APPENDIX C: CPT LOGS

As part of the field investigations, 26 Piezo-Cone Penetrometer Tests (CPTU) were performed at the sites of interest, as listed in Table C.1. These CPT probes were performed by Soil Testing Engineers Inc. between 1/30/06 and 2/22/06. All fieldwork activities were conducted by members of the Independent Levee Investigation Team (ILIT) under the direct supervision of senior members of the team.

The CPTs were performed according to the ASTM D 5778, using an electric piezo-cone conforming to the ASTM standards. The pore pressure measurements were obtained at the base of the cone sleeve, immediately above the conical cone "tip", as illustrated in Figure C-1. The sleeve friction was re-zeroed at the start of each probe, and the porous stone was saturated before each test.

The Figures that follow present a series of plan views showing the locations of the CPTU probes performed by our investigation team, followed by the logs of these CPTU probes. Each CPTU log also has local GPS coordinates (x, y, and z) to help to locate these.

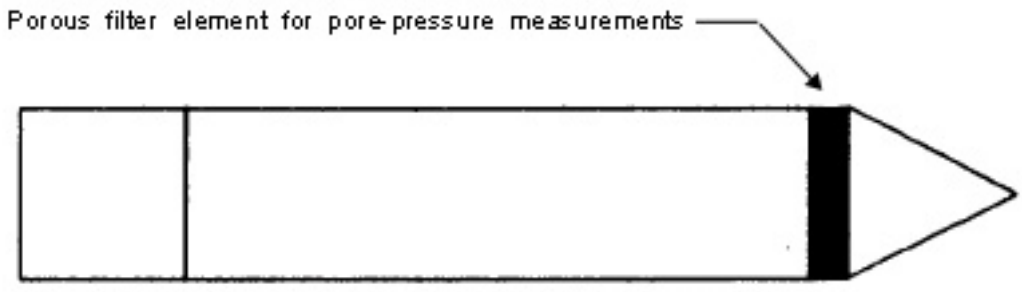


Figure C-1: Typical piezo-cone used by STE Inc. showing the location of the porous filter element

17th STREET CANAL

CPT NUMBER	Latitude (N)	Longitude (W)	Elevation (MSL)
17-CPT-1	30.01716	90.12109	-1.9
17-CPT-2	30.01793	90.1207	-6.5
17-CPT-3	30.01804	90.12125	3.8
17-CPT-3 A	30.01805	90.12125	3.8
17-CPT-4	30.01626	90.1215	4
17-CPT-4 A	30.0162	90.12155	4
17-CPT-5	30.01718	90.12108	-2
17-CPT-6	30.01711	90.12109	-1.8
17-CPT-7	30.01736	90.12116	0.5
17-CPT-9 A	30.01636	90.12077	-6.6
17-CPT-10	30.01731	90.12202	4.31
17-CPT-11	30.01641	90.12212	4.31
17-CPT-12	30.01824	90.12057	-6.6

LONDON AVENUE CANAL NORTH, EAST BANK

CPT NUMBER	Latitude (N)	Longitude (W)	Elevation (MSL)
LAC-CPT-1	30.02097	90.07027	-7.7
LAC-CPT-2	30.02062	90.07026	-8
LAC-CPT-3	30.02135	90.07053	-8.2
LAC-CPT-4	30.01998	90.07032	-8.5

LONDON AVENUE CANAL NORTH, WEST BANK

CPT NUMBER	Latitude (N)	Longitude (W)	Elevation (MSL)
LACW-CPT-1	30.02044	90.07136	-5.6
LACW-CPT-2	30.02048	90.07104	2.8
LACW-CPT-3	30.02131	90.07094	3.1
LACW-CPT-4	30.01953	90.07082	2.6

Note: Geographic coordinates are based on WGS84 datum.

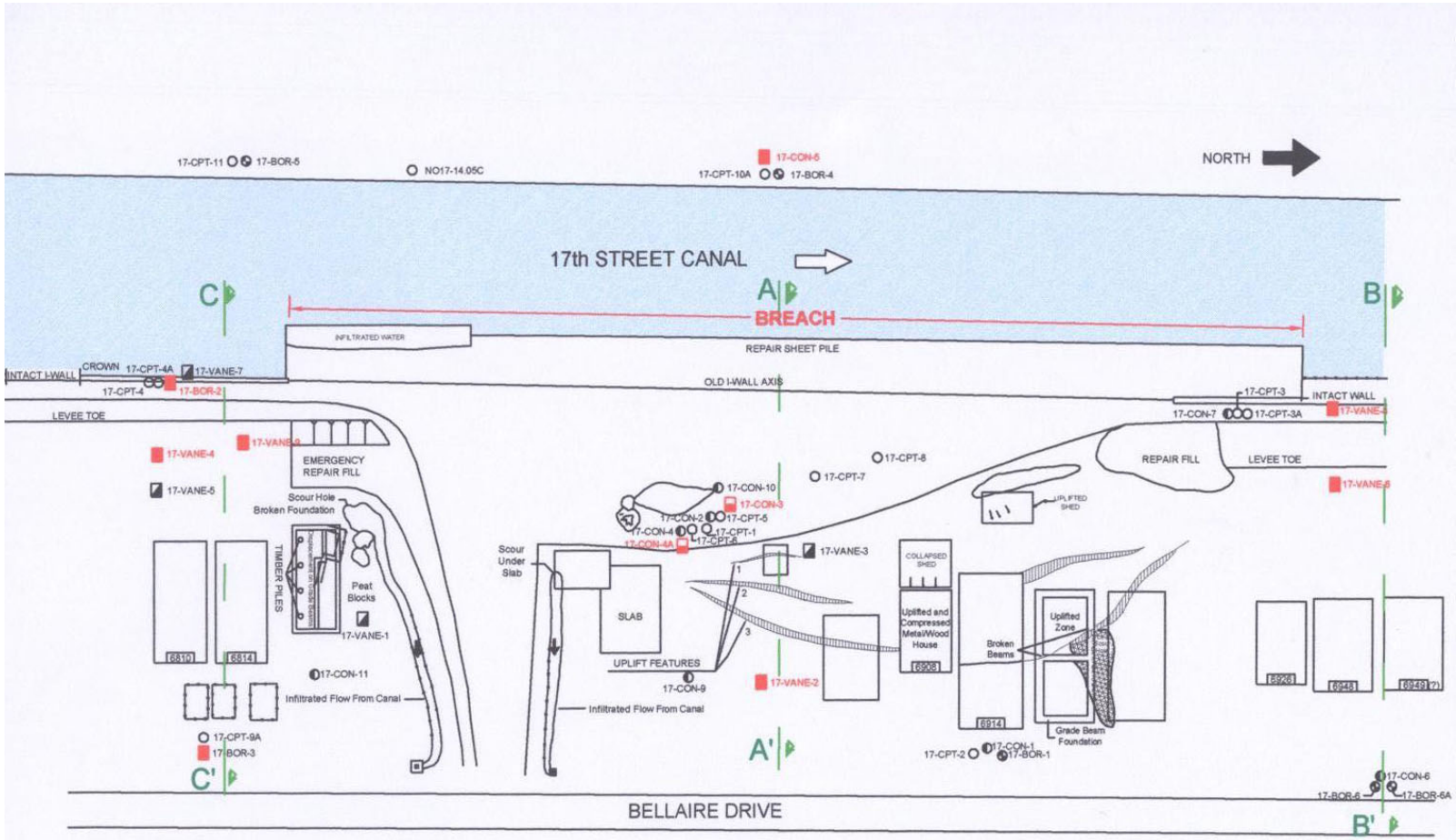
LONDON AVENUE CANAL SOUTH, EAST BANK

CPT NUMBER	Latitude (N)	Longitude (W)	Elevation (MSL)
LACS-CPT-1	30.00908	90.0694	-0.15
LACS-CPT-2	30.00797	90.06931	4.6
LACS-CPT-3	30.0085	90.06907	-2.3

INNER HARBOR NAVIGATION CANAL, EAST BANK

CPT NUMBER	Latitude (N)	Longitude (W)	Elevation (MSL)
IHNC-N-CPT-1	29.9787	90.02049	-3.38
IHNC-S-CPT-1	29.97035	90.02314	0.93
IHNC-S-CPT-2	29.97126	90.02292	-2.7
IHNC-S-CPT-3	29.97248	90.02257	-2.3

Note: Geographic coordinates are based on WGS84 datum.



LEGEND

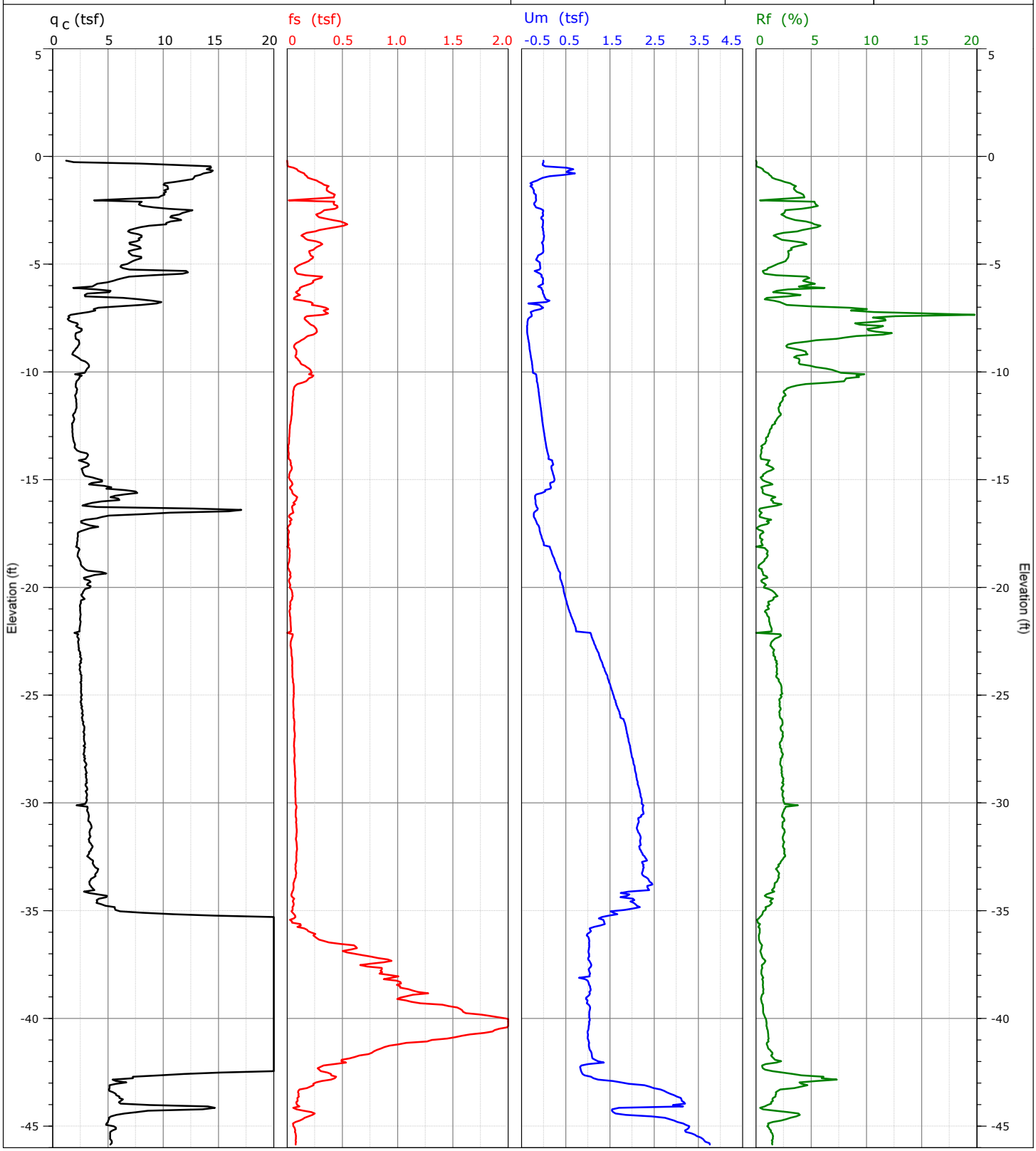
○ 17-CPT-#	Cone Penetration Test
◐ 17-CON-#	Continuous Boring
◕ 17-BOR-#	Geotechnical Boring
◪ 17-VANE	Field Vane Test
▬	Sheared
▬	Unsheared (Weak Zone)
———	Fence

17th Street Canal
APPROXIMATE ILIT BORING, CPT, VANE LOCATIONS
New Orleans, Louisiana

SIZE	DATE	DWG NO.
	05/06/2006	17th Boring & CPT Plan
SCALE	Not Drawn To Scale	SHEET

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-1	-1.9

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01716 W90.12109 center of breach, 15' NE of displaced block	Logger: D. Cobos	Date Completed
	Cone #	1/31/2006

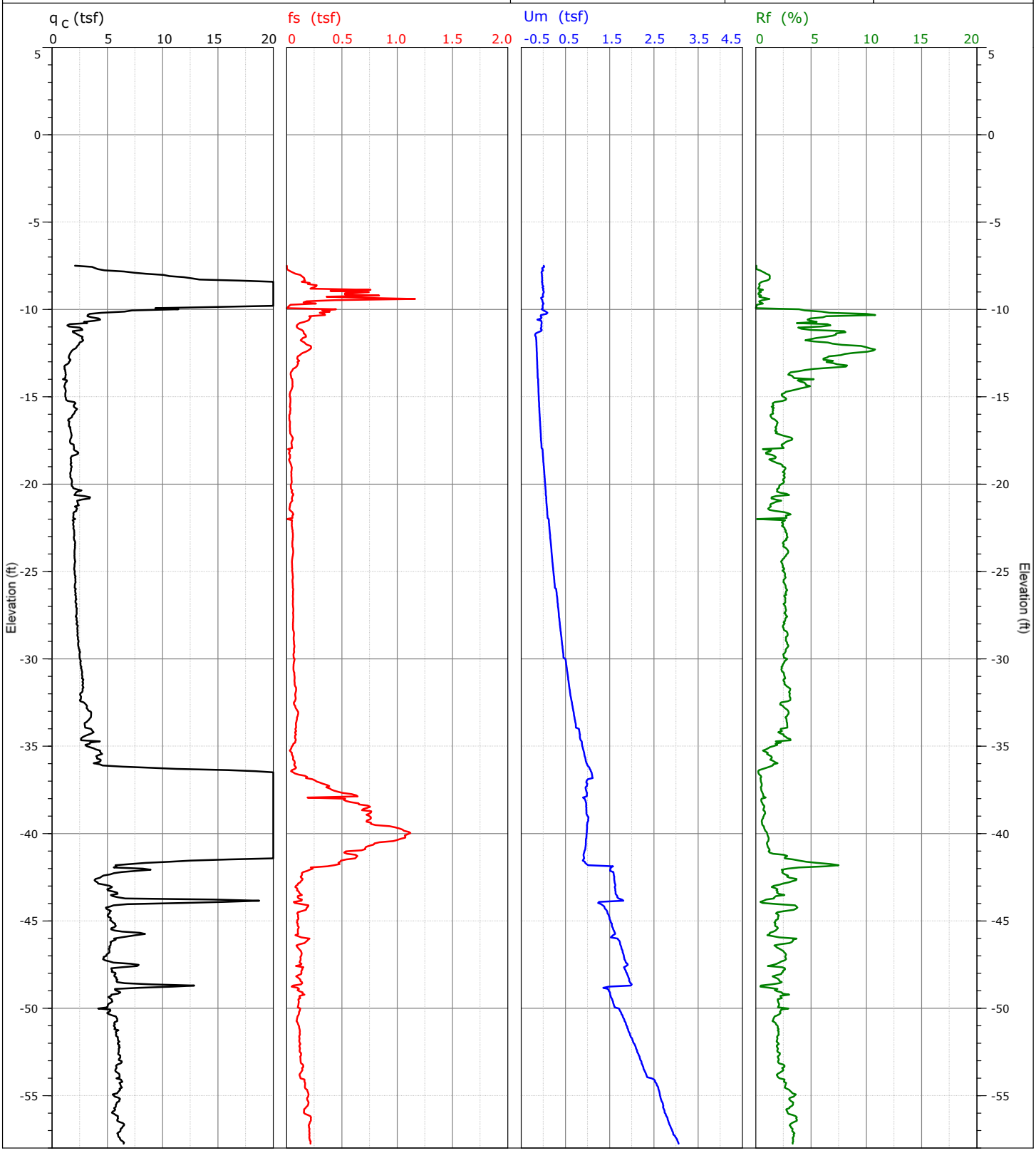


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-2	-6.5

Location	Logger: Athanasopoulos	SHEET 1 of 1
N30.01933 W90.1207 center of breach, 6' east of driveway 6914 Belaire Dr.	Logge: D. Cobos	Date Completed 1/31/06
	Cone #	

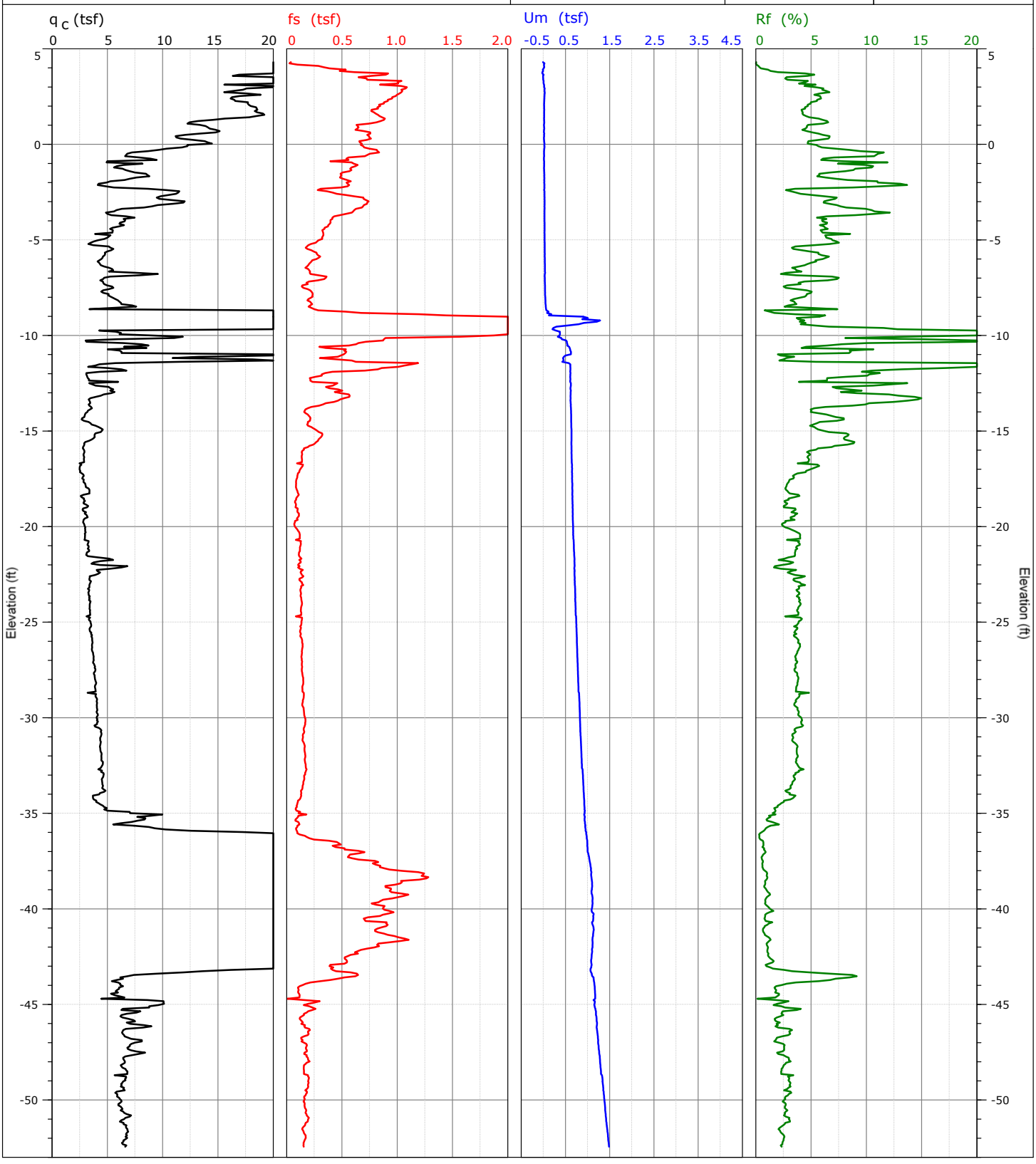


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:	
Juan Gabriel Vera-Grunauer CVA Consulting Group	CVA CONSULTING GROUP

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-3	3.8

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01804 W90.12125 30' north of breach, levee crest	Logger: D. Cobos	Date Completed 2/02/06
	Cone #	

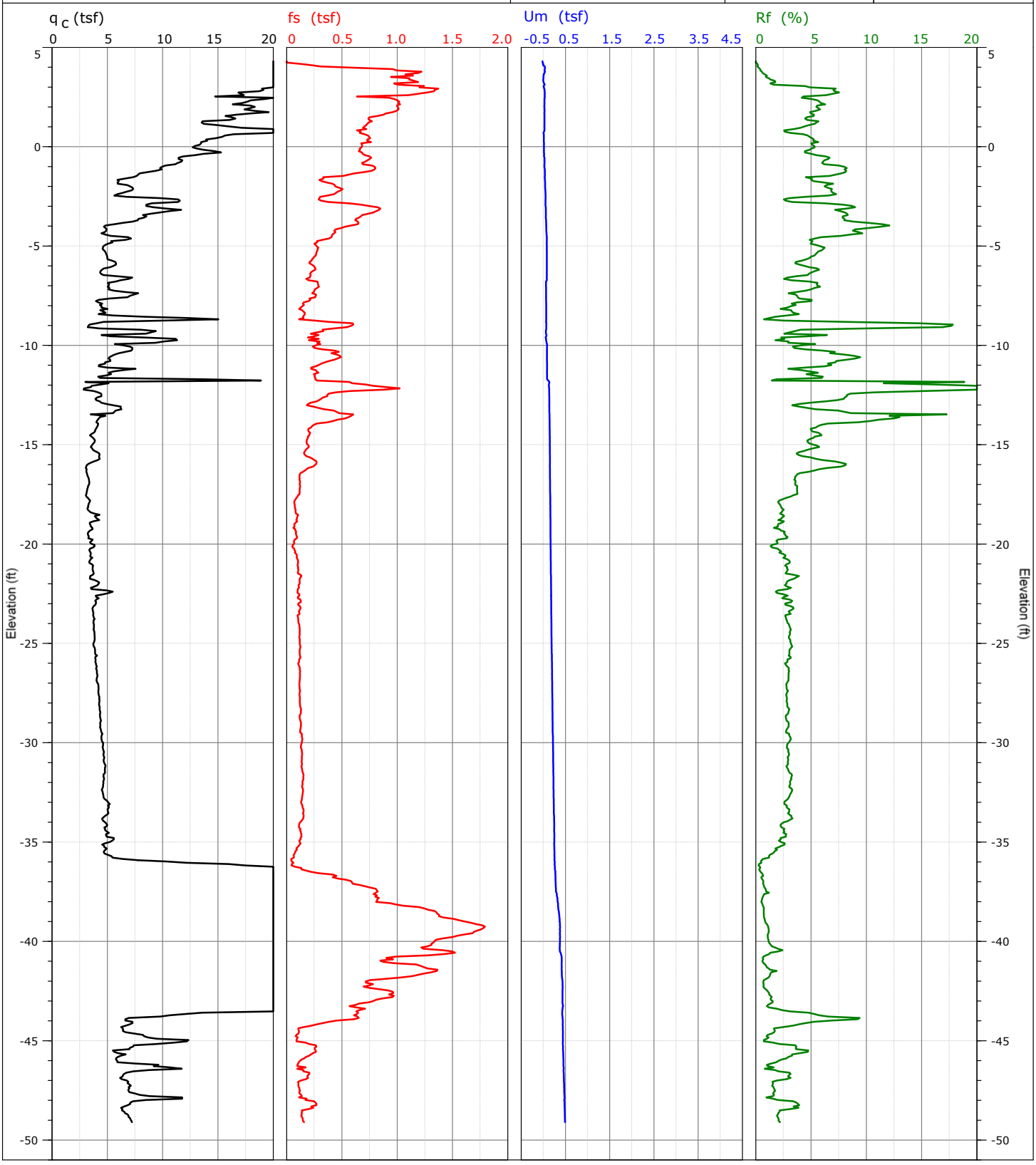


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-3A	3.8

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01805 W90.12125 30' north of breach, levee crest	Logger: D. Cobos	Date Completed 2/02/06
	Cone #	

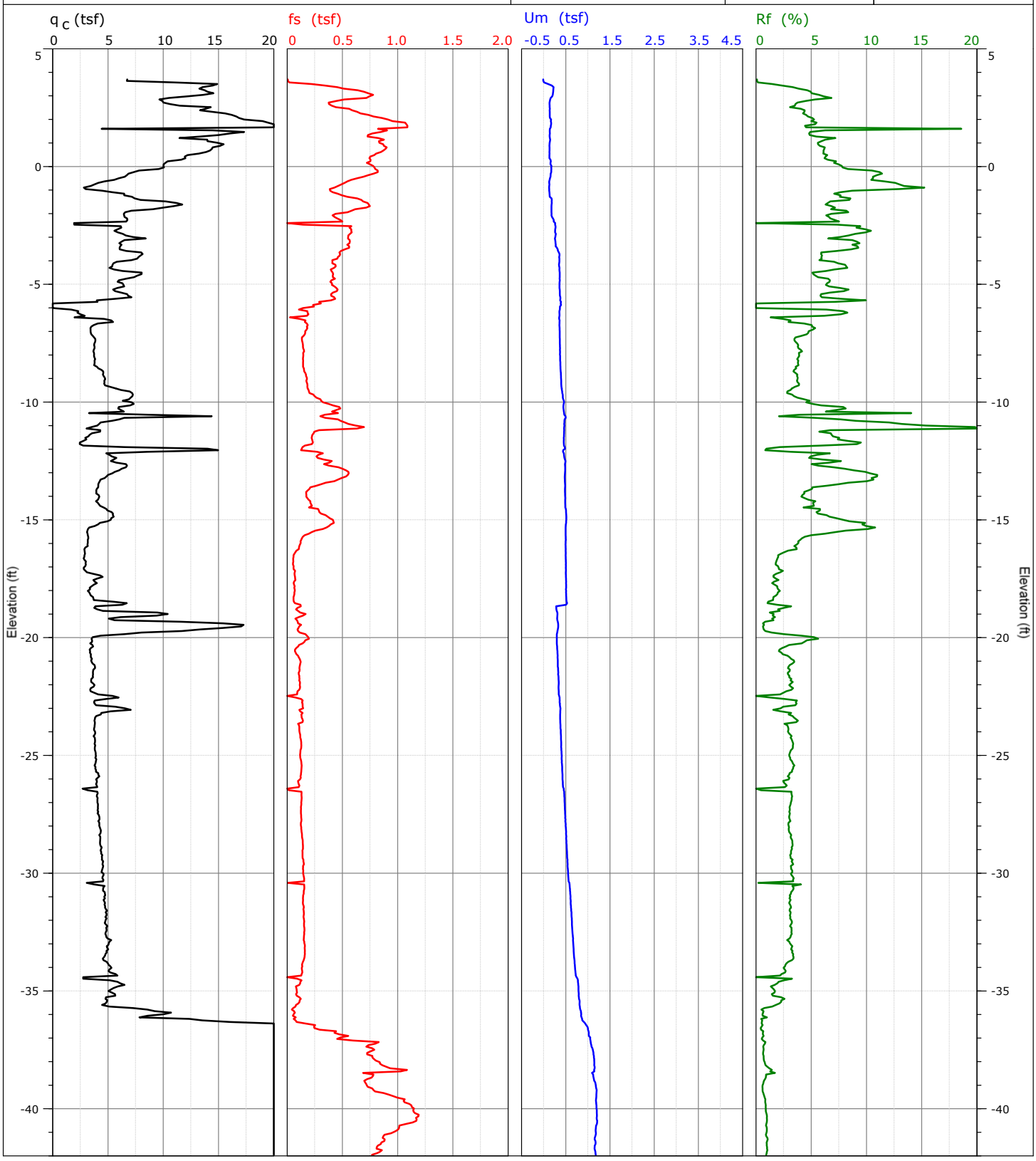


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-4A	4.0

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.0162 W90.12155 30' south of breach, levee crest	Logger: D. Cobos	Date Completed
	Cone #	2/02/06

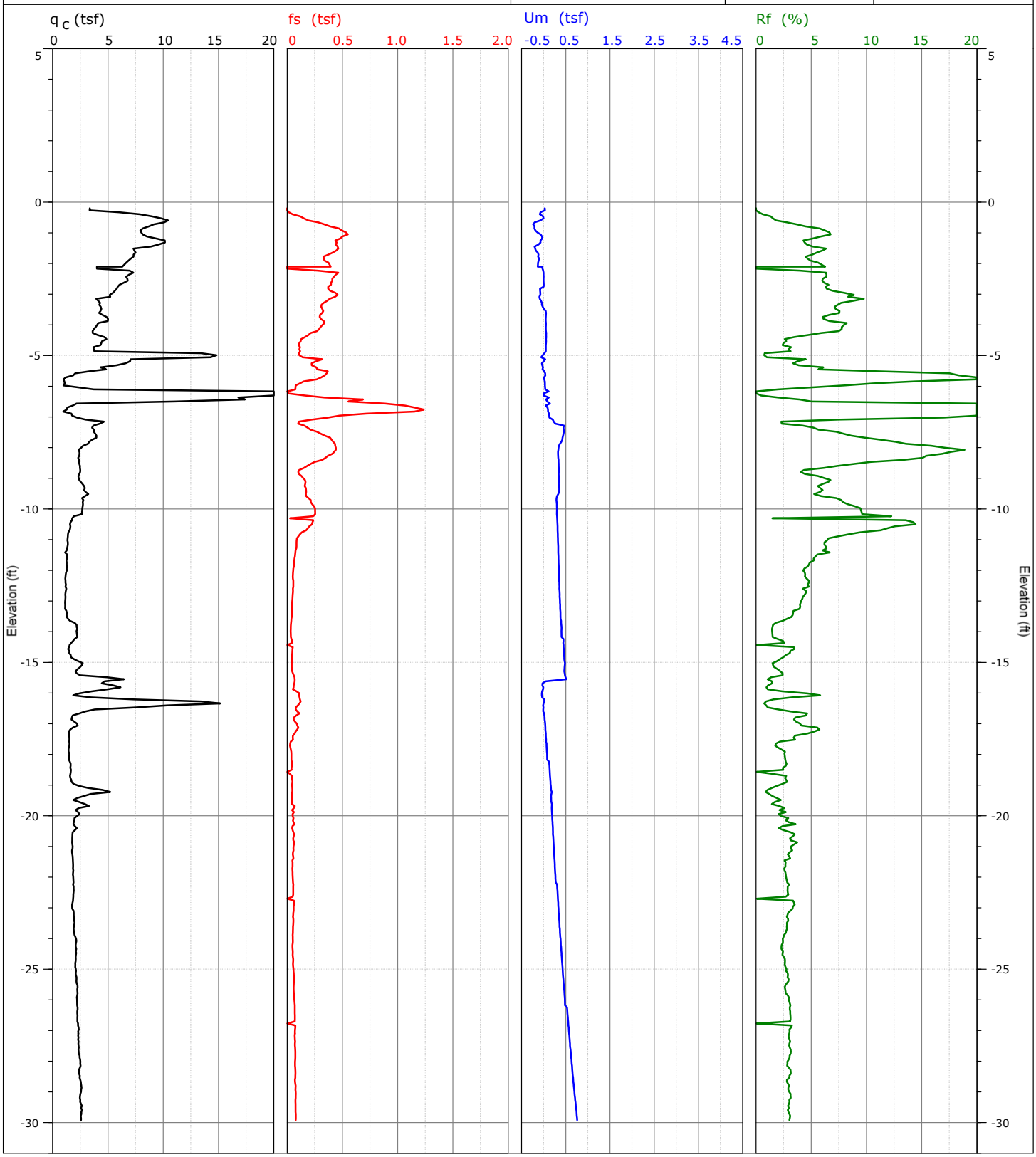


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-5	-2.0

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01718 W90.12108 next to displaced block, 5' north of 17-CPT-1	Logger: D. Cobos	Date Completed
	Cone #	2/03/06

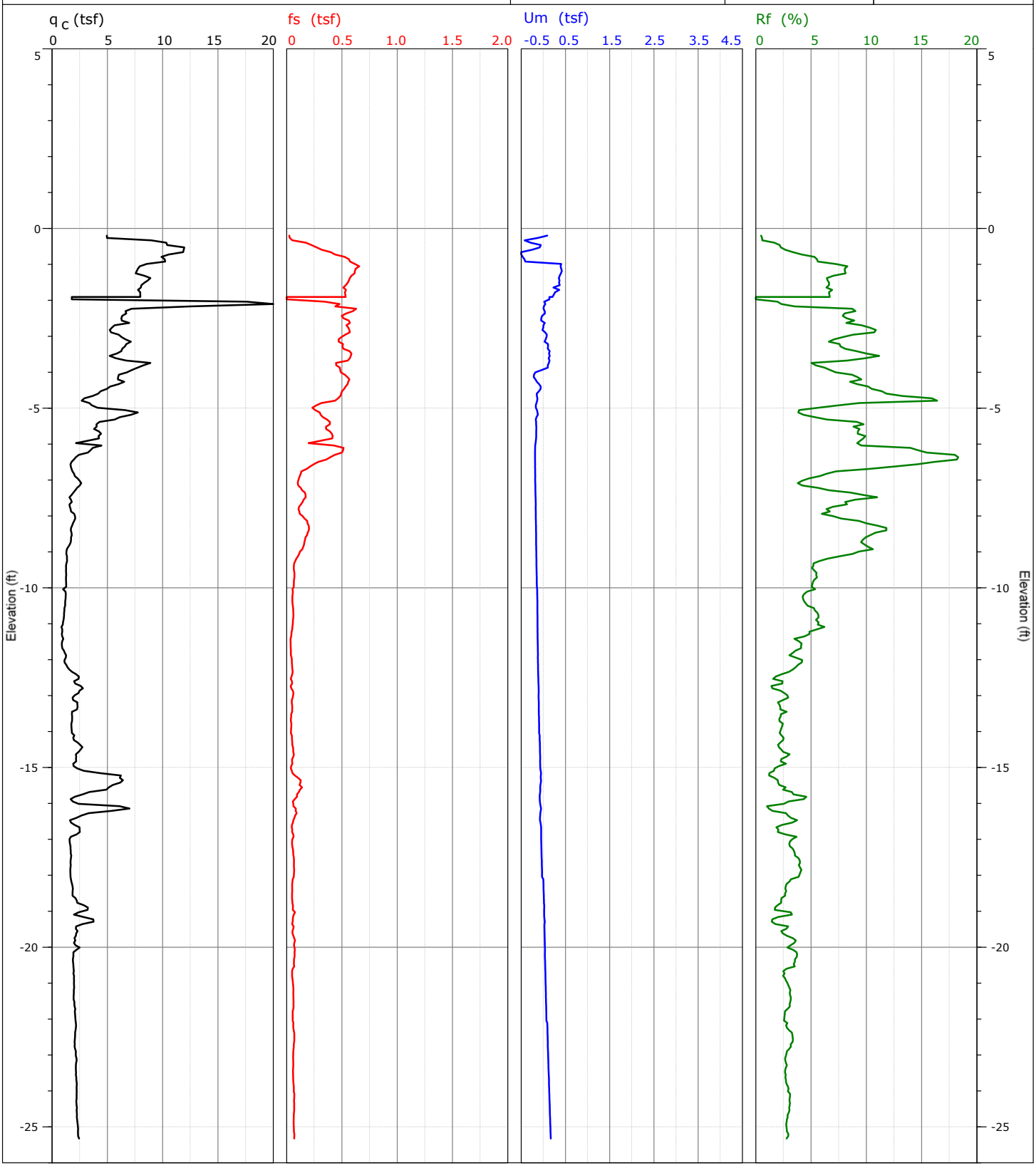


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-6	-1.8

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01711 W90.12109 next to displaced block, 5' south of 17-CPT-1	Logger: D. Cobos	Date Completed
	Cone #	2/03/06

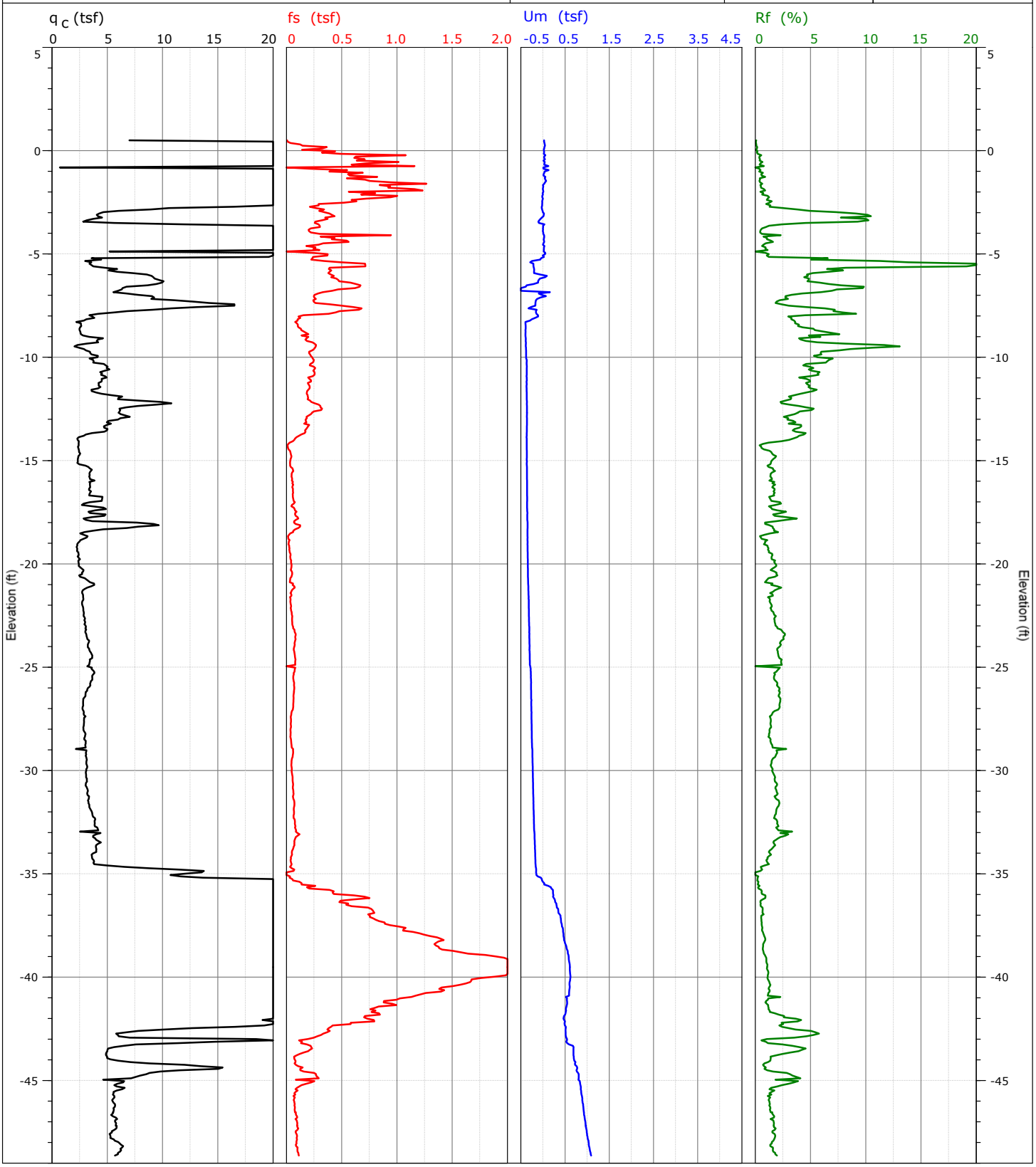


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-7	0.5

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01736 W90.12116 north of displaced block, next to USACE fence	Logger: D. Cobos	Date Completed 2/03/06
	Cone #	

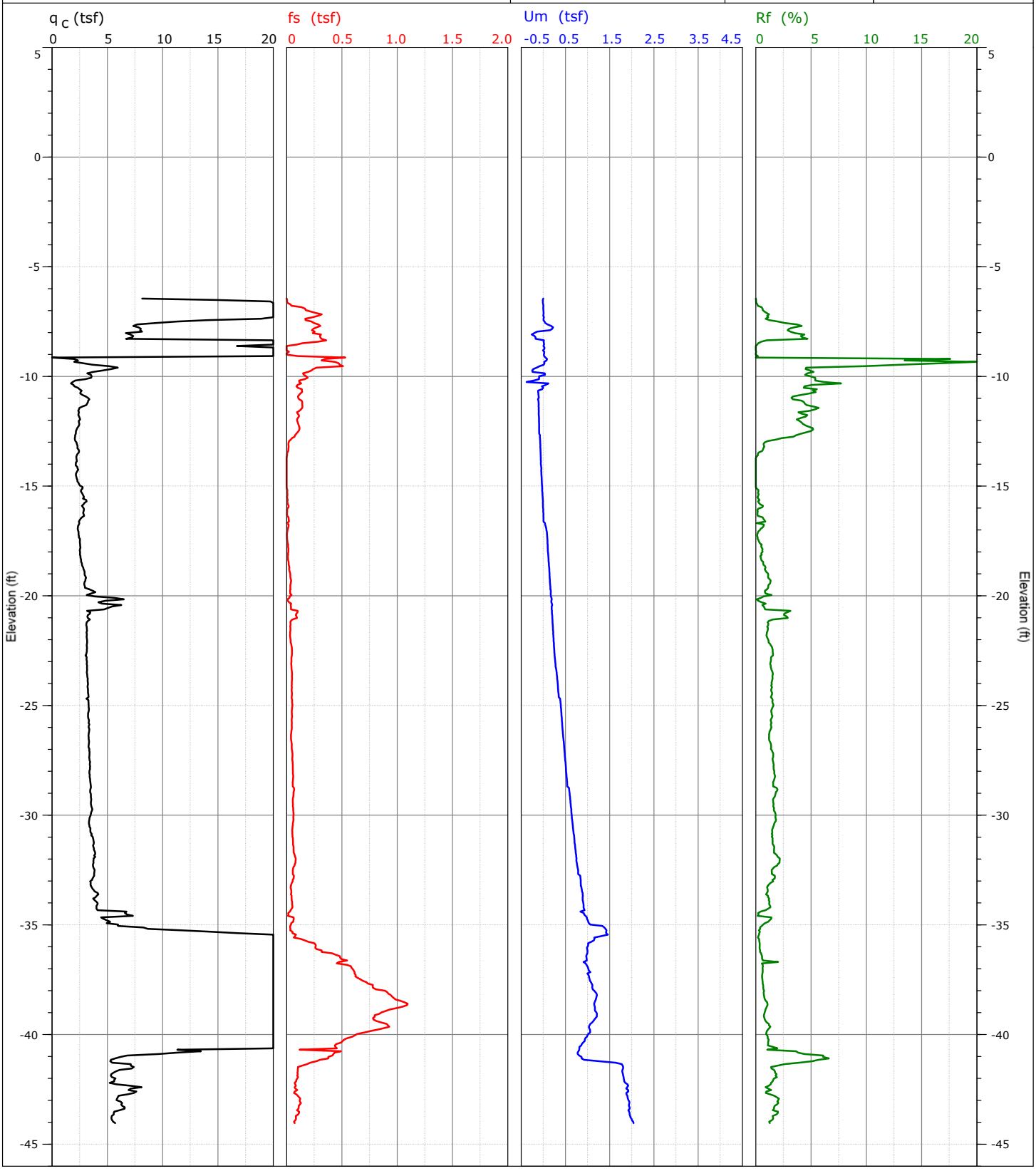


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- East Bank	Geo Engineering UCB and STE	17-CPT-9A	-6.6

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01636 W90.12077 south of breach, between 6810 and 6814 Belaire Dr.	Logger: C. Watkins	Date Completed
	Cone #	2/06/06

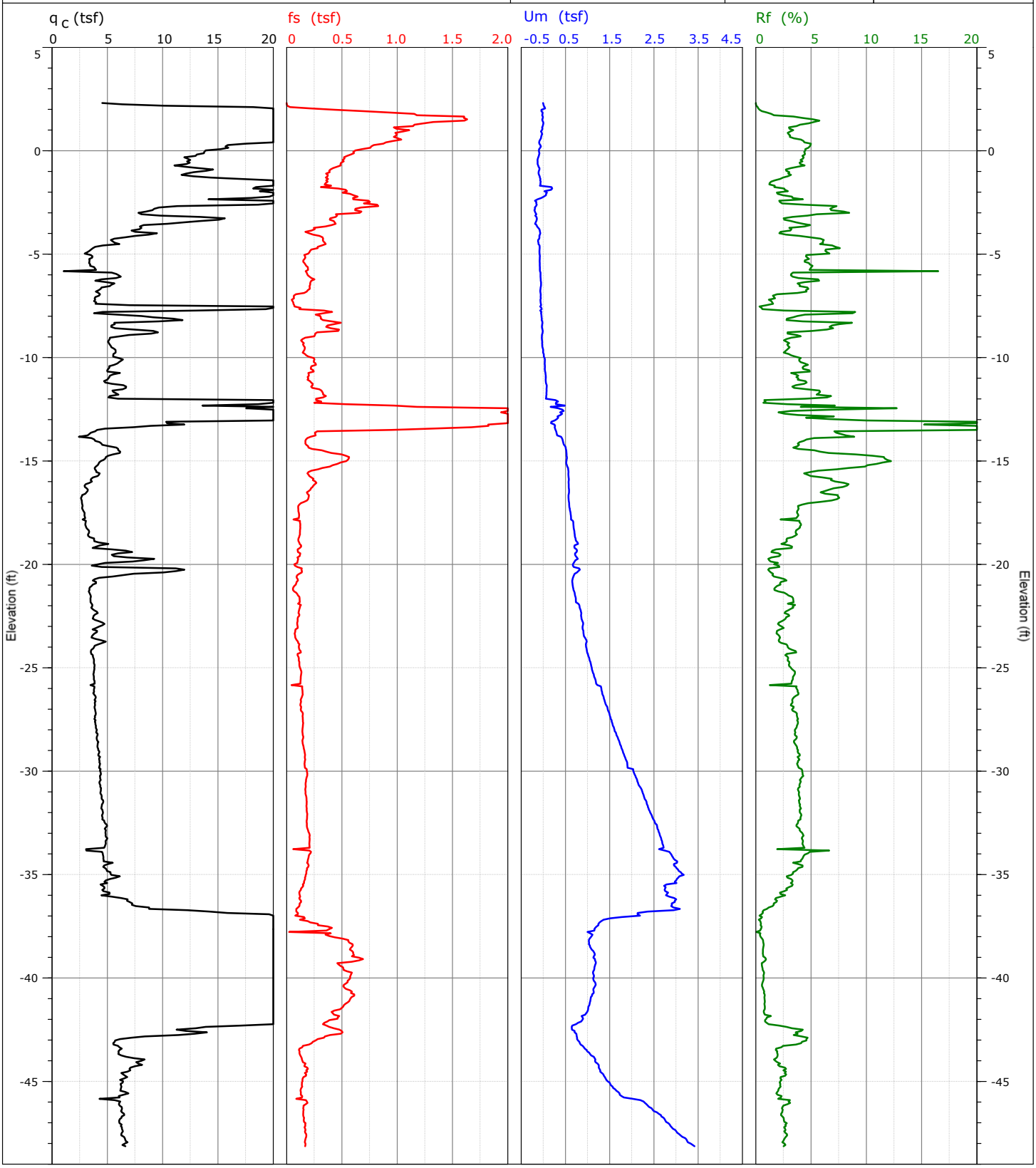


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- West Bank	Geo Engineering UCB and STE	17-CPT-10A	4.31

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01731 W90.12202 Orpheum Ave., north of Ash St., levee crest	Logger: C. Watkins	Date Completed
	Cone #	2/06/06

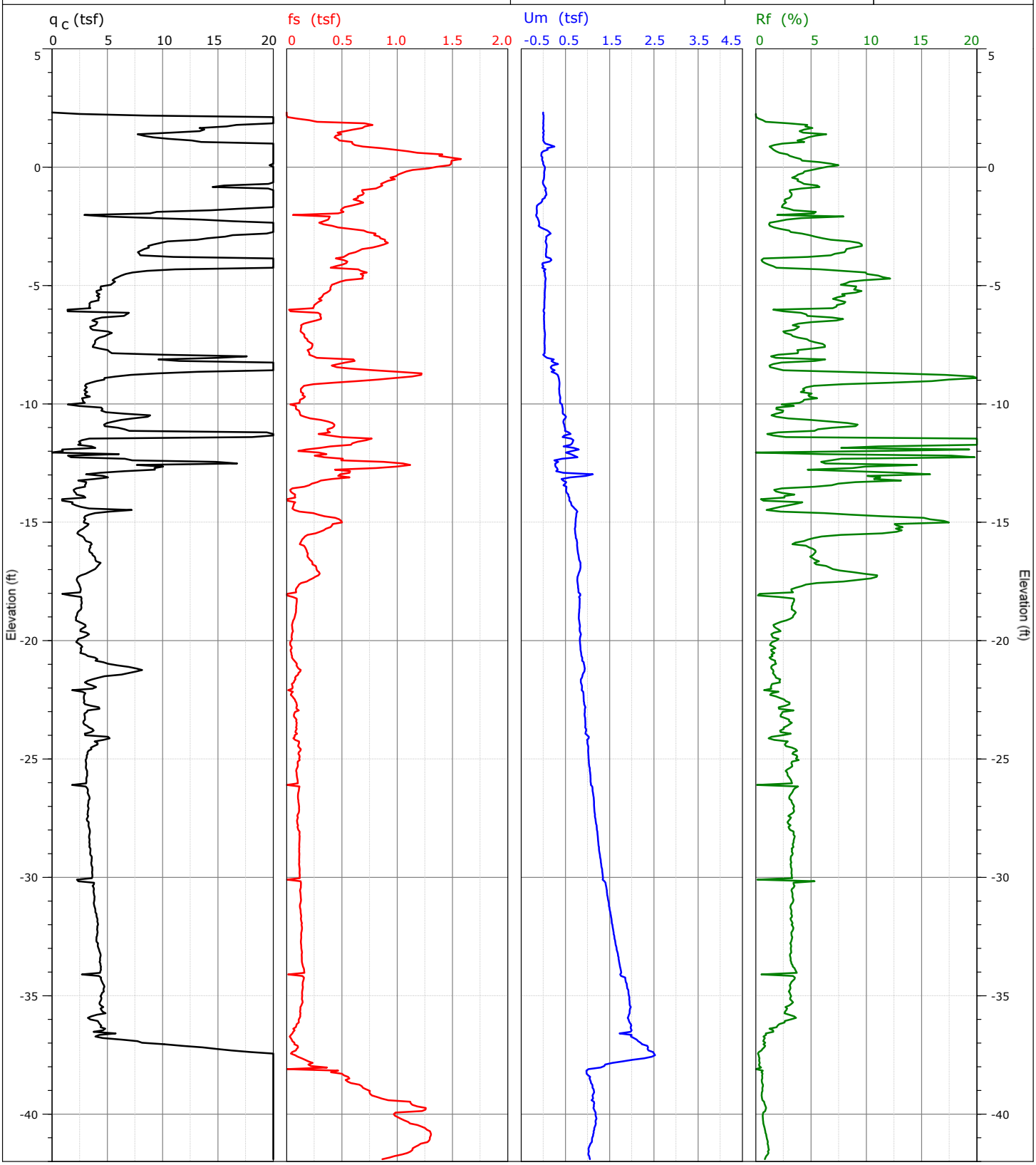


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	17th Street Canal- West Bank	Geo Engineering UCB and STE	17-CPT-11	4.31

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01641 W90.12212 Orpheum Ave., between Ash St., and Poplar St. south of 17-CPT-10, levee crest	Logger: C. Watkins	Date Completed 2/07/06
	Cone #	



fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

Base map: IPET

LEGEND

- London 2006 ILIT Field Vane
- London 2006 ILIT Boring and Cone Penetration Test
  LAC-BOR-#: Boring
  LAC-CON-#: Continuous Boring
  LAC-CPT-#: Cone Penetration Test

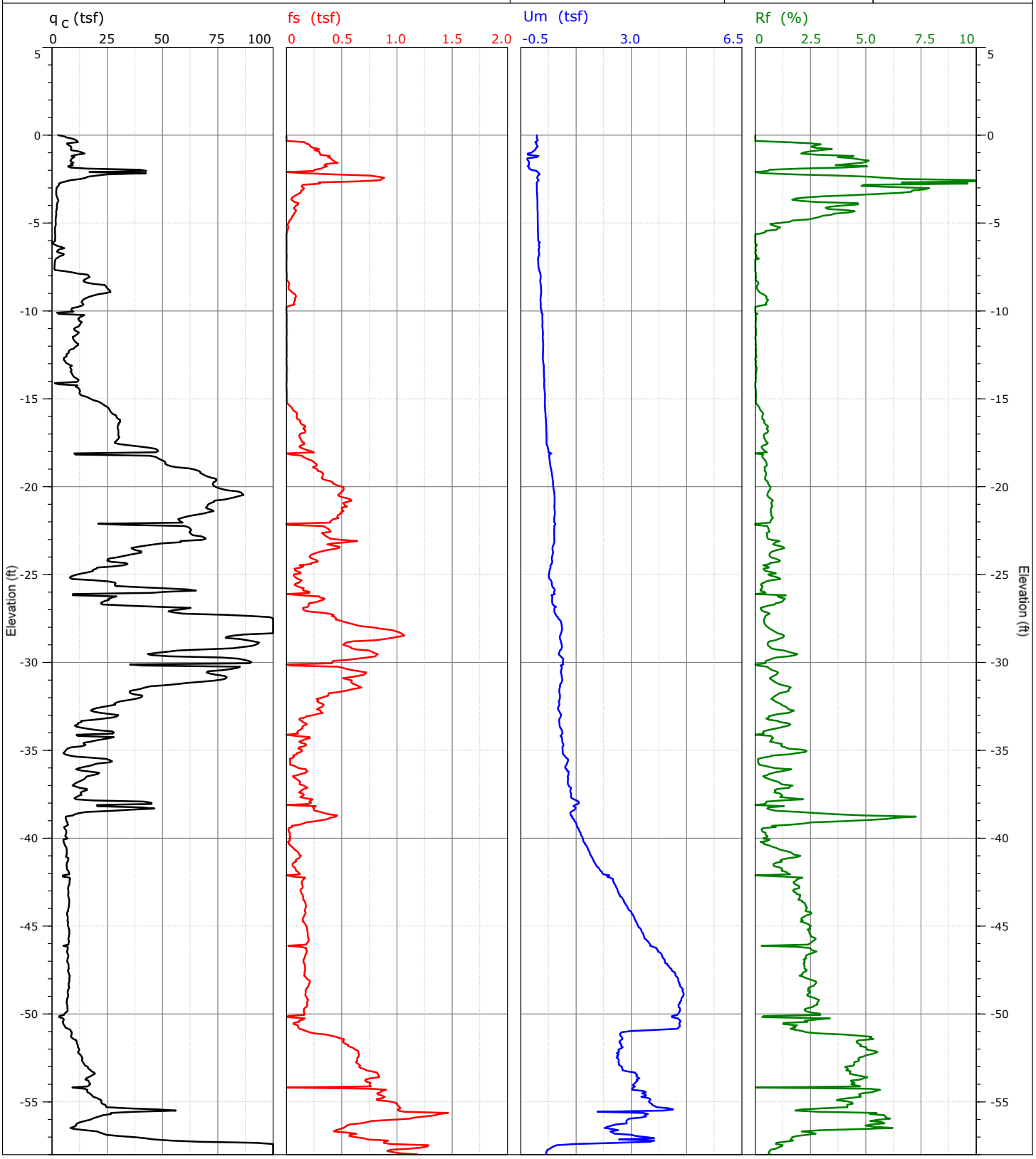
LONDON AVENUE CANAL (NORTH)
APPROXIMATE ILIT BORING, CPT, VANE LOCATIONS

New Orleans, Louisiana

SIZE	DATE	DWG NO.	REV
	05/04/2006	LACSitePlan	
SCALE	Not Drawn To Scale	SHEET	

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North West Bank	Geo Engineering UCB and STE	LACW-cpt1	-5.6

Location	Logger: D. Karadeniz	SHEET 1 of 1
N30.02044 W90.07136 middle of breach, frontyard of 6109 Pratt Drive	CPT Operator	Date Completed 2/07/06
	Cone #	

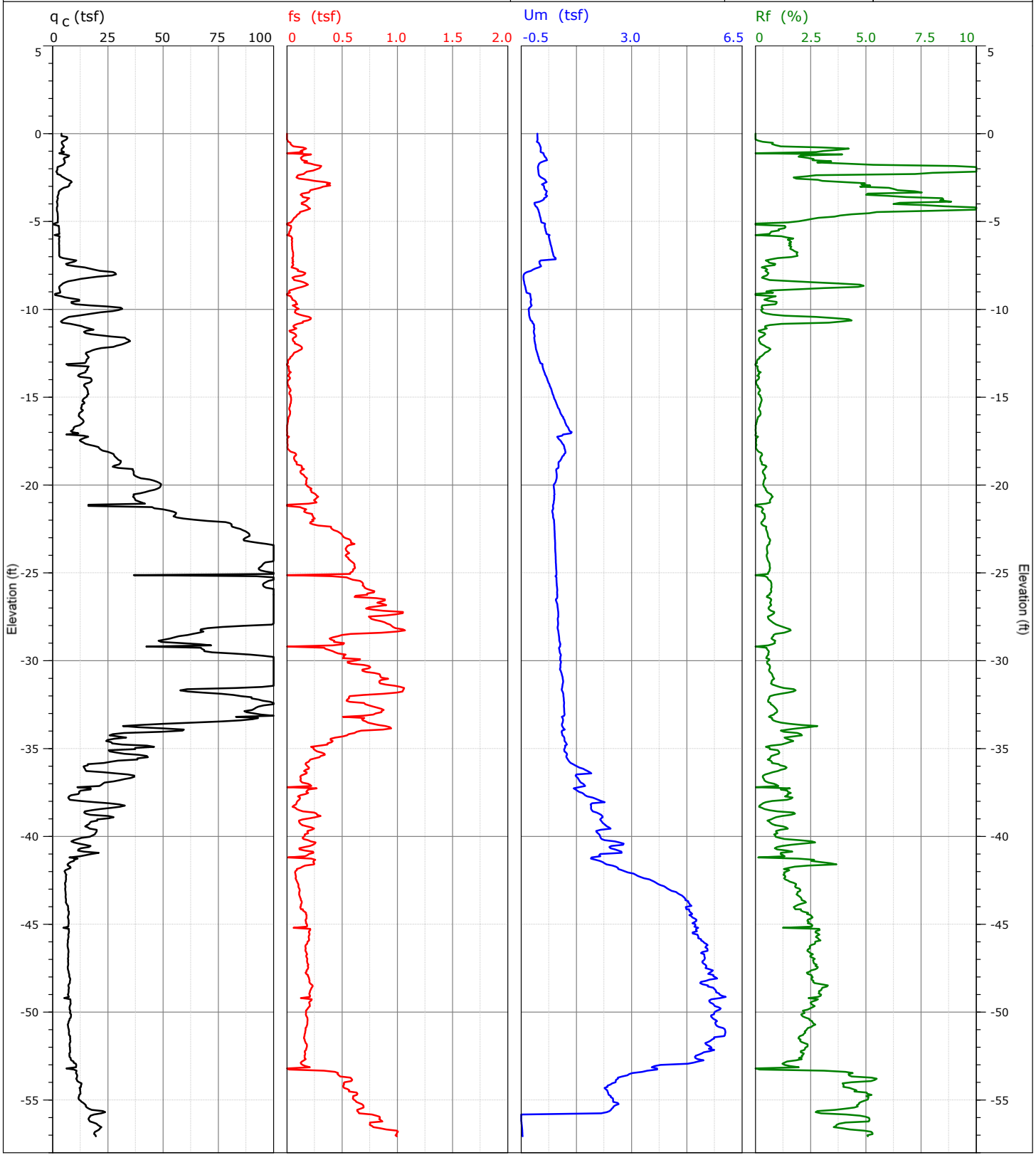


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North West Bank	Geo Engineering UCB and STE	LACW-cpt2	2.8

Location	Logger: D. Karadeniz	SHEET 1 of 1
N30.02048 W90.07104 middle of breach, pre-Katrina levee toe	CPT Operator	Date Completed 2/07/06
	Cone #	

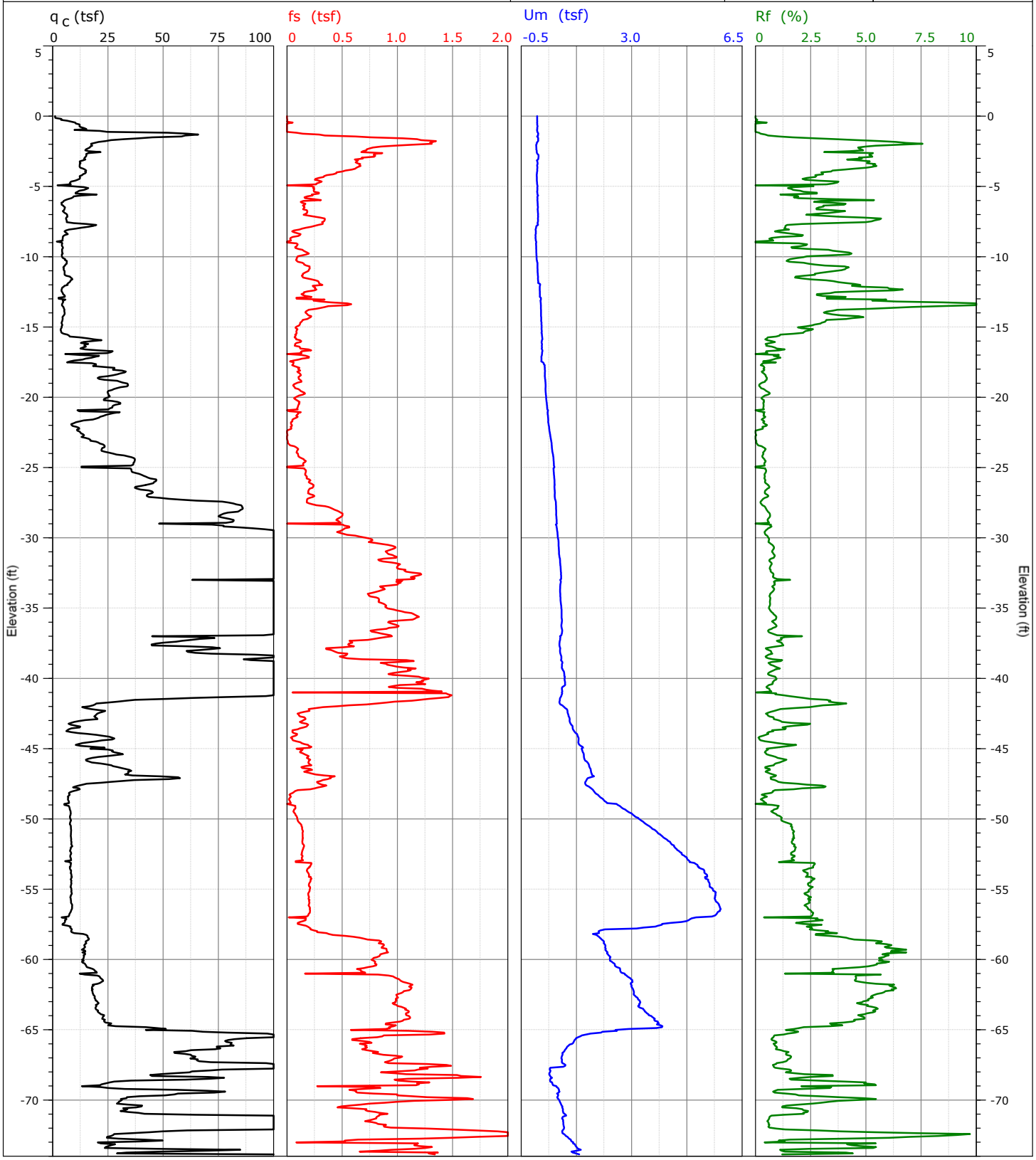


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North West Bank	Geo Engineering UCB and STE	LACW-cpt3	

Location	Logger: D. Karadeniz	SHEET 1 of 1
N30.02131 W90.07094 north of breach, on the levee, next to Robert E. Lee bridge	CPT Operator	Date Completed 2/07/06
	Cone #	

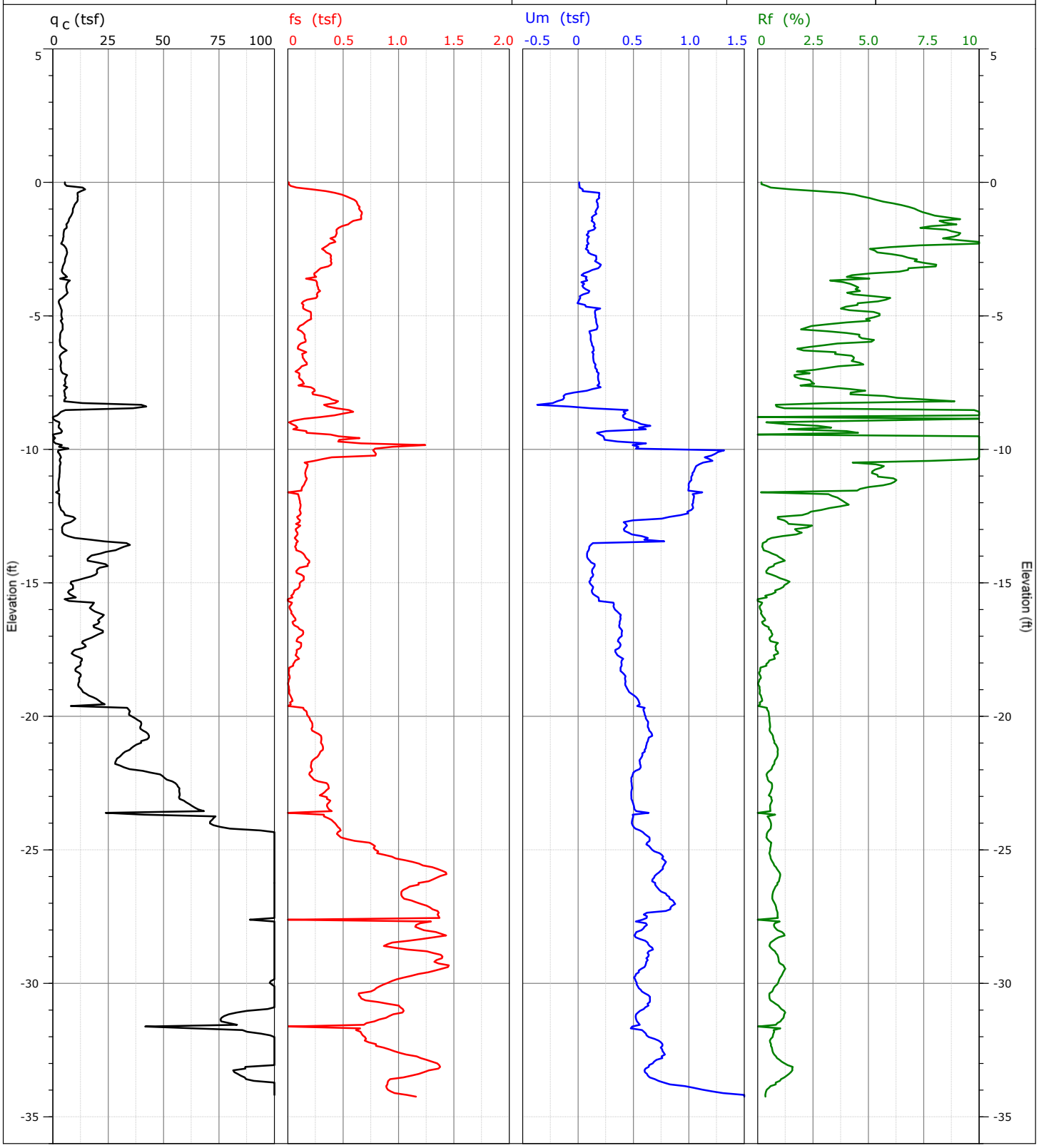


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North West Bank	Geo Engineering UCB and STE	LACW-cpt4	2.6

Location	Logger: D. Karadeniz	SHEET 1 of 1
N30.01953 W90.07082 30' south end of breach, levee crest	CPT Operator	Date Completed
	Cone #	2/07/06

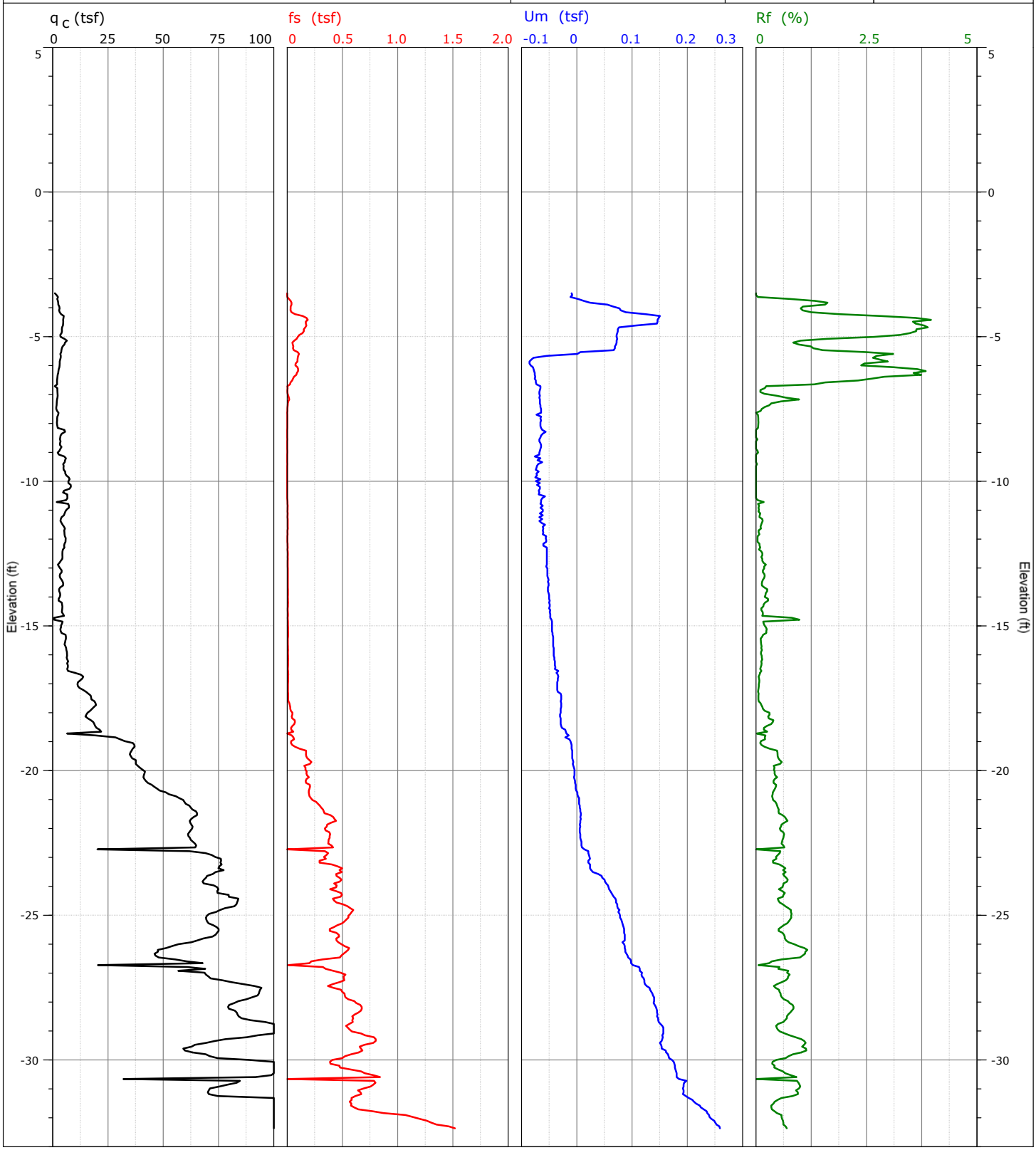


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North East Bank	Geo Engineering UCB and STE	LAC-cpt1	-7.7

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.02097 W90.07027 back yard of 6076 Warrington Drive	Logger:	Date Completed 2/10/06
	Cone #	

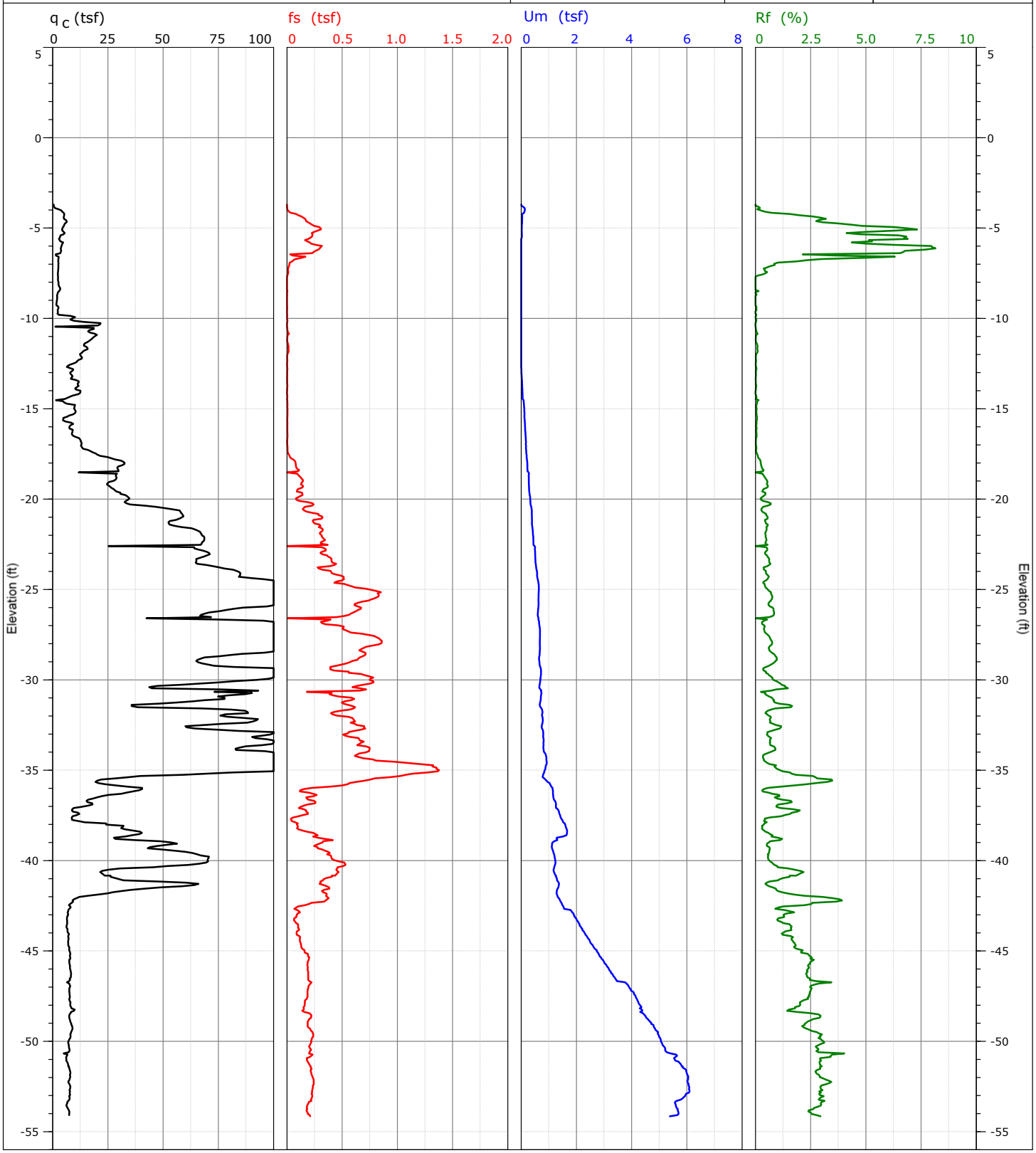


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North East Bank	Geo Engineering UCB and STE	LAC-cpt2	

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.02062 W90.07026 120' South of LAC-CPT-1	Logger:	Date Completed 2/09/06
	Cone #	

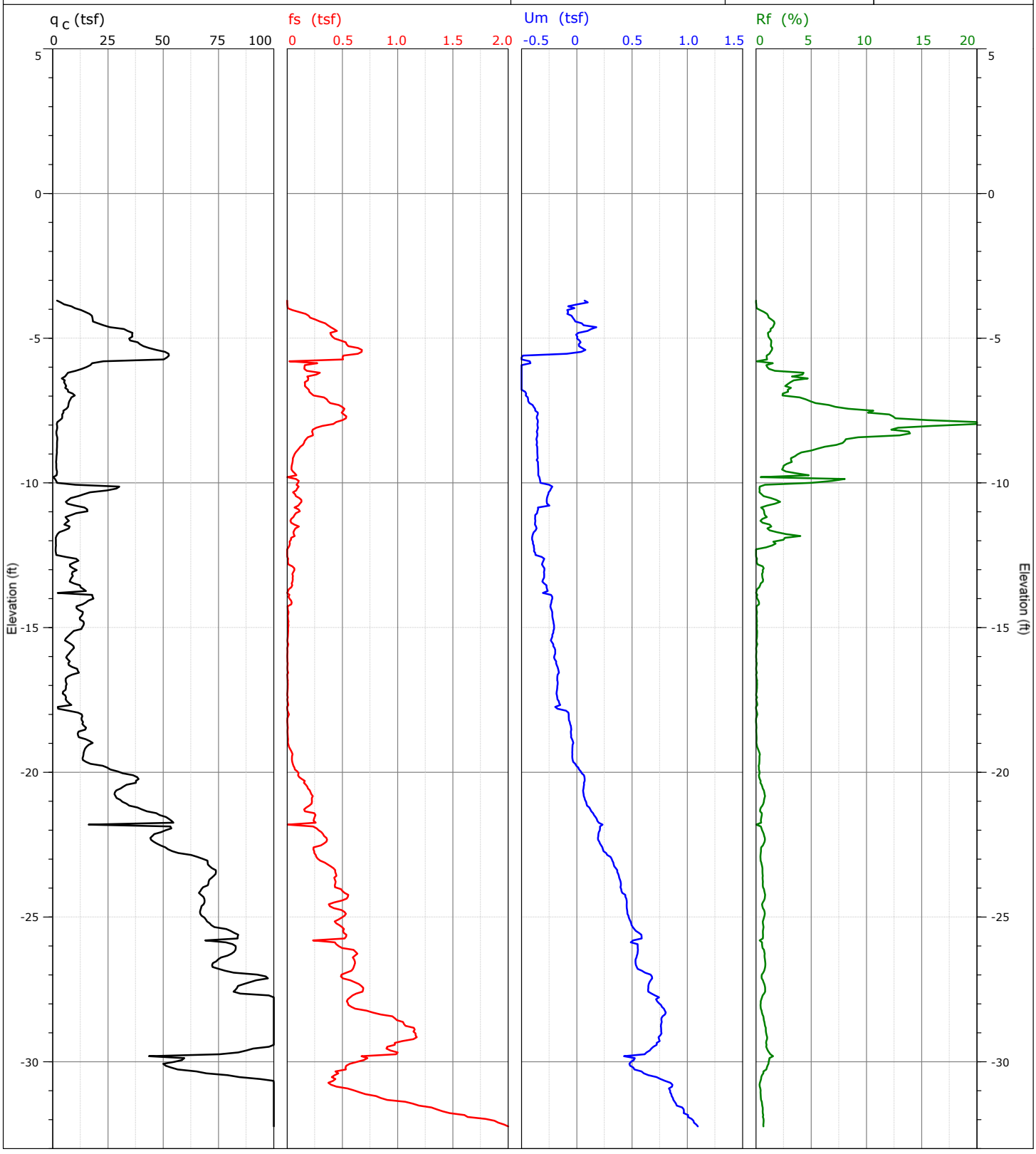


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North East Bank	Geo Engineering UCB and STE	LAC-cpt3	

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.02135 W90.07053 130' north of LAC-CPT-1	Logger:	Date Completed
	Cone #	2/08/06

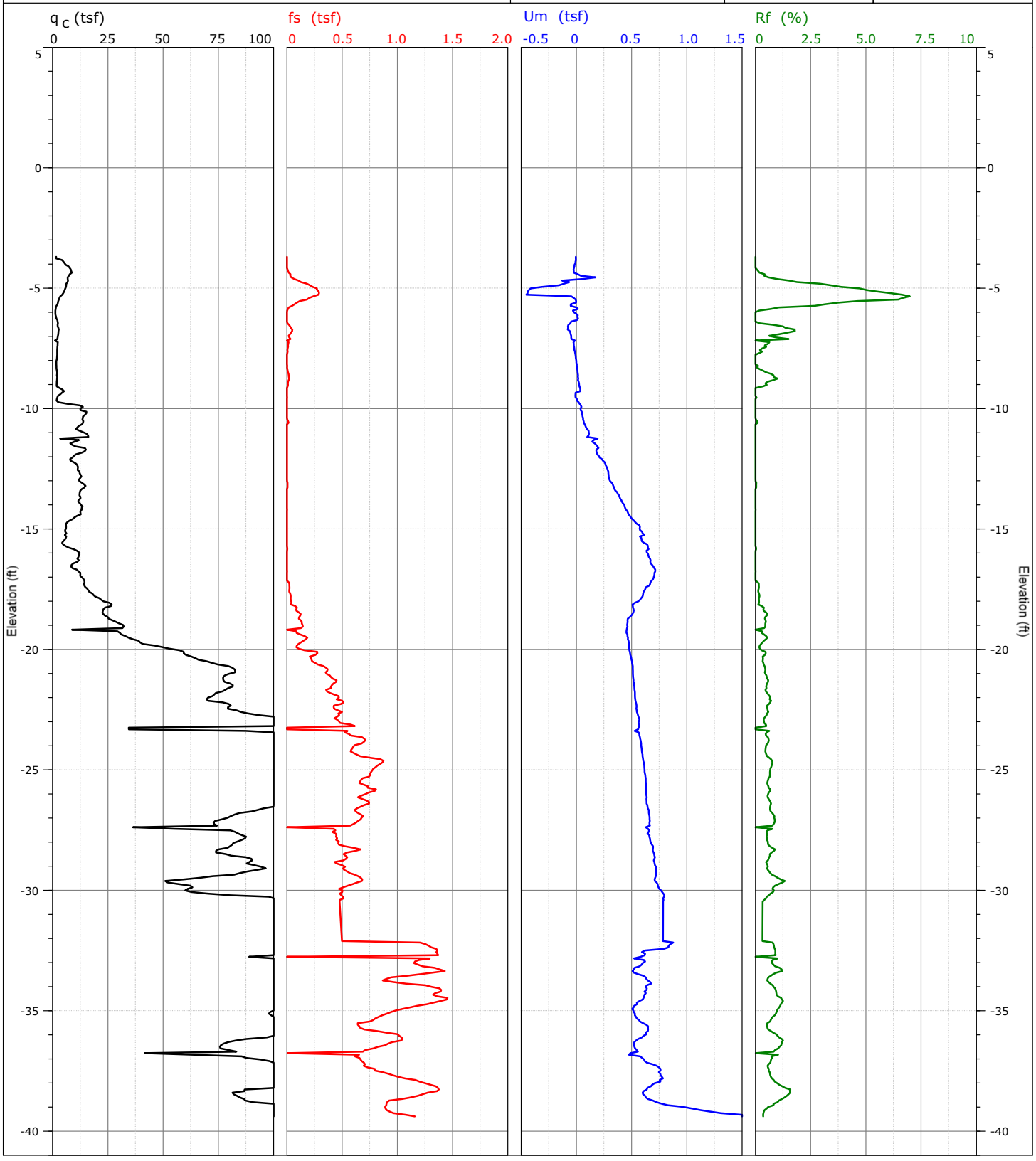


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal North East Bank	Geo Engineering UCB and STE	LAC-cpt4	

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.01998 W90.07032 280' south of LAC-CPT-1	Logger:	Date Completed 2/09/06
	Cone #	



fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:	
Juan Gabriel Vera-Grunauer CVA Consulting Group	CVA CONSULTING GROUP

Base map: Google Earth

LEGEND

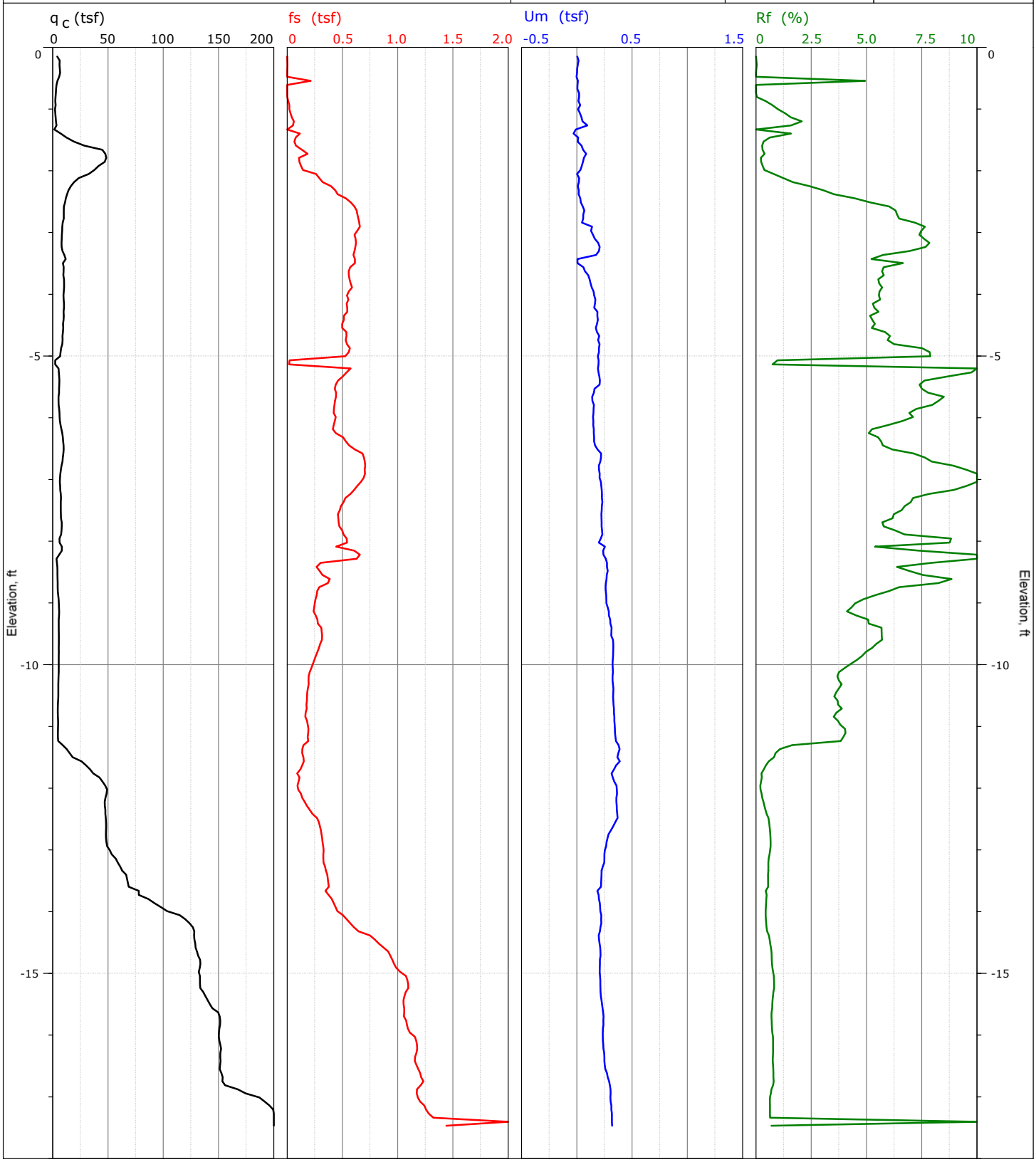
SLON-#.05C	USACE 2005 CPT
LACS-CPT-#	ILIT 2006 CPT
LACS-BOR-#	ILIT 2006 BORING
LACS-CON-#	ILIT 2006 CONTINUOUS BORING

LONDON AVENUE CANAL (SOUTH)
APPROXIMATE ILIT BORING AND CPT LOCATIONS
New Orleans, Louisiana

SIZE	DATE	DWG NO.	REV
	04/21/2006	LACS BOR & CPT SitePlan	
SCALE	Not Drawn To Scale	SHEET	

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal South	Geo Engineering UCB and STE	LACS-1	-0.15

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.00908 W90.0694 40' north of breach, levee slope	Logger: D. Cobos	Date Completed
	Cone #	2/16/06

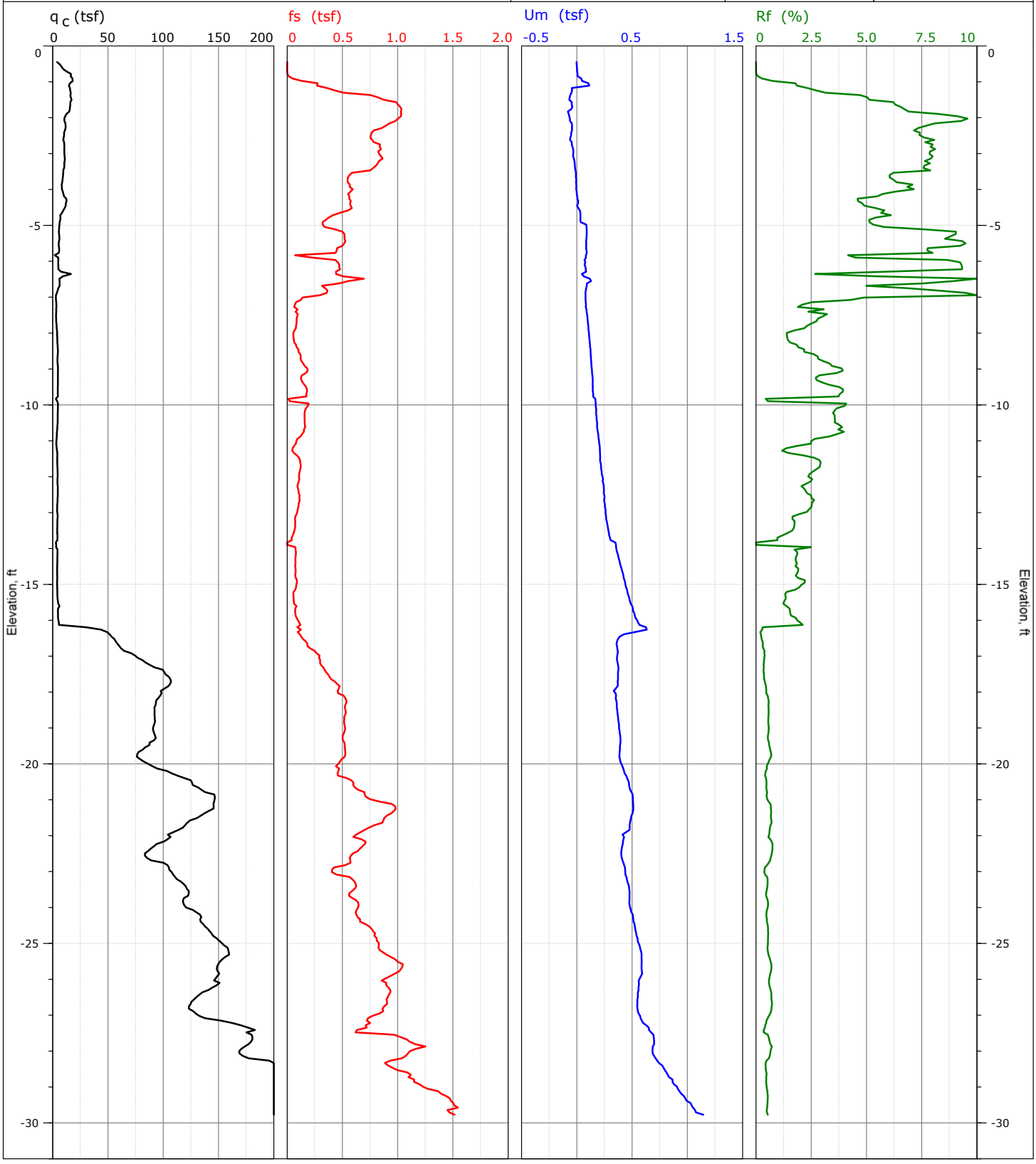


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal- South	Geo Engineering UCB and STE	LACS-2	4.6

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.00797 W90.06931	Logger: D. Cobos	Date Completed
30' south of breach, on emergency repair fill	Cone #	2/16/06

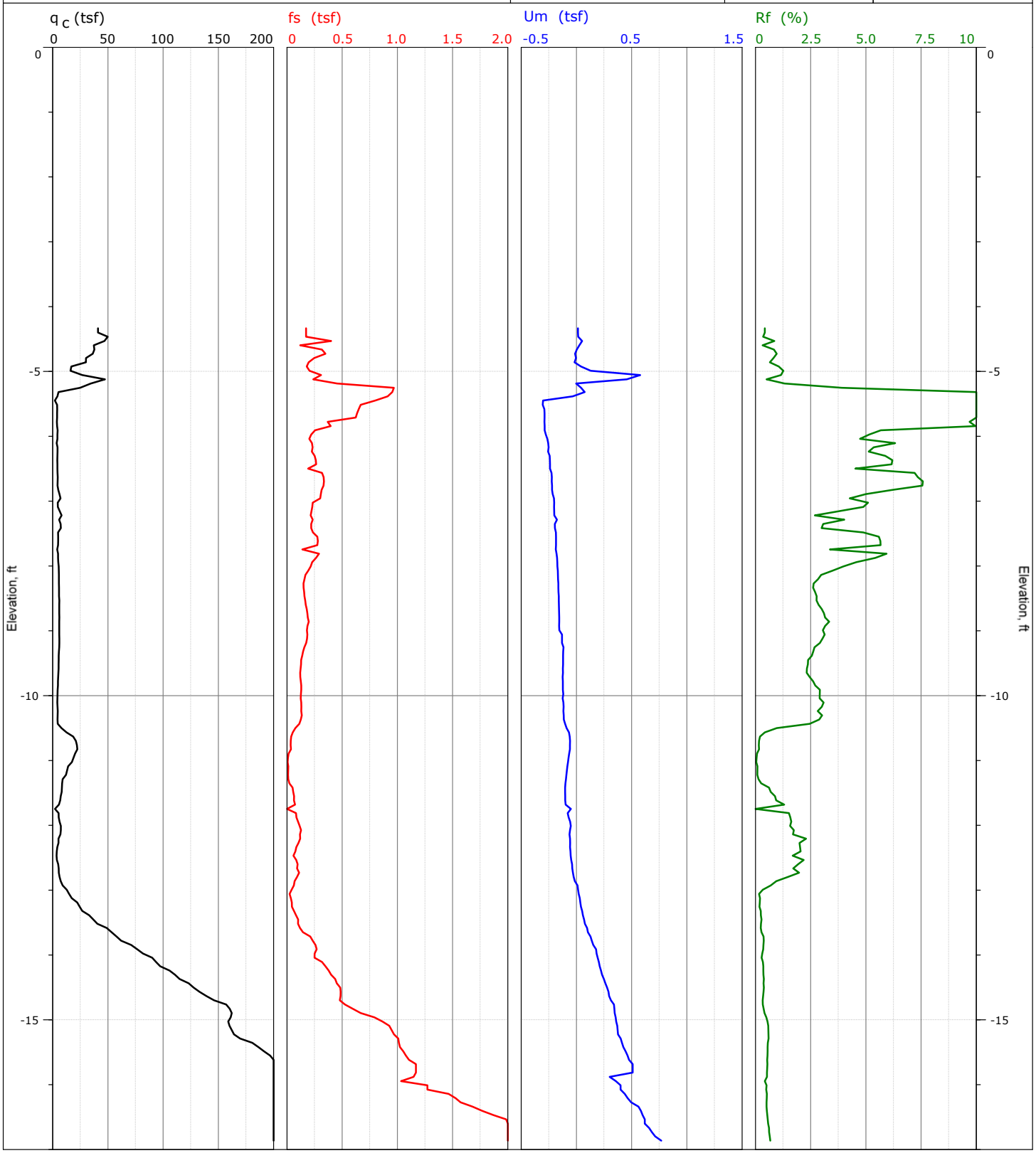


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer
CVA Consulting Group

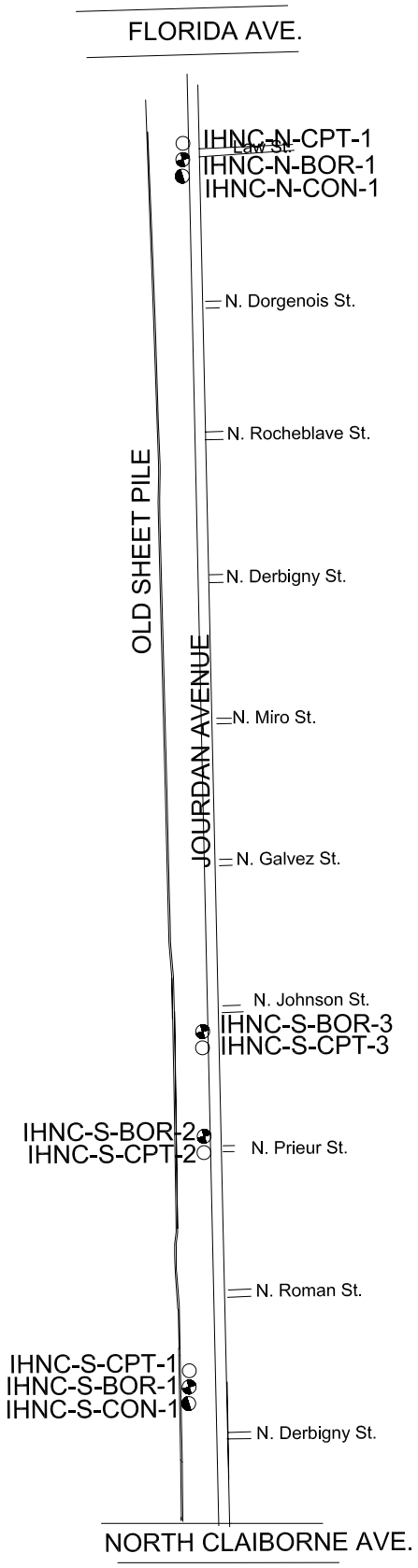
State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	London Ave. Canal- South	Geo Engineering UCB and STE	LACS-3	4.6

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N30.0085 W90.06907 middle of breach, backyard of house on Warrington Dr. and Wilton Dr.	Logger: D. Cobos	Date Completed
	Cone #	2/16/06



fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group



LEGEND

IHBR-N-BOR-#	IHNC NORTH 2006 ILIT BORING
IHNC-N-CON-#	IHNC NORTH 2006 ILIT CONTINUOUS BORING
IHNC-S-CPT-#	IHNC NORTH 2006 ILIT CONE PENETRATION TEST
IHBR-S-BOR-#	IHNC SOUTH 2006 ILIT BORING

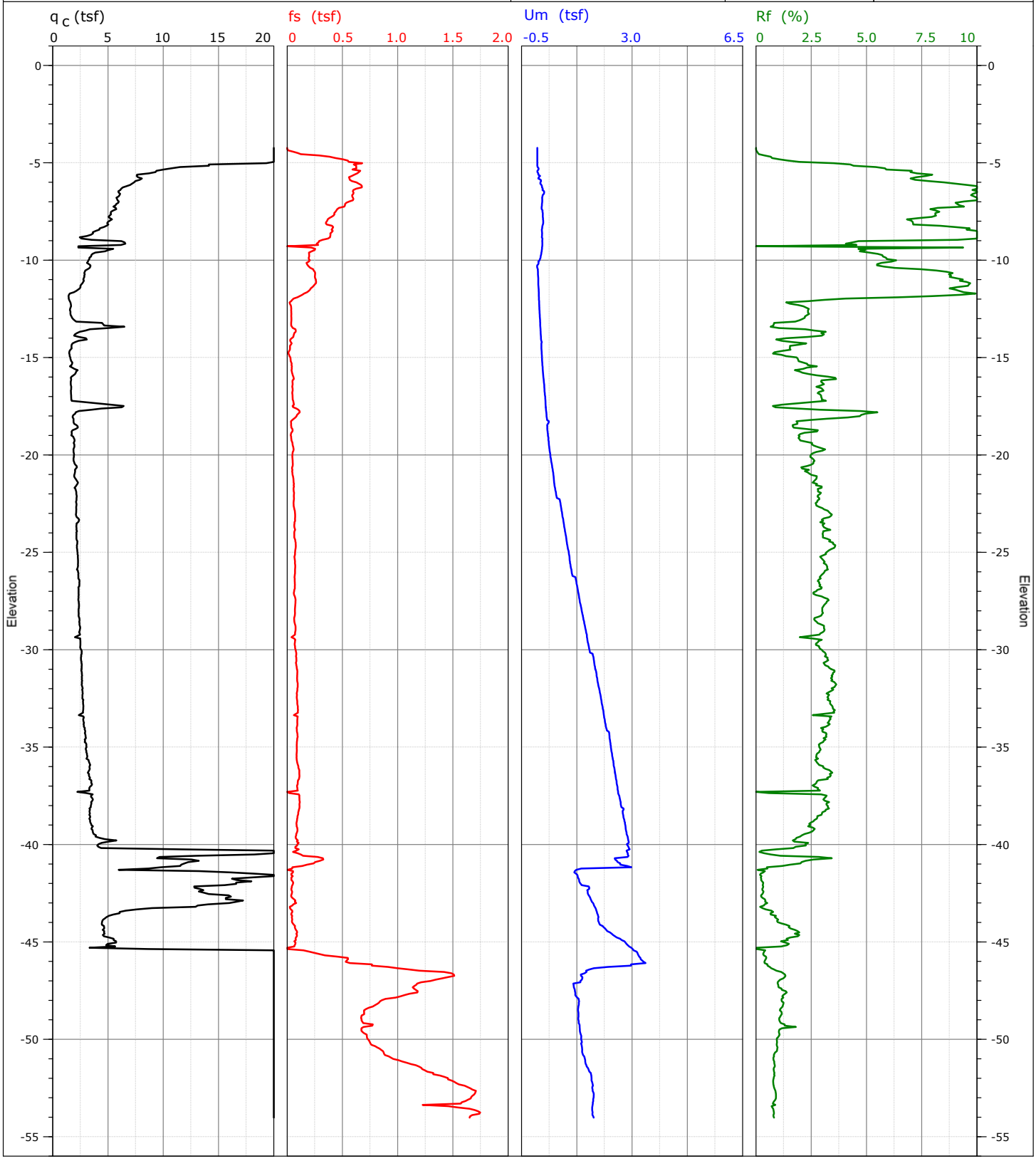
LOWER NINTH WARD
APPROXIMATE ILIT BORING & CPT LOCATIONS

New Orleans, Louisiana

SIZE	DATE	DWG NO.	REV
	04/21/2006	IHNC BOR & CPT SitePlan	
SCALE	Not Drawn To Scale	SHEET	

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	IHNC North- East Bank	Geo Engineering UCB and STE	IHNC-N-1	-3.38

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N29.9787 W90.02049 middle of north breach (south of Florida Ave.)	Logger: D. Cobos	Date Completed
	Cone #	2/21/06

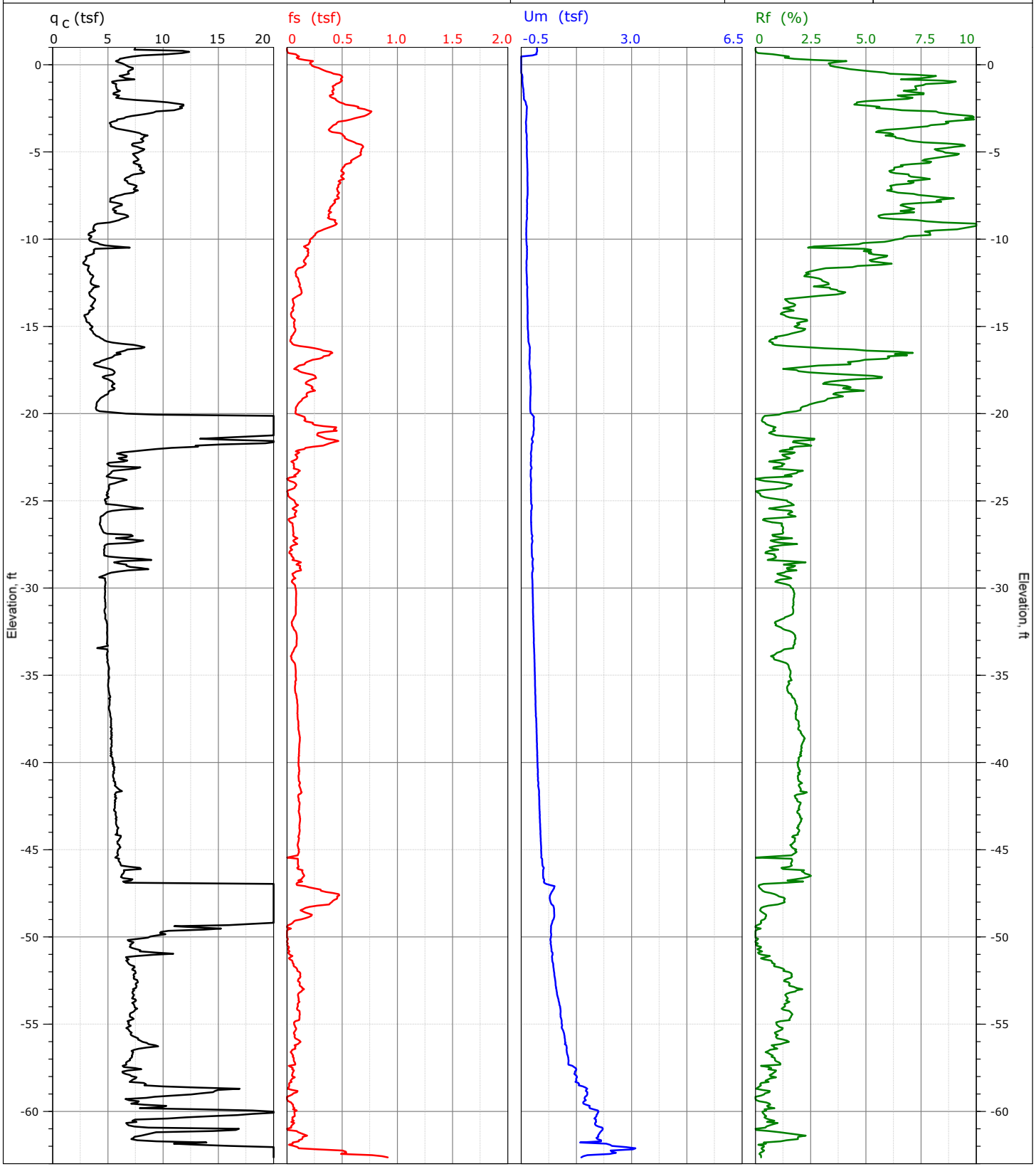


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	IHNC South- East Bank	Geo Engineering UCB and STE	IHNC-S-1	0.93

Location	Logger: A. Athansopoulos	SHEET 1 of 1
N29.97035 W90.02314	Logger: D. Cobos	Date Completed
south of south breach, ~600' north of Claiborne bridge	Cone #	2/17/06

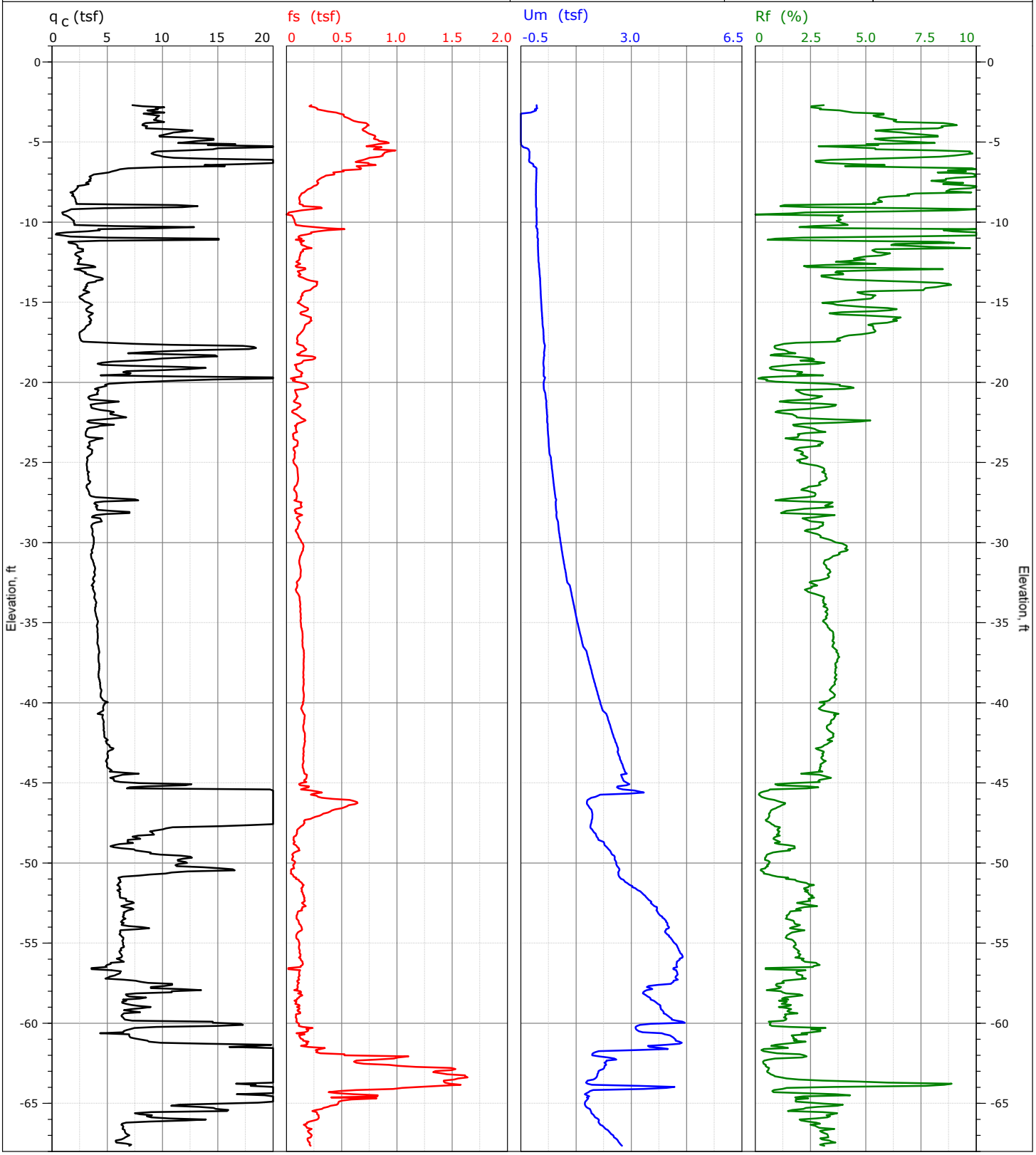


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer
CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	IHNC South- East Bank	Geo Engineering UCB and STE	IHNC-S-2	-2.7

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N29.97126 W90.02292 middle of south breach, ~1050' north of Claiborne bridge	Logger D. Cobos	Date Completed
	Cone #	2/16/06

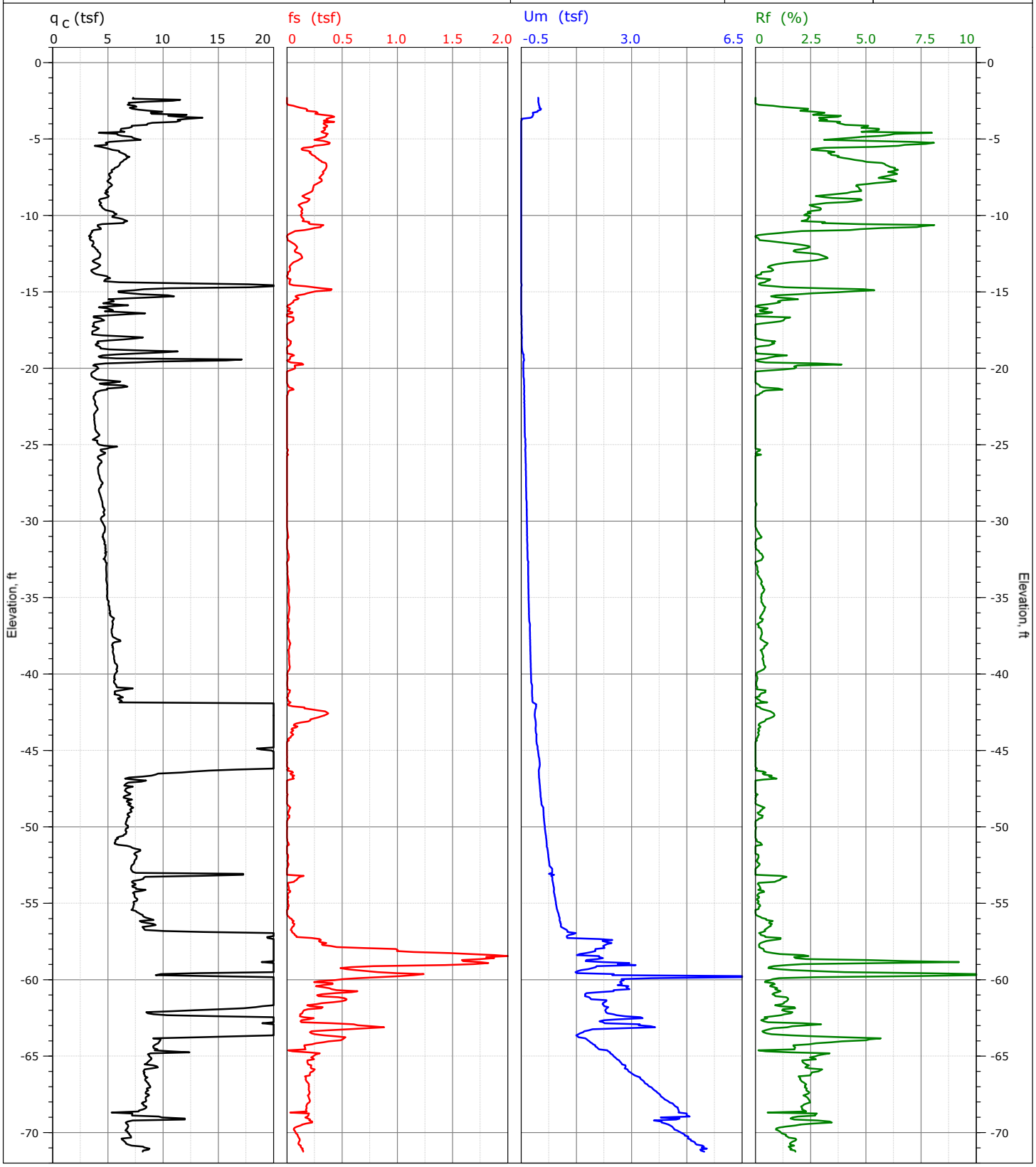


fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group

State Project	Site Name	Performed By	Sounding No.	Ground Elevation
	IHNC South- East Bank	Geo Engineering UCB and STE	IHNC-S-3	-2.3

Location	Logger: A. Athanasopoulos	SHEET 1 of 1
N29.97248 W90.02257 north of south breach, ~1500' north of Claiborne bridge	Logger: D. Cobos	Date Completed
	Cone #	2/21/06



fs --> Sleeve Friction
qc --> Cone Resistance
Um --> Pore pressure measured
Rf --> Friction Ratio = fs/qc

Log Developer:
Juan Gabriel Vera-Grunauer CVA Consulting Group