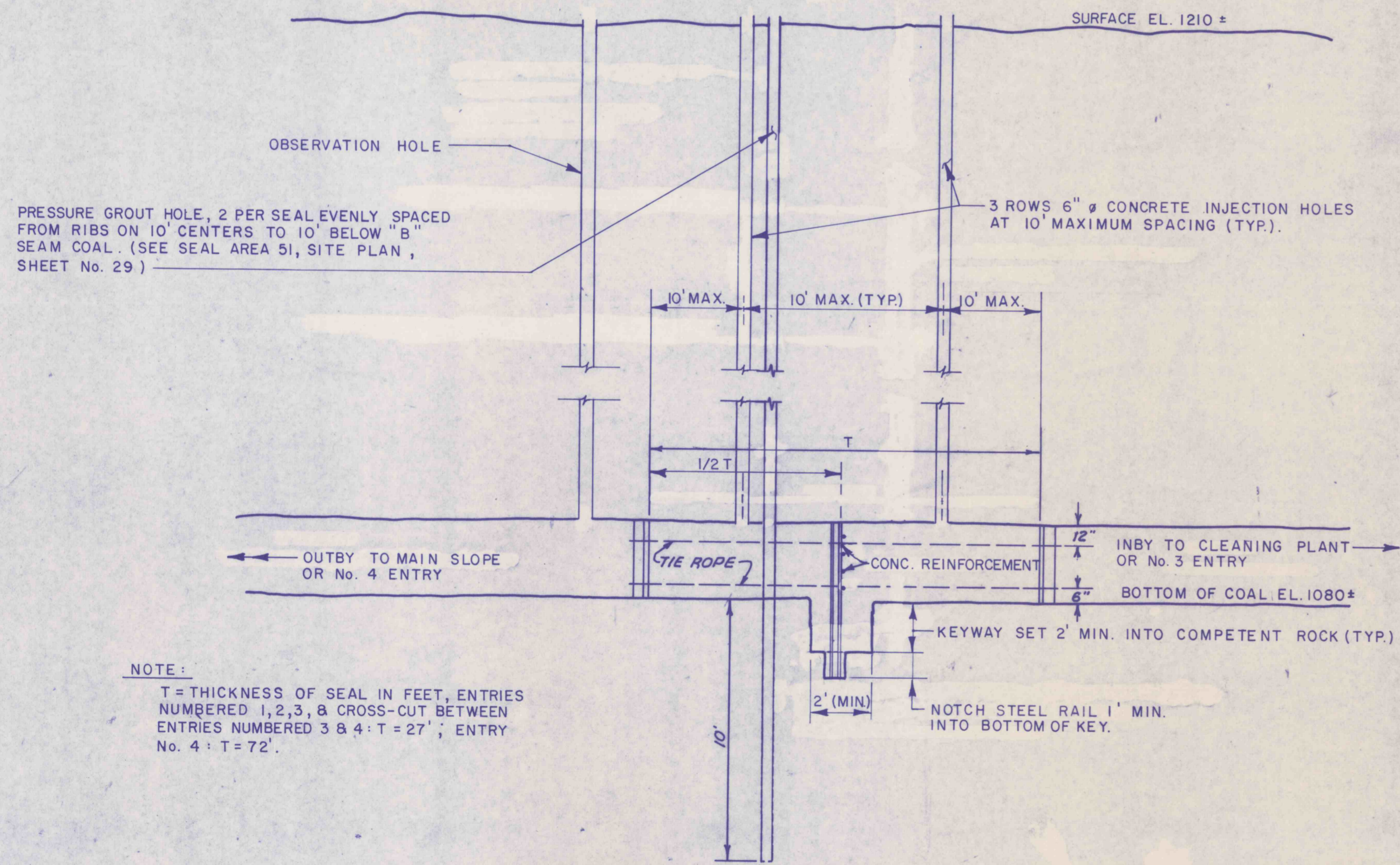
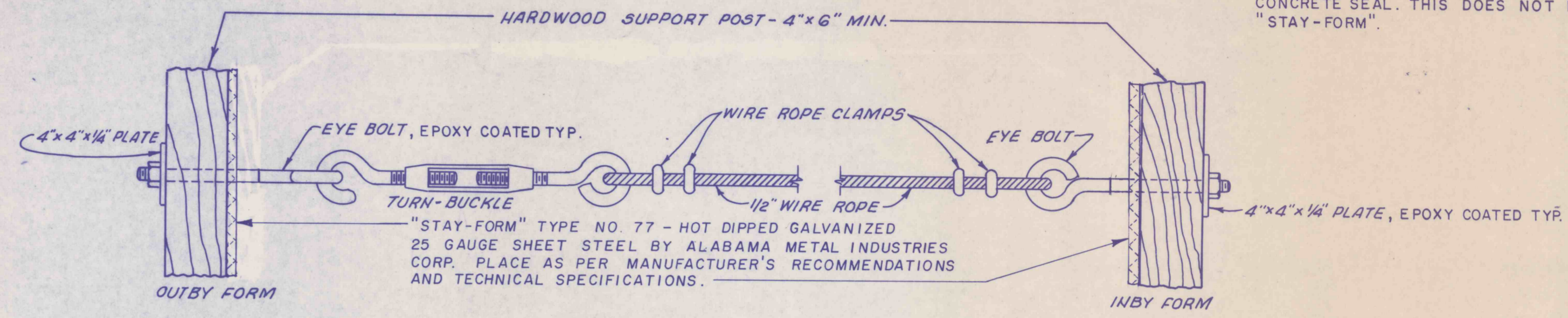


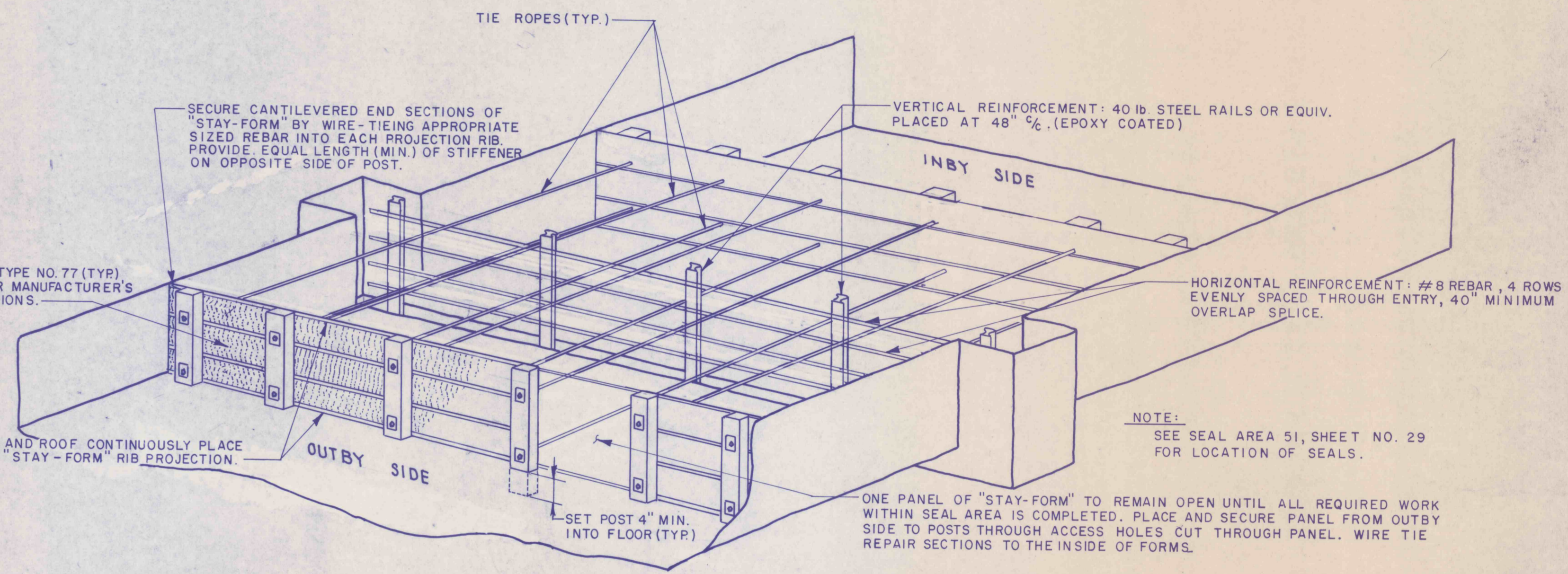
SEAL AREA NO. 51 PLAN VIEW  
N.T.S.



ELEVATION VIEW  
SEAL AREA NO. 51  
N.T.S.



SKETCH SHOWING TIE ROPE DETAILS FOR CONCRETE FORMS  
NO SCALE



SKETCH OF SEAL AREA NO. 51 FORM DETAILS  
PRIOR TO INSERTION OF CONCRETE  
N.T.S.

GENERAL INSTRUCTIONS: SEAL AREA 51 CONSTRUCTION

1. DRILL THE CONCRETE INJECTION AND OBSERVATION HOLES INTO MINE ENTRY AS INDICATED IN THE DRAWING AND/OR DIRECTED BY THE ENGINEER IN THE FIELD.
2. CONSTRUCTION OF FORMS SHALL BE STAGED TO MAINTAIN TRACK HAULAGE AND SUMP PIPING FACILITIES IN ENTRY NO. 3 UNTIL, AS DETERMINED BY THE ENGINEER, THEY ARE NO LONGER REQUIRED.
3. SECURE THE APPLICABLE WORK AREA IN THE MINE BY SETTING REQUIRED SAFETY SUPPORTS. ALSO SEE: SEAL AREA REHABILITATION NOTES, SHEET NO. 29.
4. ESTABLISH LOCATION FOR THE TWO FORMS AND FOR THE BOTTOM AND RIB KEY CUTS.
5. MAKE BOTTOM AND RIB KEY CUTS, REMOVE ALL LOOSE COAL, ROCK AND OTHER DEBRIS FROM SEAL AREA.
6. CONSTRUCT INBY FORM INCLUDING INSTALLATION OF WIRE ROPE AND EYE BOLTS THROUGH THE INBY FORM SUPPORT POSTS.
7. MOVE REINFORCEMENT STEEL INTO SEAL AREA.
8. SET VERTICAL STEEL MEMBERS AS INDICATED. NOTCH VERTICAL STEEL RAILS 1' MINIMUM INTO BOTTOM OF KEY.
9. PLACE AND TIE HORIZONTAL STEEL MEMBERS ON VERTICAL STEEL AS INDICATED; BE SURE TO PULL ALL TIE ROPES THROUGH REINFORCEMENT STEEL TO OUTBY SIDE OF SEAL AREA.
10. CONSTRUCT OUTBY FORM, PLACE TIE ROPES INTO OUTBY EYE BOLTS AND TAKE SLACK IN TIE RODS WITH TURN-BUCKLES. DO NOT OVER-STRESS TIE ROPES.
11. PLACE AND SECURE FINAL SECTION OF "STAY-FORM" SHEETING AS SHOWN ON THE DRAWINGS.
12. INSERT CONCRETE INTO SEAL AREA THROUGH DRILL HOLES FROM THE SURFACE IN STAGES WITH TIME LIMITATIONS, KEEPING THE POUR SIDE PLASTIC WHILE LETTING THE CONCRETE SET-UP UNDERNEATH.
13. DRILL TWO (2) PRESSURE GROUT HOLES PER SEAL AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE DRILL HOLES ARE TO BE PLACED ON 10' CENTER AND EVENLY SPACED FROM THE ENTRY RIBS.
14. GROUT HOLES TO BE DRILLED TO A DEPTH OF 10' BELOW THE BOTTOM OF THE "B" SEAM COAL.
15. PRESSURE GROUT APPLICABLE DRILL HOLES IN 5' STAGES FROM THE BOTTOM TO WITHIN FIVE FEET (5') OF THE EXISTING SURFACE ELEVATION OR AS DIRECTED BY THE ENGINEER.
16. CORE DRILL THROUGH THE SEAL AREA TO CHECK SEAL CONSTRUCTION. CAUTION SHOULD BE TAKEN TO AVOID DRILLING INTO THE REINFORCING STEEL.
17. PRESSURE GROUT CORE DRILL HOLE AND TOP OFF ALL DRILL HOLES TO THE SURFACE WITH CONCRETE.
18. ADDITIONAL GROUT HOLES MAY BE ADDED IF WATER LEVEL MONITORING DETERMINES THE NEED. ALTHOUGH, THIS ITEM SHOULD NOT BE INCLUDED IN ANY CONTRACTOR'S BID ESTIMATE.

NOTE:  
ALL EXPOSED STEEL AND WIRE ROPES SHALL BE EPOXY COATED TO 5" MIN. INTO THE CONCRETE SEAL. THIS DOES NOT INCLUDE "STAY-FORM".

RECEIVED  
SEP 29 1989  
Dept. of Environmental Resources  
McMurray District Office

SEAL DETAILS  
MINE CLOSURE PLAN  
FOR  
BIRD COAL COMPANY  
DEEP MINE HYDRAULIC SEAL  
STONY CREEK TOWNSHIP, CAMBRIA CO., PA.  
CONEMAUGH TWP., SOMERSET CO., PA.

SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA, PENNSYLVANIA	SHEET NO 39
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