

Pile Tests

- Driven Piles
- On Bored Piles
- QC During Construction
 - Dimensions of the pile (Diameter, Length)
 - Verticality
 - Properties of the concrete
 - Properties of Reinforcement
 - Properties of the drilling fluid
 - Verticality Test (Koden test)
 - Tremie positions

Pile Tests.....

QA After installation

Diameter Test

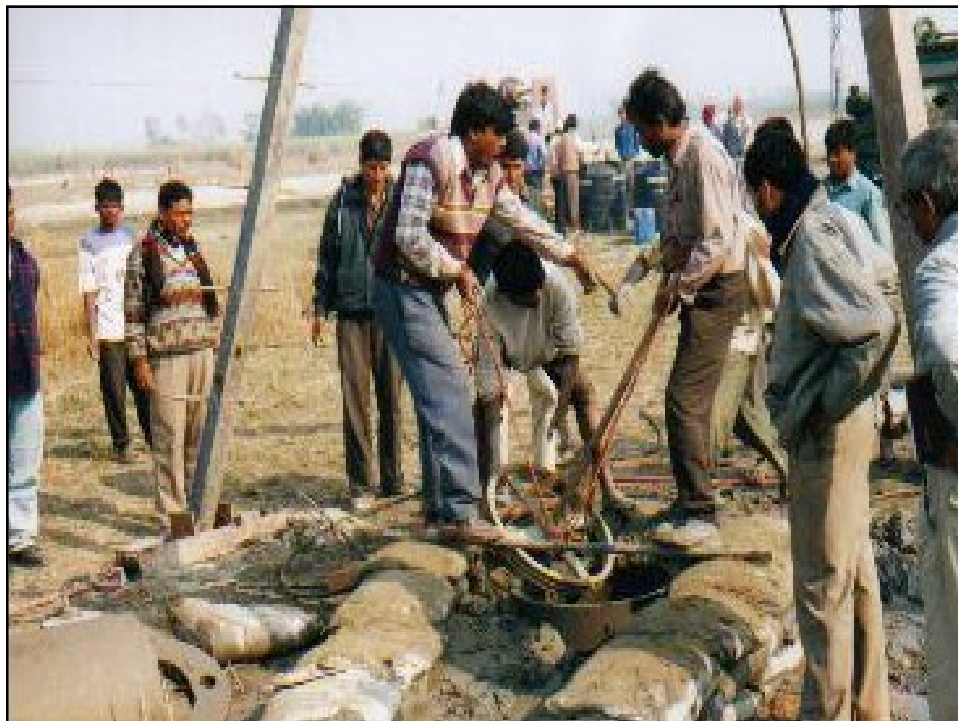
Length Test

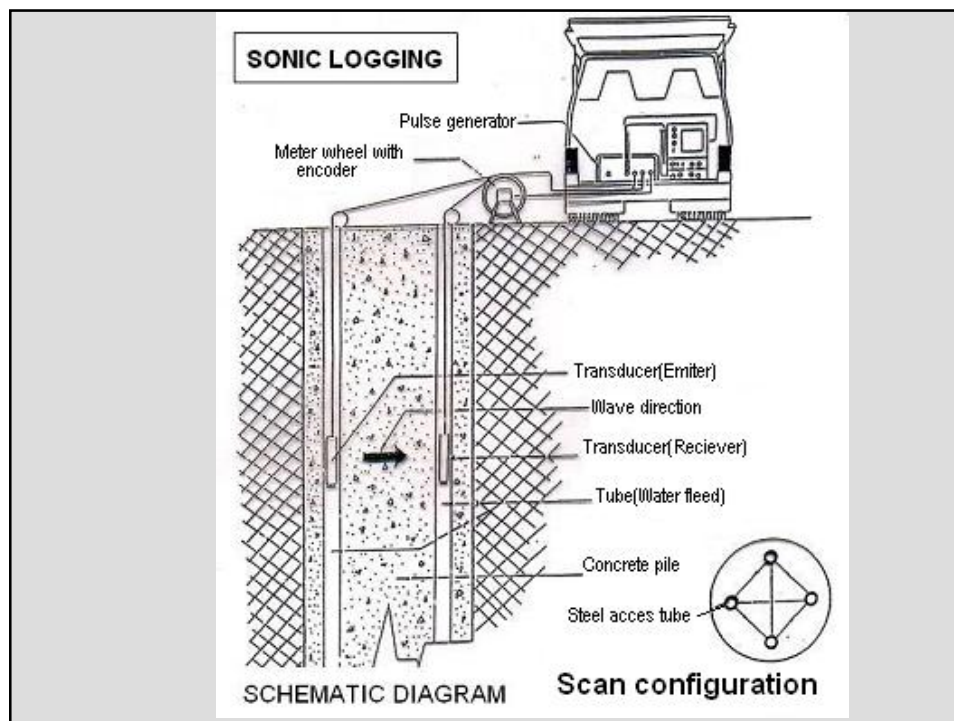
Pile Integrity Test

Load Test

Pile Tests....

- Integrity of the pile
 - Sonic Logging
 - Pile Integrity
- Load Carrying Capacity
 - Static Load Test
 - By Kentledge System
 - By Reaction piles
 - Dynamic Load Test





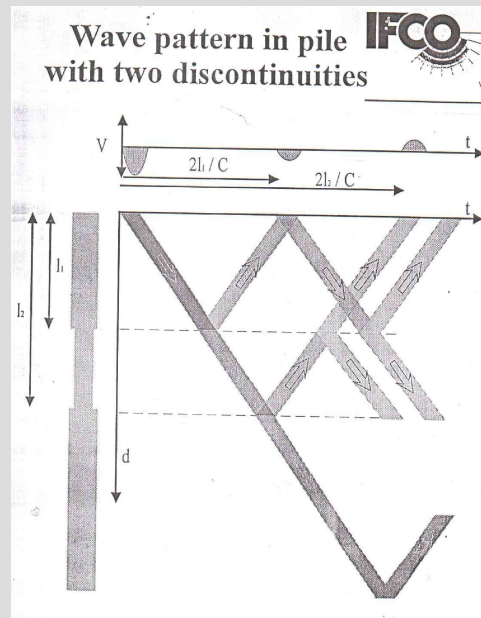
- Verticality Test
 - By Plum Bob
 - By Koden Test

Trimming and PIT

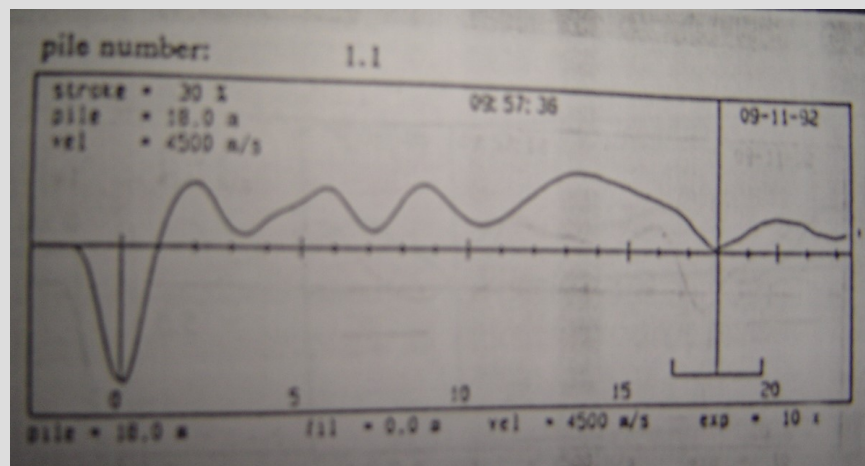


Integrity test

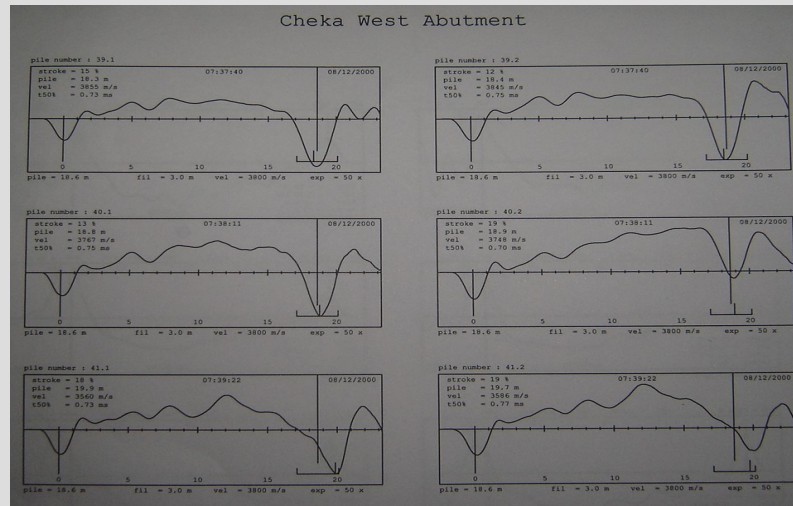




Integrity Test of a steel pile



Pile Integrity Test



Integrity Tests - Reflections

- From toe
- Inclusions
- Cracks
- Dimensional changes
- Variation in concrete quality
- Variation in soil stiffness

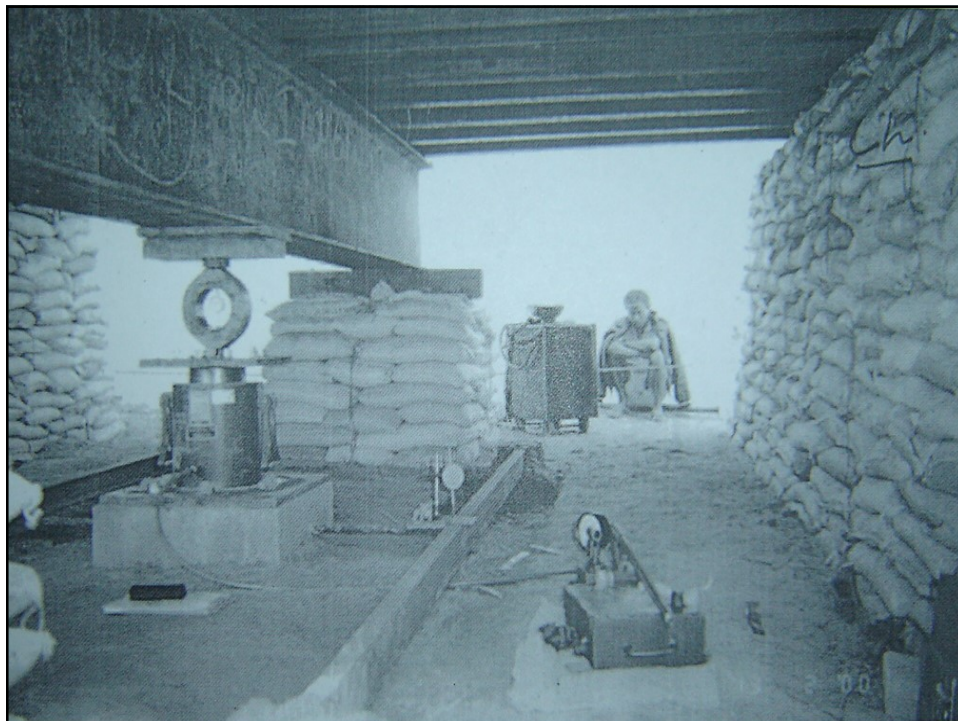
Integrity Tests-Advantages

- Quick 300 – 500 piles a day
- No special preparation needed
- Test at Early Concrete age
- Driven piles and Bored piles
- Verification of length in new or old piles

Integrity Tests - Limitations

- No information on bearing capacity
- No indication on debris at pile base
- No information on concrete covers etc
- No length indication in very long piles

Pile Load Test by Kentledge System





Pile load test by Reaction Beam



LOAD SEQUENCE**PILE LOAD TEST**

S.N.	LOAD		MINIMUM TIME OF HOLDING LOAD	REMARKS
	(%)	KN		
1	25	105	1 hr	Proof load
2	50	210	1 hr	
3	75	315	1 hr	
4	100	420	6 hr	
5	75	315	10 min	
6	50	210	10 min	
7	25	105	10 min	
8	0	0	1 hr	
9	100	420	1 hr	
10	125	525	1 hr	
11	150	630	12 hrs	
12	125	525	10 min	
13	100	420	10 min	
14	75	315	10 min	
15	50	210	10 min	
16	25	105	10 min	
17	0	0	1 hr	

The above load duration to satisfy

Settlement rate is less than 0.25 mm/hr before increasing to next loading

BUMP
PILE LOAD TEST AT CHEKA
LOAD - SETTLEMENT TIME - RELATIONSHIP

	Cycle 1 (100% DL)	Cycle 2 (150% DL)
Load (tons)	37	55.5
Total Settlement (mm)	0.98	1.72
Residual Settlement (mm)	0.365	0.83

