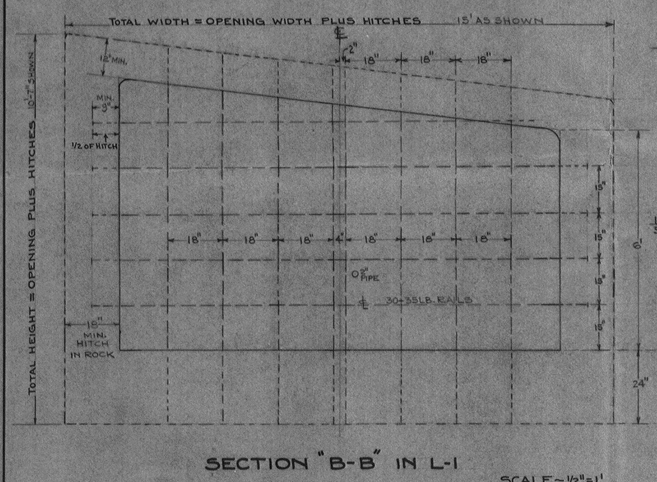
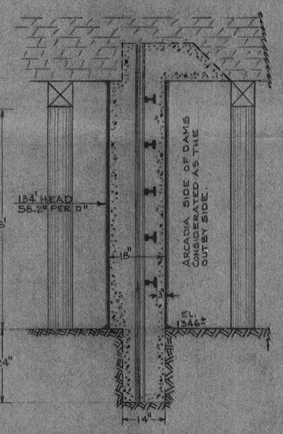
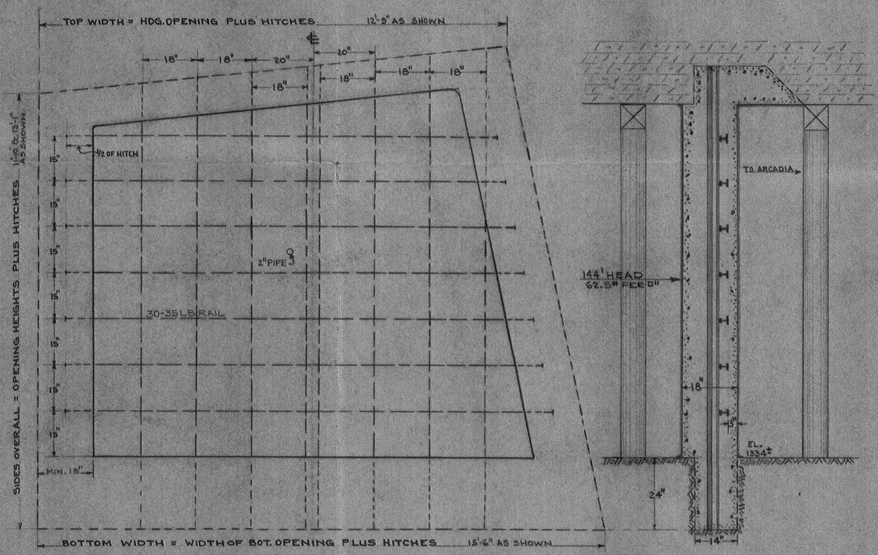


SECTION "B-B" IN L-1

SCALE ~ 1/2" = 1'



SECTION AT CENTER



SECTION "J-J" IN HDG.

SCALE ~ 1/2" = 1'

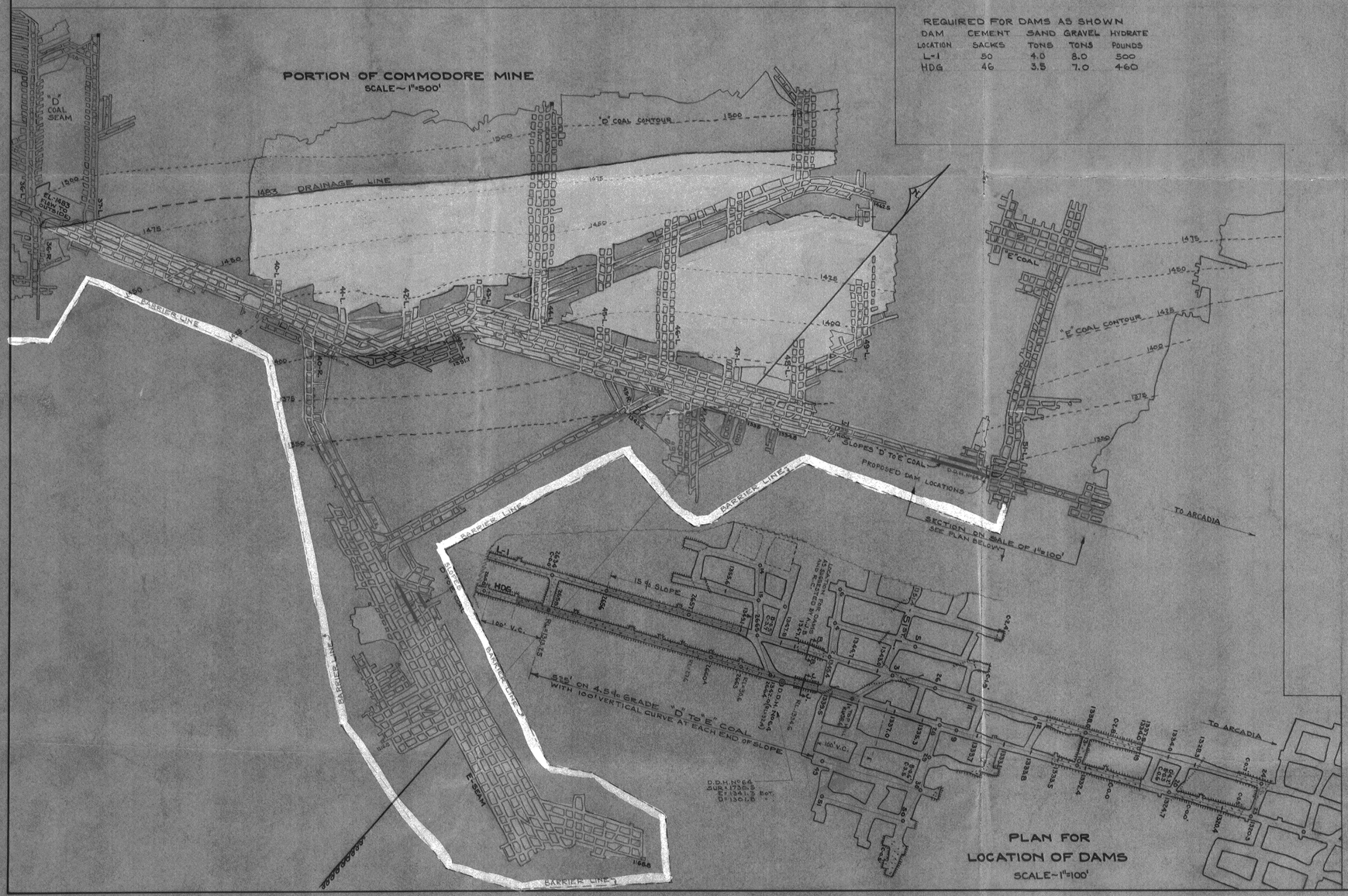
SECTION AT CENTER

REQUIRED FOR DAMS AS SHOWN

DAM LOCATION	CEMENT SACKS	SAND TONS	GRAVEL TONS	HYDRATE POUNDS
L-1	30	4.0	8.0	500
HDG	46	3.5	7.0	460

PORTION OF COMMODORE MINE

SCALE ~ 1" = 500'



PLAN FOR LOCATION OF DAMS

SCALE ~ 1" = 100'

PLAN FOR DAMS - HILLSDALE ENTRIES - COMMODORE

SPECIFICATIONS

LOCATION

(1) ONE DAM OR SEAL SHALL BE CONSTRUCTED ON EACH ENTRY AS SHOWN

PREPARATION OF SITES.

(1) ALL LOOSE COAL OR ROCK SHALL BE REMOVED FOR AT LEAST 4 FT. FROM THE CENTER LINE OF THE PROPOSED RECESSES, CHANNELS OR HITCHES.
(2) PROVIDE ADEQUATE ROOF SUPPORTS ON BOTH SIDES OF EACH DAM.

EXCAVATION.

(1) USE PLUMB LINES HUNG FROM SPADS TO MARK AND USE AS EXCAVATION LIMITS FOR THE HITCHES.
● (2) NO BLASTING IS PERMITTED TO MAKE THE HITCHES.
(3) USE CROSS BARS WITH POSTS AT EDGES OF HITCHES, AS A GUIDE AND TO PREVENT SPALLING OF FORMATIONS WHEN MAKING HITCHES.
(4) EXCAVATE RIB HITCHES A MINIMUM DEPTH OF 18 INCHES IN ROCK. 48" COAL
(5) " TOP " " " " " 12 "
(6) " BOTTOM " " " " " 24 "
(7) PROVIDE WIDE CHANNEL (3'-0") AT TOP ON OUTBY SIDES OF DAMS TO PERMIT AMPLE ROOM TO PLACE CONCRETE.
(8) HITCHES TO BE MADE BEFORE THE REINFORCING RAILS ARE CUT FOR THE REQUIRED LENGTHS.
● (9) COMMISSION OF MINE INSPECTORS TO INSPECT THE HITCHES PRIOR TO STARTING THE CONCRETE CONSTRUCTION.

CONCRETE FORMS.

(1) FORMS SHALL BE CONSTRUCTED TO MAKE AN ENCLOSURE WITH WATER TIGHT JOINTS.
(2) THE FORMS SHALL BE PROPERLY BRACED AND TIED TOGETHER TO PREVENT ANY MOVEMENT FROM THEIR ORIGINAL POSITION.

REINFORCEMENT.

(1) ALL STEEL SHALL BE FREE FROM LOOSE RUST AND FOREIGN SUBSTANCES.
(2) CUT TO LENGHS AS REQUIRED AT EACH DAM LOCATION, AFER EXCAVATIONS ARE MADE.
(3) PLACE AND FASTEN AT EACH INTERSECTION AND PAINT WITH A CEMENT-WATER MIXTURE.
(4) PROPERLY BRACE IN PLACE BEFORE STARTING CONCRETE WORK.

CONCRETE.

● (1) THE CONCRETE MIXTURE SHALL BE (1) PART PORTLAND CEMENT, (2) PARTS OF CLEAN SAND, (4) PARTS OF CLEAN GRAVEL, AND SUFFICIENT WATER FREE FROM OIL, ACID, ALKLI, ETC., TO PRODUCE A MIXTURE OF PLASTIC CONSISTENCY.
(2) THE AMOUNT OF WATER USED SHOULD NOT EXCEED 6.5 GALS. PER SACK OF CEMENT.
(3) MATERIALS FOR EACH BATCH SHALL BE MEASURED AND MIXED IN A UNIFORM MANNER.
(4) A MINIMUM OF 25 COMPLETE REVOLUTIONS OF THE MACHINE FOR EACH BATCH.
(5) THE CONCRETE SHALL BE PLACED IN SUCCESSIVE HORIZONTAL LAYERS FROM END TO END OF THE HITCHES, AND SHALL BE WELL SPADED AND RAMMED INTO THE FORMS AND HITCHES TO PRODUCE A HEAVY DENSITY MASS AND THOROUGH ADHESION TO THE STEEL.
● (6) CONCRETE WORK TO BE COMPLETED AND PERMITTED TO SET (2) WEEKS BEFORE ANY WATER IS PERMITTED TO FLOW AGAINST THEM.
(7) TO INCREASE THE DENSITY OF THE CONCRETE, 10 LBS. OF HYDRATE PER SACK OF CEMENT MAY BE USED IN THE MIXTURE. TO DEVELOP CONCRETE TO 2400# lbs COMP. STRENGTH IN 28 DAYS.

GENERAL

(1) THE OUTLINES AND LOCATIONS MAY BE APPROXIMATE, AND MUST BE GOVERNED BY THE ACTUAL CONDITIONS AT EACH SITE.
(2) OBSERVE AND FOLLOW THE NOTES AND SPECIFICATIONS.
(3) PLACE SUITABLE PIPE THRU DAM, NEAR THE CENTER, FOR SAMPLING THE WATER AND RECORDING THE PRESSURE.
● (4) A BARRIER PILLAR LINE, MINIMUM THICKNESS OF 200 FT., IS ESTABLISHED AND NO MINING IS TO BE DONE IN THIS PILLAR SO LONG AS THE WATER IS IMPOUNDED BY THE DAMS. BARRIER OUTLINE IN RED
● (5) AREA OF DEAD WATER = VIOLET
● (6) AREA OF WATER IMPOUNDED BY DAMS = GREEN APPROX. 85,000,000 GALS.
● (7) WATER FLOWS FROM THE 36TH RIGHT BY GRAVITY, A DISTANCE OF 2.5 MI. AT AN ELEV. OF 1400± NEAR THE NORTH BRANCH OF TWOLICK CREEK.
● (8) COVER NEAR DAM LOCATIONS - SEE D.D.H. No 64, 385½ TO "E" COAL
(9) TREAT BOTH SIDES OF EXPOSED SURFACES OF DAMS WITH ASPHALT.

● DENOTES ITEMS SPECIFICALLY REQUIRED BY A.J. BENGSTON, INSPECTOR.

REVISIONS.

STATE OF PENNSYLVANIA
COUNTY OF INDIANA

ON THIS ____ DAY OF _____ 1952, BEFORE ME THE UNDERSIGNED OFFICIAL, PERSONALLY APPEARED _____ WHO ACKNOWLEDGED THAT THE REINFORCED CONCRETE DAMS HEREON SHOWN, WERE CONSTRUCTED UNDER HIS SUPERVISION ACCORDING TO THE PLANS, STIPULATIONS AND SPECIFICATIONS SHOWN HEREON.

WITNESS MY HAND AND SEAL

_____

_____

PENNSYLVANIA DEPARTMENT OF MINES

APPROVED:-

_____ INSPECTOR, 30TH BIT. DISTRICT.
LESTER D. KIMMEL

_____ INSPECTOR, 27TH BIT. DISTRICT.
E. A. GIROD

_____ INSPECTOR, 25TH BIT. DISTRICT.
ANDREW J. BENGSTON

PROPOSED DAMS
HILLSDALE ENTRIES
COMMODORE MINE
GREEN TWP., INDIANA CO. PA.

SCALE - AS SHOWN. MAY 10, 52

ENGINEERING DEPARTMENT
CLEARFIELD BITUMINOUS COAL CORP.

REVISED

PLAN - P.G. DRAWN - P.G.

Paul Gill
CHIEF MINING ENGINEER