



GeoStrategies Inc.

FACSIMILE COVER SHEET

DATE: 2/2/94
IGSI #

TO: SCOTT SEERY FAX:

COMPANY: ALAMEDA COUNTY

RE: FAIRMONT HOSPITAL LST ABANDONMENT

FROM: SCOTT LISTAL

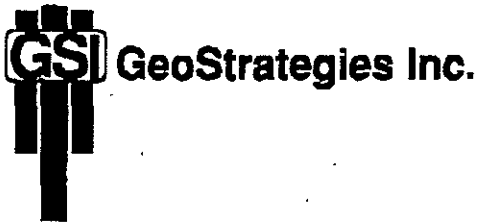
PHONE: (510) 551-8777 Ext. 219
FAX: (510) 551-7888

45 pages including cover.

If there are any problems with this transmission,
please call (510) 551-8777

COMMENTS: - PLEASE LET ME KNOW IF THIS
MEET'S W/ YOUR APPROVAL.

 Hardcopy will follow.



August 2, 1994

Mr. Peter C. Kinney
Environmental Project Manager
County of Alameda
General Services Agency
4400 MacArthur Boulevard
Oakland, California 94619

Reference: Concrete Mix Design for Abandonment of UST No. 1
Fairmont Hospital
San Leandro, California

Mr. Kinney:

We are pleased to respond to your request for a copy of the proposed concrete mix design (Mix number 3733) prepared by RMC Lonestar. This concrete mixture was derived from the mixture given to GeoStrategies by Mr. Jim Ferdinand of Alameda County Fire Department. The referenced mix design is from the Los Angeles Fire Department list of approved concrete mixtures used to abandon underground atmospheric tanks.

For future reference and consideration, this proposed mix design is incapable of being transferred by a concrete pump (this usually requires a minimum of a four sack mixture). Since we have direct access to the thirty inch manway the proposed mix design will work for this application.

Mr. Peter C. Kinney
Environmental Project Manager
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If the county has any future UST's to be abandoned in place, it would be recommended that, first determine what size and type of access you have to the tank, and second contact a local concrete manufacture to prepare an appropriate mix design. Other options include light weight or cellular concrete, which can be pumped through a one inch line.

If you have any questions or comments, please call.

Sincerely,



Scott A. Listar
Project Manager

cc: Chief Ferdinand, Alameda County Fire Department
Mr. Scott Seery, Alameda County Health Agency

GeoStrategies Inc.

RMC LONESTAR

TECHNICAL SERVICES

4750 Norris Canyon Road, Suite A
 San Ramon, California 94583
 (510) 866-2780 FAX (510) 866-2889

Group 232	Mix Number 3733
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Report No. 28443
 07/28/1994
 11010007

1.0 C+F WR A (FILL UNIT)

GETTLER - RYAN
 ATTN: SCOTT LISTER

UNDERGROUND TANKS
 FAIRMONT HOSPITAL
 ALAMDEA COUNTY

MATERIALS DESCRIPTION

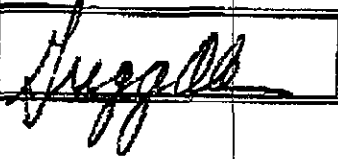
CEMENT TYPE II ASTM C-150
 POZZ INTERNATIONAL FLYASH ASTM C-618 CLASS F
 CONCRETE SAND ASTM C-33
 POZZOLITH 322N ASTM C-494 TYPE A
 MASTER BUILDERS MICRO AIR ASTM C-260

This mix will produce concrete meeting the design criteria when produced, sampled and tested in accordance with ASTM C-94 and UBC. Mix will be adjusted as required by UBC Section 2604 to maintain the noted strength level.

Cementitious Material 1.00 sk.
 Maximum Size Aggregate SAND in.
 Slump in.
 W/C+F ratio 2.76
 Entrained Air See Note. %

Code	Material	Solid Volume	SSD Quantity
1002	CEMENT TYPE II	0.24 cf	47 lbs
9001	POZZ INTERNATIONAL FLYASH	0.33 cf	47 lbs
2101	CONCRETE SAND	12.14 cf	2000 lbs
9045	POZZOLITH 322N	0.00 cf	12 oz
9049	MASTER BUILDERS MICRO AIR		16 oz
	Air (12.0 %)	2.30 cf	
	Water (31.2 gal.)	4.16 cf	260 lb
	Totals	19.17 cf	2354 lbs

Uses: UNDERGROUND TANK FILL
 Note: UNIT MIX - FORMULA GIVEN TO LAB TO FOLLOW FOR DESIGN.
 AIR APPROXIMATELY 12%.
 Note : PLEASE CHECK WITH YOUR PUMPER REGARDING THE PUMPABILITY OF THIS MIX.



Additions

LOS ANGELES FIRE DEPARTMENT LIST OF APPROVED
MIXTURES USED TO ABANDON UNDERGROUND ATMOSPHERIC TANKS

BASED ON SAND WEIGHT

12 oz. of water wetting agent*
16 oz. of air-entraining agent**
94 lbs. of Portland Cement
31.2 gals. of water
1 ton of sand

BASED ON SAND VOLUME

18 oz. of water wetting agent*
24 oz. of air-entraining agent**
1.5 sacks of Portland Cement
47 gals. of water
1 cu. yard of sand

METHOD OF MIXING:

It is recommended that drum revolutions of 6-10 RPM be used after the air-entraining agent is added. Approximately 60 revolutions is required to properly loosen the material. Periodic drum reversal to aid flow of material may be necessary.

This requires use of a wetting agent in order to achieve a mixture, as dry as possible, which will still flow.

The Fire Department will greatly appreciate your cooperation in furnishing this information to all parties concerned. For additional information, please call our Engineering Unit, telephone: 485-3977.

* W.R.D.A. (W. R. Grace Co.)
* Pozzolich 300-N (Master Builders)

** DAREX - (W. R. Grace Co.)
** MB-VR (Master Builders)