

T255 R5W

5103

Sec 36L

FOUNDATIONS

Memorandum

UTAH DEPARTMENT OF TRANSPORTATION

DATE: June 8, 1983

: Those Listed Below

FROM : Heber Vlam, P.E., Engineer of Materials and Research *H.V.*SUBJECT: I-70-1(17)19-Belknap Interchange to
Sevier Junction; Foundation Report for
I-70 over Channel Change #9 at Sta.
887+34.66 C I-70

SITE CONDITIONS

Two single span prestressed concrete beam structures are proposed to carry I-70 over Channel Change No. 9. These structures will be about 44 feet wide, 119 feet long and will cross Channel Change No. 9 at right angles. The approach embankments will be approximately 19 to 20 feet high.

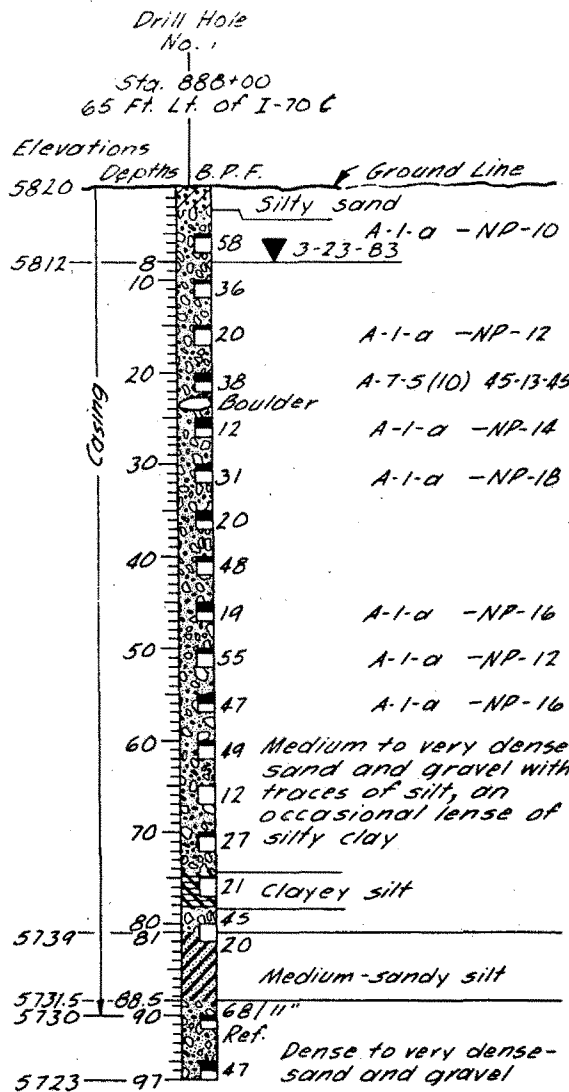
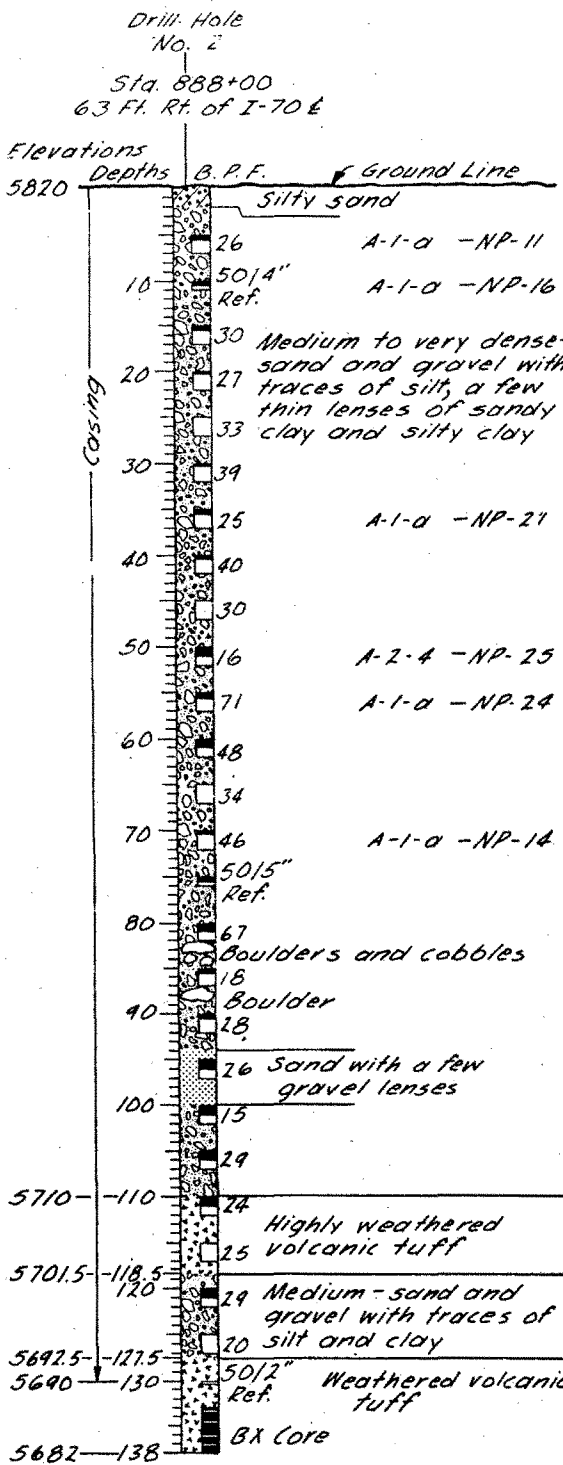
Surface drainage in the area is good.

SUBSURFACE EXPLORATION

Four test holes were drilled at this site with depths ranging from 97 to 140 feet. Correlation of the subsurface materials encountered is good and in general they may be described as follows: from the ground surface to a depth of 110 feet in Drill Hole No. 2 (see Fig. 1) and the maximum depth of exploration in the remaining drill holes - medium to very dense sand and gravel with traces of silt and clay and a few layers of sandy silt, clayey silt and silty clay; from 110 feet to 118 feet (D.H. No. 2) - highly weathered volcanic tuff; from 118 feet to 128 feet - medium sand and gravel; from 128 feet to the maximum depth of exploration - weathered volcanic tuff. See Fig. 1 Log of Borings for more detailed descriptions and test hole locations.

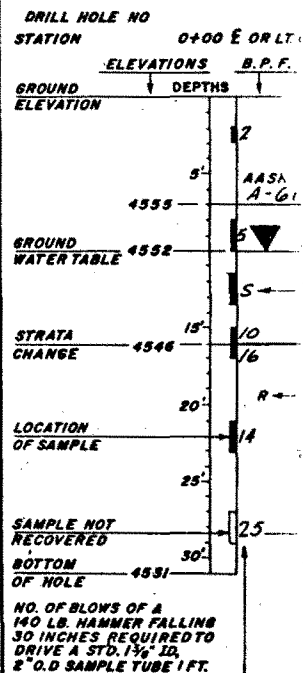
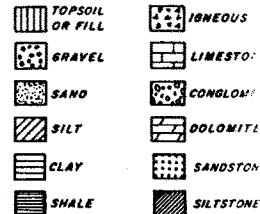
FOUNDATION RECOMMENDATIONS

Drilled caissons are recommended to support the abutments of these structures. The caisson tips should be founded in the medium to very dense sand and gravel approximately 41 to 42 feet below the natural ground surface. Drilled caissons 3.5 feet in diameter may be loaded to 185 kips per caisson. See Fig. 2 for the bearing capacities of caissons with other diameters.



KEY TO DRILLING
RELATIVE DENSITY (NON-PL.)
VERY LOOSE - LESS THAN 4
LOOSE - 4 TO 10 BLOWS PER
MEDIUM - 10 TO 30 BLOWS PER
DENSE - 30 TO 50 BLOWS PER
VERY DENSE - MORE THAN 50

CONSISTENCY (PLASTIC-SIL)
VERY SOFT - LESS THAN 2 B.
SOFT - 2 TO 4 BLOWS PER FO
MEDIUM - 4 TO 8 BLOWS PER
STIFF - 8 TO 15 BLOWS PER
VERY STIFF - 15 TO 30 BLOWS
HARD - MORE THAN 30 BLOWS



ABBREVIATIONS
L.L. - LIQUID LIMIT
P.I. - PLASTIC INDEX
N. - NATURAL MOISTURE
Ref. - REFUSAL TO PENETRATE
PEN. - PENETRATION
G.W.T. - GROUND WATER TABLE
B.P.F. - BLOWS PER FOOT
N.P. - NON PLASTIC
AASHTO - SOIL CLASSIFICATION

Note: Water table readings were not taken in drill holes #2, #3 and #4. There was sporadic heavy to complete loss of circulation water in all drill holes.

Date Drilled: March & April 1983

NO.	BY	DATE

REVISIONS

UTAH STATE DEPARTMENT OF
SALT LAKE CITY
MATERIALS and RESEARCH
BELKNAP INTERCHANGE TO I-70 OVER CHANNEL CHANNEL

Drawn By KISTNER Checked By J. Ryan
Checked By P. SIEGMAN Checked By
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Approval Recommended By Loan H. Pava
Received Date Chief Structural Engineer

Foundations File No. 82-7-FS-35 Orig. 1 of 1

