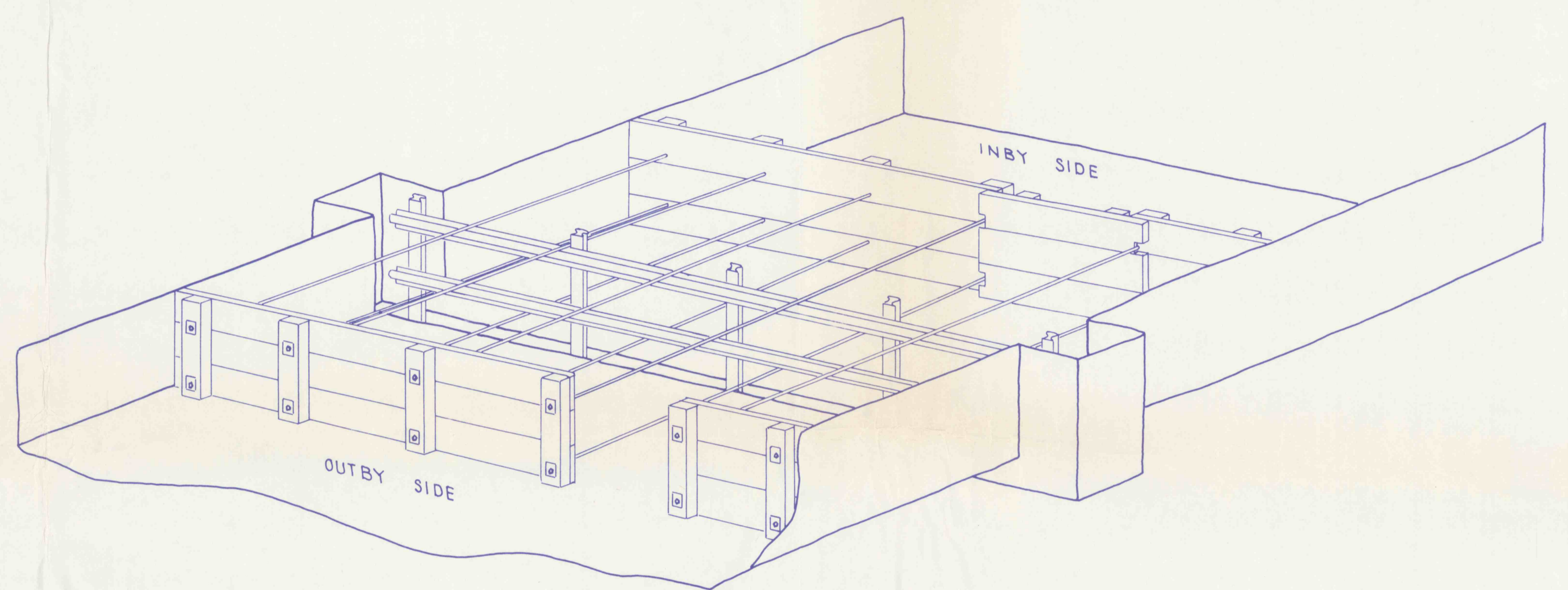


SKETCH SHOWING TIE ROPE DETAILS FOR CONCRETE FORMS
NO SCALE



SKETCH SHOWING MINE SEAL FORM DETAILS PRIOR TO INSERTION OF CONCRETE
NO SCALE

GENERAL INSTRUCTIONS FOR INSTALLATION OF DEEP MINE SEALS

1. DRILL THE 5 HOLES INTO MINE ENTRY AS INDICATED IN THE DRAWING AND/OR DIRECTED BY THE ENGINEER IN THE FIELD.
2. SECURE THE APPLICABLE WORK AREA IN THE MINE BY SETTING REQUIRED SAFETY SUPPORTS.
3. ESTABLISH LOCATION FOR THE TWO FORMS AND FOR THE BOTTOM AND RIB CUTS.
4. MAKE BOTTOM AND RIB CUTS, REMOVE ALL LOOSE COAL, ROCK AND OTHER DEBRIS FROM SEAL AREA.
5. CONSTRUCT INBY FORM INCLUDING INSTALLATION OF WIRE ROPE AND EYE BOLTS THROUGH THE INBY FORM.
6. CLOSE AND SECURE THE INBY FORM TRAPDOOR.
7. MOVE REINFORCEMENT STEEL INTO SEAL AREA.
8. SET VERTICAL STEEL MEMBERS AS INDICATED. ANGLE BRACKETS SHOULD BE SHOP WELDED TO VERTICAL MEMBERS AS SEATS FOR HORIZONTAL STEEL PRIOR TO TRANSPORT OF STEEL INTO MINE.
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 EYEBOLTS AND TAKE SLACK IN TIE ROPES WITH TURN-BUCKLES. DO NOT OVER-STRESS TIE ROPES.
11. CLOSE AND SECURE OUTBY FORM TRAP DOOR.
12. INSERT CONCRETE INTO SEAL AREA THROUGH DRILL HOLES FROM THE SURFACE.
13. REDRILL MULTI-PURPOSE HOLES THROUGH SEAL AREA TO A DEPTH OF 10' BELOW BOTTOM OF MINE.
14. PRESSURE GROUT APPLICABLE DRILL HOLES IN 5' STAGES FROM THE BOTTOM UP TO PRE-DETERMINED ELEVATION.
15. CORE DRILL THROUGH THE SEAL AREA TO CHECK SEAL CONSTRUCTION. CAUTION SHOULD BE TAKEN TO AVOID DRILLING INTO THE REINFORCEMENT STEEL.
16. PRESSURE GROUT CORE DRILL HOLE AND FILL ALL DRILL HOLES TO THE SURFACE WITH CONCRETE.

MINE CLOSURE PLAN FOR LADY JANE COLLIERIES, INC DEEP MINE HYDRAULIC SEAL HUSTON TWP, CLEARFIELD CO., PA.		
SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA, PENNSYLVANIA	SHEET NO 11 of 12