CAORSO SINGLE VALVE TESTS*

EVALUATION OF PRESSURE DATA BASE

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* ACTUATION OF VALVE "A".

PRESSURE TRACES RECORDED DURING CAORSO SINGLE VALVE TESTS WERE GROUPED AS FOLLOWS:

- MULTIPLE FREQUENCY PRESSURE (MFP) WAVE FORM TYPE
- SINGLE FREQUENCY PRESSURE (SFP) WAVE FORM TYPE

MFP WAVE FORM CHARACTERISTICS:

- RICH IN FREQUENCY CONTENT IN THE RANGE OF 15 Hz TO 40 Hz (FRONT END OF TRACES)
- A DOMINANT SINGLE CHARACTERISTIC FREQUENCY IN THE RANGE OF 6 Hz TO 10 Hz (TAIL END OF TRACES).
- NEGLIGIBLE FREQUENCY CONTENT IN THE RANGE > 40 Hz.
- RANDOM PROPERTIES: PRESSURE AMPLITUDE AND FREQUENCY CONTENT.

SFP WAVE FORM CHARACTERISTICS:

- EXHIBITS PRIMARILY A SINGLE DOMINANT CHARACTERISTIC FREQUENCY IN THE RANGE OF 6 Hz TO 10 Hz.
- SMALLER CONTRIBUTION (THAN MFP'S) IN THE RANGE OF 15 Hz TO 40 Hz.
- NEGLIGIBLE FREQUENCY CONTENT IN THE RANGE > 40 Hz.
- RANDOM PROPERTIES: PRESSURE AMPLITUDE AND FREQUENCY CONTENT.

CORRELATION ANALYSIS OF RECORDED BOUNDARY PRESSURES

TWO TYPICAL TESTS WERE CONSIDERED:

- TEST 502 (MFP WAVE FORM TYPE), AND
- TEST 2202 (SFP WAVE FORM TYPE).

MATRIX OF CROSS-CORRELATION COEFFICIENTS FOR PRESSURE TRACES RECORDED BY SENSORS P 9, P13, P14, P11 AND P10 WAS CALCULATED.

RESULTS OBTAINED INDICATE NEAR PERFECT CORRELATION ONLY AT $\tau = 0$.

CONCLUSIONS:

- TEMPORAL BEHAVIOR IS INDEPENDENT OF SPATIAL DISTRIBUTION FOR MEASURED BOUNDARY PRESSURES, I.E.,

$$P(\underset{\sim}{R},T) = P(\underset{\sim}{R}) * T(T)$$

- WATER IN SUPPRESSION POOL MAY BE ASSUMED AN INCOMPRESSIBLE FLUID.