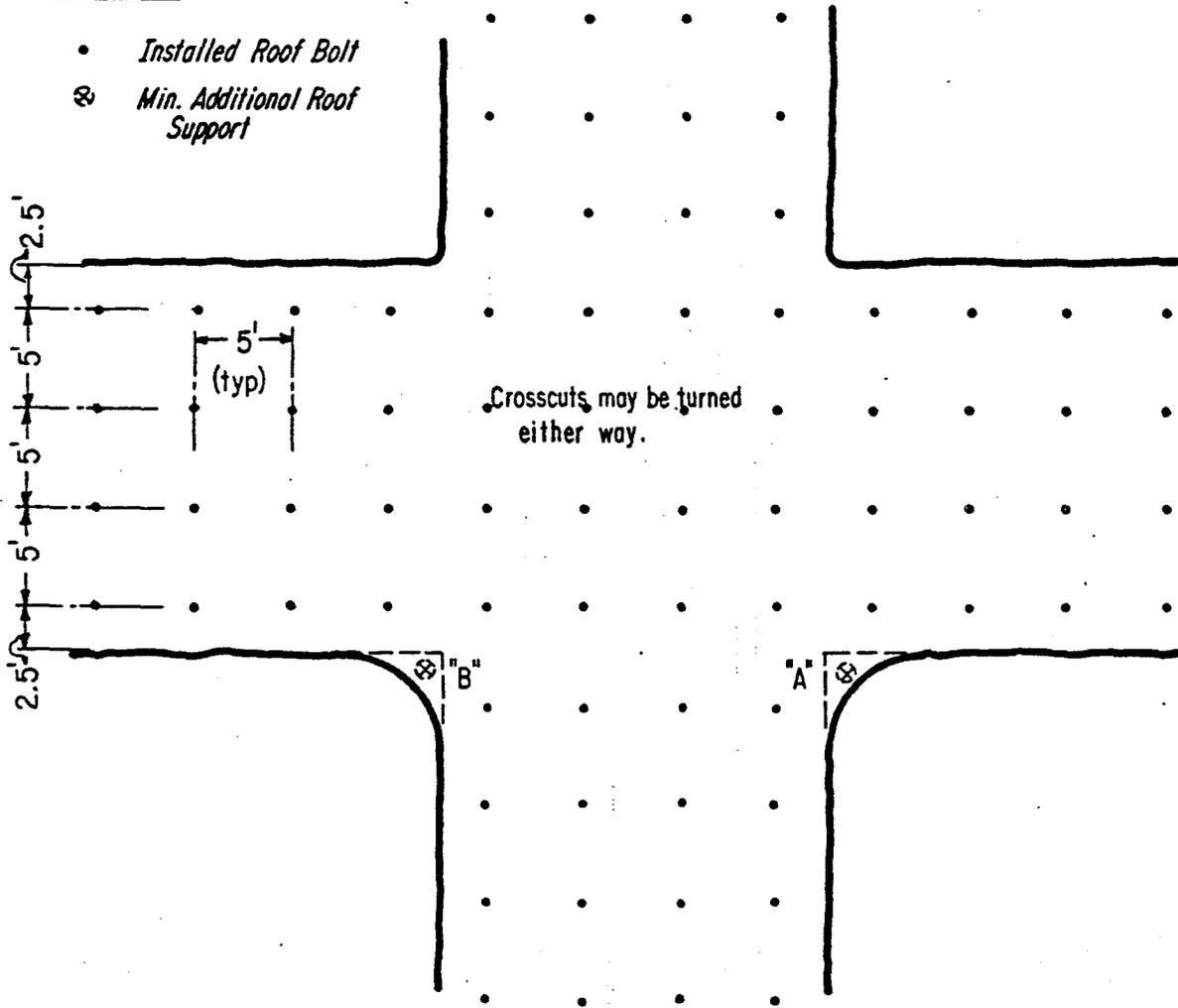
9. While drilling, the center of the safety arm support shall be against the roof, and shall be no more than 5 feet from the last complete row of bolts and either the coal rib or an installed bolt. (See also Item No. 14).
10. At least two safety jacks shall be available in the section to be used when unusual or adverse roof conditions are encountered, and the automated temporary support does not provide adequate protection for the operator. Timber may be used in place of safety jacks, if height requires.
11. Where crossbars are being installed, they may be moved into place and secured against the roof with the automated support system before persons proceed in by permanent supports to install legs under the bars.
12. The temporary roof support requirements stated elsewhere in the plan do not apply where the roof bolting machine is equipped with an acceptable A.T.S. system. This does not preclude the use of temporary supports for additional safety precautions during periods of inactivity such as strikes and mine shutdowns. Temporary supports may also be used to make necessary face tests and to assist in ventilation.
13. In areas that have been mined, or have fallen above the height limit of the automated temporary support system, a maximum of one (1) crib block may be used to allow the support to be pressured against the mine roof.
14. The manner in which the A.T.S. system is otherwise employed shall be consistent with the approved roof control plan.

## SAFETY PRECAUTIONS FOR RESIN GROUTED RODS

1. All safety precautions required in the regular roof control plan will be followed, except the torque test required for conventional-type roof bolts will not apply. If failure occurs, the bolting operation will discontinue until the reason for failure has been determined. If the reason for failure cannot be determined, changes in the roof bolting procedure will be made to adequately support the roof, or supplemental supports will be used.
2. Persons responsible for the installation of resin rods will be taught the installation procedures recommended by the manufacturer, including the safe handling precautions of the resin material.
3. Drill steels will be equivalent in length to the rods used or adequately marked to assure proper hole depth. Each drill hole will be filled the entire length with resin.
4. All resin grouted rods will be used with bearing plates approved for use. The bearing plate or the wood material between the bearing plate and the roof will be tight against the mine roof.
5. Resin packages will be stored in an area where the temperature is within the range recommended by the manufacturer.
6. Broken cartridges or cartridges which show signs of deterioration will not be used.
7. Resin grouted rods and conventional roof bolts will not be intermixed during systematic bolting cycles, except that intermixing may occur in areas where supplementary supports are required.
8. Resin cartridges will not be used if the recommended shelf-life has been exceeded, unless written authorization for use is permitted by the manufacturer or an authorized representative of the manufacturer.

LEGEND

- Installed Roof Bolt
- ⊗ Min. Additional Roof Support



TYPICAL INTERSECTION

*Notes:*

1. All entries and crosscuts shown are supported according to the roof control plan.
2. Due to the length of the continuous miners, it is necessary to cut a slight curve when turning a crosscut (see "A" & "B"). Additional roof support (roof bolts and/or timbers) will be placed in these areas.
3. Curves can be cut either to the right or left, and when necessary in both directions.

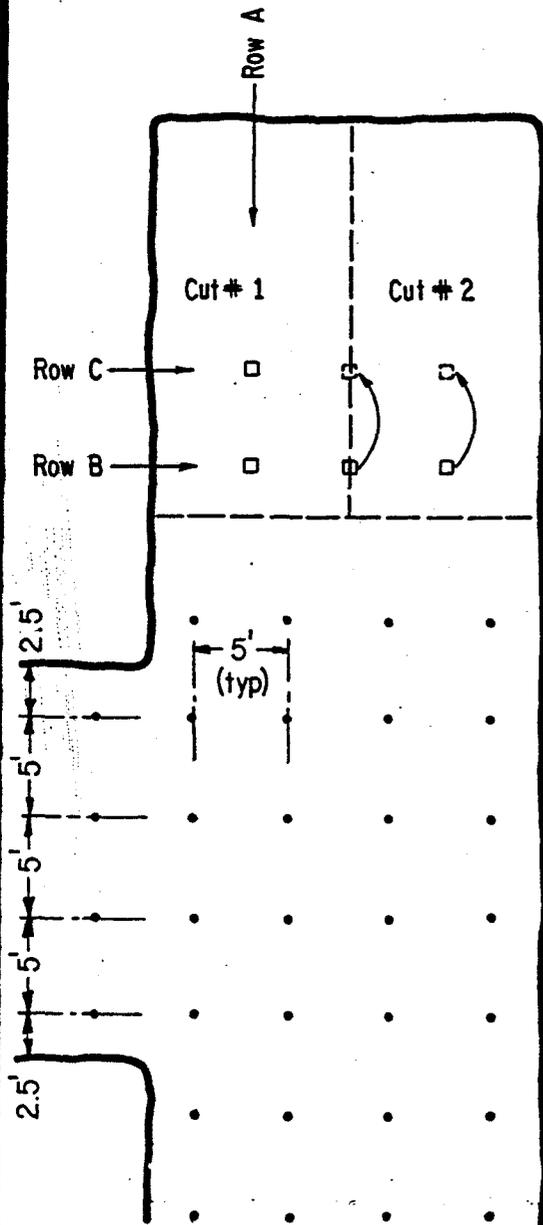
DRAWN BY: <i>Ed Sanderson</i>
DATE: <i>Mar. 25, 1981</i>
CHECKED: <i>T.G.W.</i>
APPROVAL:
APPROVAL: <i>W.L.W.</i>
SCALE: <i>1" = 10'</i>



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE **TYPICAL INTERSECTION**

DRAWING NO. **A5-0020**



**Notes:**

1. Depth of sump cuts controlled by ventilation requirement, but the Continuous Mining Machine operator shall not be advanced beyond the last permanent roof support.
2. Temporary supports in row A installed promptly upon withdrawal of machine from cut #1. Row B to be set promptly upon withdrawal of machine from cut #2. Temporary supports in row B shall be advanced to row C after the first row of bolts are installed. This cycle shall continue until the entire cut is bolted.

**LEGEND**

- Temporary Supports
- ◻ Future Temporary Supports
- Installed Roof Bolts (5ft. centers)

**TEMPORARY SUPPORT PATTERN**

for use  
**WITHOUT A.T.R.S. SYSTEM**  
*(Full Roof Bolt Plan)*

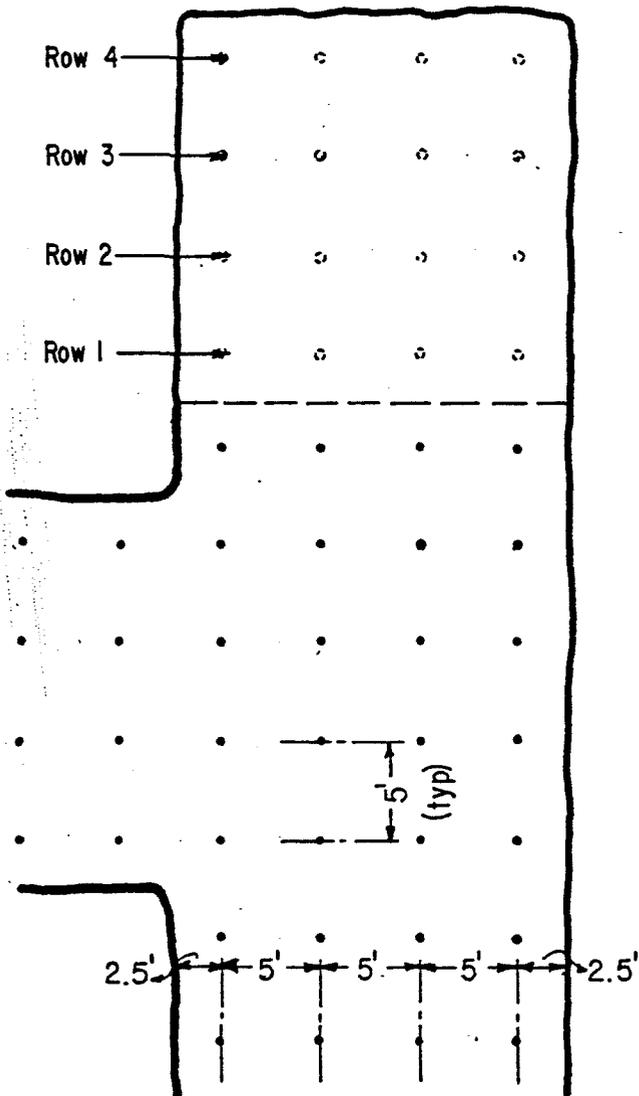
DRAWN BY: <i>Ed Sanderson</i>
DATE: <i>Mar. 24, 1981</i>
CHECKED: <i>TGW</i>
APPROVAL:
APPROVAL: <i>W. L. W.</i>
SCALE: <i>1" = 10'</i>



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE  
**TEMPORARY SUPPORT PATTERN**

DRAWING NO.  
**A5-0023**



- Notes:*
1. Bolting sequence is by row number.
  2. Standard procedure will be to install 3 roof bolts from each position. (Numbered)
  3. Row 1 will be completed before bolting in row 2 will commence.
  4. Bolting cycle may begin on right side depending upon conditions.
  5. Temporary posts or jacks will be installed only where needed to make necessary tests or for ventilation purposes.
  6. The Continuous Mining Machine Operator shall not be advanced beyond the last row of permanent roof support.

**LEGEND**

- Installed Roof Bolts
- Future Roof Bolt Locations

**ROOF BOLT INSTALLATION SEQUENCE**

for  
 Lee Norse Twin Boom Roof Bolters  
 with Temporary Roof Support System  
 Model No. TD-2-43-5-4E

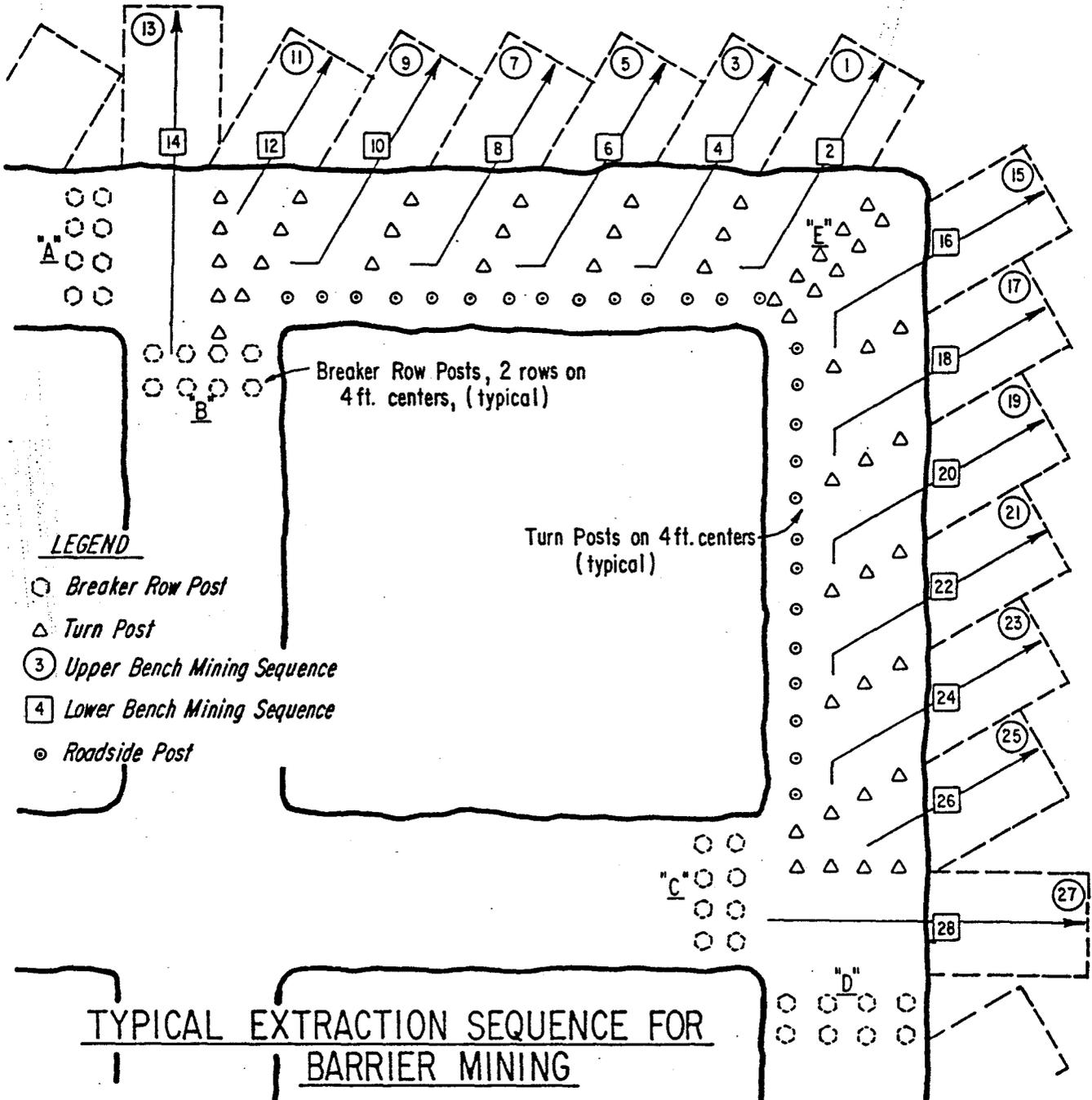
DRAWN BY: <i>Ed Sanderson</i>
DATE: <i>Mar. 24, 1981</i>
CHECKED: <i>T.G.W.</i>
APPROVAL:
APPROVAL: <i>W.L.W.</i>
SCALE: <i>1" = 10'</i>



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE  
**ROOF BOLT INSTALLATION SEQU.**

DRAWING NO.  
**A5-0024**



DRAWN BY:  
Ed Sanderson

DATE:  
Mar. 18, 1981

CHECKED:  
T.G.W.

APPROVAL:

APPROVAL:  
W.L.W.

SCALE: 1" = 20'



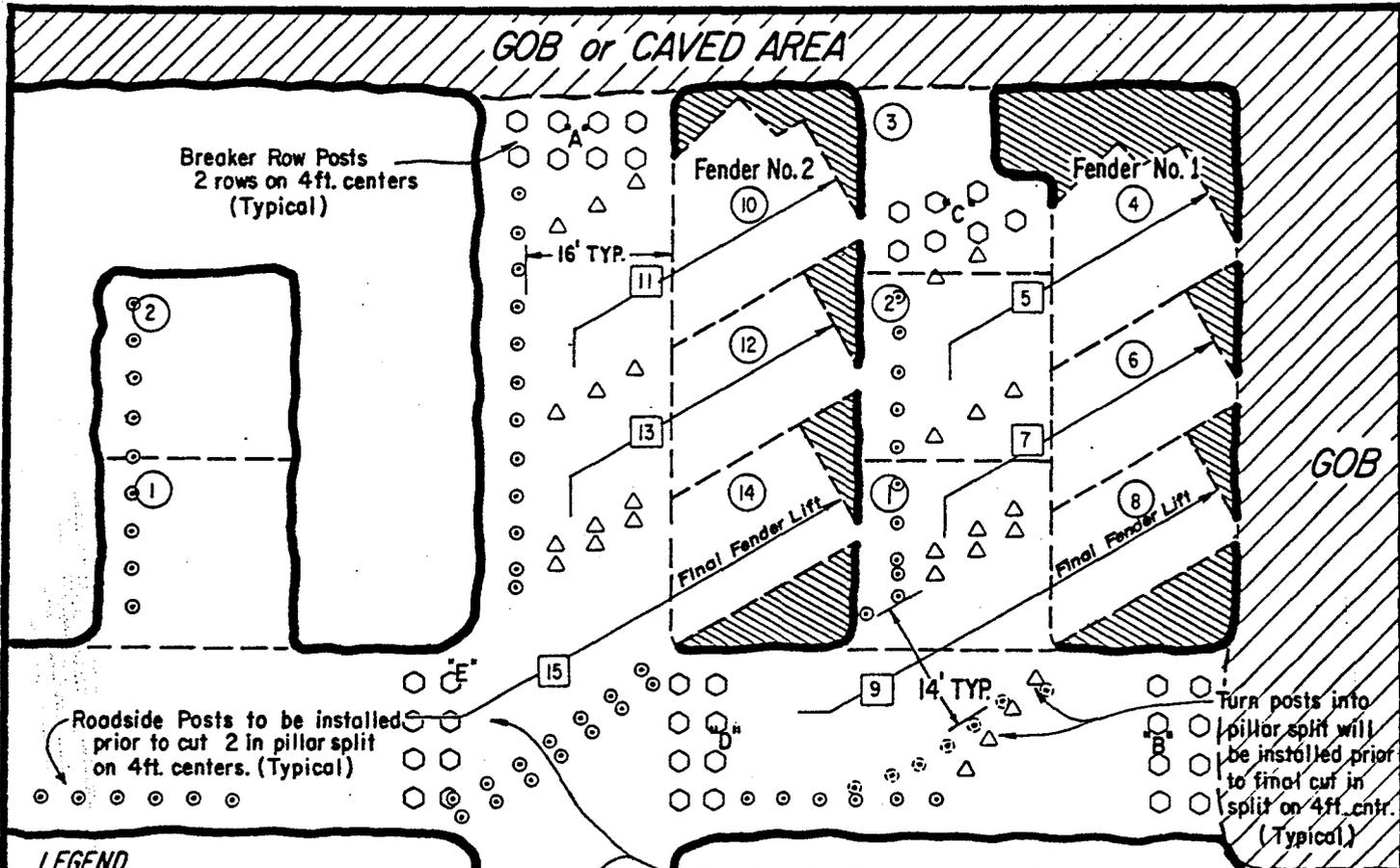
**VALLEY CAMP OF UTAH, INC.**

**SCOFIELD ROUTE**

**HELPER, UTAH 84526**

TITLE **BARRIER EXTRACTION**

DRAWING NO. **A5-0011**



**LEGEND**

- Breaker Row Post
- △ Turn Post
- ⊙ Roadside Post
- ④ Upper Bench Mining Sequence
- ⑤ Lower Bench Mining Sequence

**Notes:**

1. Typical as to mining sequence and post installation.
2. All entries, crosscuts, rooms and intersections shall be bolted in accordance with the approved roof control plan before starting pillar splits.
3. Final cut in pillar split, not to exceed 20 ft. in depth, will not be bolted.
4. Pillar breaker rows "A" & "B" shall be installed adjacent to pillared area prior to initial cut in pillar split.
5. Pillar breaker row "C" will be installed upon completion of pillar split.
6. Pillar breaker row "D" will be installed upon completion of mining fender No. 1.
7. The width of travelway leading to a final fender lift shall be reduced to 14 ft. by a double row of posts on each side.
8. Pillar breaker Row "E" will be installed before the pillar split is completed in pillar No. 2.

DRAWN BY: Ed Sanderson
DATE: Aug. 12, 1981
CHECKED:
APPROVAL:
APPROVAL:



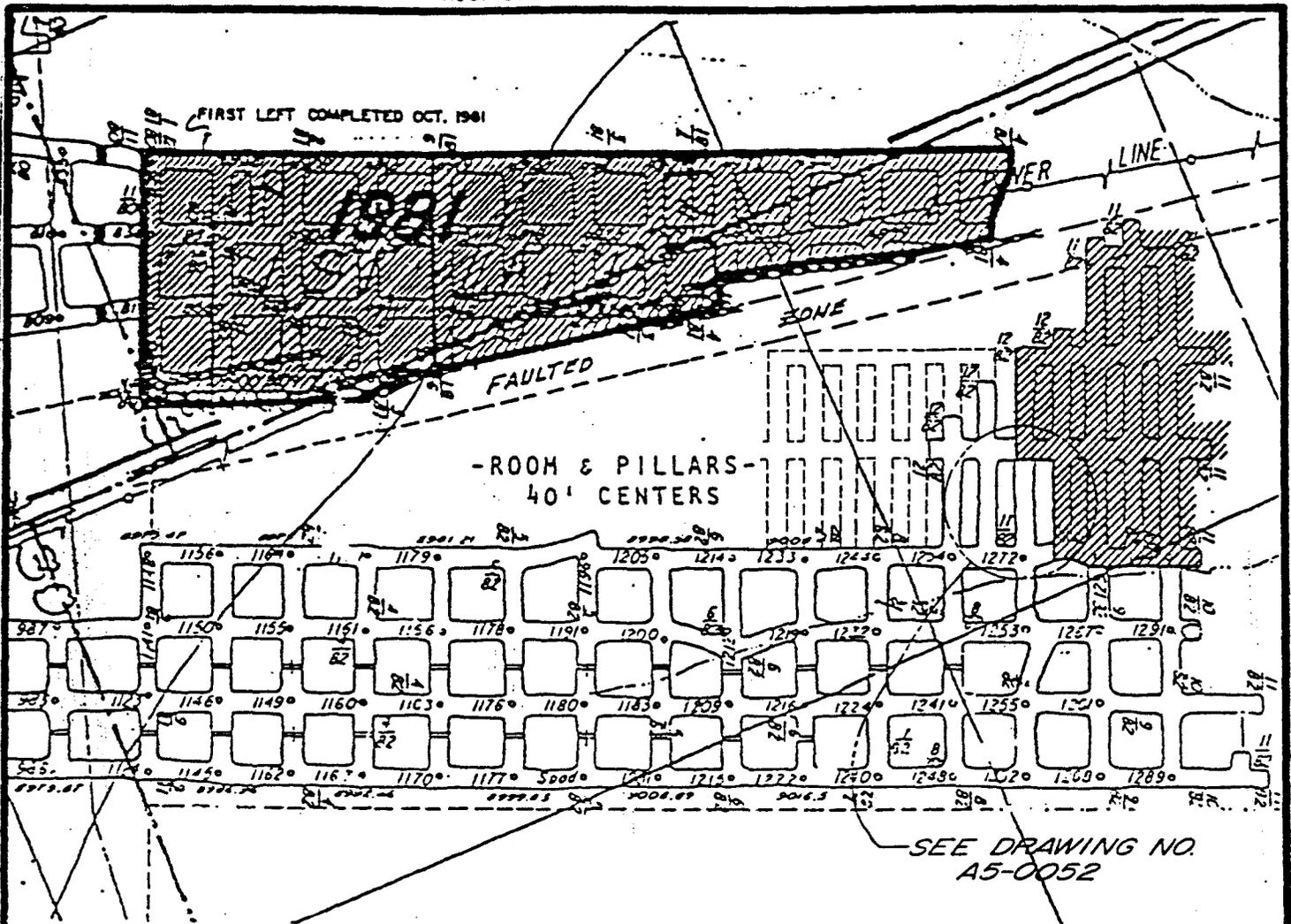
**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

SCALE: 1" = 20'

TITLE **PILLAR EXTRACTION**

DRAWING NO. **A5-0010**  
 Rev. 4

ROOF SUPPORT PLAN



TYPICAL ROOM & PILLAR MINING

Notes:

1. Typical mining sequence and post installation is shown on dwg. no. A5-0052.
2. All entries, crosscuts, rooms and intersections shall be bolted in accordance with the approved roof control plan before starting pillar mining.
3. Lifts shall not exceed 15 feet in width.
4. During pillar mining, the miner operator shall not advance beyond the last row of permanent support.
5. Turn posts shall not be cut out when the lower bench is being mined.
6. All personnel assigned to sections extracting pillars and/or barriers will be instructed in "Pillar Extraction Procedures" by a qualified person, designated by mine management, before being assigned to perform such duties.

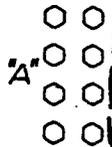
DRAWN BY: Ed Sanderson	DATE: Dec. 9, 1982	 <b>VALLEY CAMP of UTAH</b> SCOFIELD ROUTE HELPER, UTAH 84526		
CHECKED BY:	DATE:			
REVISED BY:	SCALE: 1"=200'			
APPROVAL ENG: TGW	APPROVAL SAFETY: <i>[Signature]</i>	TITLE: PILLAR EXTRACTION, ROOMS	DRAWING NO. A5-0051	REV. NO. 0
APPROVAL MINE: <i>[Signature]</i>				

ROOF CONTROL PLAN

LEGEND

- Breaker Row Post
- △ Turn Post
- ⊙ Roadside Post
- Upper Bench Sequence
- Lower Bench Sequence

GOB or CAVED AREA



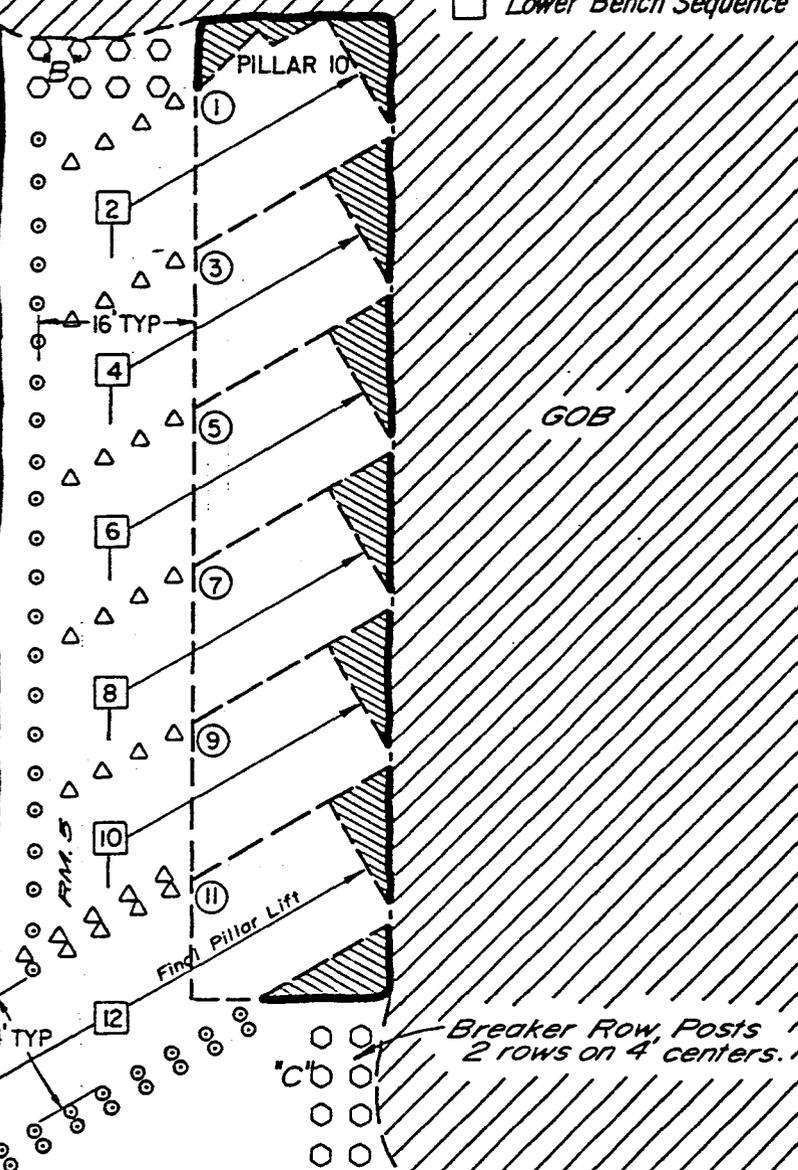
PILLAR NO. 14

PILLAR NO. 12

PILLAR NO. 10

Notes:

1. Breaker rows "A", "B", & "C" shall be installed adjacent to pillared area prior to initial lift in pillar.
2. Turn posts and Roadside posts to be installed on 4' centers typ.
3. The width of travelway leading to a final pillar lift shall be reduced to 14' by a double row of posts on each side.
4. Breaker rows "D" & "E" shall be installed upon completion of final pillar lift.



GOB

Final Pillar Lift

Breaker Row Posts  
2 rows on 4' centers.

ENTRY NO. 4

Chain Pillar

Travelway for final lift will be determined as mining conditions dictate.

ROOM & PILLAR MINING-TYP. EXTRACTION SEQUENCE

Chain Pillar

DRAWN BY:  
Ed Sanderson

DATE:  
Dec. 9, 1982

CHECKED BY:

DATE:

REVISED BY:

SCALE:  
1" = 20'

APPROVAL ENG:

APPROVAL SAFETY:

APPROVAL MINE:



VALLEY CAMP of UTAH  
SCOFIELD ROUTE  
HELPER, UTAH 84526

TITLE:  
PILLAR EXTRACTION, ROOMS

DRAWING NO.  
A5-0052

REV. NO.  
0

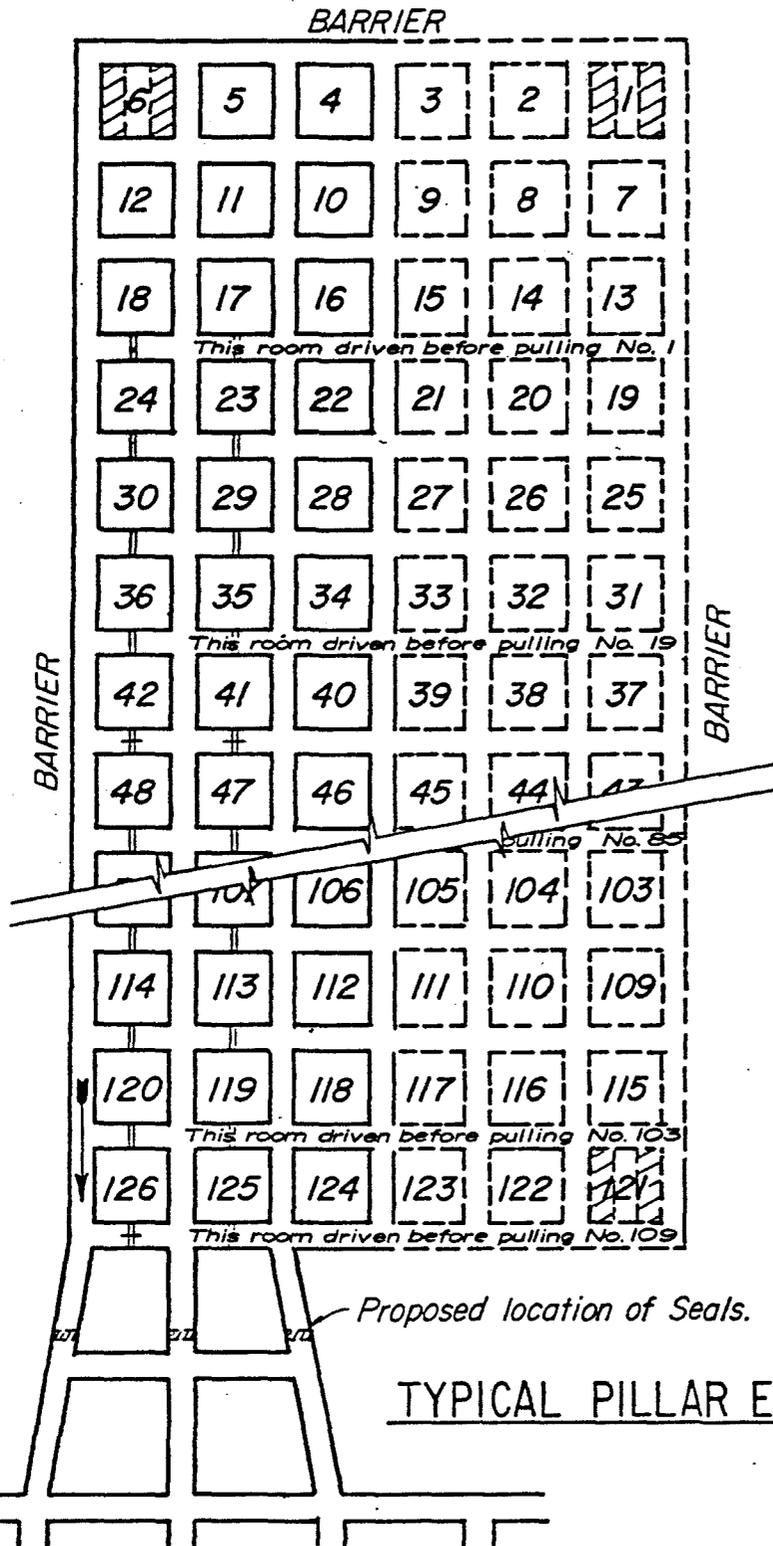
PILLAR & BARRIER MINING:

1. Lifts shall not exceed 15 feet in width.
2. During pillar mining, the miner operator shall not advance beyond the last row of permanent support.
3. Turn posts shall not be cut out when the lower bench is being mined.
4. All personnel assigned to sections extracting pillars and/or barriers will be instructed in "Pillar Extraction Procedures" by a qualified person, designated by mine management, before being assigned to perform such duties.

DRAWN BY: <i>Ed Sanderson</i>	DATE: <i>Aug. 12, 81</i>	 <p><b>VALLEY CAMP of UTAH</b> SCOFIELD ROUTE HELPER, UTAH 84526</p>	
CHECKED BY:	DATE:		
REVISED BY:	SCALE: <i>NONE</i>		
APPROVAL ENG.:			
APPROVAL SAFETY:	TITLE: <i>GENERAL NOTES, Pillar Mining</i>	DRAWING NO. <i>A5-0008</i>	REV. NO. <i>2</i>
APPROVAL MINE:			

**NOTES:**

1. This is a typical pillar sequence for the Belina No. 1 Mine. Mining conditions may dictate the application of alternate sequence.



TYPICAL PILLAR EXTRACTION SEQUENCE

DRAWN BY:  
 Ed Sanderson  
 DATE:  
 Mar. 18, 1981  
 CHECKED:  
 TGW  
 APPROVAL:  
  
 APPROVAL:  
 W.L.W.  
 SCALE:  
 NONE



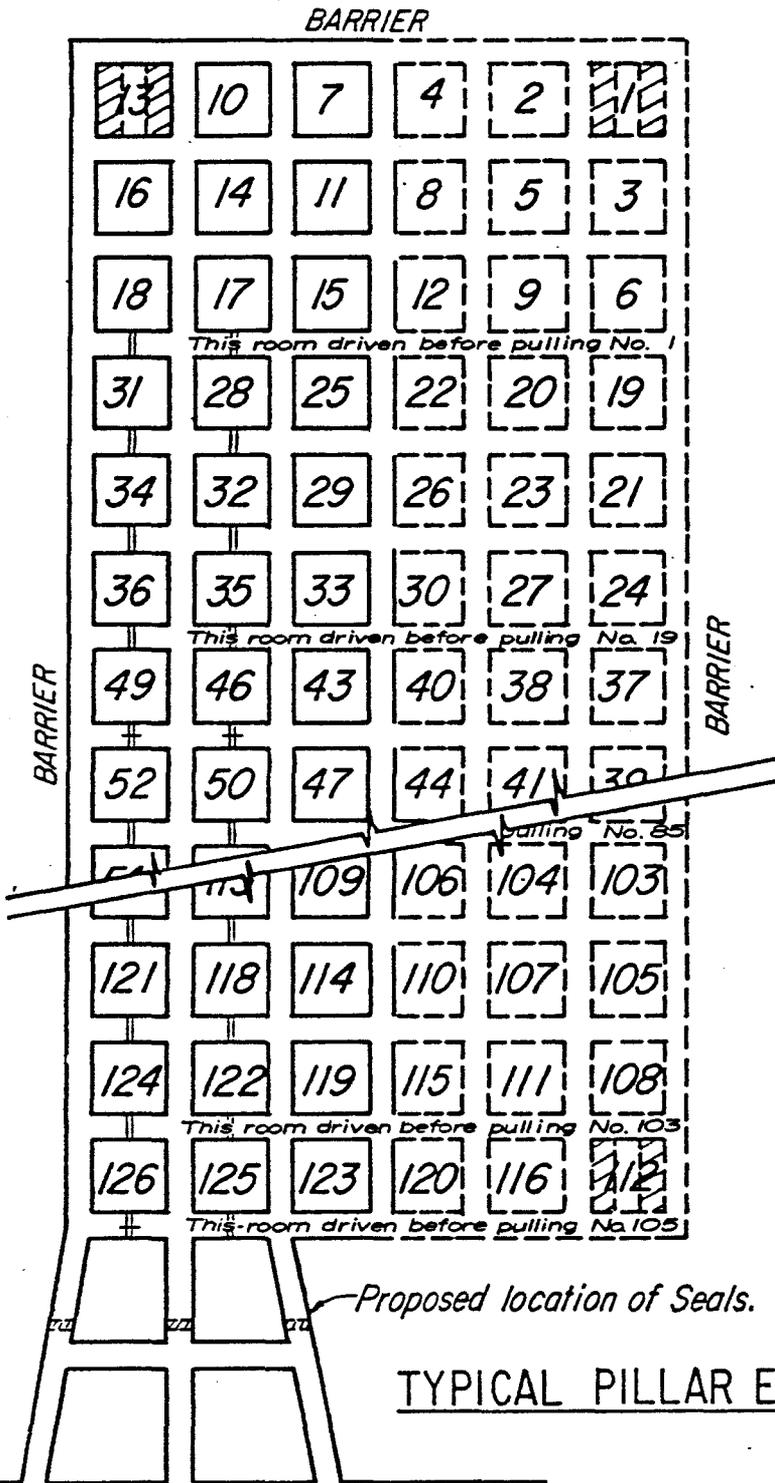
**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

TITLE **90° PILLAR SEQUENCE**

DRAWING NO. **A5-0006**

**NOTES:**

1. This is a typical pillar sequence for the Belina No. 1 Mine. Mining conditions may dictate the application of an alternate sequence.



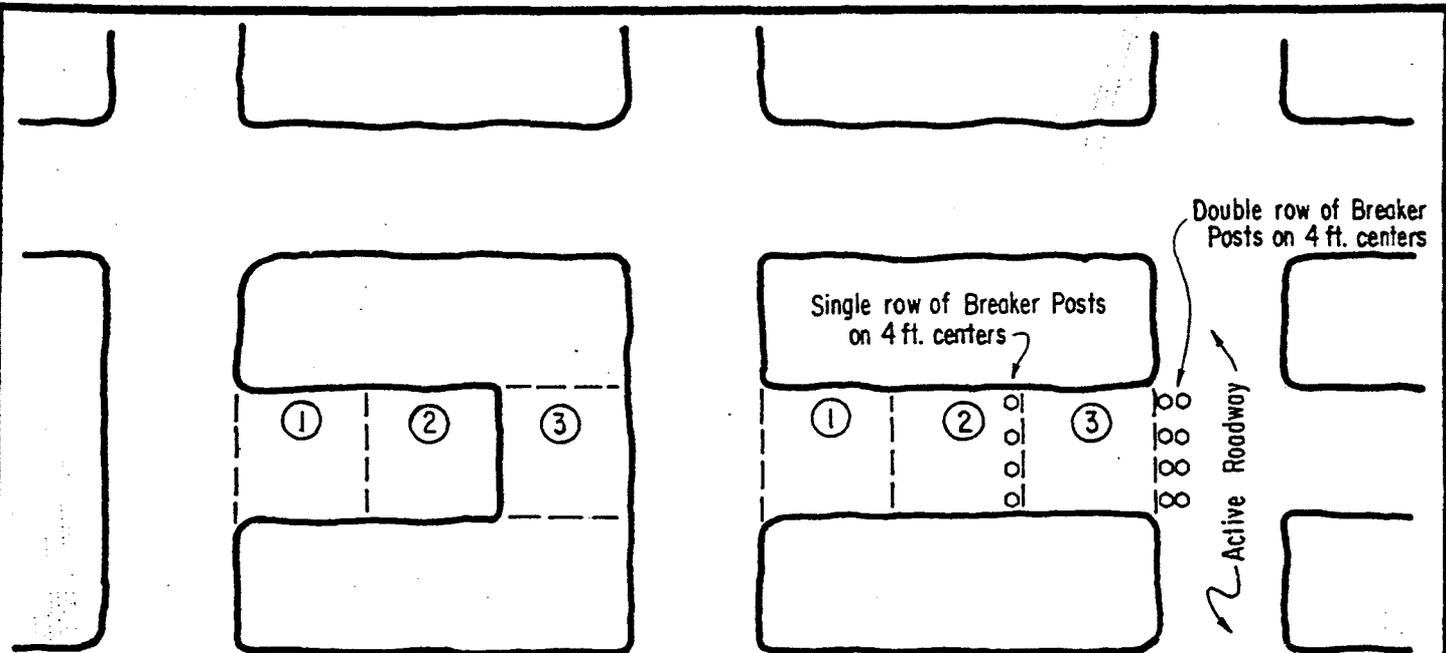
DRAWN BY:  
 Ed Sanderson  
 DATE:  
 Mar. 18, 1981  
 CHECKED:  
 T.G.W.  
 APPROVAL:  
  
 APPROVAL:  
 W.L.W.  
 SCALE:  
 NONE



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

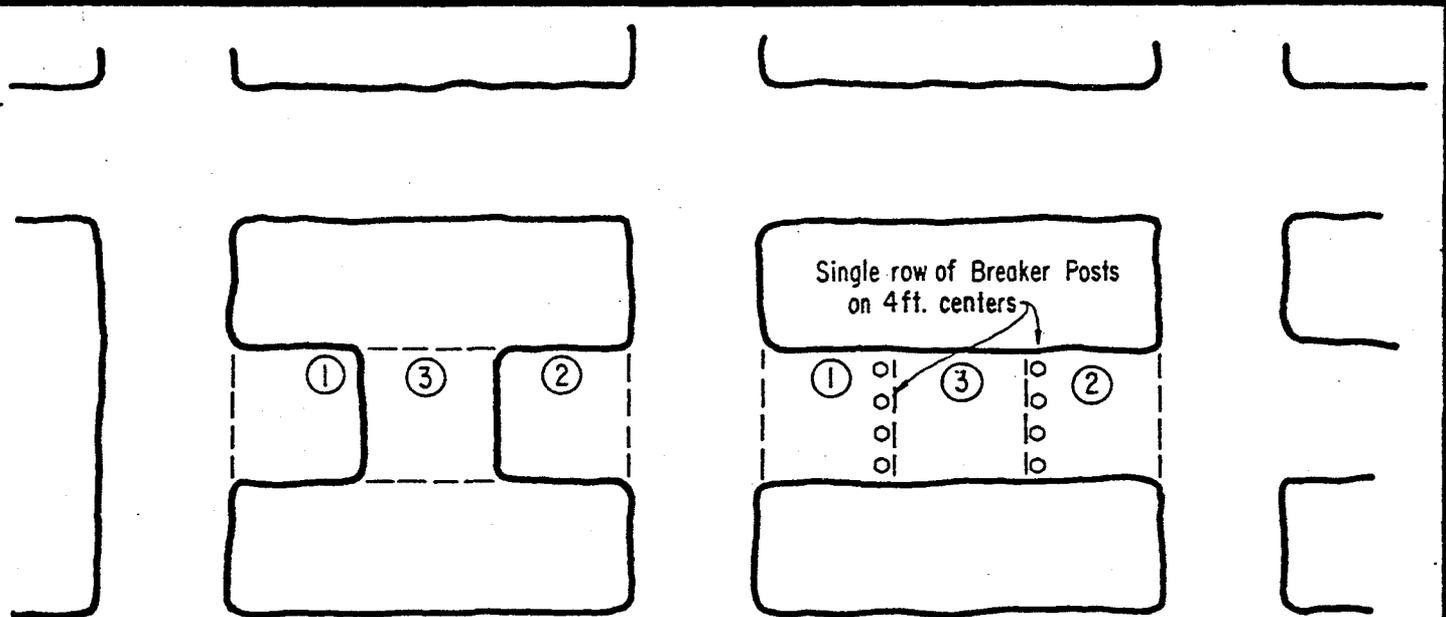
TITLE 45° PILLAR SEQUENCE

DRAWING NO. A5-0012



PILLAR SPLITTING METHOD 1

Note: For additional information see General Notes.  
( A5-0008B, pg. 24 )



PILLAR SPLITTING METHOD 2

Note: For additional information see General Notes.  
( A5-0008B, pg. 24 )

DRAWN BY:  
*Ed Sanderson*

DATE:  
*Mar. 19, 1981*

CHECKED:  
*TGW*

APPROVAL:  
*W.L.W.*

SCALE: *1" = 30'*



**VALLEY CAMP OF UTAH, INC.**

**SCOFIELD ROUTE**

**HELPER, UTAH 84526**

TITLE *PILLAR SPLITTING SEQUENCE*

DRAWING NO. *A5-0013*

PILLAR SPLITTING:

1. Splits will be bolted according to the approved plan with the exception of cut #3, which will have one row of posts set across the opening. (see drawing No. A5-0013)
2. If the pillar split is to be used as a roadway, all 3 cuts will be roof bolted as per approved plan.
3. Timbers set across the openings of cut #3 will be set on 4 ft. centers and will be installed promptly upon completion of mining the cut.
4. In areas where cut #3 is left on timbers and is adjacent to an active roadway, a double row of posts will be set across the opening on the roadway side.
5. In places where cut #3 is timbered off, access into such areas will be properly restricted by the use of "Danger" signs.
6. Mining conditions may dictate an alternate cutting sequence.

DRAWN BY:  
*Ed Sanderson*

DATE: *Aug. 12, 1981*

CHECKED:

APPROVAL:

APPROVAL:

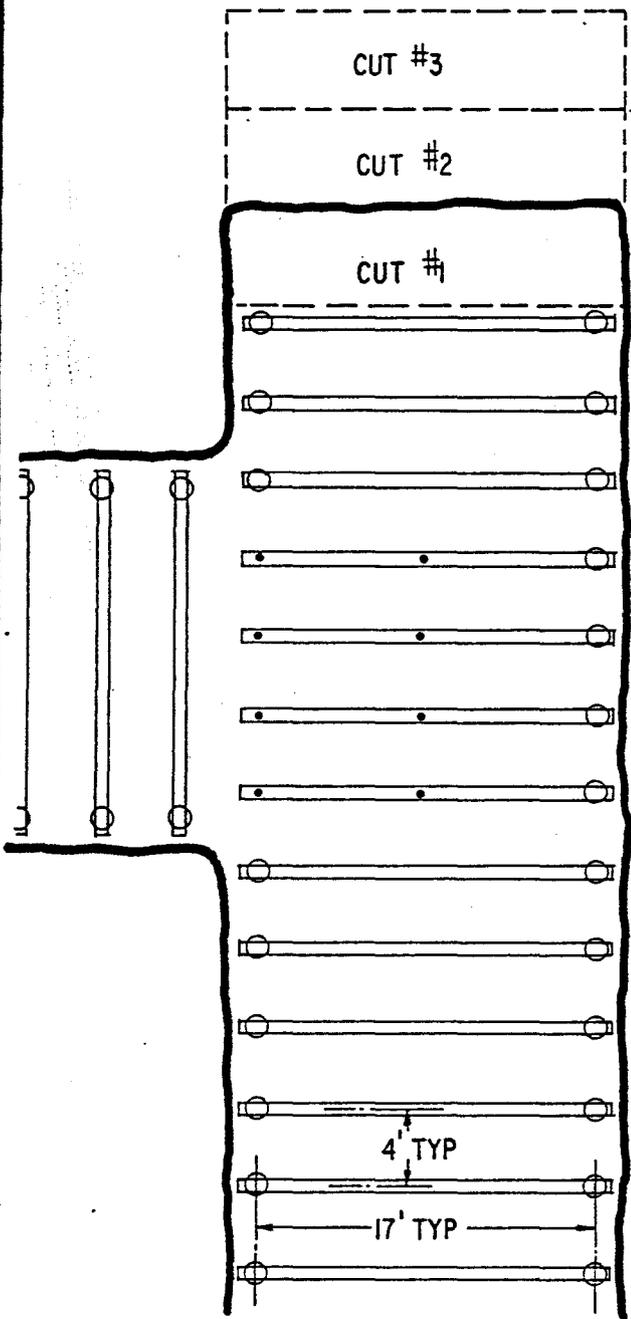


**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

SCALE: *"NONE"*

TITLE: *GENERAL NOTES, Pillar Splitting*

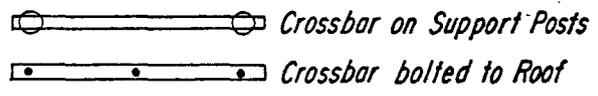
DRAWING NO. *A5-0008B*



Notes:

- 1. Depth of each cut controlled by roof conditions, but mining machine operator shall not advance beyond last permanent support.
- 2. Crossbars will be installed promptly upon completion of cut #1, before cut #2 is made.

LEGEND



TYP. CROSSBAR PLAN  
for  
FRACTURED or HEAVY ROOF AREAS

DRAWN BY:  
*Ed Sanderson*

DATE:  
*July 20, 1981*

CHECKED:

APPROVAL:

APPROVAL:

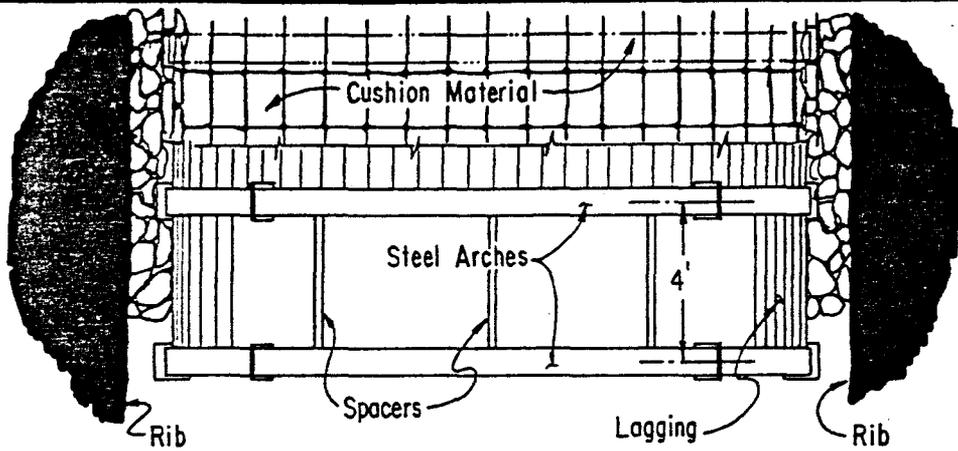


**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

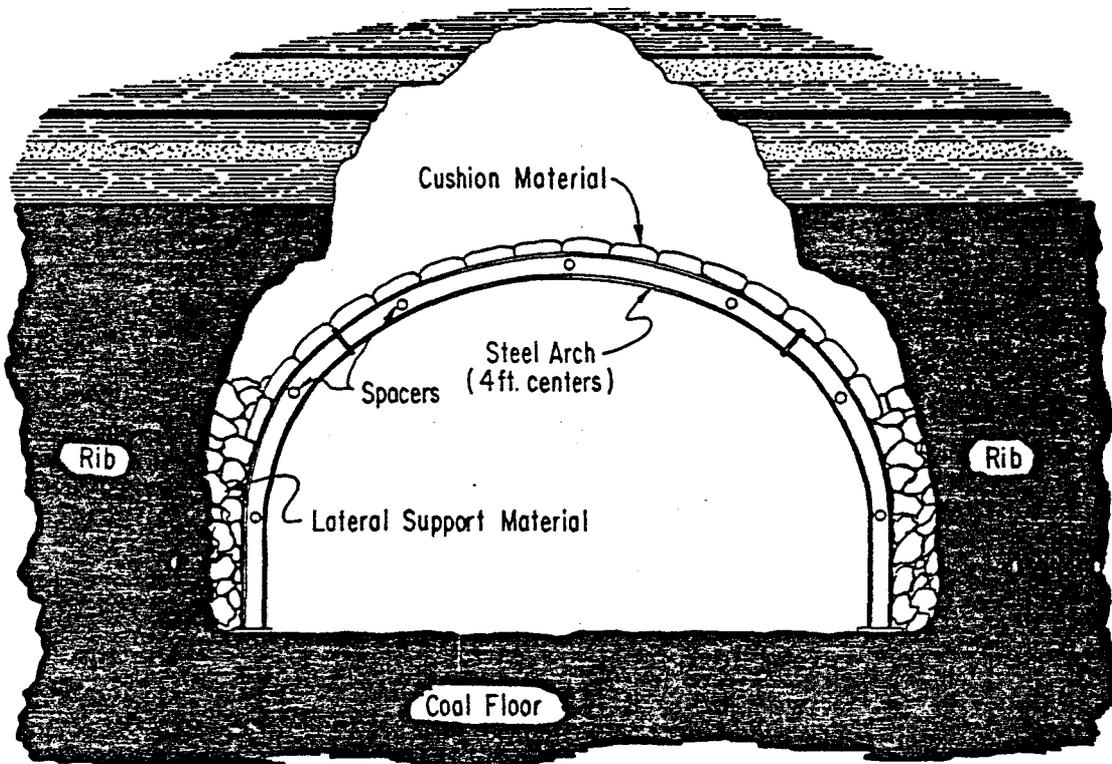
SCALE: *1" = 10'*

TITLE *TYP. CROSSBAR PLAN*

DRAWING NO. *A5-0014*



TOP VIEW



FRONT VIEW

*Notes:*

- 1. Steel Arches will be used as mining conditions and roof strata dictate.
- 2. Lateral support will be installed up to a minimum of 4' as per manufacturer's specifications.

DRAWN BY:  
Ed Sanderson

DATE:  
Mar. 23, 1981

CHECKED:  
TGW

APPROVAL:

APPROVAL:  
W.L.W



**VALLEY CAMP OF UTAH, INC.**  
**SCOFIELD ROUTE**  
**HELPER, UTAH 84526**

SCALE: 1" = 5'

TITLE **TYP. STL. ARCH INSTALLATION**

DRAWING NO. **A5-0016**