Appendix E – Geotechnical Report

December 2, 2011
Job No. X169AA

PRELIMINARY GEOTECHNICAL ENGINEERING INVESTIGATION McCARTHY RANCH MILPITAS, CALIFORNIA

Prepared For:
The Torgan Group
Madison Centre
4950 Yonge Street, Suite 1000
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GEOTECHNICAL ENGINEERING CONSULTANTS

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November 30, 2011
Job No. X169AA

Curtis N. Jensen
Geoffrey Van Lienden

The Torgan Group
Madison Centre
4950 Yonge Street, Suite 1000
Toronto, Ontario M2N 6K1
Canada

Attention: Sam Cohen

Re: Preliminary Geotechnical Engineering Investigation
McCarthy Ranch Shopping Center
Milpitas, California

This report presents results of our investigation of soil conditions underlying the McCarthy Ranch shopping center on Ranch Drive in Milpitas, California. The site location is illustrated on Figure 1.

We understand that you are considering purchasing the shopping center and are tentatively planning a project that would be comprised of both rebuilding some or all of the existing structures on the site, constructing a hotel and adding a parking garage.

The purpose of our investigation was to generate data regarding the stratigraphy and engineering properties of the soils comprising the site soil profile to the extent that we could advise you regarding the influence the soil conditions could have on the proposed project and potential geotechnical issues that could be design considerations for the project. To this end, the investigation scope included the following elements.

1. Physical examination of the site.

2. Subsurface exploration

3. Analyses

4. Consultation

5. Preparation of this report

INVESTIGATION METHOD

After examining the site, on November 22, 2011, we retained Lankelma Inc. to conduct six cone penetration tests (CPTs) at different locations throughout the site. The approximate positions of the CPTs are plotted on Figure 1.

The term cone penetration test refers to a sounding made with an instrumented steel cone that is hydraulically pushed into the site subsoils, using the weight of the truck on which the cone is mounted as a reaction. Instruments at and near the cone tip measured the stress required to advance the cone, friction on a sleeve behind the tip and other data.

A standard 60-degree, 10 square centimeter cone was employed in all six tests. The testing generally followed the ASTM D5778 Standard Test Method procedure.

The recovered data was converted into engineering units and plotted. The plots are reproduced on Figure 2 through 7. It is noted that there are two sets of plots for each CPT.

The cone instruments include a transducer that recorded the excess pore water pressure as the cone penetrated into the explored soils. We stopped the cone movement temporarily once at each test location in order to allow the excess pressure to dissipate, enabling a measurement of the static ground water head. The data from these dissipation tests are plotted on Figures 8 through 13.

Using correlations published in the engineering literature, we interpreted the recorded data to define the stratigraphy and engineering properties of the soils making up the site soil profile. The stratigraphy and properties were input into our analyses, the results of which are described below in the Conclusions and Recommendations section. Our internal interpretations are generally to those shown on the Figures.

SITE DESCRIPTION AND GEOTECHNICAL CONDITIONS

1. Site Description

The McCarthy Ranch shopping center is located between Ranch Drive and McCarthy Boulevard and near the intersection of Interstate Highway 880 and State Highway 237 in Milpitas, California. It consists of several retail buildings configured in two arrays separated by a large asphalt concrete parking lot.

Grades throughout the shopping center are nearly level, although there are minor elevation changes of about 2 feet throughout the entire site, probably to promote drainage. Building areas are judged to be slightly higher than the surrounding parking lot. The fire/truck access lane along the site westerly side, parallel to McCarthy Boulevard is also slightly higher than the customer parking lot.

2. Geotechnical Conditions

All six cone penetration tests showed a generally similar soil profile, although the depths to the interfaces between individual layers varied.

The near surface soils to depths on the order of 2 to 3 feet are mixed sands and clays, possibly fill(s) These soils overlie interbedded soft to stiff clays, silty clays

and clayey silts, extending to depths ranging from about 20 feet in CPT 4 to as much as about 48 feet in CPT 6.

The clays/ silts are underlain by a layer of medium dense silty sand and then, in turn, by a very dense layer of sand and gravel. The top of the dense sand and gravel ranged in depth from approximately 28 feet to 48 feet. The silty sand layer was not observed in CPT 6.

The dense layer rests on another layer of stiff silty clay and clayey silt. The CPTs did not penetrate through the bottom of this layer.

A more detailed description of the soils comprising the explored profile is included with the plots on Figures 2 through 7.

The November 22, 2011 dissipation tests showed the ground water surface depth varied over a relatively narrow range between 9.2 and 9.7 feet, except CPT 1, where the surface of the groundwater was measured at a depth of 14.1 feet

PROJECT DESCRIPTION

Our understanding of preliminary planning is as follows.

The row of buildings bordering the site westerly side, nearest to McCarthy Boulevard, would be extensively remodeled or replaced entirely with new structures presenting a different architectural model. A hotel is planned for the extreme south end of the site, near the south intersection of Ranch Drive and McCarthy Boulevard. We anticipate the hotel would be a multi story structure.

A parking structure would be constructed in the existing parking lot, generally in the area encompassed by our CPTs 1 through 3 and would extend westerly into the existing building envelopes. We understand that the structure would have one level below grade.

CONCLUSIONS AND DISCUSSION

1. General Findings

Judging from of our six cone penetration tests and our analyses of the test data, it is our opinion that the site foundation soils have engineering properties typical to the San Francisco Bay Area. We conclude that they should not present unusual difficulties for new foundation design and construction, or for the foundations that support the existing buildings.

Accordingly, we suggest that considerations regarding the site soil or foundation conditions do not need to be significant factor in the decision to purchase the McCarthy Ranch property insofar as common types of foundations should be adequate to support new buildings.

Tentative conclusions about foundations and other geotechnical issues are discussed in the remainder of this section.

2. Foundations

We believe that type of foundations supporting new (or extensively remodeled) buildings and structures will depend upon the size of the structural foundation loads.

The near surface soils are probably have adequate load carrying capacity to allow low-rise buildings to be founded on shallow foundations (i.e. footings bearing at shallow depth). However, the presence of softer and possibly compressible silt and clay layers within the overall soil profile will, we believe, limit the size of the foundation loads that can be transmitted to shallow bearing soils. These soils may compress significantly under large loads, leading to unacceptable foundation settlements.

We currently believe that buildings imposing large structural loads can be supported on mat (structural raft) foundations. A mat should also be acceptable for the garage structure, because the garage weight should be largely compensated for by the weight of the soil excavated within the garage footprint. Depending upon the garage size and column spacing, footings may also be satisfactory for the garage.

Deep foundations bearing in the sand and gravel layer would also be suitable for supporting large structural loads, as for example, might be imposed by the proposed hotel, particularly if the hotel is more than a few stories in height.

Driven piles would be an example of an appropriate deep foundation. Prestressed concrete piles are common in the San Francisco Bay area; we estimate that prestressed concrete piles would be capable of carrying the pile allowable structural capacity loads if driven into the dense sand and gravel layer (thus, the geotechnical capacity may not control the pile design).

3. Liquefaction

The term liquefaction describes the phenomena wherein an external disturbing agent transforms an initially stable soil into a medium resembling a viscous fluid. In the San Francisco Bay Area the disturbing agent would be strong ground vibrations (traveling shear waves) transmitted into the site by an earthquake generated on one of the nearby faults. Liquefaction is a transient phenonmena; the disturbed soil would return to a stable state after a period of time.

Generally speaking, only saturated sands and cohesionless silts having a loose (i.e. low density) consistency located below the ground water surface are susceptible to

liquefaction. Clays, cohesive silts, dense saturated sands and gravels and all unsaturated soils are not liquefiable for all practical purposes.

We analyzed the liquefiability of the silty sand and sand and gravel layers underlying the site for each of the six profiles delineated by the cone penetration tests. These analyses indicate that only the silty sand layer(s) could liquefy; the sand and gravel layer is essentially too dense to liquefy. Ground motion data for a 10% in 50-year exceedence level published by the USGS was input into these analyses.

Notwithstanding the finding of potential liquefaction of one of the site soil layers, in our opinion there would be negligible hazard for the site and that liquefaction is not an important engineering consideration. This opinion is based on the substantial depth to top of the potentially liquefiable sandy soil and the fact the overlying soils are primarily clays that are not subject to liquefaction. Liquefaction related hazards such as shallow foundation failure and lateral spreading that have been expressed at other locations in the Bay Area during earthquakes (or elsewhere in the world) should not occur at McCarthy Ranch; the former because the intervening clays would protect the foundations from bearing capacity failure, and the latter because of the thickness of the clay layers and lack of topographic relief in the area surrounding the site.

Liquefaction would cause the liquefied layer to consolidate slightly, leading to settlements that would be expressed at the ground surface. We computed ground settlements ranging from about 1 inch to about 3 ½ inches. These estimates are believed to be conservative upper bound estimates and, therefore, probably larger than would actually be realized because geologic aging effects, which we ignored in the analyses, are known to reduce sand liquefiability (the site soils are relatively geologically old). Moreover, the overlying clay layers would damp the differences in total consolidation occurring in the underlying sands, reducing and mitigating differential settlement effects. If liquefaction were to happen during an earthquake, it is probable that the settlement effects would not be observable at the ground surface and in the buildings.

4. Ground Water

As noted, the measured ground water surface depth ranged from 9.3 feet to 9.7 feet in CPTs 2 through 6 and at 14.1 feet in CPT 1 These depths correspond to approximate elevations between 0.1 feet (in CPT 1) and 6.7 feet (in CPT 5).

These parking garage design will require measures to account for the fact that the garage excavation would extend to a level below the groundwater surface. The water can be prevented from migrating into the garage by installing subsurface drains and collector systems from which the water can be pumped or discharged by gravity to project storm drains. Alternatively, the garage structure could be thoroughly waterproofed and designed to resist uplift pressures, for which drains

would not be necessary (although drainage would probably still be warranted during construction). Retaining walls along the garage sides would have to be designed to resist both soil and hydrostatic pressures in the latter case.

5. Further Investigation

We recommend a more detailed investigation of the site soil conditions be conducted as part of the design of the new project structures. At a minimum, the investigation should be comprised of soil borings, sampling and laboratory testing and analyses. It probably should include further insitu testing involving seismic cone penetrometer tests and dilatometer soundings.

LIMITATIONS

The conclusions and opinions in this report are based on a visual examination of the property and on the subsurface exploration described in this report. While, in our opinion, this investigation adequately discloses the soil conditions across the site for the intended purpose described above, the possibility exists that there are anomalies or changes in the soil conditions that were not discovered by this investigation.

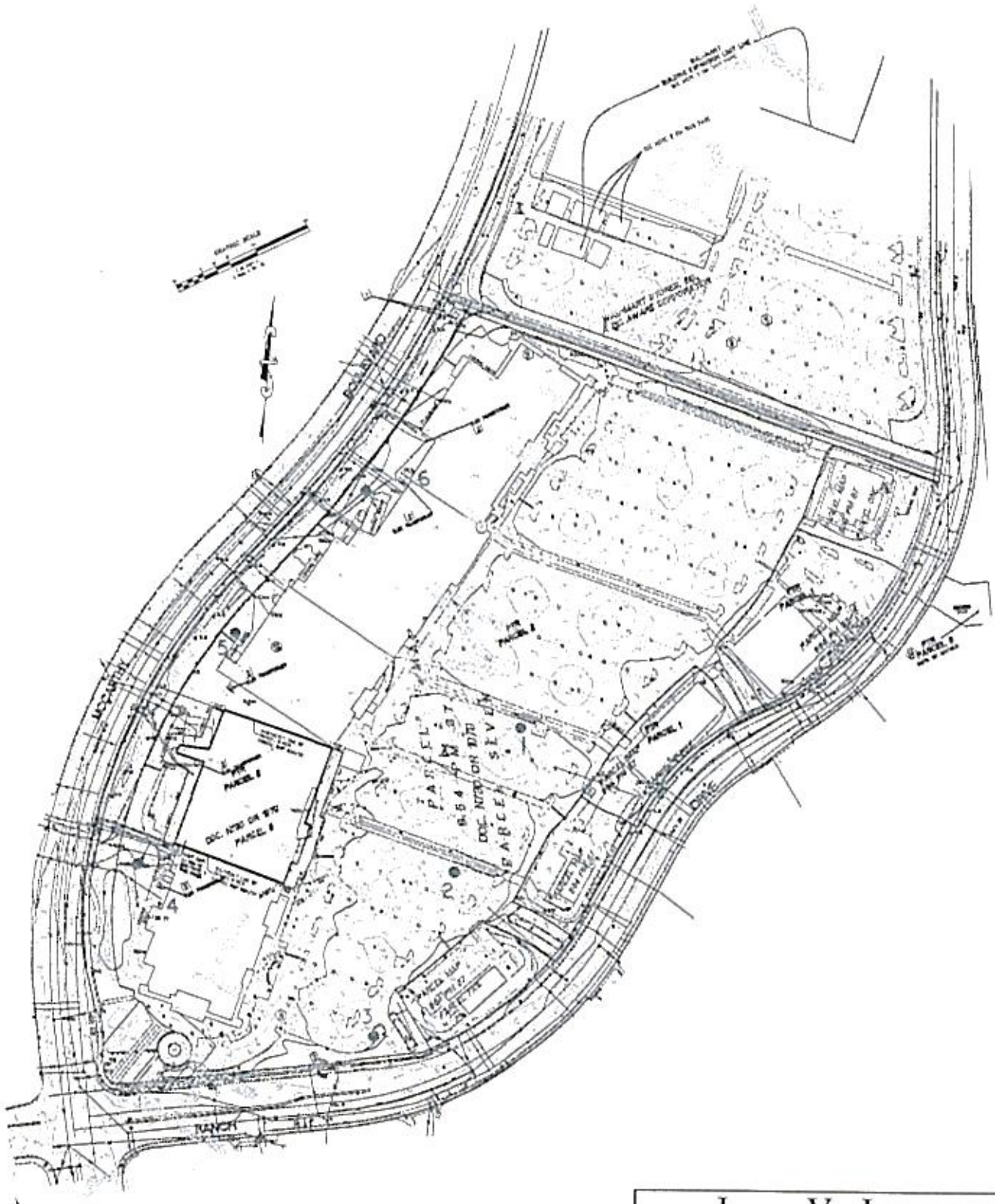
The amount of information derived from the investigation is not sufficient for project design and should be supplemented with additional investigation if the project proceeds to the design phase.

This report was prepared to provide engineering opinions and recommendations only. It should not be construed to be any type of guarantee or insurance

Very truly yours,

JENSEN-VAN LIENDEN ASSOCIATES, INC.

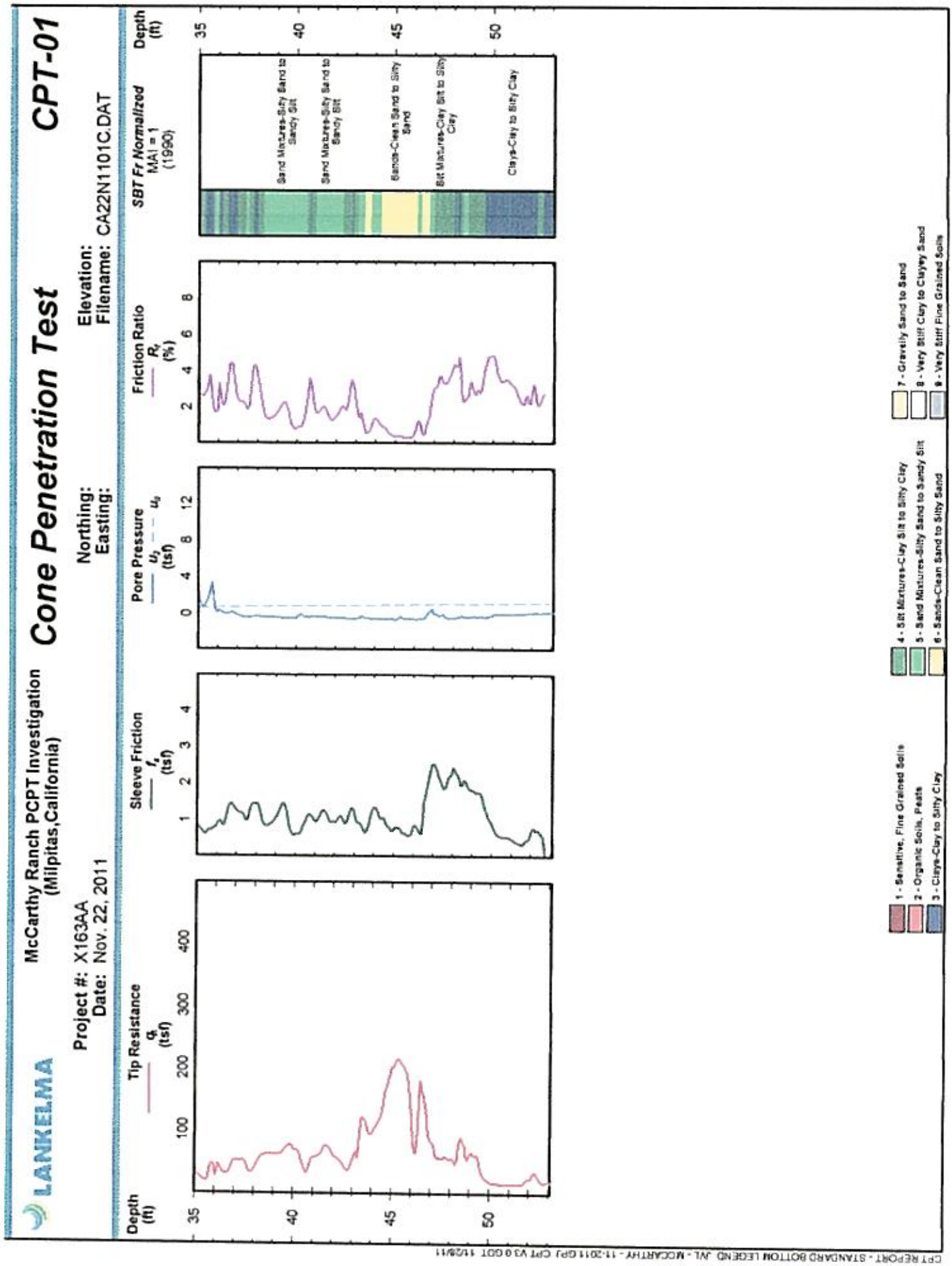
Curtis N. Jensen
G.E. # 438

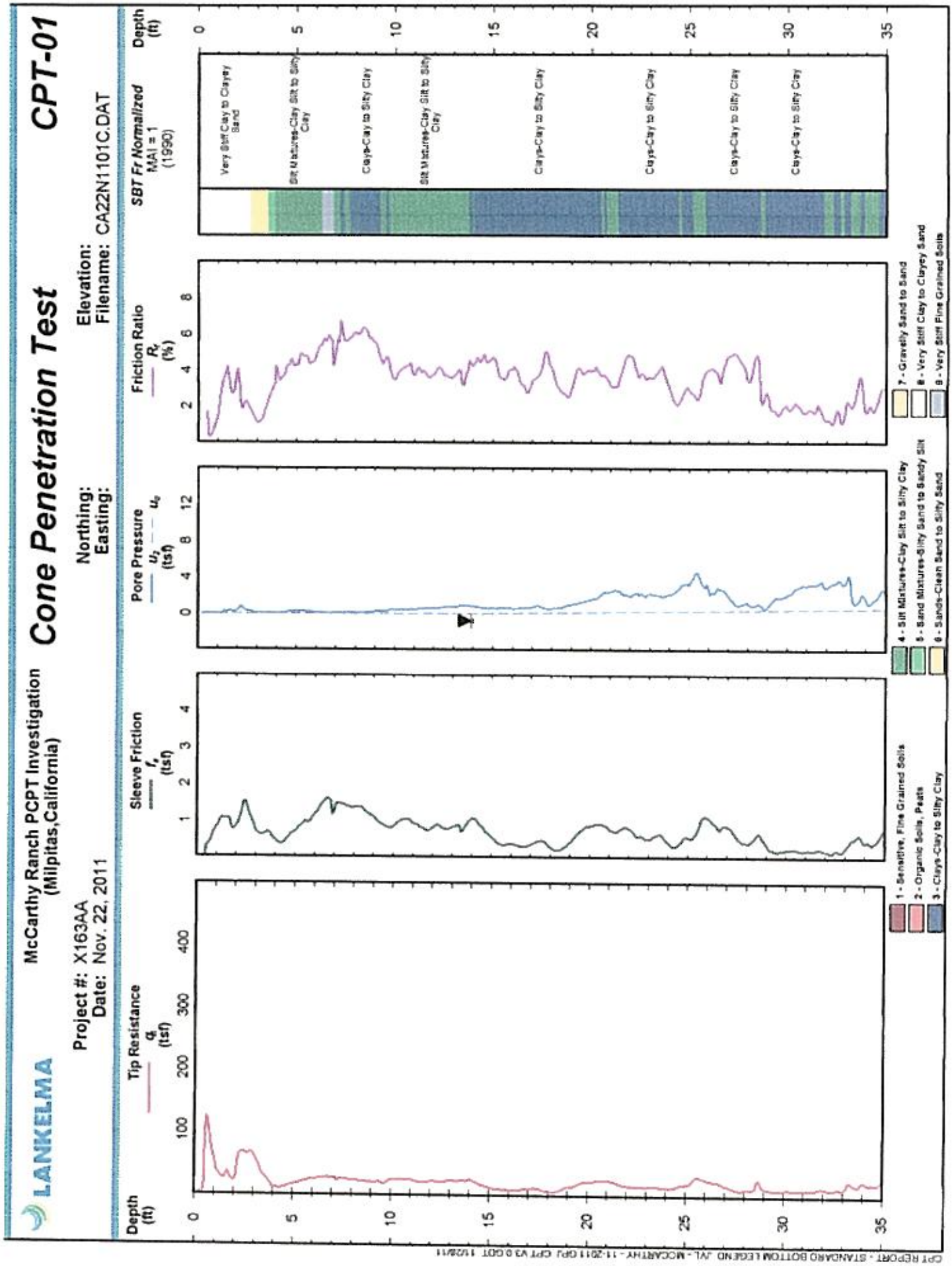


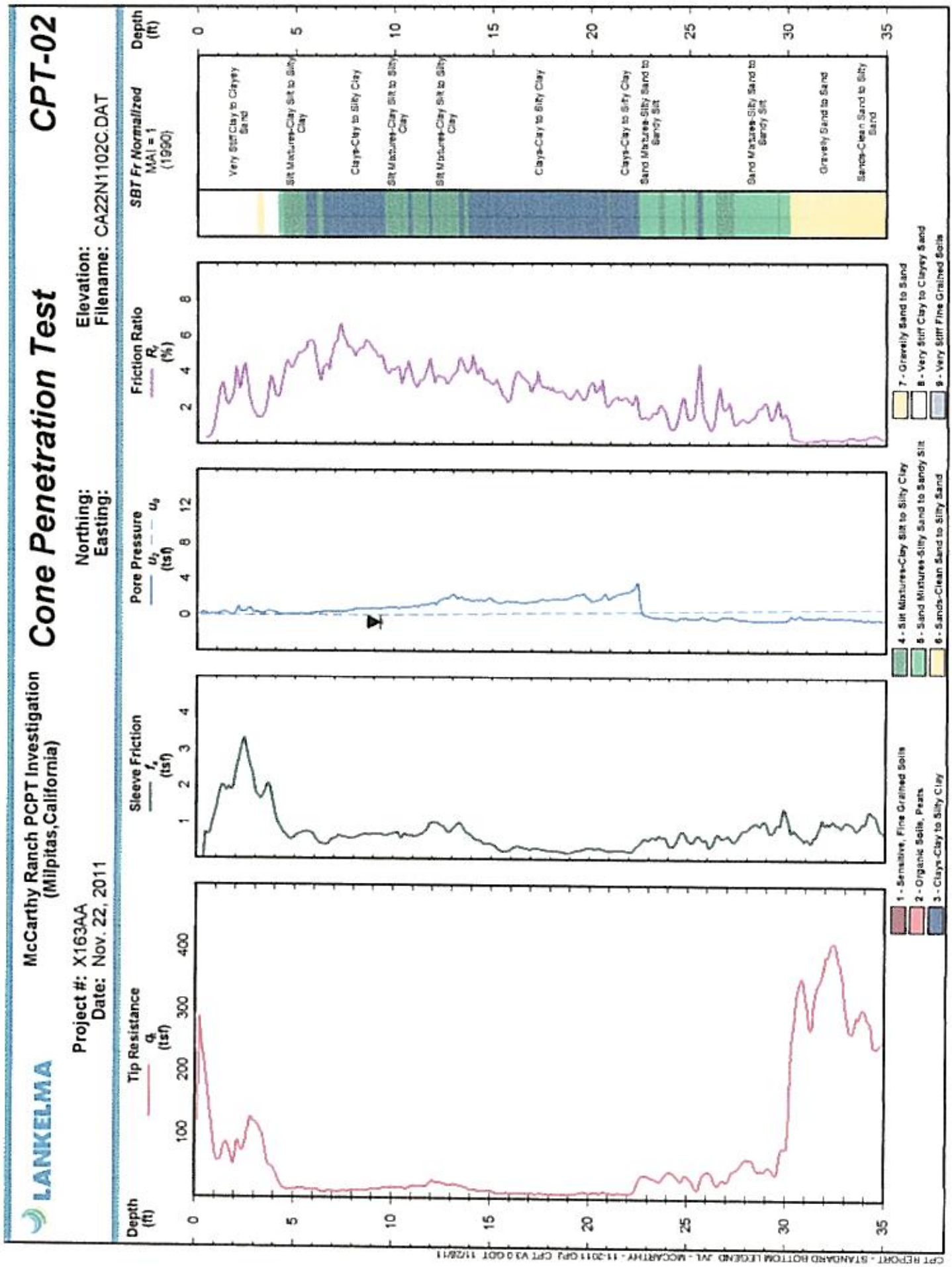
● Approximate Location of Cone Penetration Tests (Typ.)

Jensen – Van Lienden Associates, Inc.		
CPT Location Plan McCarthy Ranch Milpitas, California		
Date 12/11	**Figure** 1	**Job No.** X169AA

Figure 2cont.




LANKELMA
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project #: X163AA
Date: Nov. 22, 2011
Cone Penetration Test
CPT-01
Elevation:
Filename: CA22N1101C.DAT
Northing:
Easting:
Depth (ft)
Tip Resistance q_t (tsf)
Sleeve Friction f_s (tsf)
Pore Pressure u_2 u_0 (tsf)
Friction Ratio R_f (%)
SBT Fr Normalized MAI = 1 (1990)
Very Stiff Clay to Clayey Sand
Silt Mixtures-Clay Silt to Silty Clay
Clays-Clay to Silty Clay
Silt Mixtures-Clay Silt to Silty Clay
Clays-Clay to Silty Clay
Clays-Clay to Silty Clay
Clays-Clay to Silty Clay
Clays-Clay to Silty Clay
1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils
CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011 GPJ CPT V3 9 GDT 11/28/11


LANKELMA
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project #: X163AA
Date: Nov. 22, 2011
Cone Penetration Test
CPT-02
Elevation:
Filename: CA22N1102C.DAT
Northing:
Easting:
Depth (ft)
Tip Resistance q_c (tsf)
Sleeve Friction f_s (tsf)
Pore Pressure u_2 u_0 (tsf)
Friction Ratio R_f (%)
SBT Fr Normalized MAI = 1 (1990)
Very Stiff Clay to Clayey Sand
Silt Mixtures-Clay Silt to Silty Clay
Clays-Clay to Silty Clay
Silt Mixtures-Clay Silt to Silty Clay
Silt Mixtures-Clay Silt to Silty Clay
Clays-Clay to Silty Clay
Clays-Clay to Silty Clay
Sand Mixtures-Silty Sand to Sandy Silt
Sand Mixtures-Silty Sand to Sandy Silt
Gravelly Sand to Sand
Sands-Clean Sand to Silty Sand
1 - Sensitive, Fine Grained Soils
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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils
CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011.GPJ CPT V3.0 GDT 11/28/11

Figure 3 cont.

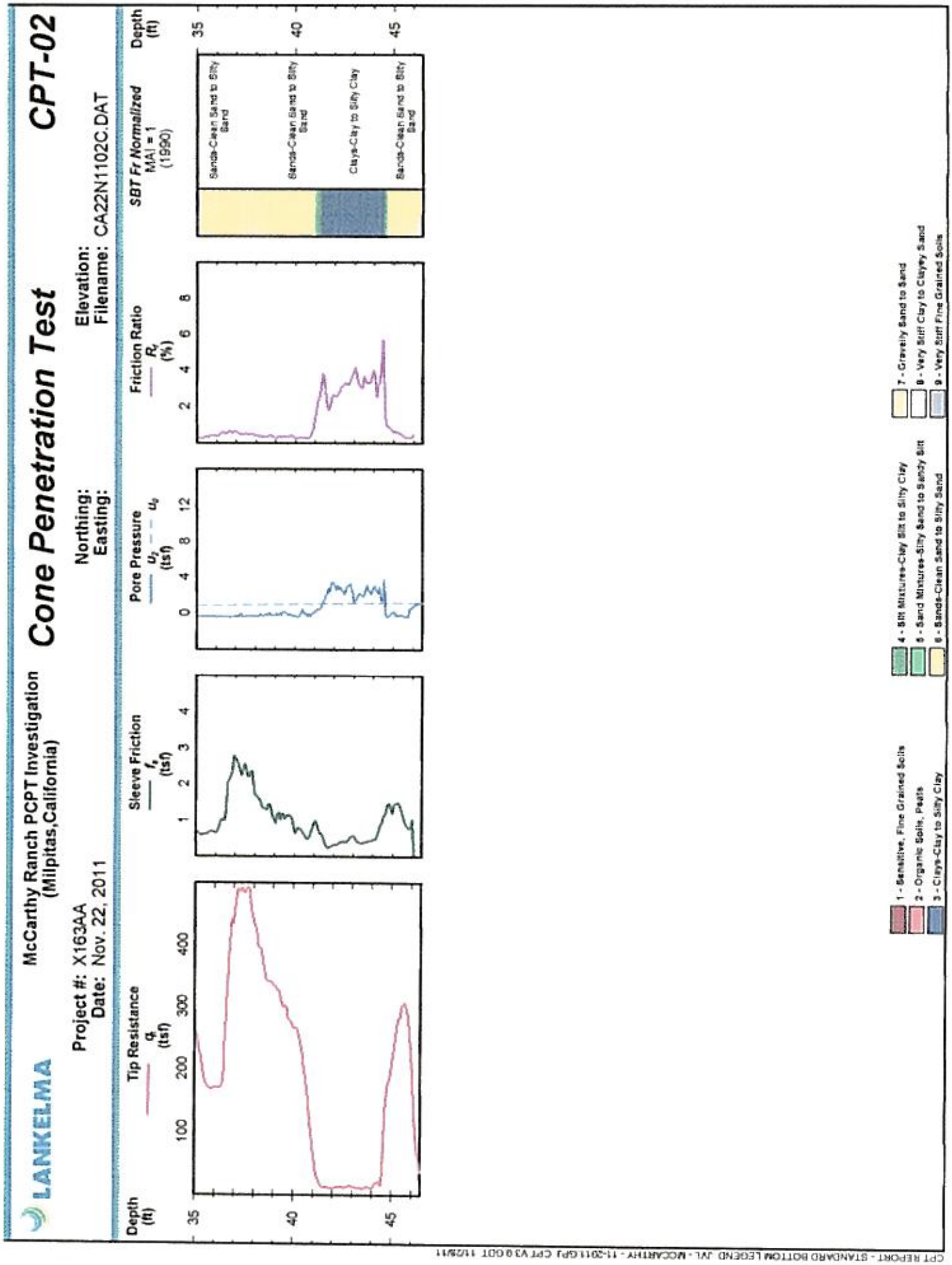
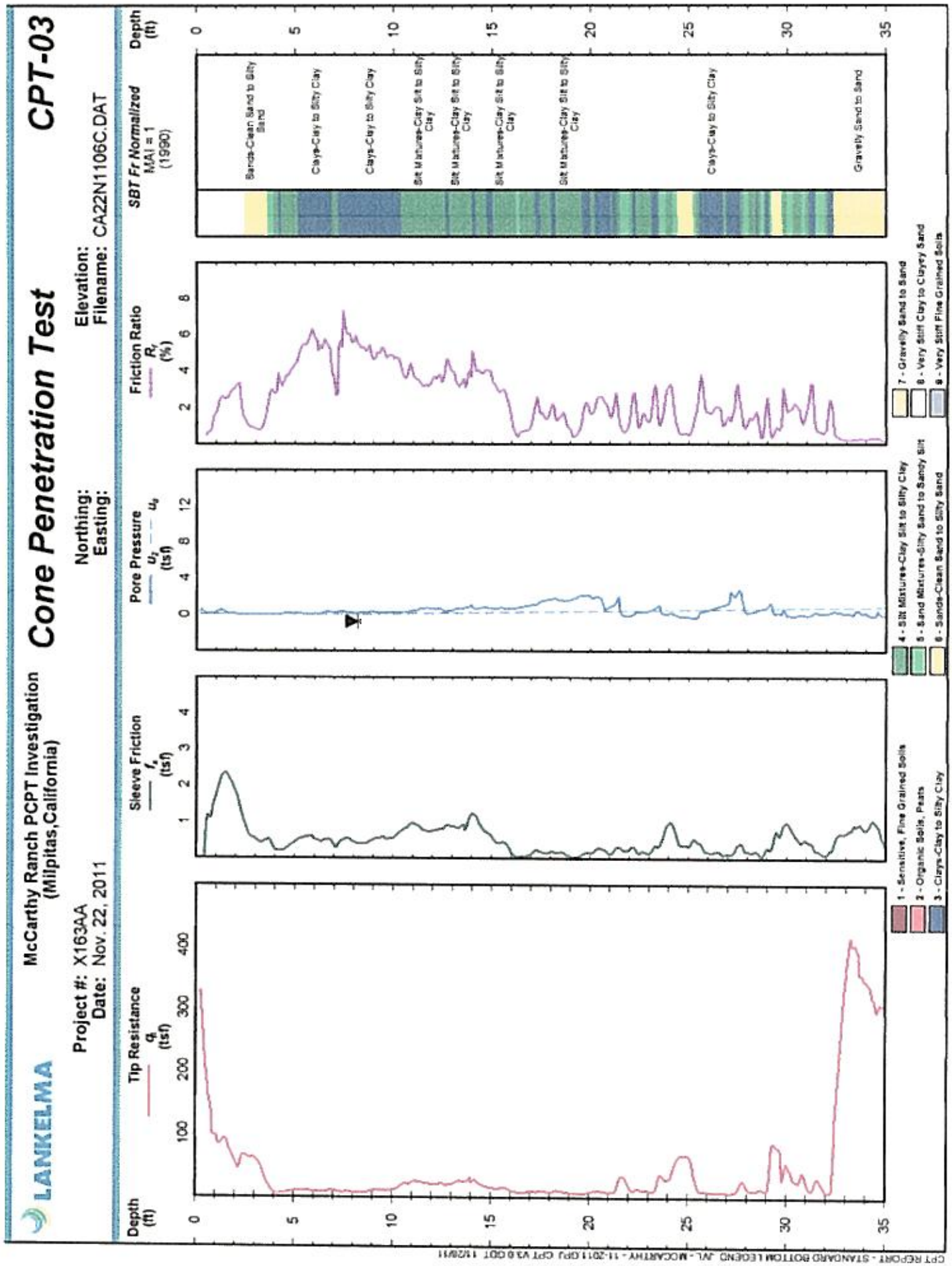


Figure 4


LANKELMA
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project #: X163AA
Date: Nov. 22, 2011
Cone Penetration Test
CPT-03
Elevation:
Filename: CA22N1106C.DAT
Northing:
Easting:
Depth (ft)
Tip Resistance q_t (tsf)
Sleeve Friction f_s (tsf)
Pore Pressure u_2 — u_0 (tsf)
Friction Ratio R_f (%)
SBT Fr Normalized MAI = 1 (1990)
Sands-Clean Sand to Silty Sand
Clays-Clay to Silty Clay
Silt Mixtures-Clay Silt to Silty Clay
Gravelly Sand to Sand
1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils
CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011.GPJ CPT V3.0 GDT 11/28/11

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McCarthy Ranch PCPT Investigation
(Milpitas,California)

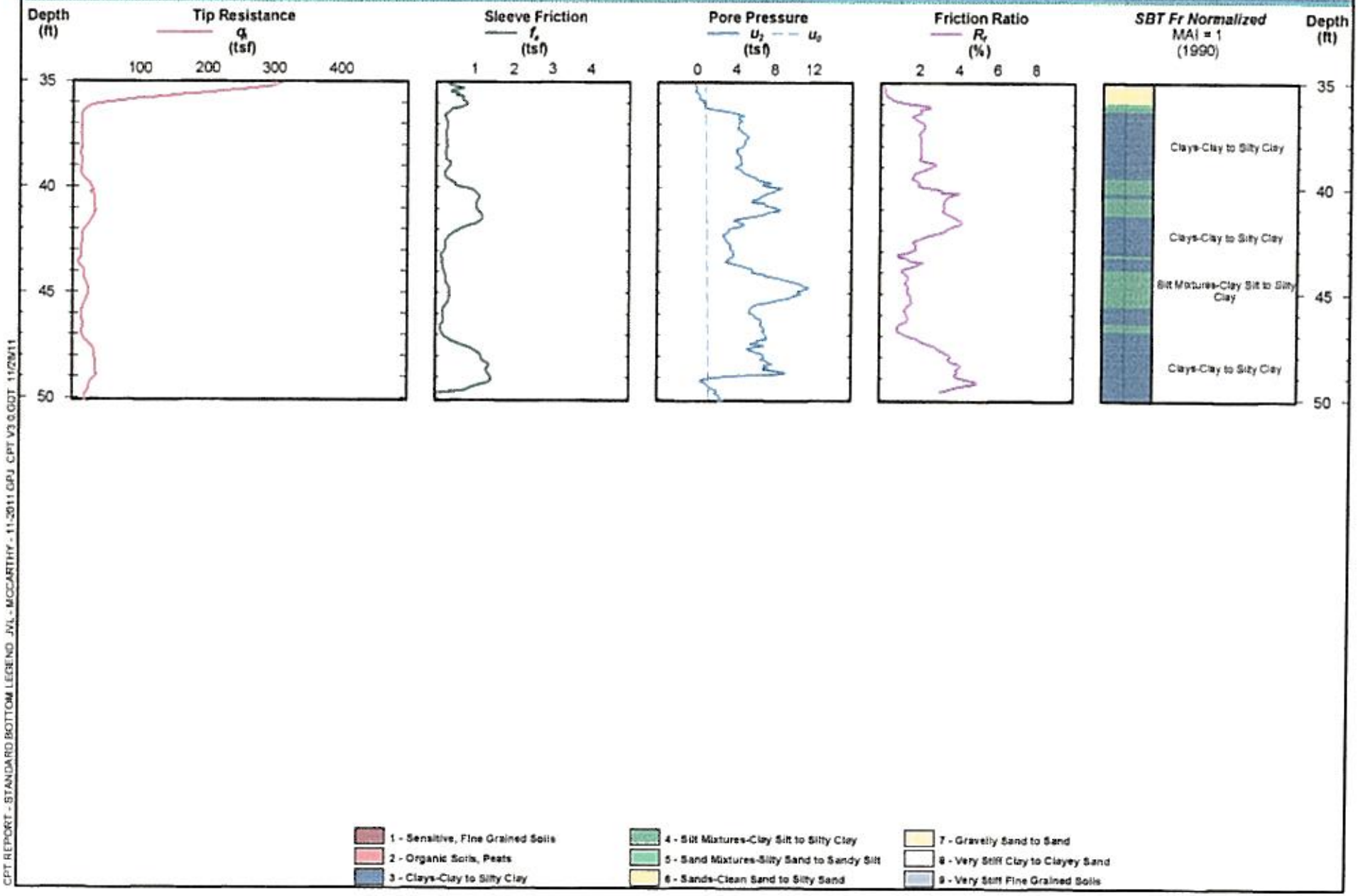
Cone Penetration Test

CPT-03

Project #: X163AA
Date: Nov. 22, 2011

Northing:
Easting:

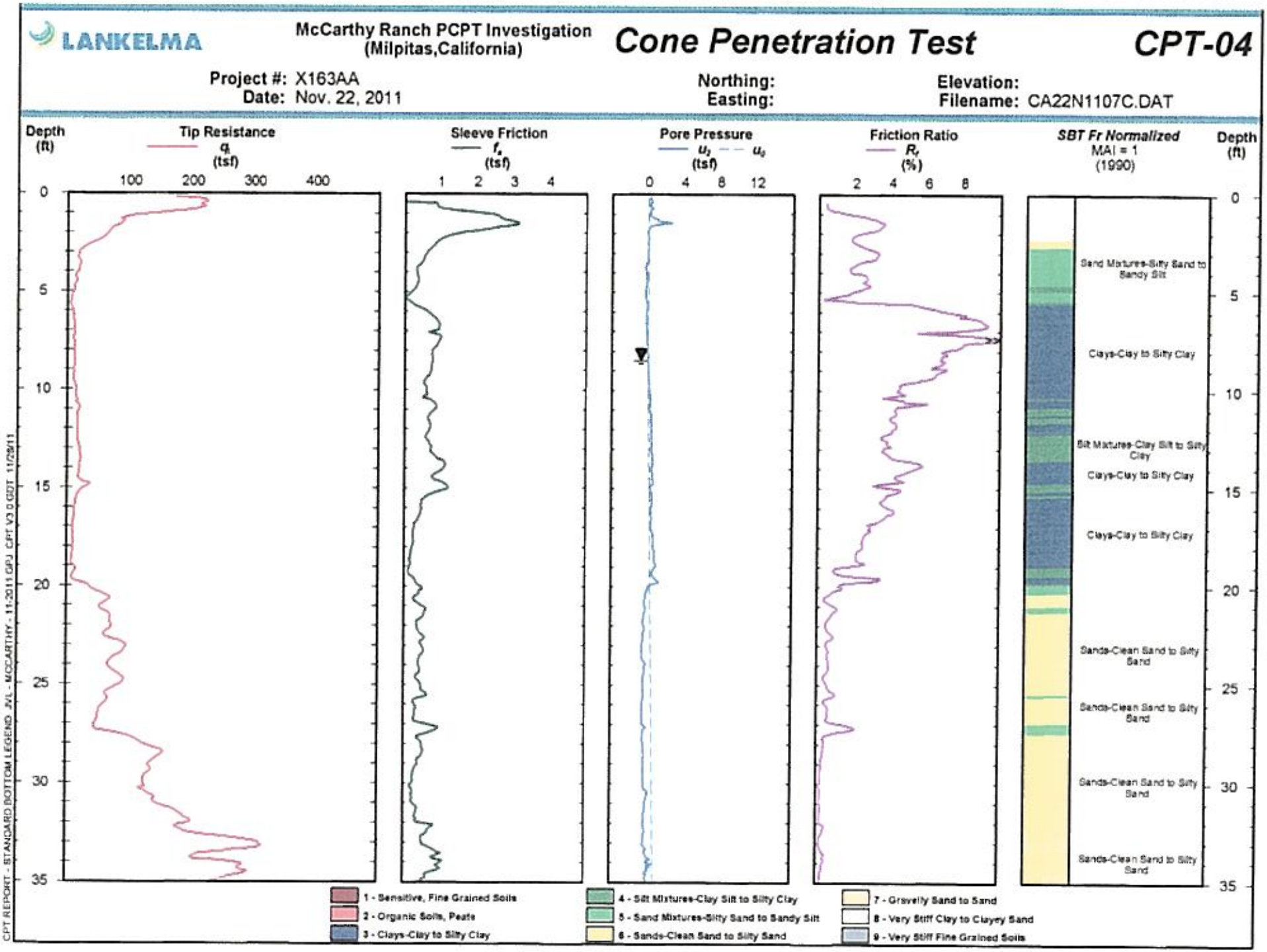
Elevation:
Filename: CA22N1106C.DAT



CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011.GPJ CPT V3.0.GDT 11/29/11

Job No. X169AA

Figure 4 cont.



Job No. X169AA

Figure 5

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McCarthy Ranch PCPT Investigation
(Milpitas,California)

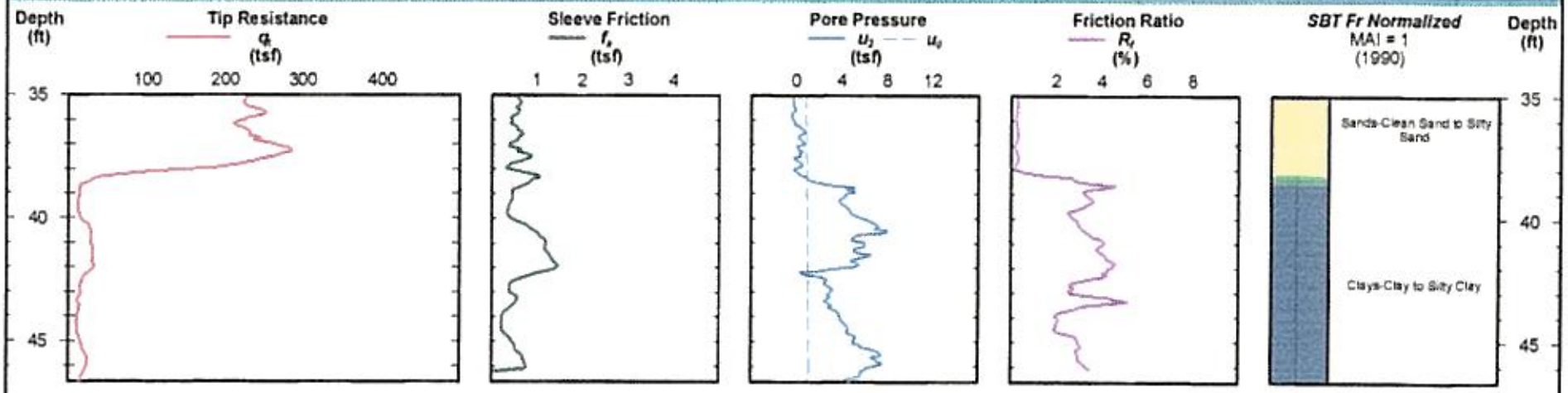
Cone Penetration Test

CPT-04

Project #: X163AA
Date: Nov. 22, 2011

Northing:
Easting:

Elevation:
Filename: CA22N1107C.DAT

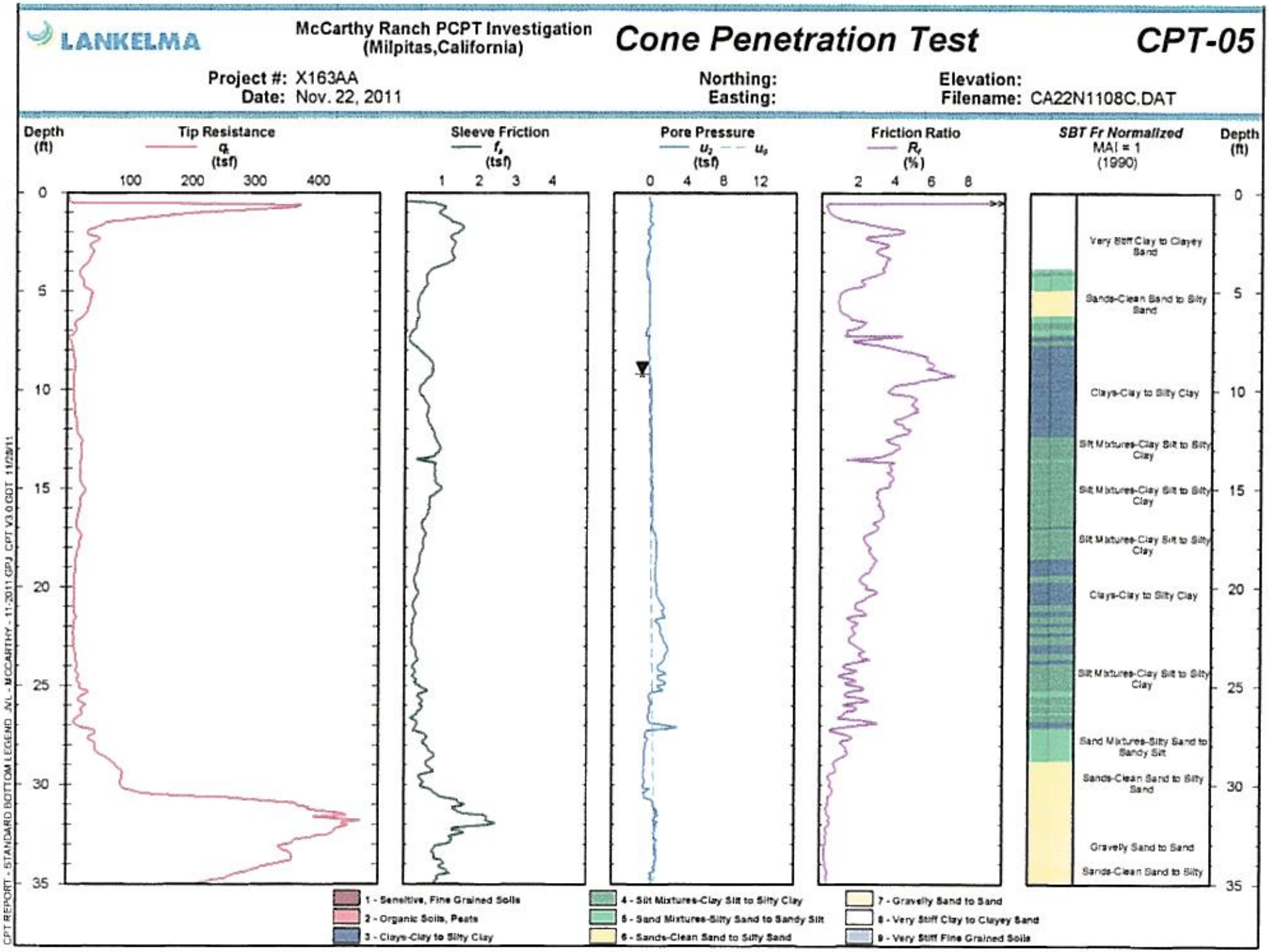


1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011.GPJ CPT V3.0.GDT 11/28/11

Job No. X169AA

Figure 5cont.



Job No. X169AA

Figure 6

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McCarthy Ranch PCPT Investigation
(Milpitas,California)

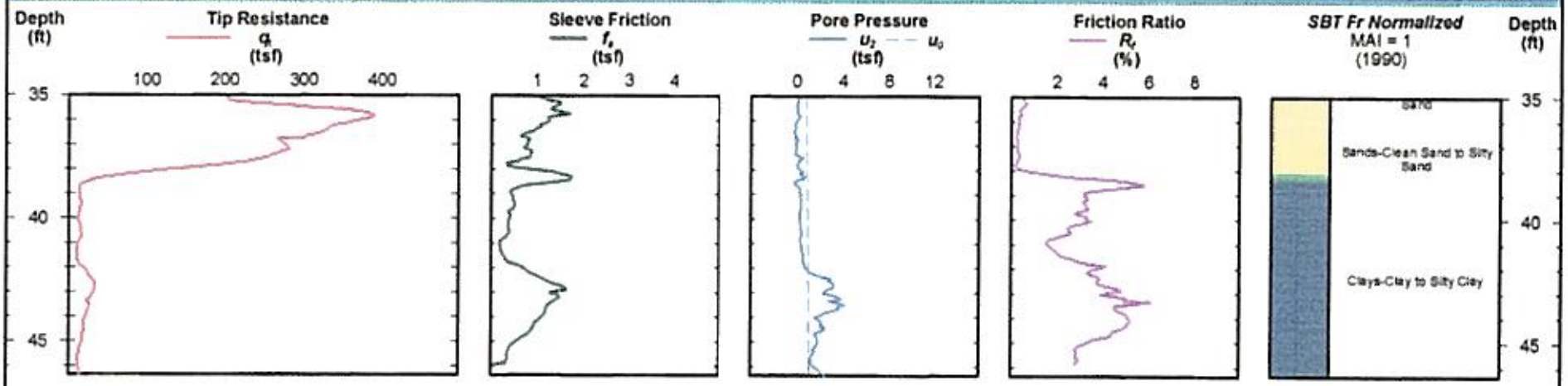
Cone Penetration Test

CPT-05

Project #: X163AA
Date: Nov. 22, 2011

Northing:
Easting:

Elevation:
Filename: CA22N1108C.DAT

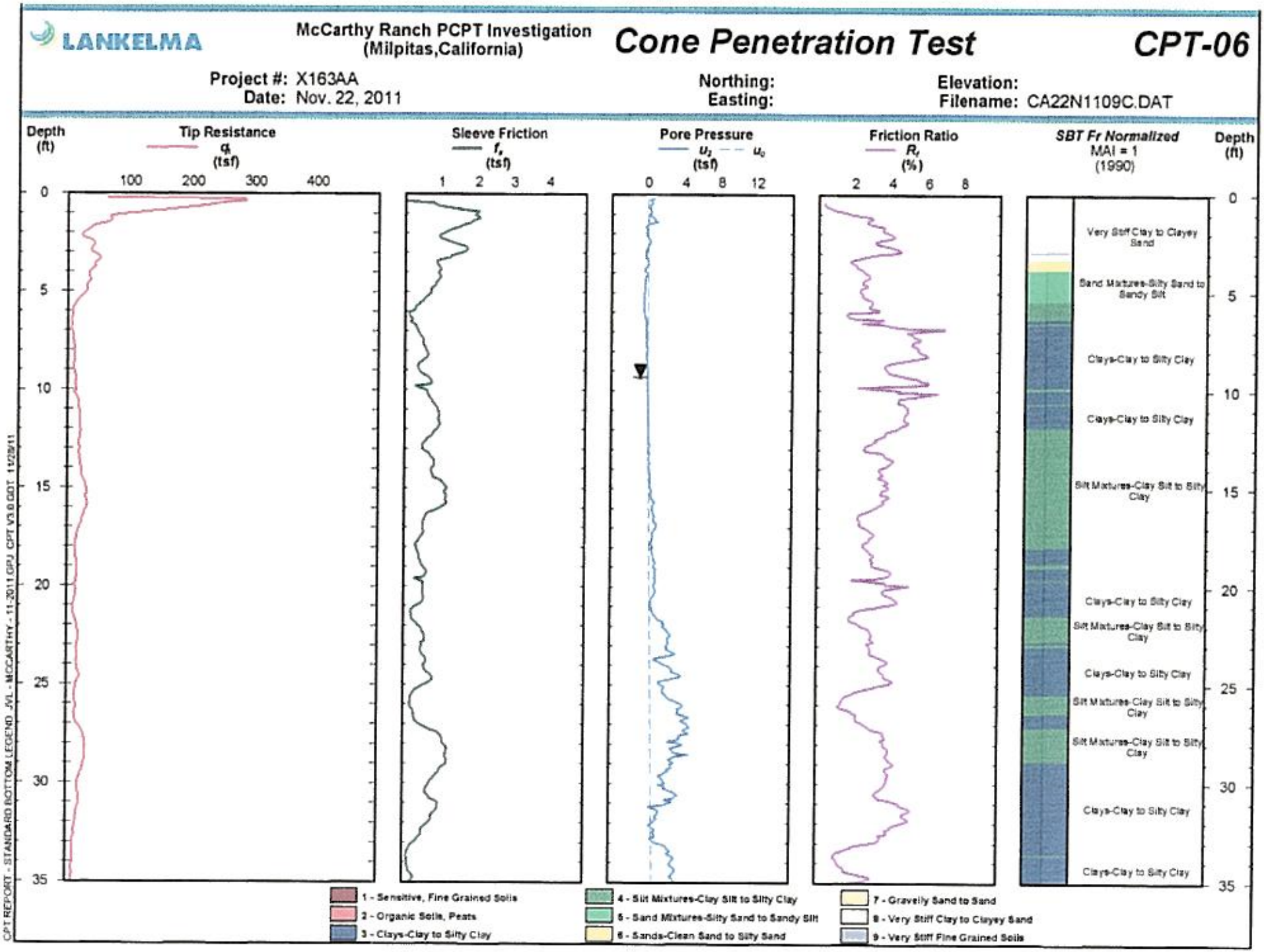


1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011.GPJ CPT V3.0.GDT 11/28/11

Job No. X169AA

Figure 6cont.



Job No. X169AA

Figure 7

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McCarthy Ranch PCPT Investigation
(Milpitas,California)

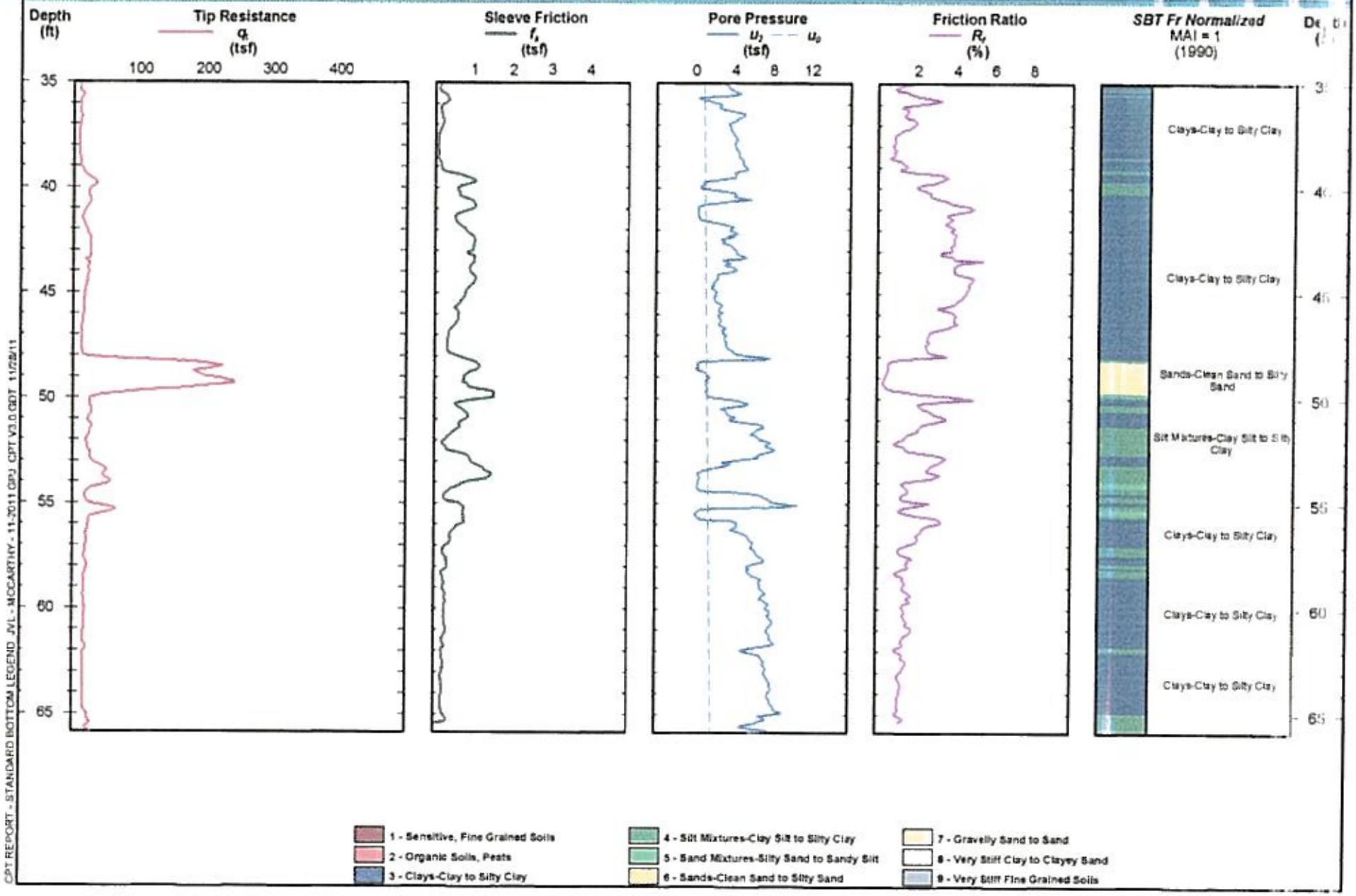
Cone Penetration Test

CPT-0

Project #: X163AA
Date: Nov. 22, 2011

Northing:
Easting:

Elevation:
Filename: CA22N1109C.DAT



CPT REPORT - STANDARD BOTTOM LEGEND JVL - MCCARTHY - 11-2011.GPJ CPT V3.0.GDT 11/28/11

Job no. X169AA

Figure 7cont.

LANKELMA

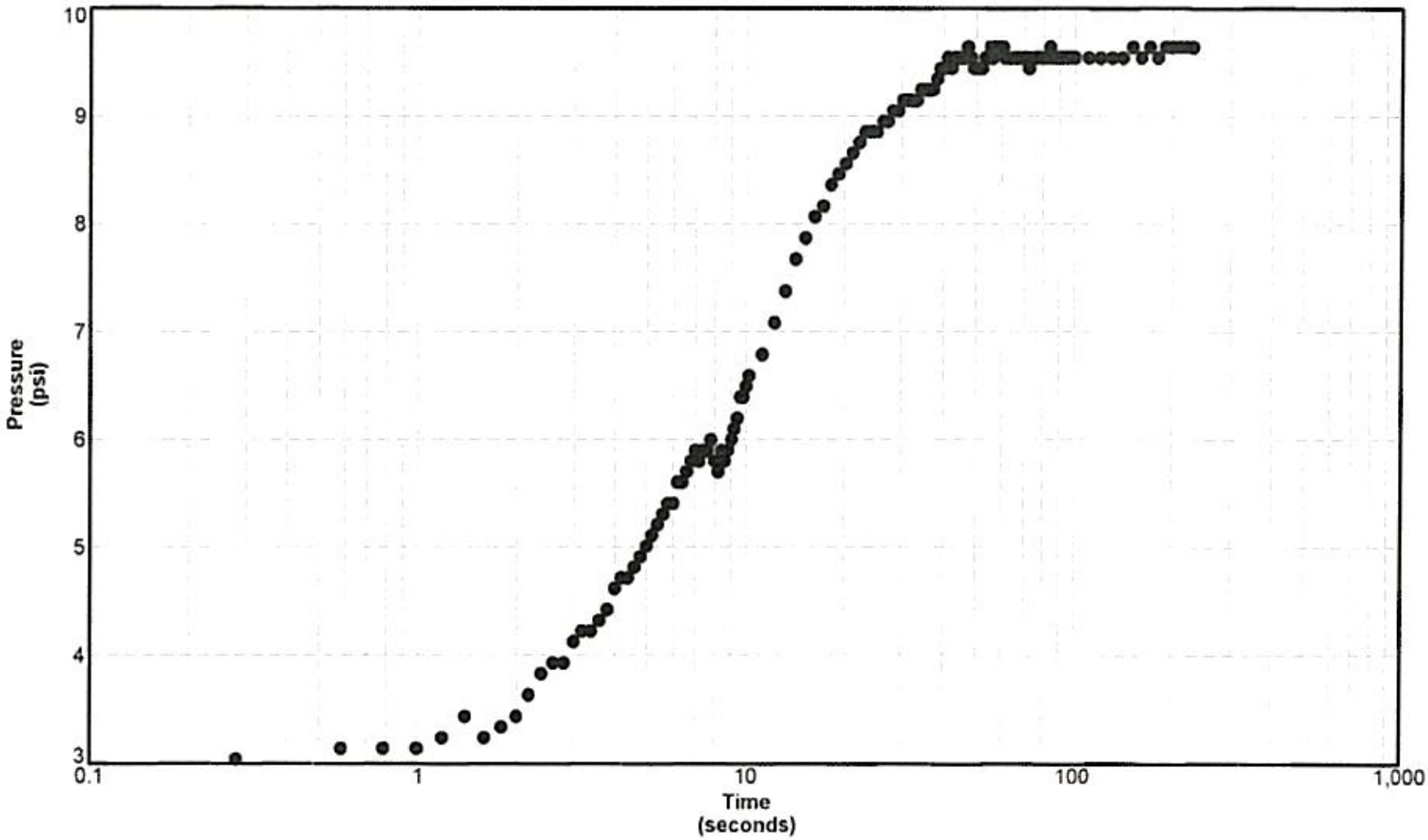
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project Number :X163AA

Pore Pressure Dissipation:

Date: Nov. 22, 2011
Estimated Water Depth: 13.9
Rig/Operator: JT | VB

Northing: N/A
Easting: N/A
Elevation: N/A

Total Depth: 53.1 ft
Termination Criteria: Target Depth
Test Depth: 36.2 ft



CPT-01

Job No.X169AA

Figure 8

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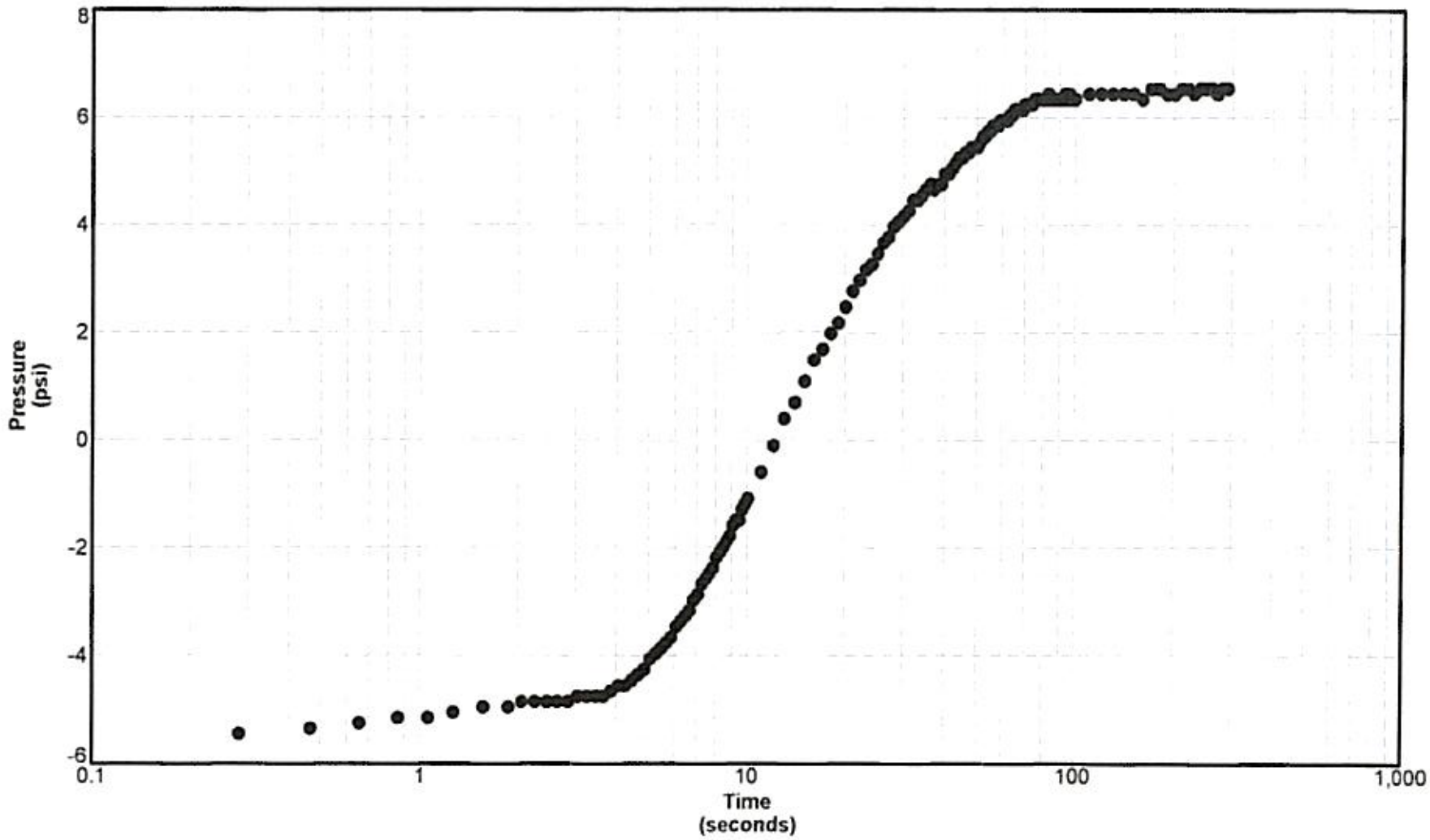
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project Number :X163AA

Pore Pressure Dissipation:

Date: Nov. 22, 2011
Estimated Water Depth: 9.3
Rig/Operator: JT | VB

Northing: N/A
Easting: N/A
Elevation: N/A

Total Depth: 46.5 ft
Termination Criteria: Target Depth
Test Depth: 24.4 ft



CPT-02

Job No. X169AA

Figure 9

LANKELMA

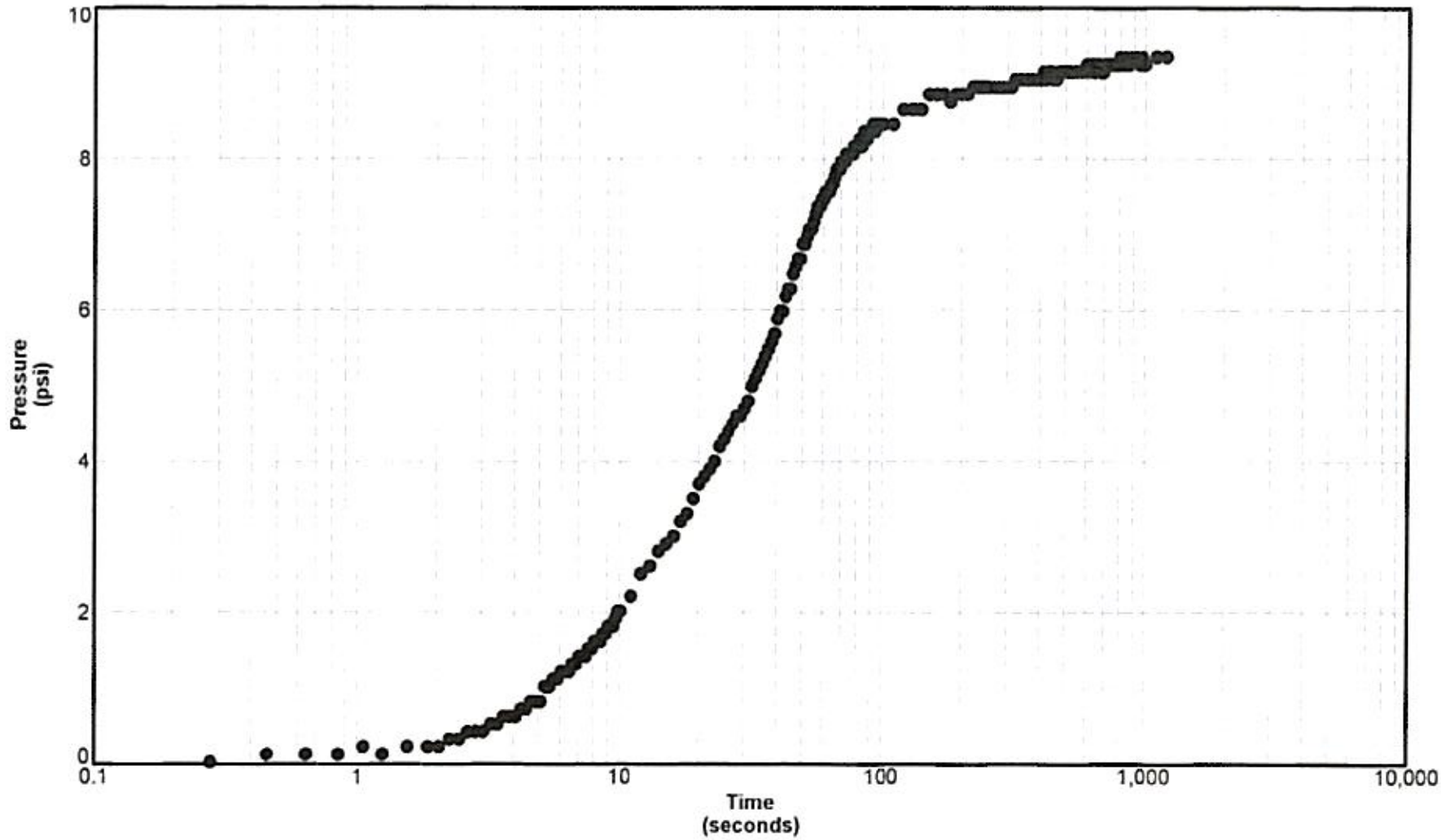
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project Number :X163AA

Pore Pressure Dissipation:

Date: Nov. 22, 2011
Estimated Water Depth: 8.2
Rig/Operator: JT | VB

Northing: N/A
Easting: N/A
Elevation: N/A

Total Depth: 50.1 ft
Termination Criteria: Target Depth
Test Depth: 29.8 ft



CPT-03

Job No. X169AA

Figure 10

LANKELMA

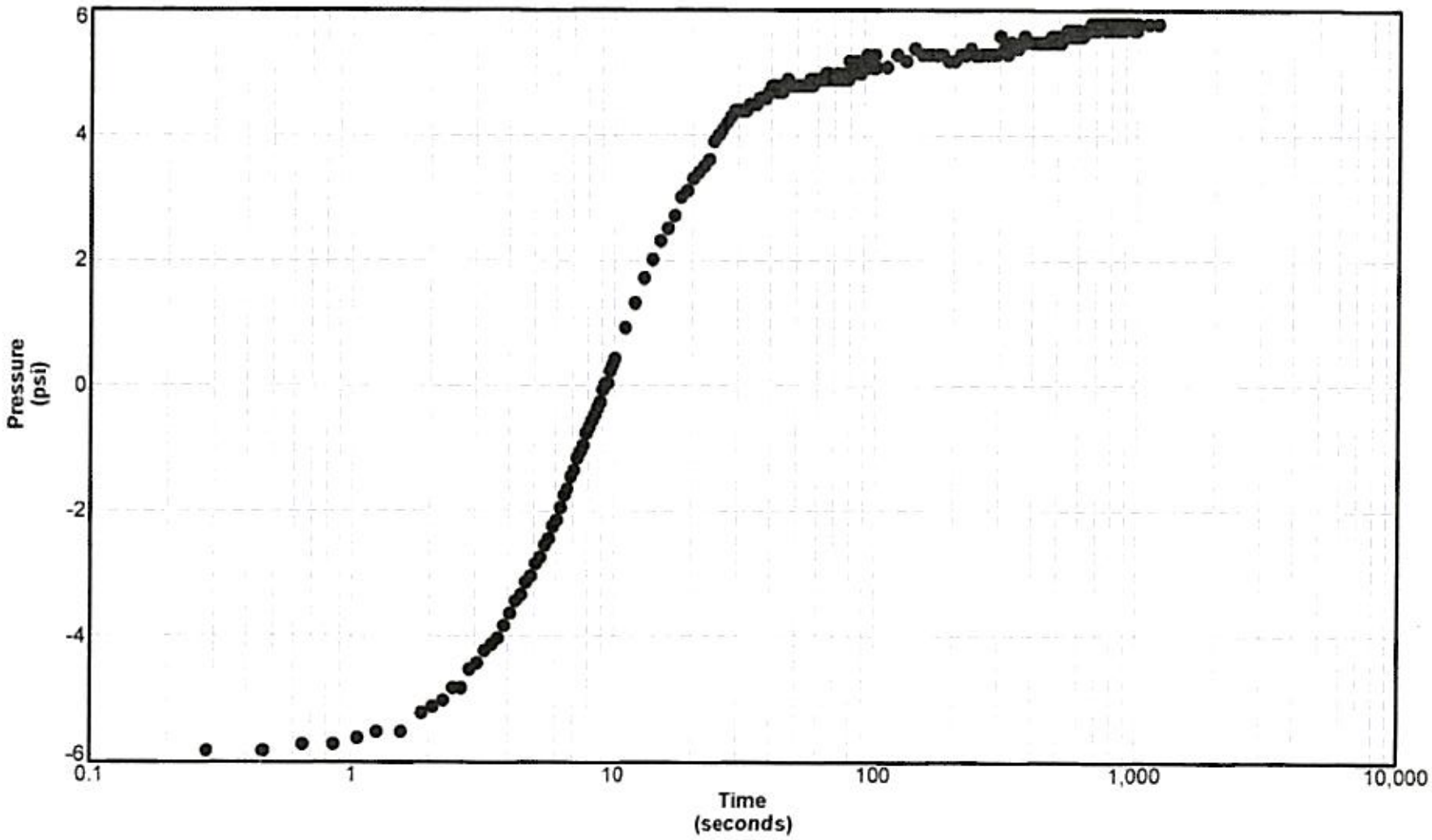
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project Number :X163AA

Pore Pressure Dissipation:

Date: Nov. 22, 2011
Estimated Water Depth: 8.5
Rig/Operator: JT | VB

Northing: N/A
Easting: N/A
Elevation: N/A

Total Depth: 46.6 ft
Termination Criteria: Target Depth
Test Depth: 21.9 ft



CPT-04

Job No. X169AA

Figure 11

LANKELMA

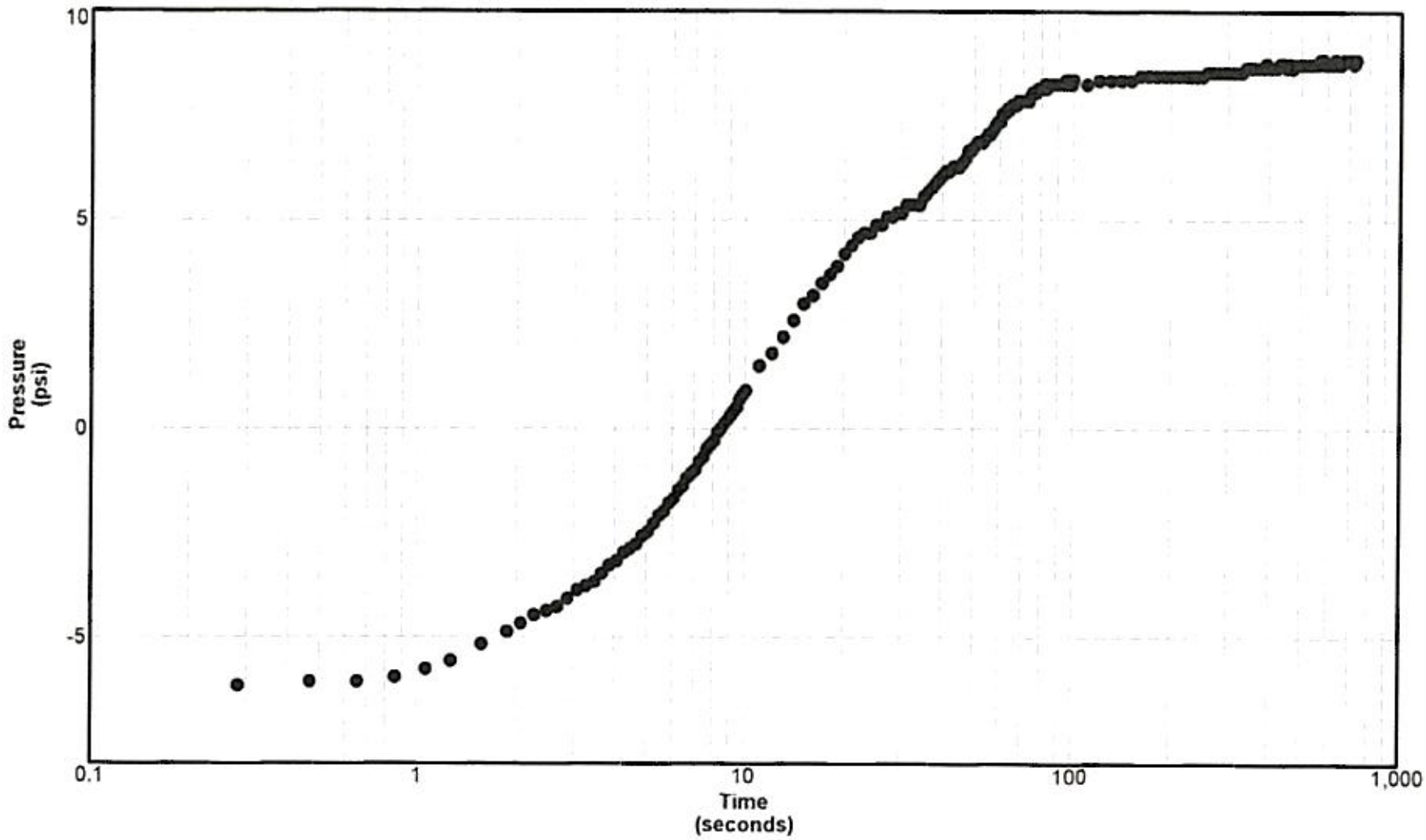
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project Number :X163AA

Pore Pressure Dissipation:

Date: Nov. 22, 2011
Estimated Water Depth: 9.2
Rig/Operator: JT | VB

Northing: N/A
Easting: N/A
Elevation: N/A

Total Depth: 46.4 ft
Termination Criteria: Target Depth
Test Depth: 29.7 ft



CPT-05

Job No. X169AA

Figure 12

LANKELMA

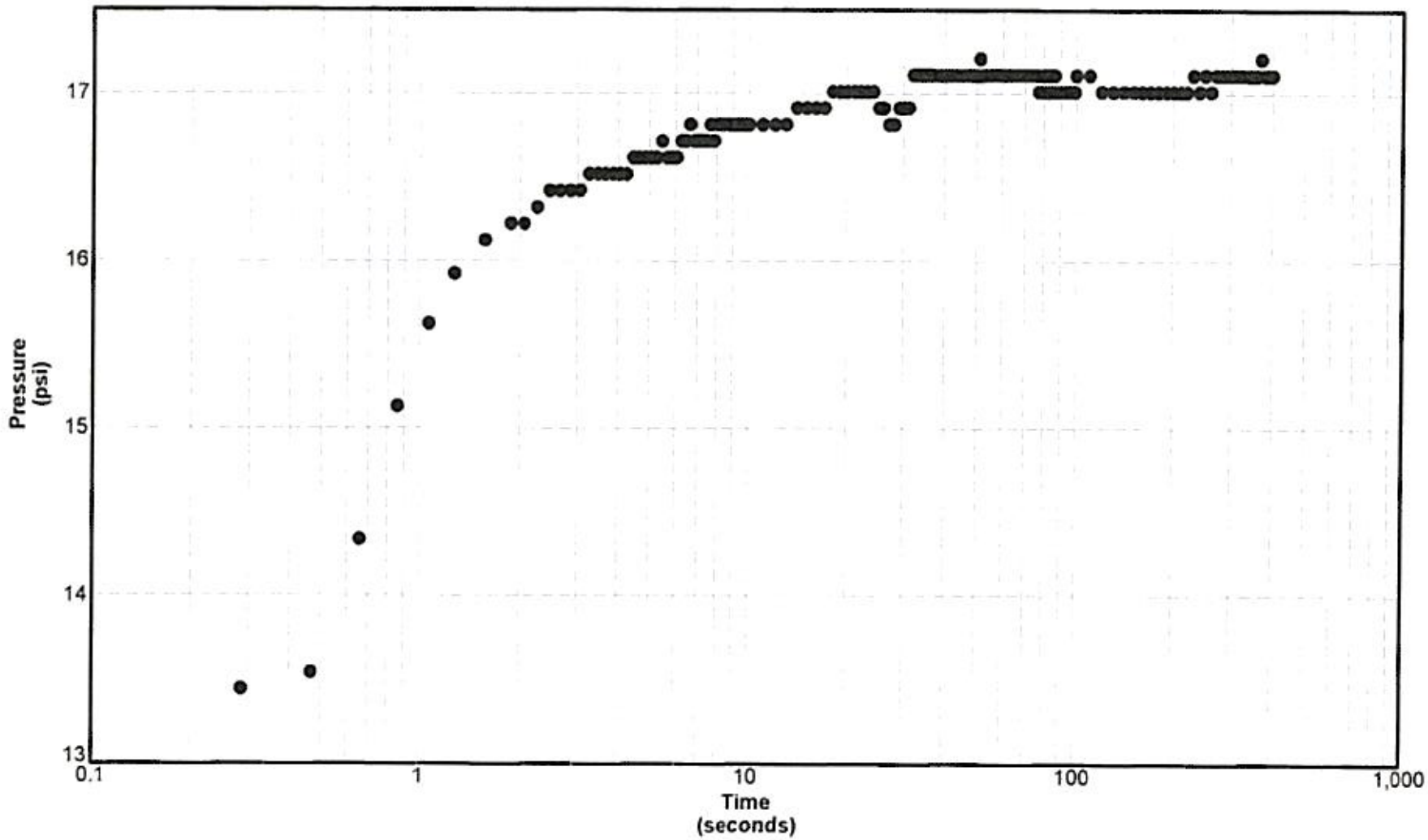
McCarthy Ranch PCPT Investigation
(Milpitas,California)
Project Number :X163AA

Pore Pressure Dissipation:

Date: Nov. 22, 2011
Estimated Water Depth: 9.3
Rig/Operator: JT | VB

Northing: N/A
Easting: N/A
Elevation: N/A

Total Depth: 65.8 ft
Termination Criteria: Target Depth
Test Depth: 48.8 ft



CPT-06

Job No.X169AA

Figure 13