

Via E-mail Only

October 1, 2014
Job No. 2947.102

Oakhurst Geologic Hazard Abatement District
c/o Permco Engineering
1470 Civic Court Suite 320
Concord, California 94520

Attention: Mr. Rick Angrisani

Subject: Slope Inclinometer Monitoring Program
Open Space Slope Below Lots 59 through 61
Pebble Beach Drive
Clayton, California

Gentlemen:

At your request, we have completed the following tasks at the subject site:

1. Take readings on Slope Inclinometers SI-1 and SI-2.
2. Walk the V-ditches and map apparent displacements.

Our findings are as follows:

Slope Inclinometers:

- | | |
|------|---|
| SI-1 | Continued displacement between depths of 0 to 9 feet with maximum cumulative displacement of nearly 1 inch at the surface. |
| SI-2 | The inclinometer casing has pinched at a depth of 72 feet. Therefore, we were unable to take readings between 72 feet and 125 feet in depth. To process the data collected in the upper 72 feet, we used the prior readings taken February 25, 2010 for depths of 72 to 125 feet to provide a data set for plotting purposes. The plotting suggests that the upper 72 feet is moving as a block, but the amount of movement is unknown. |

V-Ditch

The V-ditches below Pebble Beach Drive were walked in the field. Observations by our engineering geologist indicate on-going movement over the last 4 years. See the attached Site Plan and photographs. The maximum apparent movement observed in the V-ditches is 3 inches at Crack B in the upper V-ditch.

Note: That some cracking of the AC Pavement was noted in Pebble Beach Drive as shown on the Site Plan.

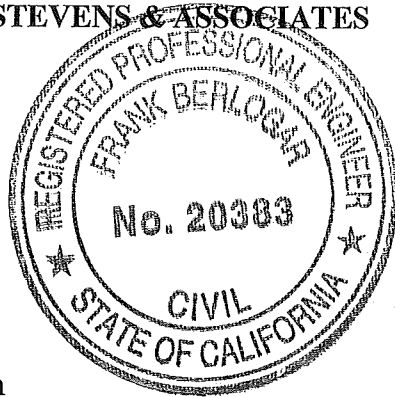
Please call if you have any questions.

Respectfully Submitted,

BERLOGAR STEVENS & ASSOCIATES


Frank Berlogar
RCE 20383

FB:jmo

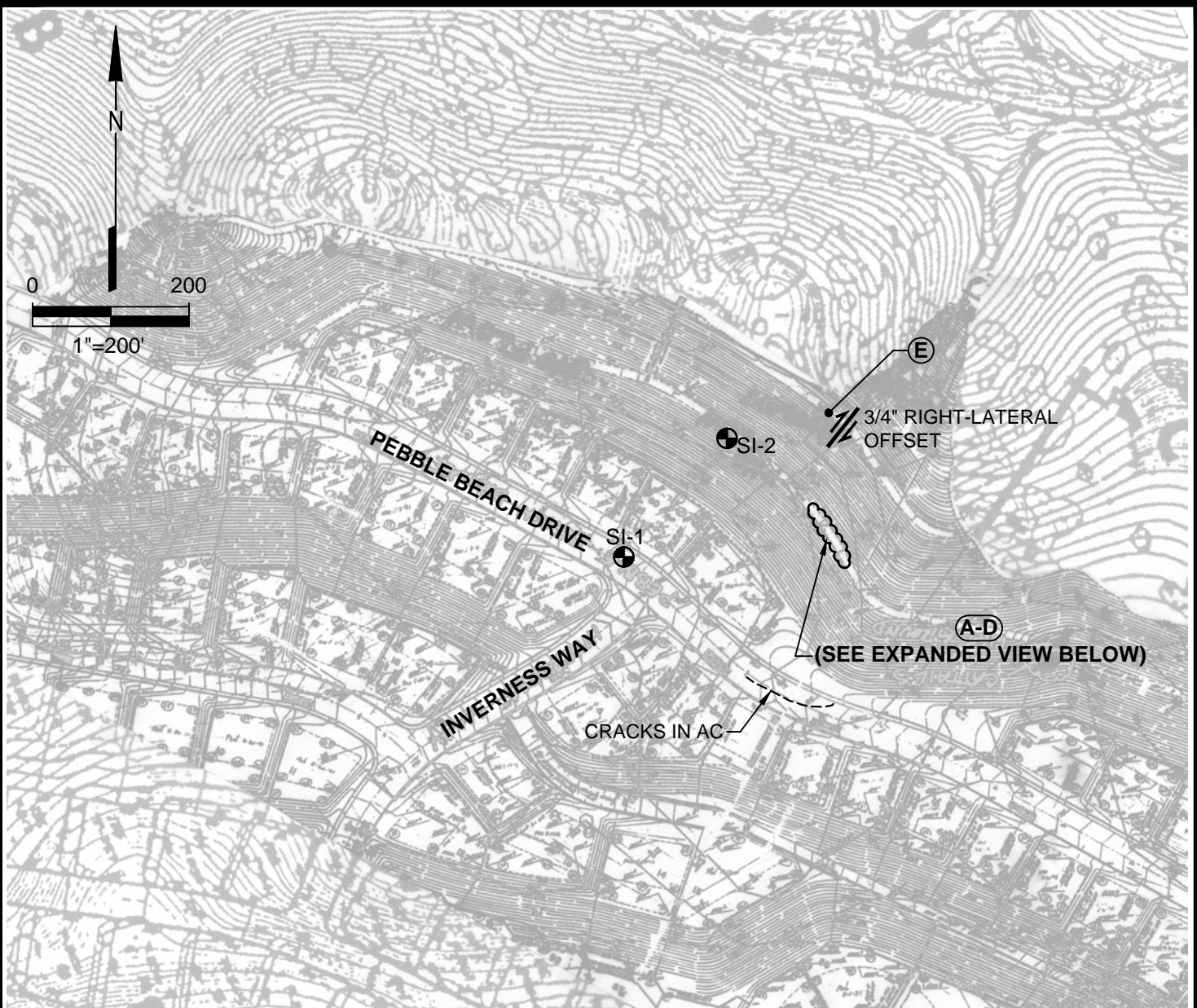


Attachments:

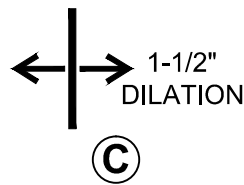
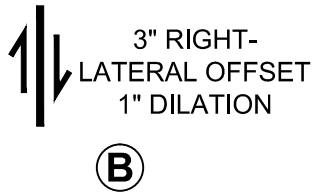
Site Plan
Slope Inclinator Plots
Photographs

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DRAWN BY: CC
DATE: 9-10-14
JOB NUMBER: 2947.102



EXPANDED VIEW



EXPLANATION

(E) CRACK DESIGNATION LETTER
(SEE PHOTOGRAPHS)

SITE PLAN

V-DITCH OBSERVATIONS

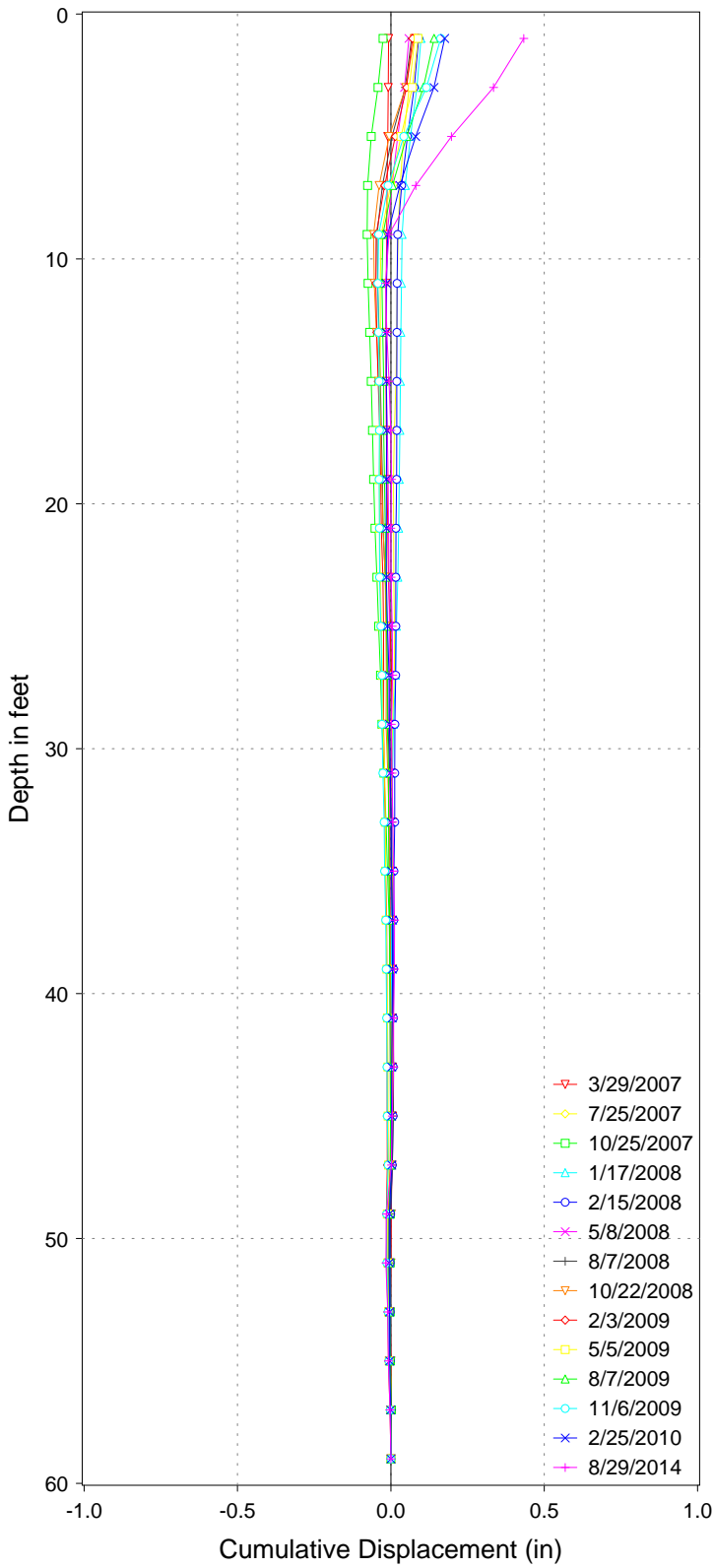
PEBBLE BEACH DRIVE
CLAYTON, CALIFORNIA
FOR
CITY OF CLAYTON

Berloger Stevens & Associates

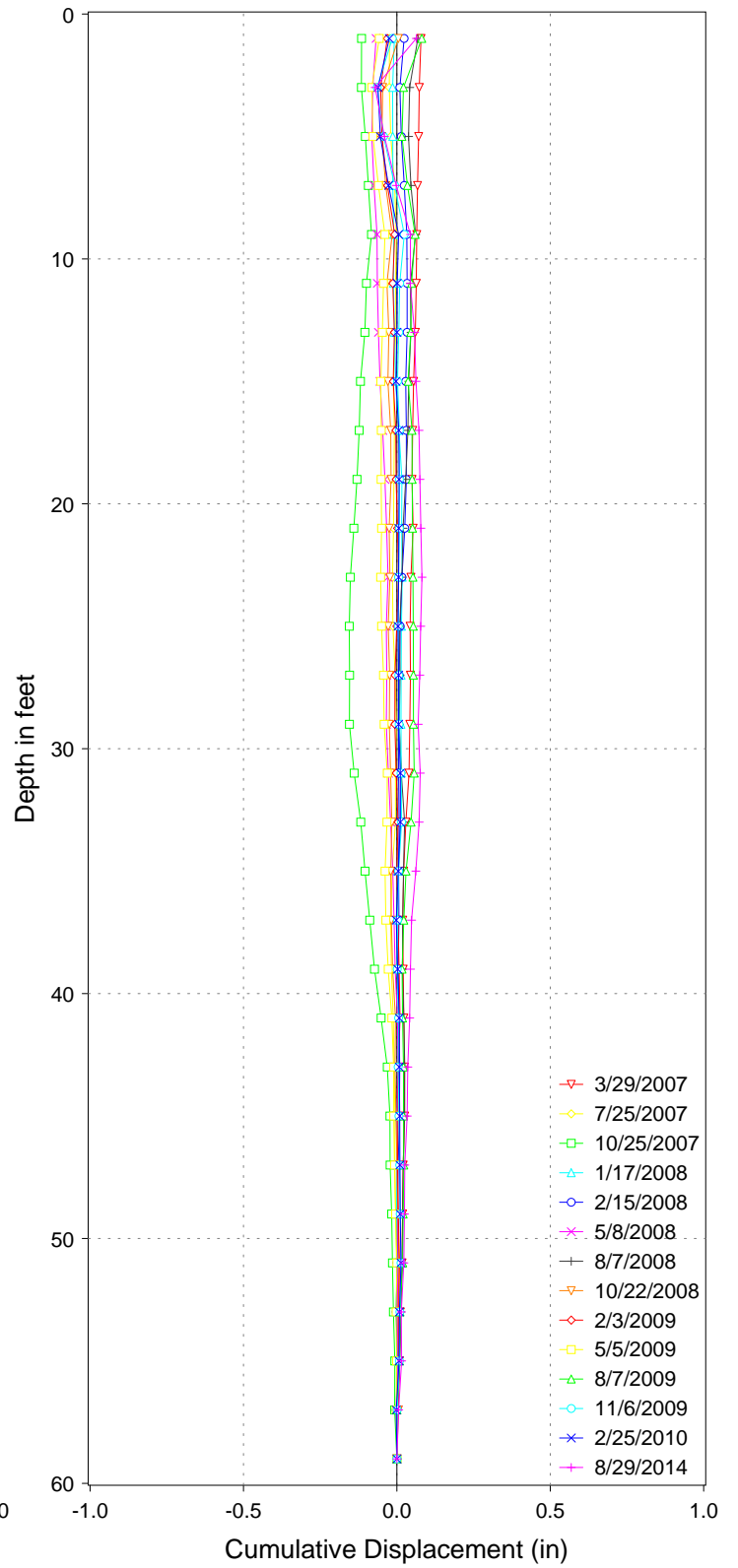
SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: COMPILATION OF RECORD PLANS UDI-TETRAD DATED 10-7-96, AND FIGURE IIIA-2 HALLENBECK 1988

SI-1, A-Axis



SI-1, B-Axis

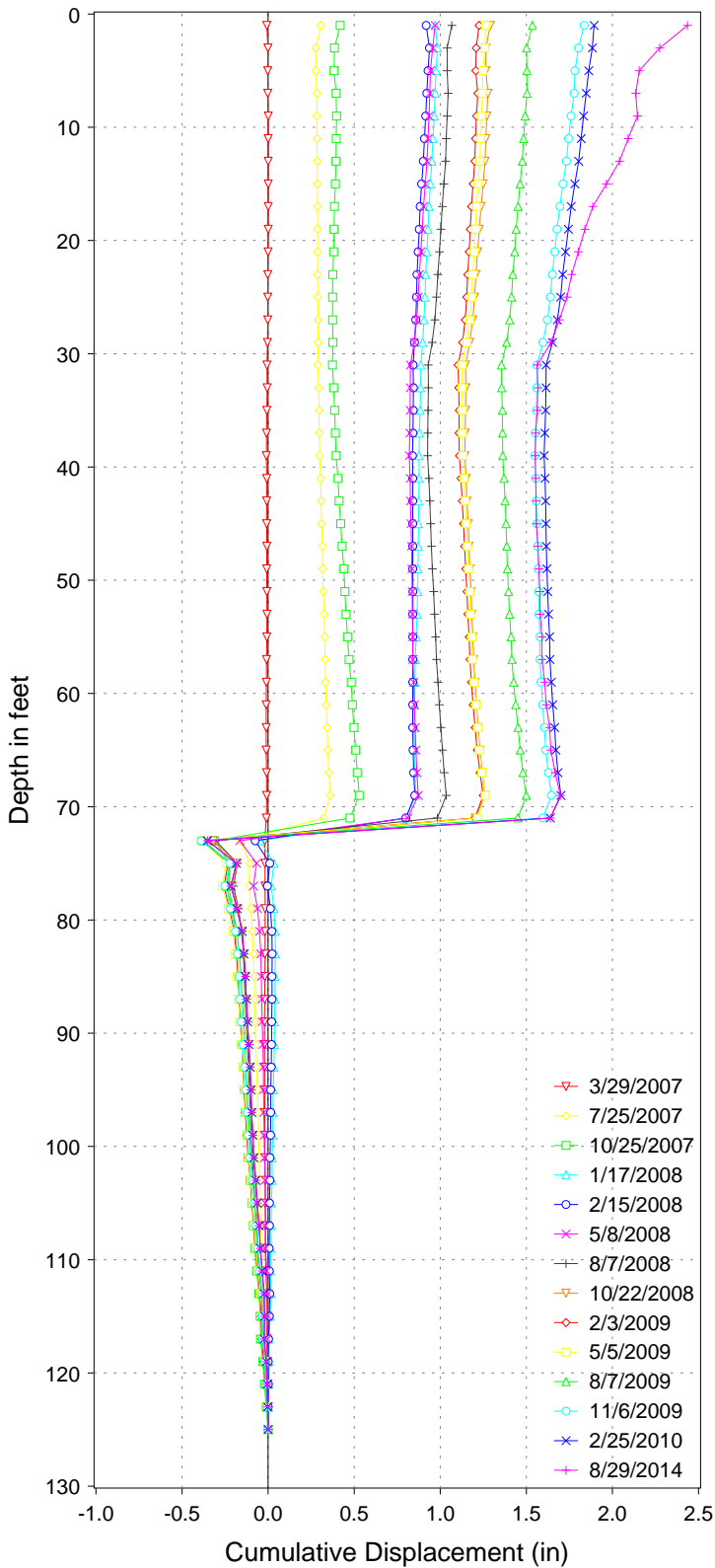


BSA

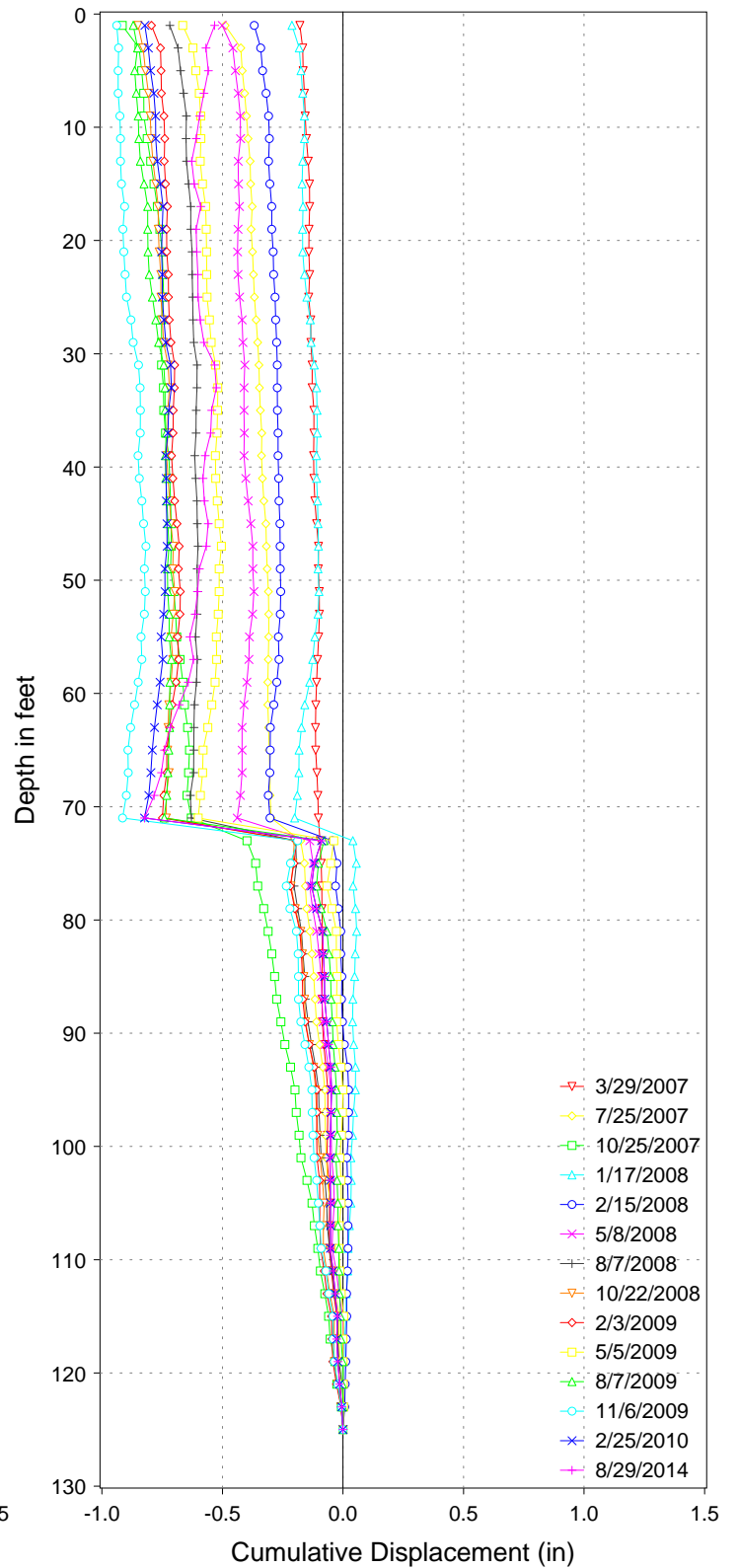
Berlogar Stevens & Associates

2947.100 - Open space slope below
lots 59 through 61
Base Line Reading Date: 2/20/07
A+= N49E B+= S41E

SI-2, A-Axis



SI-2, B-Axis



READING 8-29-14 REFUSAL AT 70 FEET

BSA

Berlogar Stevens & Associates

2947.100 - Open space slope below

lots 59 through 61

Base Line Reading Date: 2/20/07

A+= N41E B+=S49E

PHOTOGRAPHS OF CRACKS IN V-DITCH JOINTS
PEBBLE BEACH CIRCLE
September 6, 2014



Tension Cracks in AC along Pebble Beach Drive at the same location as previous observations, reopening in newer asphalt. Viewed looking northwest from southeast edge of interpreted deformation zone.



CRACK A
 $\frac{3}{4}$ inch right lateral offset at cold joint in v-ditch. This is the northernmost crack of 4 located on the mid-slope bench about 100 feet southwest of slope inclinometer.

**PHOTOGRAPHS OF CRACKS IN V-DITCH JOINTS
PEBBLE BEACH CIRCLE
September 6, 2014**



CRACK B

This is second crack from the north along the midslope v-ditch and shown up to 3 inches right lateral offset at the cold joint



CRACK C

1½ inch dilation at the cold joint. This is the opposite end of the concrete section noted in Crack B and appears to be pulling apart due to the amount of offset occurring at CRACK B.

**PHOTOGRAPHS OF CRACKS IN V-DITCH JOINTS
PEBBLE BEACH CIRCLE
September 6, 2014**



CRACK D
This is the fourth crack from the north in the series of 4. CRACK D shows about $\frac{3}{4}$ inches of right lateral offset and is the southernmost of the cracks deforming the concrete v-ditch along the midslope bench. This may be a new crack formed since my last observations, I previously only remember 3 in this location (A, B and C)



CRACK E
 $\frac{3}{4}$ inch right lateral offset and about $1\frac{1}{2}$ inches of dilation at the cold joint in the lower v-ditch.