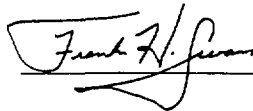


DATA REPORT D
TRENCHES AT THE ISFSI SITE
HUMBOLDT BAY ISFSI PROJECT

PREPARED BY



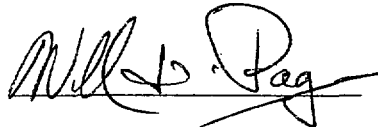
Frank H. Swan, Ph.D.
Printed Name

DATE

July 8, 2002

Consultant to:
Geomatrix Consultants, Inc.
Organization

VERIFIED BY



William D. Page, RG, CEG
Printed Name

DATE

5 September 2002

PG&E Geosciences Dept.
Organization

APPROVED BY

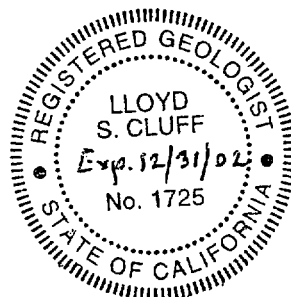


Lloyd S. Cluff, RG, CEG
Printed Name

DATE

9/5/02

PG&E Geosciences Dept.
Organization



**DATA REPORT D
TRENCHES AT THE ISFSI SITE**

HUMBOLDT BAY ISFSI PROJECT

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DATA REPORT D TRENCHES AT THE ISFSI SITE

HUMBOLDT BAY ISFSI PROJECT

1.0 INTRODUCTION

Two trenches (designated GMX T-1 and GMX T-2), having an average depth of about 16 feet and a cumulative length of 225 feet, were excavated and mapped at the Humboldt Bay ISFSI site during July and August, 2002. The purpose of the trenches was to provide data on the nature and continuity of the Quaternary strata and soils exposed beneath the ISFSI site.

The trenching and preparation of this data report were done under Geomatrix Consultants Work Plan - Geologic Trenches and Test Pits for the Humboldt Bay Power Plant Independent Spent Fuel Storage Installation site (HBPP Procedure Number HB-ISFSI-GEO-7, Revision 0, dated July 12, 2000).

Dr. Frank H. Swan and Mr. Todd Crampton of Geomatrix Consultants, Inc. supervised the excavation of the trenches and mapped the trench-wall exposures. Dr. William D. Page, PG&E Geosciences Department, directed the implementation of the study plan and provided technical review of the work. Dr. Clarence Allen, Dr. Gary Carver and Mr. Lloyd S. Cluff reviewed the trenches and field logs on August 4, 2000.

2.0 METHODOLOGY

As shown on Figure D-1, Trench GMX T-1 was located to close the gap between segments of a previous trench (trench WCC-11-T6a) excavated by Woodward-Clyde Consultants (1980) (Photo D-1). The gap between the segments of trench WCC-11-T6a coincides with the location of an old security fence that has since been removed (Photo D-2). The combined trenches (WCC-11-T6a and GMX T-1) provide continuous coverage along a WNW trend across the ISFSI site (Figure A-1). Trench GMX T-2 crossed the ISFSI site in a NE direction.

Trenches were excavated with a track-mounted excavator and shored at approximately 4-foot intervals using hydraulic "speed-shores." There was some groundwater seepage near the bottom of the trenches, which was pumped daily using an electric "trash" pump and gas powered generator. The trench walls were scraped smooth to remove loose material, smeared

soil and/or scars left by the excavation equipment. Geologic contacts were delineated along one wall of each trench using nails marked with colored plastic flagging. The nail heads were placed flush with the trench wall to minimize surveying error and the nails were placed at sufficiently close intervals along the contacts and structural features so that the surveying measurements accurately depict the geometry of these features. The nail heads were then surveyed by PG&E using a "Total Station" as described in the Geosciences Work Plan entitled "Survey of Geologic Test Pits for the HBPP ISFSI Site" (Photo D-3). The survey points were then plotted and the plot used as a base for the field log. The lithologic contacts and geologic structures were drawn by sketching the relations in the field onto the base using the survey points for control.

The nomenclature used to describe the sedimentary deposits and structures follows standard geologic conventions (e.g., Compton, 1962). In addition, the pedogenic soil profile exposed in the NW wall of trench GMX-T2 at station 180 ft. was described (Figure D-2) following the nomenclature used by the U.S. Department of Agriculture Soil Survey Staff (1951) as modified by Guthrie and Witty (1982). A detailed description of this soil profile is included on Table A-1 in Humboldt Bay ISFSI Project Data Report A - Geologic Mapping in the ISFSI Area (Geomatrix, 2002a).

A sample of wood was collected from the SE wall of trench GMX-T2 opposite station 173 ft at a depth of 26 ft. below the ground surface. Radiocarbon analysis of the sample provided an age of >45,730 BP. The methodology and analysis are described in Humboldt Bay ISFSI Project Data Report F - Age Dating of Trench Sample (Geomatrix, 2002b).

More than 140 photographs were taken of the trench wall after the walls had been cleaned and the significant features marked with nails. Attachment D-1 is an index and description of the photographs that were taken. The photographs have been labeled and are part of the project file (Geomatrix File No. 5117.009/9.2.1 through 9.2.6). Selected photographs are included with this Data Report.

3.0 RESULTS

Figure D-3 is a log of the south wall of trench GMX-T1. Figure D-4 is a detailed description of the stratigraphy exposed in GMX-T1 at station 22 ft. Figure D-5 is a log of the northwest wall of trench GMX-T2 and Figures D-6 and D-7 are detailed measured sections at stations 45 ft. and 153 ft. respectively.

The stratigraphic units observed in trenches GMX-T1 and GMX-T2 match the units reported by Woodward-Clyde (1980) in trench WCC-11-T6a. The deposits consist of stratified sand, silt and clay of the Upper Hookton Formation (Late Pleistocene) overlain by 0 to 5 ft. of artificial fill (Photo D-4). Some weak fractures were observed in the lower part of the trenches (e.g., Photos D-5). In several cases even small amounts of vertical displacement (less than a few millimeters) on individual fractures can be precluded based on the continuity of fine bedding and/or sharp contacts across the fractures (e.g., Photos D-6 and D-7). No displacements were observed, and the lithologic contacts exposed in the trench wall (Photo D-4) are sharp enough to preclude any vertical displacements larger than about 2 centimeters.

4.0 REFERENCES

- Compton, R.R., 1962, *Manual of Field Geology*: John Wiley and Sons, Inc., New York, 378 p.
- Earth Science Associates, 1976-1977, Humboldt Bay Power Plant site geology investigations: Report Prepared for Pacific Gas and Electric Company, 100 p., 35 figs., 19 plates, plus appendixes A through G.
- Geomatrix Consultants, Inc. (Geomatrix), 2002a Geologic mapping in the ISFSI site area: Humboldt Bay ISFSI Project Data Report A, Revision 0, 33 p.
- Geomatrix Consultants, Inc. (Geomatrix), 2002b, Age dating of trench sample - Humboldt Bay ISFSI Site: Humboldt Bay ISFSI Project Data Report F, Revision 0, 14 p.
- Guthrie, R.L., and Witty, J.E., 1982, New designations for soil profile horizons and layers and the new Soil Survey Manual: *Soil Science Society of America Journal*, v. 46, p. 443-444.
- Munsell Color Co., 1988, *Soil color charts*: Baltimore, Maryland.
- Ogle, B. A., 1953, *Geology of the Eel River Valley area, Humboldt County, California*: Division of Mines, Department of Natural Resources, State of California, Bulletin 164, 128 p.
- Pacific Gas and Electric Company Geosciences Department, 2000, Geomatrix Consultants work plan – Geologic Investigation for the Humboldt Bay Power Plant Independent Spent Fuel Storage Installation Site: Work Plan ISFSI-GEO-006, Revision 0, March 23, 2000, 6 p. plus 1 attachment (1 p.) and 1 fig.
- Soil Survey Staff, 1951, *Soil survey manual*: U.S. Department of Agriculture Handbook No. 18, 503 p.

Woodward-Clyde Consultants, 1980, Evaluation of the potential for resolving the geologic and seismic issues at the HBPP Unit No. 3: Summary to Pacific Gas and Electric Company, San Francisco, 74 p. plus appendixes A through E.

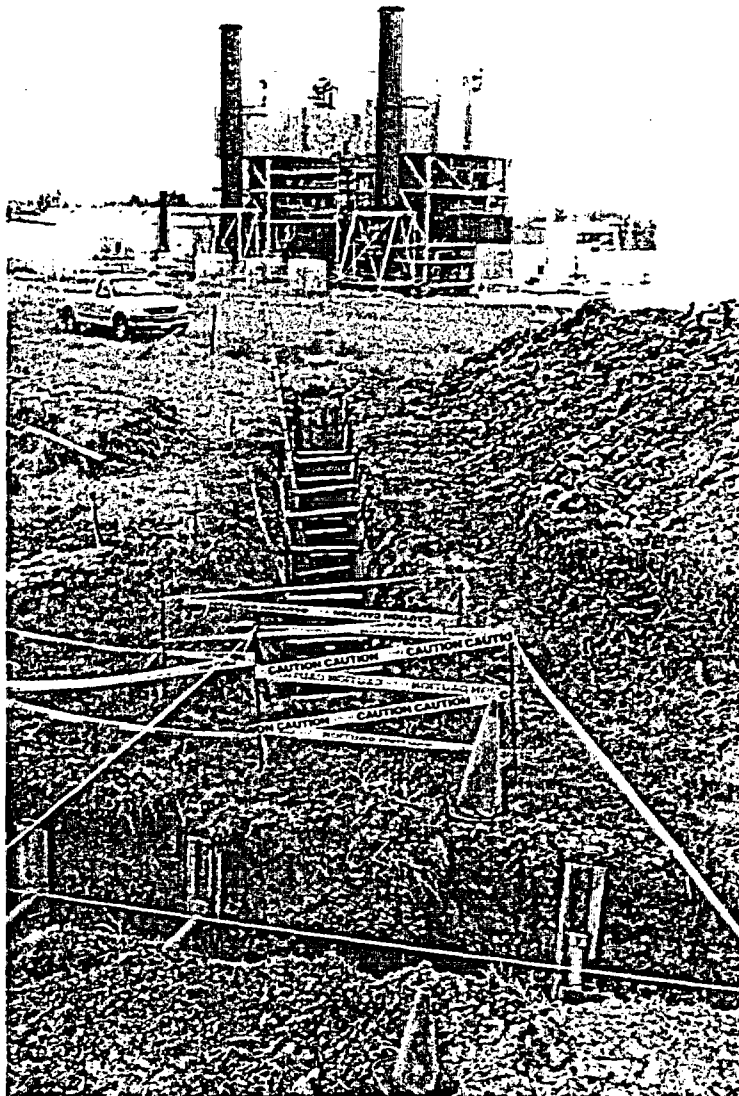


Photo D-1 Trench GMX-T-1, view east-southeast. View along trench with Humboldt Bay Power Plant in the background. Part of trench GMX-T2 is in the foreground. Photograph FHS-00/8-1 #29; taken on August 1, 2000.

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Photo D-2 View from the center of the ISFSI site looking southwest along old walkway and removed security fence. Security fence was removed some time after 1980. Photograph FHS-00/7-4 #2; taken on July 25, 2000 prior to excavating trenches GMX-T1 and GMX-T2.

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Humboldt Bay ISFSI
Data Report D, Rev. 0

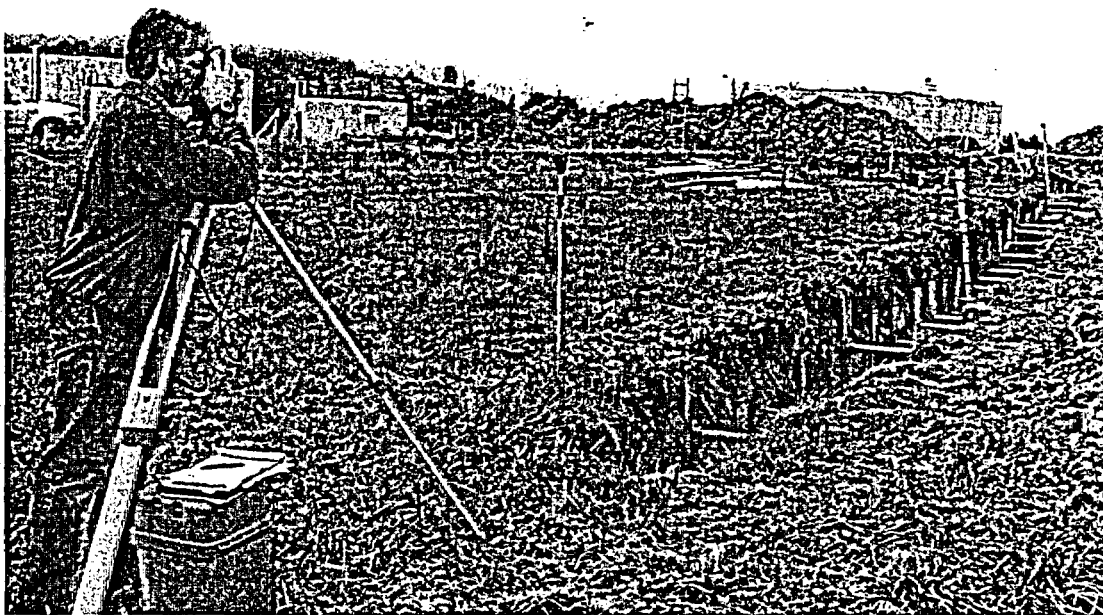


Photo D-3 Surveying of geologic contacts in trench GMX-T2. View is towards the south. Photograph FHS-00/7-4 #9; taken August 1, 2000.

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Humboldt Bay ISFSI
Data Report D, Rev. 0



Photo D-4 Artificial fill overlying sand and silt layers of the Upper Hookton Formation in northwest wall of trench GMX-T2 between station 36 ft. and station 44 ft. Photograph FHS-00/7-4 #19; taken August 1, 2000.

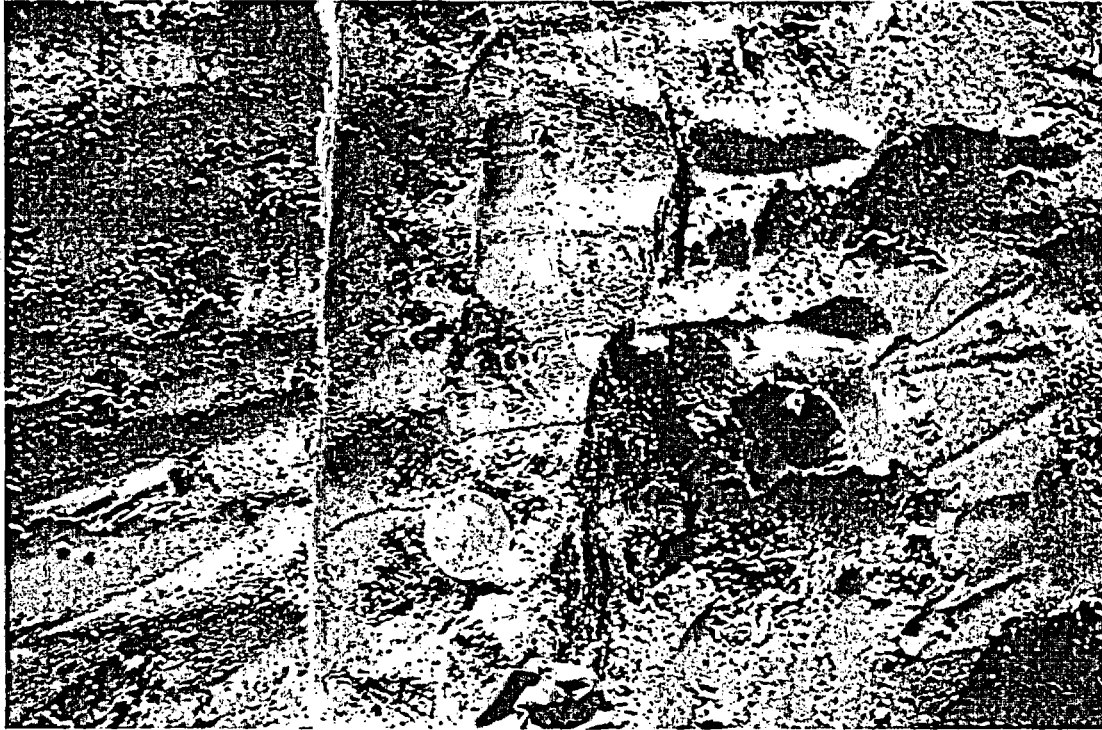


Photo D-5 Fracture lined with black compressed rootlets in clayey-silt bed in trench GMX-T2. Fracture is at station 40 ft., depth ~11 ft. Photograph FHS-00/7-3 #21; taken August 3, 2000.

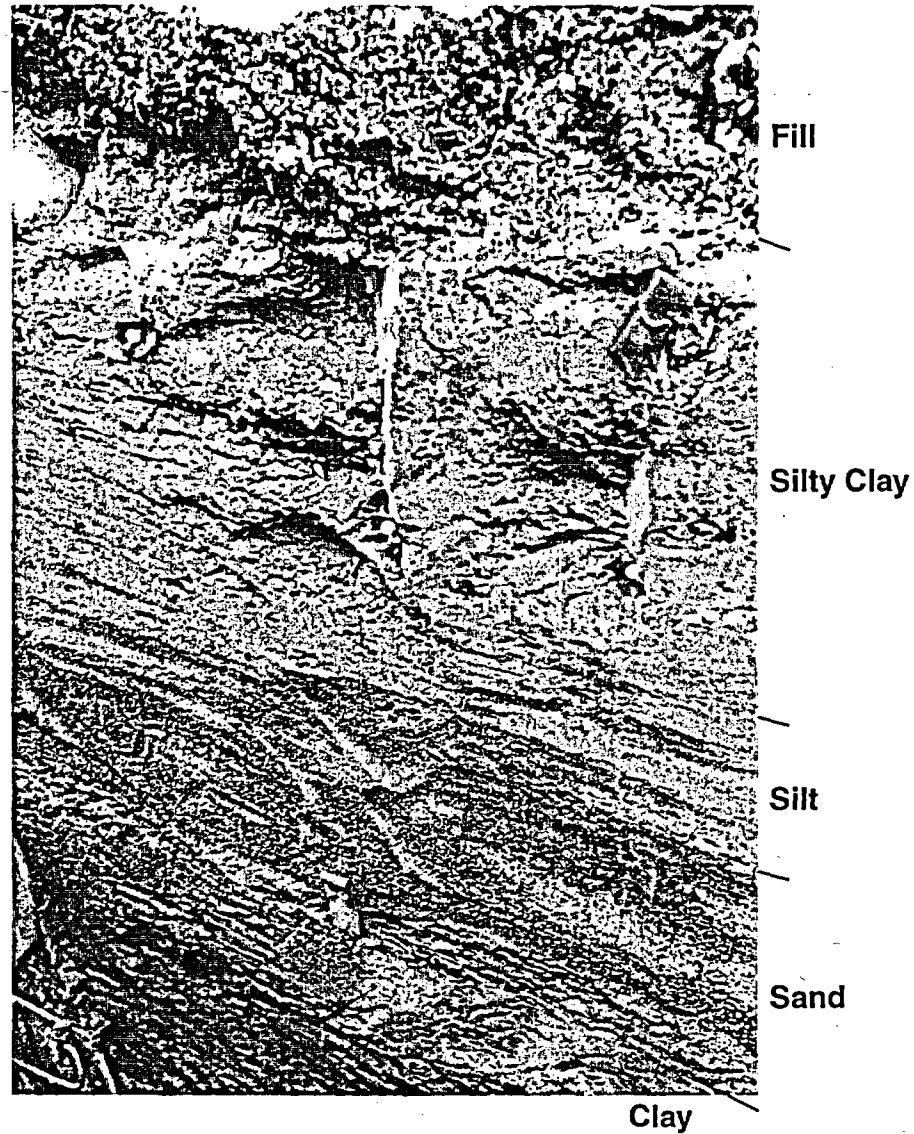


Photo D-6 Fractures in Upper Hookton Formation in trench GMX-T2. Fractures are at station ~25 ft., depth ~5 ft. Note continuous bedding across fractures below where they have been bleached in the weathered silty clay. Photograph FHS-00/8-3 #32; taken on August 3, 2000.

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Humboldt Bay ISFSI
Data Report D, Rev. 0

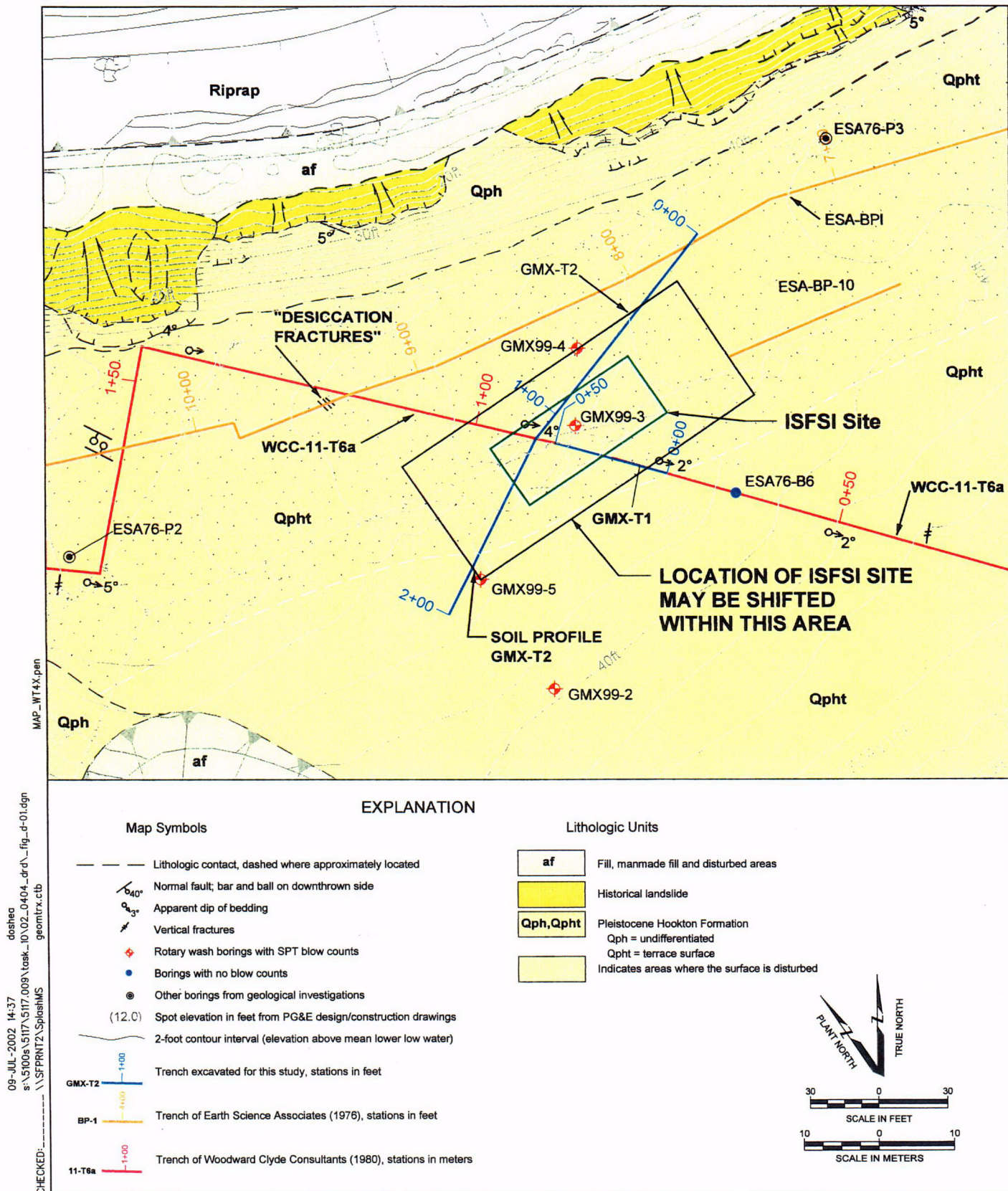


Sand

Silty Clay

Photo D-7 Continuous bedding across bleached fracture in silty clay in trench GMX-T2. Fractures are at station 30 ft., depth ~4 ft. Photograph FHS-00/8-3 #26; taken on August 3, 2000.

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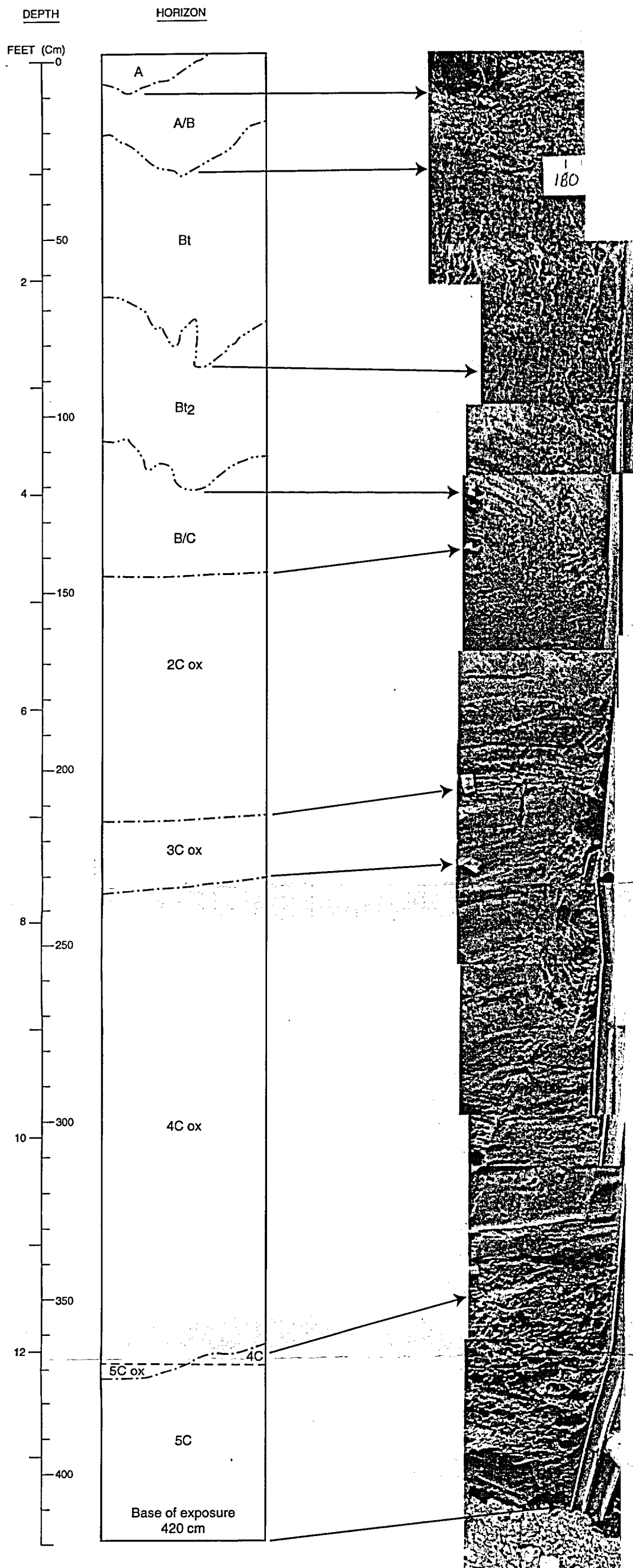
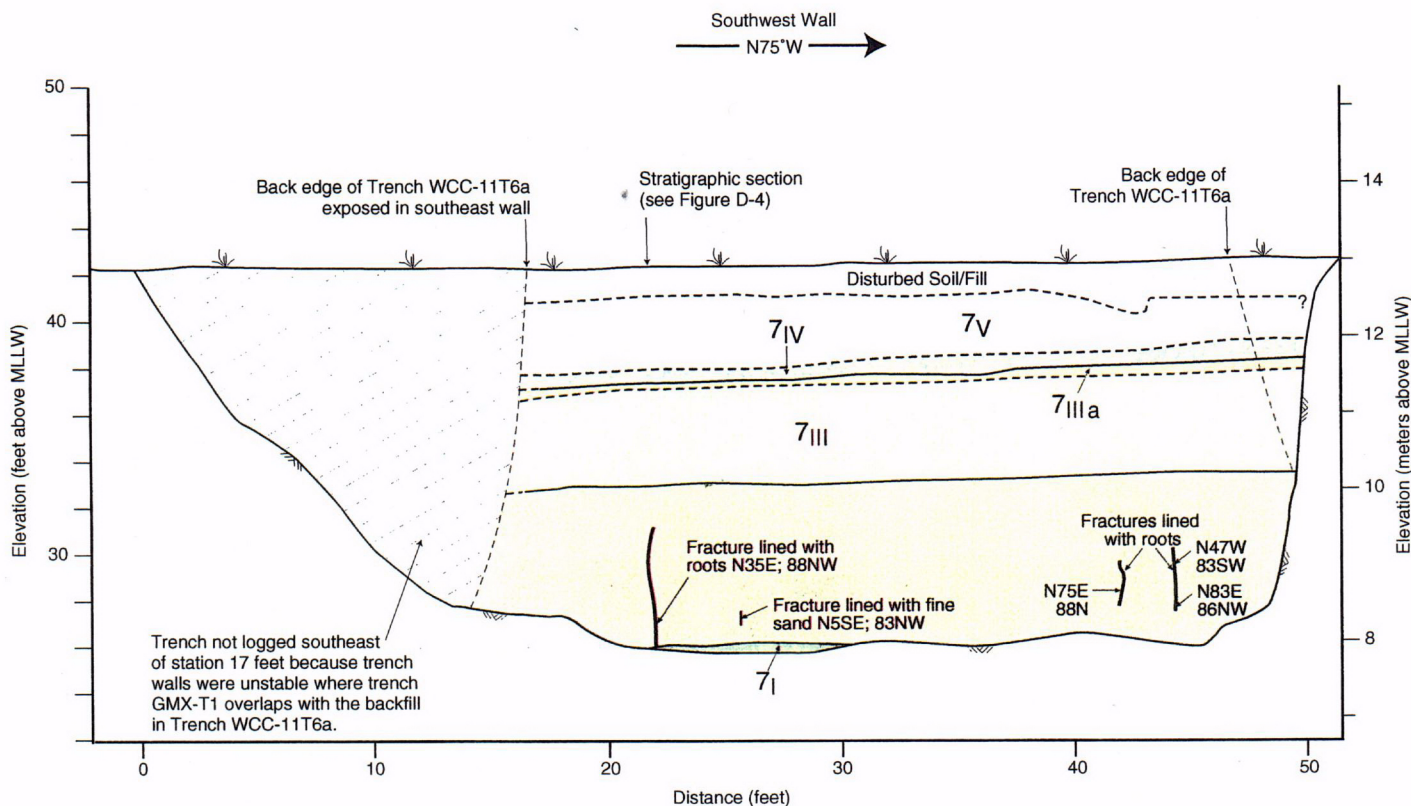


Figure D-2 Relict paleosol and upper Hookton Formation deposits exposed in trench GMX-T2 (NW wall at station 180 ft.). Photographs FHS00/8-2#3 through FHS00/8-2#12 taken on August 1, 2000.



DESCRIPTION OF LITHOLOGIC UNITS

Upper Hookton Formation: (Late Pleistocene)

Unit 7:

Younger	7V	Silty clay and clayey silt with some fine sand. Strong brown (7.5 YR 5/8 dry) with pinkish white (7.5 YR 8/2 dry) coatings along columnar and blocky ped faces; sand content increases with depth; very poorly stratified to massive; strongly oxidized; locally contains manganese-oxide nodules.
	7IV	Moderately sorted fine sand with silt and some clay. Mottled very pale brown (10 YR 7/3 dry) and reddish yellow (7.5 YR 6/8 dry) with light gray (5 Y 7/1) to gray (5 Y 6/1) coatings along ped faces; predominantly subrounded to subangular quartz sand; locally contains stringers of manganese-oxide nodules; A/B indicates transition between A soil horizon, which has been stripped in most places (not mapped), and a Bt soil horizon developed on Unit 7V.
	7IIIa	Silty clay layer at the top of unit 7III.
	7III	Fining-upward sequence of interbedded sand and silt. Dark grayish brown (2.5 YR 4/2) to gray (5 Y 5/2 moist) and strong brown (2.5 YR 5/2 moist) where oxidized; layers of well sorted fine to medium sand interbedded with thin (<1 cm) lenses of silt grading upwards to clayey silt and silty clay; locally contains fine gravel along the basal contact; locally contains woody material.
	7II	Silt interbedded with some fine sand and clayey silt. Dark gray; massive to weakly stratified layers of sandy silt and clayey silt with some lenses of fine sand and silty clay; bedding is discontinuous laterally.
Older	7I	Silty clay. Dark gray; generally massive.

EXPLANATION

- — — Lithologic contact; solid line where resolution is less than 2 cm, dashed line where 2-5 cm.
- Fracture

Figure D-3 Log of trench GMX-T1. See Figure D-1 for location of trench. Station numbers in feet.

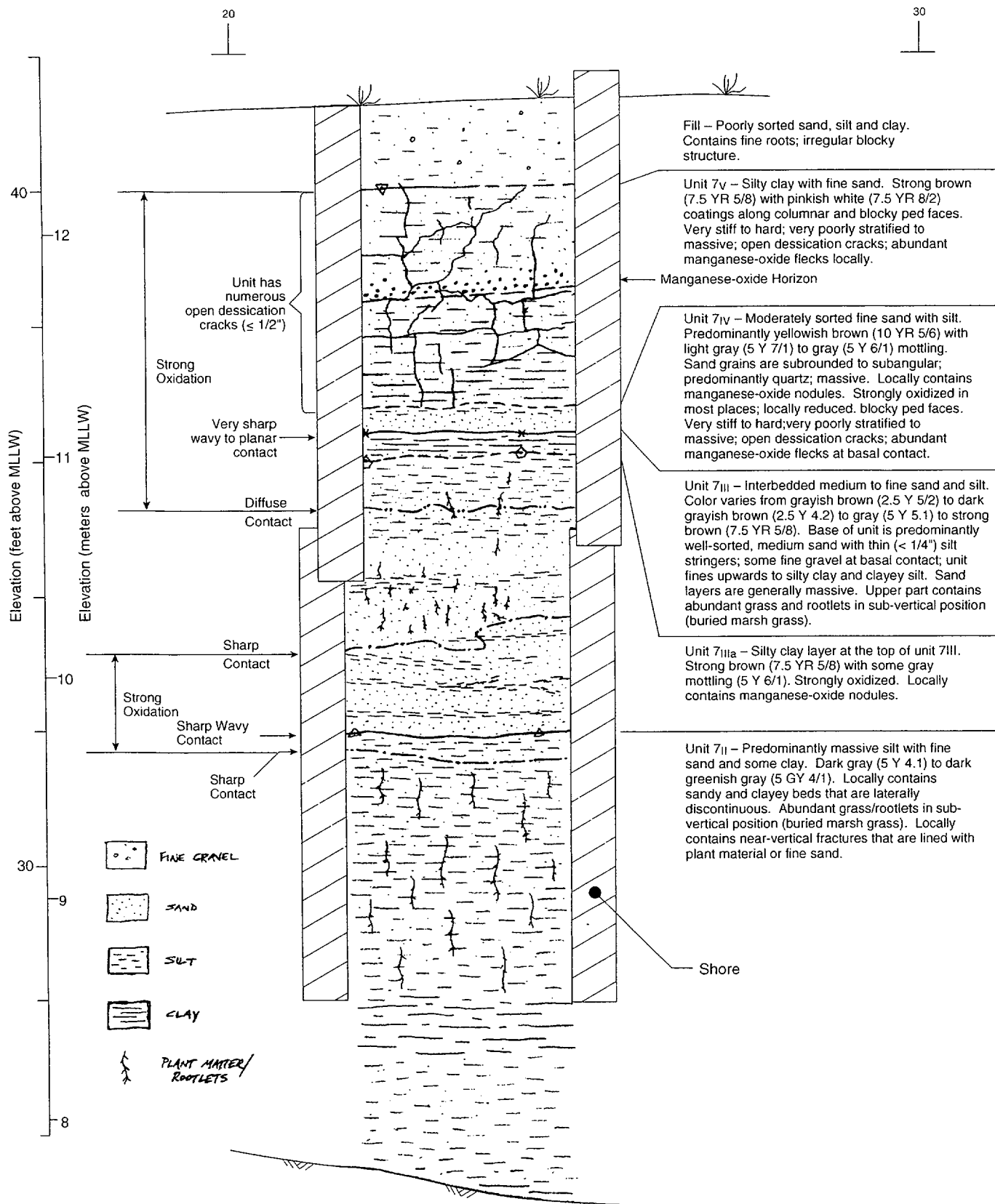


Figure D-4 Detail of stratigraphy in trench GMX-T1 at station 22 feet.

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OVERSIZED DRAWING OR
FIGURE,
THAT CAN BE VIEWED AT THE
RECORD TITLED:
FIGURE D-5
"HUMBOLDT BAY ISFSI
DATA REPORT D", REV. 0
WITHIN THIS PACKAGE**

D-01

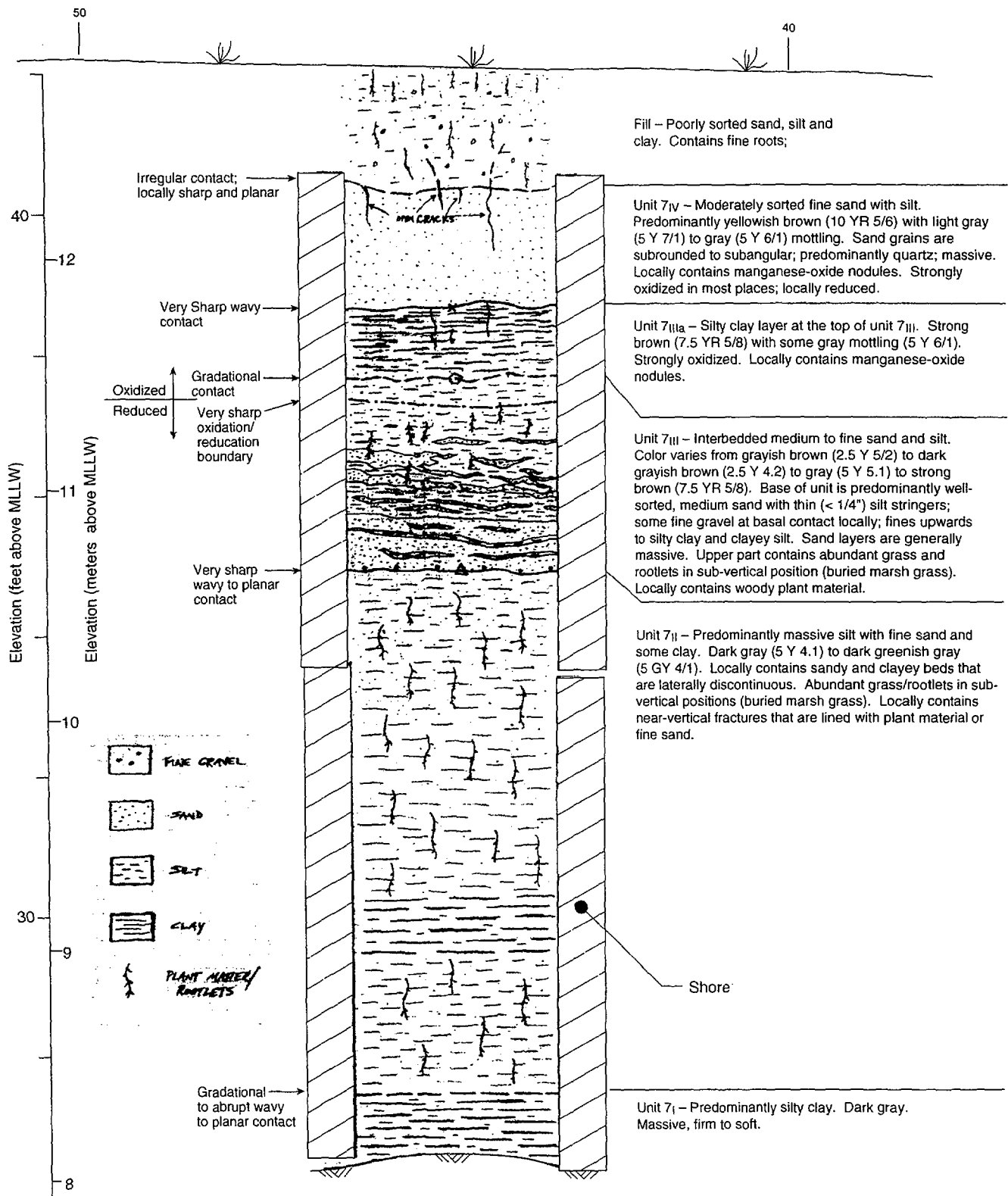


Figure D-6 Detail of stratigraphy in trench GMX-T2 at station 45 feet.

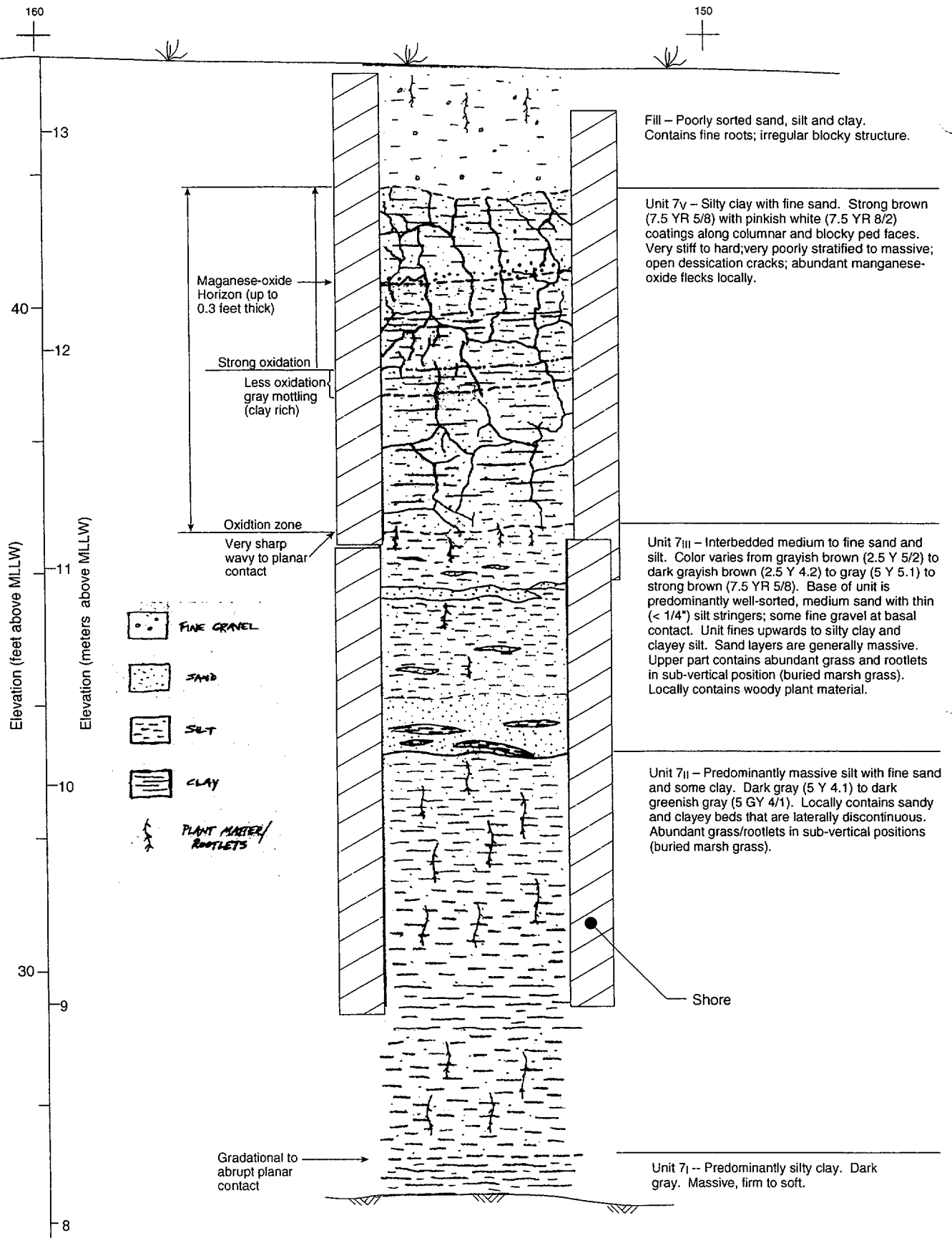


Figure D-7 Detail of stratigraphy in trench GMX-T2 at station 153 feet.

ATTACHMENT 1

**HUMBOLDT BAY ISFSI PROJECT
DATA REPORT D**

**INDEX OF TRENCH PHOTOGRAPHS
(Photographs are in PG&E files)**

Attachment 1
Index of Trench Photographs
Humboldt Bay ISFISI Project

Roll No.	Frame No.	Description	Photograph By	Date
FHS00/7-4	0	ISFSI Site prior to trenching, view is to the NW	F.H. Swan	25/7/00
"	1	ISFSI Site prior to trenching, view is to the E along the alignment of trenches GMX-T1 and WCC 11-T6a HBPP in background	F.H. Swan	25/7/00
"	2	ISFSI Site prior to trenching, view is to the E along the the old security fence (now removed), white stripes indicate location of trench GMX-T1 where it will fill the gap in trench WCC 11T6a	F.H. Swan	25/7/00
"	3	ISFSI Site; view from center of site to the SW along the alignment of trench GMX-T2 (prior to trenching)	F.H. Swan	25/7/00
"	4	ISFSI Site; view from center of site to the NE along the alignment of trench GMX-T2 (prior to trenching)	F.H. Swan	25/7/00
"	9	Surveying lithologic contacts in trench GMX-T2	F.H. Swan	1/8/00
"	10	Trench GMX-T2, view to the SW	F.H. Swan	1/8/00
"	11	Label identifying next series of Photos; "HBPP ISFSI Site trench GMX-T2, NW wall" [stations are in feet measured from NE end of trench]	F.H. Swan	1/8/00
"	12	Trench GMX-T2, NW wall, station 0 to ~5 ft.	F.H. Swan	1/8/00
"	13	Trench GMX-T2, NW wall, station ~ 5 to 13 ft.	F.H. Swan	1/8/00
"	14	Trench GMX-T2, NW wall, station ~ 12 to 19 ft.	F.H. Swan	1/8/00
"	15	Trench GMX-T2, NW wall, station ~ 15 to 23 ft.	F.H. Swan	1/8/00
"	16	Trench GMX-T2, NW wall, station ~ 22 to 29 ft.	F.H. Swan	1/8/00
"	17	Trench GMX-T2, NW wall, station ~ 26 to 33 ft.	F.H. Swan	1/8/00
"	18	Trench GMX-T2, NW wall, station ~ 31 to 39 ft.	F.H. Swan	1/8/00
"	19	Trench GMX-T2, NW wall, station ~ 36 to 44 ft.	F.H. Swan	1/8/00
"	20	Trench GMX-T2, NW wall, station ~ 44 to 49 ft.	F.H. Swan	1/8/00
"	21	Trench GMX-T2, NW wall, station ~ 47 to 56 ft.	F.H. Swan	1/8/00
"	22	Trench GMX-T2, NW wall, station ~ 52 to 57 ft.	F.H. Swan	1/8/00
"	23	Trench GMX-T2, NW wall, station ~ 56 to 64 ft.	F.H. Swan	1/8/00
"	24	Trench GMX-T2, NW wall, station ~ 61 to 68 ft.	F.H. Swan	1/8/00
"	25	Trench GMX-T2, NW wall, station ~ 64 to 71 ft.	F.H. Swan	1/8/00
"	26	Trench GMX-T2, NW wall, station ~ 68 to 79 ft.	F.H. Swan	1/8/00
"	27	Trench GMX-T2, NW wall, station ~ 75 to 81 ft.	F.H. Swan	1/8/00
"	28	Trench GMX-T2, NW wall, station ~ 78 to 86 ft.	F.H. Swan	1/8/00
"	29	Trench GMX-T2, NW wall, station ~ 82 to 88 ft.	F.H. Swan	1/8/00
"	30	Trench GMX-T2, NW wall, station ~ 86 to 93 ft.	F.H. Swan	1/8/00
"	31	Trench GMX-T2, NW wall, station ~ 91 to 97 ft.	F.H. Swan	1/8/00
"	32	Trench GMX-T2, NW wall, station ~ 93 to 100 ft.	F.H. Swan	1/8/00
"	33	Trench GMX-T2, NW wall, station ~ 98 to 105 ft.	F.H. Swan	1/8/00
"	34	Trench GMX-T2, NW wall, station ~ 101 to 108 ft.	F.H. Swan	1/8/00
"	35	Trench GMX-T2, NW wall, station ~ 102 to 110 ft.	F.H. Swan	1/8/00
"	36	Trench GMX-T2, NW wall, station ~ 108 to 114 ft.	F.H. Swan	1/8/00
"	37	Trench GMX-T2, NW wall, station ~ 111 to 118 ft.	F.H. Swan	1/8/00

Attachment 1
Index of Trench Photographs
Humboldt Bay ISFISI Project

Roll No.	Frame No.	Description	Photograph By	Date
FHS00/8-1	2	Label identifying next series of photos in trench GMX-T2	F.H. Swan	1/8/00
"	3	NW wall trench GMX-T2; ~station 114 to 122 ft.	F.H. Swan	1/8/00
"	4	NW wall trench GMX-T2; ~station 118 to 126 ft.	F.H. Swan	1/8/00
"	5	NW wall trench GMX-T2; ~station 123 to 129 ft.	F.H. Swan	1/8/00
"	6	NW wall trench GMX-T2; ~station 125 to 133 ft.	F.H. Swan	1/8/00
"	7	NW wall trench GMX-T2; ~station 129 to 137 ft.	F.H. Swan	1/8/00
"	8	NW wall trench GMX-T2; ~station 133 to 138 ft.	F.H. Swan	1/8/00
"	9	NW wall trench GMX-T2; ~station 135 to 142 ft.	F.H. Swan	1/8/00
"	10	NW wall trench GMX-T2; ~station 139 to 146 ft.	F.H. Swan	1/8/00
"	11	NW wall trench GMX-T2; ~station 143 to 149 ft.	F.H. Swan	1/8/00
"	12	NW wall trench GMX-T2; ~station 145 to 152 ft.	F.H. Swan	1/8/00
"	13	NW wall trench GMX-T2; ~station 148 to 156 ft.	F.H. Swan	1/8/00
"	14	NW wall trench GMX-T2; ~station 153 to 159 ft.	F.H. Swan	1/8/00
"	15	NW wall trench GMX-T2; ~station 155 to 162 ft.	F.H. Swan	1/8/00
"	16	NW wall trench GMX-T2; ~station 159 to 166 ft.	F.H. Swan	1/8/00
"	17	NW wall trench GMX-T2; ~station 163 to 168 ft.	F.H. Swan	1/8/00
"	18	NW wall trench GMX-T2; ~station 167 to 173 ft.	F.H. Swan	1/8/00
"	19	NW wall trench GMX-T2; ~station 170 to 177 ft.	F.H. Swan	1/8/00
"	20	NW wall trench GMX-T2; ~station 173 to 178 ft.	F.H. Swan	1/8/00
"	21	NW wall trench GMX-T2; ~station 176 to 184 ft.	F.H. Swan	1/8/00
"	22	NW wall trench GMX-T2; ~station 185 to 188 ft.	F.H. Swan	1/8/00
"	23	NW wall trench GMX-T2; ~station 185 to 192 ft.	F.H. Swan	1/8/00
"	24	NW wall trench GMX-T2; ~station 190 to 197 ft.	F.H. Swan	1/8/00
"	25	NW wall trench GMX-T2; ~station 195 to 200 ft.	F.H. Swan	1/8/00
"	26	Trench GMX-T2, view to the north from southern end of trench	F.H. Swan	1/8/00
"	27	Trench GMX-T2, view to the north from near southern end of trench	F.H. Swan	1/8/00
"	28	ISFSI site, view to the NE	F.H. Swan	1/8/00
"	29	Trench GMX-1, view to the E towards plant from W end of trench,	F.H. Swan	1/8/00
"	30	View to the Ne from near the center of the ISFSI site, north half of trench GMX-T2 in foreground	F.H. Swan	1/8/00
"	31	Surveying the trenches, view to the ESE	F.H. Swan	1/8/00
"	32	Surveying the trenches, view to the ESE	F.H. Swan	1/8/00
"	33	Intersection of boring in E wall of trench GMX-T2; opposite ~ station 30 ft. (i.e., ~ 30 ft. from N end of trench)	F.H. Swan	1/8/00
"	34	Intersection of boring in E wall of trench GMX-T2; opposite ~ station 30 ft. (i.e., ~ 30 ft. from N end of trench)	F.H. Swan	1/8/00
"	35	label identifying film roll no. (FHS 00/8-1)	F.H. Swan	1/8/00
"	36	stake indicating location of boring opposite station 30 ft.	F.H. Swan	1/8/00
"	37	Fractures (& undisturbed bedding below fractures) exposed in NW wall of trench GMX-2 between stations 23-25 ft.	F.H. Swan	1/8/00

Attachment 1
Index of Trench Photographs
Humboldt Bay ISFISI Project

Roll No.	Frame No.	Description	Photograph By	Date
FHS00/8-2	1	label identifying film roll no. (FHS 00/8-2)	F.H. Swan	1/8/00
"	2	Cave-in where trench GMX-T2 intersected backfill in trench WCC 11-T6a	F.H. Swan	1/8/00
"	3 to 12	Sequence of photos showing vertical profile of deposits exposed in trench GMX-T2 at station 180 ft (NW wall); [0.5 to 14.6 ft. depth]	F.H. Swan	1/8/00
"	13	Label identifying next sequence of photos of trench GMX-T-1 (south wall)	F.H. Swan	1/8/00
"	14	Trench GMX-T1 (south wall), station 0 to 5 ft.	F.H. Swan	1/8/00
"	15	Trench GMX-T1 (south wall), station ~ 5 to 10 ft.	F.H. Swan	1/8/00
"	16	Trench GMX-T1 (south wall), station ~ 10 to 15 ft.	F.H. Swan	1/8/00
"	17	Trench GMX-T1 (south wall), station ~ 13 to 19 ft.	F.H. Swan	1/8/00
"	18	Trench GMX-T1 (south wall), station ~ 16 to 23 ft.	F.H. Swan	1/8/00
"	19	Trench GMX-T1 (south wall), station ~ 19 to 25 ft.	F.H. Swan	1/8/00
"	20	Trench GMX-T1 (south wall), station ~ 21 to 27 ft.	F.H. Swan	1/8/00
"	21	Trench GMX-T1 (south wall), station ~ 25 to 31 ft.	F.H. Swan	1/8/00
"	22	Trench GMX-T1 (south wall), station ~ 27 to 33 ft.	F.H. Swan	1/8/00
"	23	Trench GMX-T1 (south wall), station ~ 30 to 37 ft.	F.H. Swan	1/8/00
"	24	Trench GMX-T1 (south wall), station ~ 33 to 39 ft.	F.H. Swan	1/8/00
"	25	Trench GMX-T1 (south wall), station ~ 36 to 44 ft.	F.H. Swan	1/8/00
"	26	Trench GMX-T1 (south wall), station ~ 40 to 46 ft.	F.H. Swan	1/8/00
"	27	Trench GMX-T1 (south wall), station ~ 41 to 49 ft.	F.H. Swan	1/8/00
"	28	Trench GMX-T1 (south wall), station ~ 46 to 50 ft.	F.H. Swan	1/8/00
"	29	Trench GMX-T1, view to the W	F.H. Swan	1/8/00
"	30 to 37	Sequence of photos showing vertical profile of deposits exposed in trench GMX-T1 at station 20 ft (S wall); to a depth of 11.9 ft; (scale in feet and tenths of feet)	F.H. Swan	1/8/00

Attachment 1
Index of Trench Photographs
Humboldt Bay ISFISI Project

Roll No.	Frame No.	Description	Photograph By	Date
FHS00/8-3	1	Soil Profile, trench GMX-T2, ~ station 190 ft., NW wall	F.H. Swan	3/8/00
"	2	Soil Profile, trench GMX-T2, ~ station 190 ft., NW wall	F.H. Swan	3/8/00
"	3	Soil Profile, trench GMX-T2, ~ station 190 ft., NW wall,	F.H. Swan	3/8/00
"	4	Soil Profile, trench GMX-T2, ~ station 190 ft., NW wall, (poor exposure)	F.H. Swan	3/8/00
"	5 to 9	Poor exposures - photos, not printed or discarded	F.H. Swan	3/8/00
"	10	Label - Trench GMX-T2, Station 80 feet (W) wall	F.H. Swan	3/8/00
"	11 to 14	Negatives not printed ??	F.H. Swan	3/8/00
"	15	Continuous lithologic contact overlying fractures near station 40 ft, NW wall of trench GMX-T2, view is towards the SW	F.H. Swan	3/8/00
"	16	Continuous lithologic contact overlying fractures opposite station 80 ft exposed in E wall of trench GMX-T2, view is towards the SW	F.H. Swan	3/8/00
"	17	Negatives not printed -- same view as frame 18	F.H. Swan	3/8/00
"	18	Label - Trench GMX-T2, Station 40 feet (W) wall	F.H. Swan	3/8/00
"	19 to 21	Fractures lined with black roots at station 40 ft, trench GMX-T2, NW wall	F.H. Swan	3/8/00
"	22 to 24	Continuous lithologic contacts overlying fractures near station 80 ft exposed in E wall of trench GmX-T2, view is towards the SW	F.H. Swan	3/8/00
"	25	Label - Trench GMX-T2, Station 30 feet (W) wall	F.H. Swan	3/8/00
"	26 to 28	Short fracture line with greasy silt in clayey silt overlain by well sorted sand, the contact between the clayey silt and the sand is not displaced and the fracture cannot be traced into the overlying sand; NW wall of trench GMX-T2 at station 30 ft.	F.H. Swan	3/8/00
"	29& 30	Fractures lined with gray silt overlain by backfill in ESA trench BP-1, NW wall of trench GMX-T2 at station ~ 25 ft., Quarter for scale	F.H. Swan	3/8/00
"	31 to 33	Continuity of strata below fractures lined with grey silt, NW wall of trench GMX-T2 at station ~ 25 ft.	F.H. Swan	3/8/00
"	34	Trench GMX-T1, view to the E towards HBPP	F.H. Swan	3/8/00
"	35	SW half of trench GMX-T2, view to the S	F.H. Swan	3/8/00
"	36 & 37	Back fill in trench WCC 11-T6a exposed in NW wall of trench GMX-T2, ~ station 110 ft.	F.H. Swan	3/8/00

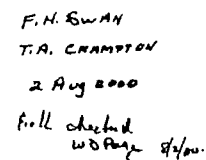
ATTACHMENT 2

**HUMBOLDT BAY ISFSI SITE
DATA REPORT D**

FIELD TRENCH LOGS

NOTE: Unit designations shown on field log, revised to conform w/ WCL (1980) unit designations for Upper Neokoma Fm. (Nos. shown in Red)

5117.009 TASK 7
HBPP ISFS SITE
TRENCH BMY T-1



Note: (Unit Designations shown on ~~map~~ of floor materials in panel)
were numbered to correspond to the main subdivisions of the
map. ~~Humboldt~~ ~~Bay~~ ~~ISFSI~~ ~~map~~ ~~see~~ ~~in~~ ~~W.C.C. (1980) report~~ (Unit nos. 5117-5121)

F.H. Swan
8/23/00

5117.009 / TASK 7

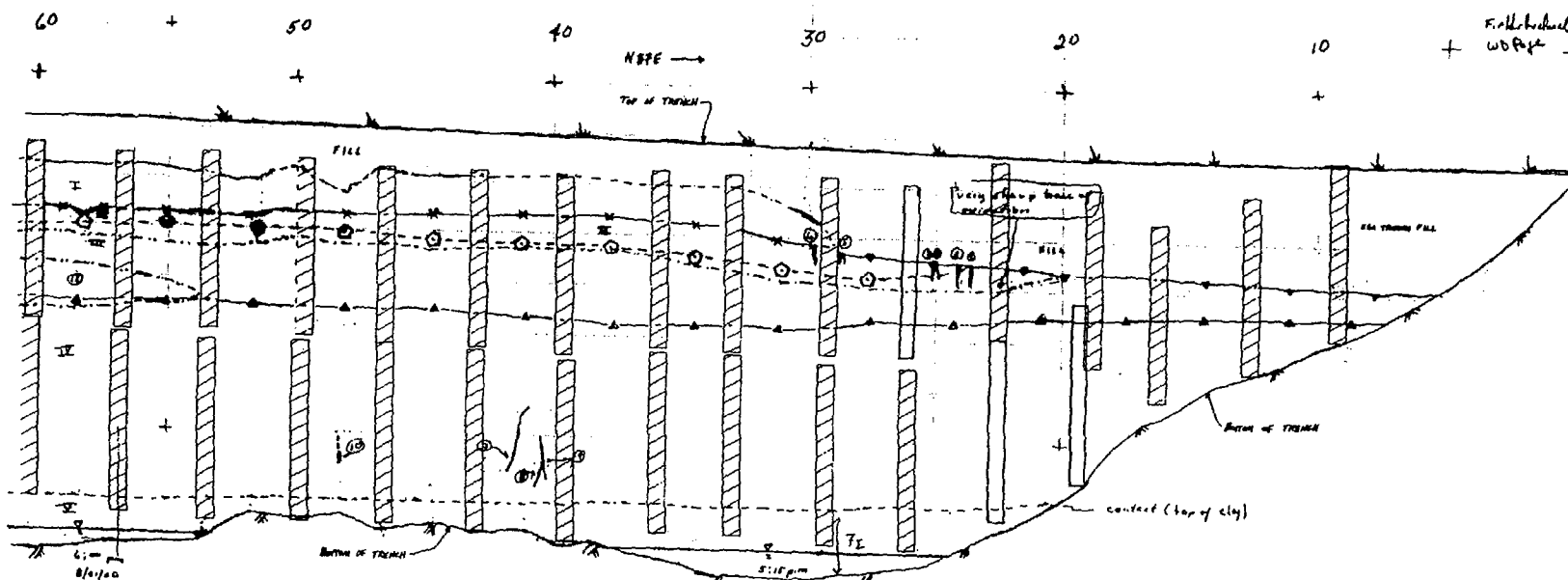
TRAIL CH 8 M1 T-2

1 Aug 00 to 2 Aug 00

F.H. Swan + T.A. CAMPBELL

Sheet 1 of 4

Fieldbook 8/9/00
W.D.P. +



I = clayey, silty fine sand

II = brown oxidized clayey silt

III = well sorted med sand grading upwards to sandy silt, alternating beds of silty sand + sandy silt, fining upwards; locally contains roots or grasses in the upper silty beds; locally strongly oxidized and reduced in places.

IV = silt interbedded w/ fine sand + clay; laterally discontinuous bedding (sharp to gradational clay texture)

V = lean silty clay to clayey silt; massive

NO DETECTABLE DISPL.

⑦ N77E; 84/90W fractures containing compressed roots

⑧ sand-filled fracture N77W; 88SW

⑨ N88E; near vertical fracture similar to ⑦

⑩ N77E; 87N fracture, similar to ⑦

⑪ = oxidized zone

① N87E; 88SE gray-cherty, N-dip fracture - a mudstone (no slicken striations)

② N77E; 88SE similar to ①

③ N77W; 73NE similar to ②

④ N87E; angular steep dip; wavy (similar to ② except angular instead of planar)

⑤ poly conjugate fractures similar in kind to ② and ④

⑥ planar clay-filled contact fracture N80E; N88E

LITHOLOGIC CONTACTS

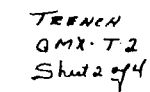
— < 2 cm

- - - 2-5 cm

.... 5-15 cm

— soil boundary (sharp)

— soil boundary (gradational)

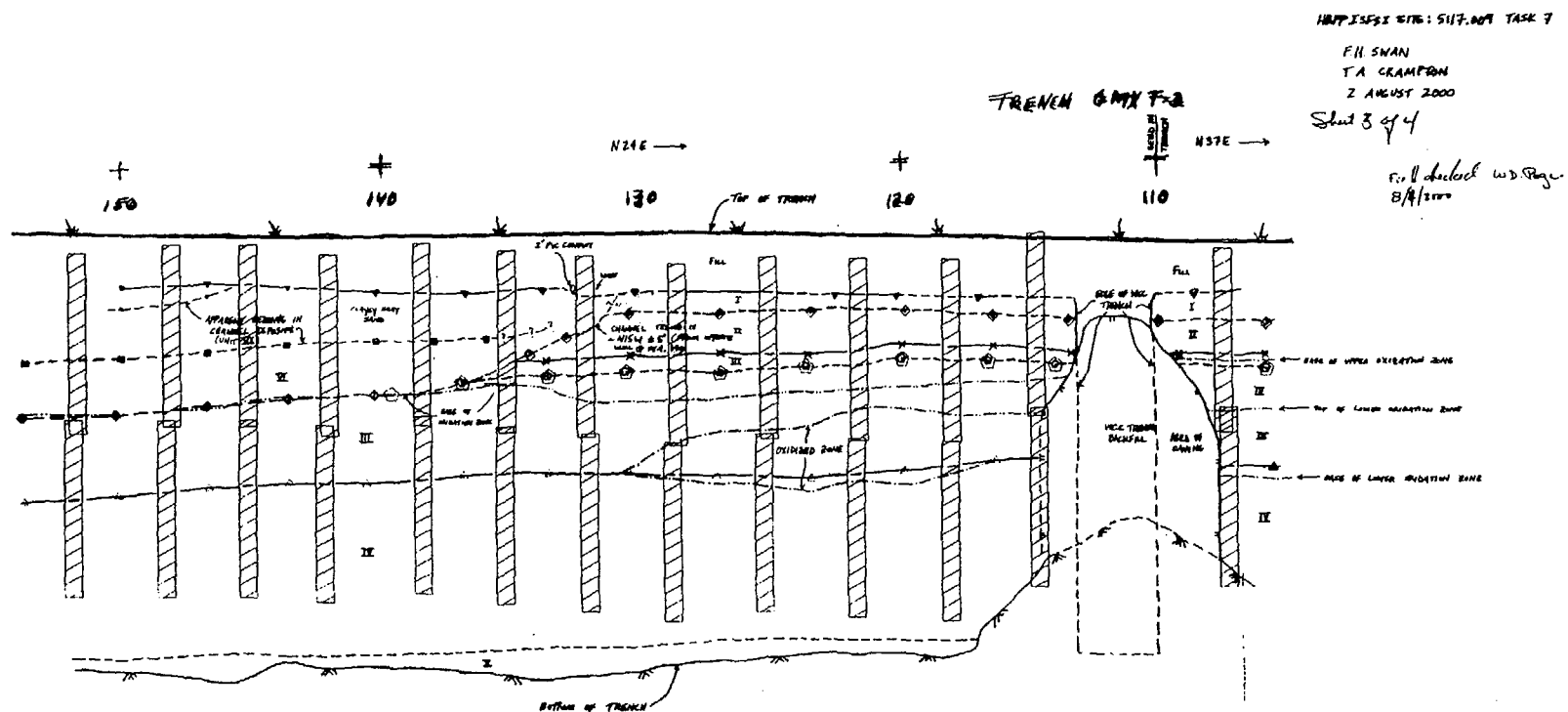


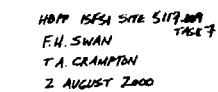
ANCHOR FOR
POST, TOWER
CABLE

HBPP ISFCI SITE 547.009 TAX 7

FH SWAN
 T.A. CRAMPTON
 2 Aug 2000

Field, Helen J
w. D. Page
6/9/00.





F. L. L. L. L.
v. Page 8:4 12