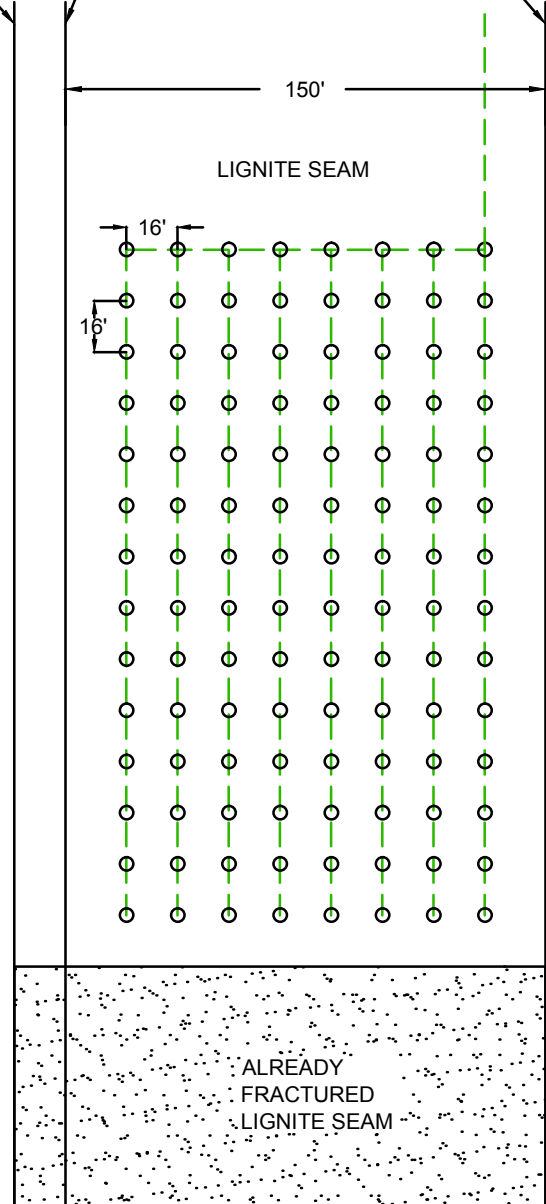
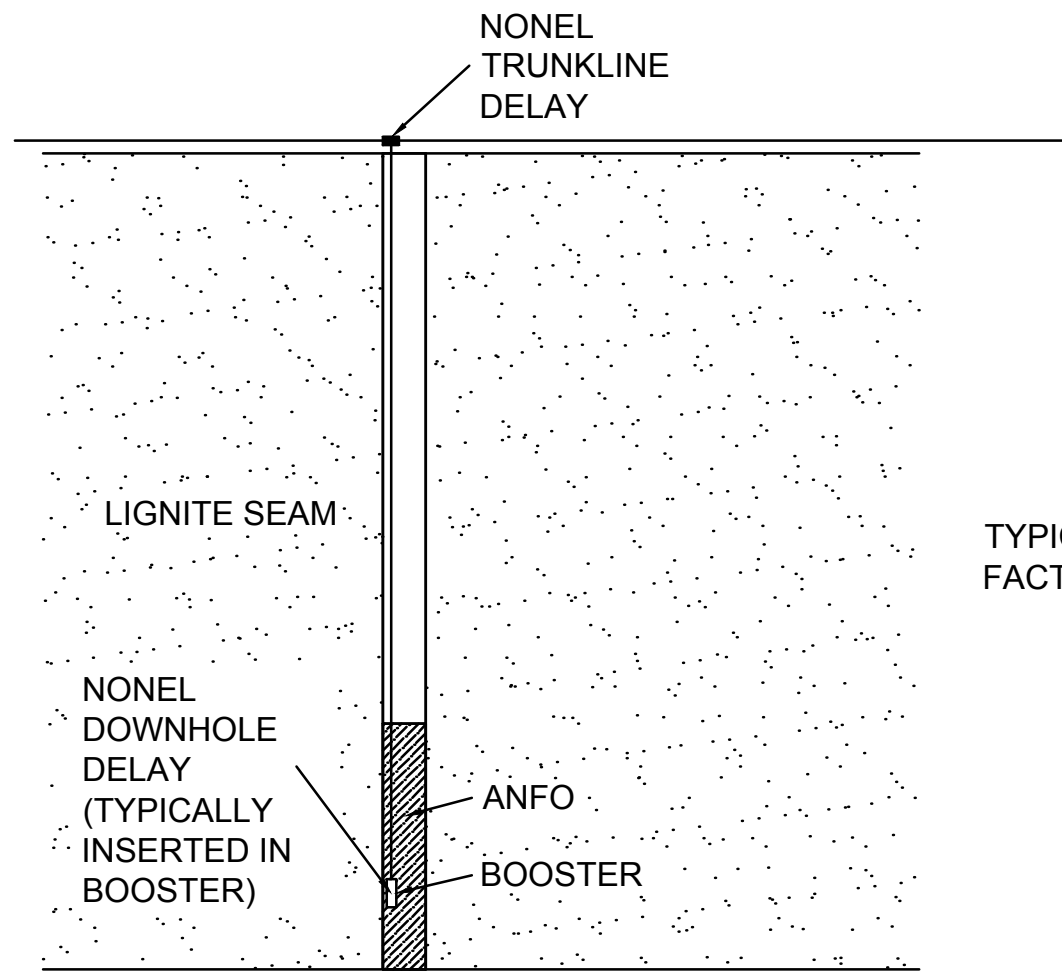


EXISTING LIGNITE SEAM TOE
 EXISTING LIGNITE SEAM CREST
 EXISTING HIGHWALL TOE
 EXISTING HIGHWALL CREST



BLAST DESIGN
 PLAN VIEW



LOADED HOLE
 CROSS-SECTION

TYPICAL POWDER
 FACTOR = 0.25 LBS/TON

LEGEND
 --- NONEL TRUNKLINE DELAY
 ○ DRILL HOLE

△									
△									
△									
△									
△	03/31/10	JDS		ORIGINAL PERMIT SUBMITTAL		JDS	JRH	JRH	
△				REVISION DESCRIPTION		CADD	CHK	RW	

PROJECT
 SOUTH HEART COAL LLC
 SOUTH HEART LIGNITE MINE
 SOUTH HEART, NORTH DAKOTA



TITLE
 TYPICAL BLAST DESIGN
 USING NONEL TRUNKLINES
 AND DOWNLINE DELAYS

NORWEST CORPORATION	PROJECT No.	4284-01-400	FILE No.	Blast Design.dwg
	DESIGN	JDS	09/11/07	SCALE NONE REV. 0
	CADD	JDS	09/11/07	
	CHECK	JRH	02/10/10	
	REVIEW	JRH	02/15/10	

Figure 3.3-2