



Borella Geology, Inc.
Consulting Engineering Geology

June 8, 2007

Tim Shaw, Park Planner
City of San Clemente
Beaches, Parks and Recreation
100 N. Seville
San Clemente, California, 92673

Subject: Limited Geotechnical Investigation and Evaluation of Surface Soil conditions for Parking and Roads and Areas where Storm Drain Outlet Pipes enter into Drainage Catch Basins.

Dear Mr. Shaw:

The limited geotechnical report is completed that addresses soil conditions in specific areas of the new park site in the Vista Hermosa-Via La Pata area of San Clemente. The investigation was performed in the months of May through June, 2007. The report consists of the following:

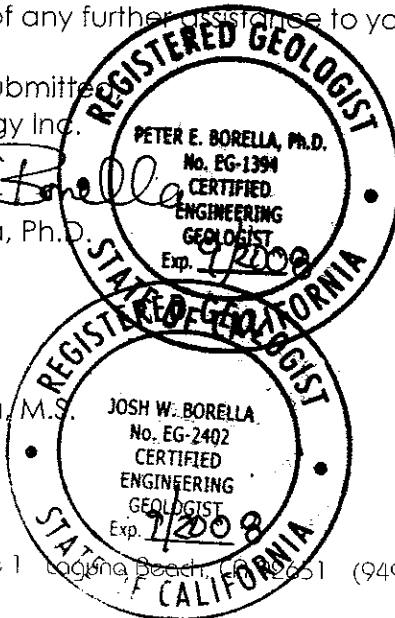
1. Site Reconnaissance and review of Recent Grading Reports and Plans
2. Backhoe Trench Exploration and Soil Sampling in Selected Areas
3. Laboratory analysis
4. Presentation of results and recommendations.

The main purposes were to determine R-Values for the park roads and parking areas. In addition, the slopes on the catch basin walls were evaluated as to their surficial stability and weathered condition. Anchored storm drain pipes and outlets into these catch basins are to be installed into these areas.

If we can be of any further assistance to you, please contact us.

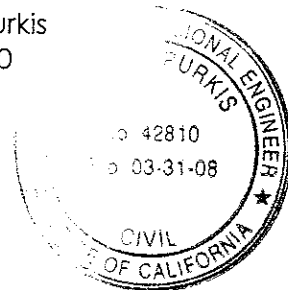
Respectfully submitted,
Borella Geology Inc.

Peter E. Borella
Peter E. Borella, Ph.D.
C.E.G. #1394



David A. Purkis

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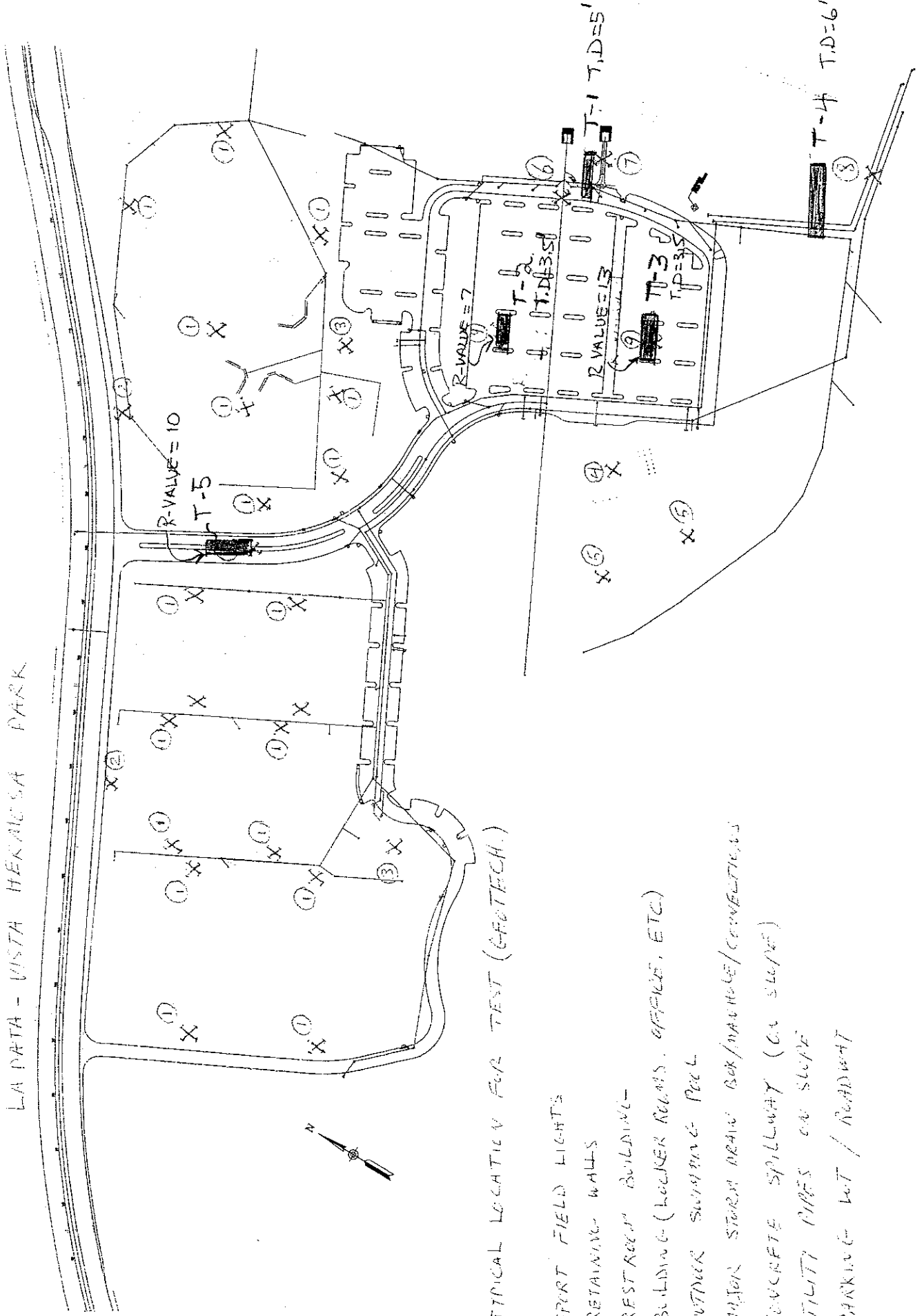


Josh W. Borella
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Figure 1: Site Location Map for Exploration Trenches and Selected Area For Investigation.

TRENCH AND SAMPLE LOCATION

LA DATA - VISTA HERMOSA PARK



X TYPICAL LOCATION FOR TEST (GFO/TECH.)

- ① SPORT FIELD LIGHTS
- ② RETAINING WALLS
- ③ RESTROOM BUILDING
- ④ BUILDING (LOCKER ROOMS, OFFICE, ETC.)
- ⑤ OUTDOOR SWIMMING POOL
- ⑥ MAJOR STORM DRAIN BOX/MANHOLE/CONNECTIONS
- ⑦ CONCRETE SPILLWAY (ON SLOPE)
- ⑧ UTILITY PIPES ON SLOPE
- ⑨ PARKING LOT / ROADWAY

Appendix 1: Exploration Trench Logs

Exploration Trench Log

Job: LA PATA-VISTA HERMOSA

Trench Number: T-1

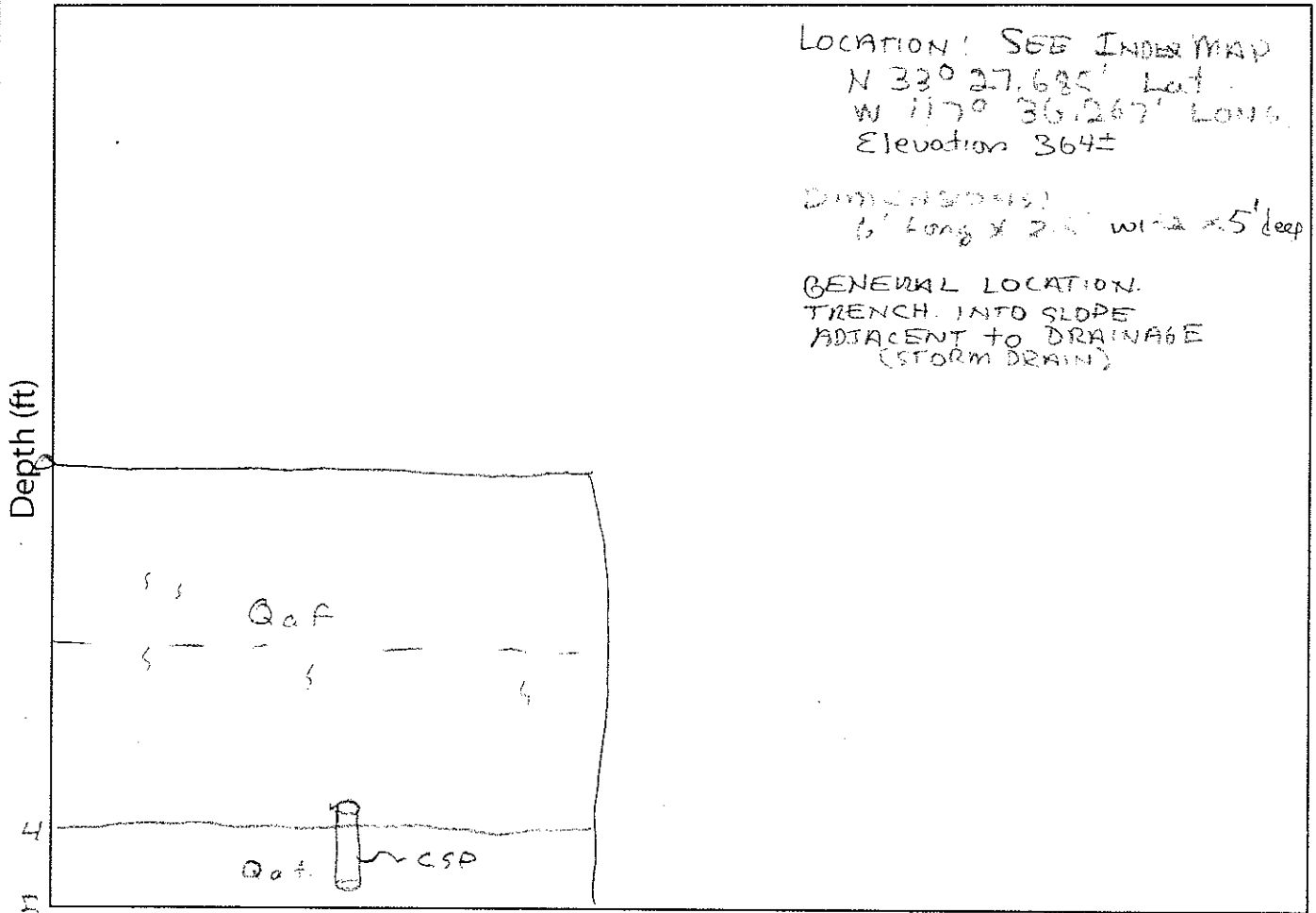
Date: MAY 2, 2007

Peter E. Borella, Ph.D.

Consulting Engineering Geologist

C. E. G. #1394

Length (ft) BACKHOE



Top to Bottom

Description

- ENGINEERED FILL
- 0-4' Qaf - Artificial fill, very dry, crumbles, silty clay to clayey silt - No water - Hairline roots to 3 feet - Weathered - Tan to light tan
 - 4-5' Qat - Fill more competent - Silty clay to clayey silt - Gray to light Brown

Blow counts @ 4-5' with CSP 100 blows/6 in.
 40 lb. hammer. 1.5 foot Drop.

BAB. SAMPLE TAKEN

Exploration Trench Log

Job: LA PATA - VISTA HERMOSA

Trench Number: T-2

Date: MAY 2, 2007

Peter E. Borella, Ph.D.

Consulting Engineering Geologist

C. E. G. #1394

Length (ft)

BACKHOE

Location: SEE INDEX MAP

N 33° 27.693' Lat.

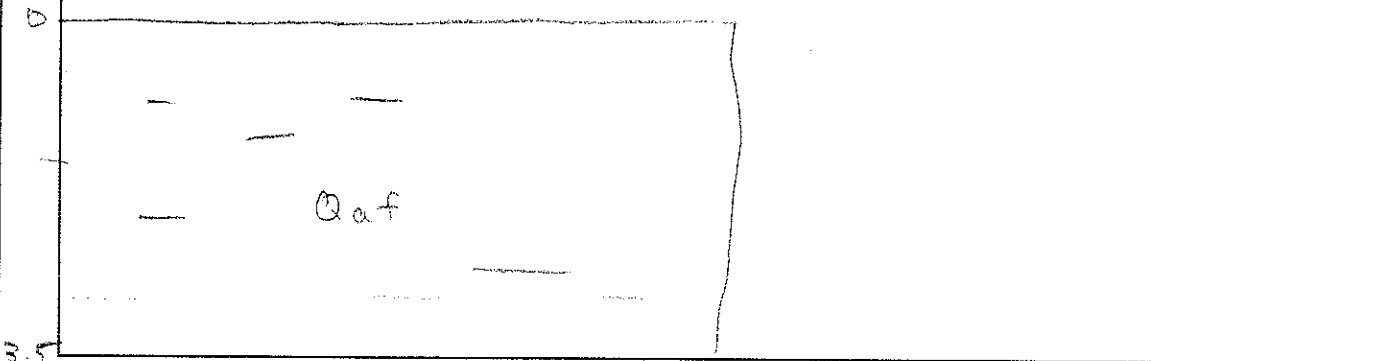
W 117° 36.315' LONG

EL. 370-371 ±

DIMENSIONS:

7' x 2' x 3 1/2' deep

Depth (ft)



Description

0-3.5 - Qaf - Artificial fill crusty, upper 1-1 1/2' weathered flakey, very dry

1.5-2' silty clay with fragments of (Tm-Monterey Formation)

2-3.5 - more competent, medium dense greenish gray to gray.

R - Value Sample TAKEN. 2-3'

Exploration Trench Log

Job: LA PATA - VISTA HERMOSA

Trench Number: T-3

Date: MAY 2, 2007

Peter E. Borella, Ph.D.

Consulting Engineering Geologist

C. E. G. #1394

Length (ft)

BACKHOE

Location:

SEE INDEX MAP

N 33° 27.662' LAT

W 117° 36.294' LONG.

EL: 379?

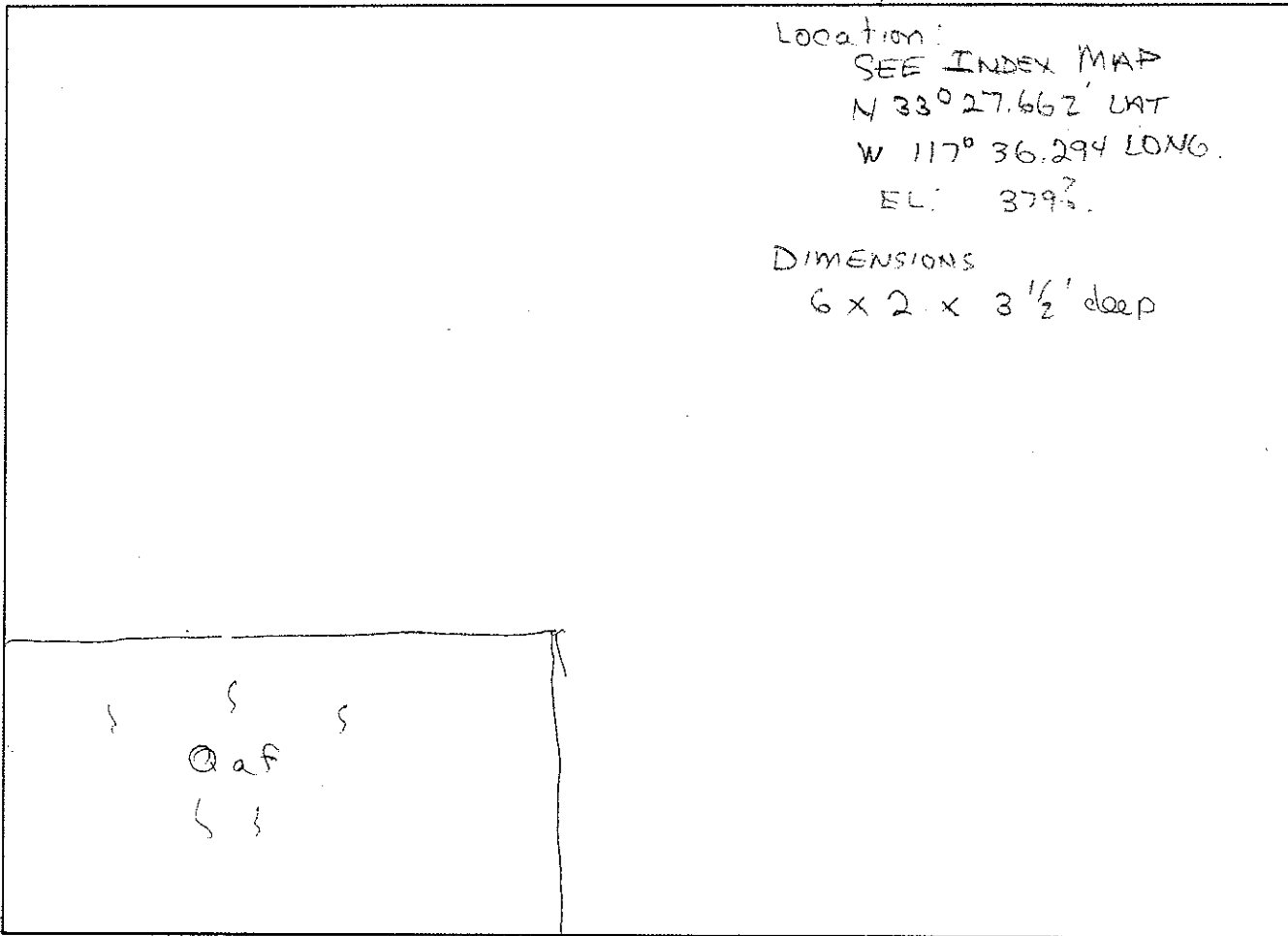
DIMENSIONS

6 x 2 x 3 1/2' deep

Depth (ft)

0

3.5



Description

0 - 3.5' - Qaf - Engineered F.1 - light tan to yellow brown to reddish brown. sand silt to silt w/ sand & clay, tight

Upper 6" - 1 crumbly

Tighter & better moisture content than T-1 & T-2, No Roots

R-Value Sample

Exploration Trench Log

Job: LA PATA-VISTA HERMOSA

Trench Number: T-4

Date: MAY 2, 2007

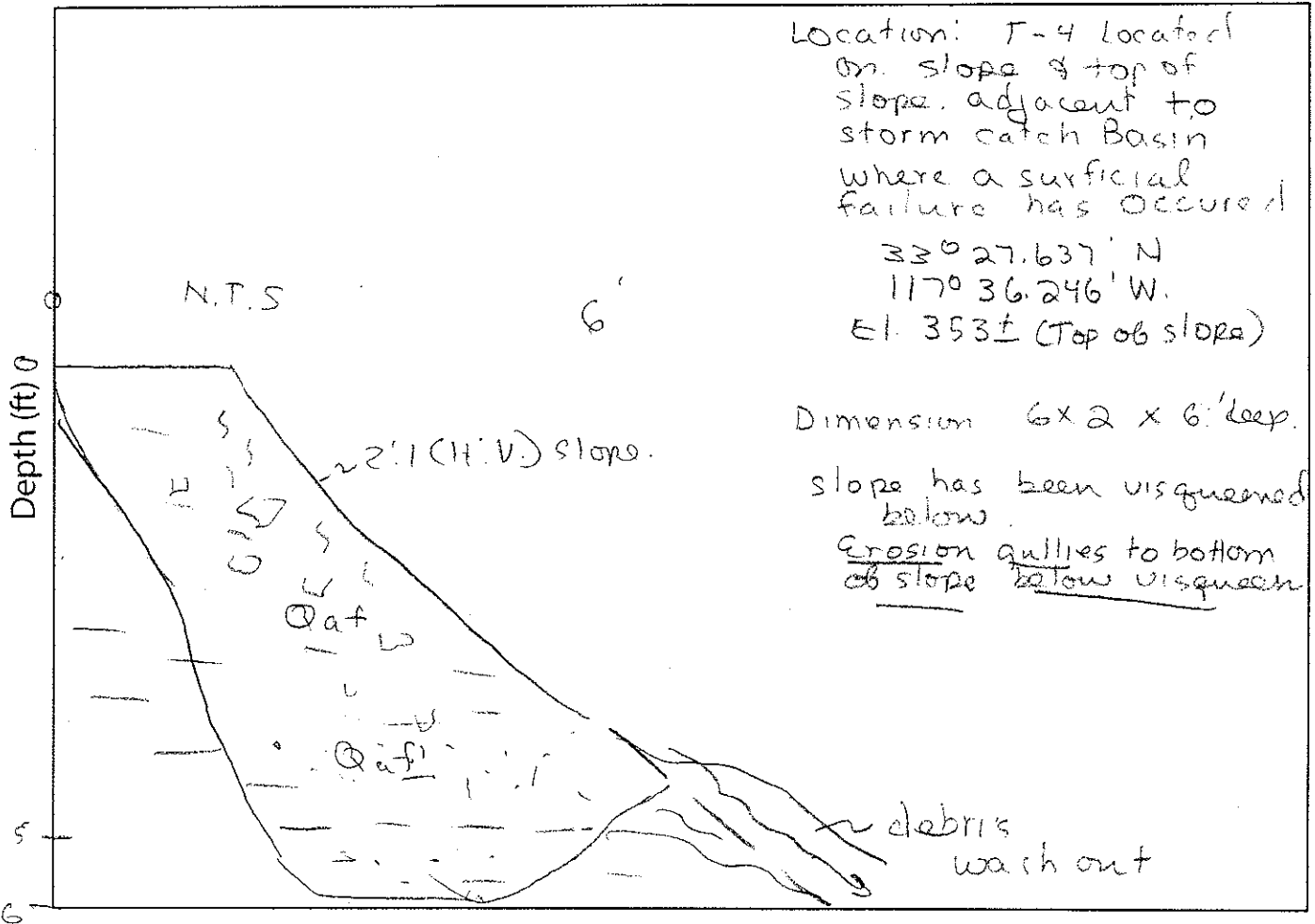
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C. E. G. #1394

Length (ft)

BACKHOE



Location: T-4 located on slope & top of slope adjacent to storm catch Basin where a surficial failure has occurred

33° 27.637' N

117° 36.246' W.

El. 353± (Top of slope)

Dimension 6 x 2 x 6' deep.

slope has been visqueered below

erosion gullies to bottom of slope below visqueered

Description

0 - 4 to 5' - @af - loose, desiccated and slumped debris dry crumbly - fill NOT compacted, easily excavated w/ backhoe
Hardline rootlets down to 1.5 feet

@ 5' Soil appears competent tight, medium dense better moisture content
Light tan silty clay to clayey silt fragments of Tm (Monterey Formation)

* Bottom of slope in this area is in bad shape

Assume creep depth to at least 5'

anchors as well as soil Nails may be needed

Exploration Trench Log

Job: LA PATA-VISTA HELMOSA

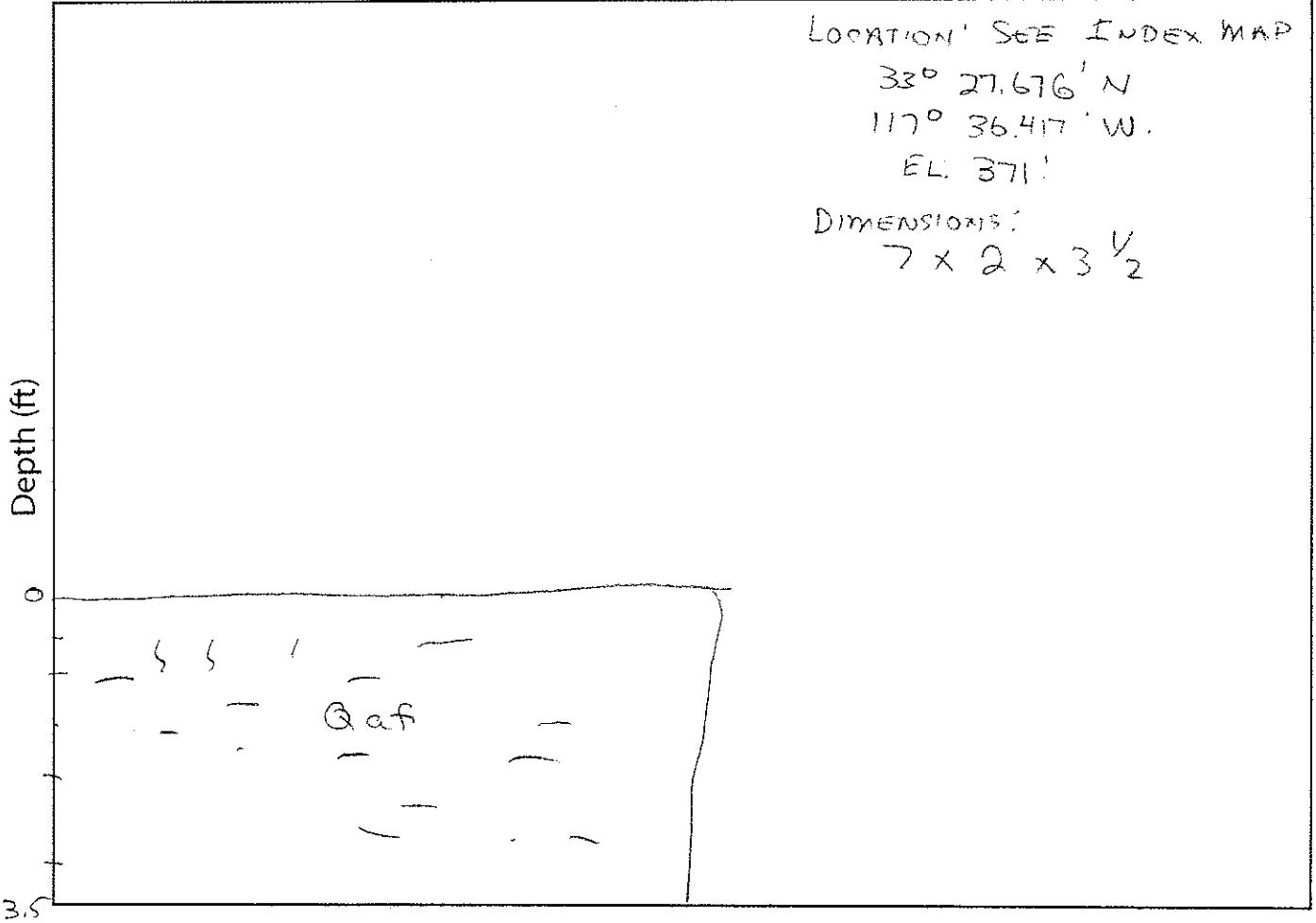
Trench Number: T-5

Date: MAY 2, 2007

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Length (ft)

BACKHOE TRENCH



LOCATION: SEE INDEX MAP

33° 27.676' N

117° 36.417' W.

EL. 371'

DIMENSIONS:

7 x 2 x 3 1/2

Depth (ft)

0

3.5

Description

0 - 3 1/2' Qaf - Artificial Fill - Tan to brown
silty clay - No roots Fair moisture, clean
medium dense to tight.

Upper 6" - 1' Loose,
plastic zone at 2'

R-value Sample taken