PLAINTIFF'S EXHIBIT

TEX-116

## 1.0 GENERAL

1.01 This specification covers the instructions and procedures necessary for all work in connection with gunite protective coating for steel piles supporting breasting dolphins and mooring platforms in the oil loading wharf.

## 2.0 DEFINITIONS

"Contractor" as used herein shall be understood to mean the Bechtel Corporation.

"Subcontractor" as used herein shall be understood to mean Manson Construction and Engineering Co. of Seattle, Washington.

"Engineer" as used herein shall be understood to mean any of contractor's representatives authorized to pass on the quality and acceptability of the work.

## 3.0 MATERIALS

3.01 Following materials shall be used in the protective jackets and shall meet the requirements of the designated ASTM specifications.

Portland Cement, Type II, ASTM C150.
Welded Steel Wire Fabric, ASTM A82 and A185.
Bar Reinforcement, Intermediate Grade, ASTM A15 and A305.

3.02 Sand

3.021 Sand for gunite shall be a natural sand graded from coarse to fine within the following limits:

| Sieve Size | Per Cent Passing |
|---|---|
| 3/8 | 100 |
| #4 | 95-100 |
| #16 | 45-80 |
| #50 | 10-30 |
| #100 | 2-10 |

3.022 Fineness modulus shall be not less than 2.50 nor more than 3.30.

3.023 Sand shall be of high purity, and durability, free from deleterious substances e.g. shale and clay lumps, mica, and organic impurities.

FORM 292

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| A | DATE 3/6/68 | Issued for Construction JRL | | | |

BECHTEL CORPORATION

THE TEXAS COMPANY
PUGET SOUND WORKS
GUNITE COATING FOR STEEL WHARF PILES

JOB NO. 2525

| SPECIFICATION | REV. |
|---|---|
| 22-Q-1 | 0 |

SHEET 1 OF 4

3.024 At time of mixing with the cement, sand shall contain from 3 to 5 per cent of moisture by weight. If moisture exceeds 5%, sand shall be drained and/or dried until this maximum limit is reached.

3.03 It is not desirable that "high-early" Type III cement or accellerators be employed, and their use will not be permitted.

4.0 PREPARATION OF PILES

4.01 Prior to placing the fabric reinforcement, pile surfaces to be coated shall be given a thorough cleaning. All dirt, loose rust, loose mill scale, and other foreign material shall be removed, and any residue flushed off with water. Oil or grease shall be thoroughly removed with solvent and/or detergent.

4.02 Welding studs for support of fabric shall be located as shown on the drawings, and sized so as to support fabric the specified distance away from the pile surface.

4.03 Fabric shall be carefully shaped so as to properly enclose the pile. Where fabric passes around edge of flanges, it may be bent to a circular curve of radius required to maintain correct distance from flange faces.

4.04 Before placing gunite, fabric shall be clean and free of all loose material that would affect perfect bond with the gunite.

4.05 Adequate gauging wires shall be used to establish correct thicknesses of coating.

4.06 Over-all length of jacket for each pile shall be based on the requirement that not less than 2" nor more than 8" of full coating thickness shall extend into the concrete cap, and full coating thickness shall extend to a point not higher than elevation minus 4.5 feet after pile is driven.

5.0 MIXING

5.01 Mix proportions for gunite shall be not leaner than one part cement to four parts moist sand by volumetric batch measurement.

5.02 Mixing shall be done in a standard batch mixer. Mixing time shall be not less than 1-1/2 minutes after sand and cement are placed in the mixer, and each batch shall be entirely discharged before recharging is begun.

5.03 No water shall be added to the mix after mixing, and before using in the gun. Mixed material that has stood 45 minutes without being used shall be rejected. Remixing or tempering shall not be employed.

FORM 103



WA-TEX 000290

6.0 PLACEMENT OF GUNITE

6.01 It is of utmost importance that all operations including proportioning, mixing and placing of gunite be performed by thoroughly skilled and trained operators.

6.02 Piles shall be mounted on rolls or similar devices that will permit orientation of the pile at any angle about its longitudinal axis. During gunite application, the pile shall be maintained in the proper position for ensuring optimum condition for obtaining densest and most uniform buildup. In general, shooting should be at an angle as nearly normal to surface being coated as possible.

6.03 If flow at the nozzle is not uniform, and slugs, sand spots, or wet sloughs result, nozzleman shall turn nozzle away from the work until the condition is corrected. Such defects, shall be cut out, and replaced as the work progresses.

6.04 Guniting shall be suspended if

a) High winds occur which cause separation of sand and cement at the nozzle.
b) Weather approaches freezing.
c) Rain occurs in sufficient force to wash cement out of fresh material.

6.05 Time between successive application shall be sufficient to allow initial, but not final, set to develop. At the time initial set is developing, surfaces shall be lightly and carefully broomed to remove any laitance, and provide better bond with succeeding applications.

7.0 CURING

7.01 Curing shall be accomplished by application of one liberal coat of curing compound, e.g. A. C. Hornes' "Horncure".

7.02 Gunite shall be in its final set stage before applying the compound. If dry to the touch, surfaces shall be sprayed with water, and curing compound applied while they are still in a damp condition.

7.03 No piles shall be driven in less than seven days after placing gunite thereon..

8.0 STRENGTH AND TESTS

8.01 Gunite shall develop not less than 3500 psi compressive strength at seven days, and 5000 psi at 28 days, as determined by testing concrete cylinders.

FORM 203

8.02 Two cylinders shall be made from first batch of gunite applied to piles, and two cylinders thereafter for each succeeding group of 20 piles. One of each pair of cylinders shall be broken at seven days and the other at 28 days.

8.03 Test cylinders shall be made in 3/4" mesh molds; trimmed, handled, stored, marked, and sent to Pittsburgh Testing Laboratory in Seattle, all in accordance with instructions of Bechtel's engineer.

9.0 INSPECTION

9.01 All phases of the work will be subject to inspection by Bechtel's engineer. Materials, methods, or work not meeting the requirements of this specification or the accepted standards of first class workmanship shall, upon instructions from the engineer, be corrected to his satisfaction.

10.0 HANDLING AND DRIVING

10.01 Coated piles shall, at all times, be picked up, stored, shipped and otherwise handled in a manner providing for careful protection of the gunite coating.

10.02 Coatings which are visibly cracked or otherwise damaged before or during driving, to a degree that will permit ready access of sea water or moisture to the underlying steel, shall be subject to rejection, and repair to the satisfaction of Bechtel's engineer.