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DIABLO CANYON ISFSI
FIGURE 2.6-1 LOCATION AND BOUNDARIES OF GEOLOGIC STUDY AREAS

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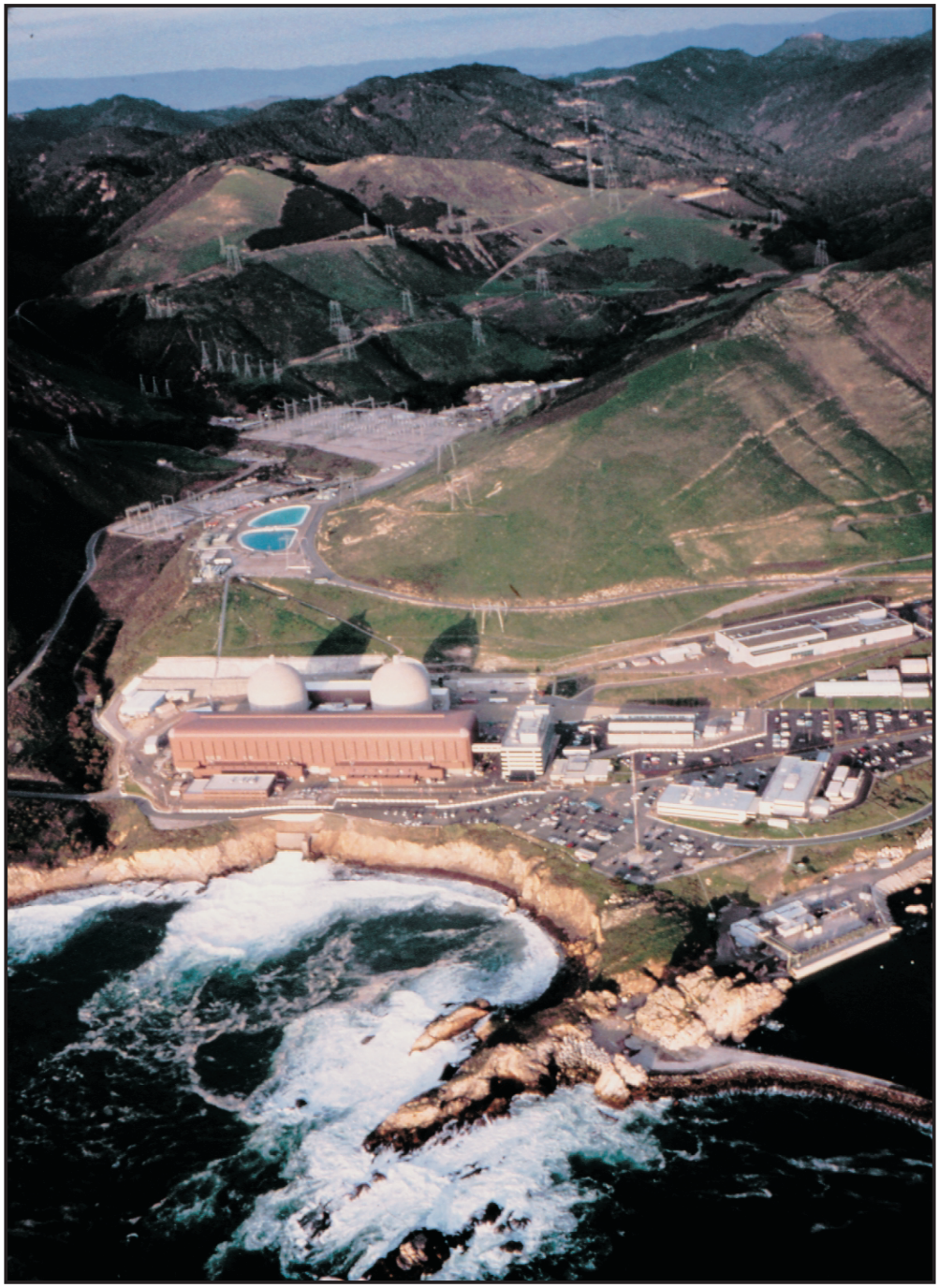

Northeast view of Diablo Canyon Power Plant and the ISFSI and CTF sites. The ISFSI is at the base of the slope to the right of the raw water reservoir. The CTF is directly southwest of the reservoirs. The extent of the 1971 borrow area excavation is indicated by the rocky area on the slope above the reservoir. The power plant and adjacent facilities are constructed on a marine terrace that is covered by Quaternary fan deposits. Photo roll WDP-1.

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FIGURE 2.6-2 DIABLO CANYON POWER PLANT AND THE ISFSI AND CTF SITES

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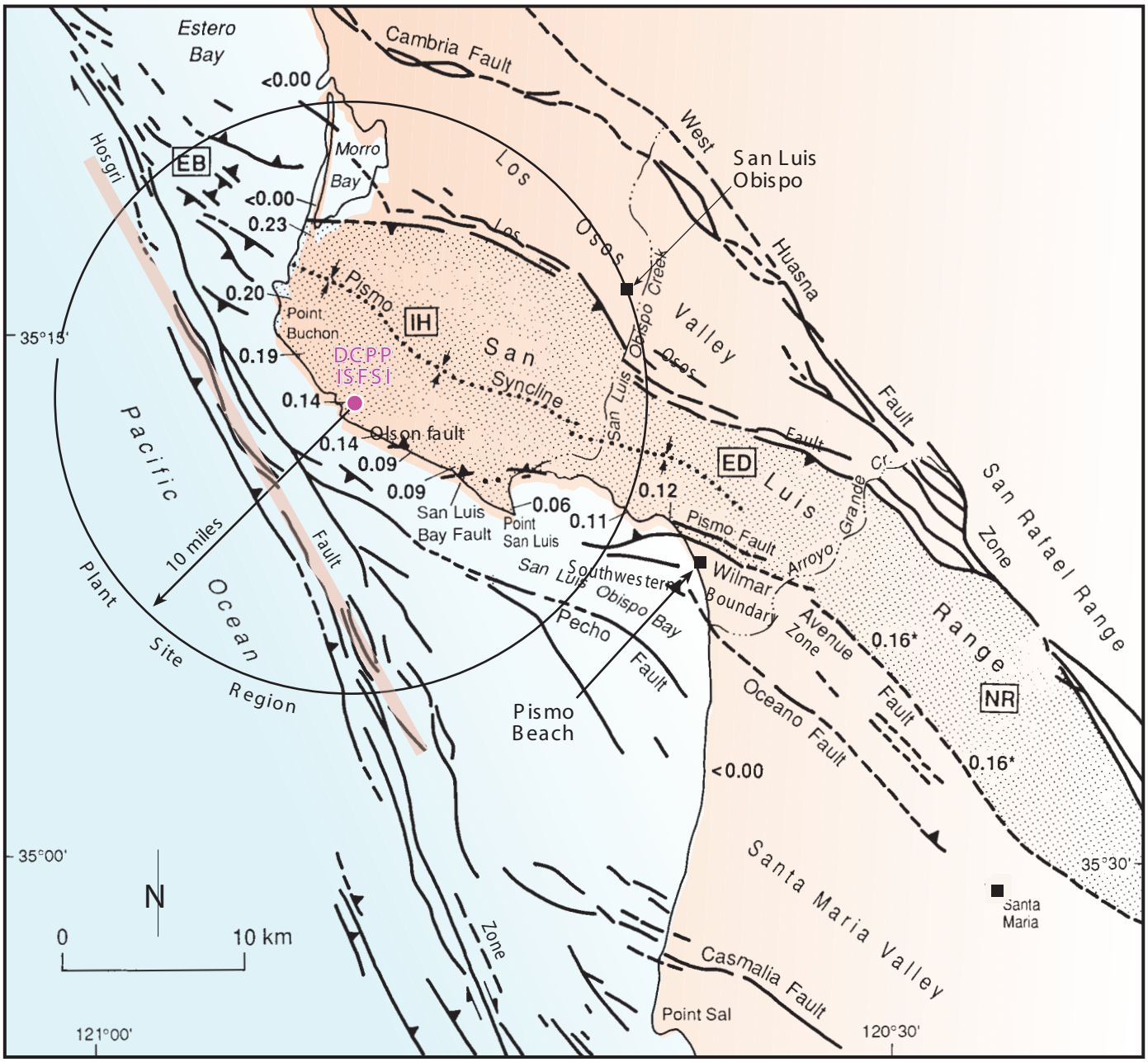
FIGURE 2.6-3 SOUTHWARD VIEW OF THE ISFSI AND CTF SITES AND TRANSPORT ROUTE



(from PG&E, 1988)

0.14

0.16*

EB

IH

ED

NR

Average fault trend (338°) used for ground motion analyses

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FIGURE 2.6-4
REGIONAL STRUCTURE MAP

Photo of Obispo Formation dolomite and sandstone strata exposed on the hillslope above the transport route on Reservoir Road. The ISFSI site is to the right of the raw water reservoir. Bedding dips into the hillslope on the west limb of the regional Pismo syncline and extends beneath the power block (off photo to lower left). A small parasitic syncline is manifest as the U-shaped strata directly below the ridge crest in the middle of the photo. Several debris-flow chutes (↓) form the gullies on the slope above Reservoir Road. Photo roll JLB-2.

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FIGURE 2.6-5
OBISPO FORMATION DOLOMITE AND SANDSTONE ON HILLSLOPE ABOVE RESERVOIR ROAD

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FIGURE 2.6-6
GEOLOGIC MAP OF BEDROCK AND
LANDSLIDES IN THE PLANT SITE AREA

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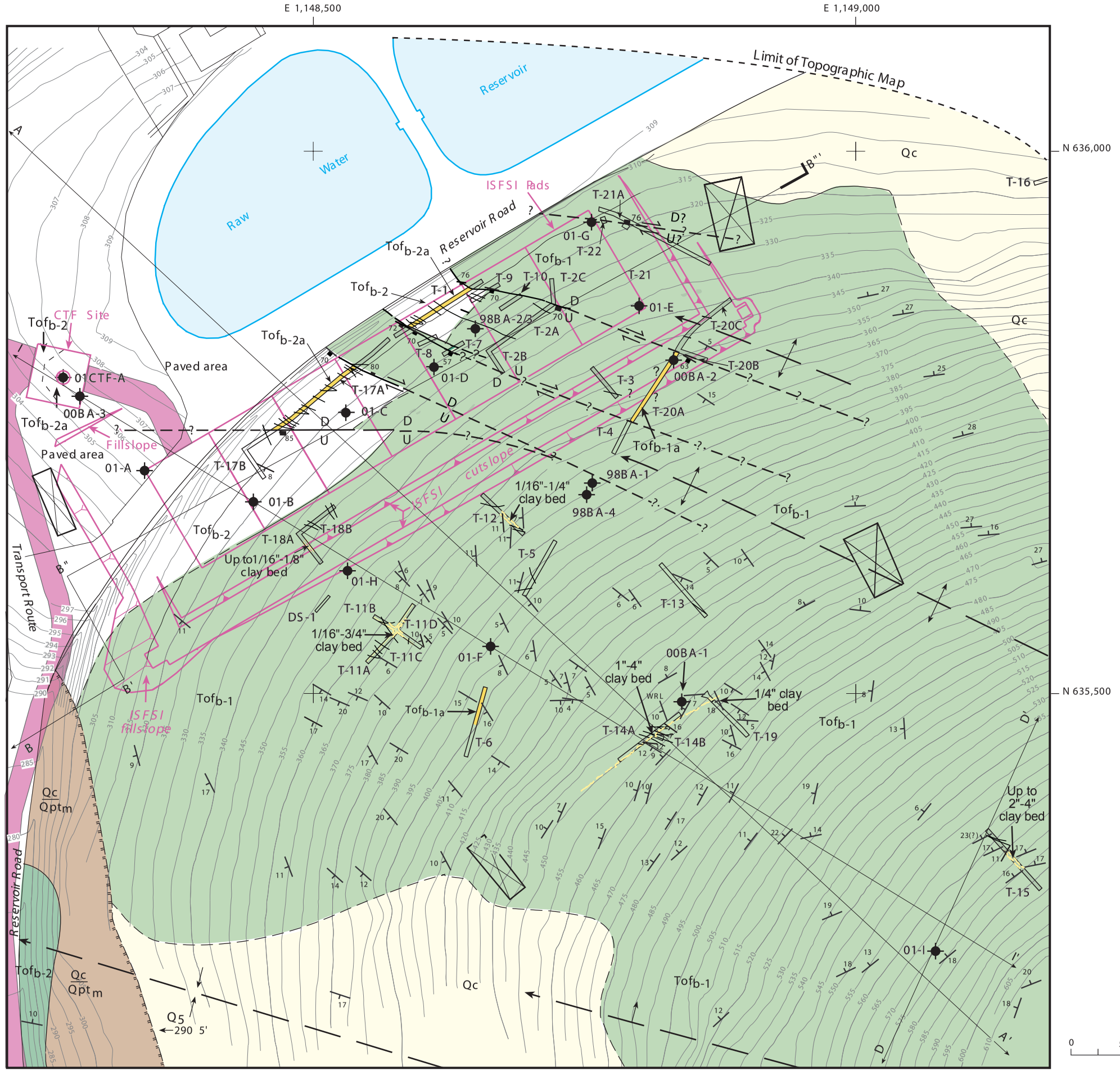
FIGURE 2.6-7
GEOLOGIC MAP OF THE ISFSI STUDY AREA AND TRANSPORT ROUTE VICINITY



Explanation

Qc Colluvium

Qpt$_m$ Marine terrace deposit (overlain by Qc)

Obispo Formation (lower and middle Miocene)

DOLOMITE UNIT

Tof$_{b-1}$ Dolomite, clayey dolomite, dolomitic siltstone to fine-grained dolomitic sandstone, and limestone. The unit contains occasional discontinuous to continuous (tens to hundreds of feet) clay beds that are generally 1/32- to 1/2-inch thick, but locally are thicker. Rocks in this unit are moderately to well cemented, moderately hard to hard, moderately to slightly weathered, brittle and typically medium strong.

Tof$_{b-1a}$ Friable dolomite and dolomitic siltstone of unit Tof$_{b-1}$. These rocks typically have low hardness, are very weak to weak, and occur as discontinuous zones where weathering and/or alteration has been concentrated. Inferred lateral extent of friable zones is schematic.

SANDSTONE UNIT

Tof$_{b-2}$ Fine to coarse-grained dolomitic sandstone and sandstone (arkosic to arenitic) with lesser dolomite beds. Detrital clasts are composed primarily of dolomitized feldspars, marine fossil fragments, and volcanic rock fragments. Discontinuous clay beds that are generally less than 1/2-inch thick occur locally within the unit. The rocks are of low to medium hardness, moderately to well cemented and typically medium strong.

Tof$_{b-2a}$ Friable sandstone of unit Tof$_{b-2}$. These rocks typically are of low hardness are very weak to weak, and occur as discontinuous zones where weathering and/or alteration has been concentrated. Inferred lateral extent of friable zones is schematic.

- Strike and dip of bedding
- Minor fault, dip indicated, dashed where inferred, queried where uncertain, arrows show relative sense of displacement, U-upthrown, D-downthrown
- Small, secondary faults exposed in trench
- Clay bed, thickness indicated
- Geologic contact, solid line where well-defined, dashed where approximate
- Boring for ISFSI, number indicated (initial number is year drilled, e.g. 01 was drilled in 2001)
- Geologic cross section, arrows indicate end of line is off the map area
- Exploratory trench, number indicated
- Discontinuity survey line in bulldozer cut
- Footprint of 500-kV tower
- Cutslope above and fill prism west of ISFSI pads
- Axis of anticline, larger arrow shows plunge, dashed where approximate
- Axis of syncline, larger arrow shows plunge, dashed where approximate
- Axis of monocline, larger arrow shows plunge, dashed where approximate
- Buried shoreline angle of marine terrace wave-cut platform, number and elevation indicated

Notes:

ISFSI geometry is based on PG&E Enercon Drwg. Base map from No. PGE-009-sk-001 dated 9/27/01.

Geology not shown in paved area and reservoir area.

N

0 50 100 150 200

Contour interval = 5 feet

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FIGURE 2.6-8

GEOLOGIC MAP OF ISFSI AND CTF SITES

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Explanation

Geology

Quaternary

- af — Artificial fill (engineered)
- Qal, Qdf, Qc, Qls, Qhf — Quaternary deposits - alluvium (Qal), debris flow (Qdf), colluvium (Qc), landslide (Qls), Holocene colluvial fan (Qhf)
- Qpf — Pleistocene colluvial fan
- Qpt_m — Pleistocene marine terrace deposit (inferred)

Tertiary

- Tvr — Volcanic rock (middle Miocene), diabase intrusive sills and dikes

Obispo Formation (lower and middle Miocene)

- Tof_b — Member Tof, unit b - dolomite, dolomitic siltstone, dolomitic sandstone, and sandstone: medium to thick bedding
  - *DOLOMITE SUBUNIT*
    - Tof_{b-1} — Dolomite, clayey dolomite, dolomitic siltstone to fine-grained dolomitic sandstone, and limestone. The unit contains occasional discontinuous to continuous (tens to hundreds of feet) clay beds that are generally 1/32- to 1/2-inch thick, but locally are thicker. Rocks in this unit are moderately to well cemented, moderately hard to hard, moderately to slightly weathered, brittle and typically medium strong.
    - Tof_{b-1a} — Friable dolomite and dolomitic siltstone of unit Tof_{b-1}. These rocks typically have low hardness, are very weak to weak, and occur as discontinuous zones where weathering and/or alteration has been concentrated. Inferred lateral extent of friable zones is schematic.
  - *SANDSTONE SUBUNIT*
    - Tof_{b-2} — Fine to coarse-grained dolomitic sandstone and sandstone (arkosic to arenitic) with lesser dolomite beds. Detrital clasts are composed primarily of dolomitized feldspars, marine fossil fragments, and volcanic rock fragments. Discontinuous clay beds that are generally less than 1/2-inch thick occur locally within the unit. The rocks are of low to medium hardness, moderately to well cemented and typically medium strong.
    - Tof_{b-2a} — Friable sandstone of unit Tof_{b-2}. These rocks typically are of low hardness, are very weak to weak, and occur as discontinuous zones where weathering and/or alteration has been concentrated. Inferred lateral extent of friable zones is schematic.
- Tof_c — Member Tof, unit c - shale, claystone and siltstone, thin to medium bedding, extensively sheared
- Tor — Member Tor - volcanic rock, zeolitized and silicified tuff

Symbols

- Apparent dip of bedding
- Apparent dip of bedding measured in boring
- Bedding shown schematically and inferred from projection of nearby surface outcrops or borehole surveys
- ? Lithologic contact, inferred except where encountered in boreholes and surface mapping, queried where uncertain
- Fault - location based on projection of trench or surface exposure. Vertical projection is inferred. Dip of fault assumed to be vertical unless well constrained by multiple surface attitudes. Queried where uncertain. Sense of vertical separation is indicated by arrows and inferred horizontal right-slip displacement by ⊕ (moving away from viewer) and ⊙ (moving toward viewer).
- Clay, silty and sandy, tan to brown, some angular fragments within clay matrix, locally contains foraminifera, generally thin (1/16 to 1/2 inch). Clay beds more common and more laterally continuous in dolomite unit than in the sandstone unit.
- <1/8", 1/8"-1/4", >1/4" — Clay bed - weight of solid line indicates bed thickness where encountered in borings or trenches, dashed line where inferred (no thickness indicated); queried where uncertain, clay beds projected beyond borings or trenches based on thickness (>1/4-inch thick beds projected 100 feet as solid line and 100 feet as dashed line, 1/8-inch to 1/4-inch thick beds projected 50 feet solid and 50 feet dashed, <1/8-inch thick beds projected 25 feet solid and 25 feet dashed) unless constrained to be shorter on adjoining boreholes and trenches.
- 01-H, TD 30.5 ft. — Exploration boring, number (01-H, initial number indicates year drilled) and depth (TD 30.5 feet) indicated
- T-18 — Exploration trench, number indicated; trenches are shown open if they cross section line, filled if projected into section line
- Groundwater elevation and date of measurement indicated

*Pleistocene Marine Terraces Designation**

- Q_1 Oxygen Isotope Stage 5a marine terrace (80,000 years old)
- Q_2 Oxygen Isotope Stage 5e marine terrace (120,000 years old)
- Q_3 Oxygen Isotope Stage 7 marine terrace (210,000 years old)
- Q_4 Oxygen Isotope Stage 9 marine terrace (330,000 years old)
- Q_5 Oxygen Isotope Stage 11 marine terrace (430,000 years old)

* *Ages and correlation of marine terraces based on K.L., Hansen, J.R. Wesling, W.R. Lettis, K.I. Kelson and L. Mezger, 1994. Correlation, ages, and uplift rates of Quaternary marine terraces, in Alterman, I.B., McMullen, R.B., Cluff, L.S., and Slemmons, D.B., eds., Seismotectonics of the Central California Coast Ranges: Boulder, Colorado, Geological Society of America Special Paper 292.*

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FIGURE 2.6-9
EXPLANATION FOR CROSS SECTIONS

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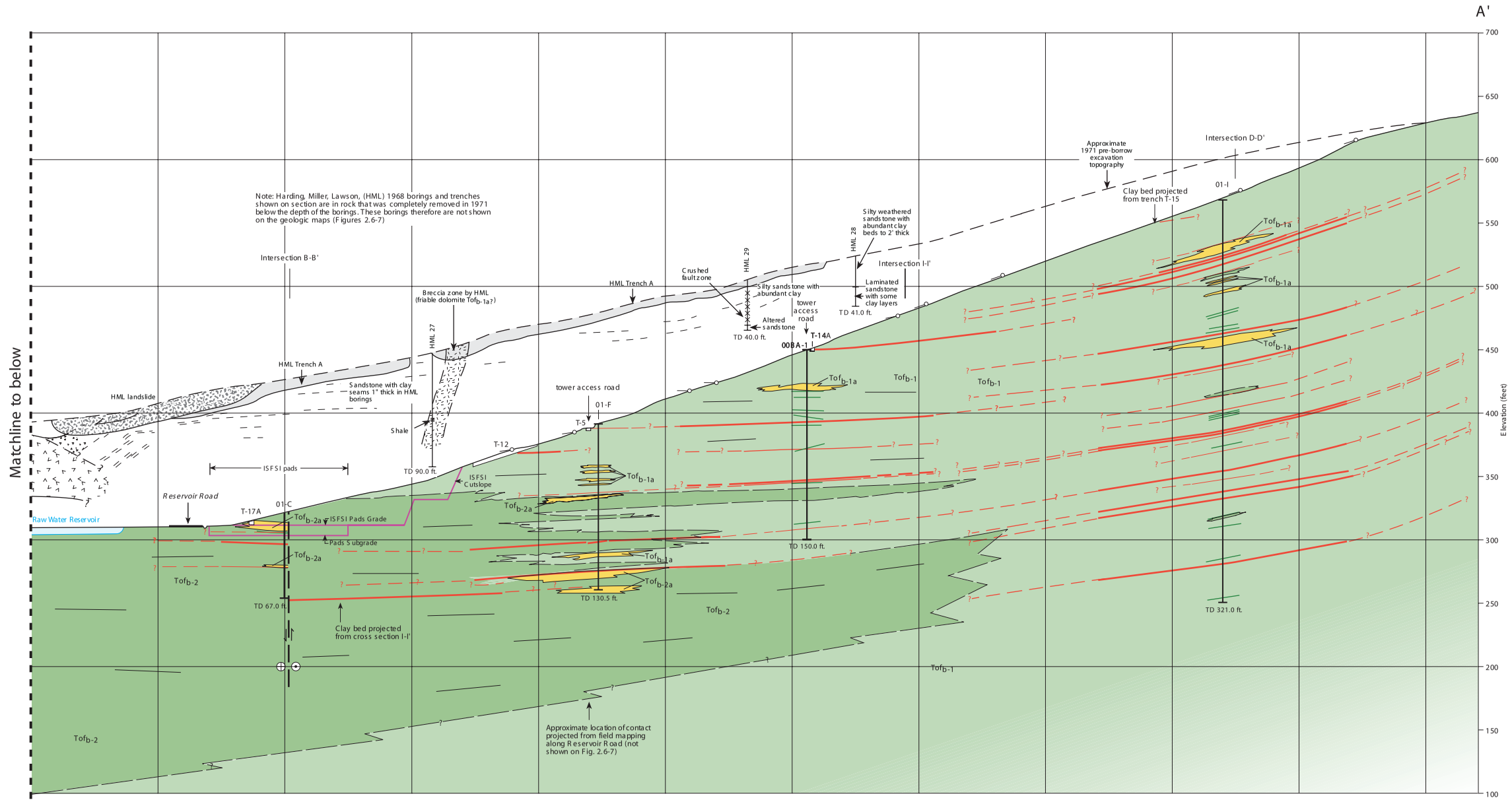

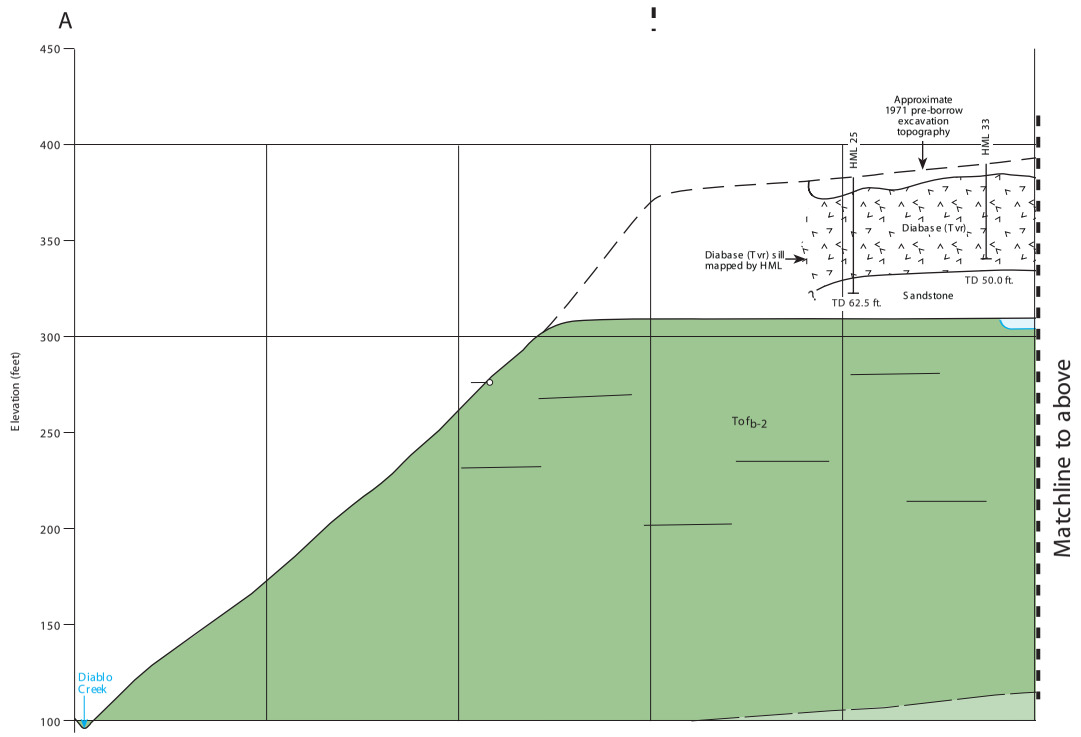

Notes

1. Location of cross section shown on Figures 2.6-7 and 2.6-8. Nearby borings are projected to cross section.
2. See Figure 2.6-9 for explanation of geologic units.
3. Horizontal scale = vertical scale.

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FIGURE 2.6-10
CROSS SECTION A-A'

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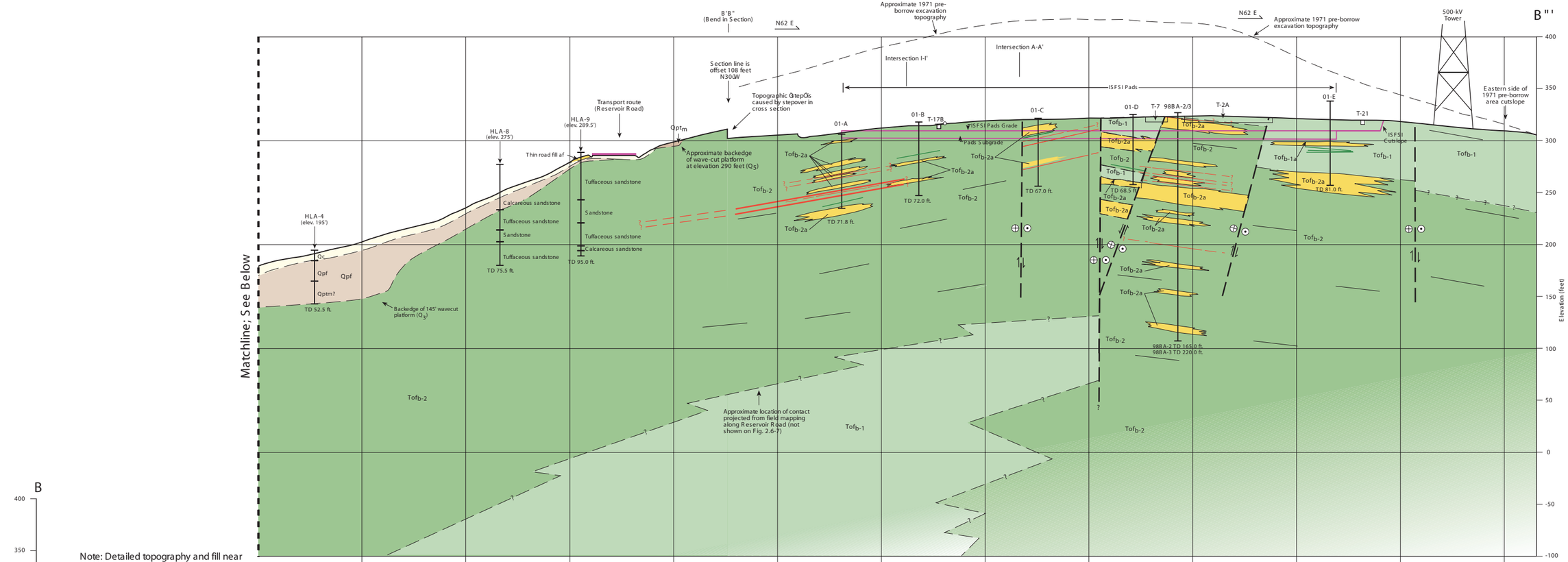

Notes

1. Location of cross section shown on Figures 2.6-7 and 2.6-8. Nearby borings are projected to cross section.
2. See Figure 2.6-9 for explanation of geologic units.
3. Hortizontal scale = vertical scale.

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FIGURE 2.6-11
CROSS SECTION B-B'

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Southward view of the ISFSI site, above the raw water reservoir. The 1971 borrow area cutslope is indicated by areas of bedrock exposure and brown grass. Trenches excavated for the ISFSI investigations are shown (trenches backfilled in April 2001). Trench T-16 is located to the left of the photo. Photo roll AR 3-25.

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FIGURE 2.6-12 SOUTHWARD VIEW OF ISFSI STUDY AREA