PROPOSED BLASTING PLAN LOG

Project: HYAK TO SNOWSHED I-90 Date: SEPT 22, 2010

Company: KLB Shot No. WS42

Location of Blast: STA

Rock Type: BASALT

Time of Blast - Planned or Actual: 7:00

Date of Blast - Planned or Actual: SEPT 9, 2010

Name of Blaster: CHARLES MURPHY License Number: UP 21262

Direction: N Distance: ≈100' ft from I-90

93 PRESPLIT 3½" Ø @ 30" C/C

No. of Holes: 63 Burden: 6 TO 8 ft. Spacing: 10 ft. Depth: 8-26 Diameter: 3½ & 4

No. of Rows: 3 Bench Height: 24 ft. Yield: ≈4500 Subdrilling: 2 ft.

Types and Height of Stemming: 5' FOR PRESPLIT 7' PRODUCTION 5/8" CRUSHED ft.

Types of Explosives: ANFO 4032 lbs. Primer: 1¼x8 15# lbs.

POWERSPLIT 700 lbs. _____ _____ lbs.

Maximum Weight of Explosive Detonated Within Any 8ft. Delay period: _____ lbs.

Hole to Hole Delay: 25 MS ft.
Row to Row Delay: 42 MS ft.

Total Weight of Explosives, Including Primers, this Blast: 4747 lbs.

Estimated Powder Factor or Explosives Ratio: .95#/yd lbs/uft
_____ lbs/Ton

Method of Firing: NON ELECTRIC SHOTSHELL PRIMER

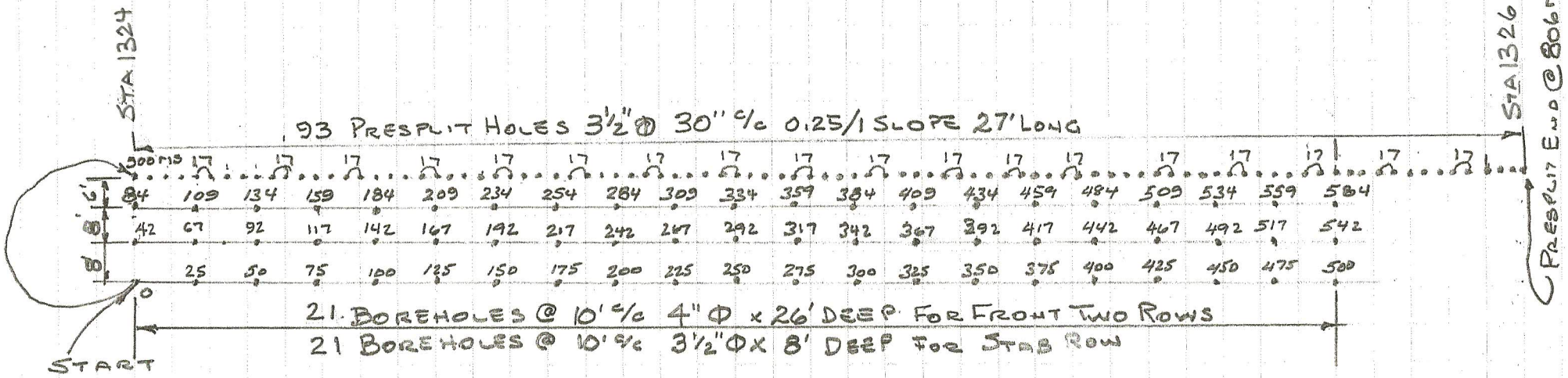
No. of Timer Circuits: N/A Timer Interval: N/A lbs.

Type of delay detonator used: HANDIDET 25/500 Time Interval: _____ ft/s

RESULTS:

Submitted by: [signature]

FORMS_FIELD_Proposed Blasting Plan rev. 20080620



PLAN VIEW BLAST W/S 42

SCALE 1" = 25'

PROPOSED: SEPT 22, 2010

TIME: 6:30 PM

SECTION A-A
SCALE 1" = 5'
3½" Φ PRESPLIT HOLE 27' LONG MAX CHARGE WT 7.5# 7/8" POWER SPLIT
50Gr DET CORD
6'
4'
STEM 6'
8'
3½" Φ BORE
8'
STEM 7'
26' 4" Φ BOREHOLE
MAX CHARGE WT 90# ANFO OR 70# SENETEL 3" Φ
1½" x 8" SENETEL PRIMER
8'
26' 4" Φ BOREHOLE