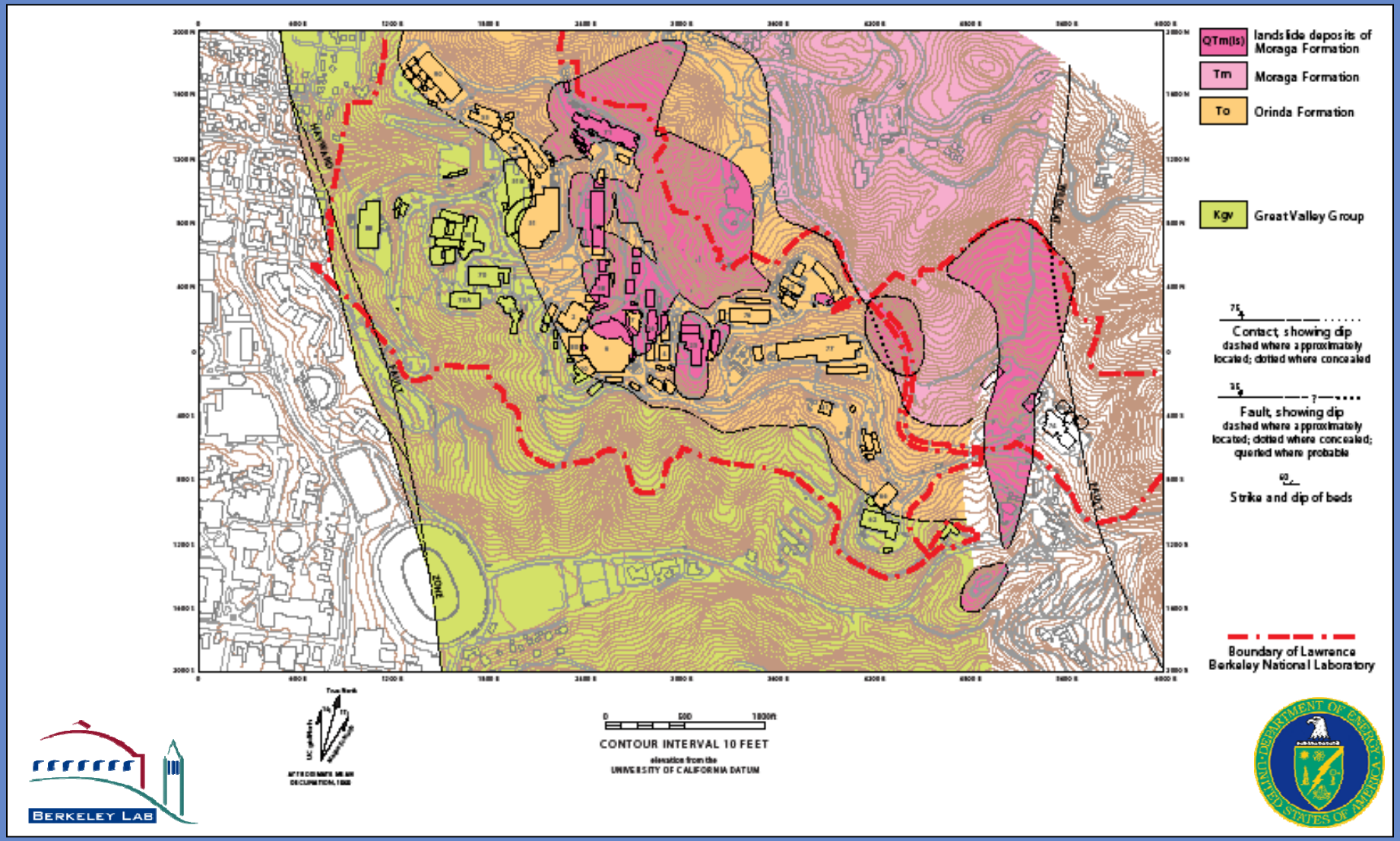
# A Brief Introduction To Boring Logs

Preston Jordan

Earth Sciences Division
Lawrence Berkeley National Laboratory


# “Soft” Rock Geologic Map



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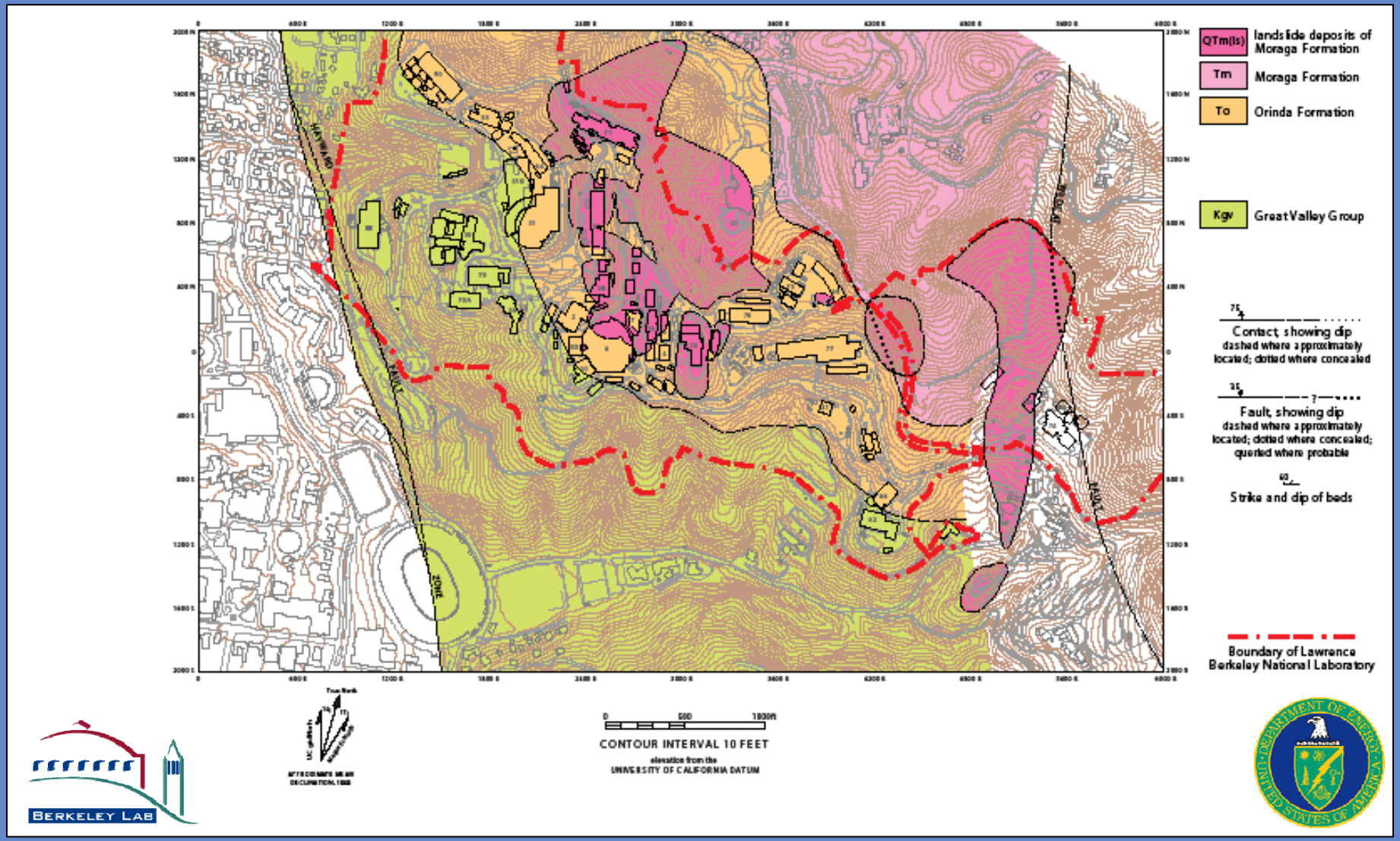

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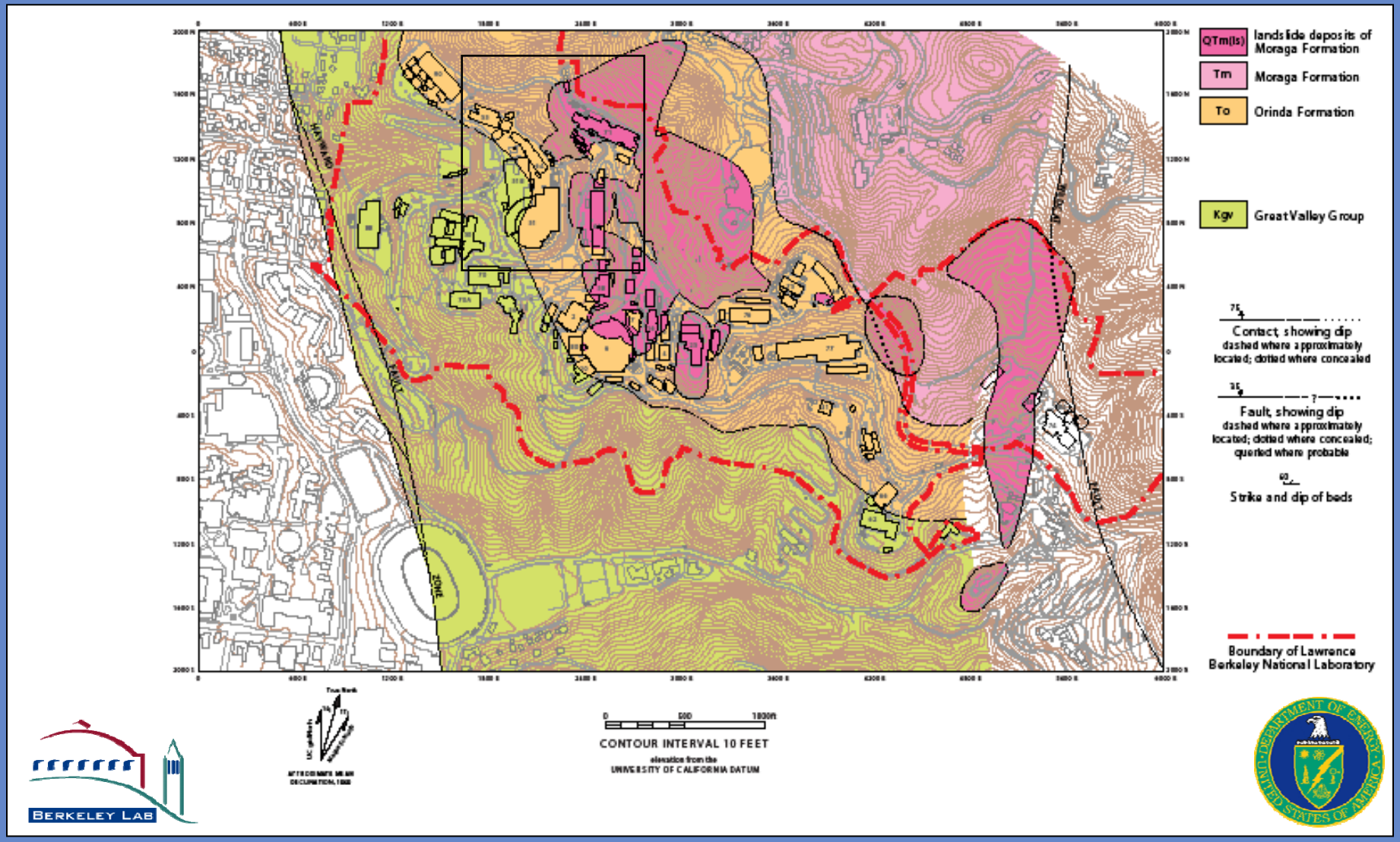

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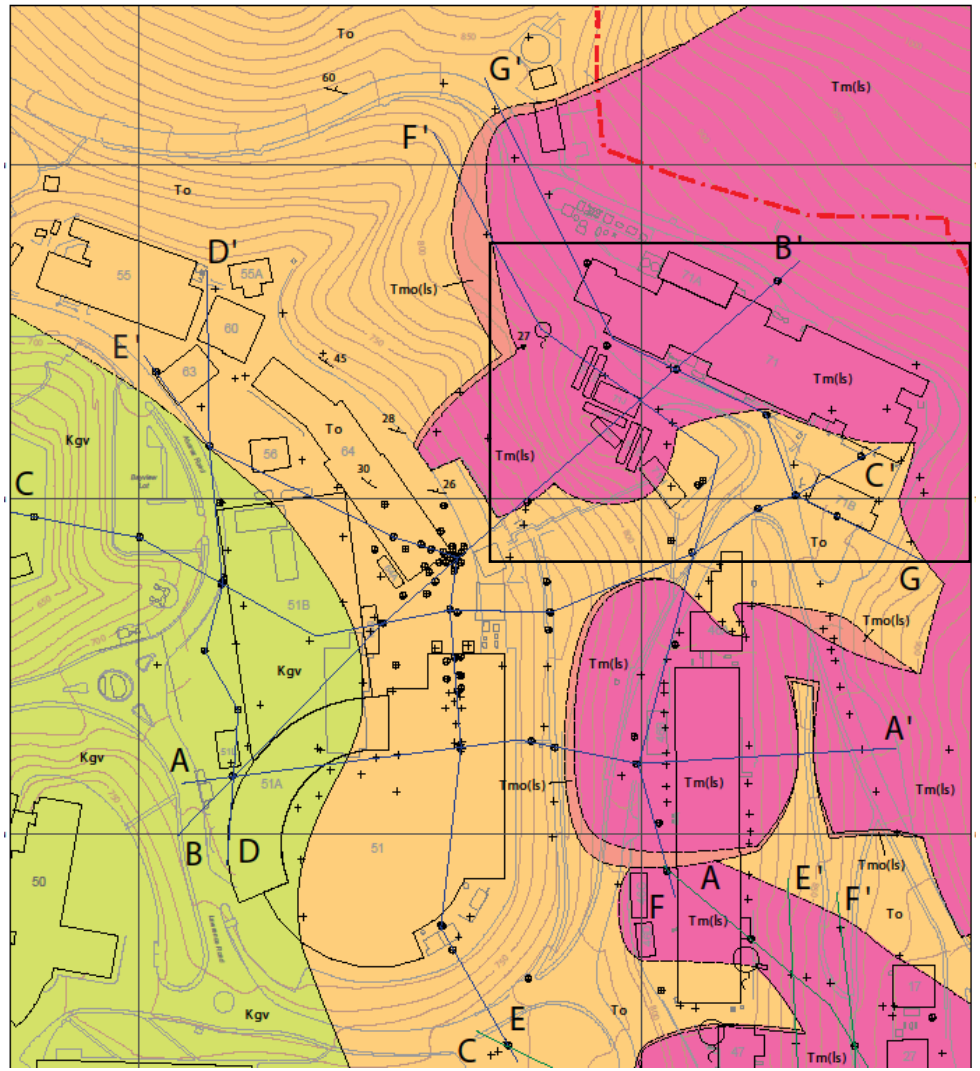
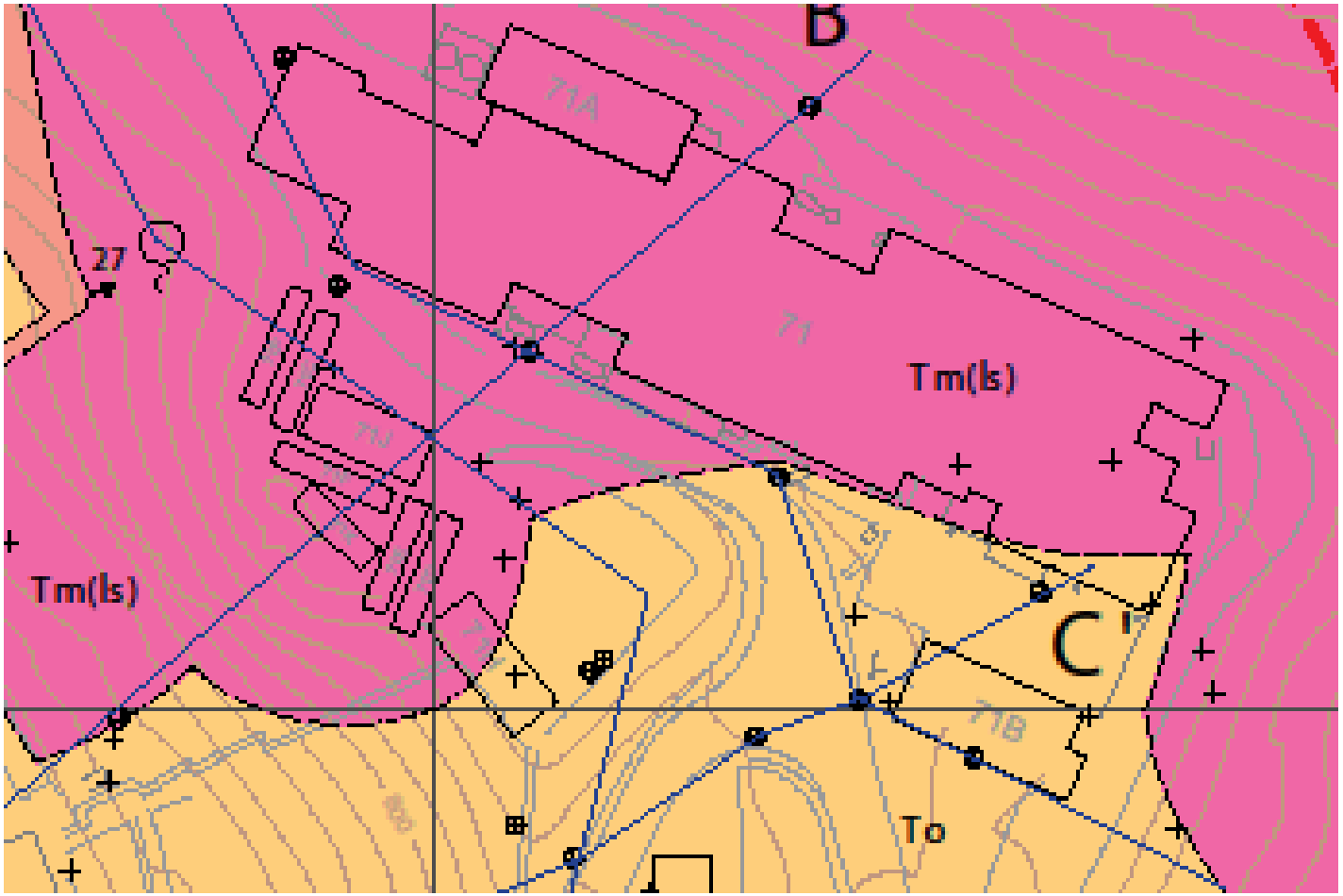
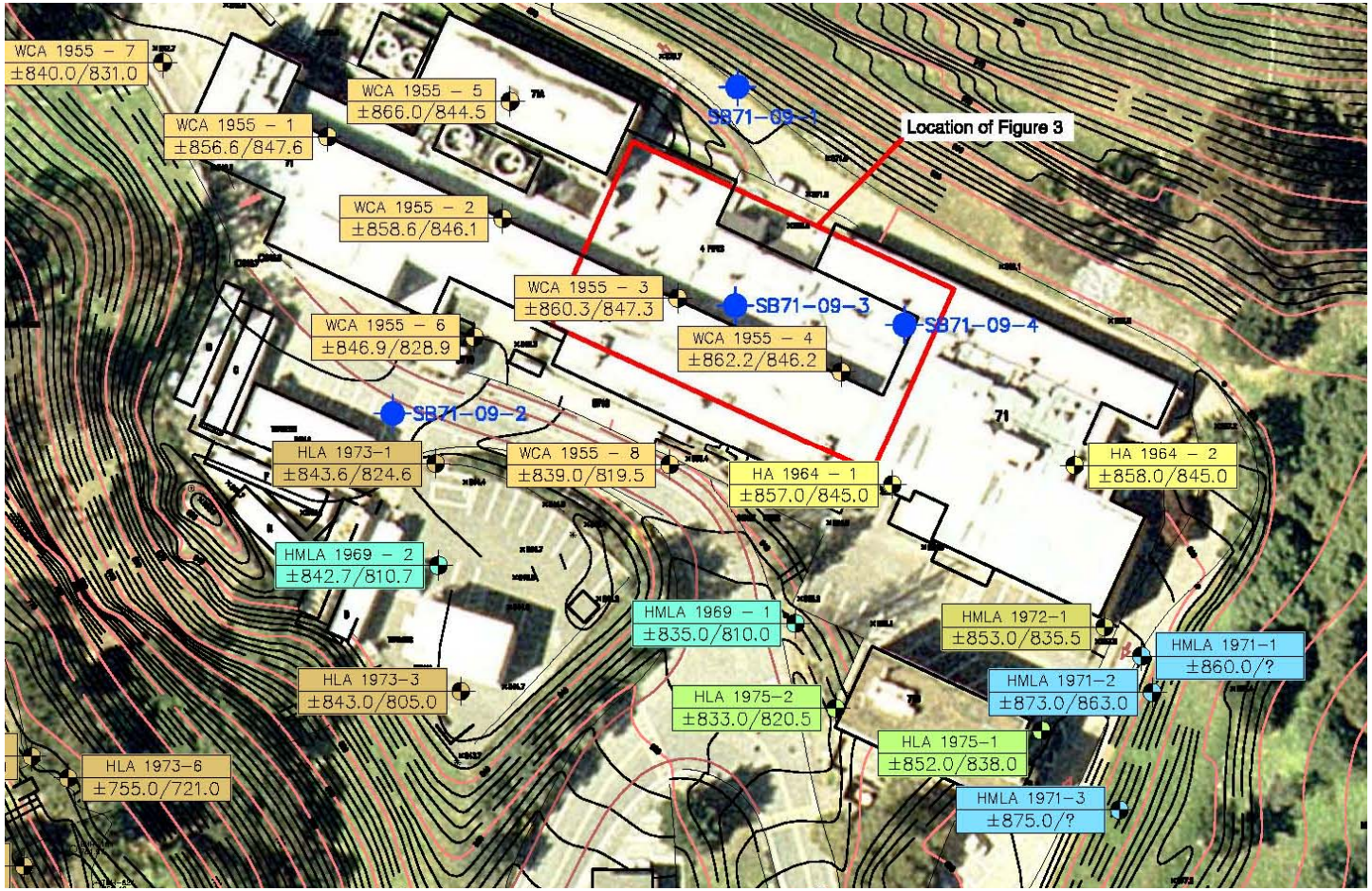


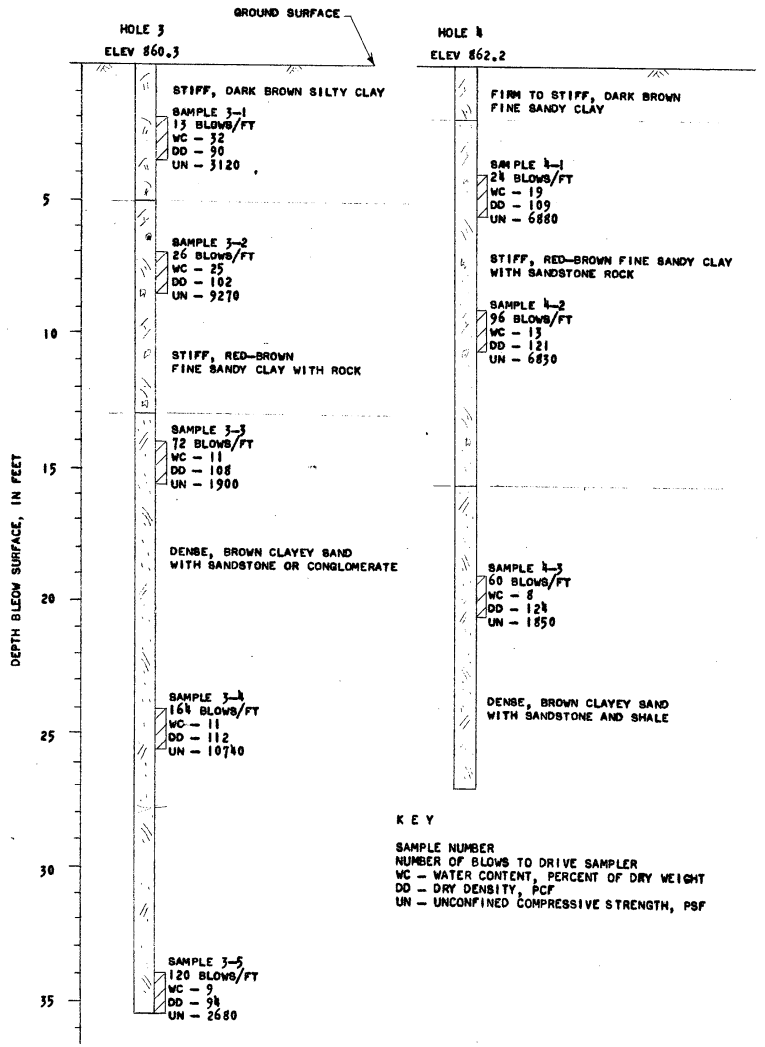
# Building 71 “Soft” Rock Geologic Map



# Geotechnical Boring Map

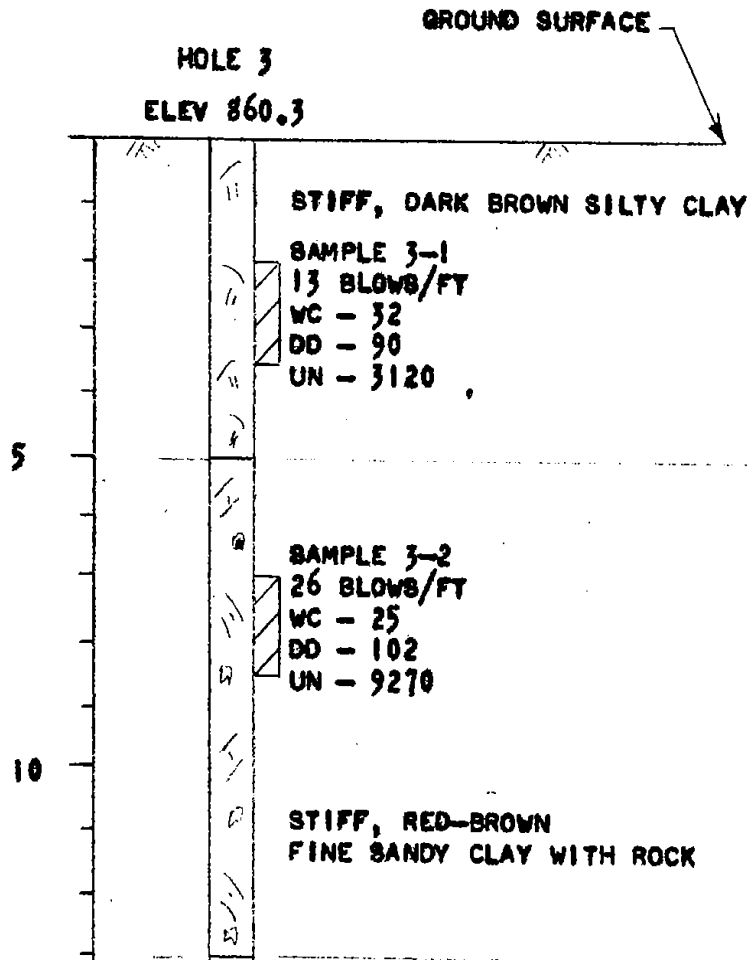


# Geotechnical Boring Logs (1955)




*handout page 1*

# Geotechnical Boring Log (1955)



# Geotechnical Boring Log (2009)

| | | |
|---|---|---|
| **DRILL RIG:** Portable Hydraulic, Solid Flight Auger | **SURFACE ELEVATION:** 854.5' (see notes) | **LOGGED BY:** DI |
| **DEPTH TO GROUNDWATER:** (see notes) | **BORING DIAMETER:** 4 inches | **DATE DRILLED:** 10/9/09 |

| DESCRIPTION AND REMARKS | COLOR | CONSISTENCY | SOIL TYPE | DEPTH (ft) | SAMPLER TYPE | SAMPLER BLOW COUNTS | MOISTURE CONTENT (%) | DRY DENSITY (pcf) | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|---|
| **6" CONCRETE**<br>**3" GRAVEL BASE** | | | | | | | | | |
| **CLAY, Lean** - with silt and fine to coarse sand (FILL) | Dark Brown to Reddish Brown | Very Stiff | CL | 1 | | | | | |
| | | | | 2 | | | | | |
| | | | | 3 | | | | | |
| | | | | 4 | | | | | |
| -abundant rock fragments | | | | 5 | | | 22.1 | | LL = 41, PI = 22 |
| FILL | | | | 6 | | [41] | | | |
| **CLAY, Lean** - with silt and fine sand includes clasts of angular sandstone, decreasing in abundance with depth (Colluvium) | Reddish Brown | Very Stiff | CL | 7 | | | | | |
| | | | | 8 | | 24 | | | |
| | | | | 9 | | | | | |
| | | | | 10 | | | | | |
| -includes volcanic clasts | | | | 11 | | [53] | 26.2 | | LL = 46, PI = 24 |
| | | | | 12 | | | | | |
| | | | | 13 | | 28 | | | |
| **VOLCANICS** - friable, deeply weathered crushed with angular clasts | Gray Brown | Low Hardness | BR | 14 | | | | | |
| | | | | 15 | | | | | |
| | | | | 16 | | | | | |
| | | | | 17 | | [46] | | | |
| | | | | 18 | | 52/6" | | | |
| | | | | 19 | | | | | |

*(Continued on Next Page)*

ALAN KROPP & ASSOCIATES
Geotechnical Consultants

**EXPLORATORY BORING LOG**
BUILDING 71 BELLA
Berkeley, California

| PROJECT NO. | DATE | SHEET | BORING NO. |
|---|---|---|---|
| 2335-10B | November 2009 | 1 of 2 | **09-3** |

AKA BORING LOG 2335-10B BORING LOGS BELLA.GPJ AKA_TEMPLATE.GDT 4/8/10

*handout page 2*

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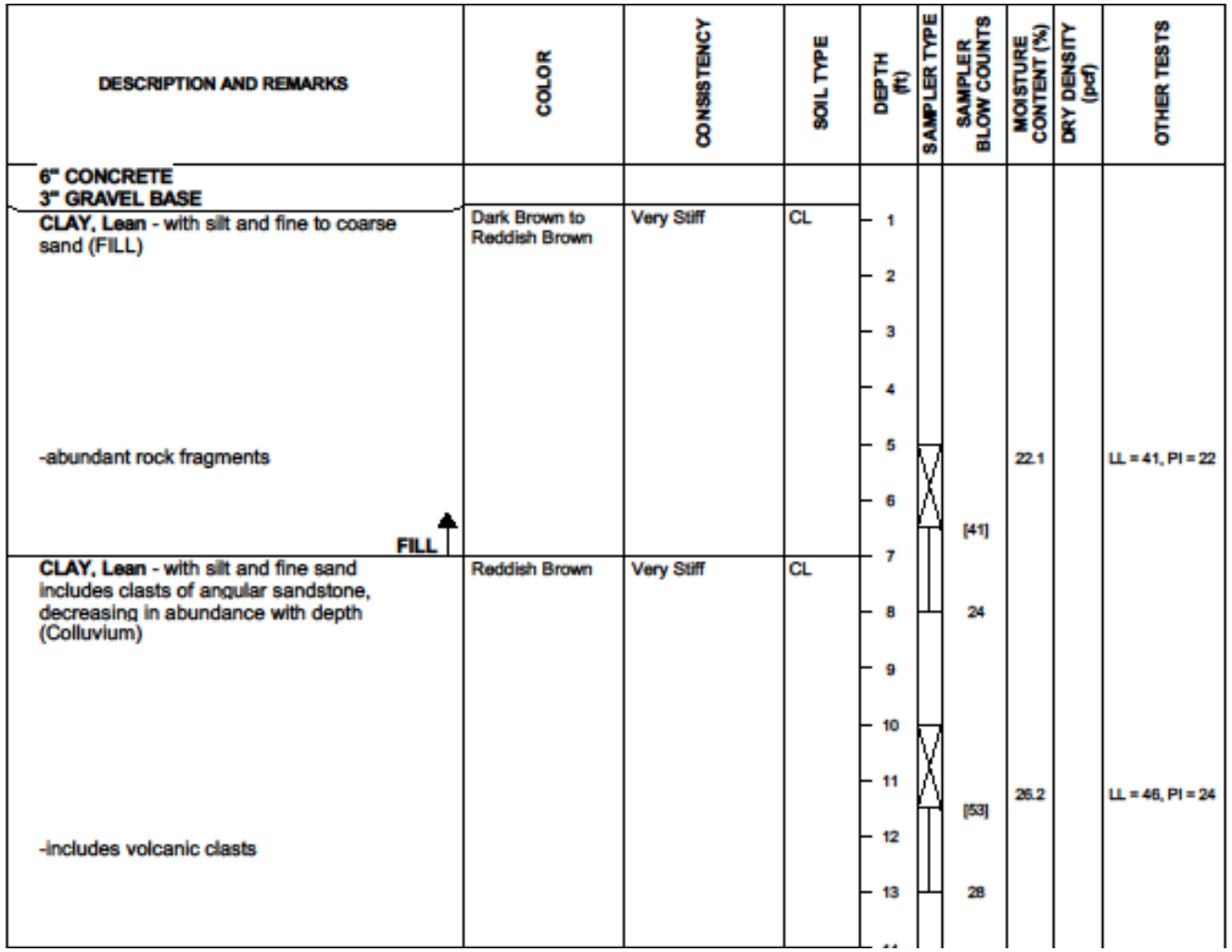

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|---|---|---|---|---|---|---|---|---|---|
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| | | | | 11 | | | 26.2 | | LL = 46, PI = 24 |
| -Includes volcanic clasts | | | | 12 | | [53] | | | |
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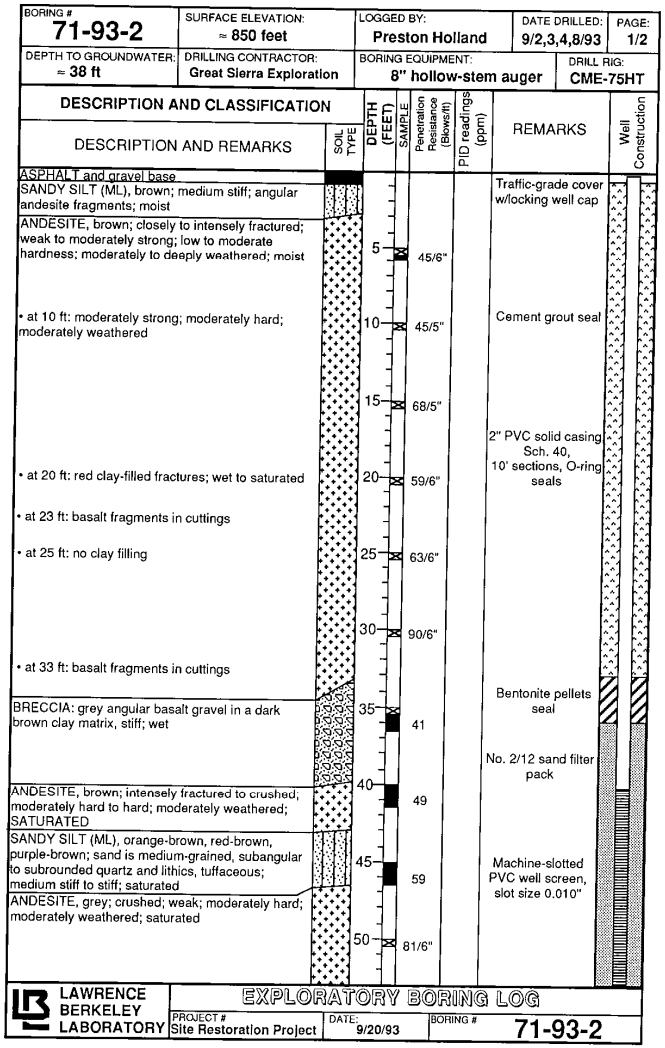
# Environmental Well Log (1993)



| BORING # | SURFACE ELEVATION: | LOGGED BY: | DATE DRILLED: | PAGE: |
|---|---|---|---|---|
| 71-93-2 | ≈ 850 feet | Preston Holland | 9/2,3,4,8/93 | 1/2 |
| DEPTH TO GROUNDWATER: ≈ 38 ft | DRILLING CONTRACTOR: Great Sierra Exploration | BORING EQUIPMENT: 8" hollow-stem auger | DRILL RIG: CME-75HT | |

| DESCRIPTION AND CLASSIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESCRIPTION AND REMARKS | SOIL TYPE | DEPTH (FEET) | SAMPLE | Penetration Resistance (blows/ft) | PID readings (ppm) | REMARKS | Well Construction |
| ASPHALT and gravel base | | | | | | Traffic-grade cover w/locking well cap | |
| SANDY SILT (ML), brown; medium stiff; angular andesite fragments; moist | | | | | | | |
| ANDESITE, brown; closely to intensely fractured; weak to moderately strong; low to moderate hardness; moderately to deeply weathered; moist | | 5 | | 45/6" | | | |
| • at 10 ft: moderately strong; moderately hard; moderately weathered | | 10 | | 45/5" | | Cement grout seal | |
| | | 15 | | 68/5" | | | |
| • at 20 ft: red clay-filled fractures; wet to saturated | | 20 | | 59/6" | | 2" PVC solid casing Sch. 40, 10' sections, O-ring seals | |
| • at 23 ft: basalt fragments in cuttings | | | | | | | |
| • at 25 ft: no clay filling | | 25 | | 63/6" | | | |
| | | 30 | | 90/6" | | | |
| • at 33 ft: basalt fragments in cuttings | | | | | | | |
| BRECCIA: grey angular basalt gravel in a dark brown clay matrix, stiff; wet | | 35 | | 41 | | Bentonite pellets seal | |
| | | | | | | No. 2/12 sand filter pack | |
| ANDESITE, brown; intensely fractured to crushed; moderately hard to hard; moderately weathered; SATURATED | | 40 | | 49 | | | |
| SANDY SILT (ML), orange-brown, red-brown, purple-brown; sand is medium-grained, subangular to subrounded quartz and lithics, tuffaceous; medium stiff to stiff; saturated | | 45 | | 59 | | Machine-slotted PVC well screen, slot size 0.010" | |
| ANDESITE, grey; crushed; weak; moderately hard; moderately weathered; saturated | | 50 | | 81/6" | | | |

| LAWRENCE BERKELEY LABORATORY | EXPLORATORY BORING LOG | | |
|---|---|---|---|
| | PROJECT # Site Restoration Project | DATE: 9/20/93 | BORING # 71-93-2 |

*handout page 3*

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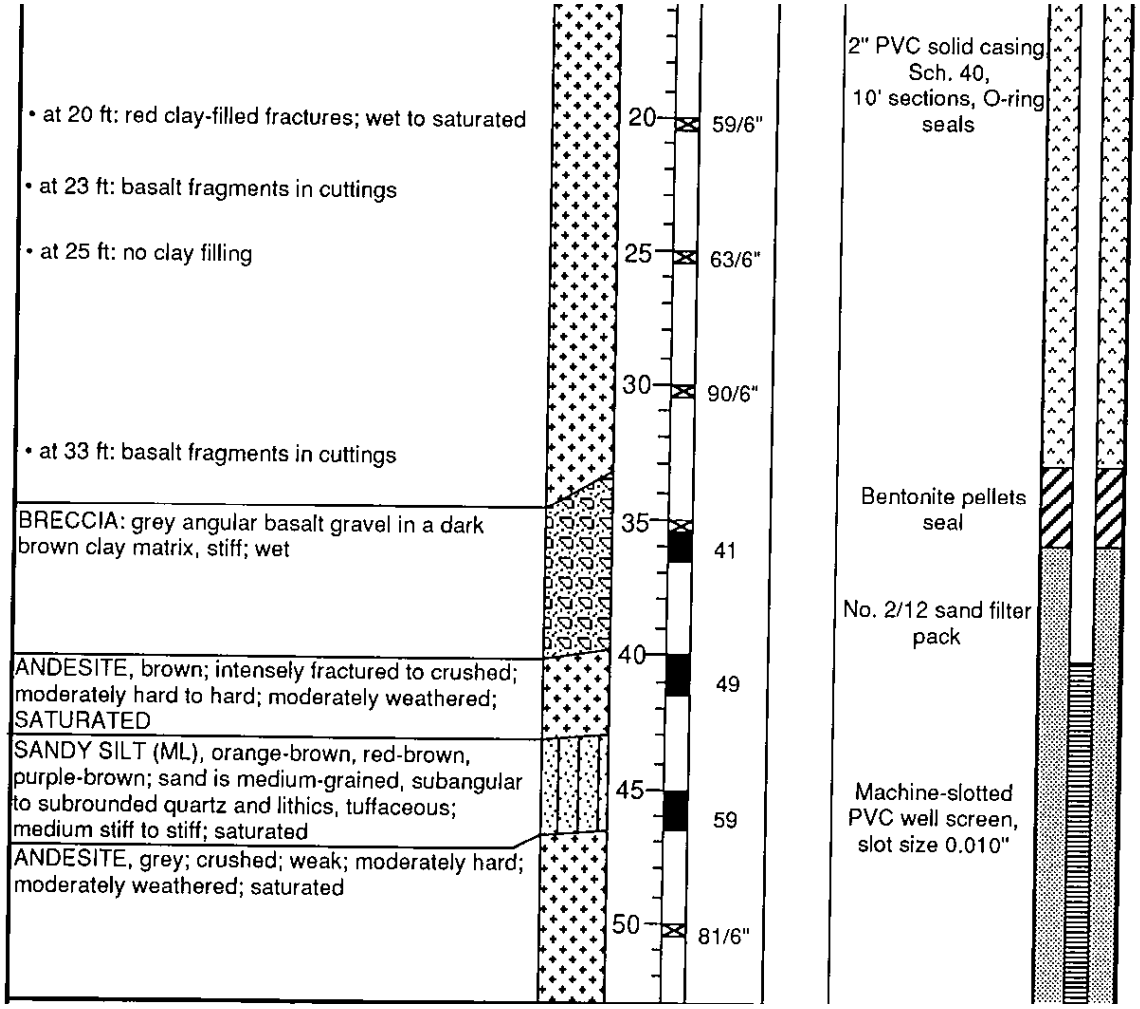

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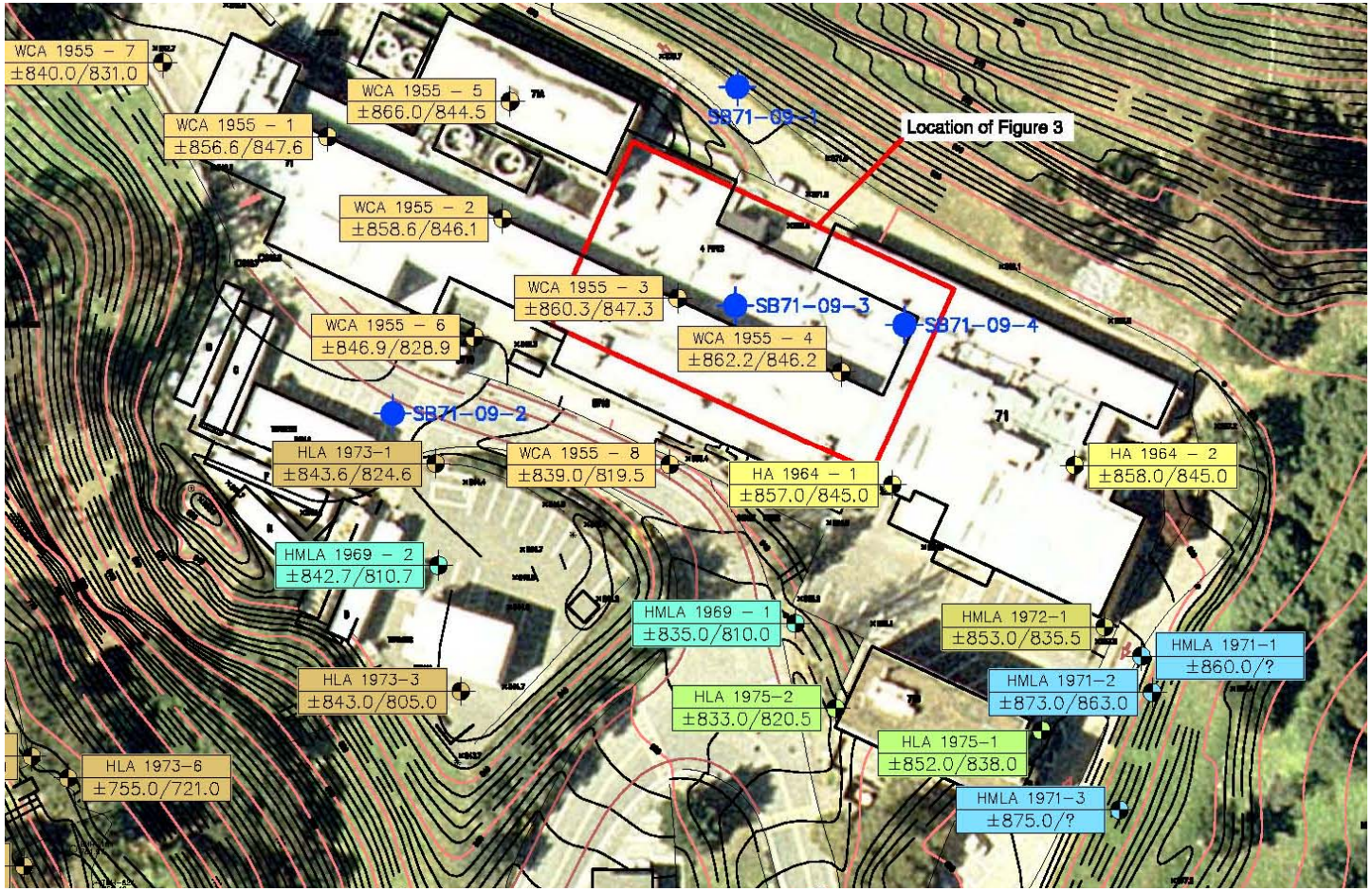

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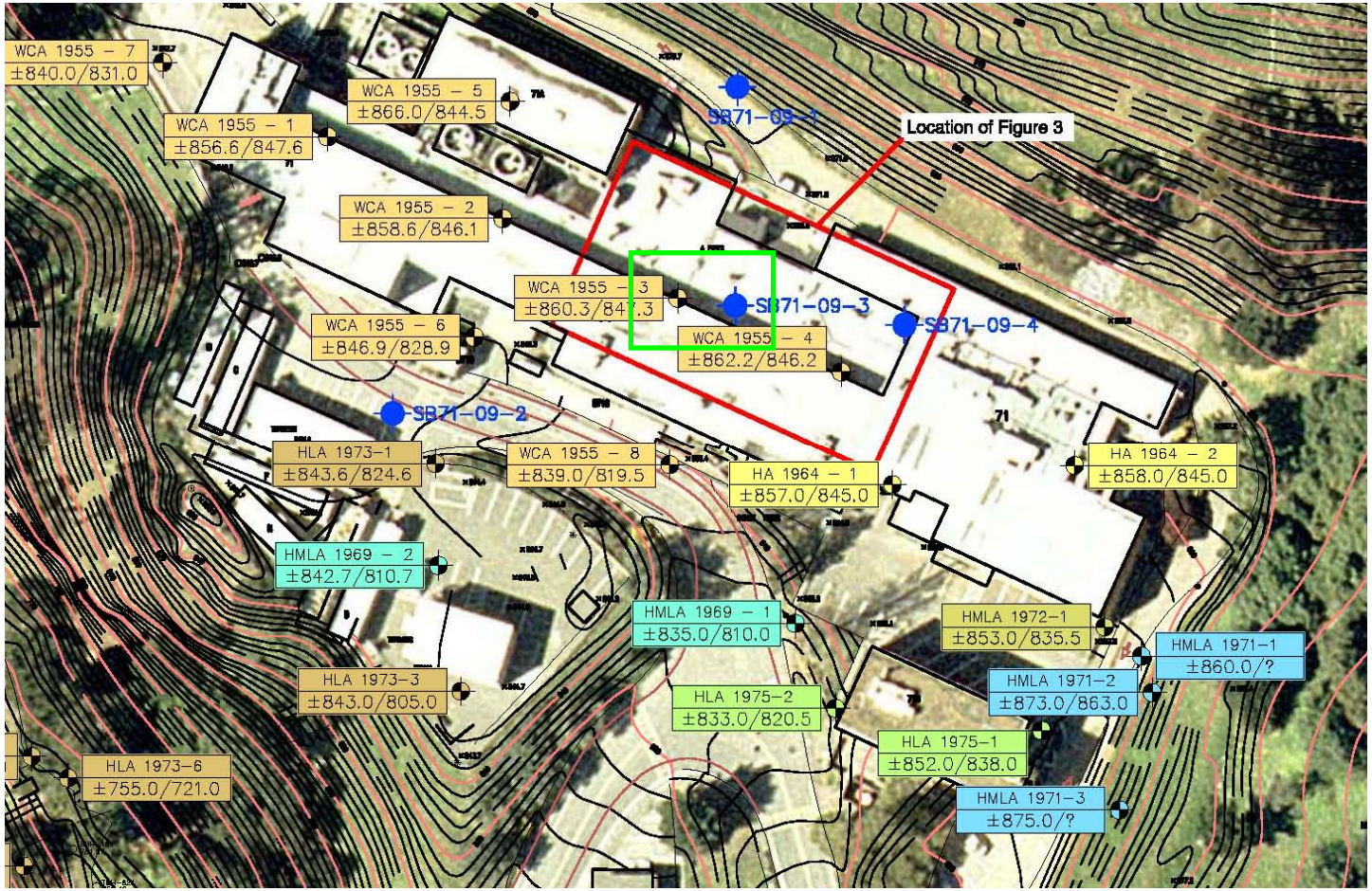

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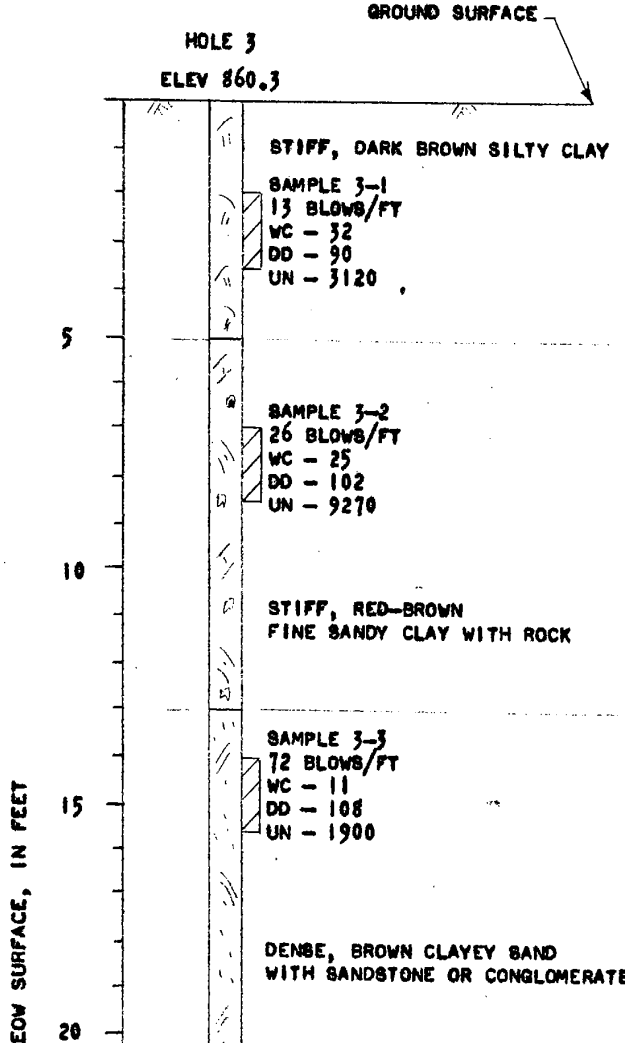


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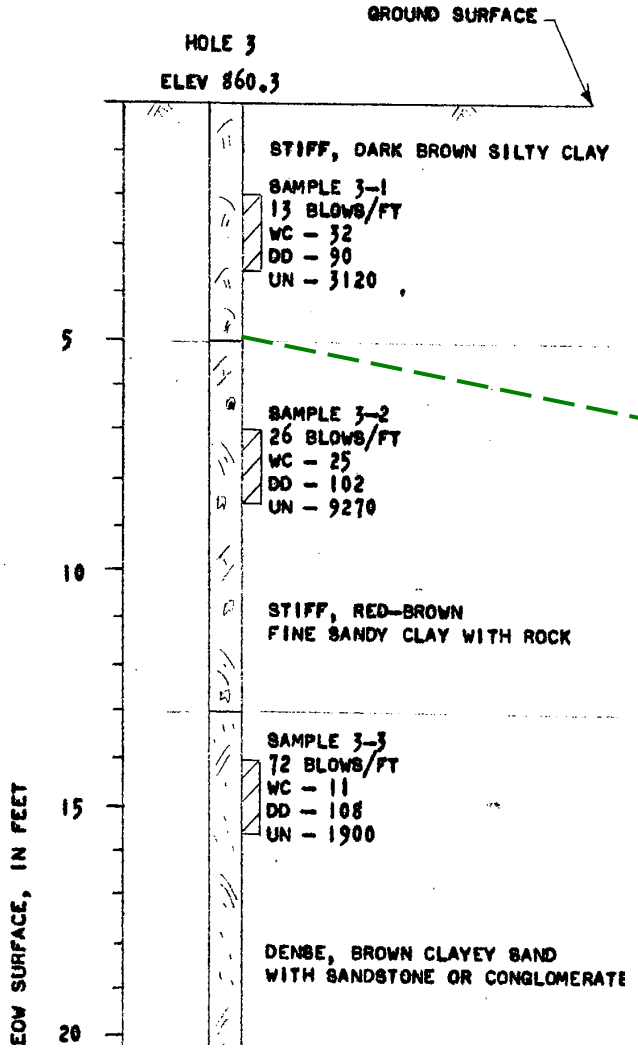


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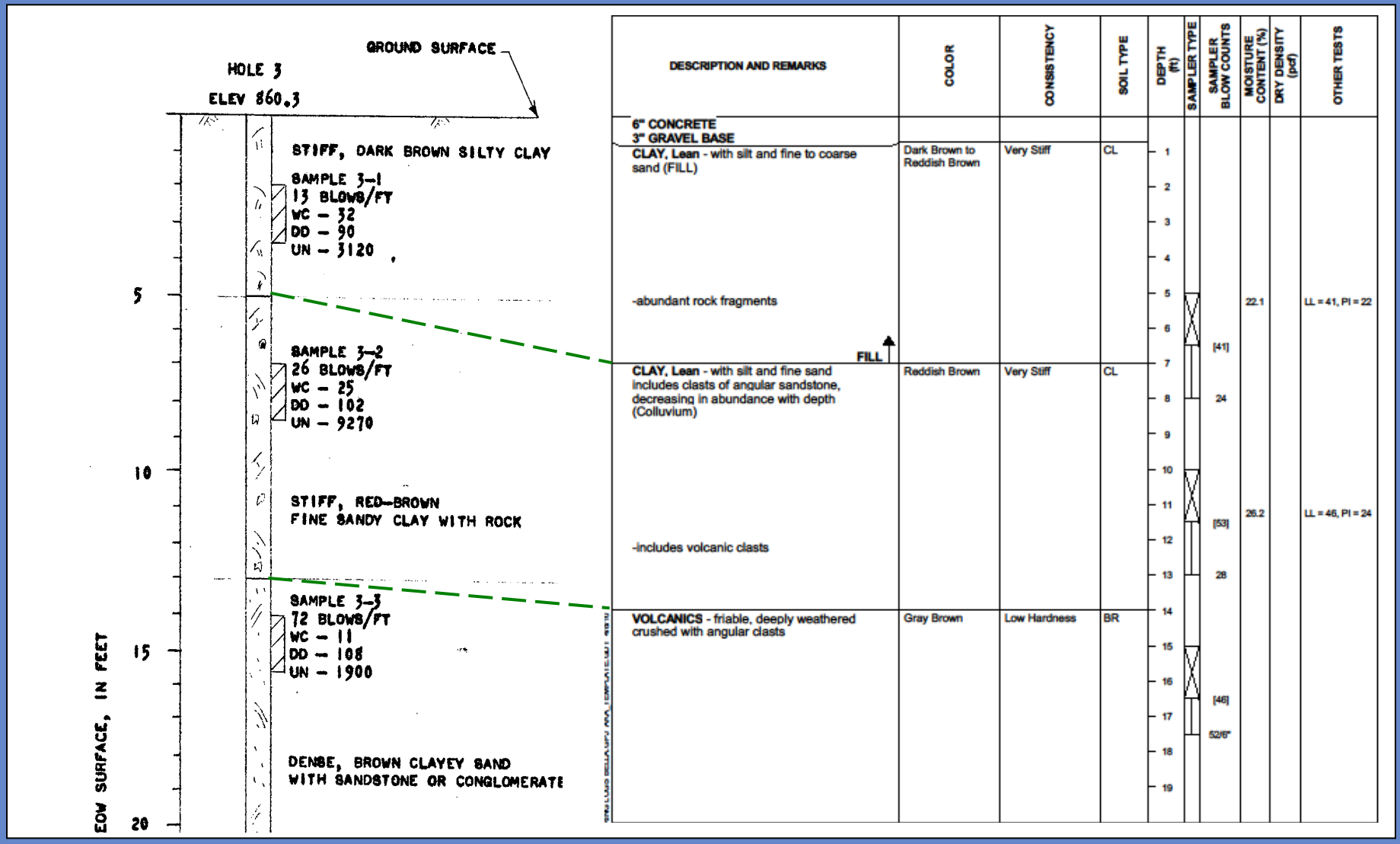

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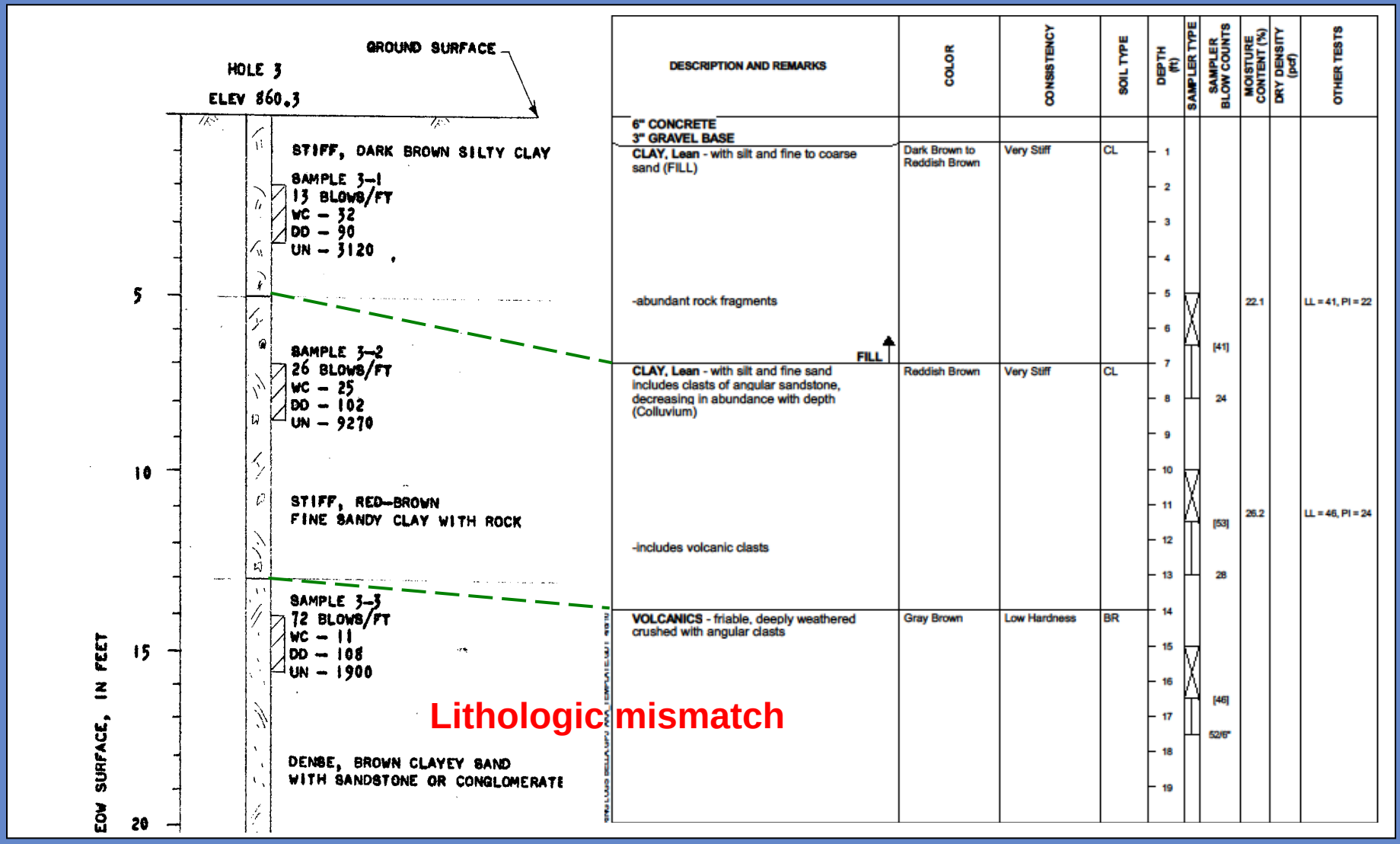

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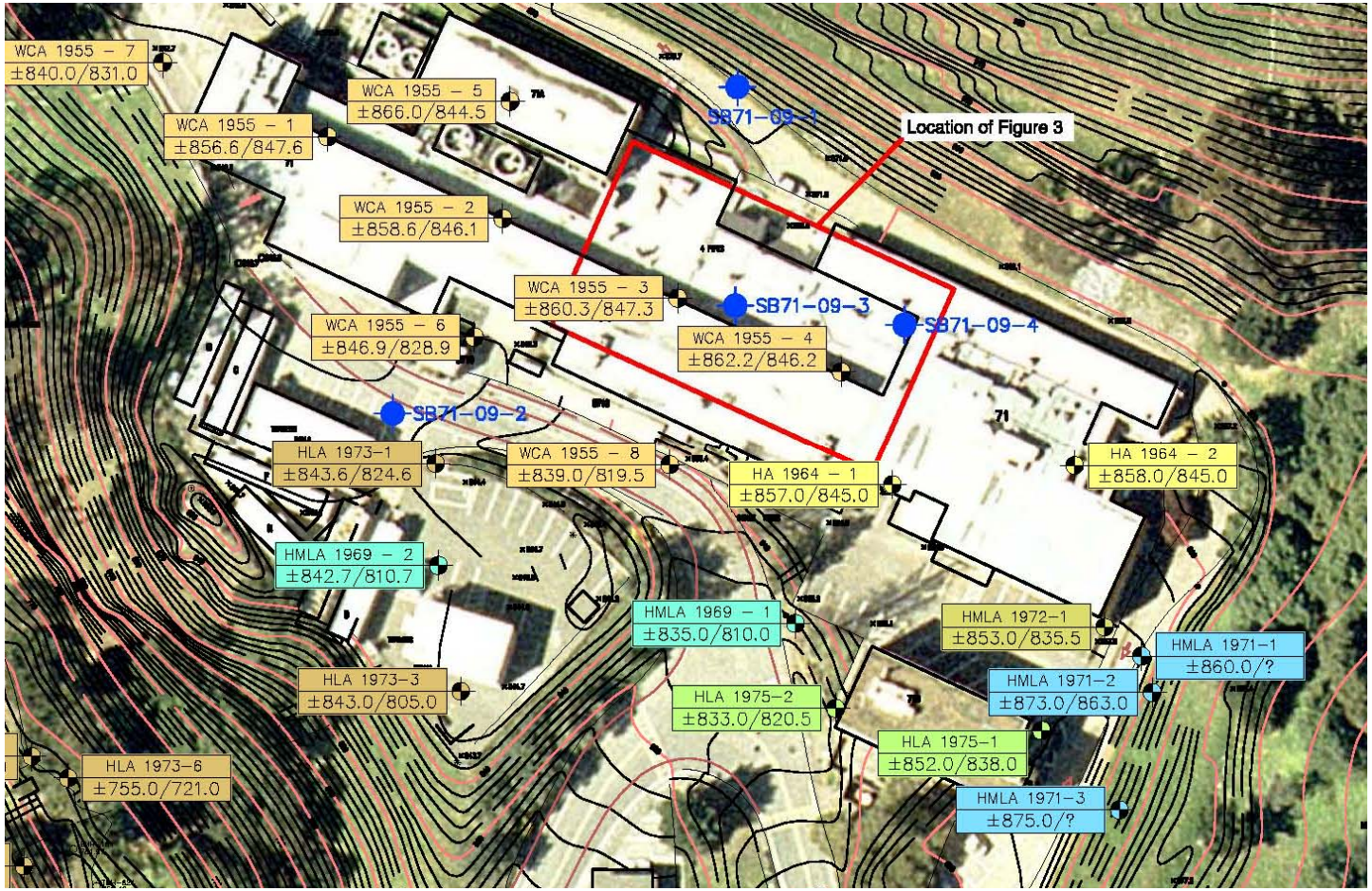

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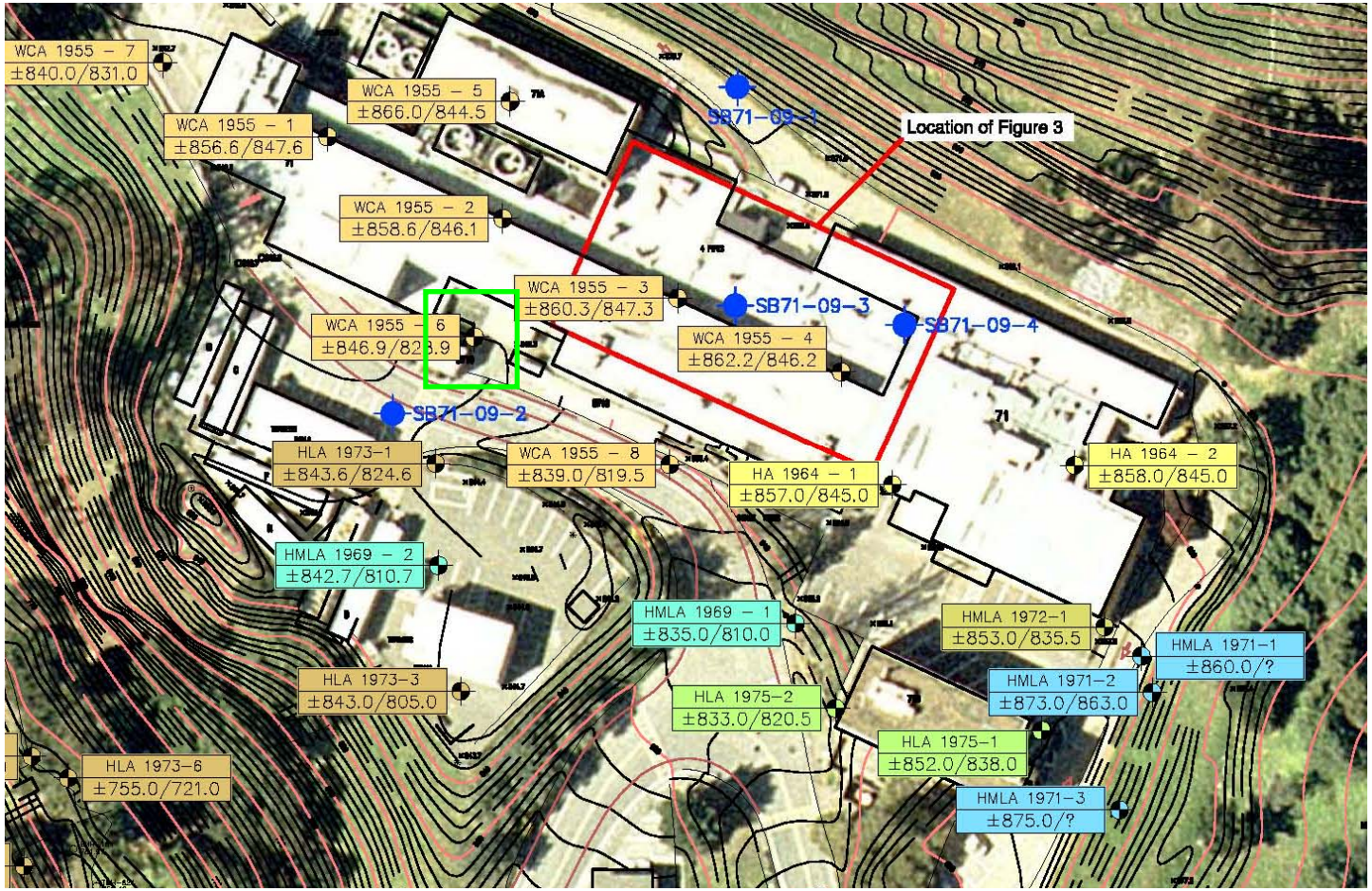

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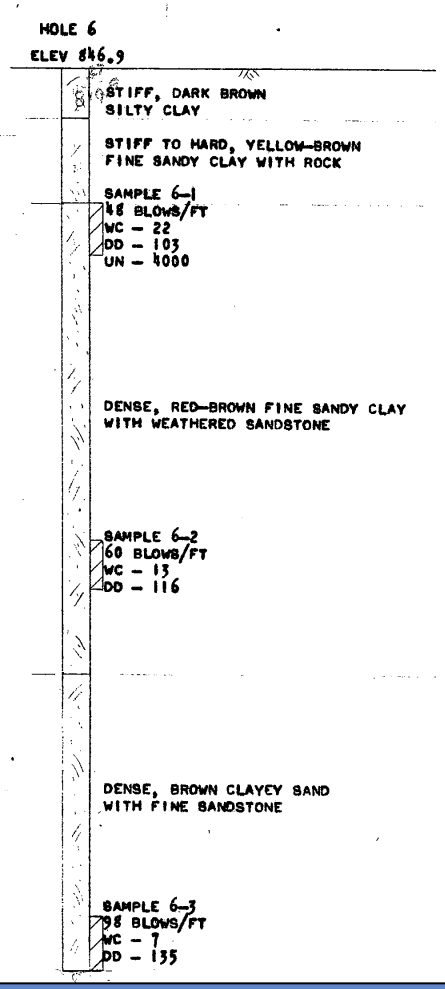


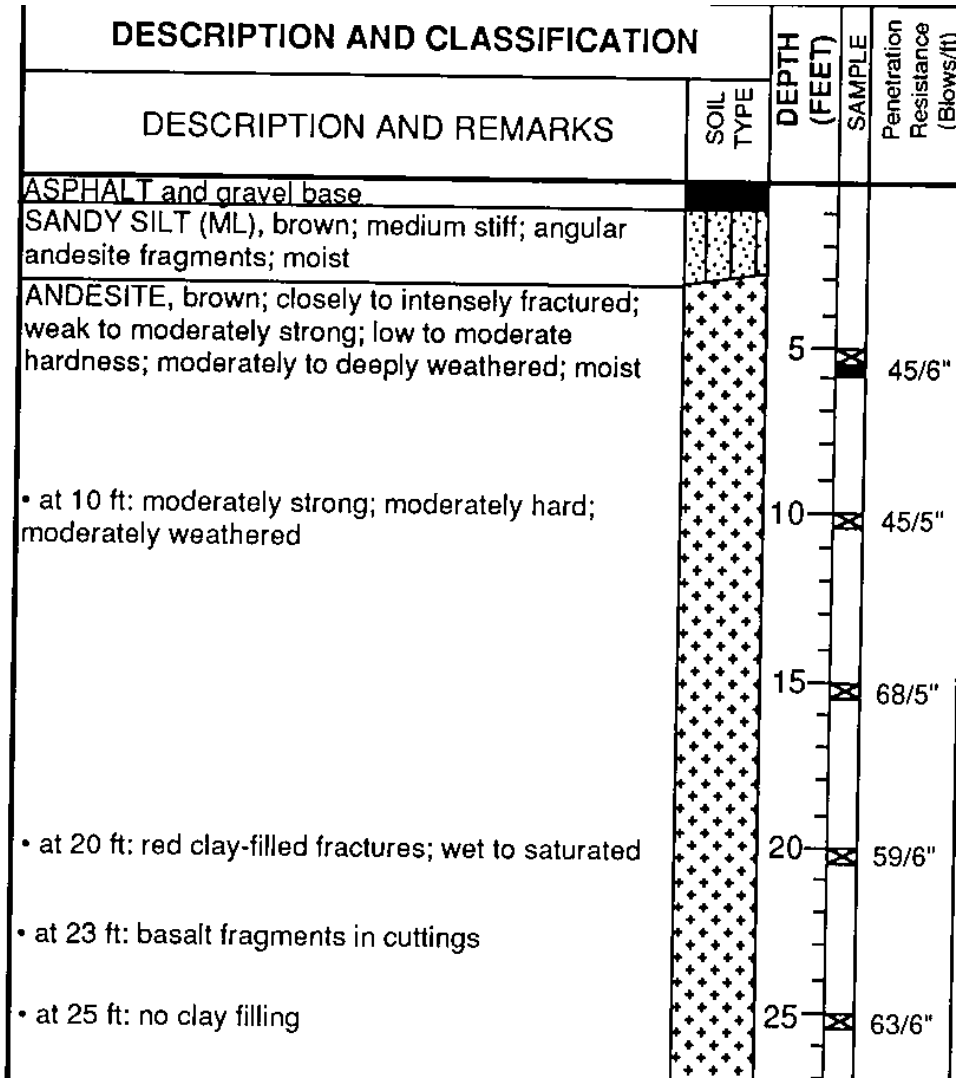

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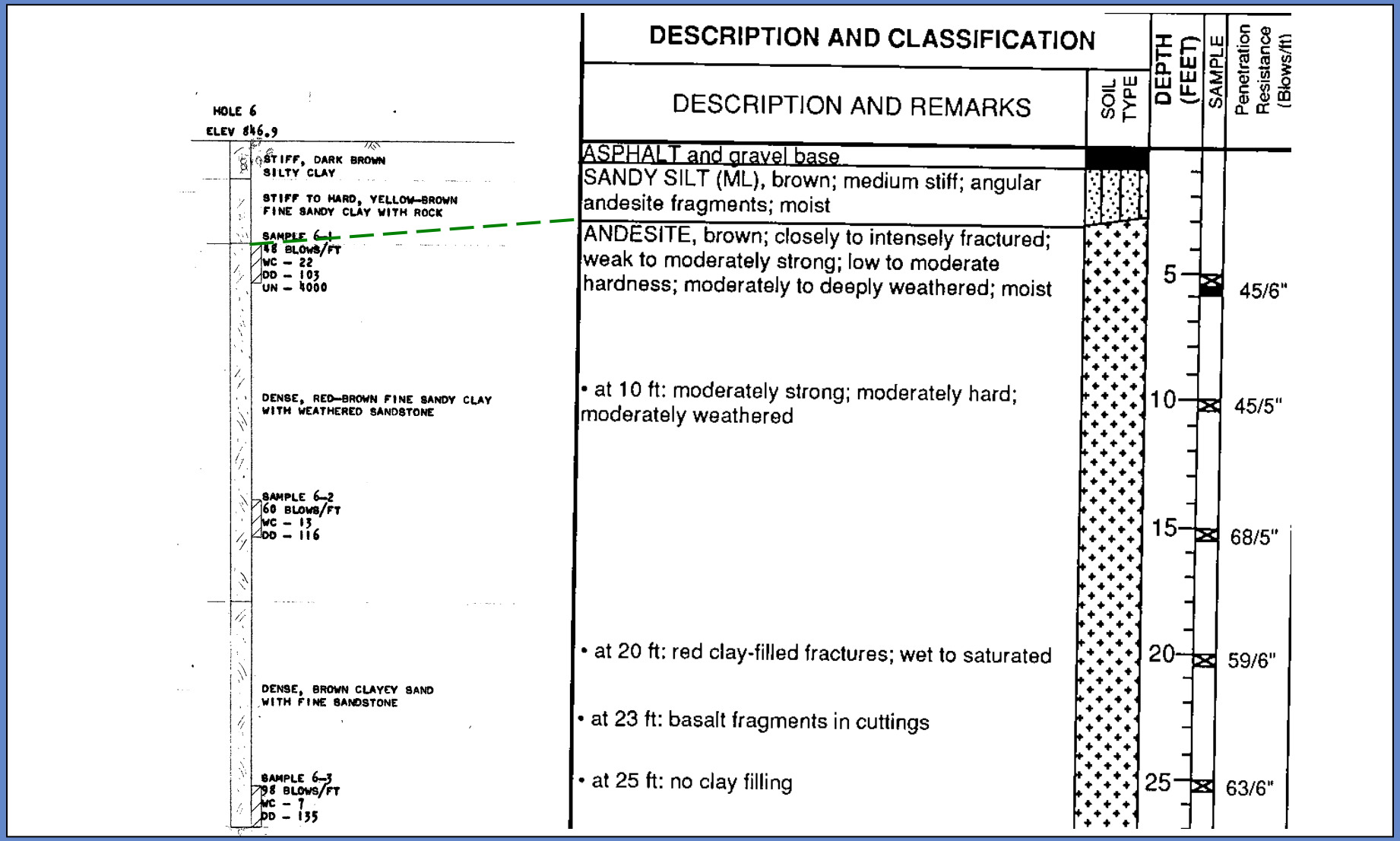

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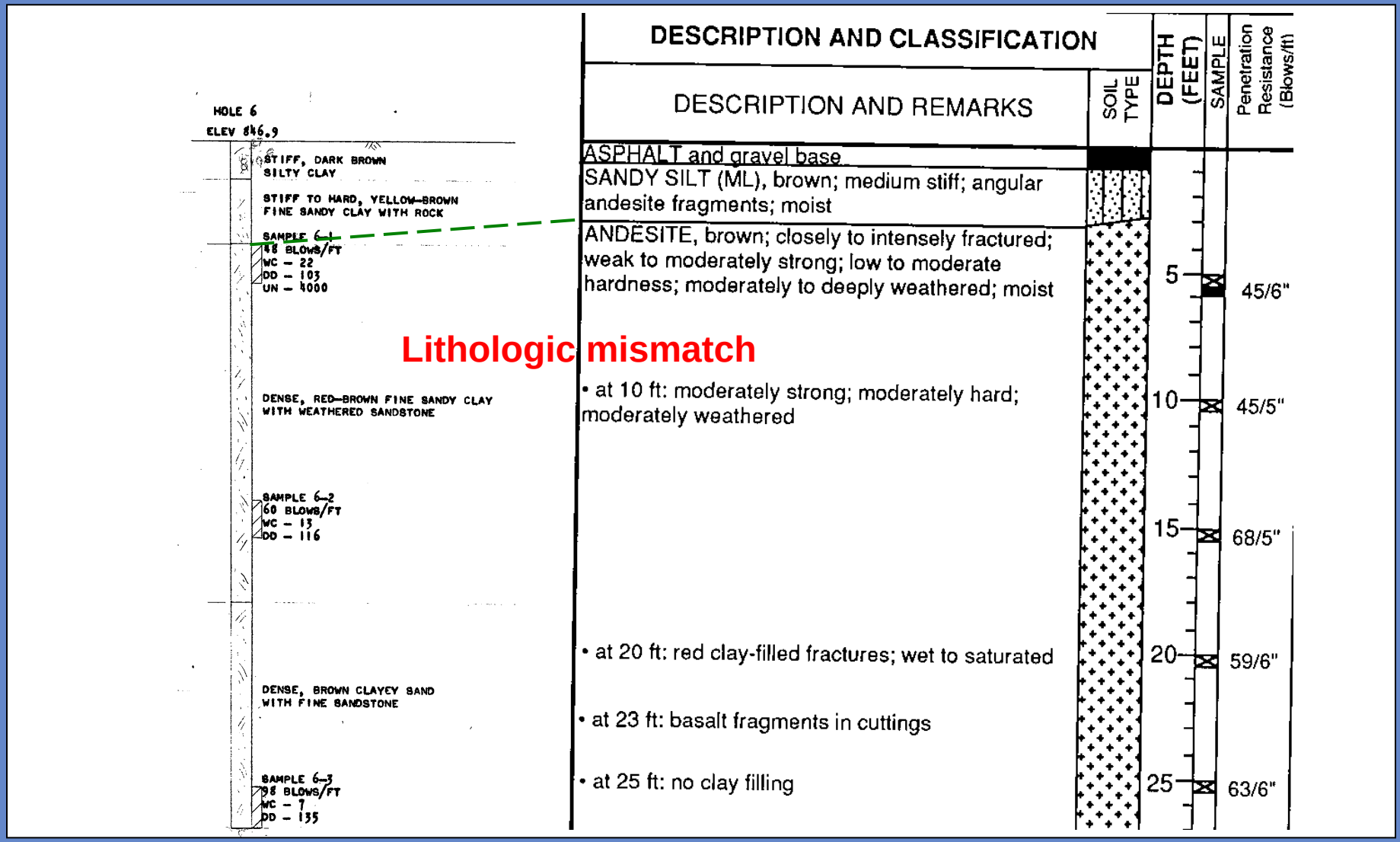

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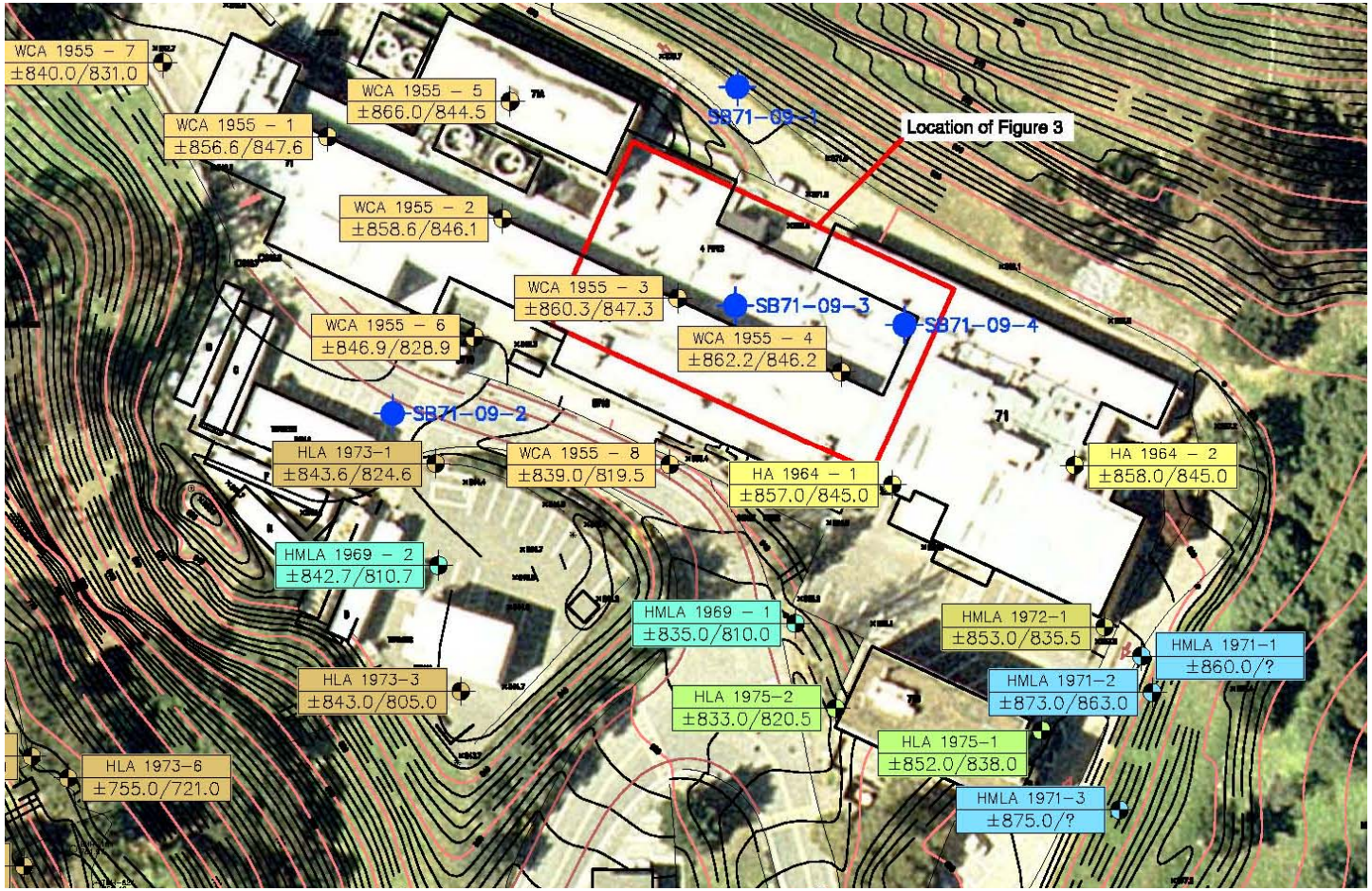

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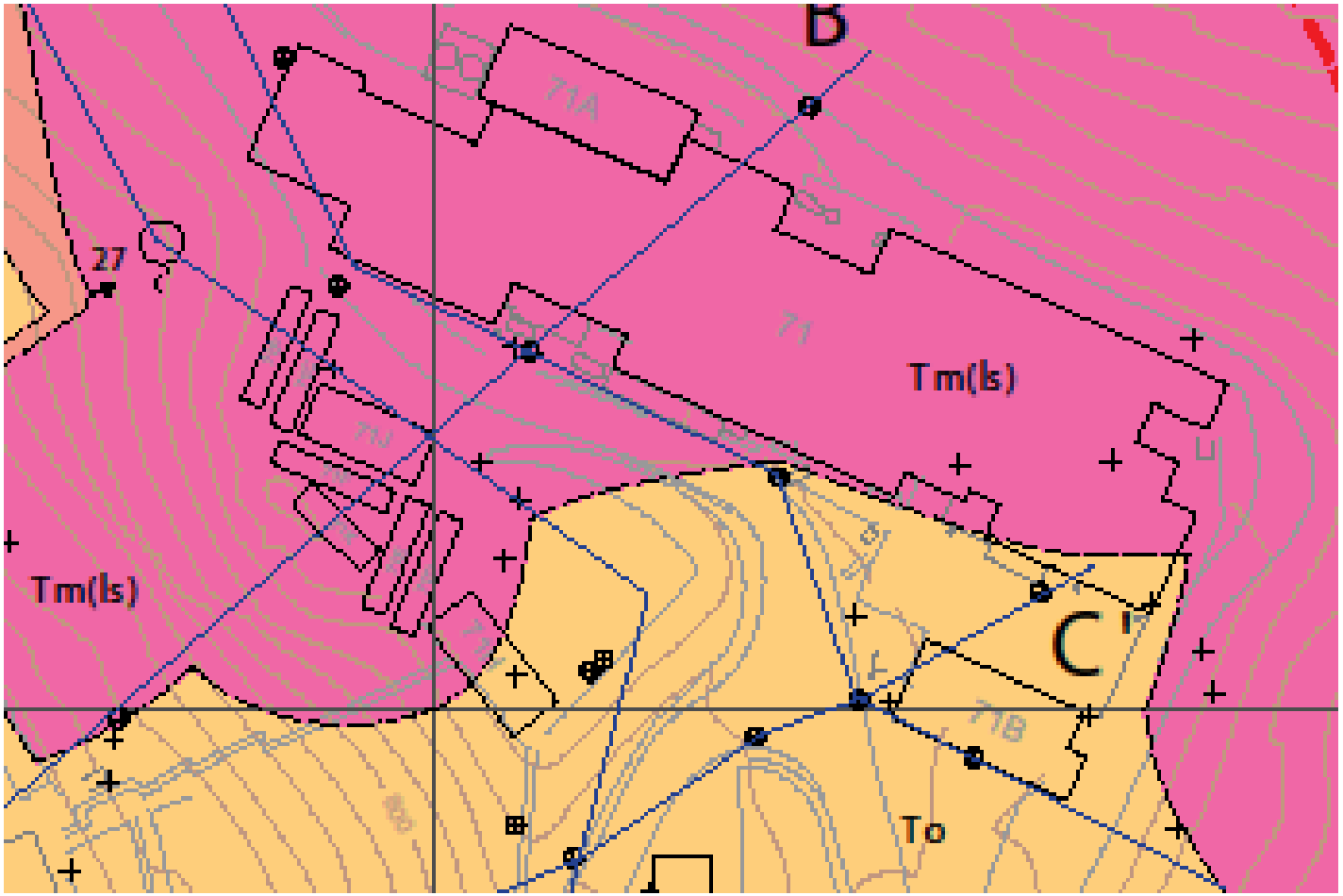

# Caldera Hypothesis Map from Save Strawberry Canyon