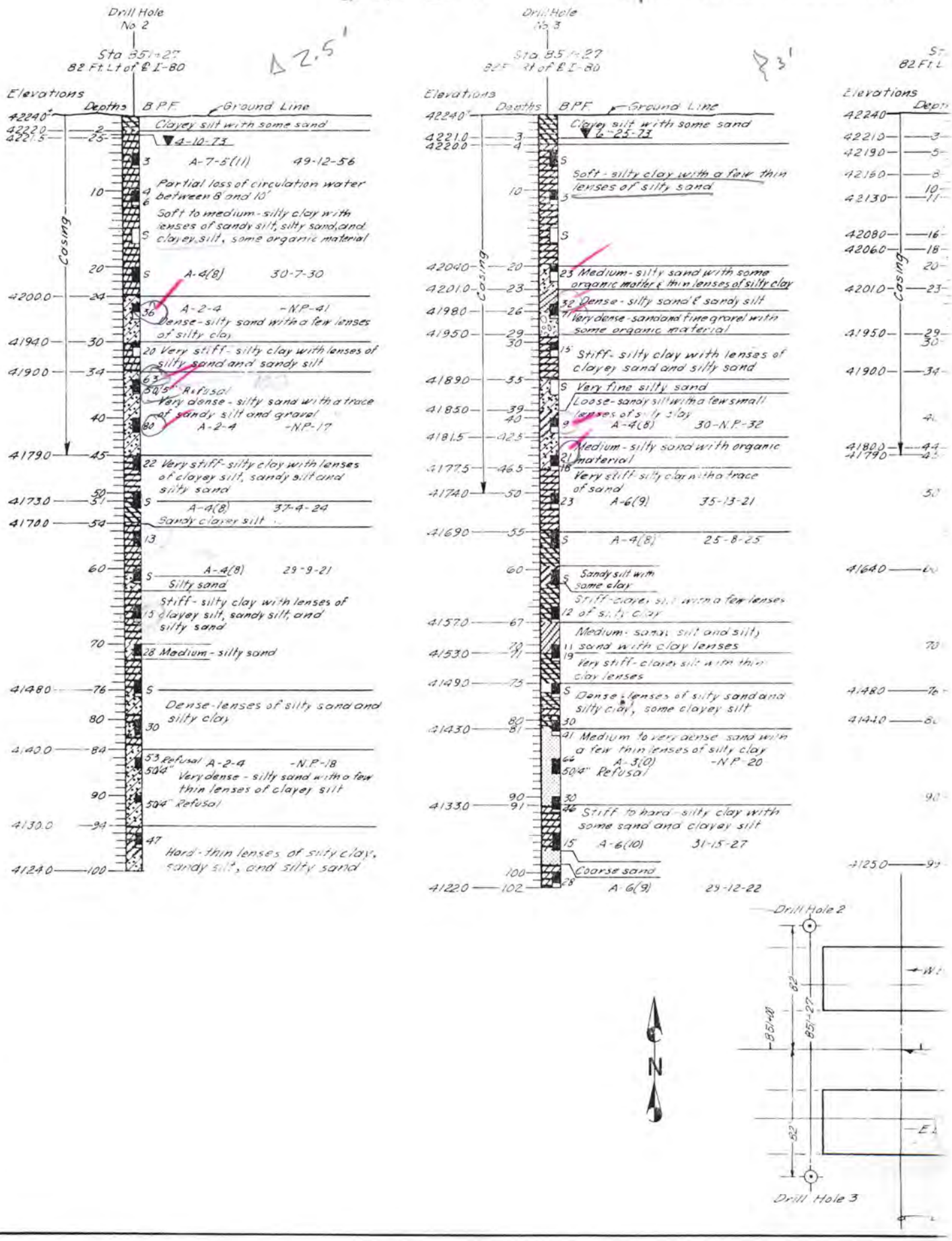
I-80-3(8)105

1N - 2W - 35N

Int. I-80 + RR spur near 6200 West



Drill Hole No. 4

Sta 852+37
82' Lt of ℄ I-80

Depths | B.P.F. | Ground Line

- 3 — Clayey sandy silt; ▼ 6-26-73
- 5 — 2 — A-7-6(13) 46-21-49 — Soft-silty clay
- 8 — Clayey silt with thin lenses of silty clay
- 10–11 — 5 — Soft-silty clay with a few thin sand lenses
- 2 — A-6(10) 32-14-33
- 16 — 8 — Loose-silty sand
- 18 — Thin lenses of clayey sandy silt and silty clay
- 20 — 5
- 23 — Medium-sand with some silt and a trace of gravel, some organic matter
- 25 — A-2-4(0) -N.P.-17
- 29–30 — 6 — Medium-clayey silt with a few lenses of silty clay and silty sand
- 34 — 57 — A-2-4(0) -N.P.-20 — Dense to very dense-sand with some silt and a trace of gravel
- 40 — 40
- 44–45 — 5 — A-4(8) 28-9-22
- 50 — 10 — A-4(8) 30-10-20 — Stiff-clayey silt with a trace to some sand
- 5
- 28 — Medium-silty sand with a few lenses of clayey silt and silty clay
- 12 — A-4(8) 30-10-20
- 10
- 10 — A-4(8) 23-4-20 — Stiff-clayey silt with sand
- 24
- 76 — 35 — Dense-sandy silt with a few thin clay lenses
- 80 — 36
- 41 — A-2-4(0) -N.P.-18 — Dense to very dense-silty sand with a few lenses of silty clay and clayey silt
- 48
- A-4(8) 27-8-25
- 32
- 99 — 60

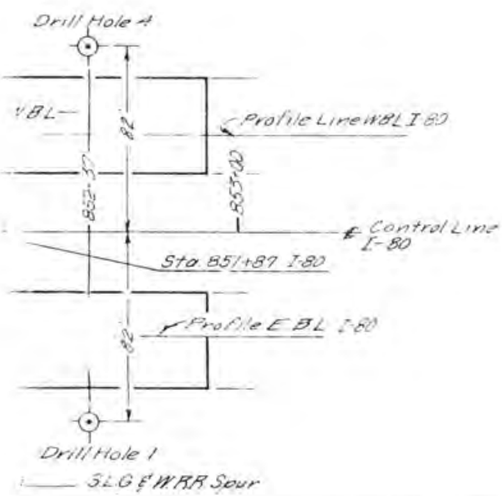
Drill Hole No. 1

Sta 852+37
82' Rt of ℄ I-80

Elevations | Depths | B.P.F. | Ground Line

- 4225.0 — 1 — Topsoil; ▼ 6-26-73
- 4222.0 — 3 — Clayey silt with sand
- 4220.0 — 5 — S
- 10 — 2 — A-6(10) 39-15-34 — Clayey silt with sand
- S — A-4(8) 29-9-29 — Soft to medium-silty clay with lenses of silty sand, sandy silt and a few lenses of clayey silt, traces of peat
- 20 — 7
- S — A-6(12) 38-21-
- 4194.0 — 30–31 — 8, 9 — Stiff-clayey silt with sand
- 4190.5 — 34.5 — 40 — A-2-4 -N.P.-24 — Dense-silty sand with a few thin lenses of silty clay
- 40 — 45
- 4180.0 — 45 — 10 — Medium-lenses of sandy silt, silty sand, clayey silt, and silty clay
- 4175.0 — 50 — 13 — A-6(9) 31-12-26 — Stiff-silty clay with some thin lenses of sandy silt
- 4169.0 — 56 — S — Loose-silty sand with some sandy silt
- 60 — 9 — A-4(4) -N.P.-22
- 4163.0 — 62 — Stiff-silty clay with lenses of sandy silt and silty sand
- 4160.0 — 65 — 14
- 4156.0 — 69–70 — 11 — Stiff-clayey silt with fine sand
- 4153.0 — 72 — Stiff-silty clay with lenses of sandy silt and clayey silt
- S — A-4(8) 26-9-12
- 4144.0 — 80–81 — 12 — A-6(9) 30-11- ; 59 — Dense to very dense-silty sand with a trace of gravel, a few lenses of clayey silt
- 42 — A-2-4 -N.P.-17
- 4135.0 — 90 — 36 — Hard-silty clay to clayey silt with thin lenses of silty sand
- 4132.0 — 93 — Medium-thin lenses of sandy silt and silty sand
- 4129.0 — 96 — 11
- 23 — Medium-sandy silt with a few lenses of clayey silt
- 4125.0 — 100

Casing (to 65')



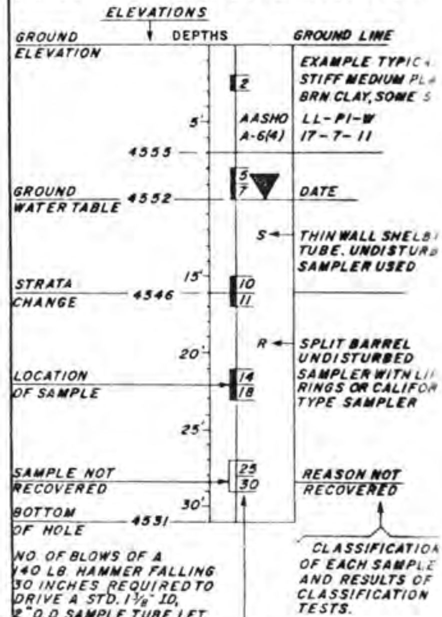
NO 3', —— 100'

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)
- VERY LOOSE — LESS THAN 4 BLOWS PER FOOT
- LOOSE — 4 TO 10 BLOWS PER FOOT
- MEDIUM — 10 TO 30 BLOWS PER FOOT
- DENSE — 30 TO 50 BLOWS PER FOOT
- VERY DENSE — MORE THAN 50 BLOWS PER FOOT

CONSISTENCY (PLASTIC-SILT & CLAY)
- VERY SOFT — LESS THAN 2 BLOWS PER FOOT
- SOFT — 2 TO 4 BLOWS PER FOOT
- MEDIUM — 4 TO 8 BLOWS PER FOOT
- STIFF — 8 TO 15 BLOWS PER FOOT
- VERY STIFF 15 TO 30 BLOWS PER FOOT
- HARD — MORE THAN 30 BLOWS PER FOOT

TOPSOIL OR FILL; IGNEOUS; SAND CLAY; GRAVEL; LIMESTONE; CLAY SAND; SAND; CONGLOMERATE; SILTY CLAY; SILT; DOLOMITE; CLAYEY SILT; CLAY; SILTY SAND; SHALE; SANDY SILT



ABBREVIATIONS
- L.L — LIQUID LIMIT IN %
- P.I — PLASTIC INDEX
- w — NATURAL MOISTURE CONTENT
- W.G. — WELL GRADED
- PEN. — PENETRATION
- G.W.T. — GROUND WATER TABLE
- B.P.F. — BLOWS PER FOOT.
- N.P. — NON PLASTIC

NOTE: REFUSAL MORE THAN 50 BLOWS PER 6"

Date drilled: March & June 1973

NO.	BY	DATE	REMARKS

REVISIONS

UTAH STATE DEPARTMENT OF HIGHWAYS
SALT LAKE CITY, UTAH
MATERIALS AND TESTS DIVISION
SALTAIR TO AIRPORT
EB. & WB. I-80 OVER SLG. & WRR. SPUR

DRAWN BY	CHECKED BY	I-80-3(8)
CHECKED BY	CHECKED BY	PROJECT NO.
CHECKED BY L. H. Rauscher	CHECKED BY	851+86.96
APPROVAL RECOMMENDED BY		STATION
RECEIVED	CHIEF STRUCTURAL ENGINEER	SALT L
BR. NO.	DWG. NO. C-710	COUNTY

Figure 1

USGS LIQUEFACTION STUDY | SALT LAKE COUNTY | LOCATION 1N-2W-35N

ACCELERATION REQUIRED TO INDUCE LIQUEFACTION

BORING #	DEPTH TO SAMPLE, h (ft)	DEPTH TO WATER, d (ft)	TOTAL UNIT WEIGHT, γ (pcf)	EFFECTIVE OVERBURDEN PRESSURE σ_o (psf)	SPT N	CORRECTED N_1	CYCLIC STRESS RATIO (τ/σ_o)	τ_{AVG} (psf)	STRESS REDUCTION COEFFICIENT r_d	a_{MAX} (g's)	COMMENTS
											silty clay w/
2	11	4	Assume 120	883	6	8.7	.097	85.6	.98	.10	lenses of sandy silt silty sand and clayey silt
2	11	4	11	11	6	16.2	.176	155	.98	~~.18~~	(adjusted)
2	26	4	11	1747	36	38.6	>.480	>838	.94	>.44	dense silty sand
3	25	3	11	1627	32	36 43	>.480	>781	.94	>.43 >.43	sm
3	41	3	11	2549	9	7.8 15.3	.08 .168	203 428	.84	.076 .16	sm LL = 30 Not plastic W = 32
3	45	3	11	2779	21	17.2 24.7	.282	783	.82	.27	sm + organics
4	17	3	11	1166	8	10.3 17.8	.113 .198	131 230	.97	.10 .18	loose silty-sand
4	25	3	11	1627	25	27.8	.310	504	.94	.27	medium sand - some silt
4	41	3	11	2549	40	34.7	>.480	1223	.85	.45	dense sand
1	58	3	11	3528	9	6.2 13.7	.066 .147	232 518	.69	.07 .17	loose silty sand

CRITICAL ACCELERATION MAP: N ○ .16 ✓

SOILS AND GROUNDWATER MAP: N 3 3 3 1 .16 / 12.5 − 35/30

CALCULATED BY: Spitz

DATE: 5-23-82

OK