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Dissolved Phase Groundwater Investigation Report

Volume 3 of 3: Appendices A through F

The Hartford Area Hydrocarbon Plume Site
Hartford, Illinois

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Clayton Project No. 15-03095.14-011

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The Hartford Working Group
Hartford, Illinois

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APPENDIX A

OCTOBER 2004 THROUGH NOVEMBER 2005 ADDITIONAL INVESTIGATION ACTIVITIES

A-1 Soil Boring Logs
A-2 Well Construction Summary
A-3 Monitoring Probe Well Completion Reports
A-4 Monitoring Well Completion Reports
A-5 Well Development Indicator Parameters

Appendix A: October 2004 through November 2005 Additional Investigation Activities

These activities included Geoprobe® and hollow-stem auger (HSA) borings, chemical and geotechnical soil analyses, monitoring probe/vapor monitoring point installations, monitoring well installations and soil vapor extraction (SVE) well installations. The SVE wells were installed as part of the upgrade of the existing Vapor Control System (VCS). The vapor monitoring points (VMPs) were installed to monitor soil vapor conditions. The probes/wells (MPs/HMWs) were installed to gauge groundwater and LNAPL (if present), obtain separate phase hydrocarbon and/or groundwater samples, and evaluate the VCS. Copies of laboratory analytical reports are maintained at Clayton's office in Downers Grove, Illinois.

As part of on-going VCS enhancement activities, Clayton completed soil borings at 44 locations in Hartford for the installation of nested monitoring probes (MPs) and nested vapor monitoring points (VMPs) along with the installation of additional vapor control (HSVE-series) wells (Figure 3-1). The majority of this work was completed in April and May 2005.

The monitoring probe installations had two purposes. The primary purpose was to sufficiently screen the named, more permeable strata (e.g., North Olive, Rand, EPA and Main Sand) to enable the determination of potential vacuum influence, due to operation of the VCS, within these strata. The secondary purpose was to sufficiently screen these strata to enable the determination of the presence or absence of water and LNAPL as part of the goal of determining the horizontal and vertical extents of the LNAPL and monitoring groundwater. The purpose of the VMPs was to monitor soil vapor conditions. In some instances, field conditions resulted in a final probe placement that differed from the design placement. In other cases, based on the observed field conditions, a probe was designed to span beyond the identified stratum.

Premcor completed soil borings at three locations in Hartford for the installation of nested monitoring wells (Figure 3-1). The work was completed in August. These new wells (HMW-series) have been incorporated into the on-going gauging and sampling activities to evaluate groundwater flow, monitor groundwater conditions and determine the extents of LNAPL (if present).

Drilling Procedures

The borings were completed by Philip Environmental Services Corporation (PSC) of Columbia, Illinois, using a conventional drill rig equipped with hollow-stem augers (HSAs). All borings were continuously sampled to termination typically using a split-spoon sampler or a similar continuous split barrel sampling device advanced before the auger. Potable water, obtained from a metered fire hydrant located near the Hartford Public Works Department garage, was added to HSA borings only as necessary to facilitate drilling operations/well installation activities. The volume of drilling water not recovered during drilling operations/well installation was estimated and subsequently removed during monitoring well development.

All soil samples were described and classified in a consistent fashion by appropriately trained field personnel knowledgeable of the local geology and hydrogeology. All logging was conducted according to the Unified Soil Classification System. Visual and olfactory observations were noted. Lithologic information recorded included depth, color, soil type and qualitative moisture content. Additional drilling and sampling details were provided in previously submitted Standard Operating Procedures (SOPs) (Clayton 2004a). These SOPs may have been modified based on field conditions that would be discussed in the results section. The soil boring logs are provided in Appendix A-1.

Soil cuttings were temporarily stored in an approximately 20-ton roll-off box, located on secured property within Hartford, before offsite disposal by a waste disposal contractor. Decontamination for all drilling activities was conducted on secured Hartford property that had been prepared to serve as a laydown and decontamination yard for the planned workscope. The yard contained an approximately 790 square foot, lined, decontamination pad equipped with a sump, an approximately 6,500-gallon Baker tank, with secondary containment, for temporary liquid storage prior to disposal, and sufficient, approximately 20-ton roll-off boxes, for temporary soil storage prior to disposal.

Soil Chemical Analysis Sampling

Soil samples were screened for organic vapors (headspace) upon retrieval using a Photovac photoionization detector (PID) equipped with a 10.6 electron volt (eV) probe. The PID, calibrated to an

isobutylene standard, measures total concentrations of organic vapors. The PID cannot identify or quantify specific components.

Soil samples were collected for chemical analyses at selected locations including the MP locations (MP-68 through MP-89), two of the three HMW locations (HMW-53 and 54) and at two of the three HSVE locations (Figure 3-1). Soil samples from these locations were generally obtained from the approximate center of all previously named strata (e.g., North Olive and Rand), unless the strata were saturated. In that case, samples were collected from the unsaturated, if present, portion of the strata. Soil samples were also collected at these locations from the less permeable intervening strata above/below the named strata. The sampling was conducted to provide vertical profile data.

Soil samples recovered from each sampling interval, at borings or sampling intervals not chosen for chemical analysis, were typically placed in a sealed plastic Ziploc® bag for geologic classification and headspace analysis with the PID. The bagged samples were generally allowed to equilibrate for approximately 15 minutes with ambient conditions, and a headspace screening was performed using the calibrated PID. The results of the headspace screening from each logged boring are presented on the boring logs.

Soil samples, recovered from intervals selected for chemical analysis, were typically split into two portions. One portion was placed into new, laboratory-supplied containers, immediately sealed, labeled and then placed in a cooler containing ice for laboratory chemical analysis. The containers were preserved as appropriate. The remaining portion was placed into a new plastic Ziploc® bag for geologic classification and headspace screening as discussed above.

All of the samples selected for chemical testing, were submitted for analysis of typical petroleum hydrocarbons, specifically, benzene, ethylbenzene, toluene and xylenes (BETX), methyl tert-butyl ether (MTBE) and total lead (Clayton and ENSR 2004). Method 5035 sampling protocol was used for all samples to be analyzed for BETX and/or volatile organic compounds (VOCs). All samples were delivered under chain-of-custody procedures to Teklab, Inc. (Teklab) of Collinsville, Illinois for laboratory analysis. Teklab is an Illinois Environmental Laboratory Accreditation Program (IL ELAP) and National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory. Chain-of-custody procedures were observed from point of collection to sample receipt by Teklab. Teklab conducted the

chemical analyses using United States Environmental Protection Agency (U.S. EPA) SW-846 Methods 5035/8260B for BETX and MTBE, and SW-846 Methods 3050B, 6010B for lead. All soil analytical results were reported on a dry-weight basis with total solids determined using Standard Methods 18th edition 2540G.

Soil Geotechnical Analysis Sampling

Soil samples were also collected for geotechnical analyses at MP, HMW and HSVE locations. The sampling was generally conducted from the same strata as the soil chemical analyses sampling though, for physical analyses, saturated conditions were not a concern.

All of the samples were submitted for analysis of grain size, moisture, and organic carbon content with selected samples submitted for determination of the liquid limit, the plastic limit and the plasticity index. Samples, obtained from the chosen interval, were stored in new one-gallon plastic Ziploc® bags. All samples were delivered under chain-of-custody procedures to Philip Environmental Services Corporation (PSC) of Columbia, Illinois for laboratory analysis.

Monitoring Probe/Point/Well Installations

A total of 49 monitoring probes/wells (at nested locations MP-77 through MP-89 and HMW-44, HMW-53 and 54) and nine vapor monitoring points (VMP-97VS through 105VS) were installed. A total of 26 soil vapor extraction wells (HSVE-2S through 5S, HSVE-7S, HSVE-9S through 12S, HSVE-17S through 19S, HSVE-20S and 20D, HSVE-21 and 22, and HSVE-23S and D through 27S and D) were installed. The monitoring probes (MP-series) were installed at predetermined locations to monitor the influence of the soil vapor extraction wells and, therefore, the effectiveness of the Vapor Control System. The monitoring probes were modified to make them more suitable for water/product gauging (Clayton 2004b). The monitoring wells (HMW-series) were installed to evaluate groundwater conditions along the North Olive Street corridor.

Monitoring probes were constructed using 1-inch inside-diameter (ID) 0.010-inch factory-slotted polyvinyl chloride (PVC) screen and completed to ground surface with solid 1-inch ID PVC riser. The 1-inch ID probes were only installed in the shallower strata, such as the North Olive and Rand, and were nested in

one borehole, unless the intervening clay layer was less than approximately 3 feet in thickness. In that instance, probes were installed in separate borings to eliminate the potential for cross contamination. Monitoring wells and deeper monitoring probes were constructed using 2 inch ID PVC riser and 2 inch ID 0.010 inch factory-slotted PVC screen. The 2-inch ID probes/wells were installed in the EPA Stratum or Main Sand as drilling conditions in these units typically required the introduction of potable drilling water to enable the installation of the probes/wells at the desired depth. Effective recovery of the introduced drilling water could only be accomplished with 2-inch ID probes/wells. Final screen length at a location, in the case of the EPA, Rand and North Olive Strata, was determined by field conditions, specifically, by the strata thickness. In general, with the Main Sand probes/wells, the screen length was 15 feet where unconfined (water table) conditions were evident in order to straddle the water table, while where confined conditions were apparent, the screen length was 10 feet. However deeper nested wells within the Main Sand, below the water table or overlying confining unit, typically had screen lengths of 5 feet to minimize the influence of vertical gradients.

Vapor monitoring ports (VMP-series) were constructed using a 0.5-inch outside diameter by 6-inch long Geoprobe Systems® stainless steel screens connected to a 0.125-inch inside diameter stainless steel riser tubing that extended to ground surface. The vapor ports were installed within the A Clay.

The monitoring probe/well installations were completed in accordance with previously submitted SOPs (Clayton 2004a) and the Additional Precautions for MPE Pilot Test Well and Probe Installations Memorandum (Clayton 2004c). The SVE wells were installed in accordance with these SOPs and the Technical Memorandum, Vapor Control System Upgrade Design (Clayton 2004d). A summary of construction details for the above items is provided in Appendix A-2, including the strata screened by each well. The monitoring probe/well completion reports are found in Appendices A-3 and A-4.

Development activities were only conducted on those probes/wells (2-inch ID) that contained groundwater (with the exception of the SVE wells, which do not require development). Prior to development, monitoring probes/wells were allowed to set a minimum of 24 hours after installation. Development was performed (after removal of the estimated volume of water introduced, if any, during drilling) using a variety of equipment including a Grundfos pump, rod pump, or bailers. Development was performed until pH, conductivity and temperature stabilized or the wells were pumped dry and allowed to recharge at least three times. In general, the Main Sand wells recovered rapidly during development.

Well development was conducted in general accordance with a previously submitted SOP (Clayton 2004a). Summarized well development indicator parameters are provided in Appendix A-5. Generated water and separate phase hydrocarbon, if any, was temporarily stored and managed as discussed in Section 3.1 above.

Each new probe/well, including ground surface elevation, was surveyed by an Illinois-licensed surveyor for horizontal control referenced to Illinois State Plane West Zone NAD 83 (feet) and vertical control referenced to mean sea level (MSL) (feet). The survey, conducted by Crawford, Murphy and Tilly, Inc. (CMT) of Edwardsville, Illinois, was completed referencing the same datum as was established for previous Clayton investigative work at the Site.

BUREAU VERITAS

APPENDIX A-1

SOIL BORING LOGS

BORING NO: HMW-44D	WELL NO: HMW-44D	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group
BORING LOCATION: Hartford, IL		COORDINATES: 790116.48 N, 2317678.52E	

DRILLING CO: Terra Drill	DRILLER: T. Marlo	LOGGED BY: T. Grisel
DRILLING EQUIP: CME-75 / HSA	SCREEN INTERVAL: 45.0'-49.4'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 31.54	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 8/11/05
BOREHOLE DIA: 8.5 inches	STICKUP: -0.06 ft	START TIME (hours): 0950
TOP of CASING ELEVATION: 429.76 ft	G.S. ELEVATION: 429.82 ft	FINISH DATE: 8/11/05
RISER DIA/MTL/LGTH: 2"/PVC/44.94'	DEV. METHODS: pumped	FINISH TIME (hours): 1357

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
-3, -1											
1, 3, 5, 7, 9, 11, 13, 15, 17 (m: 2, 4)	BLIND DRILL (0.0' - 30.0')			A	–	HA	–	–	–	–	Hand auger 0.0'-10.0'

Boring/Well No.: HMW-44D

BORING NO: HMW-44D	WELL NO: HMW-44D	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
20				B	–	SS	–	–	–	–	
22											
7											
24											
26											
28											
9											
30	**SILT (30.0' - 30.2') ML** Gray, wet, some clay, strong petroleum-like odor at 30.0'			C	1.5/2	SS	W	– 4 5 7	–	302	
32	**SAND (30.2' - 32.5') SP** Brown, wet to saturated, fine grained, strong petroleum-like odor			D	1.6/2	SS	S	– 4 4 6	–	1776	*Collected sample at 32.0-36.0' for geotechnical analysis
34	**SAND (32.5' - 50.0') SW** Gray, saturated, fine to coarse sand			E	1.3/2	SS	S	– 3 5 5	–	308	
36	0.1-Foot Sandy Silt seam, wet, trace clay at 36.4'			F	1.6/2	SS	W	– 4 5 6	–	101	
11	Grades wet at 36.4'										
38				G	1.5/2	SS	W	1 3 5 7	–	438	
40											

BORING NO: HMW-44D	WELL NO: HMW-44D	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	Grades saturated at 41.0'			H	1/2	SS	W/S	1 6 8 12	--	267	
42				I	1.5/2	SS	S	2 4 12 13	--	131	*Collected sample at 42.0-46.0' for geotechnical analysis
44				J	1.5/2	SS	S	3 6 14 17	--	15.8	
46 14				K	1.4/2	SS	S	1 7 13 15	--	8.0	
48				L	0.8/2	SS	S	1 3 7 10	--	3.2	
50	End of Boring at 50.0'										
52 16											
54											
56											
58											
18 60											

BORING NO: HMW-53	WELL NO: HMW-53C	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group
BORING LOCATION: Hartford, IL		COORDINATES: 2317755.56 (E), 789708.30 (N)	
DRILLING CO: Terra Drill	DRILLER: T. Mario	LOGGED BY: T. Grisel	
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 42.0'-46.7' (HMW-53C)	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: 31.48ft bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 8/9/05	
BOREHOLE DIA: 8.5 inches	STICKUP: -0.31 ft (HMW-53C)	START TIME (hours): 0810	
TOP of CASING ELEVATION: 429.66 ft (HMW-53C)	G.S. ELEVATION: 429.97 ft (HMW-53C)	FINISH DATE: 8/9/05	
RISER DIA/MTL/LGTH: 2"/PVC/41.69' (HMW-53C)	DEV. METHODS: Pumped	FINISH TIME (hours): 1032	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0' - 0.2')**										Hand auger 0.0'-10.0'
	FILL (0.2' - 2.5') Gravel			A	2/2	HA	–	–	–	4.5	
2	**SILTY CLAY (2.5' - 5.5') CL** Brown, moist, trace sand, orange mottles		Monitoring Well HMW-53A Monitoring Well HMW-53B Monitoring Well HMW-53C	B	2/2	HA	M	–	–	4.3	
4				C	2/2	HA	M	–	–	3.1	*Collected sample at 6.0-8.0' for analysis of BETX, MTBE, and Lead and geotechnical analysis
6 / 2	**SILT (5.5' - 9.0') ML** Brown, moist, with clay, trace sand, orange mottles			D	2/2	HA	M	–	–	0.4	
8				E	2/2	HA	M	–	–	1.7	
10	**SILT (9.0' - 15.8') ML** Gray, moist, with fine sand Grades trace clay at 10.1' to 10.3'			F	2/2	SS	M	1 2 2 3	–	59.7	*Collected sample at 10.0-12.0' for analysis of BETX, MTBE, and Lead
12 / 4	Grades trace clay at 11.6' to 11.9' Grades wet, strong petroleum-like odor at 12.7'			G	2/2	SS	W/S	– 1 1 1	–	1304	*Collected sample at 10.0-14.0' for geotechnical analysis
14	Grades saturated at 13.8' - 14.0'			H	2/2	SS	W	– – – –	–	401	
16	**SILT (15.8' - 17.9') ML** Light gray, rust mottles, moist, some clay, trace fine sand, strong petroleum-like odor			I	2/2	SS	M	– – – –	–	871	
18 / 6	**CLAYEY SILT (17.9' - 22.3') ML** Light gray, moist, rust mottles, trace fine sand, strong petroleum-like odor			J	2/2	SS	M	– 1 2 1	–	903	*Collected sample at 18.0-20.0' for analysis of BETX, MTBE, and Lead
20											

Boring/Well No.: HMW-53C

BORING NO: HMW-53	WELL NO: HMW-53C	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
22				K	2/2	SS	M	– 1 2 –	–	632	*Collected sample at 18.0-22.0' for geotechnical analysis
24	**SILT (22.3' - 25.1') ML** Gray, moist, some clay, trace fine sand, strong petroleum-like odor Grades orange mottles at 23.4' Grades wet at 23.8'			L	2/2	SS	M	– 2 2 –	–	1548	
26	**CLAYEY SILT (25.1' - 26.3') ML** Gray, wet, orange mottles, trace fine sand, strong petroleum-like odor			M	2/2	SS	–	– 2 2 –	1516	M/W	
8	**SILT (26.3' - 28.3') ML** Gray, moist, orange mottles, some clay, trace fine sand, strong petroleum-like odor			N	2/2	SS	W/M	– 2 2 –	–	1464	
28	**SANDY SILT (28.3' - 32.5') ML** Brown, wet, orange mottles, fine grained sand, strong petroleum-like odor			O	1.8/2	SS	W	– 2 2 –	–	1430	
30				P	2/2	SS	W	– – – –	–	769	*Collected sample at 30.0-32.0' for geotechnical analysis
32				Q	1.5/2	SS	S	– 2 2 3	–	1310	
34	**SAND (32.5' - 48.0') SW** Brown, wet, fine to medium grained, strong petroleum-like odor Grades saturated at 33.0' Grades saturated at 34.7' Grades fine to coarse grained at 35.0'			R	1/2	SS	W/S	– 2 3 –	–	1035	*Collected sample at 34.0-38.0' for geotechnical analysis
36				S	1.8/2	SS	S	1 6 12 14	–	960	
38				T	1.2/2	SS	S	1 8 13 14	–	1402	
10											
12											
40											

BORING NO: HMW-53	WELL NO: HMW-53C	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
				U	1 2/2	SS	S	1 7 9 14	–	759	
42				V	1 5/2	SS	S	1 1 16 25	–	41.8	
44				W	1 7/2	SS	S	2 3 10 10	–	25.0	
46 – 14				X	0 0/2	SS	S	3 3 7 11	–	–	
48	End of Boring at 48.0'										
50	See monitoring well construction forms HMW-53 A, B, and C for details regarding monitoring well construction										
52 – 16											
54											
56											
58											
60 – 18											

Boring/Well No.: HMW-53C

BORING NO: HMW-54	WELL NO: HMW-54C	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group
BORING LOCATION: Hartford, IL		COORDINATES: 2317731.88 (E), 789867.08 (N) (HMW-54C)	

DRILLING CO: Terra Drill	DRILLER: T. Marlo	LOGGED BY: A. Schultz
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 44.7'-49.4' (HMW-54C)	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 31.47 ft bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 8/8/05
BOREHOLE DIA: 8.5 Inches	STICKUP: -0.29 ft	START TIME (hours): 1141
TOP of CASING ELEVATION: 429.56 ft (HMW-54C)	G.S. ELEVATION: 429.85 ft (HMW-54C)	FINISH DATE: 8/8/05
RISER DIA/MTL/LGTH: 2"/PVC/44.41' (HMW-54C)	DEV. METHODS: Pumped	FINISH TIME (hours): 1610

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0' - 0.2')**		Monitoring Well HMW-54A, Monitoring Well HMW-54B, Monitoring Well HMW-54C								Hand auger 0.0'-10.0'
	FILL (0.2' - 2.0')			A	2/2	HA	M	--	--	30.1	
2	**SILTY CLAY (2.0' - 6.0') CL** Brown, moist, orange mottles, slight petroluem-like odor			B	2/2	HA	M	--	--	11.2	*Collected sample at 4.0-6.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
4				C	2/2	HA	M	--	--	14.7	
6 / 2	**CLAYEY SILT (6.0' - 11.0') ML** Gray, moist, orange mottles, with fine sand, slight petroleum-like odor			D	2/2	HA	M-W	--	--	14.0	*Collected sample at 6.0-8.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
8	Grades wet at 7.0' - 7.5'			E	2/2	HA	M	--	--	16.2	
10	Grades wet at 10.3' Black mottles at 10.5' to 10.6'			F	2/2	SS	M-W	-- 2 2 2	--	476	*Collected sample at 11.0-13.0' for analysis of BETX, MTBE, and Lead
12 / 4	**SANDY SILT (11.0' - 15.7') ML** Gray, moist, fine sand, strong petroleum-like odor Grades to wet at 12.5' Grades saturated at 13.2'			G	2/2	SS	M-S	1 1 -- --	--	1387	
14				H	2/2	SS	S/M	-- -- -- --	--	556	*Collected sample at 11.0-15.0' for geotechnical analysis
16	**SILT (15.7' - 25.5') ML** Gray, moist, rust mottles, with clay, trace fine sand, strong petroleum-like odor			I	2/2	SS	M	16 18 -- 1	--	925	*Collected sample at 16.0-18.0' for analysis of BETX, MTBE,and Lead
18	0.3-Foot clayey silt seam, gray, rust mottles, at 18.2'			J	2/2	SS	M	-- 1 1 --	--	847	
20 / 6	0.3-Foot clayey silt seam, gray, rust mottles, at 19.3'										

Boring/Well No.: HMW-54C

BORING NO: HMW-54	WELL NO: HMW-54C	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	Grades trace clay at 20.8'			K	2/2	SS	M	– 2 – –	–	1387	*Collected sample at 16.0-20.0' for geotechnical analysis
22	Grades saturated at 22.4' to 23.3'			L	2/2	SS	M-S	– 1 – –	–	1548	
24				M	2/2	SS	M	– 2 3 3	–	1269	
26 8	**CLAYEY SILT (25.5' - 29.6') ML** Gray, moist, orange mottles, strong petroleum-like odors			N	2/2	SS	M	– 1 2 –	–	556	
28				O	2/2	SS	M	– 2 2 –	–	1689	
30	**SILT (29.6' - 30.2')** Gray, moist, with clay, strong petroleum-like odor			P	2/2	SS	M/W	2 5 5 5	–	1657	
32	**SANDY SILT (30.2' - 32.6') ML** Gray, wet, fine grained, strong petroleum-like odor 0.2-foot wet sand seam at 31.6'			Q	1.5/2	SS	W/S	– 2 5 –	–	1361	
10 34	**SAND (32.6' - 50.0') SW** Brown, saturated, fine to medium grained, strong petroleum-like odor			R	1.7/2	SS	S	– 3 7 –	–	952	*Collected sample at 34.0-38.0' for geotechnical analysis
36				S	2/2	SS	S	– 2 5 9	–	1167	
38	Grades fine to coarse grained sand at 37.3'			T	0.5/2	SS	S	– 2 4 9	–	726	
12 40											

BORING NO: HMW-54	WELL NO: HMW-54C	PROJECT NO: 15-03095.24	PROJECT NAME: Premcor Refining Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
				U	0/2	SS	–	1 5 8 10	–	–	
42	Grades gray, wet at 42.0'										
	Grades fine to medium grained sand at 42.1' to 42.8' Grades black staining at 42.8' to 43.0'			V	1.8/2	SS	W	3 8 12 15	–	437	
44											
				W	1.4/2	SS	W	5 13 15 19	–	21.2	
46	14										
				X	1.5/2	SS	W	2 5 10 10	–	38.6	
	Grades black staining at 47.4'										
48											
	Grades black staining at 49.0'			Y	1.1/2	SS	W	1 8 14 17	–	0.6	
50											
	End of Boring at 50.0'										
	See monitoring well construction forms HMW-54 A, B, and C for details regarding monitoring well construction										
52	16										
54											
56											
58											
	18										
60											

Clayton GROUP SERVICES

BORING NO: HP-01	WELL NO: HP-01C	PROJECT NO: 15-03085.14-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, IL		COORDINATES: 788248.10N, 2315808.23E (HP-01C)	

DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 93.0' - 97.44' (HP-01C)	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 24.03' bgs (HP-01C)	SCREEN MTL/SLOT: PVC/0.010	START DATE: 06/02/05
BOREHOLE DIA: 6 inches	STICKUP: -0.3 ft (HP-01C)	START TIME (hours): 11:50
TOP of CASING ELEVATION: 425.84 (HP-01C)	G.S. ELEVATION: 426.14 (HP-01C)	FINISH DATE: 06/02/05
RISER DIA/MTL/LGTH: 2"/PVC/92.7' (HP-01C)	*DEV. METHODS: Pumped*	*FINISH TIME (hours): 15:30*

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**HAND AUGER (0.0'- 10.0')**		Monitoring Well HP-01A, Monitoring Well HP-01B, Monitoring Well HP-01C	A	0/10	HA	–	–	–	–	Reference CPT log HP-01 for geology
10	**SILTY CLAY (10.0' - 14.0') CL** Brown, moist, gray and rust mottles, cohesive			B	5/5	RC	M	–	–	3.7	
						RC	M	–	–	3.1	
14	**CLAYEY SAND (14.0' - 22.0') SC** Light gray, moist, fine sand, some silt					RC	M	–	–	3.5	*Collected sampled at 14.0'-15.0' for geotechnical analysis
16	Grades brown with silt, slightly cohesive at 15.0'			C	5.5/10	RC	M	–	–	1.4	
18						RC	M	–	–	4.1	
20						RC	M	–	–	1.9	
22	**SAND (22.0' - 42.3') SP** Light gray, moist, fine to medium grained					RC	M	–	–	2.1	
24	Grades wet at 25.0'					RC	M	–	–	1.9	*Collected sampled at 24.0'-25.0' for geotechnical analysis
26						RC	W	–	–	–	
28						RC	S	–	–	–	
30											

Clayton GROUP SERVICES

BORING NO: HP-01	WELL NO: HP-01C	PROJECT NO: 15-03085.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	Grades gray at 30.5'										
	Roots, wood chips at 31.0'			D	9/10	RC	W/S	–	–	–	
32	Grades saturated at 31.5'										
						RC	S	–	–	–	*Collected sampled at 33.0'-35.0' for geotechnical analysis
34	0.1-Foot sand seam, ferrous magneseum (black) at 33.7'										
	Grades dark gray at 34.0'					RC	S	–	–	–	
36 11											
38											
40				E	10/10	RC	S	–	–	–	
42											
13	SAND (42.3' - 55.0') SW Gray, saturated, fine to coarse grained, some fine grained gravel										*Collected sampled at 43.0'-45.0' for geotechnical analysis
44	Grades trace cobbles at 45.0'										
46											
48											
15											
50				F	10/10	RC	S	–	–	–	*Collected sampled at 50.0'-52.0' for geotechnical analysis
52											
54	0.2-Foot silty clay seam, blue gray moist, stiff, cohesive, some fine to coarse grained sand, at 53.5'										
56 17	SAND (55.0' - 85.0') SW Gray, saturated, fine to medium grained, trace coarse sand										
58											
60				G	10/10	RC	S	–	–	–	

Clayton GROUP SERVICES

BORING NO: HP-01	WELL NO: HP-01C	PROJECT NO: 15-03085.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
62, 64	Grades medium to coarse grained sand, some fine gravel at 61.0'										*Collected sampled at 62.0'-64.0' for geotechnical analysis
20, 66, 68, 70	Grades trace cobbles at 66.0' - 67.0'			H	10/10	RC	S	–	–	–	
72, 22, 74	Grades medium sand, some fine sand at 71.5' Grades trace silt at 73.0'										*Collected sampled at 73.0'-75.0' for geotechnical analysis
76, 78, 24, 80, 82, 84	Grades some coarse sand, trace fine gravel at 75.0' Grades fine to medium grained sand, trace silt at 82.5'			I	9/10	RC	S	–	–	–	*Collected sampled at 80.0'-82.0' for geotechnical analysis
26, 86, 88, 90	**NO RECOVERY (85.0' - 95.0')**			J	0/10	RC	–	–	–	–	

Clayton GROUP SERVICES

BORING NO: HP-01	WELL NO: HP-01C	PROJECT NO: 15-03085.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
92, 94											
29	**SAND (95.0' - 98.0') SP** Gray, fine to medium grained, saturated										
96, 98				K	5/5	RC	S	–	–	–	
	SILTY CLAY (98.0' - 100.0') CL Gray, moist, stiff, some fine to medium grained sand										*Collected sampled at 98.0'-100.0' for geotechnical analysis
100	End of Boring at 100.0'										
31, 102, 104, 106	**See monitoring well constructions forms for HP-01 A, B, and C for details regarding monitoring well construction**										
108, 33, 110, 112, 114											
35, 116, 118, 120											

Boring/Well No.: HP-01

Clayton GROUP SERVICES

BORING NO: HP-02	WELL NO: HP-02	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford
BORING LOCATION: Hartford, Illinois		COORDINATES: 788402.12N, 2315938.11E	

DRILLING CO: Boart Longyear	DRILLER: B. Buckenberger	LOGGED BY: D. Lamsma
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 25.29-39.79'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 27.84' bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/14/05
BOREHOLE DIA: 6 inches	STICKUP: -0.34 ft	START TIME (hours): 13:17
TOP of CASING ELEVATION: 429.92	G.S. ELEVATION: 430.26	FINISH DATE: 06/14/05
RISER DIA/MTL/LGTH: 2"/PVC/24.94'	DEV. METHODS: Pumped	FINISH TIME (hours): 14:20

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	HAND AUGER (0.0' - 10.0')			A	0/10	HA	--	--	--	--	Reference CPT log HP-02 for geology
10 / 4	SAND (10.0' - 16.0') SP Light Brown, moist, fine grained			B	3/5	RC	M	--	--	3.8	
						RC	M	--	--	5.0	
						RC	M	--	--	5.3	
16 / 6	SILTY SAND (16.0' - 20.0') SM Brown, moist, some clay, fine sand			C		RC	M	--	--	4.9	
						RC	M	--	--	3.7	*Collected sampled at 18.0'-20.0' for geotechnical analysis
20	SAND (20.0' - 45.0') SP Light brown, moist, fine grained, some silt				5/10	RC	M	--	--	6.6	
						RC	M	--	--	7.6	*Collected sampled at 23.0'-25.0' for geotechnical analysis
24	Grades fine to medium grained sand at 25.0'					RC	M	--	--	8.0	

Boring/Well No.: HP-02

Clayton GROUP SERVICES

BORING NO: HP-02	WELL NO: HP-02	PROJECT NO: 15-03095.14-001	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
27						RC	M	–	–	9.3	
	Grades saturated at 28.0'										
29				D	5/10	RC	S	–	–	–	
9											
31						RC	S	–	–		
33						RC	S	–	–	–	*Collected sampled at 33.0'-35.0' for geotechnical analysis
35						RC	S	–	–	–	
11											
37	Grades gray at 37.0'										
39											
				E	9/10	RC	S	–	–	–	*Collected sampled at 40.0'-42.0' for geotechnical analysis
41											
13											
43											
45	End of Boring at 45.0'										
47											
49											
15											

Clayton GROUP SERVICES

BORING NO: HP-03	WELL NO: HP-03C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, IL		COORDINATES: 788561.28N, 2316116.08E (HP-03C)	

DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 97.0' - 101.46' (HP-03C)	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 27.13' bgs (HP-03C)	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/06/05
BOREHOLE DIA: 6 inches	STICKUP: -0.38 ft (HP-03C)	START TIME (hours): 8:05
TOP of CASING ELEVATION: 429.10 (HP-03C)	G.S. ELEVATION: 429.48 (HP-03C)	FINISH DATE: 06/06/05
RISER DIA/MTL/LGTH: 2"/PVC/96.62' (HP-03C)	DEV. METHODS: Pumped	FINISH TIME (hours): 13:45

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	HAND AUGER (0.0' - 10.0')		Monitoring Well HP-03A, Monitoring Well HP-03B, Monitoring Well HP-03C	A	0/10	HA	--	--	--	--	Reference CPT log HP-03 for geology
10	SILTY CLAY (10.0'- 13.5') CL Brown, moist, gray mottles, stiff, some fine sand			B	5/5	RC	M	--	--	0.6	*Collected sample at 11.0' - 13.0' for geotechnical analysis
						RC	M	--	--	1.3	
14	SAND (13.5'-15.0') SP Light brown, moist, fine grained, some silt					RC	M	--	--	2.9	
16	SILT (15.0'-19.0') ML Brown, moist, some fine sand, slightly cohesive			C	5/10	RC	M	--	--	2.0	
18						RC	M	--	--	2.0	
20	SAND (19.0'-28.0') SP Light brown, moist, fine grained, trace silt					RC	M	--	--	3.3	*Collected sample at 21.0' - 23.0' for geotechnical analysis
22						RC	M	--	--	3.1	
24	Grades saturated at 25.0'					RC	M	--	--	0.9	
26						RC	S	--	--	--	
28	CLAY (28.0'-29.6') CL Gray, moist, soft, cohesive, some fine sand			D	10/10	RC	M-W	--	--	--	
30											

Boring/Well No.: HP-03

Clayton GROUP SERVICES

BORING NO: HP-03	WELL NO: HP-03C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	SAND (29.6'- 60.7') SP Brown, wet, fine grained					RC	W	–	–	–	
32											
34	Grades saturated at 34.0'					RC	S	–	–	–	
36 — 11											*Collected sample at 35.0' - 37.0' for geotechnical analysis
38											
40	Grades gray at 40.0'			E	10/10	RC	S	–	–	–	
	Grades fine to medium grained at 41.0'										
42 — 13											
44											
46											
48											*Collected sample at 47.0' - 49.0' for geotechnical analysis
15											
50				F	7.5/10	RC	S	–	–	–	
52											
54											
56 — 17											*Collected sample at 55.0' - 57.0' for geotechnical analysis
58											
60				G	7.5/10	RC	S	–	–	–	

Clayton GROUP SERVICES

BORING NO: HP-03	WELL NO: HP-03C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
62	**SAND (29.6 '- 60.7') SP** Brown, wet, fine grained										
	SAND (60.7' - 61.7') SW Gray, saturated, fine to coarse grained, some fine gravel										
64	**SAND (61.7' - 75.0') SP** Light brownish gray, saturated, medium grained, trace coarse sand and fine gravel										
66 (20)											*Collected sample at 65.0' - 67.0' for geotechnical analysis
68											
70				H	4/10	RC	S	–	–	–	
72 (22)											
74											*Collected sample at 73.0' - 75.0' for geotechnical analysis
76	**NO RECOVERY (75.0' - 85.0')**										
78 (24)											
80				I	0/10	RC	–	–	–	–	
82											
84											
86 (26)	**SAND (85.0' - 126.0') SP** Light brownish gray, saturated, medium grained, trace fine and coarse grained sand, trace fine gravel										*Collected sample at 86.0' - 88.0' for geotechnical analysis
88											
90				J	8/10	RC	S	–	–	–	

Clayton GROUP SERVICES

BORING NO: HP-03	WELL NO: HP-03C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
92											
94											
29											
96											*Collected sample at 96.0' - 98.0' for geotechnical analysis
98											
100				K	7/10	RC	S	–	–	–	
31											
102											
104											*Collected sample at 103.0' - 105.0' for geotechnical analysis
106											
108											
33											
110				L	3/10	RC	S	–	–	–	
112											
114											
35	Grades some coarse sand at 115.0-117.0'										*Collected sample at 115.0' - 117.0' for geotechnical analysis
116											
118											
120				M	5/10	RC	S	–	–	–	

Clayton GROUP SERVICES

BORING NO: HP-03	WELL NO: HP-03C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
122											
124	Grades gray at 124.5'										
38											
126	**SILTY CLAY (126.0' - 128.0') CL** Gray, moist, stiff, some medium to coarse sand and fine gravel			N	3/3	RC	S	--	--	--	*Collected sample at 126.0' - 128.0' for geotechnical analysis
128	End of Boring at 128.0'										
130	**See monitoring well construction forms HP-03 A, B, and C for details regarding monitoring well construction.**										
40											
132											
134											
136											
138											
42											
140											
142											
144											
44											
146											
148											
150											

Clayton GROUP SERVICES

BORING NO: HP-04	WELL NO: HP-04 C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 788937.86 N, 2316773.65E (HP-04C)	
DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma	
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 98.23' - 102.87' (HP-04C)	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: 29.26' bgs (HP-04C)	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/07/05	
BOREHOLE DIA: 6 inches	STICKUP: -0.36 ft (HP-04C)	START TIME (hours): 13:30	
TOP of CASING ELEVATION: 430.96 (HP-04C)	G.S. ELEVATION: 431.32 (HP-04C)	FINISH DATE: 06/07/05	
RISER DIA/MTL/LGTH: 2"/PVC/97.87' (HP-04C)	DEV. METHODS: Pumped	FINISH TIME (hours): 16:00	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	CONCRETE (0.0' - 1.0')		Monitoring Well HP-04A, Monitoring Well HP-04B, Monitoring Well HP-04C								Reference CPT log HP-04 for geology
	HAND AUGER (1.0' - 10.0')			A	0/10	HA	M		–	–	
10 / 2	SILTY CLAY (10.0' -13.0') CL Brown, gray and rust mottles, moist, stiff, cohesive, some fine sand					RC	M		–	3.4	*Collected sample at 11.0'-13.0' for geotechnical analysis
14 / 4	SILTY SAND (13.0' - 20.0') SM Brown, moist, fine sand			B	4/5	RC	M		–	2.4	
	Grades trace clay at 15.0'					RC	M		–	2.1	
						RC	M		–	3.0	
						RC	M		–	1.4	
20 / 6	SAND (20.0' - 62.0') SP Brown, moist, fine grained, some silt			C	8/10	RC	M		–	2.0	
						RC	M		–	1.4	*Collected sample at 23.0'-25.0' for geotechnical analysis
						RC	M		–	2.2	

Clayton GROUP SERVICES

BORING NO: HP-04	WELL NO: HP-04 C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES METHOD	SAMPLES MOISTURE	SAMPLES BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
						RC	M		–	2.7	
27											
29					5/10	RC	M		–	3.5	
9	Grades wet, fine to medium sand at 30.0'										
31						RC	W		–	–	
33						RC	W		–	–	
						RC	W		–	–	
35	Grades saturated at 35.0'										*Collected sample at 35.0'-37.0' for geotechnical analysis
11						RC	S		–	–	
37											
	Grades gray, fine grained at 39.0'										
39					10/10	RC	S		–	–	
	0.3-Foot Silty Clay seam, gray, moist, stiff, some fine sand at 39.7'										
41	Grades fine to medium grained sand at 40.0'										*Collected sample at 41.0'-43.0' for geotechnical analysis
13						RC	S		–	–	
43											
45	Grades trace coarse sand at 45.0'										
47											
49											
15					10/10	RC	S		–	--	

Clayton GROUP SERVICES

BORING NO: HP-04	WELL NO: HP-04 C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
52											
54											*Collected sample at 53.0'-55.0' for geotechnical analysis
56 (17)											
58											
60	Grades fine grained at 60.0'				6/10	RC	S		–	–	
62 (19)	SAND (62.0' - 75.0') SW Gray, fine to coarse grained, some fine gravel										*Collected sample at 63.0'-65.0' for geotechnical analysis
64											
66											
68 (21)											
70					2/10	RC	S		–	–	*Collected sample at 70.0'-72.0' for geotechnical analysis
72											
74											

Clayton GROUP SERVICES

BORING NO: HP-04	WELL NO: HP-04 C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES METHOD	SAMPLES MOISTURE	SAMPLES BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
77	NO RECOVERY (75.0' - 85.0')										
79	24				0/10	RC	–		–	–	
81											
83											
85	26 SAND (85.0' - 105.0') SW Gray, saturated, fine to medium grained, loose, shale pieces										
87											
89					1.5/10	RC	S		–	–	
91	28										
93											*Collected sample at 93.0'-95.0' for geotechnical analysis
95	Grades trace coarse sand and fine gravel at 95.0'										
97											
99	30				1.5/10	RC	S		–	–	

Clayton GROUP SERVICES

BORING NO: HP-04	WELL NO: HP-04 C	PROJECT NO: 15-03095.14-00	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
102, 104, 32											*Collected sample at 103.0'-105.0' for geotechnical analysis
106	**SILT (106.0' - 107.0') ML** Gray, saturated, soft, slightly cohesive										
108	**SILTY CLAY (107.0' - 120.0') CL** Gray, moist, soft, cohesive, some fine sand				5/5	RC	S		–	–	
110, 34, 112											
114					10/10	RC	S		–	–	
116, 118, 36											*Collected sample at 117.0'-119.0' for geotechnical analysis
120	End of Boring at 120.0'										
122	**See monitoring well construction forms HP-04 A, B, and C for details regarding monitoring well construction.**										
124, 38											

Clayton GROUP SERVICES

BORING NO: HP-05	WELL NO: HP-05C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford
BORING LOCATION: Hartford, IL		COORDINATES: 787989.95 N, 2315711.31 E (HP-05C)	
DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma	
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 91.0' - 95.45' (HP-05C)	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: 22.17' bgs (HP-05C)	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/03/05	
BOREHOLE DIA: 6 inches	STICKUP: -0.45 ft (HP-05C)	START TIME (hours): 14:00	
TOP of CASING ELEVATION: 424.43 (HP-05C)	G.S. ELEVATION: 424.88 (HP-05C)	FINISH DATE: 06/04/05	
RISER DIA/MTL/LGTH: 2"/PVC/90.55' (HP-05C)	DEV. METHODS: Pumped	FINISH TIME (hours): 14:05	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	HAND AUGER (0.0' - 10.0')		Monitoring Well HP-05A, Monitoring Well HP-05B, Monitoring Well HP-05C	A	0/10	HA	M	--	--	--	Reference CPT log HP-05 for geology
10	SILTY CLAY (10.0' - 14.0') CL Brown, moist, stiff, some fine sand					RC	M	--	--	3.0	* Collected sample at 10.0'-12.0' for geotechnical analysis
12 / 4				B	5/5	RC	M	--	--	1.1	
14	SAND (14.0' - 15.0') SP Brown, moist, fine grained, with silt					RC	M	--	--	1.2	
16	SILTY SAND (15.0' - 19.0') SM Light gray, moist, fine grained, slightly cohesive					RC	M	--	--	1.3	
18						RC	M	--	--	6.1	
20 / 6	SAND (19.0 - 40) SP Orange brown, moist, fine grained, some silt			C	4.5/10	RC	M	--	--	5.4	
22	Grades gray at 23.0'					RC	M	--	--	6.5	* Collected sample at 23.0'-25.0' for geotechnical analysis
24						RC	M	--	--	3.5	

Boring/Well No.: HP-05

Clayton GROUP SERVICES

BORING NO: HP-05	WELL NO: HP-05C	PROJECT NO: 15-03095.14-001	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	0.4-Foot silt seam at 25.5'										
27						RC	M-W	–	–	–	
29				D	7/10	RC	W	–	–	–	
9											
31						RC	W	–	–	–	
	Grades gray, saturated at 32.0'										
33	Grades medium grained at 33.0' - 34.0'					RC	S	–	–	–	
						RC	S	–	–	–	
35											* Collected sample at 35.0'-37.0' for geotechnical analysis
11											
37											
39											
	SILT (40.0' - 41.0') ML Gray, saturated, trace fine sand, cohesive			E	10/10	RC	S	–	–	–	* Collected sample at 40.0'-41.0' for geotechnical analysis
41	SAND (41.0' - 85.0') SW Gray, saturated, fine to medium grained, trace coarse sand, fine gravel										
13											
43											
45	Grades fine to coarse grained at 45.5'										
47											
49											
15	Grades to trace fine to coarse gravel 50.0'			F	8/10	RC	S	–	–	–	

Clayton GROUP SERVICES

BORING NO: HP-05	WELL NO: HP-05C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
52, 54											* Collected sample at 51.0'-53.0' for geotechnical analysis
56 (17), 58, 60, 62 (19), 64				G	3/10	RC	S	–	–	–	
66, 68 (21), 70, 72, 74	Grades fine to medium grained at 68.0'			H	7.5/10	RC	S	–	–	–	* Collected sample at 66.0'-68.0' for geotechnical analysis * Collected sample at 73.0'-75.0' for geotechnical analysis

Clayton GROUP SERVICES

BORING NO: HP-05	WELL NO: HP-05C	PROJECT NO: 15-03095.14-001	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
77											
79 (24)				I	5/10	RC	S	–	–	–	
81											
83											
85 (26)	NO RECOVERY (85.0' - 95.0')										
87											
89				J	0/10	RC	S	–	–	–	
91 (28)											
93											
95	SAND (95.0' - 125.0') SW Gray, saturated, fine to medium grained, loose										* Collected sample at 95.0'-97.0' for geotechnical analysis
97 (30)											
99				K	5/10	RC	S	–	–	–	

Boring/Well No.: HP-05

Clayton GROUP SERVICES

BORING NO: HP-05	WELL NO: HP-05C	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
102											
104											
32	Grades light gray, trace coarse sand at 105.0'										
106											
108											
110				L	5/10	RC	S	–	–	–	
34											
112											
	Grades some coarse sand 113.0'-115.0'										
114											
	Grades gray, fine to coarse grained, trace fine gravel at 115.0'										* Collected sample at 115.0'-117.0' for geotechnical analysis
116											
118											
36	Grades fine to medium grained, no gravel at 118.0'										
120				M	8/10	RC	S	–	–	–	
											* Collected sample at 121.0'-123.0' for geotechnical analysis
122											
	Grades some coarse grained sand and fine gravel at 124.0'										
124											
38											

Clayton GROUP SERVICES

BORING NO: HP-05	WELL NO: HP-05C	PROJECT NO: 15-03095.14-001	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	BEDROCK (125.0' - 127.0') Gray, saturated, dolomite/limestone			N	2/2	RC	S	–	–	–	
127	End of boring at 127.0'										
129	See monitoring well construction forms HP-05 A, B, and C for details regarding monitoring well contruction.										
131	40										
133											
135											
137	42										
139											
141											
143	44										
145											
147											
149											

Clayton GROUP SERVICES

BORING NO: HP-06	WELL NO: HP-06	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford
BORING LOCATION: Hartford, IL		COORDINATES: 787922.62 N, 2315795.76 E	

DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 24.98' - 39.46'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 23.43' bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/05/05
BOREHOLE DIA: 6 inches	STICKUP: -0.38 ft	START TIME (hours): 10:47
TOP of CASING ELEVATION: 425.88	G.S. ELEVATION: 426.26	FINISH DATE: 06/05/05
RISER DIA/MTL/LGTH: 2"/PVC/24.6'	DEV. METHODS: Pumped	FINISH TIME (hours): 11:33

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	HAND AUGER (0.0' - 10.0')			A	0/10	HA	M	--	--	--	Reference CPT log HP-06 for geology
10	SILTY CLAY (10.0' - 15.0') CL Brown, moist, stiff, cohesive, gray mottles			B	4/5	RC	M	--	--	1.4	
						RC	M	--	--	1.1	* Collected sample at 13.0'-15.0' for geotechnical analysis
14	Grades some fine sand at 14.5'					RC	M	--	--	1.3	
15.0	NO RECOVERY (15.0' - 25.0')			C	0/10	RC	--	--	--	--	

Boring/Well No.: HP-06

Clayton GROUP SERVICES

BORING NO: HP-06	WELL NO: HP-06	PROJECT NO: 15-03095.14-00	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
27	**SAND (25.0' - 28.5') SP** Gray, saturated, fine grained, some silt										* Collected sample at 25.0'-27.0' for geotechnical analysis
29	**SILTY CLAY (28.5 - 31.0) CL** Gray, saturated, some fine sand, trace medium to coarse grained sand, soft, cohesive			D	10/10	RC	S	–	–	–	
31	**SAND (31.0 - 44.7) SW** Gray, saturated, fine to medium grained										
33											
35	Grades trace coarse sand at 35.0'										* Collected sample at 35.0'-37.0' for geotechnical analysis
37											
39											
				E	10/10	RC	S	–	–	–	
41											* Collected sample at 41.0'-43.0' for geotechnical analysis
43											
45	**SILTY CLAY (44.7' - 45.0') CL**										
	End of Boring of 45.0'										
47											
49											

Clayton GROUP SERVICES

BORING NO: HP-07	WELL NO: HP-07	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford
BORING LOCATION: Hartford, IL		COORDINATES: 787771.17 N, 2316105.93 E	
DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma	
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 30.55' - 45.0'	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: 26.34' bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/15/05	
BOREHOLE DIA: 6 inches	STICKUP: -0.36 ft	START TIME (hours): 14:40	
TOP of CASING ELEVATION: 429.04 ft	G.S. ELEVATION: 429.40 ft	FINISH DATE: 06/15/05	
RISER DIA/MTL/LGTH: 2"/PVC/30.19'	DEV. METHODS: Pumped	FINISH TIME (hours): 15:25	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**HAND AUGER (0.0' -10.0')**			A	0/10	HA	M	–	–	–	Reference CPT log HP-07 for geology
10	**SAND (10.0' - 12.0') SP** Light brown, moist, fine grained, some silt			B	5/5	RC	M	–	–	2.8	
12	**CLAYEY SILT (12.0' -14.5') ML** Brown, moist, rust mottles, some fine sand					RC	M	–	–	3.3	* Collected sample at 12.0'-14.0' for geotechnical analysis
14	**SAND (14.5' - 15.0') SP** Brown, moist, fine grained, some silt					RC	M	–	–	2.3	
16	**SILT (15.0' - 20.0') ML** Gray and brown, moist, soft, slightly cohesive, some clay and fine grained sand			C	10/10	RC	M	–	–	3.5	
18						RC	M	–	–	3.7	
20	**SAND (20.0' - 45.0') SP** Brown, moist, fine grained, some silt					RC	M	–	–	3.9	
22						RC	M	–	–	3.6	* Collected sample at 22.0'-24.0' for geotechnical analysis
24						RC	M	–	–	3.9	

Clayton GROUP SERVICES

BORING NO: HP-07	WELL NO: HP-07	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford

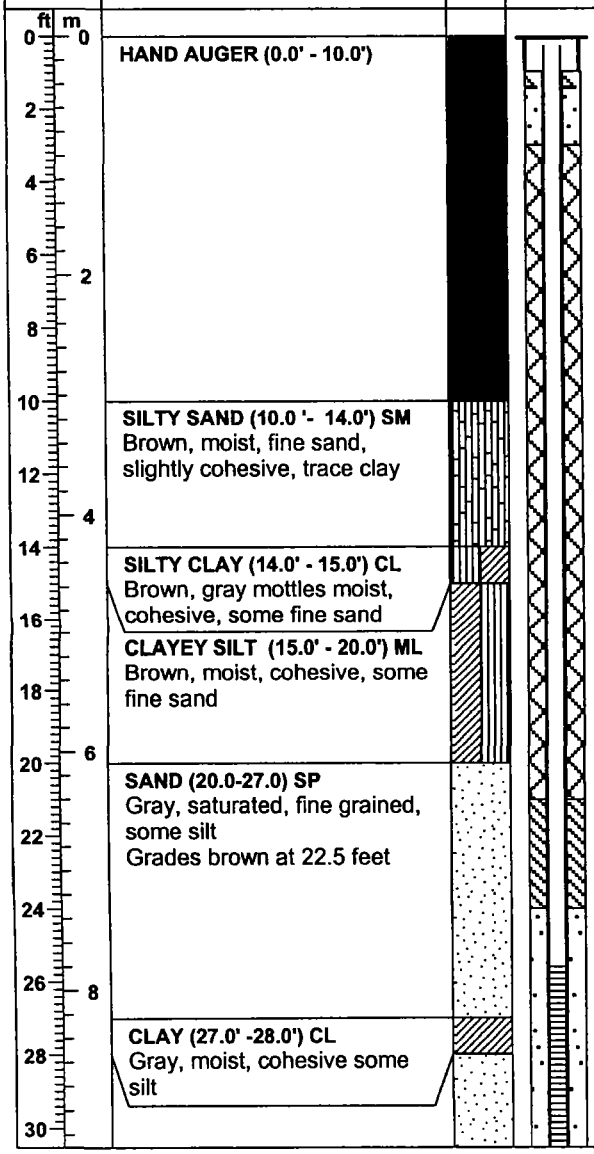
DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES METHOD	SAMPLES MOISTURE	SAMPLES BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	Grades fine to medium grained at 25.0'					RC	M	–	–	5.5	
27											
29						RC	M	–	–	4.0	
9											
31				D	10/10	RC	M	–	–	5.1	* Collected sample at 30.0'-32.0' for geotechnical analysis
	Grades saturated at 32.0'										
33						RC	S	–	–	–	
	Grades rust-colored at 34.0' - 34.5'					RC	S	–	–	–	
35	Grades gray at 35.0'										
11											
37											
39											
				E	10/10	RC	S	–	–	–	
41											* Collected sample at 41.0'-43.0' for geotechnical analysis
13											
43											
45	End of Boring at 45.0'										
47											
49											
15											

Boring/Well No.: HP-07

Clayton GROUP SERVICES

BORING NO: HP-08	WELL NO: HP-08	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford
BORING LOCATION: Hartford, IL		COORDINATES: 788082.75 N, 2316214.49 E	

DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 25.58' - 40.07'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 27.12' bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/15/05
BOREHOLE DIA: 6 inches	STICKUP: -0.26 ft	START TIME (hours): 08:10
TOP of CASING ELEVATION: 429.81 ft	G.S. ELEVATION: 430.07 ft	FINISH DATE: 06/15/05
RISER DIA/MTL/LGTH: 2"/PVC/25.32'	DEV. METHODS: Pumped	FINISH TIME (hours): 08:55



DEPTH (ft)	DESCRIPTION	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0	**HAND AUGER (0.0' - 10.0')**								Reference CPT log HP-08 for geology
		A	0/10	HA	M	--	--	--	
10	**SILTY SAND (10.0 '- 14.0') SM** Brown, moist, fine sand, slightly cohesive, trace clay			RC	M	--	--	6.2	
		B	5/5	RC	M	--	--	1.7	
14	**SILTY CLAY (14.0' - 15.0') CL** Brown, gray mottles moist, cohesive, some fine sand			RC	M	--	--	1.9	* Collected sample at 14.0'-15.0' for geotechnical analysis
16	**CLAYEY SILT (15.0' - 20.0') ML** Brown, moist, cohesive, some fine sand			RC	M	--	--	3.4	
18				RC	M	--	--	7.7	
20	**SAND (20.0-27.0) SP** Gray, saturated, fine grained, some silt Grades brown at 22.5 feet	C	8/10	RC	M	--	--	--	
22				RC	S	--	--	--	* Collected sample at 23.0'-25.0' for geotechnical analysis
24				RC	S	--	--	--	
26	**CLAY (27.0' -28.0') CL** Gray, moist, cohesive some silt								
30		D	10/10	RC	S	--	--	--	

Boring/Well No.: HP-08

Clayton GROUP SERVICES

BORING NO: HP-08	WELL NO: HP-08	PROJECT NO: 15-03095.14-007	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES METHOD	SAMPLES MOISTURE	SAMPLES BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
32	**SAND (28.0' - 32.0') SP** Gray brown, saturated, fine grained Grades some silt and clay at 30.5'-31.0'										* Collected sample at 32.0'-34.0' for geotechnical analysis
34	**CLAY (32.0' -34.5') CL** Gray, moist, cohesive										
36 – 11	**SAND (34.5' - 45.0') SW** Gray, saturated, fine to medium grained, some silt										
38											
40	Wood Chips at 40 feet			E	8/10	RC	S	–	–	–	
42 – 13											* Collected sample at 41.0'-43.0' for geotechnical analysis
44											
46	End of Boring at 45.0'										
48											
50 – 15											
52											
54											
56 – 17											
58											
60											

Clayton GROUP SERVICES

BORING NO: HP-09	WELL NO: HP-09	PROJECT NO: 15-3095.14-007	PROJECT NAME: Village of Hartford
BORING LOCATION: Hartford, Illinois		COORDINATES: 788081.06 N, 2316668.94 E	
DRILLING CO: Boart Longyear	DRILLER: R. Buckenberger	LOGGED BY: D. Lamsma	
DRILLING EQUIP: DB520/Rotosonic	SCREEN INTERVAL: 30.19' - 44.67'	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: 29.02' bgs	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 06/15/05	
BOREHOLE DIA: 6 inches	STICKUP: -0.35 ft	START TIME (hours): 11:10	
TOP of CASING ELEVATION: 431.45 ft	G.S. ELEVATION: 431.80 ft	FINISH DATE: 06/15/05	
RISER DIA/MTL/LGTH: 2"/PVC/29.84'	DEV. METHODS: Pumped	FINISH TIME (hours): 12:00	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	HAND AUGER (0.0' - 10.0')			A	0/10	HA	M	--	--	--	Reference CPT log HP-09 for geology
10	SILTY CLAY (10.0' - 11.5') CL Brown, moist, gray and rust mottles, some fine sand					RC	M	--	--	1.5	* Collected sample at 10.0'-11.0' for geotechnical analysis
12	CLAYEY SILT (11.5' - 13.5') ML Brown, moist, gray and rust mottles, some fine sand			B	5/5	RC	M	--	--	1.4	
14	SAND (13.5' - 35.0') SP Light brown, moist, fine grained some silt					RC	M	--	--	1.4	
16	Grades brown at 15.0'					RC	M	--	--	1.4	
18						RC	M	--	--	1.5	
20				C	5/10	RC	M	--	--	1.2	
22						RC	M	--	--	2.6	
24	Grades saturated with silt at 25.0'					RC	M	--	--	2.0	

Clayton GROUP SERVICES

BORING NO: HP-09	WELL NO: HP-09	PROJECT NO: 15-3095.14-007	PROJECT NAME: Village of Hartford

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	Bands of dark minerals from 25 -31 feet										* Collected sample at 25.0'-27.0' for geotechnical analysis
27											
29											
9	Grades gray at 30.0'			D	7/10	RC	S	–	–	–	
31	Wood Chips at 31.0'										
33	Grades moist, trace silt at 33.5'										
35	SAND (35.0' - 45.0') SW Gray, saturated, fine to medium grained										* Collected sample at 35.0'-37.0' for geotechnical analysis
11											
37											
39											
				E	8/10	RC	S	–	–	–	
41											
13											
43											* Collected sample at 43.0'-45.0' for geotechnical analysis
45											
	End of Boring at 46.0'										
47											
49											
15											

Clayton GROUP SERVICES

BORING NO: HSVE-20D	WELL NO: HSVE-20D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791576.45N, 2316726.23E	

DRILLING CO: Philip Environmental Services	DRILLER: J. Bignall	LOGGED BY: B. Hoekman
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 6.9'-26.4'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.020"	START DATE: 4/27/05
BOREHOLE DIA: 10.5"	STICKUP: NA	START TIME (hours): 1420
TOP of CASING ELEVATION: 430.30	G.S. ELEVATION: 431.52	FINISH DATE: 4/27/05
RISER DIA/MTL/LGTH: 4"/PVC/6.6'	DEV. METHODS: NA	FINISH TIME (hours): 1900

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**FILL (0.0'-1.7')** Silt, brown, moist, orange mottles, some clay			A	2/2	HA	M	–	0.0	2.9	Hand auger 0.0-10.0'
2	**TOPSOIL (1.7'-2.5')** Dark brown, moist, organics, very soft			B	2/2	HA	M	–	0.0	7.2	
4	**SILT (2.5'-5.0') ML** Gray, moist, orange mottles, very soft			C	2/2	HA	M	–	0.0	12.8	
6 / 2	**SILT (5.0'-9.5') ML** Greenish gray, brown mottles, with clay, stiff Grades trace sand at 7.0-8.5' Black staining at 7.5'			D	2/2	HA	M	–	0.0	12.1	
8				E	2/2	HA	M	–	0.0	12.3	
10	**SILT (9.5'-16.9') ML** Light brownish gray, orange mottles, trace fine sand, soft Grades some clay at 11.6-12.3' Grades some clay at 12.5-12.8' Grades some clay at 13.0-13.2' Grades some clay at 13.6-13.8'			F	1.5/2	SS	M	– 1 2 2	0.6	25.4	
12 / 4				G	1.7/2	SS	M	1 1 3 2	22.2	32.5	
14	Grades saturated at 15.1' Grades wet at 15.5' 0.4-Foot clayey silt seam at 15.9' Grades saturated at 16.6'			H	1.4/2	SS	M-S	1 – 1 –	0.4	33.8	
16	**SILTY CLAY (16.9'-22.5') CL** Light brownish gray, moist, orange mottles, soft			I	1.7/2	SS	M	– 2 2 3	0.8	52.0	
18 / 6	0.2-Foot silt seam, wet at 19.5'			J	2/2	SS	M	1 1 1 1	0.9	39.5	
20											

Clayton GROUP SERVICES

BORING NO: HSVE-20D	WELL NO: HSVE-20D	PROJECT NO: 15-03095.13-00	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	0.1-Foot silt seam, wet at 20.7'			K	1.9/2	SS	M	1 1 1 3	1.9	42.9	
22	SILT (22.5'-28.0') ML Greenish gray, moist, brown mottles, some clay, trace fine sand, soft			L	2/2	SS	M	1 2 2 4	0.4	21.5	
24				M	1.8/2	SS	M	1 2 2 3	0.6	15.5	
26	Grades no clay at 26.1-27.1'			N	1.9/2	SS	M	1 3 3 4	0.0	5.8	
28	End of Boring at 28.0'										
30											
32											
34											
36											
38											
40											

8 10 12

Clayton GROUP SERVICES

BORING NO: HSVE-20	WELL NO: HSVE-20	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES:	

DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: B. Martin
DRILLING EQUIP: Hand Auger / CME-75 Rig	SCREEN INTERVAL: 6.0'-16.0'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: DRY	SCREEN MTL/SLOT: PVC / 0.02	START DATE: 2/8/05
BOREHOLE DIA: 10.5"	STICKUP:	START TIME (hours): 1415
TOP of CASING ELEVATION:	G.S. ELEVATION:	FINISH DATE: 2/8/05
RISER DIA/MTL/LGTH: 4"/PVC/6'	DEV. METHODS: NA	FINISH TIME (hours): 2030

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**FILL (0.0' -2.0')** Silty clay, dark brown, moist, trace fine sand and gravel, stiff			A	–	HA	M	NA	–	0.0	Hand augered from 0.0-10.0'
2	**SILTY CLAY (2.0'-10.0') ML** Brown, moist, trace fine sand, stiff			B	–	HA	M	NA	–	1.1	
4				C	–	HA	M	NA	–	2.0	
6 / 2	Grades gray at 6.0'			D	–	HA	M	NA	–	4.0	
8				E	–	HA	M	NA	–	90.0	
10	**SILT (10.0'-16.0') ML** Gray, saturated, trace fine sand, petroleum-like odor			F	1.6/2	SS	S-M	–	–	340.0	
12	0.5 foot silty clay seam, gray, moist, trace fine sand at 10.5'										
14 / 4	0.5 foot silty clay seam, gray, moist, trace fine sand at 11.5'			G	1.3/2	SS	S	–	–	430.0	
16				H	–	SS	S	–	–	–	
18	End of Boring at 16.0'										
20 / 6											

Boring/Well No.: HSVE-20

Clayton GROUP SERVICES

BORING NO: HSVE-21	WELL NO: HSVE-21	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION:		COORDINATES: 790078.67N, 2316872.94E	
DRILLING CO: Phillip Environmental Services Corp.	DRILLER: J. Bignall	LOGGED BY: N. Bolivar	
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 7.0'-26.4'	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.020"	START DATE: 3/31/05	
BOREHOLE DIA: 10.5	STICKUP: 3.4'	START TIME (hours): 0731	
TOP of CASING ELEVATION: 432.07	G.S. ELEVATION: 432.08	FINISH DATE: 3/31/05	
RISER DIA/MTL/LGTH: 4"/PVC/10'	DEV. METHODS: NA	FINISH TIME (hours): 1600	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
-4, -2, 0											
0, 2, 4, 6, 8, 10 (1, 3)	**BLIND AUGER (0.0'-10.0')** Hand auger to 10.0'			A	10/10	HA	-	–	-	-	Hand auger 0.0-10.0'
10, 12, 14, 16	**SILTY CLAY (10.0'-16.0') CL** Light brown, moist, orange mottles, soft, trace fine to medium sand			B	1.6/2	SS	M	–	–	19.2	
	Grades with fine sand at 11.0'			C	1.3/2	SS	M	3 2 3 2	–	5.5	
	Grades to olive gray, with light brown mottles, trace medium to coarse sand at 14.0'			D	1.5/2	SS	M/W	2 2 2 2	–	10.7	
	Grades to wet at 15.0'										

Boring/Well No.: HSVE-21 Soil Boring

Clayton GROUP SERVICES

BORING NO: HSVE-21	WELL NO: HSVE-21	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	SAND (16.0'-32.0') SP Light brown, orange mottles, moist, fine grained			E	1.7/2	SS	M	2 4 4 4	–	513	
18	Slight petroleum-like odor at 18.0'			F	1.6/2	SS	M	3 5 5 5	–	479	
20 (6)				G	1.9/2	SS	M	4 4 4 5	–	235	
22	Grades to petroleum-like odor at 22.0'			H	1.8/2	SS	M	3 3 4 4	>2000	>2000	
24				I	1.9/2	SS	M	2 2 4 4	1998	>2000	
26 (8)				J	1.9/2	SS	M	2 4 5 6	1924	1660	
28				K	1.5/2	SS	M	3 6 11 15	1848	1845	
30	Grades to fine to medium sand and wet at 31.0' Grades to saturated at 31.5'			L	1.7/2	SS	M-S	2 5 8 13	1996	>2000	
32 (10)	End of Boring 32.0'										
34											
36											

Boring/Well No.: HSVE-21 Soil Boring

Clayton GROUP SERVICES

BORING NO: HSVE-22D	WELL NO: HSVE-22D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 790887.45N, 2317815.27E	
DRILLING CO: PSC	DRILLER: J. Bignall		LOGGED BY: M. Bennett
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 6.9-26.4'		CHECKED BY: M. Mueller
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.020"		START DATE: 4/12/05
BOREHOLE DIA: 10.5"	STICKUP: NA		START TIME (hours): 0845
TOP of CASING ELEVATION: 430.79	G.S. ELEVATION: 431.43		FINISH DATE: 4/12/05
RISER DIA/MTL/LGTH: 4"/PVC/6.4'	DEV. METHODS: NA		FINISH TIME (hours): 1520

DEPTH (ft)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 (0 m)	**FILL (0.0'-1.5')** Gravel, sand, silty clay, black to brown, moist to wet, loose to medium stiff			A	2/2	HA	M	–	0.0	–	Hand auger 0.0'-10.0'
2	**FILL (1.5'-3.5')** Sandy silt, tan, moist, medium stiff			B	2/2	HA	M	–	0.0	–	
4	**FILL (3.5'-6.0')** Silty clay, tan, moist, medium stiff			C	2/2	HA	M	–	0.0	–	
6 (2 m)	**SILTY CLAY (6.0'-12.5') CL** Light gray, moist, stiff, roots Dark gray mottles at 7.5'			D	2/2	HA	M	–	0.0	–	
8	Grades some sand, medium stiff at 8.5'			E	2/2	HA	M	–	0.0	–	
10	Iron stains at 10.0'			F	1/2	SS	M	1 1 3 3	0.0	40.0	
12 (4 m)	**SANDY SILT (12.5'-14.5') ML** Olive gray, moist, medium stiff, petroleum-like odor			G	2/2	SS	M	1 3 5 5	0.0	1813	
14	**SAND (14.5'-28.0') SP** Gray, moist, rust colored mottles, petroleum-like odor			H	1.5/2	SS	M	3 4 3 4	0.0	>2000	
16				I	2/2	SS	M	3 4 4 5	0.0	>2000	
18 (6 m)	Grades very fine, no rust mottling at 18.5'			J	2/2	SS	M	2 4 3 4	19.8	>2000	
20											

Boring/Well No.: HSVE-22D Soil Boring

Clayton GROUP SERVICES

BORING NO: HSVE-22D	WELL NO: HSVE-22D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
22	Grades trace clay, rust mottles at 21.5'			K	1/2	SS	M	1 1 1 3	219	>2000	
24	Grades saturated, strong petroleum-like odor at 23.5' Grades wet at 24.0'			L	2/2	SS	M/S	1 1 2 1	159	>2000	
26	Grades light gray, moist, loose at 25.0'			M	2/2	SS	S	1 2 5 6	278	>2000	
28	Grades light tan and fine to medium grained at 27.5'			N	2/2	SS	S	4 5 6 5	75.4	>2000	
	End of Boring at 28.0'										

8

10

12

30 32 34 36 38 40

Boring/Well No.: HSVE-22D Soil Boring

Clayton GROUP SERVICES

BORING NO: HSVE-23D	WELL NO: HSVE-23D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: West of the Community Center		COORDINATES: 791553.98N, 2316469.61E (HSVE-23D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 7.0'-26.4' (HSVE-23D)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.02"	START DATE: 4/20/05	
BOREHOLE DIA: 10.5"	STICKUP: NA	START TIME (hours): 1230	
TOP of CASING ELEVATION: 429.90 (HSVE-23D)	G.S. ELEVATION: 430.39 (HSVE-23D)	FINISH DATE: 4/20/05	
RISER DIA/MTL/LGTH: 4"/PVC/6.6' (HSVE-23D)	DEV. METHODS: NA	FINISH TIME (hours): 1445	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**TOPSOIL (0.0'-2.0')** Silty clay, black, moist, organic material		Monitoring Well HSVE-23S; Monitoring Well HSVE-23D	A	2/2	HA	M	–	–	0.0	Hand auger 0.0'-8.0'
2	**SILT (2.0'-5.0') ML** Olive brown, wet, some fine sand, trace clay			B	2/2	HA	W	–	–	0.0	
4	Grades moist, with clay at 4.5'			C	2/2	HA	W/M	–	–	8.6	
6 / 2	**SILTY CLAY (5.0'-7.5') CL** Gray, moist, orange mottles, very stiff, medium plasticity			D	2/2	HA	M	–	–	75.0	
8	**CLAYEY SILT (7.5'-11.7') ML** Olive gray, moist, orange mottles, some fine sand, soft, low plasticity, slight petroleum-like odor			E	1/1	HA	M	–	–	–	
10	Grades trace fine sand at 10.2'			F	1.1/2	SS	M	2 2 2 3	–	38.4	
12 / 4	**SILTY CLAY (11.7'-21.5') CL** Gray, moist, orange mottles, stiff, medium plasticity, slight petroleum-like odor			G	1.5/2	SS	M	1 1 2 3	–	28.6	
14	0.5-Foot silt seam, saturated, soft at 13.8'			H	1.3/2	SS	M/S	– – – –	–	32.1	
16	Grades very soft at 17.0'			I	1.4/2	SS	M	1 1 2 3	–	157	
18	0.2-Foot silt seam, moist, soft at 18.1'			J	1.7/2	SS	W	– – 1 1	–	167	

Boring/Well No.: HSVE-23D Soil Boring

Clayton GROUP SERVICES

BORING NO: HSVE-23D	WELL NO: HSVE-23D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
21				K	1.7/2	SS	M	1 1 1 1	--	713	
23 (7)	**CLAYEY SILT (21.5'-25.6') ML** Olive gray, moist, orange mottles, soft, low plasticity, slight petroleum-like odor			L	1.7/2	SS	M	-- 1 1 2	--	1373	
25				M	1.5/2	SS	M	-- 1 1 3	--	502	
27	**SILTY SAND (25.6'-26.6') SM** Brown, saturated, fine grained sand, soft, strong petroleum-like odor, sheen			N	1.6/2	SS	M	-- -- -- 4	--	1226	
	SILTY CLAY (26.6'-28.0') CL Gray, moist, orange mottles, medium stiff, medium plasticity, petroleum-like odor			O	1/1	SS	M	-- --	--	1442	
29 (9)	End of Boring at 28.0'										
31	**See monitoring well construction forms HSVE-23S and HSVE-23D for details regarding monitoring well construction.**										
33											
35											
37 (11)											

Clayton
GROUP SERVICES

BORING NO: HSVE-24	WELL NO: HSVE-24D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791422.97N, 2316614.81E (HSVE-24D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 7.0-26.4' (HSVE-24D)	CHECKED BY: L. Smith	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.020"	START DATE: 4/21/05	
BOREHOLE DIA: 10.5"	STICKUP: NA	START TIME (hours): 0750	
TOP of CASING ELEVATION: 431.20 (HSVE-24D)	G.S. ELEVATION: 431.62 (HSVE-24D)	FINISH DATE: 4/21/05	
RISER DIA/MTL/LGTH: 4"/PVC/8.6' (HSVE-24D)	DEV. METHODS: NA	FINISH TIME (hours): 1015	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**FILL (0.0'-1.5')** Silty clay, gravel, brick		Monitoring Well HSVE-24S; Monitoring Well HSVE-24D	A	2/2	HA	M	–	–	31.4	Hand auger 0.0-8.0'
2	**SILTY CLAY (1.5'-10') CL** Dark gray, moist, very stiff			B	2/2	HA	M	–	–	20.3	
4	0.5-Foot silty sand seam, olive green, moist, fine sand, loose at 3.5'			C	2/2	HA	M	–	–	7.2	
6 / 2	Grades olive green, orange mottles at 6.0'			D	2/2	HA	M	–	–	3.2	
8				E	–	–	–	–	–	–	
10	**CLAYEY SILT (10.0'-11.4') ML** Olive gray, moist, orange mottles, soft, low plasticity			F	1 7/2	SS	M	1 2 2 4	–	7.8	
12	**SILT (11.4'-15.7') ML** Olive gray, moist, trace fine sand, medium stiff, low plasticity			G	1 8/2	SS	M	1 2 3 4	–	23.5	
14 / 4	Grades some fine sand at 14.0'			H	1 4/2	SS	M	1 2 4 3	–	25.9	
16	**CLAYEY SILT (15.7'-18.6') ML** Olive green, moist, very soft, low plasticity			I	1 9/2	SS	M	– – – 2	–	4.9	
18	Grades wet at 17.5'			J	1 6/2	SS	M-W	– – – 2	–	7.0	

Clayton GROUP SERVICES

BORING NO: HSVE-24	WELL NO: HSVE-24D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
21	**SILTY CLAY (18.6'-23.8') CL** Gray, moist, olive brown mottles, soft, slight petroleum-like odor			K	1.7/2	SS	M	– – 2 2	–	0.2	
23 – 7				L	1.6/2	SS	M	– – 1 1	–	12.1	
25	**SILT (23.8'-26.5') ML** Gray, moist, trace clay, soft, low plasticity, slight petroleum-like odor			M	1.7/2	SS	M	– – 2 2	–	209	
	Grades wet, strong petroleum-like odor at 25.4'			N	2/2	SS	M-W	– – – –	–	465	
27	**SILTY CLAY (26.5'-28.0') CL** Gray, moist, orange mottles, soft, low plasticity			O	1/1	SS	M	– –	–	14.5	
29	End of Boring at 28.0'										
– 9	**See monitoring well construction forms HSVE-24S and HSVE-24D for details regarding monitoring well construction.**										
31											
33											
35											
– 11											
37											

Clayton
GROUP SERVICES

BORING NO: HSVE-25	WELL NO: HSVE-25D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791212.45N, 2316471.87E (HSVE-25D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 7.0'-26.6' (HSVE-25D)	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.02"	START DATE: 4/27/05	
BOREHOLE DIA: 10.5"	STICKUP: NA	START TIME (hours): 0840	
TOP of CASING ELEVATION: 428.80 (HSVE-25D)	G.S. ELEVATION: 429.03 (HSVE-25D)	FINISH DATE: 4/27/05	
RISER DIA/MTL/LGTH: 4"/PVC/6.7' (HSVE-25D)	DEV. METHODS: NA	FINISH TIME (hours): 1045	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.5')**		Monitoring Well HSVE-25S; Monitoring Well HSVE-25D	A	–	–	–	–	–	–	Hand auger 0.0'-9.0'
	FILL (0.5'-1.5') Silt, medium brown, moist, with sand and gravel										
2	**SILTY CLAY (1.5'-4.0') CL** Medium brown, moist, trace fine sand			B	2/2	HA	M	–	–	0.0	
4	**CLAYEY SILT (4.0'-8.7') ML** Medium brown, moist, trace fine sand			C	2/2	HA	M	–	–	0.0	
6 / 2	Grades to gray mottles at 5.0'			D	2/2	HA	M	–	–	0.0	*Collected sample at 7.0-9.0' for analysis of BETX, MTBE, and Lead, and geotechnical analysis
	0.5-Foot silty clay seam at 7.0'										
8				E	2/2	HA	M	–	–	5.7	
	SILT (8.7'-13.1') ML Greenish gray, moist, some fine sand, soft										
10	Grades to wet at 9.0'-10.0'			F	1.4/2	SS	W/M	1 1 4 2	20.1	25.3	*Collected sample at 9.0-11.0' for geotechnical analysis
12	Grades to gray, slight petroleum odor at 10.0'			G	1.6/2	SS	M/S	1 1 1 2	36.3	62.5	*Collected sample at 10.0-11.0' for analysis of BETX, MTBE, and Lead
	Grades saturated at 12.0'										
14 / 4	**SILTY CLAY (13.1'-19.7') CL** Medium brown, moist, gray mottles, very soft			H	1.8/2	SS	M	– – 1 1	0.9	3.4	*Collected sample at 14.0-15.0' for analysis of BETX, MTBE, and Lead
	0.3-Foot silt seam at 13.8'										
16	Grades soft at 15.0'			I	2/2	SS	M	– – 1 1	1.4	2.1	
	0.2-Foot silt seam at 15.3'										
18				J	1.9/2	SS	M	– 1 1 2	2.0	6.5	*Collected sample at 15.0-17.0' for geotechnical analysis

Clayton GROUP SERVICES

BORING NO: HSVE-25	WELL NO: HSVE-25D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	SILT (19.7'-27.1') ML Medium brown, wet, gray mottles, some fine sand, trace clay, soft, petroleum-like odor			K	1.9/2	SS	W	– 1 2 3	60.8	242	*Collected sample at 19.0-21.0' for geotechnical analysis
21				L	1.8/2	SS	W	1 1 2 2	83.5	105	
23 – 7	0.6-Foot clayey silt seam at 23.6'			M	1.9/2	SS	W	1 1 2 4	25.7	354	
25	Grades gray at 25.2'			N	2/2	SS	W	– – – –	40.5	407	
27	**SILTY CLAY (27.1'-28.0') CL** Dark gray, moist, trace fine sand, soft			O	1/1	SS	W-M	– –	1.2	15.2	*Collected sample at 27.0-28.0' for analysis of BETX, MTBE, and Lead
29	End of Boring at 28.0 Feet										
– 9	**See monitoring well construction forms HSVE-25S and HSVE-25D for details regarding monitoring well construction.**										
31											
33											
35											
– 11											
37											

Clayton GROUP SERVICES

BORING NO: HSVE-26	WELL NO: HSVE-26D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791206.75N, 2316706.26E (HSVE-26D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mandygral	
DRILLING EQUIP: CME 75	SCREEN INTERVAL: 6.8'-26.4' (HSVE-26D)	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.02"	START DATE: 4/28/05	
BOREHOLE DIA: 10.5"	STICKUP: Flushmount	START TIME (hours): 1540	
TOP of CASING ELEVATION: 429.68 (HSVE-26D)	G.S. ELEVATION: 429.95 (HSVE-26D)	FINISH DATE: 4/29/05	
RISER DIA/MTL/LGTH: 4"/PVC/6.5' (HSVE-26D)	DEV. METHODS: NA	FINISH TIME (hours): 1010	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.5')**		Monitoring Well HSVE-26S / Monitoring Well HSVE-26D	A	0/1	–	–	–	–	–	Hand auger 0.0-9.0'
2	**FILL (0.5'-3.0')** Silty clay, medium brown, moist, with gravel, trace fine sand			B	2/2	HA	M	–	–	0.5	
4	**CLAY (3.0'-8.0') CL** Dark brown, moist, trace silt and fine sand			C	2/2	HA	M	–	–	2.3	
6 / 2	Grades to medium brown at 6.0'			D	2/2	HA	M	–	–	1.7	*Collected sample at 5.0-7.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
8	**SILT (8.0'-17.0') ML** Light brown, moist, gray mottles, trace clay and fine sand, soft			E	2/2	HA	M	–	–	4.6	
10				F	0.9/2	SS	W	– 1 1 2	1.0	10.5	*Collected sample at 10.0-11.0' for geotechnical analysis
12	Grades gray at 11.0' 0.7-Foot clayey silt seam at 11.2' Grades wet at 11.9'			G	1.2/2	SS	M/W	– – 2 2	0.2	16.9	
14 / 4				H	1.5/2	SS	W	– – – –	0.0	45.3	
16	0.3-Foot clayey silt seam at 15.2'			I	1.5/2	SS	W	– – – –	0.0	19.5	
18	**CLAYEY SILT (17.0'-19.0') ML** Gray, moist, brown mottles, trace fine sand, slight petroleum-like odor			J	0.9/2	SS	M	– – – 1	0.0	10.6	

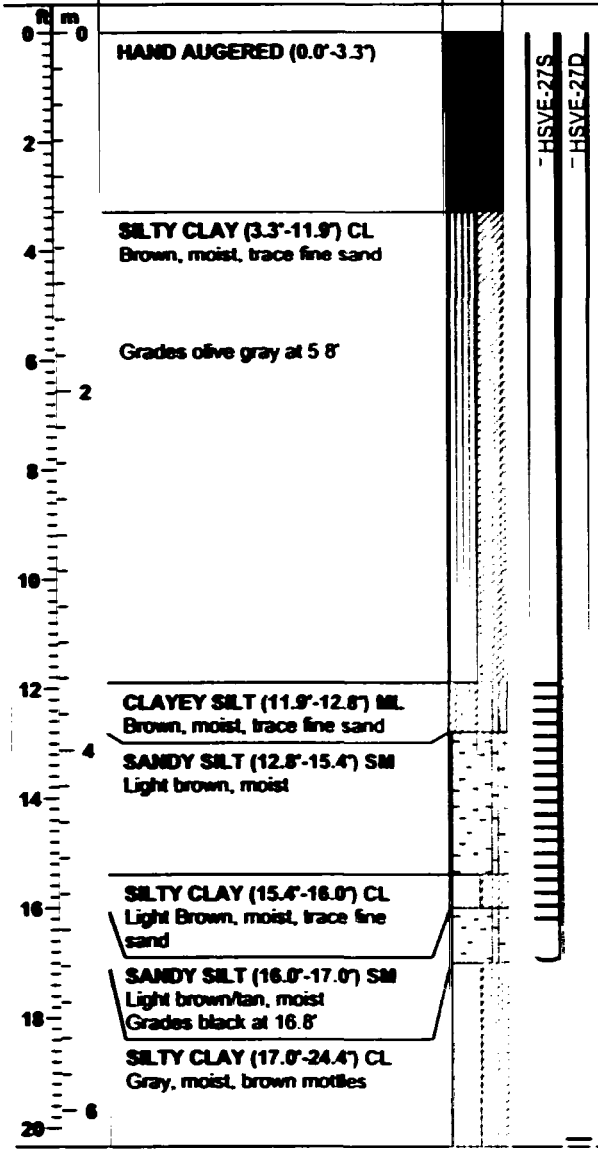
Boring/Well No.: HSVE-26D Soil Boring

Clayton GROUP SERVICES

BORING NO: HSVE-26	WELL NO: HSVE-26D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
21	**SILTY CLAY (19.0'-24.5') CL** Gray, moist, brown mottles, trace fine sand			K	2/2	SS	M	– – – 1	0.0	0.0	*Collected sample at 19.0-21.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
				L	0.8/2	SS	M	– – 1 2	0.0	0.0	
23 – 7				M	1.2/2	SS	M/W	– – 1 2	1.3	–	
25	**SILT (24.5'-26.0') ML** Gray, wet, medium brown mottles, some fine sand, soft, slight petroleum-like odor			N	1.4/2	SS	W/S	– – 2 1	25.3	–	*Collected sample at 25.0-27.0' for geotechnical analysis
27	**SANDY SILT (26.0'-28.0') SM** Gray, wet, brown mottles, fine to medium sand, soft, slight petroleum-like odor			O	1/1	SS	S	– –	40.1	–	
29 – 9	End of Boring at 28.0' **See monitoring well construction forms HSVE-26S and HSVE-26D for details regarding monitoring well construction.**										
31											
33											
35 – 11											
37											

BORING NO: HSVE-27	WELL NO: HSVE-27D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES:	
DRILLING CO: Terra Drill	DRILLER: T. Mario		LOGGED BY: J. Thomas
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 20.2' - 26.7' (HSVE-27D)		CHECKED BY: M. Mueller
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.020"		START DATE: 9/29/05
BOREHOLE DIA: 12"	STICKUP:		START TIME (hours): 0800
TOP of CASING ELEVATION:	G.S. ELEVATION:		FINISH DATE: 9/29/05
RISER DIA/MTL/LGTH: 4"/PVC/20.2' (HSVE-27D)	DEV. METHODS: NA		FINISH TIME (hours): 1015



DEPTH (ft / m)	DESCRIPTION	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0	HAND AUGERED (0.0'-3.3')	A	0/3.3	HA	–	–	–	–	
4	SILTY CLAY (3.3'-11.9') CL Brown, moist, trace fine sand	B	2.5/2.5	SS	M	–	–	–	
6	Grades olive gray at 5.8'								
8		C	1.3/4	SS	M	–	–	–	
12	CLAYEY SILT (11.9'-12.8') ML Brown, moist, trace fine sand	D	3/4	SS	M	–	–	–	
	SANDY SILT (12.8'-15.4') SM Light brown, moist								
16	SILTY CLAY (15.4'-16.0') CL Light Brown, moist, trace fine sand	E	3.2/4	SS	M	–	–	–	
	SANDY SILT (16.0'-17.0') SM Light brown/tan, moist Grades black at 16.8'								
18	SILTY CLAY (17.0'-24.4') CL Gray, moist, brown mottles								
20		F	4/4	SS	M-W	–	–	–	

Boring/Well No.: HSVE-27 DRAFT

BORING NO: HSVE-27	WELL NO: HSVE-27D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	0.4-Foot clayey silt seam, gray, wet at 18.4' Grades gray and black at 18.6'										
22											
24				G	3/4	SS	M	–	–	–	
	CLAYEY SILT (24.4'-27.0') ML Dark gray, wet, with fine sand Grades moist at 25.0'										
26	8										
	Grades to some fine sand at 26.6'										
	SILTY CLAY (27.0'-28.8') CL Gray, moist, brown mottles, trace fine sand			H	4/4	SS	M-W	–	–	–	
28											
	SANDY CLAY (28.8'-29.2') SC Gray to light brown, moist										
30	**SAND (29.2'-29.8') SP** Light brown, moist, fine grained										
	End of Boring at 29.8'										
32											
	10										
34											
36											
38											
	12										
40											

Clayton GROUP SERVICES

BORING NO: MP-68	WELL NO: MP-68	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791409.88 (N), 2316734.98 (E)	

DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral
DRILLING EQUIP: ATV Rig	SCREEN INTERVAL: 9.8'-17.0'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.01	START DATE: 11/29/04
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1200
TOP of CASING ELEVATION: 431.36	G.S. ELEVATION: 431.6	FINISH DATE: 11/29/04
RISER DIA/MTL/LGTH: 1" / PVC / 9.5'	DEV. METHODS: NA	FINISH TIME (hours): 1340

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**FILL (0.0'-7.0')** Gravel, gray, wet, fine				0/1	SS	--	--	--	--	Did not hand auger due to building foundations
2	Grades to silt, medium brown, orange and black mottles, moist,stiff, trace fine sand, some clay at 1.3'			A	1.5/2	SS	W/M	4 10 10 12	--	0.1	
4	Grades to blue-green, petroleum-like odor at 3.8-4.6'			B	1.8/2	SS	M	4 4 7 10	--	0.8	
6 / 2	Grades to black cinders and brick fragments at 4.8-7.0'			C	0.6/2	SS	M	3 18 15 1	--	0	
8	**SILTY CLAY (7.0'-10.1') CL** Gray, blue and green mottles, moist, stiff, trace fine sand			D	2/2	SS	M	3 7 6 8	--	0	
10	**SILT (10.1'-12.9') ML** Gray, moist, medium stiff, some clay, trace fine sand			E	1.8/2	SS	M/W	2 3 3 5	--	10.3	
12	Grades to wet, slight petroleum-like odor at 10.8'			F	1.5/2	SS	W	2 4 4 4	--	16.9	
14 / 4	Grades to some fine sand at 11.5' Black staining at 11.8-12.2' **SILTY SAND (12.9'-16.4') SM** Light brown, saturated, loose, fine grained, slight petroleum-like odor			G	1.8/2	SS	S	3 2 2 3	--	17.4	
16	**SILTY CLAY (16.4'-17.0') CL** Light brown grading to gray, wet, medium stiff, some fine sand			H	1.5/2	SS	S/W	- 1 2 3	--	1.6	
18	End of Boring at 17.0'										
20 / 6											

Clayton GROUP SERVICES

BORING NO: MP-69	WELL NO: MP-69	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791425.49 (N), 2316686.88 (E)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral	
DRILLING EQUIP: ATV Rig	SCREEN INTERVAL: 11.6' - 16.5'	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.010"	START DATE: 11/29/04	
BOREHOLE DIA: 8.5"	STICKUP: N/A	START TIME (hours): 1450	
TOP of CASING ELEVATION: 431.57	G.S. ELEVATION: 431.7	FINISH DATE: 11/29/04	
RISER DIA/MTL/LGTH: 1" / PVC / 10.5	DEV. METHODS: NA	FINISH TIME (hours): 1600	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**FILL (0.0'-5.0')** Gravel, gray, wet, fine				0/1	–	–	–	–	–	
2	Grades to silt, medium brown, moist, stiff, trace fine sand and gravel at 1.0'			A	1 6/2	SS	M	4 6 6 9	–	0	
4	Grades to brick fragments from 4.0'-5.0'			B	1 0/2	SS	M	3 3 6 5	—	0	
6 / 2	**CLAYEY SILT (5.0'-7.5') ML** Medium brown, orange mottles, moist, stiff, trace fine sand			C	1 8/2	SS	M	3 4 8 10	—	0	
8	**SILTY CLAY (7.5'-9.0') CL** Gray, brown mottles, moist, stiff, trace fine sand			D	1 5/2	SS	M	3 4 5 6	—	0	
10	**CLAYEY SILT (9.0'-12.0') ML** Medium brown, gray mottles, moist, medium stiff, trace fine sand			E	1 8/2	SS	M	2 2 5 6	—	0.5	
12 / 4	**SILT (12.0'-16.0') ML** Medium brown, gray mottles, wet, medium stiff, with clay, some fine sand, petroleum-like odor			F	1 6/2	SS	W	2 2 3 4	—	20.0	
14	Grades to gray, soft, some clay and fine sand at 13.5'			G	1/2	SS	W	1 1 1 2	—	36.5	
16	**SILTY CLAY (16.0'-17.5') CL** Gray, wet grading to moist, medium stiff, trace fine sand, high plasticity			H	1 5/2	SS	W/M	2 3 4 3	—	3.5	
				I	0 5/0.5	SS	M	—	—	—	
18	End of Boring at 17.5'										
20 / 6											

Clayton GROUP SERVICES

BORING NO: MP-70	WELL NO: MP-70	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791483.76 (N), 2316623.95 (E)	

DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 10.5'-16.5'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.010"	START DATE: 11/30/04
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0734
TOP of CASING ELEVATION: 431.00	G.S. ELEVATION: 431.4	FINISH DATE: 11/30/04
RISER DIA/MTL/LGTH: 1" / PVC / 10.5'	DEV. METHODS: NA	FINISH TIME (hours): 0827

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**TOPSOIL (0.0'-1.0')** Dark brown, roots										
2	**SILT (1.0'-5.0') ML** Medium brown, wet, trace fine sand and gravel			A	5/5	HA	W	—	—	0	Soil wet due to rain from 0.0'-5.0'
4							W	—	—	0	
6 / 2	**CLAYEY SILT (5.0'-6.9') ML** Medium brown, moist,stiff, trace fine sand, slight petroleum-like odor			B	1.8/2	SS	M	2 3 6 7	—	1.5	
8	**SILTY CLAY (6.9'-9.5') CL** Medium brown, gray mottles, moist, stiff, trace fine sand, stiff, slight petroleum-like odor			C	1.7/2	SS	M	3 4 6 7	—	1.8	
10	**CLAYEY SILT (9.5'-10.5') ML** Medium brown, gray mottles, moist, medium stiff, some fine sand, slight petroleum-like odor			D	1.6/2	SS	M	2 3 4 6	—	0.3	
12 / 4	**SILT (10.5'-12.4') ML** Medium brown, moist, medium stiff, some fine sand, trace clay, slight petroleum-like odor Grades to gray, wet at 11.0' Grades to black staining at 12.3'			E	1.7/2	SS	W	2 3 5 4	—	8.9	
14	**SILTY SAND (12.4'-16.3') SM** Medium brown, wet, loose, fine grained, slight petroleum-like odor Grades saturated at 14.3'			F	1.6/2	SS	W/S	3 3 2 3	—	13.4	
16	**SILTY CLAY (16.3'-17.0') CL** Gray, wet, soft, trace fine sand, high plasticity			G	1.8/2	SS	W	1 1 2 3	—	0	
18 / 6 / 20	End of Boring at 17.0'										

Boring/Well No.: MP-70

Clayton GROUP SERVICES

BORING NO: MP-71	WELL NO: MP-71	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791568.76 (N), 2316585.74 (E)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mandygral	
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 12.7' - 16.8'	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.010"	START DATE: 11/30/04	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0945	
TOP of CASING ELEVATION: 430.14	G.S. ELEVATION: 430.3	FINISH DATE: 11/30/04	
RISER DIA/MTL/LGTH: 1" / PVC / 12.7'	DEV. METHODS: NA	FINISH TIME (hours): 1045	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**TOPSOIL (0.0'-1.0')** Dark brown, wet, trace fine sand and gravel, roots										Hand Augered from 0-5 feet
	SILTY CLAY (1.0'-4.5') CL Medium brown grading to gray, wet, trace fine sand and gravel			A	5/5	HA	W	—	—	0	Wet soil due to rain from 0.0'-5.0'
4							W	—	—	0	
6 / 2	**CLAYEY SILT (4.5'-7.1') ML** Gray, brown mottles, moist, stiff, trace fine sand, slight petroleum-like odor			B	16/2	SS	M	2 3 6 7	—	1.7	
8	**SILTY CLAY (7.1'-10.0') CL** Medium brown, gray mottles, moist, medium stiff, trace fine sand, slight petroleum-like odor			C	18/2	SS	M	2 2 3 3	—	3.6	
10	**CLAYEY SILT (10.0'-13.0') ML** Medium brown, gray mottles, wet, trace fine sand, slight petroleum-like odor			D	19/2	SS	M/W	3 4 4 3	—	8.9	
12	0.2-Foot silt, wet, soft seam at 11.5'			E	17/2	SS	M	1 1 2 3	—	7.3	
4 / 14	Moist, soft at 11.7' **SILT (13.0'-15.5') ML** Gray, saturated, soft, some fine sand, trace clay, petroleum-like odor, sheen			F	18/2	SS	M/S	1 1 1 1	—	20.4	
16	**SILTY CLAY (15.5'-17.0') CL** Brown, moist, medium stiff, trace fine sand			G	19/2	SS	S/M	1 2 4 4	—	0.5	
18	End of Boring at 17.0'										
6 / 20											

Boring/Well No.: MP-71

Clayton GROUP SERVICES

BORING NO: MP-72	WELL NO: MP-72	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791584.88 (N), 2316565.29 (E)	

DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 11.6'-16.0'	CHECKED BY: M. Mueller
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.01	START DATE: 11/30/04
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1245
TOP of CASING ELEVATION: 430.51	G.S. ELEVATION: 430.8	FINISH DATE: 11/30/04
RISER DIA/MTL/LGTH: 1" / PVC / 11.6'	DEV. METHODS: NA	FINISH TIME (hours): 1345

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0	**TOPSOIL (0.0' - 1.0')** Dark brown, wet, trace fine sand and gravel			A	4.5/4.5	HA	W	–	–	0	Hand Augered from 0-4.5 feet
2	**CLAYEY SILT (1.0' - 4.5') ML** Medium brown, wet, trace fine sand and gravel						W	–	–	0	Soil wet from 0.0'-4.5' due to rain
6	**SILTY CLAY (4.5' - 12.5') CL** Gray, brown mottles, moist, soft			B	1.5 / 2	SS	M	1 1 3 3	–	0.1	
8	Grades medium stiff at 8.0'			C	1.7 / 2	SS	M	1 2 3 4	–	0.1	
10	0.5-Foot clayey silt seam, gray, moist, with fine sand, petroleum-like odor at 10.0'			D	1.5 / 2	SS	M	1 2 3 4	–	0	
12	0.2-Foot clayey silt seam, gray, wet, with fine sand at 12.0'			E	1.7 / 2	SS	M/W	2 2 3 3	–	9.8	
14	**SILT (12.5' - 14.5') ML** Gray, wet, medium stiff, some clay, trace fine sand, petroleum-like odor			F	1.5 / 2	SS	W	3 3 2 2	–	17.6	*Collected soil sample at 13.5'-15.5' for geotechnical analysis
	0.2-Foot silty clay, with trace fine sand seam at 14.3'			G	1 / 2	SS	W/M	1 2 –	–	18.5	
16	**SANDY SILT (14.5' - 15.3') ML** Gray, wet, soft, fine grained, some clay, petroleum-like odor										
18	**SILTY CLAY (15.3' - 16.0') CL** Brown, moist, soft, medium plasticity										
20	End of Boring at 16.0'										

Boring/Well No.: MP-72

Clayton GROUP SERVICES

BORING NO: MP-73	WELL NO: MP-73	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791586.85 (N), 2316662.38 (E)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: S. Peterson	
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 8.7'-16.85'	CHECKED BY: H. Mendygral	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.01	START DATE: 12/8/04	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0756	
TOP of CASING ELEVATION: 430.96	G.S. ELEVATION: 431.1	FINISH DATE: 12/8/04	
RISER DIA/MTL/LGTH: 1" / PVC / 8.4'	DEV. METHODS: NA	FINISH TIME (hours): 0950	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**TOPSOIL (0.0' - 3.0')** Brown, wet, organic material			A	4 8/4.8	HA	W	–	–	5.9	Hand Augered from 0-4.8'
4	**CLAYEY SILT (3.0'-5.3') ML** Medium brown, moist, trace fine sand				0		W/M	–	–	2.1	
6 / 2	**SILTY CLAY (5.3'-9.3') CL** Gray, brown mottles, moist, stiff, petroleum odor			B	1 6/2	SS	M	2 4 7 8	–	53.7	
8				C	1 8/2	SS	M	2 4 5 8	–	53.9	
10	**SILT (9.3'-15.6') ML** Gray, brown mottles, moist, medium stiff, some fine sand, trace clay, strong petroleum-like odor			D	1 5 / 2	SS	M	3 3 4 8	–	41.3	
12 / 4	0.3-Foot silty clay seam gray, brown mottles, moist, petroleum-like odor at 9.8' Grades to gray, wet at 11.8' 0.2-Foot clayey silt seam, gray, brown mottles, moist at 12.5' Grades saturated at 14.0' Grades wet at 14.8'			E	1 9/2	SS	M/W	2 5 4 7	–	1156	
14				F	1 6/2	SS	W/S	3 3 4 7	–	711	
16	**SANDY SILT (15.6'-16.7') ML** Gray, saturated, soft, fine grained, strong petroleum-like odor			G	1 8/2	SS	W/S	1 1 2 1	–	78.2	
18	**SILTY CLAY (16.7'-17.8') CL** Gray, brown mottles, moist			H	1/1	SS	M	–	–	340	
20 / 6											
22	End of Boring at 17.8'										

Clayton GROUP SERVICES

BORING NO: MP-74	WELL NO: MP-74	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791569.46 (N), 2316718.98 (E)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: S. Peterson	
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 10.85'-17.85'	CHECKED BY: H. Mendygral	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.01	START DATE: 12/8/04	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1356	
TOP of CASING ELEVATION: 431.38	G.S. ELEVATION: 431.6	FINISH DATE: 12/8/04	
RISER DIA/MTL/LGTH: 1" / PVC / 10.55'	DEV. METHODS: NA	FINISH TIME (hours): 1505	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**FILL (0.0' - 2.0')** Silty clay, brown, moist, trace fine sand			A	5/5	HA	M	–	–	–	Hand Augered from 0-5'
2	**TOPSOIL (2.0' - 3.5')** Dark brown, moist, organic material										
4	**CLAYEY SILT (3.5' - 4.5') ML** Medium brown, moist, trace fine sand						M	–	–	25.9	
6 / 2	**SILTY CLAY (4.5' - 10.8') CL** Gray, brown mottles, moist, medium stiff, trace fine sand			B	1.6/2	SS	M	1 2 4 5	–	22.9	
8	Grades to dark gray, brown mottles at 5.3'			C	2/2	SS	M	1 3 4 5	–	34.2	
10	Grades to gray at 7.0'			D	2/2	SS	M	- 2 2 6	–	41.1	
12 / 4	**SILT (10.8' - 17.6') ML** Gray, moist, soft, some fine sand, trace clay, petroleum-like odor			E	2/2	SS	M/W	- 1 2 2	–	33.8	
14	0.3-Foot silty clay seam, gray, brown mottles, moist, stiff, at 11.9' Grades to wet at 12.2'			F	1.6/2	SS	W	- 2 1 1	–	23.3	
16	Grades to moist, some clay at 13.6'-14.5' Grades to saturated at 16.4'			G	2/2	SS	W/S	- 1 1 2	–	35.7	
18	**SILTY CLAY (17.6' - 19.0') CL** Gray, brown mottles, moist, soft, petroleum-like odor			H	1.5/2	SS	S/M	1 1 2 3	–	37.7	
20 / 6	End of Boring at 19.0'										

Boring/Well No.: MP-74

Clayton GROUP SERVICES

BORING NO: MP-75	WELL NO: MP-75	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791614.17 (N), 2316753.89 (E)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: S. Peterson	
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 11.5'-18.35'	CHECKED BY: H. Mendygral	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.01	START DATE: 12/9/04	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0650	
TOP of CASING ELEVATION: 430.66	G.S. ELEVATION: 430.8	FINISH DATE: 12/9/04	
RISER DIA/MTL/LGTH: 1" / PVC / 11.2'	DEV. METHODS: NA	FINISH TIME (hours): 0820	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**TOPSOIL (0.0' - 2.0')** Dark brown, moist, organic material, trace fine sand			A	5/5	HA	M	–	–	1.6	Hand Augered from 0-5'
2	**CLAYEY SILT (2.0' - 3.0') ML** Brown, moist, trace fine sand										
4	**SILTY CLAY (3.0' - 9.9') CL** Gray, brown mottles, moist, stiff, trace fine sand						M	–	–	1.7	
6 / 2				B	1.6/2	SS	M	2 4 5 7	–	2.9	
8	Petroleum-like odor at 7.2'			C	2/2	SS	M	2 4 5 6	–	9.3	
10	**CLAYEY SILT (9.9' - 11.5') ML** Gray, brown mottles, moist, medium stiff, trace fine sand			D	1.6/2	SS	M	2 3 3 4	–	15.2	
12 / 4	**SILT (11.5'-17.9') ML** Gray, moist, medium stiff, some fine sand, trace clay, strong petroleum-like odor			E	1.7/2	SS	M	1 2 3 4	–	29.7	
14	0.3-Foot silty clay seam, gray, brown mottles, moist, at 11.9'			F	1.5/2	SS	M/W	2 2 2 2	–	15.8	
16	Grades to wet at 14.1' Grades to saturated at 16.3'			G	1.2/2	SS	W/S	1 1 1 1	–	13.6	
18	**SILTY CLAY (17.9' - 19.0') CL** Gray, brown mottles, moist, soft			H	1.6/2	SS	S	1 1 2	–	12.5	
20 / 6	End of Boring at 19.0'										

Boring/Well No.: MP-75

Clayton GROUP SERVICES

BORING NO: MP-76	WELL NO: MP-76	PROJECT NO: 15-03095.13-005	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford Community Center, Hartford, IL		COORDINATES: 791580.93 (N), 2316776.87 (E)	

DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: S. Peterson
DRILLING EQUIP: Hand Auger / ATV Rig	SCREEN INTERVAL: 10.5'-17.35'	CHECKED BY: H. Mendygral
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC / 0.01	START DATE: 12/9/04
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1135
TOP of CASING ELEVATION: 430.75	G.S. ELEVATION: 430.9	FINISH DATE: 12/9/04
RISER DIA/MTL/LGTH: 1" / PVC / 10.2'	DEV. METHODS: NA	FINISH TIME (hours): 1412

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**TOPSOIL (0.0' - 4.0')** Dark brown, moist, organic material			A	5/5	HA	M	--	--	5.3	Hand Augered from 0-5'
							M	--	--	6.6	
4	**CLAYEY SILT (4.0' - 5.4') ML** Medium brown, orange mottles, moist, organic material, trace fine sand and gravel			C	1.6/2	SS	M	4 7 8 11	--	7.1	*Collected sample at 5-7' for hydraulic conductivity analysis
6 / 2	**SILTY CLAY (5.4' - 7.6') CL** Dark brown, moist, very stiff, some fine sand, organic material			D	1.7/2	SS	M	3 4 5 6	--	6.6	
8	**SANDY SILTY (7.6' - 9.5') ML** Gray, brown mottles, moist, stiff, some clay, fine to medium grained, trace organic material			E	1.5/2	SS	M	1 2 4 4	--	6.4	
10	**CLAYEY SILT (9.5' - 10.8') ML** Gray, brown mottles, moist, medium stiff, some fine sand, petroleum-like odor			F	1.5/2	SS	M/W	1 2 2 3	--	6.5	
12 / 4	**SILT (10.8' - 12.5') ML** Gray, moist, soft, some fine sand, trace clay, petroleum-like odor Grade wet at 11.9'			G	0/2	SS	-	1 1 2 1	--	-	
14	**SILTY CLAY (12.5' - 15.6') CL** Gray, brown mottles, moist, soft, petroleum-like odor			H	2/2	SS	S	3 1 1 1	--	3.9	
16	**SILT (15.6' - 17.1') ML** Gray, saturated, soft, trace fine sand, petroleum-like odor			I	2/2	SS	S/M	- 1 2 3	--	4.3	
18	**SILTY CLAY (17.1' - 19.0') CL** Gray, brown mottles, moist, soft										
20 / 6											
22	End of Boring at 19.0'										
24											

Boring/Well No.: MP-76

Clayton GROUP SERVICES

BORING NO: MP-77	WELL NO: MP-77C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 798125.25N, 2317877.57E (MP-77C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 23.6-38.4' (MP-77C)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/18/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1025	
TOP of CASING ELEVATION: 430.83 (MP-77C)	G.S. ELEVATION: 430.94 (MP-77C)	FINISH DATE: 4/18/05	
RISER DIA/MTL/LGTH: 2"/PVC/23.3' (MP-77C)	DEV. METHODS: NA	FINISH TIME (hours): 1440	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0 / 0	**GRAVEL FILL (0.0'-1.5')**		Monitoring Well MP-77A, Monitoring Well MP-77B, Monitoring Well MP-77C	A	2/2	HA	M	–	–	0.0	Hand auger 0.0'-8.0'
2	**FILL (1.5'-3.0')** Silty clay, dark brown, moist, medium stiff			B	2/2	HA	M	–	–	0.0	
4	**CLAYEY SILT (3.0'-7.0') ML** Brown, moist, gray mottles, trace fine sand, soft, low plasticity			C	2/2	HA	M	–	–	0.0	
6 / 2				D	2/2	HA	M	–	–	0.1	*Collected sample at 7.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
8	**SILTY CLAY (7.0'-12.6') CL** Olive gray, moist, rust colored mottles, medium stiff Slight petroleum-like odor at 8.0'			E	0/1	–	–	–	–	–	
10				F	2/2	SS	M	1 2 3 5	–	0.3	
12				G	1.7/2	SS	M	1 2 6 6	–	170	
14 / 4	**SAND (12.6'-18.5') SP** Gray, moist, fine sand, trace silt, medium dense, strong petroleum-like odor			H	1.8/2	SS	M	1 2 4 3	–	346	*Collected sample at 13.0-15.0' for analysis of BETX, MTBE, and Lead
16				I	1.6/2	SS	M	2 3 3 2	–	1045	*Collected sample at 15.0-16.0' for geotechnical analysis
18	Grades wet at 17.5'			J	1.7/2	SS	W/M	2 2 3 2	–	1376	
20 / 6	**SILT (18.5'-19.3') ML** Light brown, moist, gray mottles, soft, petroleum-like odor			K	1.9/2	SS	M	1 3 2 5	–	1444	

Boring/Well No.: MP-77C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-77	WELL NO: MP-77C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	SAND (19.3'-41.0') SP Light brown, moist, fine sand, loose, petroleum-like odor			L	1.8/2	SS	M	1 3 3 3	--	1090	
23				M	2/2	SS	M	1 1 3 2	--	1248	
	Grades black staining, strong petroleum-like odor at 24.5'										
25	Grades gray at 25.0'			N	1.8/2	SS	M	1 3 3 8	--	1057	
8											
27				O	1.6/2	SS	M/W	2 3 4 5	--	1338	
29	Grades wet at 29.0'										
	Grades saturated, fine to medium sand at 30.4'			P	1.6/2	SS	W/S	2 4 5 4	--	899	
31	Grades medium dense at 31.0'			Q	1.2/2	SS	S	5 8 7 9	--	>2000	
33	10			R	1/2	SS	S	3 8 12 12	--	>2000	*Collected sample at 34.0-35.0' for geotechnical analysis
35				S	1.2/2	SS	S	3 5 8 7	--	>2000	
37				T	1.1/2	SS	S	1 3 5 9	--	>2000	
39	**See monitoring well construction forms MP-77 A, B, and C for details regarding monitoring well construction.**			U	1/2	SS	S	1 3 5 7	--	>2000	
12											
41	End of Boring at 41.0'										

Clayton GROUP SERVICES

BORING NO: MP-78	WELL NO: MP-78D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791380.87N, 2316484.84E (MP-78D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mandygral	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 28.2-37.8' (MP-78D)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/25/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0945	
TOP of CASING ELEVATION: 430.26 (MP-78D)	G.S. ELEVATION: 430.50 (MP-78D)	FINISH DATE: 4/25/05	
RISER DIA/MTL/LGTH: 2"/PVC/27.9' (MP-78D)	DEV. METHODS: NA	FINISH TIME (hours): 1500	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.5')**			A	0/1	–	–	–	–	–	Hand auger 0.0'-9.0'
2	**FILL (0.5'-3.0')** Silt, medium brown, moist, some fine sand, trace fine gravel			B	2/2	HA	M	–	–	0.5	
4	**SILTY CLAY (3.0'-7.0') CL** Medium brown, moist, trace fine sand and gravel			C	2/2	HA	M	–	–	2.3	
6 / 2				D	2/2	HA	M	–	–	1.6	*Collected sample at 5.0-7.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
8	**CLAYEY SILT (7.0'-11.5') ML** Medium brown, moist, light brown mottles, trace fine sand and gravel, soft			E	2/2	HA	M	–	–	0.1	
10	0.3-Foot silt seam, wet, petroleum-like odor at 10.5'			F	2/2	SS	M	1 2 3 3	1.1	9.5	*Collected sample at 12.0-13.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
12	**SILTY CLAY (11.5'-12.0') CL** Medium brown, moist, gray mottles, trace fine sand, soft			G	2/2	SS	M	– 2 1 3	17.0	24.6	
14 / 4	**SILT (12.0'-14.1') ML** Gray, moist, some fine sand, soft Free product present at 13.5'			H	2/2	SS	M	– – 2 1	14.0	27.8	
16	**SILTY CLAY (14.1'-15.0') CL** Gray, moist, light brown mottles, trace fine sand, soft, slight petroleum-like odor			I	1.5/2	SS	M	– – 2 1	160	242	*Collected sample at 15.0-17.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
18	**CLAYEY SILT (15.0'-16.8') ML** Gray, moist, trace fine sand, soft			J	1.5/2	SS	M-W	1 2 3 3	105	90.0	
20 / 6	**SANDY SILT (16.8'-21.3') ML** Gray, moist, fine sand, petroleum-like odor Grades wet at 19.5' Grades saturated at 21.0'			K	1.4/2	SS	S	– – 1 2	242	358	*Collected sample at 19.0-21.0' for geotechnical analysis
22				L	1.4/2	SS	S	2 1 1 1	262	330	

Clayton GROUP SERVICES

BORING NO: MP-78	WELL NO: MP-78D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	SILTY SAND (21.3'-24.1') SM Gray, saturated, fine grained, petroleum-like odor										
24	0.3-Foot clayey silt seam at 22.7' 0.2-Foot silty clay seam, gray, moist, brown mottles at 23.7'			M	1.6/2	SS	S-M	-- 1 2	556	875	
26 8	**SILTY CLAY (24.1'-28.6') CL** Gray, moist, brown mottles, trace fine sand, slight petroleum-like odor 0.1-Foot sandy silt seam, wet at 24.8'			N	2/2	SS	M	5 6 4 2	223	405	*Collected sample at 25.0-27.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
28				O	1.8/2	SS	M-W	-- 2 5	528	705	
30	**SAND (28.6'-31.6') SP** Gray, wet, fine grained, trace silt, loose, petroleum-like odor Grades saturated at 29.0'			P	1.3/2	SS	S	2 5 7 9	1928	>2000	*Collected sample at 29.0-31.0' for geotechnical analysis
32 10	**SAND (31.6'-38.0') SW** Saturated, fine to medium grained, medium dense, strong petroleum-like odor			Q	1/2	SS	S	2 5 7 9	>2000	>2000	
34	Strong petroleum-like odor at 31.0'			R	0.7/2	SS	S	1 2 4 8	1342	>2000	
36	Some black staining and sheen at 33.0 to 35.0' Grades fine to coarse grained at 37.0'			S	2/2	SS	S	1 2 5 8	>2000	>2000	
38				T	1/1	SS	S	3 5	>2000	>2000	
12 40	End of Boring at 38.0'										
42 44	**See monitoring well construction forms MP-78 A, B, C, and D for details regarding monitoring well construction.**										

Boring/Well No.: MP-78D Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-79	WELL NO: MP-79D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791289.44N, 2316617.13E (MP-79D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 40.8-50.4' (MP-79D)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/27/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1405	
TOP of CASING ELEVATION: 429.46 (MP-79D)	G.S. ELEVATION: 429.81 (MP-79D)	FINISH DATE: 4/28/05	
RISER DIA/MTL/LGTH: 2"/PVC/40.2' (MP-79D)	DEV. METHODS: NA	FINISH TIME (hours): 1830	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.5')**			A	0/1	–	–	–	–	–	Hand auger 0.0'-9.0'
2	**FILL (0.5'-2.5')** Silt, medium brown, moist, with fine sand and gravel			B	2/2	HA	M	–	–	0.0	
4	**CLAYEY SILT (2.5'-9.0') ML** Medium brown, moist, trace fine sand, stiff			C	2/2	HA	M	–	–	0.0	
6 / 2				D	2/2	HA	M	–	–	0.0	
8	0.5-Foot silt seam at 7.5'			E	2/2	HA	M	–	–	0.0	
10	**SILTY CLAY (9.0'-12.9') CL** Green gray, moist, trace fine sand, soft 0.2-Foot silt seam at 9.5'			F	2/2	SS	M	– 2 3 4	5.7	1.3	*Collected sample at 9.0-11.0' for analysis of BETX, MTBE, and Lead
12				G	2/2	SS	M	– 1 2 1	8.5	4.6	
14 / 4	**SILT (12.9'-14.7') ML** Green gray, wet, medium brown, some fine sand, slight petroleum-like odor			H	1/2	SS	W	– 1 2 1	2.3	9.2	
16	**CLAYEY SILT (14.7'-15.8') ML** Gray, wet, brown mottles, trace fine sand, slight petroleum-like odor			I	1.8/2	SS	W	– 1 1 2	342	301	
18	**SILT (15.8'-17.0') ML** Gray, wet, some fine sand, soft, petroleum-like odor			J	2/2	SS	M	– – 1 2	425	507	*Collected sample at 17.0-19.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
20 / 6	**SILTY CLAY (17.0'-21.3') CL** Gray, moist, trace fine sand, soft, petroleum-like odor			K	2/2	SS	M	– 1 1 1	560	536	

Boring/Well No.: MP-79D Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-79	WELL NO: MP-79D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
23	**SILT (21.3'-25.0') ML** Gray, moist, medium brown mottles, some fine sand, soft, strong petroleum-like odor Grades wet at 23.0'			L	1.8/2	SS	M	1 1 1	957	1756	*Collected sample at 21.0-23.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
	Grades saturated, with sand at 24.5'			M	1.2/2	SS	W/S	1 1 2 1	835	725	
25	**SILTY SAND (25.0'-26.8') SM** Gray, saturated, fine to medium grained, loose, petroleum-like odor			N	1.3/2	SS	S	– 1 3 2	31.1	95.6	*Collected sample at 25.0-27.0' for geotechnical analysis
27	**SILT (26.8'-29.0') ML** Gray, saturated, with fine to medium sand, some clay, soft, slight petroleum-like odor			O	1.2/2	SS	S	– 2 3 2	10.9	52.3	
29	**SILTY CLAY (29.0'-36.0') CL** Gray, moist, trace fine sand, very soft, slight petroleum-like odor			P	2/2	SS	M	– – – 1	5.2	15.7	*Collected sample at 29.0-31.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
31	0.2-Foot sandy silt seam, wet at 32.1'			Q	1.7/2	SS	M	– – – –	0.2	10.9	
33	0.2-Foot sand seam, fine to medium grained at 34.1'			R	2/2	SS	M/W	– – – –	55.3	40.6	
35	Grades wet, some fine to medium sand at 34.4'			S	1/2	SS	S	1 6 7 9	1742	>2000	*Collected sample at 36.0-37.0' for geotechnical analysis
37	**SAND (36.0'-37.5') SW** Gray, saturated, fine to medium grained, trace silt, strong petroleum-like odor			T	1.2/2	SS	W	1 1 2 3	1542	>2000	
39	**SILTY CLAY (37.5'-41.5') CL** Gray, wet, trace fine sand, soft, petroleum-like odor			U	1.3/2	SS	W	– – 1 2	45.3	87.3	*Collected sample at 39.0-41.0' for geotechnical analysis
41	**SAND (41.5'-51.0') SW** Gray, saturated, fine to coarse grained, medium dense, slight petroleum-like odor			V	0.5/2	SS	W/S	10 14 17 15	13.5	33.5	*Collected sample at 43.0-45.0' for geotechnical analysis
43											

Clayton GROUP SERVICES

BORING NO: MP-79	WELL NO: MP-79D	PROJECT NO: 15-03095.13-00	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	Grades with fine gravel at 44 5'			W	0 8/2	SS	S	16 17 11 10	19.0	40.6	
45				X	0 6/2	SS	S	2 7 11 10	17.4	28.9	
47				Y	0 8/2	SS	S	3 7 12 12	20.5	42.1	
49 15				Z	1 5/2	SS	S	5 9 10 10	25.7	18.3	
51	End of Boring at 51.0' See monitoring well construction forms MP-79 A, B, C, and D for details regarding monitoring well construction										
53											
55 17											
57											
59											
61											
63 19											

Clayton GROUP SERVICES

BORING NO: MP-80	WELL NO: MP-80C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791207.29N, 2316787.34E (MP-80C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 33.9-43.4' (MP-80C)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/28/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0830	
TOP of CASING ELEVATION: 430.03 (MP-80C)	G.S. ELEVATION: 430.27 (MP-80C)	FINISH DATE: 4/28/05	
RISER DIA/MTL/LGTH: 2"/PVC/33.6' (MP-80C)	DEV. METHODS: NA	FINISH TIME (hours): 1530	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.5')**		Monitoring Well MP-80A, Monitoring Well MP-80B, Monitoring Well MP-80C	A	0/1	--	--	--	--	--	Hand auger 0.0-9.0'
2	**FILL (0.5'-3.0')** Silt, medium to dark brown, moist, some fine sand and gravel, slight petroleum-like odor			B	2/2	HA	M	--	6.2	5.9	
4	**SILTY CLAY (3.0'-5.0') CL** Dark brown, moist, trace fine sand, stiff			C	2/2	HA	M	--	0.0	1.3	
6 / 2	**CLAY (5.0'-6.5') CL** Dark brown, moist, some silt, trace fine sand, stiff			D	2/2	HA	M	--	0.0	8.7	
8	**CLAYEY SILT (6.5'-8.7') ML** Green gray, moist, trace fine sand, soft. Grades with silt at 8.0'			E	2/2	HA	M	--	0.0	2.4	*Collected sample at 7.0-9.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
10	**SILT (8.7'-18.7') ML** Green gray, moist, some fine sand, trace clay, medium stiff			F	2/2	SS	M	2 2 3 4	3.2	10.1	*Collected sample at 9.0-11.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
12	Grades gray, wet, brown mottles, soft at 11.5'			G	2/2	SS	W	-- 1 1 2	2.5	6.5	
14 / 4	0.3-Foot clayey silt seam, wet at 12.2'			H	1/2	SS	W	-- 1 1 2	2.7	9.3	
16	0.3-Foot clayey silt seam at 16.8'			I	1.5/2	SS	W	-- -- 1 2	260	480	
18				J	1/2	SS	W	-- -- 1 1	20.1	103	*Collected sample at 19.0-21.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
20 / 6	**SILTY CLAY (18.7'-33.9') CL** Gray, moist, trace fine sand, slight petroleum-like odor, soft			K	2/2	SS	M	-- 1 2 2	13.8	41.7	

Clayton GROUP SERVICES

BORING NO: MP-80	WELL NO: MP-80C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	0.5-Foot silt seam at 22.5'			L	2/2	SS	M	1 2	45.5	39.5	
23	Grades with silt, medium brown mottles at 23.0'			M	1.8/2	SS	M	2 2	8.9	22.6	
25											
8	Black staining from 26.0 to 28.0'			N	2/2	SS	M	2	34.5	51.8	
27				O	2/2	SS	M	1	35.7	35.3	
29	0.5-Foot sandy silt seam, wet at 29.0'			P	1.2/2	SS	W/M	1 1	20.2	18.5	
31	Grades dark gray at 31.0'										
	0.2-Foot silt seam, wet, with sand at 32.0'			Q	2/2	SS	M	1 3	0.1	2.0	
10 33	0.1-Foot silt seam, wet, with sand at 32.7' Grades wet, some sand at 33.0'			R	1.8/2	SS	W	1 1	1105	>2000	*Collected sample at 34.0-35.0' for geotechnical analysis
	SILT (33.9'-36.0') ML Gray, wet, some fine grained sand, strong petroleum-like odor										
35	Wood chips at 35.0 to 35.3'			S	0.5/2	SS	S	5	>2000	>2000	
	SAND (36.0'-45.0') SW Saturated, fine to medium grained, loose, black staining, strong petroleum-like odor										
37	Grades to fine to coarse grained at 37.0'			T	1.5/2	SS	S	1 5 7 6	>2000	>2000	
39	Sheen at 37.0 to 41.0'										
12				U	1/2	SS	S	3 6 8 5	>2000	>2000	
41				V	1.5/2	SS	S	4 5 8 7	>2000	>2000	
43											

Clayton GROUP SERVICES

BORING NO: MP-80	WELL NO: MP-80C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES METHOD	SAMPLES MOISTURE	SAMPLES BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
				W	1/2	SS	S	5 8 2 7	>2000	>2000	
45	End of Boring at 45.0' **See monitoring well construction forms MP-80 A, B, and C for details regarding monitoring well construction.**										
47											
49	15										
51											
53											
55	17										
57											
59											
61	19										
63											

Clayton GROUP SERVICES

BORING NO: MP-81	WELL NO: MP-81C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 790135.25N, 2316531.85E (MP-81C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 17.5-32.3' (MP-81C)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/19/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1455	
TOP of CASING ELEVATION: 425.40 (MP-81C)	G.S. ELEVATION: 425.75 (MP-81C)	FINISH DATE: 4/20/05	
RISER DIA/MTL/LGTH: 2"/PVC/17.1' (MP-81C)	DEV. METHODS: NA	FINISH TIME (hours): 0848	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT, GRAVEL (0.0'-1.5')**		Monitoring Well MP-81A, Monitoring Well MP-81B, Monitoring Well MP-81C	A	2/2	HA	M	–	–	5.0	Hand auger 0.0-8.0'
2	**FILL (1.5'-3.5')** Silty clay, olive brown, moist, medium plasticity, stiff			B	2/2	HA	M	–	–	3.5	
4	**SILT (3.5'-7.5') ML** Brown, moist, some fine sand, non-plastic			C	2/2	HA	M	–	–	4.0	
6 / 2	Grades wet at 6.0'			D	2/2	HA	M/W	–	–	3.5	*Collected sample at 6.0' for geotechnical analysis
8	**CLAYEY SILT (7.5'-9.0') ML** Light brown, moist, orange-red mottles, trace fine sand, low plasticity			E	0/1	–	–	–	–	–	*Collected sample at 8.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
10	**SILTY SAND (9.0'-15.0') SM** Light brown, moist, orange-red mottles, fine sand, loose			F	1.5/2	SS	M	2 3 4 4	–	3.8	
12				G	1.7/2	SS	M	3 4 2 2	–	5.1	
14 / 4	Grades wet at 13.5'-13.9'			H	1.6/2	SS	M-W	1 1 1 7	–	6.9	
16	**SAND (15.0'-35.0') SP** Light brown, moist, fine grained, with silt, loose			I	1.7/2	SS	M	2 2 4 3	–	6.8	
18				J	1.8/2	SS	M	– – – –	–	7.5	*Collected sample at 17.0-19.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
20 / 6	Grades to trace silt at 19.0'			K	1.7/2	SS	M	– – – –	–	1.0	

Clayton GROUP SERVICES

BORING NO: MP-81	WELL NO: MP-81C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
	Grades wet at 22.0'			L	1.6/2	SS	M/W	3 4 5 6	--	0.4	
23	Grades saturated at 23.5'			M	1.8/2	SS	M-S	3 4 4 3	--	7.0	
25	0.4-Foot silty clay seam, gray, moist, soft, high plasticity at 24.6'			N	1.9/2	SS	S	1 3 3 8	--	3.3	
8 27				O	1.6/2	SS	S	-- 1 1 2	--	3.7	
29				P	1.4/2	SS	S	1 3 5 9	--	3.4	*Collected sample at 29.0-31.0' for geotechnical analysis
31	Grades medium dense at 31.0'			Q	1/2	SS	S	2 8 10 13	--	3.7	
10 33				R	1.1/2	SS	S	2 6 8 12	--	6.8	
35	End of Boring at 35.0' **See monitoring well construction forms MP-81 A, B, and C for details regarding monitoring well construction.**										
37											
39											
12 41											

Boring/Well No.: MP-81C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-82	WELL NO: MP-82C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 789981.85N, 2316861.43E (MP-82C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 23.9-38.4' (MP-82C)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/19/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0830	
TOP of CASING ELEVATION: 431.61 (MP-82C)	G.S. ELEVATION: 431.94 (MP-82C)	FINISH DATE: 4/19/05	
RISER DIA/MTL/LGTH: 2"/PVC/23.6' (MP-82C)	DEV. METHODS: NA	FINISH TIME (hours): 1105	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-1.0')**										Hand auger 0.0'-8.0'
	FILL (1.0'-2.5') Silty clay, black, moist, soft			A	2/2	HA	M	–	–	0.0	
2	**SILTY SAND (2.5'-6.5') SM** Gray, moist, fine sand, medium dense, slight petroleum -like odor		Monitoring Well MP-82A, Monitoring Well MP-82B, Monitoring Well MP-82C	B	2/2	HA	M	–	–	0.2	
4				C	2/2	HA	M	–	–	4.3	
6 / 2	**SILTY CLAY (6.5'-11.8') CL** Gray, moist, low plasticity, stiff, slight petroleum-like odor			D	2/2	HA	M	–	–	11.5	*Collected sample at 7.0-8.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
8				E	0/1	SS	–	–	–	–	
10	Grades olive gray, orange-red mottles at 9.5'			F	1 8/2	SS	M	1 2 3 4	–	11.0	
12	**SILTY SAND (11.8'-17.6') SM** Light brown, moist, fine grained, loose, slight petroleum-like odor			G	1 6/2	SS	M	2 3 4 3	–	44.4	*Collected sample at 13.0-15.0' for analysis of BETX, MTBE, and Lead
14 / 4				H	1 9/2	SS	M	1 2 3 5	–	10.8	
16				I	1.8/2	SS	M	2 3 2 3	–	52.8	*Collected sample at 14.0-15.0' for geotechnical analysis
18	**SAND (17.6'-39.0') SP** Light brown, moist, fine sand, with silt, loose, slight petroleum-like odor			J	1 7/2	SS	M	2 4 3 5	–	96.0	
20 / 6	Grades some silt, petroleum-like odor at 19.5'			K	2/2	SS	M	3 4 5 4	–	585	

Boring/Well No.: MP-82C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-82	WELL NO: MP-82C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
				L	1.8/2	SS	M	3 4 4 5	--	1298	
23	Grades medium dense at 23.0'										
				M	1.9/2	SS	M	3 5 7 9	--	--	
	Grades trace silt at 24.5'										
25											
				N	1.8/2	SS	M	3 5 7 8	--	799	
8	Grades to black staining, medium dense, strong petroleum-like odor at 26.0'										
27											
				O	1.4/2	SS	M/W	3 6 7 2	--	678	
	Grades light brown, wet, fine to medium sand at 28.0'										
29											
				P	1.5/2	SS	W	8 6 7 7	--	590	
	Grades black staining at 30.0'										
31	Grades dark gray, saturated, loose at 31.0'										
				Q	1.4/2	SS	S	3 3 5 4	--	>2000	*Collected sample at 31.0-33.0' for geotechnical analysis
10											
33											
				R	1.1/2	SS	S	3 7 7 8	--	>2000	
35	Grades loose at 35.0'-37.0'										
				S	1.2/2	SS	S	1 2 2 3	--	>2000	
	Organic matter at 36.6'										
37											
				T	1.4/2	SS	S	2 3 7 9	--	>2000	
39											
12	End of Boring at 39.0' **See monitoring well construction forms MP-82 A, B, and C for details regarding monitoring well construction.**										
41											

Clayton GROUP SERVICES

BORING NO: MP-83	WELL NO: MP-83C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791063.83N, 2316395.22E (MP-83C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 22.4-41.9' (MP-83C)	CHECKED BY: L. Smith	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 5/3/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0840	
TOP of CASING ELEVATION: 426.79 (MP-83C)	G.S. ELEVATION: 427.19 (MP-83C)	FINISH DATE: 5/3/05	
RISER DIA/MTL/LGTH: 2"/PVC/22.0' (MP-83C)	DEV. METHODS: NA	FINISH TIME (hours): 1200	

DEPTH (ft)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 (0 m)	**CONCRETE (0.0'-0.5')**		Monitoring Well MP-83A; Monitoring Well MP-83B; Monitoring Well MP-83C								Hand auger 0.0'-8.0'
	FILL (0.5'-2.0') Clayey silt, dark brown, moist			A	2/2	HA	M	–	–	13.3	
2	**SILT (2.0'-5.0') ML** Brown, moist, low plasticity, soft			B	2/2	HA	M/W	–	–	5.3	
4	Grades wet at 3.0'			C	2/2	HA	W/M	–	–	4.3	
6 (2 m)	**SILTY CLAY (5.0'-13.0') CL** Brown, moist, orange mottles, medium plasticity, medium stiff			D	2/2	HA	M	–	–	5.3	*Collected sample at 6.0-8.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
8				E	0/1	–	–	–	–	–	
10				F	1 6/2	SS	M	1 3 4 4	–	60.0	
12	Grades olive brown, gray staining, slight petroleum-like odor at 12.0'			G	1 8/2	SS	M	1 2 2 3	–	26.2	*Collected sample at 15.0-15.5' for analysis of BETX, MTBE, and Lead
14 (4 m)	**SILT (13.0'-15.5') ML** Brown, moist, trace clay and fine sand, low plasticity, medium stiff, slight petroleum-like odor			H	1/2	SS	M	1 2 4 5	–	1271	*Collected sample at 17.0-19.0 for geotechnical analysis
16	**CLAYEY SILT (15.5'-20.0') ML** Brown, moist, gray mottles, medium plasticity, medium stiff, slight petroleum-like odor			I	1 7/2	SS	M	1 2 3 4	–	1754	
18				J	0 9/2	SS	M	– 2 2 4	–	1475	*Collected sample at 20.0-21.0' for analysis of BETX, MTBE, and Lead
20 (6 m)	**SILT (20.0'-23.5') ML** Olive brown, moist, some fine sand, trace clay, soft, low plasticity, petroleum-like odor			K	1 7/2	SS	M	– 1 2 4	–	1288	*Collected sample at 21.0-23.0' for geotechnical analysis
22	Grades wet, strong petroleum-like odor at 22.0'			L	1 8/2	SS	M/W	1 1 1 1	–	1655	

Clayton GROUP SERVICES

BORING NO: MP-83	WELL NO: MP-83C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
25	**SILTY CLAY (23.5'-33.0') CL** Gray, moist, soft, medium plasticity, strong petroleum-like odor			M	1.7/2	SS	W/M	– – 1 3	–	1398	*Collected sample at 23.5-25.0' for analysis of BETX, MTBE, and Lead
	0.3-Foot silty sand seam, wet at 23.7' 0.2-Foot sand seam, fine grained, saturated at 24.6'			N	1.8/2	SS	M-W	– – – 1	–	644	*Collected sample at 25.0-27.0' for geotechnical analysis
27	0.3-Foot silty sand seam, wet at 26.2'			O	1.6/2	SS	M-S	– – 1 2	–	282	
29	0.1-Foot sand seam, fine grained, saturated, at 28.3'										
9	0.2-Foot sand seam, fine to medium grained, saturated at 30.7'			P	2/2	SS	M-S	– – – 2	–	58.8	
31	0.5-Foot silt seam, wet at 31.5'			Q	1.8/2	SS	M-W	5 2 2 4	–	1257	
33	**SAND (33.0'-43.0') SW** Brown, saturated, fine to coarse grained, loose, petroleum-like odor			R	1.9/2	SS	S	– 2 5 5	–	1111	
35	Grades medium dense at 35.0'			S	1/2	SS	S	– 5 11 18	–	1148	*Collected sample at 35.0-37.0' for geotechnical analysis
11											
37	Grades trace fine subrounded-rounded gravel at 37.0'			T	0.2/2	SS	S	1 5 10 15	–	1159	
39				U	0.9/2	SS	S	1 5 10 15	–	71.8	
41				V	1.1/2	SS	S	3 7 9 13	–	58.3	
13											
43	End of Boring at 43.0' **See monitoring well construction forms MP-83 A, B, and C for details regarding monitoring well construction.**										
45											

Boring/Well No.: MP-83C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-84	WELL NO: MP-84C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 790292.49N, 2316897.82E (MP-84C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 25.0-39.4' (MP-84C)	CHECKED BY: D. Lamsma	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 5/2/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0945	
TOP of CASING ELEVATION: 432.18 (MP-84C)	G.S. ELEVATION: 432.43 (MP-84C)	FINISH DATE: 5/2/05	
RISER DIA/MTL/LGTH: 2"/PVC/24.6' (MP-84C)	DEV. METHODS: NA	FINISH TIME (hours): 1410	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.5')**										Hand auger 0.0'-10.0'
	FILL (0.5'-2.0') Gravel		Monitoring Well MP-84A	A	2/2	HA	M	–	–	4.7	
2	**SILT (2.0'-9.0') ML** Brown, moist, with fine sand, non-plastic, soft, petroleum-like odor		Monitoring Well MP-84B	B	2/2	HA	M	–	–	86.2	
4			Monitoring Well MP-84C	C	2/2	HA	M	–	–	1726	
6 / 2	0.4-Foot silty clay seam at 7.6'			D	2/2	HA	M	–	–	1780	
8	Grades trace clay, low plasticity at 8.0			E	2/2	HA	M	–	–	726	*Collected sample at 9.0-10.0' for analysis of BETX, MTBE, and Lead
10	**CLAYEY SILT (9.0'-11.0') ML** Gray, moist, orange mottles, medium stiff, medium plasticity, petroleum-like odor			F	–	–	–	–	–	–	
12 / 4	**SILTY CLAY (11.0'-15.8') CL** Brown, moist, medium stiff, medium plasticity, petroleum-like odor			G	1.7/2	SS	M	1 2 3 5	–	1474	*Collected sample at 11.0-13.0' for geotechnical analysis
14				H	1.9/2	SS	M	1 2 4 5	–	569	
16	**SILTY SAND (15.8'-17.0') SM** Light brown, moist, fine sand, loose, strong petroleum-like odor			I	1.7/2	SS	M	2 2 7 7	–	597	*Collected sample at 17.0-19.0' for analysis of BETX, MTBE, and Lead
18	**SAND (17.0'-40.0') SP** Light brown, moist, fine grained, trace silt, loose, strong petroleum-like odor			J	1.6/2	SS	M	1 2 4 6	–	1420	
20 / 6	0.2-Foot clay seam at 18.5'			K	1.5/2	SS	M	1 2 3 3	–	1413	*Collected sample at 19.0-21.0' for geotechnical analysis

Clayton GROUP SERVICES

BORING NO: MP-84	WELL NO: MP-84C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
				L	1.6/2	SS	M	1 2 3 4	--	1596	
23				M	1/2	SS	M	1 2 3 5	--	1004	
25				N	1.8/2	SS	M	1 2 3 4	--	1315	
8											
27	Grades gray, wet at 27.0'			O	1/2	SS	W	-- 3 3 4	--	344	
29				P	1.7/2	SS	W/S	-- 2 2 3	--	359	
31	Grades saturated, sheen on water at 30.5'			Q	1.3/2	SS	S	-- 2 3 3	--	1559	
33	10 Grades fine to medium sand at 32.7'			R	1.2/2	SS	S	-- 2 3 4	--	685	
35				S	1/2	SS	S	1 4 6 15	--	948	*Collected sample at 35.0-37.0' for geotechnical analysis
37				T	1/2	SS	S	4 5 8 16	--	899	
39	12 End of Boring at 40.0'			U	0/1	SS	S	2 4	--	--	No Recovery from 39.0-40.0'
41	See monitoring well construction forms MP-84 A, B, and C for detail regarding monitoring well construction.										

Boring/Well No.: MP-84C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-85	WELL NO: MP-85D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 791207.56N, 2317307.67E (MP-85D)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 40.0-49.5' (MP-85D)	CHECKED BY: L. Smith	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/21/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 1235	
TOP of CASING ELEVATION: 427.86 (MP-85D)	G.S. ELEVATION: 428.41 (MP-85D)	FINISH DATE: 4/21/05	
RISER DIA/MTL/LGTH: 2"/PVC/40.8' (MP-85D)	DEV. METHODS: NA	FINISH TIME (hours): 1710	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**ASPHALT (0.0'-0.3')**										Hand auger 0.0-8.0'
	FILL (0.3'-2.0') Gravel		Monitoring Well MP-85A	A	2/2	HA	M	–	–	0.0	
2	**SILTY CLAY (2.0'-7.0') CL** Black, moist, medium plasticity, very stiff		Monitoring Well MP-85B	B	2/2	HA	M	–	–	1.4	
4	Grades olive gray with orange mottles at 4.0'		Monitoring Well MP-85C	C	2/2	HA	M	–	–	0.9	*Collected sample at 4.0-6.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
6 / 2			Monitoring Well MP-85D	D	2/2	HA	M	–	–	2.0	
8	**CLAYEY SILT (7.0'-9.5') ML** Olive green, moist, non-plastic, slight petroleum odor			E	0/1	–	–	–	–	–	*Collected sample at 9.0-11.0' for analysis of BETX, MTBE, and Lead
10	**SILT (9.5'-15.5') ML** Olive gray, moist, very soft, non-plastic, slight petroleum-like odor			F	1 8/2	SS	M	1 1 1 2	–	29.4	
12	0.4-Foot silty clay seam, moist at 10.6'			G	1 7/2	SS	M/W	– – 1 1	–	3.8	*Collected sample at 11.0-13.0' for geotechnical analysis
4	0.2-Foot silty clay seam, moist at 11.7'										
14	Grades wet at 12.0' 0.3-Foot silty clay seam, moist at 12.7'			H	1 5/2	SS	W	– – – 2	–	279	
16	**SILTY SAND (15.5'-17.5') SM** Olive brown, saturated, fine sand, very soft, petroleum-like odor			I	1 6/2	SS	W/S	– – 1 2	–	157	
18				J	1 8/2	SS	S/W	– – 1 4	–	50.1	

Clayton GROUP SERVICES

BORING NO: MP-85	WELL NO: MP-85D	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
	SILT (17.5'-19.5') ML Olive brown, wet, trace fine sand, very soft, petroleum-like odor Grades saturated, sheen, strong petroleum-like odor at 19.0'										
20	**SAND (19.5'-20.8') SP** Brown, saturated, fine sand, trace silt, loose, strong petroleum-like odor			K	1.9/2	SS	S	1 2 3 3	--	35.8	
22	**SILT (20.8'-28.0') ML** Brown, saturated, trace fine sand, very soft, strong petroleum-like odor			L	1.6/2	SS	S	-- -- -- --	--	5.5	
7	0.2-Foot silty clay seam, gray, moist at 22.5'										
24	Grades wet at 24.0'			M	1.6/2	SS	W	-- -- -- --	--	13.2	
26				N	0.4/2	SS	W	-- 1 1 2	--	--	
	Wood pieces from 27.5 to 28.0'										
28	**SILTY CLAY (28.0'-30.0') CL** Gray, moist, very soft, high plasticity, petroleum-like odor			O	1.9/2	SS	W/M	-- -- -- --	--	10.7	*Collected sample at 28.0-29.0' for geotechnical analysis
9											
30	**SAND (30.0'-35.5') SP** Reddish brown, saturated, fine to medium sand, loose, petroleum-like odor			P	1.8/2	SS	M/S	-- -- 2 2	--	224	*Collected sample at 29.0-30.0' for analysis of BETX, MTBE, and Lead
32	Grades medium dense at 31.0'			Q	1.1/2	SS	S	3 5 8 8	--	1255	
	Strong petroleum-like odor at 33.0'										*Collected sample at 33.0-35.0' for geotechnical analysis
34				R	1/2	SS	S	2 3 4 3	--	657	*Collected sample at 37.0-39.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
36	**SILT (35.5'-37.0') ML** Gray, wet, trace fine sand, soft, strong petroluem-like odor			S	1.9/2	SS	S/W	1 1 2 4	--	62.9	
11											

Clayton GROUP SERVICES

BORING NO: MP-85	WELL NO: MP-85D	PROJECT NO: 15-03095.13-001	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
39	**CLAYEY SILT (37.0'-40.0') ML** Gray, moist, very soft, low plasticity, petroleum-like odor			T	1.9/2	SS	M	– – – –	–	1159	
41	**SAND (40.0'-50.0') SW** Brown, saturated, fine to coarse grained, some fine subrounded gravel, loose, petroleum-like odor			U	1.6/2	SS	M/S	1 1 4 6	–	215	*Collected sample at 41.0-43.0' for geotechnical analysis
43 (13)	Grades medium dense at 41.0 feet			V	1.1/2	SS	S	3 6 10 14	–	299	
45				W	1/2	SS	S	1 4 13 17	–	102	
47				X	0.9/2	SS	S	2 4 7 9	–	24.2	
49 (15)	Grades no fine gravel at 48.0'			Y	0.8/2	SS	S	2 4 3 6	–	7.9	
				Z	0.7/1	SS	S	4 3	–	0.2	
51	End of Boring at 50.0' **See monitoring well construction forms MP-85 A, B, and C for details regarding monitoring well construction.**										
53											
55											

Clayton GROUP SERVICES

BORING NO: MP-86	WELL NO: MP-86C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 790074.27N, 2316798.60E (MP-86C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: H. Mendygral	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 25.0-39.5' (MP-86C)	CHECKED BY: M. Muller	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/26/05	
BOREHOLE DIA: 8.5 inches	STICKUP: NA	START TIME (hours): 1230	
TOP of CASING ELEVATION: 431.20 (MP-86C)	G.S. ELEVATION: 431.61 (MP-86C)	FINISH DATE: 4/26/05	
RISER DIA/MTL/LGTH: 2"/PVC/24.7' (MP-86C)	DEV. METHODS: NA	FINISH TIME (hours): 1745	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**FILL/CONCRETE (0.0'-1.0')**		Monitoring Well MP-86A, Monitoring Well MP-86B, Monitoring Well MP-86C	A	--	--	--	--	--	--	Hand auger 0.0'-9.0'
2	**FILL (1.0'-5.0')** Silt, medium brown, moist, with fine sand and gravel			B	2/2	HA	M	--	--	0.0	
4				C	2/2	HA	M	--	--	0.0	
6 / 2	**FILL (5.0'-6.5')** Sand, medium brown, moist, fine grained			D	2/2	HA	M	--	--	1.5	
8	**SILTY CLAY (6.5'-10.1') CL** Gray, moist, trace fine sand, stiff Grades dark gray at 7.5'			E	2/2	HA	M	--	--	3.5	*Collected sample at 7.0-9.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
10	**CLAYEY SILT (10.1'-11.1') ML** Green to blue gray, moist, trace fine sand, soft			F	1.9/2	SS	M	1 2 3 5	1.5	1.1	
12 / 4	**SANDY SILT (11.1'-14.5') ML** Medium brown, moist, brown mottles, fine grained, slight petroleum-like odor			G	1.7/2	SS	M	2 4 3 3	10.5	4.5	*Collected sample at 13.0-15.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
14				H	2/2	SS	M/W	2 4 3 2	17.3	1.4	
16	**SILT (14.5'-17.4') ML** Medium brown, wet, some fine sand, medium stiff, slight petroleum-like odor Grades moist, soft at 15.0' Grades gray, brown mottles at 16.0'			I	1.7/2	SS	M	1 2 3 3	51.8	69.3	*Collected sample at 17.0-19.0' for analysis of BETX, MTBE, and Lead
18	**SAND (17.4'-28.0') SP** Medium brown, moist, gray mottles, fine grained, some silt, medium dense, petroleum-like			J	1.8/2	SS	M	4 5 7 10	864	1005	*Collected sample at 19.0-21.0' for geotechnical analysis
20 / 6	Grades to trace silt, strong petroleum-like odor at 21.0'			K	1.5/2	SS	M	2 5 7 8	1954	>2000	

Boring/Well No.: MP-86C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-86	WELL NO: MP-86C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
				L	1 7/2	SS	M	2 4 5 7	>2000	>2000	
23				M	1 5/2	SS	M	3 6 6 5	1582	1852	
25				N	1 7/2	SS	M	3 5 7 6	1459	1905	
8 27				O	1 6/2	SS	M	4 7 8 8	1832	>2000	
29	SAND (28.0'-41.0') SW Medium brown, moist, fine to medium grained, medium dense, strong petroleum-like odor			P	1 5/2	SS	M/W	1 9 10 12	1745	>2000	
	Grades wet at 30.0'										
31	Grades gray, saturated, fine to coarse sand, strong petroleum-like odor at 31.0'			Q	1 7/2	SS	S	4 5 7 8	>2000	>2000	
10 33	Free product present at 34 0'			R	2/2	SS	S	4 9 10 13	>2000	>2000	
35				S	1 3/2	SS	S	1 4 7 2	>2000	>2000	
37	Grades to black staining, soft at 37.0'			T	1 5/2	SS	S	1 2 5 7	>2000	>2000	
39 12	See monitoring well construction forms MP-86 A, B, and C for details regarding monitoring well construction.			U	0 5/2	SS	S	1 3 6 4	>2000	>2000	
41	End of Boring at 41.0'										

Boring/Well No.: MP-86C Soil Boring

Clayton GROUP SERVICES

BORING NO: MP-87	WELL NO: MP-87C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 790166.15N, 2316974.60E (MP-87C)	
DRILLING CO: Terra Drill	DRILLER: J. Gates	LOGGED BY: M. Mueller	
DRILLING EQUIP: CME 75/HSA	SCREEN INTERVAL: 24.9-39.4' (MP-87C)	CHECKED BY: L. Smith	
STATIC WATER LEVEL: NA	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 4/22/05	
BOREHOLE DIA: 8.5"	STICKUP: NA	START TIME (hours): 0810	
TOP of CASING ELEVATION: 432.08 (MP-87C)	G.S. ELEVATION: 432.40 (MP-87C)	FINISH DATE: 4/22/05	
RISER DIA/MTL/LGTH: 2"/PVC/24.5' (MP-87C)	DEV. METHODS: NA	FINISH TIME (hours): 1105	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0 / 0	**GRAVEL (0.0'-1.0')**		Monitoring Well MP-87A, Monitoring Well MP-87B, Monitoring Well MP-87C								Hand auger 0.0'-8.0'
	FILL (1.0'-4.0') Silty clay, black, moist, brick fragments			A	2/2	HA	M	--	--	3.3	
2				B	2/2	HA	M	--	--	0.9	
4	**SILT (4.0'-6.5') ML** Brown, moist, trace clay 0.5-Foot silty sand seam, light brown, wet, fine sand at 6.0'			C	2/2	HA	M	--	--	3.3	
6 / 2	**SILTY CLAY (6.5'-14.0') CL** Gray, moist, medium plasticity, stiff, slight petroleum-like odor			D	2/2	HA	W/M	--	--	4.6	*Collected sample at 7.0-8.0' for analysis of BETX, MTBE, and Lead
8	Grades medium stiff at 9.0'			E	--	--	--	--	--	--	
10				F	1.9/2	SS	M	2 2 4 4	--	11.7	*Collected sample at 7.5' for geotechnical analysis
12				G	1.7/2	SS	M	1 2 3 5	--	30.9	
14 / 4	**SAND (14.0'-40.0) SP** Light brown, moist, fine grained, some silt, loose, petroleum-like odor			H	1.5/2	SS	M	2 3 5 6	--	1143	
16				I	1.6/2	SS	M	2 2 3 4	--	1986	*Collected sample at 15.0-17.0' for analysis of BETX, MTBE, Lead, and geotechnical analysis
18	0.2-Foot silty clay seam at 18.5'			J	1.6/2	SS	M	2 4 6 7	--	1814	
20 / 6				K	1.7/2	SS	M	2 4 5 5	--	>2000	

Boring/Well No.: MP-87C Soil Boring

Clayton GROUP SERVICES

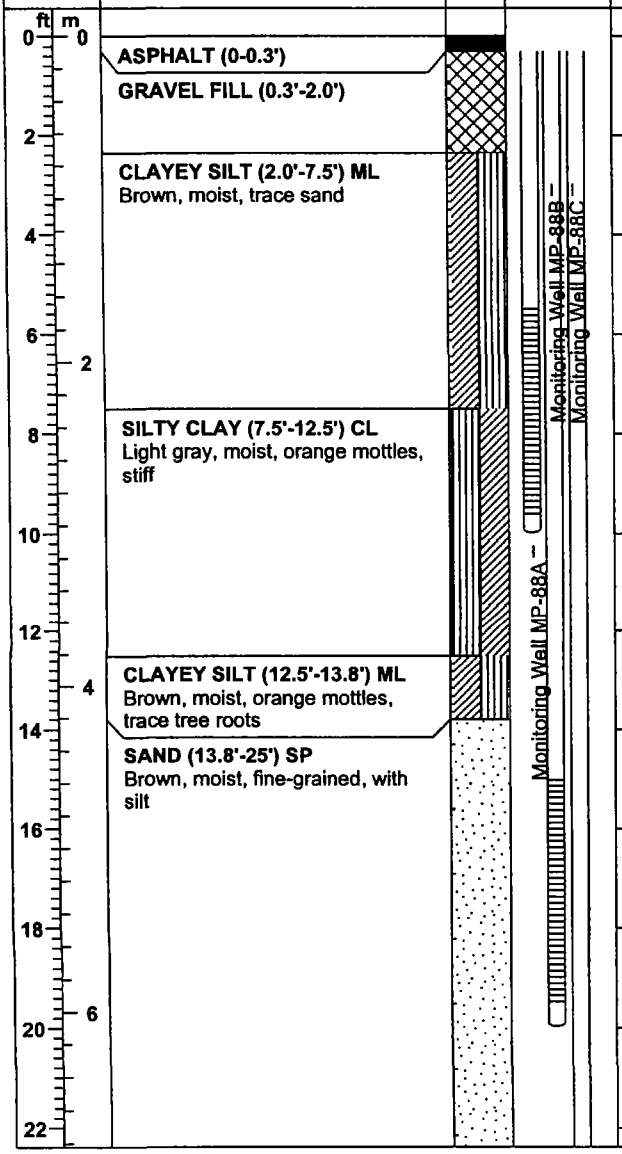
BORING NO: MP-87	WELL NO: MP-87C	PROJECT NO: 15-03095.13-007	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
				L	1 6/2	SS	M	2 4 3 2	–	1467	
23				M	1.7/2	SS	M	1 3 3 3	–	1226	
25				N	1.8/2	SS	M	1 2 3 6	–	1074	
8 27	Grades wet, black staining at 28.0'			O	1.7/2	SS	M/W	2 3 3 5	–	1278	
29	Grades fine to medium sand at 29.5' Grades saturated at 30 5'			P	1.7/2	SS	W/S	2 3 4 5	–	996	
31	Grades medium dense at 31 0'			Q	1 6/2	SS	S	5 9 11 2	–	1270	
10 33				R	1.1/2	SS	S	2 7 10 12	–	1354	*Collected sample at 33.0-35.0' for geotechnical analysis
35				S	1 6/2	SS	S	2 3 8 10	–	1215	
37	Grades fine sand at 37 5'			T	1.2/2	SS	S	2 3 7 9	–	1586	
39 12	End of Boring at 40.0'			U	0.4/1	SS	S	5 2	–	–	
41	See monitoring well construction forms MP-87 A, B, and C for details regarding well construction.										

Boring/Well No.: MP-87C Soil Boring

BORING NO: MP-88	WELL NO: MP-88C	PROJECT NO: 15-03095.13-011	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 2317244.74E, 789659.35N (MP-88C)	

DRILLING CO: Terra Drill	DRILLER: T. Marlo	LOGGED BY: A. Schultz
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 23.0'-37.6' (MP-88C)	CHECKED BY: M. Mueller
STATIC WATER LEVEL: 32.21 ft bgs (MP-88C)	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 8/2/05
BOREHOLE DIA: 8.5"	STICKUP: -0.31 ft (MP-88C)	START TIME (hours): 1235
TOP of CASING ELEVATION: 430.51 (MP-88C)	G.S. ELEVATION: 430.82 (MP-88C)	FINISH DATE: 8/2/05
RISER DIA/MTL/LGTH: 2"/PVC/22.69' (MP-88C)	DEV. METHODS: Pumped	FINISH TIME (hours): 1502



DEPTH (ft)	DESCRIPTION	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
0	**ASPHALT (0-0.3')**								Hand auger 0.0'-10.0'
	GRAVEL FILL (0.3'-2.0')	A	2/2	HA	M	–	–	5.4	
2	**CLAYEY SILT (2.0'-7.5') ML** Brown, moist, trace sand	B	2/2	HA	M	–	–	8.7	
4		C	2/2	HA	M	–	–	8.8	
6		D	2/2	HA	M	–	–	12.1	*Collected sample at 8.0'-10.0' for analysis of BETX, MTBE, and lead
8	**SILTY CLAY (7.5'-12.5') CL** Light gray, moist, orange mottles, stiff	E	2/2	HA	M	–	–	13.6	
10		F	2/2	SS	M	1 2 3 4	–	20.5	*Collected sample at 10.0'-12.0' for geotechnical analysis
12	**CLAYEY SILT (12.5'-13.8') ML** Brown, moist, orange mottles, trace tree roots	G	2/2	SS	M	1 2 4 5	–	23.3	
14	**SAND (13.8'-25') SP** Brown, moist, fine-grained, with silt	H	1.7/2	SS	M	2 4 6 6	–	67.5	*Collected sample at 14.0'-16.0' for BETX, MTBE,and leads
16		I	1.5/2	SS	M	1 2 6 6	–	71.5	
18		J	1/2	SS	M	– 3 4 5	–	608	* Collected sample at 14.0'-18.0' for geotechnical analysis
20		K	1/2	SS	M	1 3 6 6	–	19.1	
22									

Boring/Well No.: MP-88

BORING NO: MP-88	WELL NO: MP-88C	PROJECT NO: 15-03095.13-01	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	PID HEADSPACE	REMARKS
24				L	2/2	SS	M	1 6 7 7	–	34.4	
26 (8)	**SAND (25.0'-40.0') SW** Brown, moist, fine to medium-grained, strong petroleum-like odor			M	1/2	SS	M	1 4 11 10	–	782	
28	Grades wet at 27'			N	2/2	SS	M/W	– 4 7 9	–	961	
30				O	1/2	SS	W	– 3 9 9	–	764	
32 (10)	Grades to gray, saturated at 30.9'			P	1.2/2	SS	W/S	1 4 6 6	–	418	
34	Grades to fine to coarse-grained at 32.7'			Q	1.2/2	SS	S	2 5 9 13	–	179	
36	Grades to fine to medium-grained at 34.6'			R	1.3/2	SS	S	1 10 17 20	–	128	*Collected sample at 34.0'-38.0' for geotechnical analysis
38				S	2/2	SS	S	– 1 1 4	–	82.8	
40 (12)				T	2/2	SS	S	1 2 6 10	–	112	
42	**End of Boring at 40.0'** **See monitoring well construction forms MP-88A, B, and C for details regarding monitoring well construction.**										
44											

BORING NO: MP-89	WELL NO: MP-89C	PROJECT NO: 15-03095.13-011	PROJECT NAME: Hartford Working Group
BORING LOCATION: Hartford, Illinois		COORDINATES: 2317227.41E, 789500.48N (MP-89C)	
DRILLING CO: Terra Drill	DRILLER: T. Marlo	LOGGED BY: A. Schultz	
DRILLING EQUIP: CME-75/HSA	SCREEN INTERVAL: 23.0'-37.6' (MP-89C)	CHECKED BY: M. Mueller	
STATIC WATER LEVEL: 30.69 ft bgs (MP-89C)	SCREEN MTL/SLOT: PVC/0.010"	START DATE: 8/1/05	
BOREHOLE DIA: 8.5"	STICKUP: -0.30 ft (MP-89C)	START TIME (hours): 0900	
TOP of CASING ELEVATION: 429.25 ft (MP-89C)	G.S. ELEVATION: 429.55 ft (MP-89C)	FINISH DATE: 8/1/05	
RISER DIA/MTL/LGTH: 2"/PVC/22.7' (MP-89C)	DEV. METHODS: Pumped	FINISH TIME (hours): 1527	

DEPTH (ft / m)	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
0	**GRAVEL FILL (0'-2.0')**		Monitoring Well MP-89A; Monitoring Well MP-89B; Monitoring Well MP-89C	A	2/2	HA	M	–	–	14.7	Hand auger 0.0'-10.0'
2	**CLAYEY SILT (2.0'-8.0') ML** Black, moist, low plasticity			B	2/2	HA	M	–	–	28.2	
4	Grades to brown at 4.0'			C	2/2	HA	M	–	–	19.1	*Collected sample at 4.0'-6.0' for analysis of BETX, MTBE, lead, and geotechnical analysis
6 (2 m)				D	2/2	HA	M	–	–	18.6	
8	**SILTY CLAY (8.0'-14.8') CL** Brown with orange mottles, moist, high plasticity			E	2/2	HA	M	–	–	32.0	
10				F	2/2	SS	M	–	–	27.4	
12 (4 m)				G	2/2	SS	M	2 3 3 –	–	11.1	
14	Black mottles at 14.7'			H	2/2	SS	M	– 2 3 3	–	7.4	*Collected sample at 14.0'-16.0' for BETX, MTBE, lead, and geotechnical analysis
16	**SANDY SILT(14.8'-20') ML** Brown, moist, orange mottles Wet at 16.3'			I	2/2	SS	M/W	– 2 – –	–	4.1	
18	Grades to gray with orange mottles at 16.5' Slight petroleum-like odor at 18.0'-20.0'			J	1.6/2	SS	W	– 5 – –	–	1.9	*Collected sample at 20.0'-22.0' for geotechnical analysis
20 (6 m)	**SAND (20.0'-38.0') SP** Brown, moist, fine grained			K	1.8/2	SS	M	– 6 5 7	–	1.9	
22											

BORING NO: MP-89	WELL NO: MP-89C	PROJECT NO: 15-03095.13-01	PROJECT NAME: Hartford Working Group

DEPTH	DESCRIPTION	GRAPHIC	WELL	SAMPLES NUMBER	RECOVERY	METHOD	MOISTURE	BLOW CNT (6")	PID SCAN	HEADSPACE	REMARKS
24				L	2/2	SS	M	1 6 11 11	–	0.8	*Collected sample at 22.0'-24.0' for BETX, MTBE, and lead analysis
26				M	2/2	SS	M	1 6 9 9	–	0.6	
8				N	2/2	SS	M	1 5 9 10	–	0.6	
28	Grades to fine to medium-grained sand at 27.5										
	Grades wet at 29.0'			O	2/2	SS	M/W	1 5 11 11	–	1.6	
30	Grades saturated at 30.0'										
				P	1.5/2	SS	S	1 3 7 11	–	1.6	
32											
10	Grades to wet, strong petroleum-like odor at 33.0'			Q	1/2	SS	S/W	– 1 3 5	–	24.2	
34											
				R	2/2	SS	W	– 1 2 3	–	41.4	
36											
				S	0.8/2	SS	W	1 6 12 16	–	19.1	
38											
12	End of Boring at 38.0'										
40											
42	See monitoring well constuction forms MP-89A, B, and C for details regarding monitoring well construction.										
44											

Boring/Well No.: MP-89

BUREAU VERITAS

APPENDIX A-2

WELL CONSTRUCTION SUMMARY

APPENDIX A-2
Well Construction Summary
Hartford Area Hydrocarbon Plume Site

WORK IN PROGRESS

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Installation Date	Abandonment Date	Last Survey Date	Ground Elevation (ft MSL)	Location (1) Northing	Location (1) Easting	Depth of Boring from GS (ft)	Total Well Depth from GS (ft)	Stickup (ft)	Top of Well Casing Elevation (ft MSL)	Bottom of Well Elevation (Sump) (ft MSL)	Well ID (in)	Well Material Riser	Well Material Screen	Riser Length (ft)	Screen Length 1st slot to last slot (ft)	Bottom of Screen to End Cap (ft)	Screen Depth Top Slot from GS (ft)	Screen Depth Top Slot Elevation (ft MSL)	Screen Depth Bottom Slot from GS (ft)	Screen Depth Bottom Slot Elevation (ft MSL)	Hydrostratigraphic Information Soil Screened	Soil Boring Log	Well Completion Report	Stratum Screened
HMW-44D	08/11/05	NA	09/14/05	429.82	790116.48	2317678.52	50.00	50.00	-0.06	429.76	379.82	2	PVC	PVC.010	44.94	4.40	0.6	45.00	384.82	49.40	380.42	Fine to coarse sand	Yes	Yes	Main Sand (below LNAPL)
HMW-54C	08/08/05	NA	09/14/05	429.85	789867.08	2317731.88	50.00	49.70	-0.29	429.56	380.15	2	PVC	PVC.010	44.41	4.70	0.3	44.70	385.15	49.40	380.45	Fine to coarse sand	Yes	Yes	Main Sand (below LNAPL)
HMW-53B	08/09/05	NA	09/14/05	429.97	789716.85	2317754.38	44.00	41.00	-0.21	429.76	388.97	2	PVC	PVC.010	25.79	14.40	0.6	26.00	403.97	40.40	389.57	Silt, sandy silt, fine to coarse sand	Yes	Yes	Main Silt/Main Sand
HMW-53A	08/10/05	NA	09/14/05	429.97	789721.77	2317753.17	16.50	15.80	-0.24	429.73	414.17	2	PVC	PVC.010	10.56	4.50	0.5	10.80	419.17	15.30	414.67	Silt	Yes	Yes	N.Olive
HMW-53C	08/10/05	NA	09/14/05	429.97	789708.30	2317755.56	48.00	47.00	-0.31	429.66	382.97	2	PVC	PVC.010	41.69	4.70	0.3	42.00	387.97	46.70	383.27	Fine to coarse sand	Yes	Yes	Main Sand (below LNAPL)
HMW-54A	08/10/05	NA	09/14/05	429.85	789858.03	2317733.01	16.70	15.70	-0.31	429.54	414.15	2	PVC	PVC.010	10.39	4.50	0.5	10.70	419.15	15.20	414.65	Sandy silt	Yes	Yes	N.Olive
HMW-54B	08/10/05	NA	09/14/05	429.85	789862.45	2317732.55	47.00	44.50	-0.30	429.55	385.35	2	PVC	PVC.010	29.20	14.40	0.6	29.50	400.35	43.90	385.95	Silt, sandy silt, fine to coarse sand	Yes	Yes	Main Sand
HP-01A	06/03/05	NA	07/13/05	426.35	788259.05	2315811.29	40.00	40.00	-0.51	425.84	386.35	2	PVC	PVC.010	24.18	14.60	0.71	24.69	401.66	39.29	387.06	Fine to medium sand	Yes	Yes	Main Sand
HP-01B	06/03/05	NA	07/13/05	426.28	788252.78	2315809.97	68.00	68.00	-0.51	425.77	358.28	2	PVC	PVC.010	62.23	4.45	0.71	62.84	363.44	67.29	358.99	Medium to coarse sand, fine gravel	Yes	Yes	Main Sand (Deep Nest well)
HP-01C	06/02/05	NA	07/13/05	426.14	788248.10	2315808.23	100.00	98.00	-0.30	425.84	328.14	2	PVC	PVC.010	92.70	4.44	0.56	93.00	333.14	97.44	328.70	Fine to medium sand	Yes	Yes	Main Sand (Deep Nest well)
HP-02	06/14/05	NA	07/13/05	430.26	788402.12	2315938.11	45.00	40.33	-0.34	429.92	389.93	2	PVC	PVC.010	24.95	14.50	0.54	25.29	404.97	39.79	390.47	Fine sand	Yes	Yes	Main Sand
HP-03A	06/07/05	NA	07/13/05	429.64	788560.11	2316128.57	45.00	45.00	-0.36	429.28	384.64	2	PVC	PVC.010	29.62	14.48	0.54	29.98	399.66	44.46	385.18	Fine sand	Yes	Yes	Main Sand
HP-03B	06/07/05	NA	07/13/05	429.62	788560.68	2316122.52	72.00	72.00	-0.38	429.24	357.62	2	PVC	PVC.010	66.59	4.47	0.56	66.97	362.65	71.44	358.18	Medium sand, trace coarse sand and gravel	Yes	Yes	Main Sand (Deep Nest well)
HP-03C	06/06/05	NA	07/13/05	429.48	788561.28	2316116.08	128.00	102.00	-0.38	429.10	327.48	2	PVC	PVC.010	96.62	4.46	0.54	97.00	332.48	101.46	328.02	Medium sand, trace fine and coarse sand	Yes	Yes	Main Sand (Deep Nest well)
HP-04A	06/14/05	NA	07/13/05	431.30	788949.91	2316773.74	45.40	45.38	-0.36	430.94	385.92	2	PVC	PVC.010	29.99	14.49	0.54	30.35	400.95	44.84	386.46	Fine to medium sand	Yes	Yes	Main Sand
HP-04B	06/14/05	NA	07/13/05	431.31	788942.91	2316773.68	73.50	73.26	-0.37	430.94	358.05	2	PVC	PVC.010	68.65	4.44	0.54	68.28	363.03	72.72	358.59	Fine to coarse sand, some fine gravel	Yes	Yes	Main Sand (Deep Nest well)
HP-04C	06/08/05	NA	07/13/05	431.32	788937.06	2316773.65	120.00	103.21	-0.36	430.96	328.11	2	PVC	PVC.010	97.87	4.44	0.54	98.23	333.09	102.67	328.65	Fine to medium sand, trace coarse sand and gravel	Yes	Yes	Main Sand (Deep Nest well)
HP-05A	06/04/05	NA	07/13/05	424.93	787986.16	2315709.46	120.00	40.00	-0.51	424.42	384.93	2	PVC	PVC.010	24.39	14.46	0.55	24.99	399.94	39.45	385.48	Fine sand	Yes	Yes	Main Sand
HP-05B	06/05/05	NA	07/13/05	424.89	787996.98	2315713.75	66.50	66.00	-0.31	424.58	358.89	2	PVC	PVC.010	60.70	4.45	0.54	61.01	363.88	65.46	359.43	Fine to medium sand	Yes	Yes	Main Sand (Deep Nest well)
HP-05C	06/04/05	NA	07/13/05	424.88	787989.95	2315711.31	127.00	96.00	-0.45	424.43	328.88	2	PVC	PVC.010	90.55	4.45	0.55	91.00	333.88	95.45	329.43	Fine to medium sand	Yes	Yes	Main Sand (Deep Nest well)
HP-06	06/05/05	NA	07/13/05	426.26	787922.62	2315795.76	45.00	40.00	-0.38	425.88	386.26	2	PVC	PVC.010	24.60	14.48	0.54	24.98	401.28	39.46	386.80	Fine sand	Yes	Yes	Main Sand
HP-07	06/14/05	NA	07/13/05	429.40	787771.17	2316105.93	45.60	45.55	-0.36	429.04	383.85	2	PVC	PVC.010	30.19	14.45	0.55	30.55	398.85	45.00	384.40	Fine to medium sand	Yes	Yes	Main Sand
HP-08	06/15/05	NA	07/13/05	430.07	788082.75	2316214.49	45.00	40.62	-0.26	429.81	389.45	2	PVC	PVC.010	25.32	14.49	0.55	25.58	404.49	40.07	390.00	Fine sand with some silt, clay, fine to medium sand	Yes	Yes	Main Sand
HP-09	06/15/05	NA	07/13/05	431.80	788081.06	2316668.94	45.50	45.21	-0.35	431.45	386.59	2	PVC	PVC.010	29.84	14.48	0.54	30.19	401.61	44.67	387.13	Fine to medium sand	Yes	Yes	Main Sand
HSVE-2S	04/21/05	NA	04/26/05	428.67	790901.22	2316468.01	18.0	18.00	-0.35	428.32	410.67	4	PVC	PVC.020	7.55	9.50	0.6	7.90	420.77	17.40	411.27	Not logged	No	Yes	N.Olive
HSVE-3S	04/19/05	NA	04/26/05	430.73	790904.90	2316661.87	17.0	17.00	-0.34	430.39	413.73	4	PVC	PVC.020	6.56	9.50	0.6	6.90	423.83	16.40	414.33	Not logged	No	Yes	N.Olive
HSVE-4S	04/21/05	NA	04/26/05	430.95	790911.01	2316885.78	17.0	17.00	-0.34	430.61	413.95	4	PVC	PVC.020	6.56	9.50	0.6	6.90	424.05	16.40	414.55	Not logged	No	Yes	N.Olive
HSVE-5S	04/22/05	NA	04/26/05	427.51	790600.56	2316516.76	11.0	11.00	-0.29	427.22	416.51	4	PVC	PVC.020	5.81	4.50	0.4	6.10	421.41	10.60	416.91	Not logged	No	Yes	N.Olive
HSVE-7S	04/26/05	NA	05/23/05	430.81	790594.35	2317136.62	11.0	11.00	-1.14	429.67	419.81	4	PVC	PVC.020	4.76	4.50	0.6	5.90	424.91	10.40	420.41	Not logged	No	Yes	N.Olive
HSVE-9S	05/02/05	NA	05/23/05	430.70	790289.53	2317163.82	12.0	12.00	-1.16	429.54	418.70	4	PVC	PVC.020	5.74	4.50	0.6	6.90	423.80	11.40	419.30	Not logged	No	Yes	"A" Clay
HSVE-10S	05/02/05	NA	05/23/05	430.90	790287.64	2317317.42	14.0	14.00	-1.17	429.73	416.90	4	PVC	PVC.020	7.83	4.50	0.5	9.00	421.90	13.50	417.40	Not logged	No	Yes	N.Olive
HSVE-11S	05/02/05	NA	05/23/05	430.20	790294.06	2317445.60	16.0	16.00	-1.31	428.89	414.20	4	PVC	PVC.020	4.59	9.50	0.6	5.90	424.30	15.40	414.80	Not logged	No	Yes	N.Olive
HSVE-12S	04/22/05	NA	04/26/05	428.74	789959.44	2317420.84	16.0	16.00	-0.34	428.40	412.74	4	PVC	PVC.020	5.66	9.50	0.5	6.00	422.74	15.50	413.24	Not logged	No	Yes	N.Olive
HSVE-17S	05/04/05	NA	05/23/05	431.38	789662.73	2317124.41	12.0	12.00	-1.20	430.18	419.38	4	PVC	PVC.020	5.5	4.70	0.6	6.70	424.68	11.40	419.98	Not logged	No	Yes	"A" Clay
HSVE-18S	05/04/05	NA	05/23/05	429.96	789662.77	2317407.24	12.0	12.00	-1.18	428.78	417.96	4	PVC	PVC.020	5.52	4.70	0.6	6.70	423.26	11.40	418.56	Not logged	No	Yes	"A" Clay
HSVE-19S	05/04/05	NA	05/23/05	429.20	789659.02	2317674.46	11.0	11.00	-1.51	427.69	418.20	4	PVC	PVC.020	4.19	4.70	0.6	5.70	423.50	10.40	418.80	Not logged	No	Yes	"A" Clay
HSVE-20S	02/08/05	NA	05/19/05	431.64	791564.68	2316713.19	16.40	16.40	-1.31	430.33	415.24	4	PVC	PVC.020	5.69	9.60	0.60	7.00	424.64	15.80	415.04	Silty clay, silt	Yes	Yes	N. Olive
HSVE-20D	04/27/05	NA	05/19/05	431.52	791576.45	2316726.23	28.0	27.00	-1.22	430.30	404.52	4	PVC	PVC.020	5.68	19.50	0.6	6.90	424.62	26.40	405.12	Silt, silty clay	Yes	Yes	N. Olive / Main Sand
HSVE-21	03/31/05	NA	05/19/05	432.08	790078.67	2316872.94	32.0	27.00	-0.01	432.07	405.08	4	PVC	PVC.020	~7.0	19.40	0.6	7.00	425.08	26.40	405.68	Unknown, silty clay, sand	Yes	Yes	N. Olive / Main Sand
HSVE-22	04/12/05	NA	05/19/05	431.43	790007.45	2317015.27	28.0	27.00	-0.64	430.79	404.43	4	PVC	PVC.020	6.26	19.50	0.6	6.90	424.53	26.40	405.03	Silty clay, sandy silt, fine sand	Yes	Yes	N. Olive / Main Sand
HSVE-23S	04/21/05	NA	04/26/05	430.39	791553.28	2316475.18	17.0	17.00	-0.43	429.96	413.39	4	PVC	PVC.020	6.47	9.50	0.6	6.90	423.49	16.40	413.99	Silty clay, clayey silt, silty clay	Yes	Yes	N. Olive / Main Sand
HSVE-23D	04/20/05	NA	04/26/05	430.39	791553.90	2316469.61	28.0	27.00	-0.49	429.90	403.39	4	PVC	PVC.020	6.51	19.40	0.6	7.00	423.39	26.40	403.99	Clayey silt, silty clay, silty sand	Yes	Yes	N. Olive / Main Sand
HSVE-24S	04/20/05	NA	04/26/05	431.67	791422.53	2316619.72	18.0	18.00	-0.39	431.28	413.67	4	PVC	PVC.020	7.51	9.50	0.6	7.90	423.77	17.40	414.27	Silty clay, clayey silt, silt, clayey silt	Yes	Yes	N. Olive / Main Sand
HSVE-24D	04/21/05	NA	04/26/05	431.62	791422.97	2316614.81	28.0	27.00	-0.42	431.20	404.62	4	PVC	PVC.020	6.58	19.40	0.6	7.00	424.62	26.40	405.22	Silty clay, clayey silt, silt, clayey silt, silty clay, silt	Yes	Yes	N. Olive / Main Sand

APPENDIX A-2
Well Construction Summary
Hartford Area Hydrocarbon Plume Site

WORK IN PROGRESS

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Installation Date	Abandonment Date	Last Survey Date	Ground Elevation (ft MSL)	Location (1) Northing	Location (1) Easting	Depth of Boring from GS (ft)	Total Well Depth from GS (ft)	Stickup (ft)	Top of Well Casing Elevation (ft MSL)	Bottom of Well Elevation (Sump) (ft MSL)	Well ID (in)	Well Material Riser	Well Material Screen	Riser Length (ft)	Screen Length 1st slot to last slot (ft)	Bottom of Screen to End Cap (ft)	Screen Depth Top Slot from GS (ft)	Screen Depth Top Slot Elevation (ft MSL)	Screen Depth Bottom Slot from GS (ft)	Screen Depth Bottom Slot Elevation (ft MSL)	Hydrostratigraphic Information Soil Screened	Soil Boring Log	Well Completion Report	Stratum Screened
HSVE-25S	04/18/05	NA	04/26/05	429.12	791212.38	2316476.05	16.0	16.00	-0.45	428.67	413.12	4	PVC	PVC.020	5.65	9.50	0.4	6.10	423.02	15.60	413.52	Clayey silt, silt, silty clay	Yes	Yes	N. Olive / Main Sand
HSVE-25D	04/27/05	NA	05/19/05	429.03	791212.45	2316471.07	28.0	27.20	-0.23	428.80	401.83	4	PVC	PVC.020	6.77	19.60	0.6	7.00	422.03	26.60	402.43	Clayey silt, silt, silty clay, silt	Yes	Yes	N. Olive / Main Sand
HSVE-26S	04/18/05	NA	04/26/05	429.99	791205.96	2316710.99	19.0	19.00	-0.40	429.59	410.99	4	PVC	PVC.020	8.50	9.50	0.6	8.90	421.09	18.40	411.59	Silt, clayey silt	Yes	Yes	N. Olive / Main Sand
HSVE-26D	04/29/05	NA	05/19/05	429.95	791206.75	2316706.26	28.0	27.00	-0.27	429.68	402.95	4	PVC	PVC.020	6.53	19.60	0.6	6.80	423.15	26.40	403.55	Clay, silt, clayey silt, silty clay, silt	Yes	Yes	N. Olive / Main Sand
HSVE-27S	09/30/05	NA	NA	NA	NA	NA	17.0	17.00	0.00	NA	NA	4	PVC	PVC.020	11.90	9.50	0.6	11.90	NA	16.40	NA	Clayey silt, sandy silt, silty clay, sandy silt	Yes	Yes	N. Olive
HSVE-27D	09/30/05	NA	NA	NA	NA	NA	29.8	27.00	0.00	NA	NA	4	PVC	PVC.020	20.20	6.50	0.6	20.20	NA	26.70	NA	Silty clay, clayey silt	Yes	Yes	"B" Clay / Rand
MP-68	11/29/04	NA	12/22/04	431.6	791409.88	2316734.98	17.00	17.00	-0.24	431.36	414.60	1	PVC	PVC.010	9.56	7.10	0.1	9.80	421.80	16.90	414.70	Silt, silty sand	Yes	Yes	N. Olive
MP-69	11/29/04	NA	12/22/04	431.7	791425.49	2316686.00	17.50	16.50	-0.13	431.57	415.20	1	PVC	PVC.010	11.47	4.80	0.1	11.60	420.10	16.40	415.30	Silt with clay	Yes	Yes	N. Olive
MP-70	11/30/04	NA	12/22/04	431.4	791483.76	2316623.95	17.00	16.50	-0.40	431.00	414.90	1	PVC	PVC.010	10.10	5.90	0.1	10.50	420.90	16.40	415.00	Clayey silt, silty sand	Yes	Yes	N. Olive
MP-71	11/30/04	NA	12/22/04	430.3	791568.76	2316505.74	17.00	16.00	-0.16	430.14	414.30	1	PVC	PVC.010	12.54	3.10	0.2	12.70	417.60	15.80	414.50	Silt	Yes	Yes	N. Olive
MP-72	11/30/04	NA	12/22/04	430.8	791584.88	2316565.29	16.00	16.00	-0.29	430.51	414.80	1	PVC	PVC.010	11.31	4.20	0.2	11.60	419.20	15.80	415.00	Silt, sandy silt	Yes	Yes	N. Olive
MP-73	12/08/04	NA	12/22/04	431.1	791586.05	2316662.38	17.00	17.00	-0.14	430.96	414.10	1	PVC	PVC.010	8.56	8.15	0.15	8.70	422.40	16.85	414.25	Silty clay, silt, sandy silt	Yes	Yes	N. Olive
MP-74	12/08/04	NA	12/22/04	431.6	791569.46	2316718.98	18.00	18.00	-0.22	431.38	413.60	1	PVC	PVC.010	10.63	7.00	0.15	10.85	420.75	17.85	413.75	Silt	Yes	Yes	N. Olive
MP-75	12/09/04	NA	12/22/04	430.8	791614.17	2316753.09	18.50	18.50	-0.14	430.66	412.30	1	PVC	PVC.010	11.36	6.85	0.15	11.50	419.30	18.35	412.45	Silt, silty clay	Yes	Yes	N. Olive
MP-76	12/09/04	NA	12/22/04	430.9	791580.93	2316776.87	17.50	17.50	-0.15	430.75	413.40	1	PVC	PVC.010	10.35	6.85	0.15	10.50	420.40	17.35	413.55	Clayey silt, silt, silty clay, silt, silty clay	Yes	Yes	N. Olive
MP-77A	04/19/05	NA	04/26/05	430.89	790125.44	2317074.25	25.00	11.00	-0.36	430.53	419.89	1	PVC	PVC.010	5.84	4.70	0.1	6.20	424.69	10.90	419.99	Clayey silt, silty clay	Yes	Yes	"A" Clay
MP-77B	04/19/05	NA	04/26/05	430.89	790125.65	2317074.07	25.00	25.00	-0.27	430.62	405.89	1	PVC	PVC.010	14.93	9.50	0.3	15.20	415.69	24.70	406.19	Fine sand, silt	Yes	Yes	Rand/Main Silt
MP-77C	04/18/05	NA	04/26/05	430.94	790125.25	2317007.57	41.00	39.00	-0.30	430.64	391.94	2	PVC	PVC.010	23.30	14.80	0.6	23.60	407.34	38.40	392.54	Fine to medium sand	Yes	Yes	Main Sand
MP-78A	04/26/05	NA	05/19/05	430.54	791380.24	2316413.45	14.00	8.50	-0.20	430.34	422.04	1	PVC	PVC.010	6.00	2.00	0.3	6.20	424.34	8.20	422.34	Clayey silt	Yes	Yes	"A" Clay
MP-78B	04/26/05	NA	05/19/05	430.54	791380.50	2316413.61	14.00	14.00	-0.23	430.31	416.54	1	PVC	PVC.010	11.47	2.00	0.3	11.70	418.84	13.70	416.84	Silt	Yes	Yes	N. Olive
MP-78C	04/26/05	NA	05/19/05	430.56	791380.33	2316408.56	24.70	24.50	-0.27	430.29	406.06	2	PVC	PVC.010	16.43	7.40	0.4	16.70	413.86	24.10	406.46	Clayey silt, sandy silt, silty sand	Yes	Yes	Rand
MP-78D	04/25/05	NA	05/19/05	430.50	791380.07	2316404.04	38.50	38.20	-0.24	430.26	392.30	2	PVC	PVC.010	27.96	9.60	0.4	28.20	402.30	37.80	392.70	Silty clay, fine to medium sand	Yes	Yes	Main Sand
MP-79A	04/29/05	NA	05/19/05	429.74	791209.42	2316609.63	29.00	17.50	-0.30	429.44	412.24	1	PVC	PVC.010	12.50	4.40	0.3	12.80	416.94	17.20	412.54	Silt, clayey silt	Yes	Yes	N. Olive
MP-79B	04/29/05	NA	05/19/05	429.74	791209.46	2316609.37	29.00	29.00	-0.26	429.48	400.74	1	PVC	PVC.010	20.94	7.60	0.2	21.20	408.54	28.80	400.94	Silt, silty sand, silt	Yes	Yes	Rand
MP-79C	04/28/05	NA	05/19/05	429.76	791209.83	2316613.09	37.50	37.50	-0.17	429.59	392.26	2	PVC	PVC.010	34.93	2.00	0.4	35.10	394.66	37.10	392.66	Fine to medium sand	Yes	Yes	Main Sand
MP-79D	04/27/05	NA	05/19/05	429.81	791209.44	2316617.13	52.00	51.00	-0.35	429.46	378.81	2	PVC	PVC.010	40.45	9.60	0.6	40.80	389.01	50.40	379.41	Fine to coarse sand	Yes	Yes	Main Sand
MP-80A	04/29/05	NA	05/19/05	430.31	791207.08	2316791.23	30.00	19.00	-0.21	430.10	411.31	1	PVC	PVC.010	7.89	10.60	0.3	8.10	422.21	18.70	411.61	Silt	Yes	Yes	N. Olive
MP-80B	04/29/05	NA	05/19/05	430.31	791206.90	2316791.16	30.00	30.00	-0.21	430.10	400.31	1	PVC	PVC.010	24.29	5.00	0.5	24.50	405.81	29.50	400.81	Silty clay, sandy silt seam	Yes	Yes	Rand
MP-80C	04/28/05	NA	05/19/05	430.27	791207.29	2316787.34	44.00	44.00	-0.24	430.03	386.27	2	PVC	PVC.010	33.66	9.50	0.6	33.90	396.37	43.40	386.87	Silt, fine to medium sand	Yes	Yes	Main Sand
MP-81A	04/26/05	NA	04/26/05	425.81	790134.84	2316534.93	19.00	8.00	-0.24	425.57	417.81	1	PVC	PVC.010	5.46	2.00	0.3	5.70	420.11	7.70	418.11	Silt	Yes	Yes	"A" Clay
MP-81B	04/26/05	NA	04/26/05	425.81	790134.69	2316534.69	19.00	19.00	-0.28	425.53	406.81	1	PVC	PVC.010	13.82	4.70	0.2	14.10	411.71	18.80	407.01	Silty sand, fine sand	Yes	Yes	Rand/Main Silt
MP-81C	04/20/05	NA	04/26/05	425.75	790135.25	2316531.05	35.00	32.80	-0.35	425.40	392.95	2	PVC	PVC.010	17.15	14.80	0.5	17.50	408.25	32.30	393.45	Fine sand	Yes	Yes	Main Sand
MP-82A	04/20/05	NA	04/26/05	431.87	789979.87	2316855.33	26.00	11.00	-0.20	431.67	420.87	1	PVC	PVC.010	5.90	4.70	0.2	6.10	425.77	10.80	421.07	Silty clay	Yes	Yes	"A" Clay
MP-82B	04/20/05	NA	04/26/05	431.87	789980.26	2316855.45	26.00	26.00	-0.20	431.67	405.87	1	PVC	PVC.010	16.00	9.50	0.3	16.20	415.67	25.70	406.17	Silty sand, fine sand	Yes	Yes	N. Olive/Main Silt
MP-82C	04/19/05	NA	04/26/05	431.94	789981.06	2316861.43	39.00	39.00	-0.33	431.61	392.94	2	PVC	PVC.010	23.57	14.50	0.6	23.90	408.04	38.40	393.54	Fine sand	Yes	Yes	Main Sand
MP-83A	05/03/05	NA	05/19/05	427.38	791063.59	2316398.45	24.00	16.00	-0.46	426.92	411.38	1	PVC	PVC.010	12.64	2.70	0.2	13.10	414.28	15.80	411.58	Silt	Yes	Yes	N. Olive
MP-83B	05/03/05	NA	05/19/05	427.38	791063.56	2316398.61	24.00	24.00	-0.44	426.94	403.38	1	PVC	PVC.010	19.06	4.20	0.3	19.50	407.88	23.70	403.68	Silt	Yes	Yes	Rand
MP-83C	05/03/05	NA	05/19/05	427.19	791063.03	2316395.22	43.00	42.50	-0.40	426.79	384.69	2	PVC	PVC.010	22.00	19.50	0.6	22.40	404.79	41.90	385.29	Silt, silty clay, fine to coarse sand	Yes	Yes	Main Sand
MP-84A	05/04/05	NA	05/23/05	432.44	790292.29	2316894.43	26.30	9.00	-0.36	432.08	423.44	1	PVC	PVC.010	5.64	2.80	0.2	6.00	426.44	8.80	423.64	Silt	Yes	Yes	"A" Clay
MP-84B	05/04/05	NA	05/23/05	432.44	790292.22	2316894.23	26.30	26.00	-0.37	432.07	406.44	1	PVC	PVC.010	15.83	9.50	0.3	16.20	416.24	25.70	406.74	Silty sand, fine sand	Yes	Yes	Rand/Main Silt
MP-84C	05/02/05	NA	05/23/05	432.43	790292.49	2316897.82	40.20	40.00	-0.33	432.10	392.43	2	PVC	PVC.010	24.67	14.40	0.6	25.00	407.43	39.40	393.03	Fine to medium sand	Yes	Yes	Main Sand
MP-85A	05/03/05	NA	05/23/05	428.43	791214.89	2317304.53	24.00	10.50	-0.36	428.07	417.93	1	PVC	PVC.010	7.84	2.00	0.3	8.20	420.23	10.20	418.23	Silty clay, clayey silt	Yes	Yes	N. Olive
MP-85B	05/03/05	NA	05/23/05	428.43	791214.90	2317304.89	24.00	24.00	-0.37	428.06	404.43	1	PVC	PVC.010	13.83	9.50	0.3	14.20	414.23	23.70	404.73	Silt, silty sand, silt, fine sand, silt	Yes	Yes	Rand
MP-85C	05/03/05	NA	05/23/05	428.37	791211.34	2317306.14	36.00	36.00	-0.29	428.08	392.37	2	PVC	PVC.010	29.31	5.90	0.5	29.60	398.77	35.50	392.87	Fine to medium sand	Yes	Yes	EPA
MP-85D	04/21/05	NA	05/23/05	428.41	791207.56	2317307.67	50.00	50.00	-0.55	427.86	378.41	2	PVC	PVC.010	39.45	9.50	0.5	40.00	388.41	49.50	378.91	Fine to coarse sand	Yes	Yes	Main Sand
MP-86A	04/27/05	NA	05/23/05	431.65	790076.88	2316798.72	26.00	8.00	-0.34	431.31	423.65	1	PVC	PVC.010	5.36	2.00	0.3	5.70	425.95	7.70	423.95	Fine sand fill, silty clay	Yes	Yes	"A" Clay
MP-86B	04/27/05	NA	05/23/05	431.65	790076.68	2316798.79	26.00	26.00	-0.37	431.28	405.65	1	PVC	PVC.010	15.83	9.50	0.3	16.20	415.45	25.70	405.95	Silt, fine sand	Yes	Yes	Rand/Main Silt
MP-86C	04/26/05	NA	05/23/05	431.61	790074.27	2316798.60	40.50	40.00	-0.41	431.20	391.61	2	PVC	PVC.010	24.59	14.50	0.5	25.00	406.61	39.50	392.11	Fine to coarse sand	Yes	Yes	Main Sand
MP-87A	04/25/05	NA	04/26/05	432.35	790173.51	2316974.85	26.00	7.00	-0.34	432.01	425.35	1	PVC	PVC.010	5.56	1.00	0.1	5.90	426.45	6.90	425.45	Fine sand seam	Yes	Yes	"A" Clay

APPENDIX A-2
Well Construction Summary
Hartford Area Hydrocarbon Plume Site

WORK IN PROGRESS

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Installation Date	Abandonment Date	Last Survey Date	Ground Elevation (ft MSL)	Location (1) Northing	Location (1) Easting	Depth of Boring from GS (ft)	Total Well Depth from GS (ft)	Stickup (ft)	Top of Well Casing Elevation (ft MSL)	Bottom of Well Elevation (Sump) (ft MSL)	Well ID (in)	Well Material Riser	Well Material Screen	Riser Length (ft)	Screen Length 1st slot to last slot (ft)	Bottom of Screen to End Cap (ft)	Screen Depth Top Slot from GS (ft)	Screen Depth Top Slot Elevation (ft MSL)	Screen Depth Bottom Slot from GS (ft)	Screen Depth Bottom Slot Elevation (ft MSL)	Hydrostratigraphic Information Soil Screened	Soil Boring Log	Well Completion Report	Stratum Screened
MP-87B	04/25/05	NA	04/26/05	432.35	790173.26	2316974.86	26.00	26.00	-0.34	432.01	406.35	1	PVC	PVC.010	15.86	9.50	0.3	16.20	416.15	25.70	406.65	Fine sand	Yes	Yes	Rand/Main Silt
MP-87C	04/25/05	NA	04/26/05	432.40	790166.15	2316974.60	40.00	40.00	-0.32	432.08	392.40	2	PVC	PVC.010	24.58	14.50	0.6	24.90	407.50	39.40	393.00	Fine to medium sand	Yes	Yes	Main Sand
MP-88A	08/02/05	NA	9/12-14/05	430.88	789658.65	2317229.69	20.00	10.00	-0.28	430.60	420.88	1	PVC	PVC.010	5.22	4.20	0.3	5.50	425.38	9.70	421.18	Clayey silt, silty clay	Yes	Yes	"A Clay"
MP-88B	08/02/05	NA	9/12-14/05	430.88	789658.65	2317229.69	20.00	20.00	-0.28	430.60	410.88	1	PVC	PVC.010	14.72	4.60	0.4	15.00	415.88	19.60	411.28	Fine sand	Yes	Yes	Main Silt
MP-88C	08/02/05	NA	9/12-14/05	430.82	789659.35	2317244.74	40.00	38.00	-0.31	430.51	392.82	2	PVC	PVC.010	22.69	14.60	0.4	23.00	407.82	37.60	393.22	Fine to coarse sand	Yes	Yes	Main Sand
MP-89A	08/01/05	NA	9/12-14/05	429.29	789500.09	2317222.76	20.00	10.00	-0.12	429.17	419.29	1	PVC	PVC.010	5.38	4.20	0.3	5.50	423.79	9.70	419.59	Clayey silt, silty clay	Yes	Yes	"A Clay"
MP-89B	08/01/05	NA	9/12-14/05	429.29	789500.09	2317222.76	20.00	20.00	-0.12	429.17	409.29	1	PVC	PVC.010	14.88	4.60	0.4	15.00	414.29	19.60	409.69	Sandy silt	Yes	Yes	Main Silt
MP-89C	08/01/05	NA	9/12-14/05	429.55	789500.48	2317227.41	40.00	38.00	-0.30	429.25	391.55	2	PVC	PVC.010	22.70	14.60	0.4	23.00	406.55	37.60	391.95	Fine to medium sand	Yes	Yes	Main Sand
VMP-45 VS	12/07/04	NA	12/22/04	431.64	791416.26	2316734.79	10.60	6.00	0.00	431.64	425.64	***	Steel	Mesh	5.30	0.50	0.2	5.30	426.34	5.80	425.84	Fill, silt	See MP-68	Yes	"A" Clay
VMP-45 S	12/07/04	NA	12/22/04	431.64	791416.26	2316734.79	10.60	10.60	0.00	431.64	421.04	***	Steel	Mesh	9.90	0.50	0.2	9.90	421.74	10.40	421.24	Silt	See MP-68	Yes	N. Olive
VMP-46 VS	12/07/04	NA	12/22/04	431.73	791431.41	2316686.45	13.00	6.50	0.01	431.73	425.23	***	Steel	Mesh	5.80	0.50	0.2	5.80	425.93	6.30	425.43	Clayey silt	See MP-69	Yes	"A" Clay
VMP-46 S	12/07/04	NA	12/22/04	431.73	791431.41	2316686.45	13.00	13.00	0.01	431.73	418.73	***	Steel	Mesh	12.30	0.50	0.2	12.30	419.43	12.80	418.93	Silt	See MP-69	Yes	N. Olive
VMP-47 VS	12/07/04	NA	12/22/04	431.44	791487.32	2316623.55	11.00	6.50	-0.02	431.42	424.94	***	Steel	Mesh	5.80	0.50	0.2	5.80	425.64	6.30	425.14	Clayey silt	See MP-70	Yes	"A" Clay
VMP-47 S	12/07/04	NA	12/22/04	431.44	791487.32	2316623.55	11.00	11.00	-0.02	431.42	420.44	***	Steel	Mesh	10.30	0.50	0.2	10.30	421.14	10.80	420.64	Clayey silt, silt	See MP-70	Yes	N. Olive
VMP-48 VS	12/07/04	NA	12/22/04	430.40	791574.44	2316505.97	14.10	6.50	-0.01	430.39	423.90	***	Steel	Mesh	5.80	0.50	0.2	5.80	424.60	6.30	424.10	Clayey silt	See MP-71	Yes	"A" Clay
VMP-48 S	12/07/04	NA	12/22/04	430.40	791574.44	2316505.97	14.10	14.10	-0.01	430.39	416.30	***	Steel	Mesh	13.40	0.50	0.2	13.40	417.00	13.90	416.50	Silt	See MP-71	Yes	N. Olive
VMP-49 VS	12/09/04	NA	12/22/04	430.67	791589.83	2316565.25	13.70	6.70	0.00	430.66	423.97	***	Steel	Mesh	6.00	0.50	0.2	6.00	424.67	6.50	424.17	Silty clay	See MP-72	Yes	"A" Clay
VMP-49 S	12/09/04	NA	12/22/04	430.67	791589.83	2316565.25	13.70	13.70	0.00	430.66	416.97	***	Steel	Mesh	13.00	0.50	0.2	13.00	417.67	13.50	417.17	Silt	See MP-72	Yes	N. Olive
VMP-50 VS	12/09/04	NA	12/22/04	431.01	791587.43	2316667.73	10.70	6.50	-0.01	431.00	424.51	***	Steel	Mesh	5.80	0.50	0.2	5.80	425.21	6.30	424.71	Silty clay	See MP-73	Yes	"A" Clay
VMP-50 S	12/09/04	NA	12/22/04	431.01	791587.43	2316667.73	10.70	10.70	-0.01	431.00	420.31	***	Steel	Mesh	10.00	0.50	0.2	10.00	421.01	10.50	420.51	Silt	See MP-73	Yes	N. Olive
VMP-51 VS	12/08/04	NA	12/22/04	431.44	791573.92	2316722.60	12.00	7.00	0.00	431.44	424.44	***	Steel	Mesh	6.30	0.50	0.2	6.30	425.14	6.80	424.64	Silty clay	See MP-74	Yes	"A" Clay
VMP-51S	12/08/04	NA	12/22/04	431.44	791573.92	2316722.60	12.00	12.00	0.00	431.44	419.44	***	Steel	Mesh	11.30	0.50	0.2	11.30	420.14	11.80	419.64	Silt	See MP-74	Yes	N. Olive
VMP-52 VS	12/09/04	NA	12/22/04	430.89	791615.39	2316758.35	12.70	7.20	-0.01	430.88	423.69	***	Steel	Mesh	6.50	0.50	0.2	6.50	424.39	7.00	423.89	Silty clay	See MP-75	Yes	"A" Clay
VMP-52 S	12/09/04	NA	12/22/04	430.89	791615.39	2316758.35	12.70	12.70	-0.01	430.88	418.19	***	Steel	Mesh	12.00	0.50	0.2	12.00	418.89	12.50	418.39	Silt	See MP-75	Yes	N. Olive
VMP-53 VS	12/09/04	NA	12/22/04	430.97	791580.70	2316781.83	12.20	7.20	0.00	430.97	423.77	***	Steel	Mesh	6.50	0.50	0.2	6.50	424.47	7.00	423.97	Silty clay	See MP-76	Yes	"A" Clay
VMP-53 S	12/09/04	NA	12/22/04	430.97	791580.70	2316781.83	12.20	12.20	0.00	430.97	418.77	***	Steel	Mesh	11.50	0.50	0.2	11.50	419.47	12.00	418.97	Silt	See MP-76	Yes	N. Olive
VMP-97 VS	04/26/05	NA	05/19/05	430.60	791381.07	2316417.72	7.00	6.70	0.00	430.60	423.90	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	424.70	6.40	424.20	Silty clay	See MP-78	Yes	"A" Clay
VMP-98 VS	04/28/05	NA	05/19/05	429.77	791209.28	2316604.92	7.00	6.70	0.00	429.77	423.07	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	423.87	6.40	423.37	Clayey silt	See MP-79	Yes	"A" Clay
VMP-99 VS	05/04/05	NA	05/23/05	430.31	791207.25	2316794.26	7.00	6.70	0.00	430.31	423.61	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	424.41	6.40	423.91	Clay	See MP-80	Yes	"A" Clay
VMP-100 VS	04/25/05	NA	05/19/05	425.74	790134.79	2316538.81	7.00	6.70	0.00	425.74	419.04	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	419.84	6.40	419.34	Silt	See MP-81	Yes	"A" Clay
VMP-101 VS	05/04/05	NA	05/19/05	427.61	791063.90	2316402.25	7.00	6.70	0.00	427.61	420.91	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	421.71	6.40	421.21	Silty clay	See MP-83	Yes	"A" Clay
VMP-102 VS	05/04/05	NA	05/23/05	432.41	790291.77	2316890.48	7.00	6.70	0.00	432.41	425.71	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	426.51	6.40	426.01	Silt	See MP-84	Yes	"A" Clay
VMP-103 VS	05/03/05	NA	05/23/05	428.40	791218.83	2317303.72	7.00	6.70	0.00	428.40	421.70	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	422.50	6.40	422.00	Silty clay	See MP-85	Yes	"A" Clay
VMP-104 VS	04/27/05	NA	05/23/05	431.64	790079.06	2316798.80	7.00	6.70	0.00	431.64	424.94	***	Steel	Mesh	8.0 (5)	0.50	0.20	6.00	425.64	6.50	425.14	Fine sand fill	See MP-86	Yes	"A" Clay
VMP-105 VS	04/25/05	NA	05/23/05	432.36	790177.54	2316974.88	7.00	6.70	0.00	432.36	425.66	***	Steel	Mesh	7.9 (5)	0.50	0.30	5.90	426.46	6.40	425.96	Silt, fine sand seam	See MP-87	Yes	"A" Clay

NOTES:
GS = Ground Surface
NA = Not Applicable
ID = Inside Diameter
(VS) = Installed for Vapor Extraction System Monitoring
(1) Illinois State Plane West Zone NAD 83 (feet) and vertical control referenced to mean sea level (feet).
*** 1/8 inch steel tubing, riser length shown to ground surface

BUREAU VERITAS

APPENDIX A-3

MONITORING PROBE WELL COMPLETION REPORTS

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-68

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-68

STATE PLANE COORDINATE: X 2316734.98 E Y 791409.88 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 11/29/04 DATE FINISHED: 11/29/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

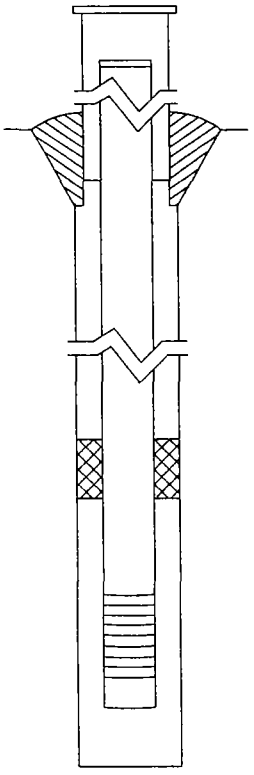
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.60	0	TOP OF PROTECTIVE CASING
431.36	0.24	TOP OF RISER PIPE
431.60	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.60	3.00	TOP OF SEAL
422.80	8.80	TOP OF SANDPACK
421.80	9.80	TOP OF SCREEN
414.70	16.90	BOTTOM OF SCREEN
414.60	17.00	BOTTOM OF WELL
414.60	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	8.5
ID OF RISER PIPE (In)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	9.56
BOTTOM OF SCREEN TO END CAP (ft)	0.10
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	7.10
TOTAL LENGTH OF CASING (ft)	16.76
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: MP-69

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-69

STATE PLANE COORDINATE: X 2316886.00 E Y 791425.40 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 11/29/04 DATE FINISHED: 11/29/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

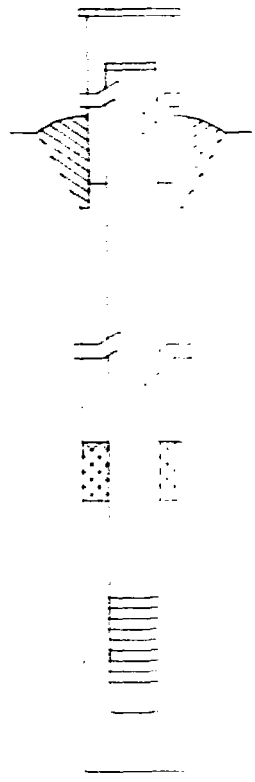
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.70	0	TOP OF PROTECTIVE CASING
431.57	0.13	TOP OF RISER PIPE
431.70	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
428.70	3.00	TOP OF SEAL
421.10	10.60	TOP OF SANDPACK
420.10	11.60	TOP OF SCREEN
415.30	16.40	BOTTOM OF SCREEN
415.20	16.50	BOTTOM OF WELL
414.20	17.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	11.47
BOTTOM OF SCREEN TO END CAP (ft)	0.10
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.80
TOTAL LENGTH OF CASING (ft)	16.37
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-70

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-70

STATE PLANE COORDINATE: X 2316623.95 E Y 791483.76 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 11/30/04 DATE FINISHED: 11/30/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

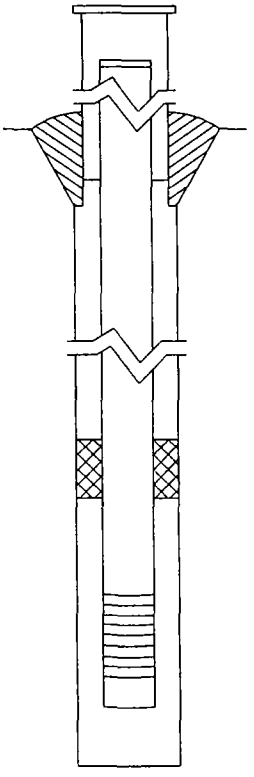
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.40	0	TOP OF PROTECTIVE CASING
431.00	0.40	TOP OF RISER PIPE
431.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
415.55	15.85	STATIC WATER LEVEL (AFTER COMPLETION)
428.40	3.00	TOP OF SEAL
421.90	9.50	TOP OF SANDPACK
420.90	10.50	TOP OF SCREEN
415.00	16.40	BOTTOM OF SCREEN
414.90	16.50	BOTTOM OF WELL
414.40	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.10
BOTTOM OF SCREEN TO END CAP (ft)	0.10
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	5.90
TOTAL LENGTH OF CASING (ft)	16.10
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1199505040 COUNTY: Madison WELL #: MP-71

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-71

STATE PLANE COORDINATE: X 2316585.74 E Y 791568.76 N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 11/30/04 DATE FINISHED: 11/30/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

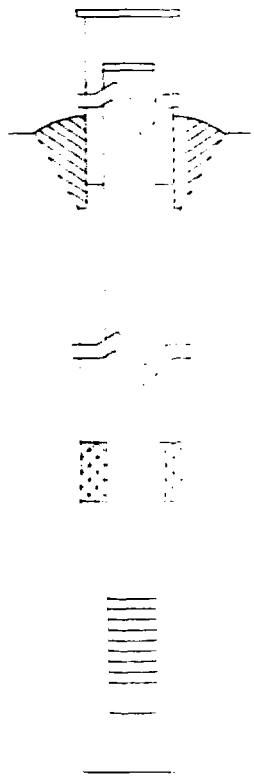
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.30	0	TOP OF PROTECTIVE CASING
430.14	0.16	TOP OF RISER PIPE
430.30	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
415.71	14.59	STATIC WATER LEVEL (AFTER COMPLETION)
427.30	3.00	TOP OF SEAL
418.60	11.70	TOP OF SANDPACK
417.60	12.70	TOP OF SCREEN
414.50	15.80	BOTTOM OF SCREEN
414.30	16.00	BOTTOM OF WELL
413.30	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	12.54
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	3.10
TOTAL LENGTH OF CASING (ft)	15.84
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-72

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-72

STATE PLANE COORDINATE: X 2316565.29 E Y 791584.88 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 11/30/04 DATE FINISHED: 11/30/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

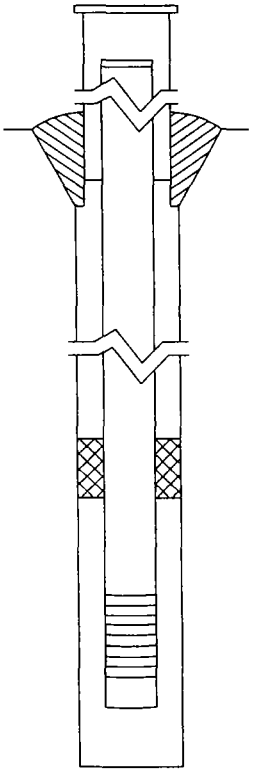
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.80	0	TOP OF PROTECTIVE CASING
430.51	0.29	TOP OF RISER PIPE
430.80	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
415.13	15.67	STATIC WATER LEVEL (AFTER COMPLETION)
427.80	3.00	TOP OF SEAL
420.20	10.60	TOP OF SANDPACK
419.20	11.60	TOP OF SCREEN
415.00	15.80	BOTTOM OF SCREEN
414.80	16.00	BOTTOM OF WELL
414.80	16.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	11.31
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.20
TOTAL LENGTH OF CASING (ft)	15.71
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-73

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-73

STATE PLANE COORDINATE: X 2310882.38 E Y 791586.85 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/08/04 DATE FINISHED: 12/08/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

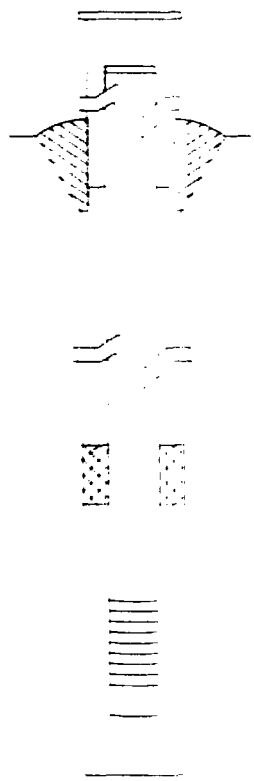
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.10	0	TOP OF PROTECTIVE CASING
430.96	0.14	TOP OF RISER PIPE
431.10	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
414.63	16.47	STATIC WATER LEVEL (AFTER COMPLETION)
428.10	3.00	TOP OF SEAL
423.40	7.70	TOP OF SANDPACK
422.40	8.70	TOP OF SCREEN
414.25	16.85	BOTTOM OF SCREEN
414.10	17.00	BOTTOM OF WELL
414.10	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	8.56
BOTTOM OF SCREEN TO END CAP (ft)	0.15
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	8.15
TOTAL LENGTH OF CASING (ft)	16.86
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-74

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-74

STATE PLANE COORDINATE: X 2316718.98 E Y 791569.46 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S, Peterson DATE STARTED: 12/08/04 DATE FINISHED: 12/08/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

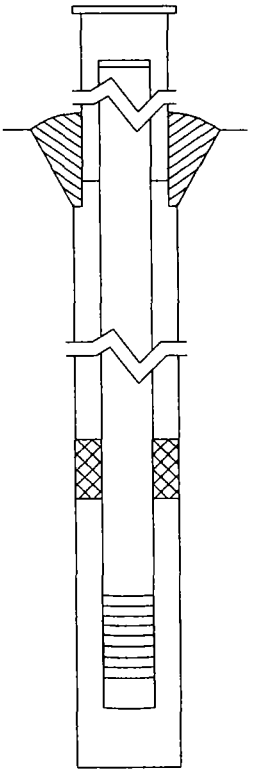
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.60	0	TOP OF PROTECTIVE CASING
431.38	0.22	TOP OF RISER PIPE
431.60	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
414.16	17.44	STATIC WATER LEVEL (AFTER COMPLETION)
428.60	3.00	TOP OF SEAL
421.80	9.80	TOP OF SANDPACK
420.75	10.85	TOP OF SCREEN
413.75	17.85	BOTTOM OF SCREEN
413.60	18.00	BOTTOM OF WELL
413.60	18.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.63
BOTTOM OF SCREEN TO END CAP (ft)	0.15
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	7.00
TOTAL LENGTH OF CASING (ft)	17.78
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190595040 COUNTY: Madison WELL #: MP-75

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-75

STATE PLANE COORDINATE: X 2316753.00 E Y 791614.17 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

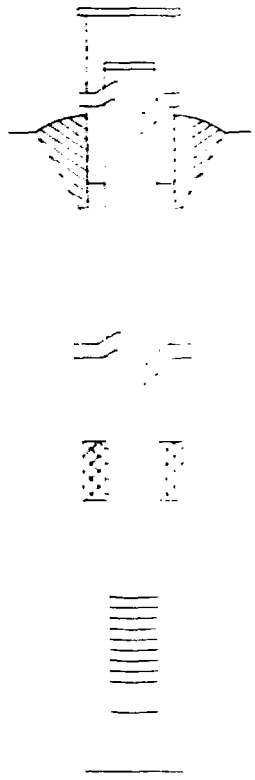
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.80	0	TOP OF PROTECTIVE CASING
430.66	0.14	TOP OF RISER PIPE
430.80	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
414.46	16.34	STATIC WATER LEVEL (AFTER COMPLETION)
427.80	3.00	TOP OF SEAL
420.30	10.50	TOP OF SANDPACK
419.30	11.50	TOP OF SCREEN
412.45	18.35	BOTTOM OF SCREEN
412.30	18.50	BOTTOM OF WELL
412.30	18.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	11.36
BOTTOM OF SCREEN TO END CAP (ft)	0.15
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	6.85
TOTAL LENGTH OF CASING (ft)	18.36
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-76

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-76

STATE PLANE COORDINATE: X 2316776.87 E Y 791580.93 N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/21/05 REVISED: 3/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

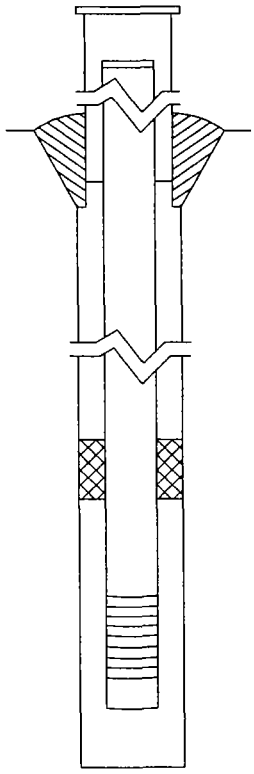
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.90	0	TOP OF PROTECTIVE CASING
430.75	0.15	TOP OF RISER PIPE
430.90	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
414.07	16.83	STATIC WATER LEVEL (AFTER COMPLETION)
427.90	3.00	TOP OF SEAL
421.40	9.50	TOP OF SANDPACK
420.40	10.50	TOP OF SCREEN
413.55	17.35	BOTTOM OF SCREEN
413.40	17.50	BOTTOM OF WELL
413.40	17.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	8.5
ID OF RISER PIPE (In)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.35
BOTTOM OF SCREEN TO END CAP (ft)	0.15
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	6.85
TOTAL LENGTH OF CASING (ft)	17.35
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-77A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-77

STATE PLANE COORDINATE: X 2317874.25 (E) Y 790125.44 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/19/05 DATE FINISHED: 04/19/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 5/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

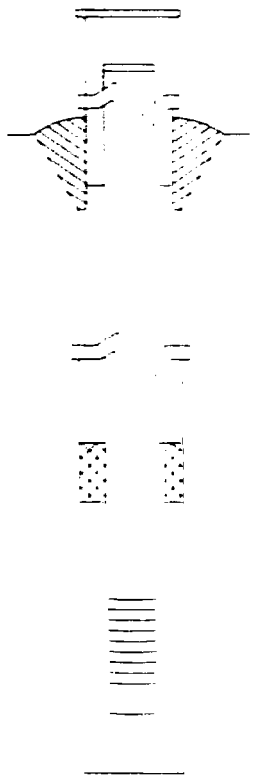
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)	
430.89	0	TOP OF PROTECTIVE CASING
430.53	0.36	TOP OF RISER PIPE
430.89	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
427.89	3.00	TOP OF SEAL
425.39	5.50	TOP OF SANDPACK
424.69	6.20	TOP OF SCREEN
419.99	10.90	BOTTOM OF SCREEN
419.89	11.00	BOTTOM OF WELL
405.89	25.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.84
BOTTOM OF SCREEN TO END CAP (ft)	0.10
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.70
TOTAL LENGTH OF CASING (ft)	10.64
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-77B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-77

STATE PLANE COORDINATE: X 2317074.07 (E) Y 790125.65 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/19/05 DATE FINISHED: 04/19/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 5/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

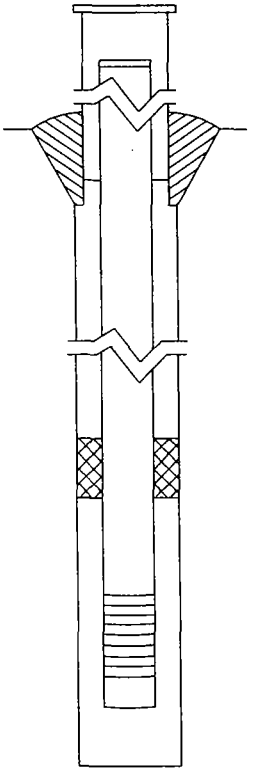
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.89	0	TOP OF PROTECTIVE CASING
430.62	0.27	TOP OF RISER PIPE
430.89	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
427.89	3.00	TOP OF SEAL
418.89	12.00	TOP OF SANDPACK
415.69	15.20	TOP OF SCREEN
406.19	24.70	BOTTOM OF SCREEN
405.89	25.00	BOTTOM OF WELL
405.89	25.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	14.93
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	24.73
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-77C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-77

STATE PLANE COORDINATE: X 2317077.57 (E) Y 790125.25 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 50 gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 04/18/05 DATE FINISHED: 04/18/05

REPORT FORM COMPLETED BY: D. Lamanna DATE: 05/03/05 REVISED: 5/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: NA

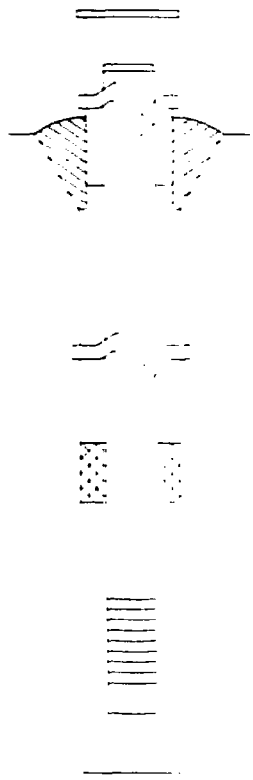
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.94	0	TOP OF PROTECTIVE CASING
430.64	0.30	TOP OF RISER PIPE
430.94	0	GROUND SURFACE
427.94	3.00	TOP OF ANNULAR SEALANT
400.33	30.61	STATIC WATER LEVEL (AFTER COMPLETION)
411.44	19.50	TOP OF SEAL
407.94	23.00	TOP OF SANDPACK
407.34	23.60	TOP OF SCREEN
392.54	38.40	BOTTOM OF SCREEN
391.94	39.00	BOTTOM OF WELL
389.94	41.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	23.30
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.80
TOTAL LENGTH OF CASING (ft)	38.70
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-78A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-78

STATE PLANE COORDINATE: X 2316413.45 (E) Y 791380.24 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/15/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

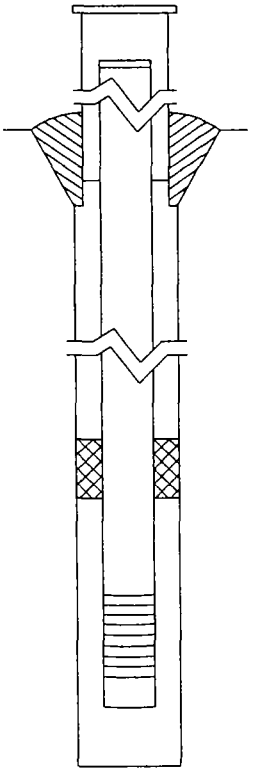
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.54	0	TOP OF PROTECTIVE CASING
430.34	0.20	TOP OF RISER PIPE
430.54	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
427.54	3.00	TOP OF SEAL
425.04	5.50	TOP OF SANDPACK
424.34	6.20	TOP OF SCREEN
422.34	8.20	BOTTOM OF SCREEN
422.04	8.50	BOTTOM OF WELL
416.54	14.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.00
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.00
TOTAL LENGTH OF CASING (ft)	8.30
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-78B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-78

STATE PLANE COORDINATE: X 2316413.61 (E) Y 791380.50 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoelman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoelman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/15/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

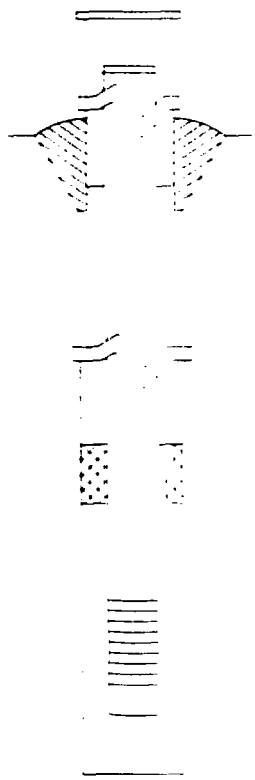
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.54	0	TOP OF PROTECTIVE CASING
430.31	0.23	TOP OF RISER PIPE
430.54	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
427.54	3.00	TOP OF SEAL
419.04	11.50	TOP OF SANDPACK
418.84	11.70	TOP OF SCREEN
416.84	13.70	BOTTOM OF SCREEN
416.54	14.00	BOTTOM OF WELL
416.54	14.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	11.47
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.00
TOTAL LENGTH OF CASING (ft)	13.77
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-78C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-78

STATE PLANE COORDINATE: X 2316408.56 (E) Y 791380.33 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/15/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

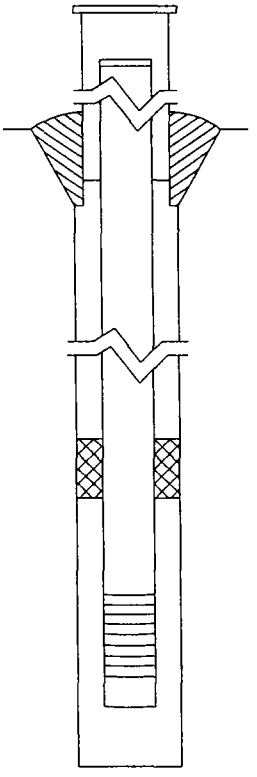
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.56	0	TOP OF PROTECTIVE CASING
430.29	0.27	TOP OF RISER PIPE
430.56	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
406.43	24.13	STATIC WATER LEVEL (AFTER COMPLETION)
427.56	3.00	TOP OF SEAL
414.56	16.00	TOP OF SANDPACK
413.86	16.70	TOP OF SCREEN
406.46	24.10	BOTTOM OF SCREEN
406.06	24.50	BOTTOM OF WELL
405.86	24.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	16.43
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	7.40
TOTAL LENGTH OF CASING (ft)	24.23
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190395040 COUNTY: Madison WELL #: MP-78D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-78

STATE PLANE COORDINATE: X 2316494.04 (E) Y 791380.07 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 04/25/05 DATE FINISHED: 04/25/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/15/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: NA

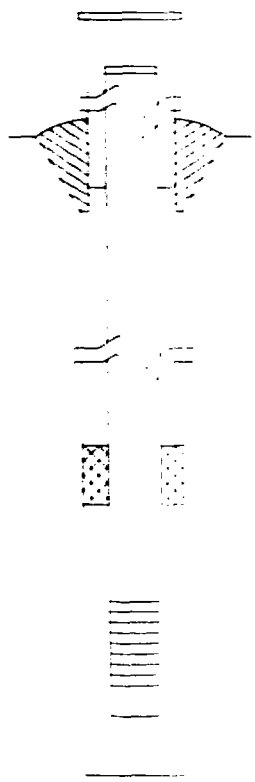
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.50	0	TOP OF PROTECTIVE CASING
430.26	0.24	TOP OF RISER PIPE
430.50	0	GROUND SURFACE
427.50	3.00	TOP OF ANNULAR SEALANT
398.36	32.14	STATIC WATER LEVEL (AFTER COMPLETION)
408.00	22.50	TOP OF SEAL
403.30	27.20	TOP OF SANDPACK
402.30	28.20	TOP OF SCREEN
392.70	37.80	BOTTOM OF SCREEN
392.30	38.20	BOTTOM OF WELL
392.00	38.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	27.96
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.60
TOTAL LENGTH OF CASING (ft)	37.96
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-79A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-79

STATE PLANE COORDINATE: X 2316609.63 (E) Y 791209.42 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/29/05 DATE FINISHED: 04/29/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

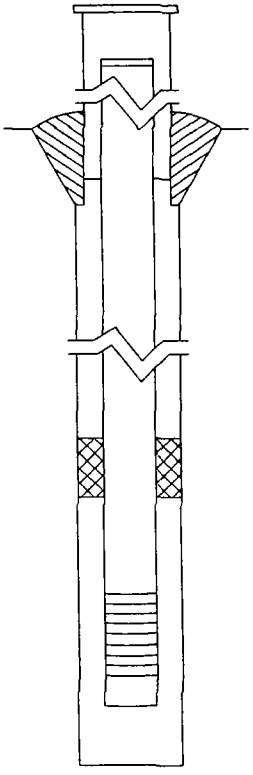
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.74	0	TOP OF PROTECTIVE CASING
429.44	0.30	TOP OF RISER PIPE
429.74	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
426.74	3.00	TOP OF SEAL
418.24	11.50	TOP OF SANDPACK
416.94	12.80	TOP OF SCREEN
412.54	17.20	BOTTOM OF SCREEN
412.24	17.50	BOTTOM OF WELL
400.74	29.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	12.50
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.40
TOTAL LENGTH OF CASING (ft)	17.20
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-79B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-79

STATE PLANE COORDINATE: X 2316600.37 (E) Y 791209.46 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/29/05 DATE FINISHED: 04/29/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

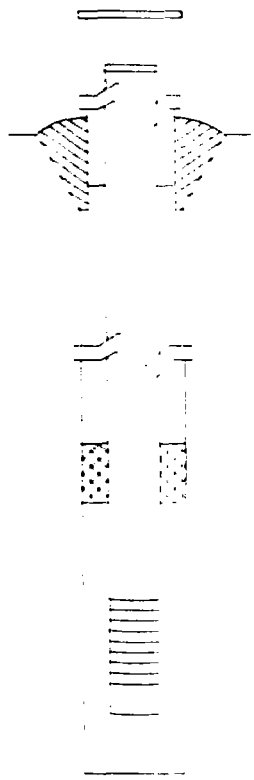
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #91

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.74	0	TOP OF PROTECTIVE CASING
429.48	0.26	TOP OF RISER PIPE
429.74	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
403.91	25.83	STATIC WATER LEVEL (AFTER COMPLETION)
426.74	3.00	TOP OF SEAL
409.74	20.00	TOP OF SANDPACK
408.54	21.20	TOP OF SCREEN
400.94	28.80	BOTTOM OF SCREEN
400.74	29.00	BOTTOM OF WELL
400.74	29.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	20.94
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	7.60
TOTAL LENGTH OF CASING (ft)	28.74
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-79C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-79

STATE PLANE COORDINATE: X 2316613.09 (E) Y 791209.83 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): Water

LOGGED BY: B. Hoekman DATE STARTED: 04/28/05 DATE FINISHED: 04/28/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME:

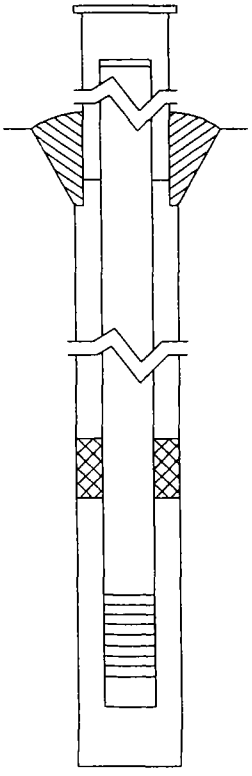
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.76	0	TOP OF PROTECTIVE CASING
429.59	0.17	TOP OF RISER PIPE
429.76	0	GROUND SURFACE
426.76	3.00	TOP OF ANNULAR SEALANT
399.44	30.32	STATIC WATER LEVEL (AFTER COMPLETION)
398.26	31.50	TOP OF SEAL
395.26	34.50	TOP OF SANDPACK
394.66	35.10	TOP OF SCREEN
392.66	37.10	BOTTOM OF SCREEN
392.26	37.50	BOTTOM OF WELL
392.26	37.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	34.93
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.00
TOTAL LENGTH OF CASING (ft)	37.33
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-79D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-79

STATE PLANE COORDINATE: X 2318617.13 (E) Y 791209.44 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-082214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): Water

LOGGED BY: H. Mendygral DATE STARTED: 04/27/05 DATE FINISHED: 04/27/05

REPORT FORM COMPLETED BY: D. Lamarma DATE: 5/02/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: NA

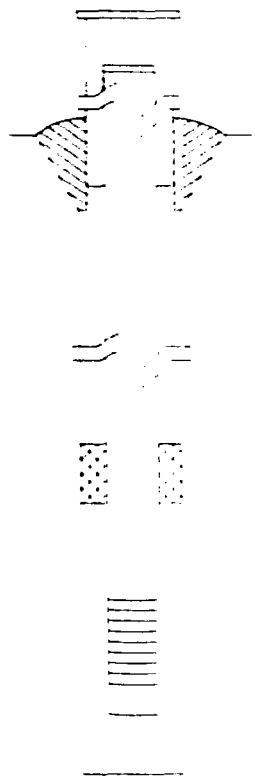
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.81	0	TOP OF PROTECTIVE CASING
429.46	0.35	TOP OF RISER PIPE
429.81	0	GROUND SURFACE
426.81	3.00	TOP OF ANNULAR SEALANT
398.77	31.04	STATIC WATER LEVEL (AFTER COMPLETION)
394.81	35.00	TOP OF SEAL
389.81	40.00	TOP OF SANDPACK
389.01	40.80	TOP OF SCREEN
379.41	50.40	BOTTOM OF SCREEN
378.81	51.00	BOTTOM OF WELL
377.81	52.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	40.45
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.60
TOTAL LENGTH OF CASING (ft)	50.65
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-80A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-80

STATE PLANE COORDINATE: X 2316791.23 (E) Y 791207.08 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 04/29/05 DATE FINISHED: 04/29/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

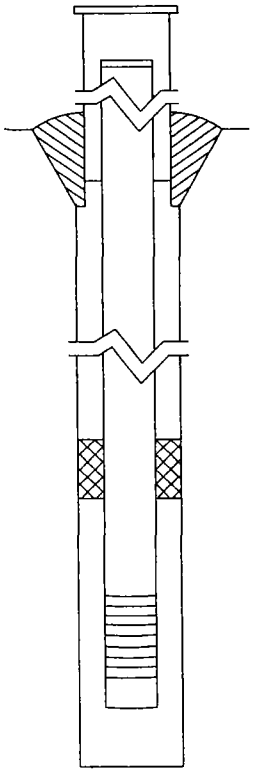
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.31	0	TOP OF PROTECTIVE CASING
430.10	0.21	TOP OF RISER PIPE
430.31	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
411.43	18.88	STATIC WATER LEVEL (AFTER COMPLETION)
427.31	3.00	TOP OF SEAL
423.31	7.00	TOP OF SANDPACK
422.21	8.10	TOP OF SCREEN
411.61	18.70	BOTTOM OF SCREEN
411.31	19.00	BOTTOM OF WELL
400.31	30.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.89
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	10.60
TOTAL LENGTH OF CASING (ft)	18.79
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-80B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-80

STATE PLANE COORDINATE: X 2316791.16 (E) Y 791206.90 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 04/29/05 DATE FINISHED: 04/29/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 06/16/05

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

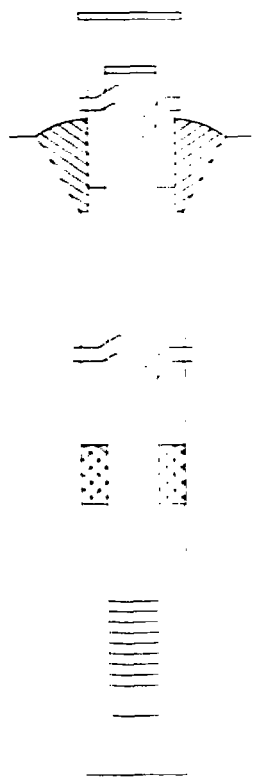
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.31	0	TOP OF PROTECTIVE CASING
430.10	0.21	TOP OF RISER PIPE
430.31	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
404.24	26.07	STATIC WATER LEVEL (AFTER COMPLETION)
427.31	3.00	TOP OF SEAL
406.81	23.50	TOP OF SANDPACK
405.81	24.50	TOP OF SCREEN
400.81	29.50	BOTTOM OF SCREEN
400.31	30.00	BOTTOM OF WELL
400.31	30.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.29
BOTTOM OF SCREEN TO END CAP (ft)	0.50
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	5.00
TOTAL LENGTH OF CASING (ft)	29.79
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-80C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-80

STATE PLANE COORDINATE: X 2316787.34 (E) Y 791207.29 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 45 gallons (water)

LOGGED BY: H. Mendygral DATE STARTED: 04/28/05 DATE FINISHED: 04/28/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: NA

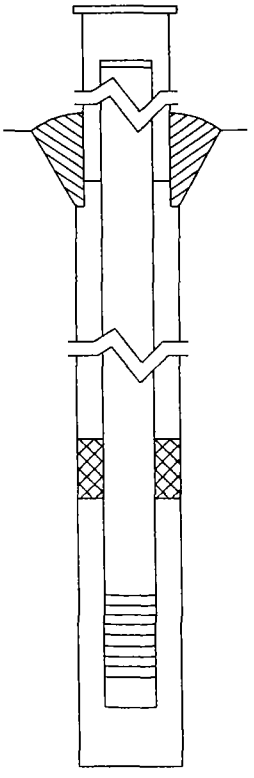
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.27	0	TOP OF PROTECTIVE CASING
430.03	0.24	TOP OF RISER PIPE
430.27	0	GROUND SURFACE
427.27	3.00	TOP OF ANNULAR SEALANT
399.03	31.24	STATIC WATER LEVEL (AFTER COMPLETION)
400.27	30.00	TOP OF SEAL
397.27	33.00	TOP OF SANDPACK
396.37	33.90	TOP OF SCREEN
386.87	43.40	BOTTOM OF SCREEN
386.27	44.00	BOTTOM OF WELL
386.27	44.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	33.66
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	43.76
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198585040 COUNTY: Madison WELL #: MP-81A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-81

STATE PLANE COORDINATE: X 2316534.93 (E) Y 790134.84 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lansma DATE: 05/03/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

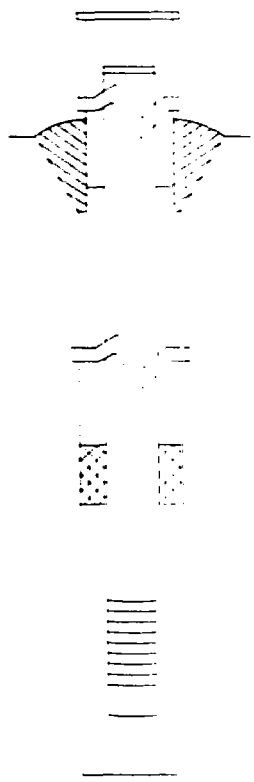
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
425.81	0	TOP OF PROTECTIVE CASING
425.57	0.24	TOP OF RISER PIPE
425.81	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
422.81	3.00	TOP OF SEAL
420.31	5.50	TOP OF SANDPACK
420.11	5.70	TOP OF SCREEN
418.11	7.70	BOTTOM OF SCREEN
417.81	8.00	BOTTOM OF WELL
406.81	19.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.46
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.00
TOTAL LENGTH OF CASING (ft)	7.76
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-81B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-81

STATE PLANE COORDINATE: X 2316534.69 (E) Y 790134.70 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

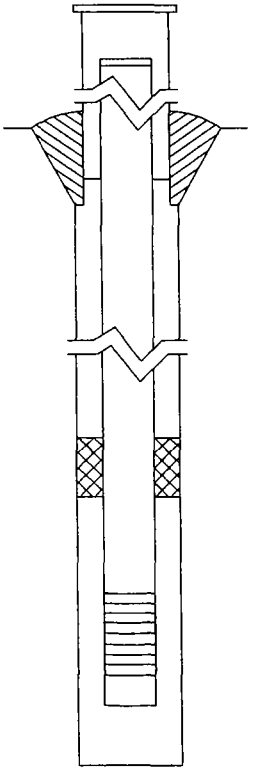
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
425.81	0	TOP OF PROTECTIVE CASING
425.53	0.28	TOP OF RISER PIPE
425.81	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
422.81	3.00	TOP OF SEAL
412.31	13.50	TOP OF SANDPACK
411.71	14.10	TOP OF SCREEN
407.01	18.80	BOTTOM OF SCREEN
406.81	19.00	BOTTOM OF WELL
406.81	19.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	13.82
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.70
TOTAL LENGTH OF CASING (ft)	18.72
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-81C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-81

STATE PLANE COORDINATE: X 2316531.85 (E) Y 790135.25 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 45 gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 04/20/05 DATE FINISHED: 04/20/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~15 minutes

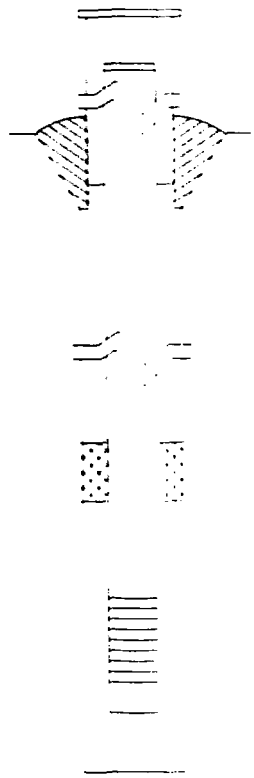
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
425.75	0	TOP OF PROTECTIVE CASING
425.40	0.35	TOP OF RISER PIPE
425.75	0	GROUND SURFACE
422.75	3.00	TOP OF ANNULAR SEALANT
400.28	25.47	STATIC WATER LEVEL (AFTER COMPLETION)
411.75	14.00	TOP OF SEAL
408.95	16.80	TOP OF SANDPACK
408.25	17.50	TOP OF SCREEN
393.45	32.30	BOTTOM OF SCREEN
392.95	32.80	BOTTOM OF WELL
390.75	35.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	17.15
BOTTOM OF SCREEN TO END CAP (ft)	0.50
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.80
TOTAL LENGTH OF CASING (ft)	32.45
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-82A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-82

STATE PLANE COORDINATE: X 2316855.33 (E) Y 789979.87 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/20/05 DATE FINISHED: 04/20/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/16/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

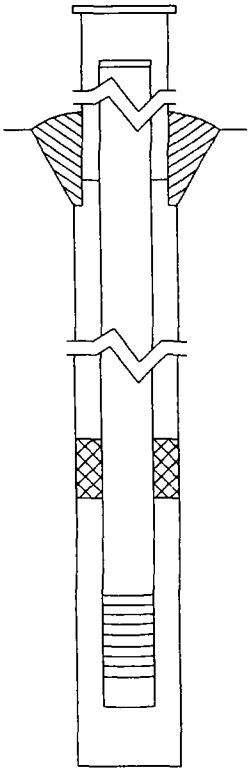
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.87	0	TOP OF PROTECTIVE CASING
431.67	0.20	TOP OF RISER PIPE
431.87	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
428.87	3.00	TOP OF SEAL
426.37	5.50	TOP OF SANDPACK
425.77	6.10	TOP OF SCREEN
421.07	10.80	BOTTOM OF SCREEN
420.87	11.00	BOTTOM OF WELL
405.87	26.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.90
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.70
TOTAL LENGTH OF CASING (ft)	10.80
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: MP-82B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-82

STATE PLANE COORDINATE: X 2316855.45 (E) Y 789980.26 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoeksman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoeksman DATE STARTED: 04/20/05 DATE FINISHED: 04/20/05

REPORT FORM COMPLETED BY: D. Lammsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

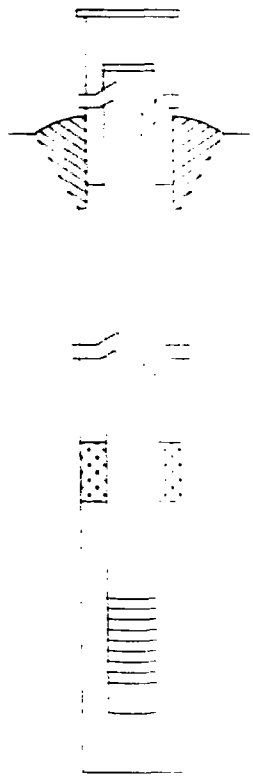
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.87	0	TOP OF PROTECTIVE CASING
431.67	0.20	TOP OF RISER PIPE
431.87	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
428.87	3.00	TOP OF SEAL
416.87	15.00	TOP OF SANDPACK
415.67	16.20	TOP OF SCREEN
406.17	25.70	BOTTOM OF SCREEN
405.87	26.00	BOTTOM OF WELL
405.87	26.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	16.00
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	25.80
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-82C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-82

STATE PLANE COORDINATE: X 2316861.43 (E) Y 789981.06 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 35 gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 04/19/05 DATE FINISHED: 04/19/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

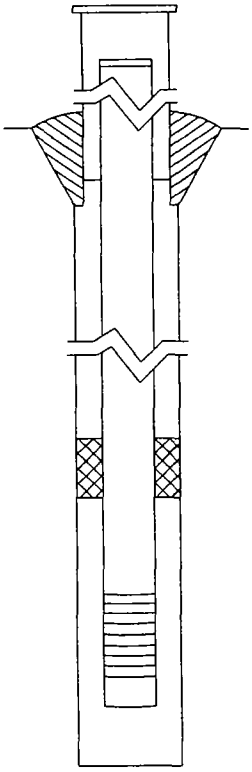
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.94	0	TOP OF PROTECTIVE CASING
431.61	0.33	TOP OF RISER PIPE
431.94	0	GROUND SURFACE
428.94	3.00	TOP OF ANNULAR SEALANT
400.42	31.52	STATIC WATER LEVEL (AFTER COMPLETION)
412.44	19.50	TOP OF SEAL
408.94	23.00	TOP OF SANDPACK
408.04	23.90	TOP OF SCREEN
393.54	38.40	BOTTOM OF SCREEN
392.94	39.00	BOTTOM OF WELL
392.94	39.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	23.57
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.50
TOTAL LENGTH OF CASING (ft)	38.67
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: MP-83A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-83

STATE PLANE COORDINATE: X 2316308.45 (E) Y 791063.59 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Mueller DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lansma DATE: 05/04/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

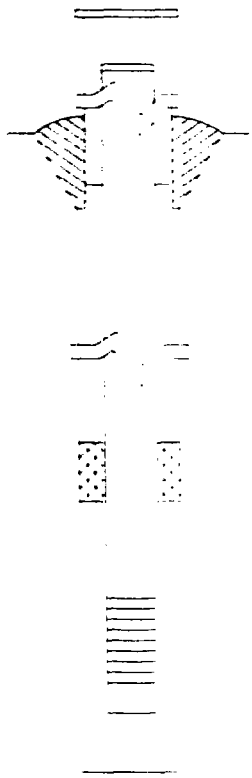
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
427.38	0	TOP OF PROTECTIVE CASING
426.92	0.46	TOP OF RISER PIPE
427.38	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
412.94	14.44	STATIC WATER LEVEL (AFTER COMPLETION)
424.38	3.00	TOP OF SEAL
415.88	11.50	TOP OF SANDPACK
414.28	13.10	TOP OF SCREEN
411.58	15.80	BOTTOM OF SCREEN
411.38	16.00	BOTTOM OF WELL
403.38	24.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	12.64
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.70
TOTAL LENGTH OF CASING (ft)	15.54
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-83B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-83

STATE PLANE COORDINATE: X 2316398.61 (E) Y 791063.56 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Mueller DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

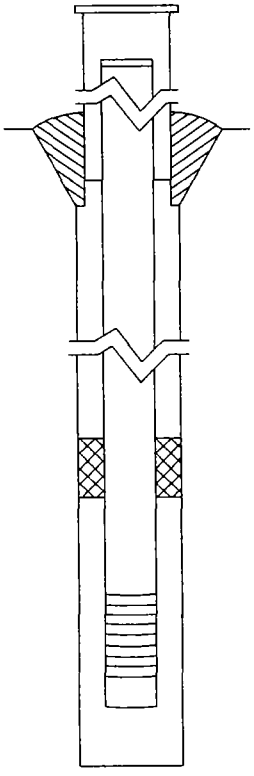
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
427.38	0	TOP OF PROTECTIVE CASING
426.94	0.44	TOP OF RISER PIPE
427.38	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
403.52	23.86	STATIC WATER LEVEL (AFTER COMPLETION)
424.38	3.00	TOP OF SEAL
408.38	19.00	TOP OF SANDPACK
407.88	19.50	TOP OF SCREEN
403.68	23.70	BOTTOM OF SCREEN
403.38	24.00	BOTTOM OF WELL
403.38	24.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	19.06
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.20
TOTAL LENGTH OF CASING (ft)	23.56
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198585040 COUNTY: Madison WELL #: MP-83C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-83

STATE PLANE COORDINATE: X 2316395.22 (E) Y 791063.83 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 35 gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

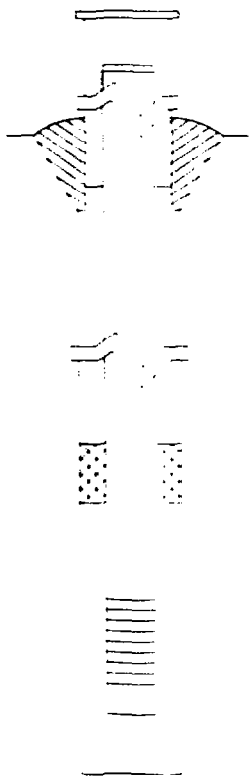
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
427.19	0	TOP OF PROTECTIVE CASING
426.79	0.40	TOP OF RISER PIPE
427.19	0	GROUND SURFACE
424.19	3.00	TOP OF ANNULAR SEALANT
398.63	28.56	STATIC WATER LEVEL (AFTER COMPLETION)
408.69	18.50	TOP OF SEAL
405.69	21.50	TOP OF SANDPACK
404.79	22.40	TOP OF SCREEN
385.29	41.90	BOTTOM OF SCREEN
384.69	42.50	BOTTOM OF WELL
384.19	43.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	22.00
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.50
TOTAL LENGTH OF CASING (ft)	42.10
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-84A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-84

STATE PLANE COORDINATE: X 2316894.43 (E) Y 790292.29 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

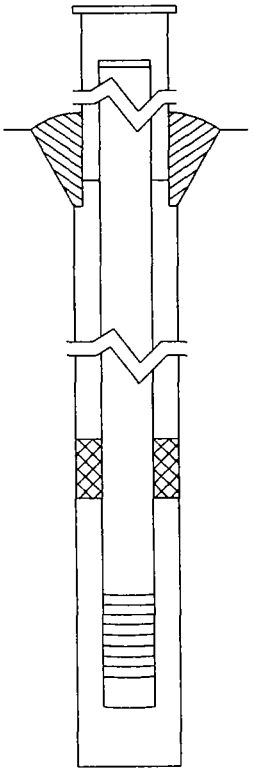
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.44	0	TOP OF PROTECTIVE CASING
432.08	0.36	TOP OF RISER PIPE
432.44	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
429.94	2.50	TOP OF SEAL
427.44	5.00	TOP OF SANDPACK
426.44	6.00	TOP OF SCREEN
423.64	8.80	BOTTOM OF SCREEN
423.44	9.00	BOTTOM OF WELL
406.14	26.30	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.64
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.80
TOTAL LENGTH OF CASING (ft)	8.64
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-84B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-84

STATE PLANE COORDINATE: X 2316804.23 (E) Y 790292.22 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

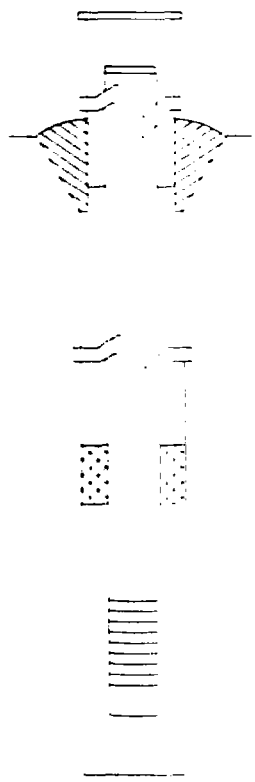
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.44	0	TOP OF PROTECTIVE CASING
432.07	0.37	TOP OF RISER PIPE
432.44	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
406.63	25.81	STATIC WATER LEVEL (AFTER COMPLETION)
429.94	2.50	TOP OF SEAL
417.94	14.50	TOP OF SANDPACK
416.24	16.20	TOP OF SCREEN
406.74	25.70	BOTTOM OF SCREEN
406.44	26.00	BOTTOM OF WELL
406.14	26.30	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	15.83
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	25.63
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-84C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-84

STATE PLANE COORDINATE: X 2316897.82 (E) Y 790292.49 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 35 gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 05/02/05 DATE FINISHED: 05/02/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 06/17/05

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

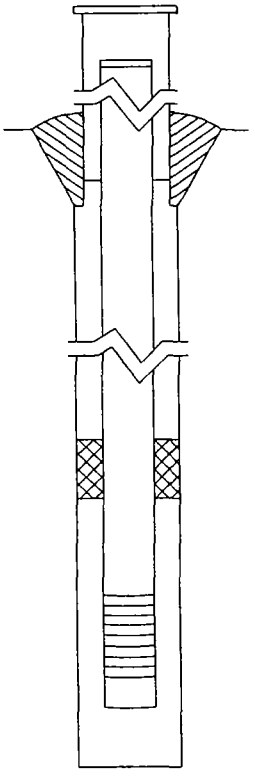
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.43	0	TOP OF PROTECTIVE CASING
432.10	0.33	TOP OF RISER PIPE
432.43	0	GROUND SURFACE
429.43	3.00	TOP OF ANNULAR SEALANT
400.01	32.42	STATIC WATER LEVEL (AFTER COMPLETION)
411.43	21.00	TOP OF SEAL
408.53	23.90	TOP OF SANDPACK
407.43	25.00	TOP OF SCREEN
393.03	39.40	BOTTOM OF SCREEN
392.43	40.00	BOTTOM OF WELL
392.23	40.20	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	8.5
ID OF RISER PIPE (In)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.67
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.40
TOTAL LENGTH OF CASING (ft)	39.67
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: MP-85A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-85

STATE PLANE COORDINATE: X 2317304.53 (E) Y 791214.09 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

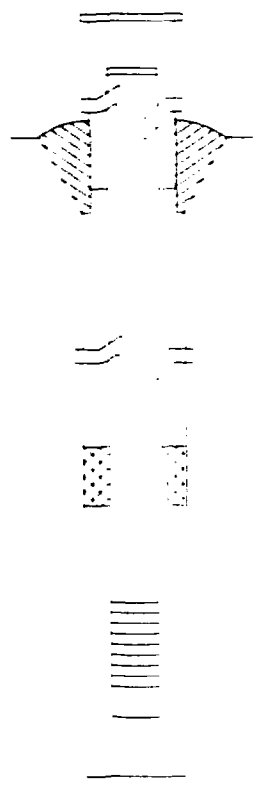
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.43	0	TOP OF PROTECTIVE CASING
428.07	0.36	TOP OF RISER PIPE
428.43	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
425.43	3.00	TOP OF SEAL
420.93	7.50	TOP OF SANDPACK
420.23	8.20	TOP OF SCREEN
418.23	10.20	BOTTOM OF SCREEN
417.93	10.50	BOTTOM OF WELL
404.43	24.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.84
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.00
TOTAL LENGTH OF CASING (ft)	10.14
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-85B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-85

STATE PLANE COORDINATE: X 2317304.89 (E) Y 791214.90 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: PSC DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

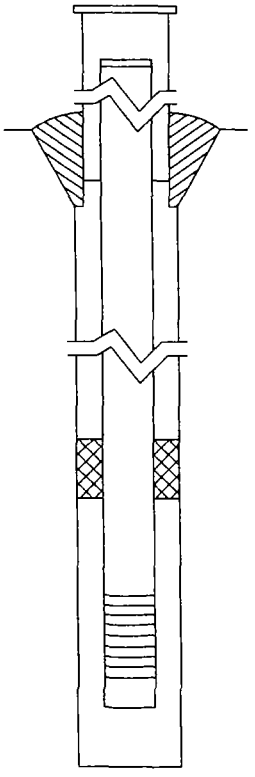
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.43	0	TOP OF PROTECTIVE CASING
428.06	0.37	TOP OF RISER PIPE
428.43	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
415.24	13.19	STATIC WATER LEVEL (AFTER COMPLETION)
425.43	3.00	TOP OF SEAL
414.93	13.50	TOP OF SANDPACK
414.23	14.20	TOP OF SCREEN
404.73	23.70	BOTTOM OF SCREEN
404.43	24.00	BOTTOM OF WELL
404.43	24.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	13.83
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	23.63
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1199505040 COUNTY: Madison WELL #: MP-85C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-85

STATE PLANE COORDINATE: X 2317386.14 (E) Y 791211.34 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-062214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 10 gallons (water)

LOGGED BY: B. Hoekman DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

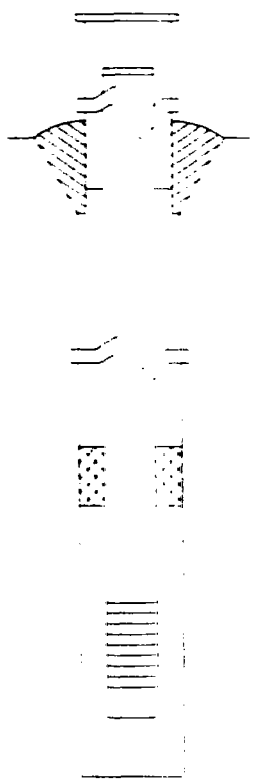
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.37	0	TOP OF PROTECTIVE CASING
428.08	0.29	TOP OF RISER PIPE
428.37	0	GROUND SURFACE
425.37	3.00	TOP OF ANNULAR SEALANT
398.84	29.53	STATIC WATER LEVEL (AFTER COMPLETION)
402.87	25.50	TOP OF SEAL
399.87	28.50	TOP OF SANDPACK
398.77	29.60	TOP OF SCREEN
392.87	35.50	BOTTOM OF SCREEN
392.37	36.00	BOTTOM OF WELL
392.37	36.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	29.31
BOTTOM OF SCREEN TO END CAP (ft)	0.50
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	5.90
TOTAL LENGTH OF CASING (ft)	35.71
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-85D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-85

STATE PLANE COORDINATE: X 2317307.67 (E) Y 791207.56 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 45- gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 04/21/05 DATE FINISHED: 04/21/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

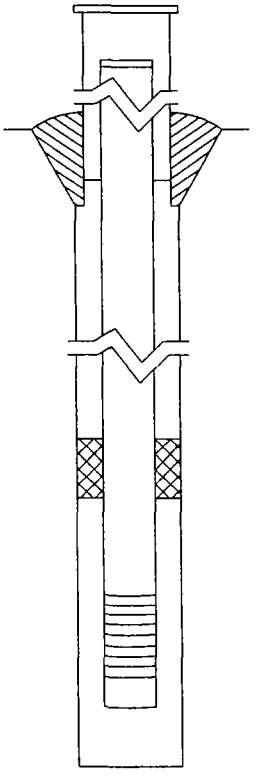
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.41	0	TOP OF PROTECTIVE CASING
427.86	0.55	TOP OF RISER PIPE
428.41	0	GROUND SURFACE
425.41	3.00	TOP OF ANNULAR SEALANT
399.33	29.08	STATIC WATER LEVEL (AFTER COMPLETION)
392.41	36.00	TOP OF SEAL
389.41	39.00	TOP OF SANDPACK
388.41	40.00	TOP OF SCREEN
378.91	49.50	BOTTOM OF SCREEN
378.41	50.00	BOTTOM OF WELL
378.41	50.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	39.45
BOTTOM OF SCREEN TO END CAP (ft)	0.50
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	49.45
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: MP-86A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-86

STATE PLANE COORDINATE: X 2316798.72 (E) Y 790076.88 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-062214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/27/05 DATE FINISHED: 04/27/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

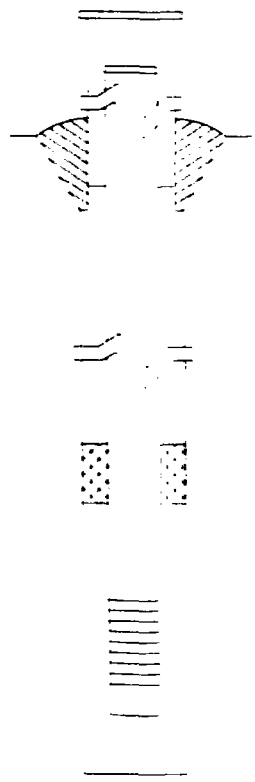
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.65	0	TOP OF PROTECTIVE CASING
431.31	0.34	TOP OF RISER PIPE
431.65	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
428.65	3.00	TOP OF SEAL
426.15	5.50	TOP OF SANDPACK
425.95	5.70	TOP OF SCREEN
423.95	7.70	BOTTOM OF SCREEN
423.65	8.00	BOTTOM OF WELL
405.65	26.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.36
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	2.00
TOTAL LENGTH OF CASING (ft)	7.66
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-86B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-86

STATE PLANE COORDINATE: X 2316798.79 (E) Y 790076.68 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Envrionmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/27/05 DATE FINISHED: 04/27/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

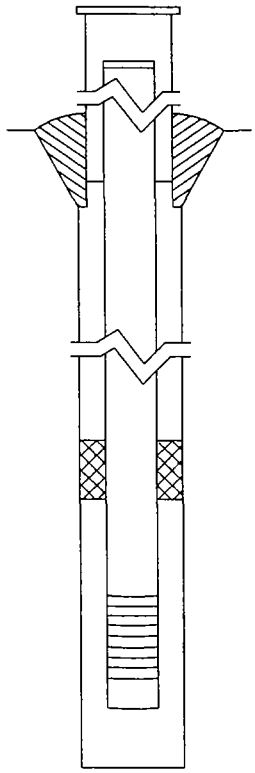
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.65	0	TOP OF PROTECTIVE CASING
431.28	0.37	TOP OF RISER PIPE
431.65	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
428.65	3.00	TOP OF SEAL
416.65	15.00	TOP OF SANDPACK
415.45	16.20	TOP OF SCREEN
405.95	25.70	BOTTOM OF SCREEN
405.65	26.00	BOTTOM OF WELL
405.65	26.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	15.83
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	25.63
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: MP-86C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-86

STATE PLANE COORDINATE: X 2316798.88 (E) Y 790074.27 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 35 gallons (water)

LOGGED BY: H. Mendygral DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

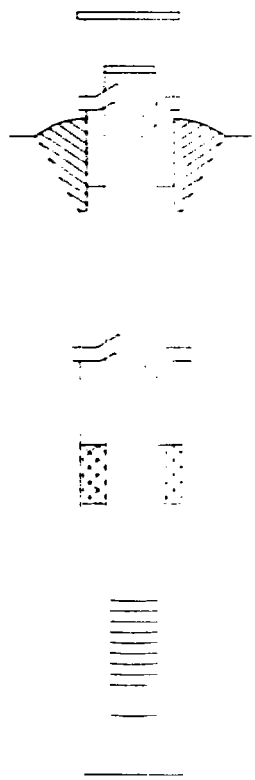
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.61	0	TOP OF PROTECTIVE CASING
431.20	0.41	TOP OF RISER PIPE
431.61	0	GROUND SURFACE
428.61	3.00	TOP OF ANNULAR SEALANT
400.26	31.35	STATIC WATER LEVEL (AFTER COMPLETION)
410.61	21.00	TOP OF SEAL
407.61	24.00	TOP OF SANDPACK
406.61	25.00	TOP OF SCREEN
392.11	39.50	BOTTOM OF SCREEN
391.61	40.00	BOTTOM OF WELL
391.11	40.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.59
BOTTOM OF SCREEN TO END CAP (ft)	0.50
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.50
TOTAL LENGTH OF CASING (ft)	39.59
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-87A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-87

STATE PLANE COORDINATE: X 2316974.85 (E) Y 790173.51 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/25/05 DATE FINISHED: 04/25/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

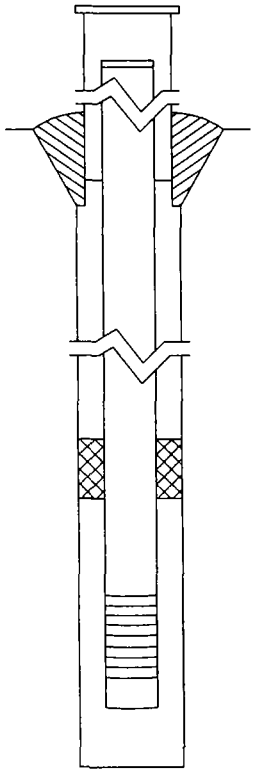
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.35	0	TOP OF PROTECTIVE CASING
432.01	0.34	TOP OF RISER PIPE
432.35	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
429.35	3.00	TOP OF SEAL
426.85	5.50	TOP OF SANDPACK
426.45	5.90	TOP OF SCREEN
425.45	6.90	BOTTOM OF SCREEN
425.35	7.00	BOTTOM OF WELL
406.35	26.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.56
BOTTOM OF SCREEN TO END CAP (ft)	0.10
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	1.00
TOTAL LENGTH OF CASING (ft)	6.66
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-87B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-87

STATE PLANE COORDINATE: X 2316874.86 (E) Y 790173.26 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/25/05 DATE FINISHED: 04/25/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

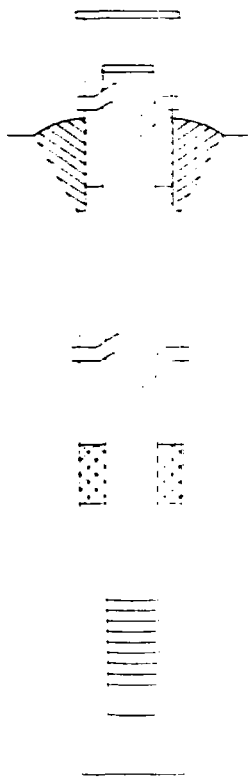
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.35	0	TOP OF PROTECTIVE CASING
432.01	0.34	TOP OF RISER PIPE
432.35	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
DRY	DRY	STATIC WATER LEVEL (AFTER COMPLETION)
429.35	3.00	TOP OF SEAL
417.35	15.00	TOP OF SANDPACK
416.15	16.20	TOP OF SCREEN
406.65	25.70	BOTTOM OF SCREEN
406.35	26.00	BOTTOM OF WELL
406.35	26.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	15.86
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.50
TOTAL LENGTH OF CASING (ft)	25.66
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: MP-87C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: MP-87

STATE PLANE COORDINATE: X 2316974.60 (E) Y 790166.15 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 45 gallons (water)

LOGGED BY: M. Mueller DATE STARTED: 04/22/05 DATE FINISHED: 04/22/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

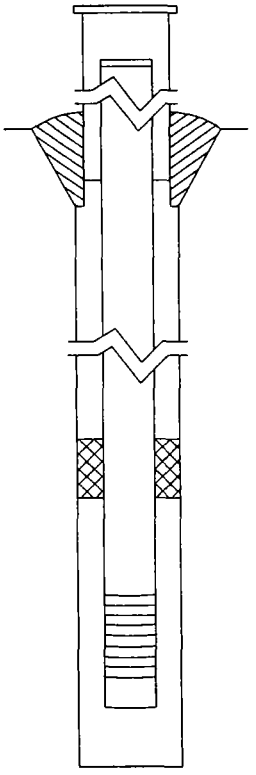
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.40	0	TOP OF PROTECTIVE CASING
432.08	0.32	TOP OF RISER PIPE
432.40	0	GROUND SURFACE
429.40	3.00	TOP OF ANNULAR SEALANT
399.46	32.94	STATIC WATER LEVEL (AFTER COMPLETION)
411.60	20.80	TOP OF SEAL
408.50	23.90	TOP OF SANDPACK
407.50	24.90	TOP OF SCREEN
393.00	39.40	BOTTOM OF SCREEN
392.40	40.00	BOTTOM OF WELL
392.40	40.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.58
BOTTOM OF SCREEN TO END CAP (ft)	0.60
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.50
TOTAL LENGTH OF CASING (ft)	39.68
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1199385040 / ILR000128240 COUNTY: Madison WELL #: MP-88A

SITE NAME: Hartford Working Group / Hartford, Illinois BOREHOLE #: MP-88

STATE PLANE COORDINATE: X 2317229.00 (E) Y 789658.65 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-80214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: A. Schultz DATE STARTED: 08/02/05 DATE FINISHED: 08/02/05

REPORT FORM COMPLETED BY: D. Matz DATE: 8/8/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

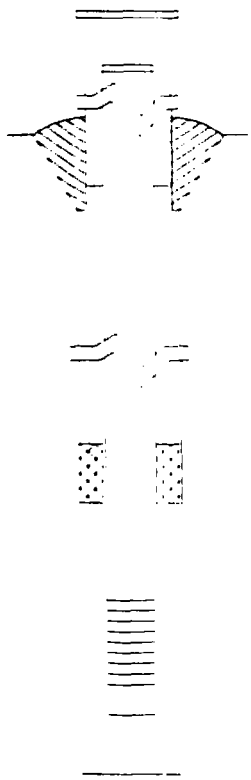
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
430.60	0.28	TOP OF RISER PIPE
430.88	0	GROUND SURFACE
NA	NA	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.28	2.60	TOP OF SEAL
425.88	5.00	TOP OF SANDPACK
425.38	5.50	TOP OF SCREEN
421.18	9.70	BOTTOM OF SCREEN
420.88	10.00	BOTTOM OF WELL
410.88	20.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.22
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.20
TOTAL LENGTH OF CASING (ft)	9.72
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: MP-88B

SITE NAME: Hartford Working Group / Hartford, Illinois BOREHOLE #: MP-88

STATE PLANE COORDINATE: X 2317229.69 (E) Y 789658.65 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-00214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: A. Schultz DATE STARTED: 08/02/05 DATE FINISHED: 08/02/05

REPORT FORM COMPLETED BY: D. Matz DATE: 8/8/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

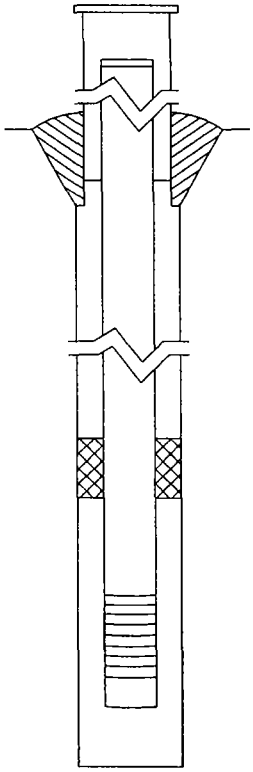
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING	NA	NA
TOP OF RISER PIPE	430.60	0.28
GROUND SURFACE	430.88	0
TOP OF ANNULAR SEALANT	NA	NA
STATIC WATER LEVEL (AFTER COMPLETION)	--	--
TOP OF SEAL	419.88	11.00
TOP OF SANDPACK	416.88	14.00
TOP OF SCREEN	415.88	15.00
BOTTOM OF SCREEN	411.28	19.60
BOTTOM OF WELL	410.88	20.00
BOTTOM OF BOREHOLE	410.88	20.00

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	14.72
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.60
TOTAL LENGTH OF CASING (ft)	19.72
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198305040 / ILR000128240 COUNTY: Madison WELL #: MP-88C

SITE NAME: Hartford Working Group / Hartford, Illinois BOREHOLE #: MP-88

STATE PLANE COORDINATE: X 2317244.74 (E) Y 789658.35 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-00214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 25 gallons (water)

LOGGED BY: A. Schultz DATE STARTED: 08/02/05 DATE FINISHED: 08/02/05

REPORT FORM COMPLETED BY: D. Matz DATE: 8/8/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: -

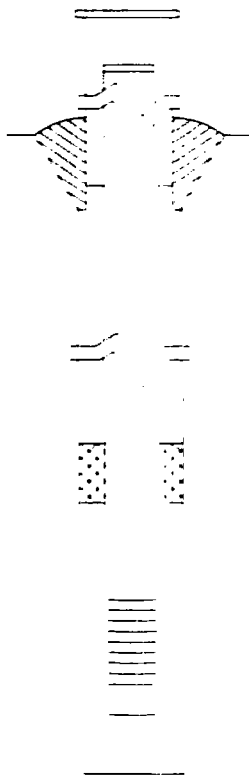
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
	NA	NA	TOP OF PROTECTIVE CASING
	430.51	0.31	TOP OF RISER PIPE
	430.82	0	GROUND SURFACE
	427.82	3.00	TOP OF ANNULAR SEALANT
	398.61	32.21	STATIC WATER LEVEL (AFTER COMPLETION)
	412.82	18.00	TOP OF SEAL
	409.52	21.30	TOP OF SANDPACK
	407.82	23.00	TOP OF SCREEN
	393.22	37.60	BOTTOM OF SCREEN
	392.82	38.00	BOTTOM OF WELL
	390.82	40.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	22.69
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.60
TOTAL LENGTH OF CASING (ft)	37.69
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: MP-89A

SITE NAME: Hartford Working Group / Hartford, Illinois BOREHOLE #: MP-89

STATE PLANE COORDINATE: X 23172222.76(E) Y 789500.09 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-00214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: A. Schultz DATE STARTED: 08/01/05 DATE FINISHED: 08/01/05

REPORT FORM COMPLETED BY: D. Matz DATE: 8/8/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

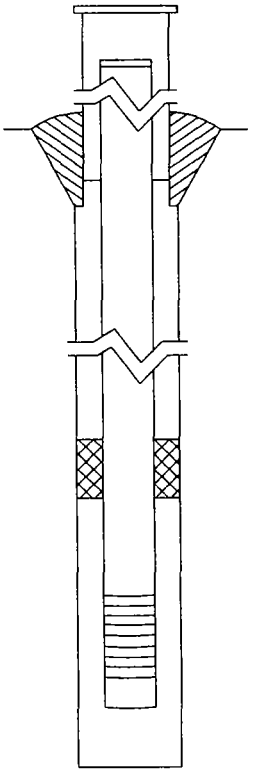
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.17	0.12	TOP OF RISER PIPE
429.29	0	GROUND SURFACE
NA	NA	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
426.79	2.50	TOP OF SEAL
424.29	5.00	TOP OF SANDPACK
423.79	5.50	TOP OF SCREEN
419.59	9.70	BOTTOM OF SCREEN
419.29	10.00	BOTTOM OF WELL
409.29	20.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.38
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.20
TOTAL LENGTH OF CASING (ft)	9.88
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1196505040 / ILR000128249 COUNTY: Madison WELL #: MP-89B

SITE NAME: Hartford Working Group / Hartford, Illinois BOREHOLE #: MP-89

STATE PLANE COORDINATE: X 23172222.76(E) Y 789500.09 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-00214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: A. Schultz DATE STARTED: 08/01/05 DATE FINISHED: 08/01/05

REPORT FORM COMPLETED BY: D. Matz DATE: 8/8/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 24 hours

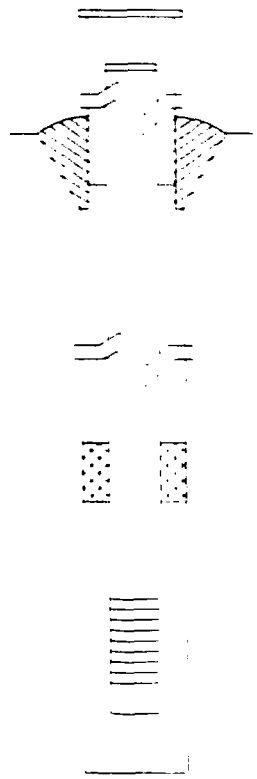
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING	NA	NA
TOP OF RISER PIPE	429.17	0.12
GROUND SURFACE	429.29	0
TOP OF ANNULAR SEALANT	NA	NA
STATIC WATER LEVEL (AFTER COMPLETION)	–	–
TOP OF SEAL	418.29	11.00
TOP OF SANDPACK	415.29	14.00
TOP OF SCREEN	414.29	15.00
BOTTOM OF SCREEN	409.69	19.60
BOTTOM OF WELL	409.29	20.00
BOTTOM OF BOREHOLE	409.29	20.00

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	1.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	14.88
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.60
TOTAL LENGTH OF CASING (ft)	19.88
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: MP-89C

SITE NAME: Hartford Working Group / Hartford, Illinois BOREHOLE #: MP-89

STATE PLANE COORDINATE: X 2317227.41(E) Y 789500.48 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. IL REGISTRATION #: 035-00214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 75 gallons (water)

LOGGED BY: A. Schultz DATE STARTED: 08/01/05 DATE FINISHED: 08/01/05

REPORT FORM COMPLETED BY: D. Matz DATE: 8/8/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie pipe

SETTING TIME: ~24 hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: -

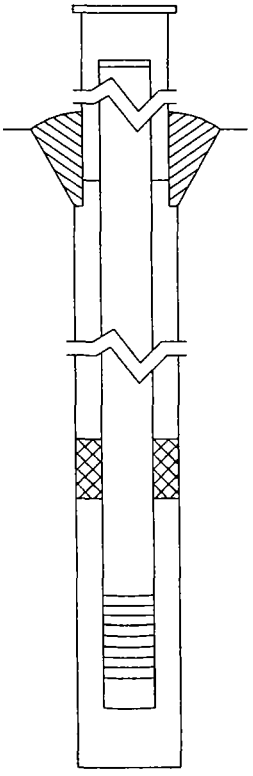
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.25	0.30	TOP OF RISER PIPE
429.55	0	GROUND SURFACE
426.55	3.00	TOP OF ANNULAR SEALANT
398.86	30.69	STATIC WATER LEVEL (AFTER COMPLETION)
411.55	18.00	TOP OF SEAL
408.05	21.50	TOP OF SANDPACK
406.55	23.00	TOP OF SCREEN
391.95	37.60	BOTTOM OF SCREEN
391.55	38.00	BOTTOM OF WELL
389.55	40.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	22.70
BOTTOM OF SCREEN TO END CAP (ft)	0.40
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.60
TOTAL LENGTH OF CASING (ft)	37.70
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-45S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-45

STATE PLANE COORDINATE: X 2316734.79E Y 791416.26N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/11/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: 24 hour

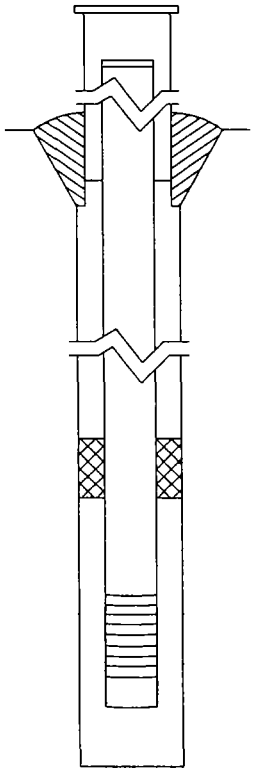
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.64	-0.04	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.60	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
425.00	6.60	TOP OF SEAL
422.00	9.60	TOP OF SANDPACK
421.70	9.90	TOP OF SCREEN
421.20	10.40	BOTTOM OF SCREEN
421.00	10.60	BOTTOM OF WELL
421.00	10.60	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	9.90
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	10.60
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-45VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-45

STATE PLANE COORDINATE: X 2316734.79E Y 791416.26N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

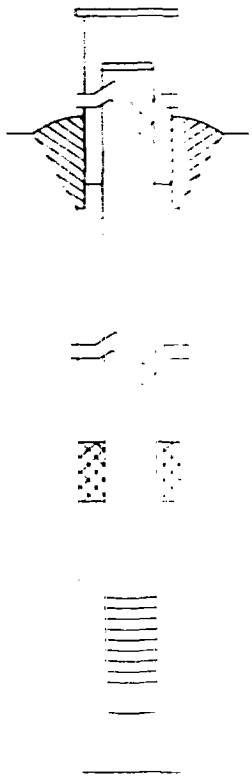
CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/11/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS



TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: 24 hours

TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable

ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.54	0.86	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.60	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
429.10	2.50	TOP OF SEAL
426.60	5.00	TOP OF SANDPACK
426.30	5.30	TOP OF SCREEN
425.80	5.80	BOTTOM OF SCREEN
425.60	6.00	BOTTOM OF WELL
421.00	10.60	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.30
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	6.00
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-46S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-46

STATE PLANE COORDINATE: X 2316686.45E Y 791431.41N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

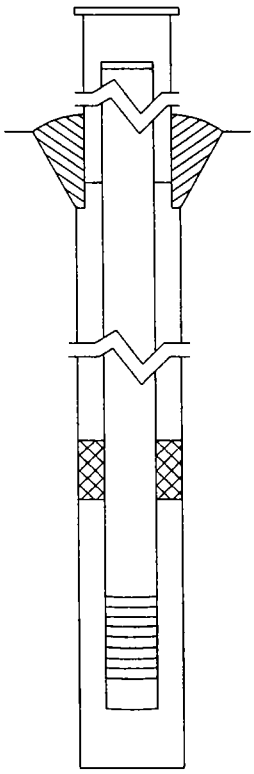
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.73	-0.03	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.70	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
424.70	7.00	TOP OF SEAL
419.70	12.00	TOP OF SANDPACK
419.40	12.30	TOP OF SCREEN
418.90	12.80	BOTTOM OF SCREEN
418.70	13.00	BOTTOM OF WELL
418.70	13.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	12.30
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	13.00
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: VMP-46VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-46

STATE PLANE COORDINATE: X 2316886.45E Y 791431.41N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

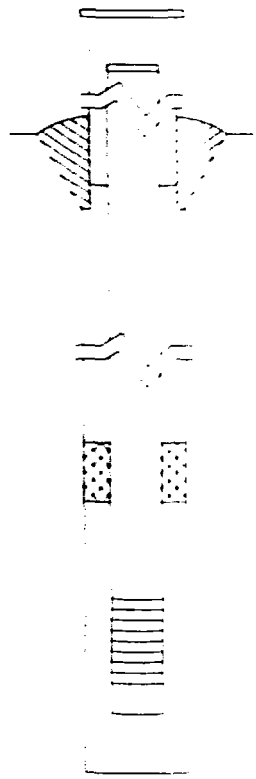
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.73	-0.03	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.70	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
429.20	2.50	TOP OF SEAL
426.20	5.50	TOP OF SANDPACK
425.90	5.80	TOP OF SCREEN
425.40	6.30	BOTTOM OF SCREEN
425.20	6.50	BOTTOM OF WELL
418.70	13.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.80
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	6.50
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-47S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-47

STATE PLANE COORDINATE: X 2316623.55E Y 791487.32N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

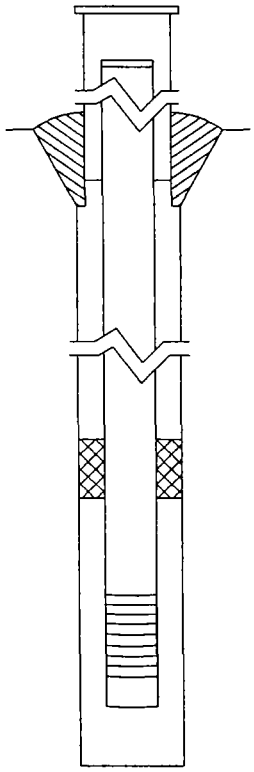
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.42	-0.02	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
424.40	7.00	TOP OF SEAL
421.40	10.00	TOP OF SANDPACK
421.10	10.30	TOP OF SCREEN
420.60	10.80	BOTTOM OF SCREEN
420.40	11.00	BOTTOM OF WELL
420.40	11.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.30
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	11.00
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-47VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-47

STATE PLANE COORDINATE: X 2310623.55E Y 791487.32N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

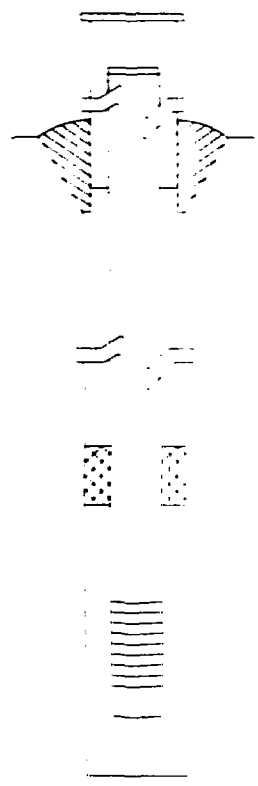
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.42	-0.02	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
428.90	2.50	TOP OF SEAL
425.90	5.50	TOP OF SANDPACK
425.60	5.80	TOP OF SCREEN
425.10	6.30	BOTTOM OF SCREEN
424.90	6.50	BOTTOM OF WELL
420.40	11.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.80
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	6.50
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-48S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-48

STATE PLANE COORDINATE: X 2316505.97E Y 791574.44N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

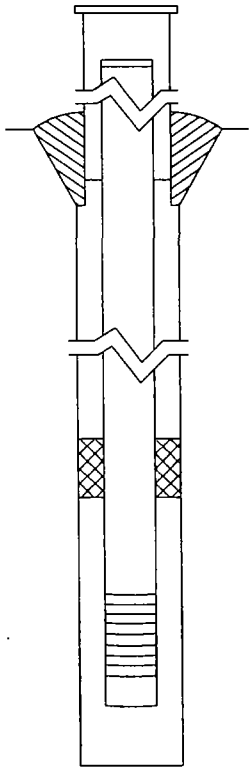
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.39	0.01	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
430.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
423.40	7.00	TOP OF SEAL
417.40	13.00	TOP OF SANDPACK
417.00	13.40	TOP OF SCREEN
416.50	13.90	BOTTOM OF SCREEN
416.30	14.10	BOTTOM OF WELL
416.30	14.10	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	13.40
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	14.10
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198585040 COUNTY: Madison WELL #: VMP-48VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-48

STATE PLANE COORDINATE: X 2316595.97E Y 791574.44N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/07/04 DATE FINISHED: 12/07/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/15/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

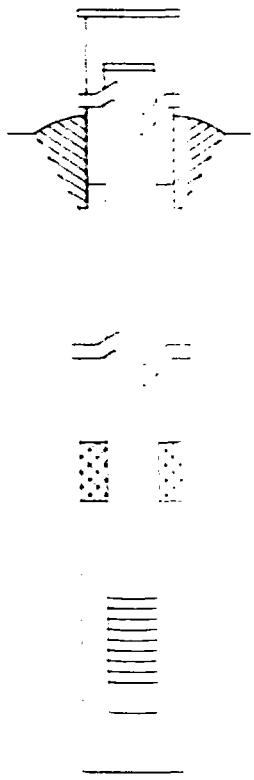
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.39	0.01	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
430.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
427.90	2.50	TOP OF SEAL
424.90	5.50	TOP OF SANDPACK
424.60	5.80	TOP OF SCREEN
424.10	6.30	BOTTOM OF SCREEN
423.90	6.50	BOTTOM OF WELL
416.30	14.10	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.80
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	6.50
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-49S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-49

STATE PLANE COORDINATE: X 2316565.25E Y 791589.83N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

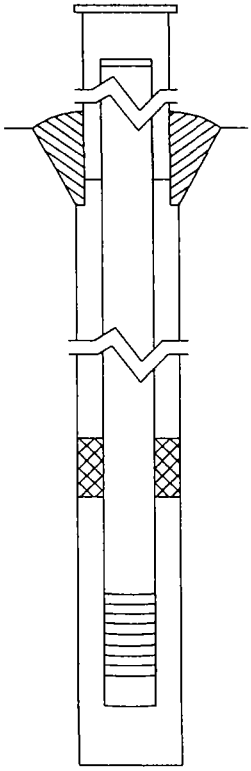
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
TOP OF PROTECTIVE CASING	430.66	0.04	
TOP OF RISER PIPE	N/A	N/A	
GROUND SURFACE	430.70	0	
TOP OF ANNULAR SEALANT	N/A	N/A	
STATIC WATER LEVEL (AFTER COMPLETION)	--	--	
TOP OF SEAL	423.50	7.20	
TOP OF SANDPACK	418.20	12.50	
TOP OF SCREEN	417.70	13.00	
BOTTOM OF SCREEN	417.20	13.50	
BOTTOM OF WELL	417.00	13.70	
BOTTOM OF BOREHOLE	417.00	13.70	

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* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	3.0
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	13.00
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	13.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: VMP-49VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-49

STATE PLANE COORDINATE: X 2316585.25E Y 791589.83N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

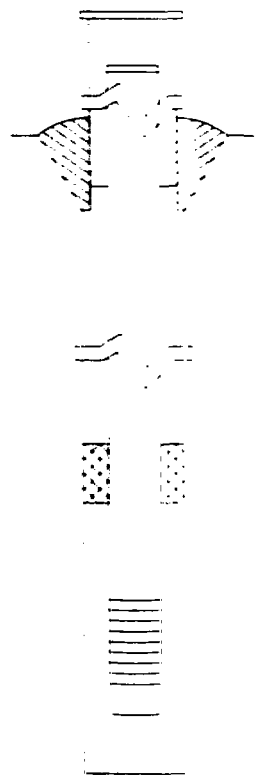
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.66	0.04	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
430.70	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.20	2.50	TOP OF SEAL
425.20	5.50	TOP OF SANDPACK
424.70	6.00	TOP OF SCREEN
424.20	6.50	BOTTOM OF SCREEN
424.00	6.70	BOTTOM OF WELL
417.00	13.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	3.0
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.00
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	6.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-50S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-50

STATE PLANE COORDINATE: X 2316667.73E Y 791587.43N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hand Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

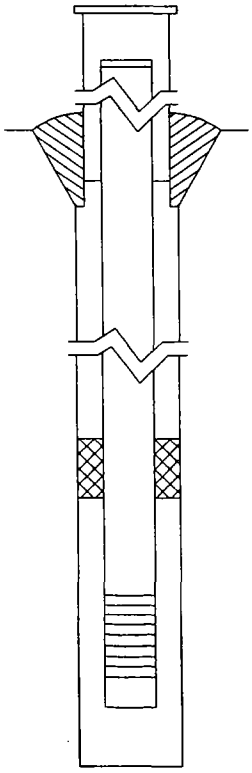
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.00	0.00	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.00	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
424.00	7.00	TOP OF SEAL
421.50	9.50	TOP OF SANDPACK
421.00	10.00	TOP OF SCREEN
420.50	10.50	BOTTOM OF SCREEN
420.30	10.70	BOTTOM OF WELL
420.30	10.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	3.0
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.00
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	10.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-50VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-50

STATE PLANE COORDINATE: X 2316867.73E Y 791587.43N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hand Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

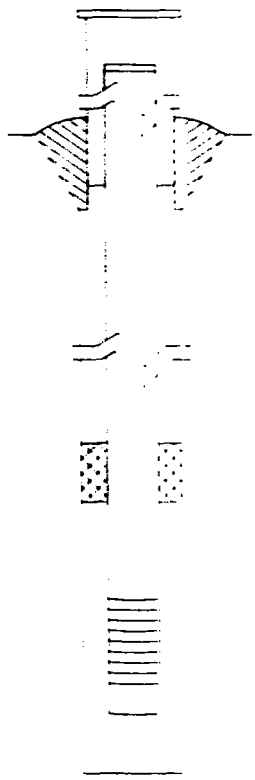
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.00	0.00	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.00	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.20	2.80	TOP OF SEAL
425.70	5.30	TOP OF SANDPACK
425.20	5.80	TOP OF SCREEN
424.70	6.30	BOTTOM OF SCREEN
424.50	6.50	BOTTOM OF WELL
420.30	10.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	3.0
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.80
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	6.50
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-51S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-51

STATE PLANE COORDINATE: X 2316722.60E Y 791572.92N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/08/04 DATE FINISHED: 12/08/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

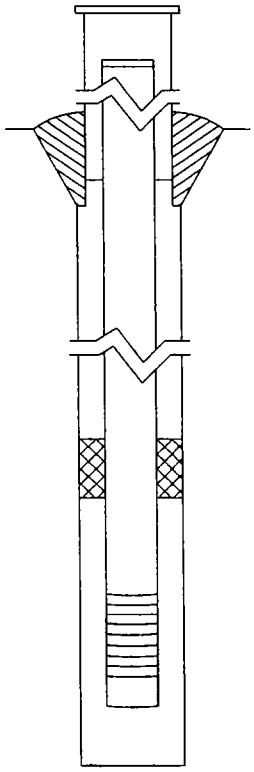
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.44	-0.04	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
423.90	7.50	TOP OF SEAL
420.60	10.80	TOP OF SANDPACK
420.10	11.30	TOP OF SCREEN
419.60	11.80	BOTTOM OF SCREEN
419.40	12.00	BOTTOM OF WELL
419.40	12.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	11.30
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	12.00
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: VMP-51VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-51

STATE PLANE COORDINATE: X 2316722.88E Y 791572.92N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/08/04 DATE FINISHED: 12/08/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

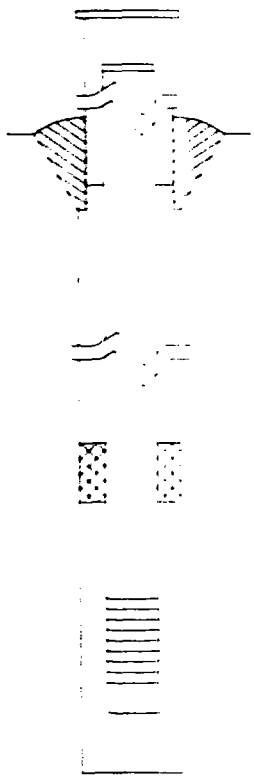
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.44	-0.04	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.60	2.80	TOP OF SEAL
425.60	5.80	TOP OF SANDPACK
425.10	6.30	TOP OF SCREEN
424.60	6.80	BOTTOM OF SCREEN
424.40	7.00	BOTTOM OF WELL
419.40	12.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.30
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	7.00
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-52S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-52

STATE PLANE COORDINATE: X 2316758.35E Y 791615.39N (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

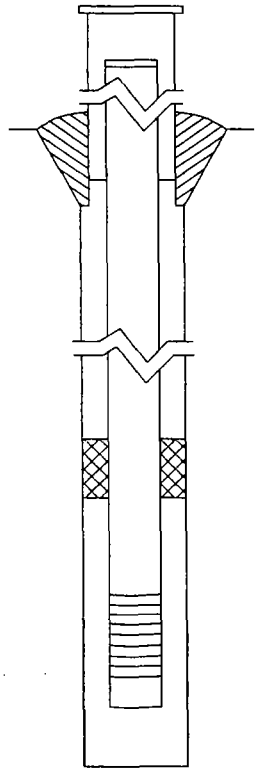
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.88	0.02	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
430.90	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
423.20	7.70	TOP OF SEAL
419.40	11.50	TOP OF SANDPACK
418.90	12.00	TOP OF SCREEN
418.40	12.50	BOTTOM OF SCREEN
418.20	12.70	BOTTOM OF WELL
418.20	12.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	12.00
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	12.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-52VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-52

STATE PLANE COORDINATE: X 2316758.35E Y 791615.30N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

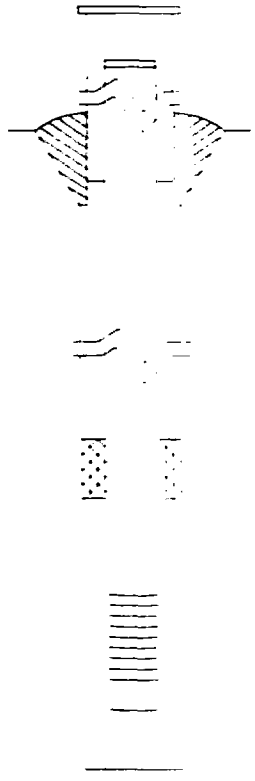
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.88	0.02	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
430.90	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.90	3.00	TOP OF SEAL
424.90	6.00	TOP OF SANDPACK
424.40	6.50	TOP OF SCREEN
423.90	7.00	BOTTOM OF SCREEN
423.70	7.20	BOTTOM OF WELL
418.20	12.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.50
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	7.20
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-53S (yellow)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-53

STATE PLANE COORDINATE: X 2316781.83E Y 791580.70N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

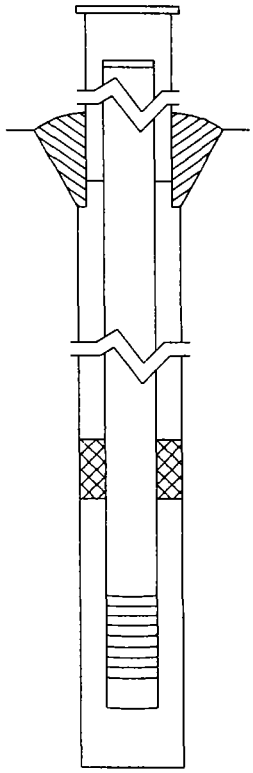
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.97	0.03	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.00	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
423.30	7.70	TOP OF SEAL
420.00	11.00	TOP OF SANDPACK
419.50	11.50	TOP OF SCREEN
419.00	12.00	BOTTOM OF SCREEN
418.80	12.20	BOTTOM OF WELL
418.80	12.20	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	11.50
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	12.20
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: VMP-53VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-53

STATE PLANE COORDINATE: X 2316781.83E Y 791580.78N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: S. Peterson

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: S. Peterson DATE STARTED: 12/09/04 DATE FINISHED: 12/09/04

REPORT FORM COMPLETED BY: M. Mueller DATE: 2/14/05 REVISED: 03/18/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

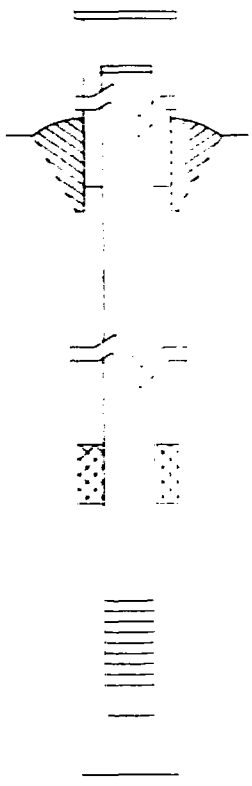
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.97	0.83	TOP OF PROTECTIVE CASING
N/A	N/A	TOP OF RISER PIPE
431.00	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.00	3.00	TOP OF SEAL
425.00	6.00	TOP OF SANDPACK
424.50	6.50	TOP OF SCREEN
424.00	7.00	BOTTOM OF SCREEN
423.80	7.20	BOTTOM OF WELL
418.80	12.20	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.50
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	7.20
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-97VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-97

STATE PLANE COORDINATE: X 2316417.72 (E) Y 791381.07 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 5/17/2005 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

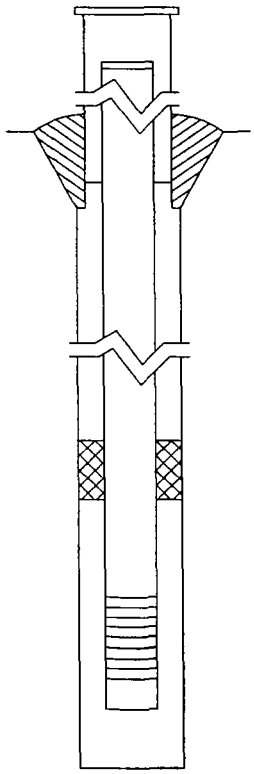
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.60	0.0	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
430.60	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
428.10	2.50	TOP OF SEAL
425.10	5.50	TOP OF SANDPACK
424.70	5.90	TOP OF SCREEN
424.20	6.40	BOTTOM OF SCREEN
423.90	6.70	BOTTOM OF WELL
423.60	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198585040 COUNTY: Madison WELL #: VMP-98VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-98

STATE PLANE COORDINATE: X 2316894.92 (E) Y 791209.28 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/28/05 DATE FINISHED: 04/28/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 5/02/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

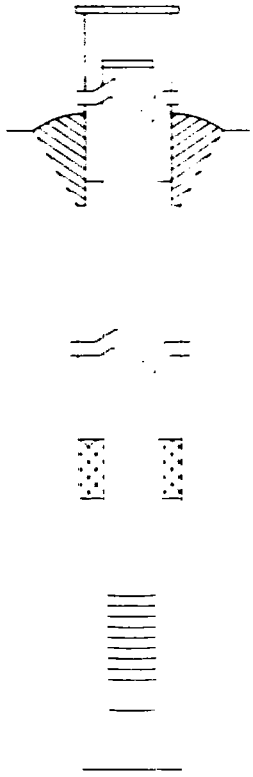
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.77	0.0	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
429.77	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
426.77	3.00	TOP OF SEAL
424.27	5.50	TOP OF SANDPACK
423.87	5.90	TOP OF SCREEN
423.37	6.40	BOTTOM OF SCREEN
423.07	6.70	BOTTOM OF WELL
422.77	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-99VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-99

STATE PLANE COORDINATE: X 2316794.26 (E) Y 791207.25 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

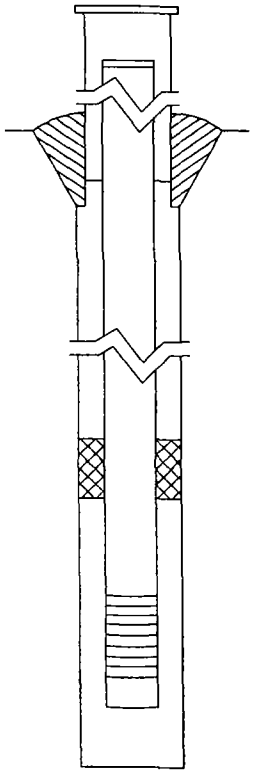
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.31	0.0	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
430.31	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.81	2.50	TOP OF SEAL
424.81	5.50	TOP OF SANDPACK
424.41	5.90	TOP OF SCREEN
423.91	6.40	BOTTOM OF SCREEN
423.61	6.70	BOTTOM OF WELL
423.31	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	8.5
OD OF RISER PIPE (In)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190305040 COUNTY: Madison WELL #: VMP-100VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-100

STATE PLANE COORDINATE: X 2316538.81 (E) Y 790134.79 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/25/05 DATE FINISHED: 04/25/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

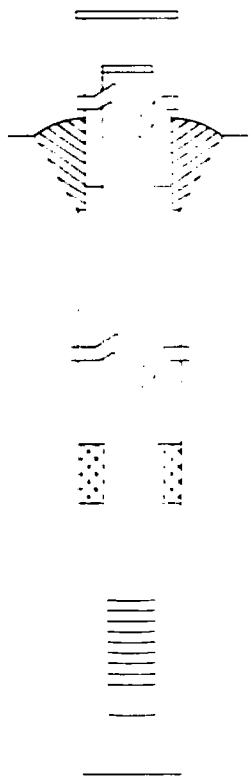
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
425.74	0.0	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
425.74	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
423.24	2.50	TOP OF SEAL
420.24	5.50	TOP OF SANDPACK
419.84	5.90	TOP OF SCREEN
419.34	6.40	BOTTOM OF SCREEN
419.04	6.70	BOTTOM OF WELL
418.74	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-101VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-101

STATE PLANE COORDINATE: X 2316402.25 (E) Y 791063.90 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

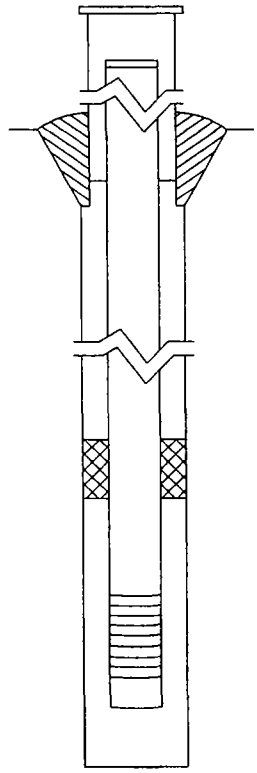
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
427.61	0.00	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
427.61	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
425.11	2.50	TOP OF SEAL
422.11	5.50	TOP OF SANDPACK
421.71	5.90	TOP OF SCREEN
421.21	6.40	BOTTOM OF SCREEN
420.91	6.70	BOTTOM OF WELL
420.61	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-102VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-102

STATE PLANE COORDINATE: X 2316800.48 (E) Y 790291.77 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

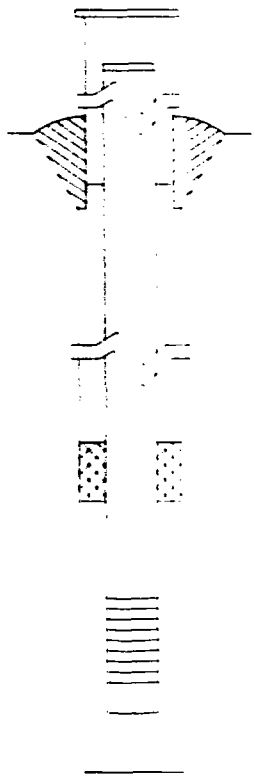
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.41	0.00	TOP OF PROTECTIVE CASING
--	--	TOP OF RISER PIPE
432.41	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
-	-	STATIC WATER LEVEL (AFTER COMPLETION)
429.91	2.50	TOP OF SEAL
426.91	5.50	TOP OF SANDPACK
426.51	5.90	TOP OF SCREEN
426.01	6.40	BOTTOM OF SCREEN
425.71	6.70	BOTTOM OF WELL
425.41	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

-- 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-103VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-103

STATE PLANE COORDINATE: X 2317303.72 (E) Y 791218.83 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/03/05 DATE FINISHED: 05/03/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/04/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

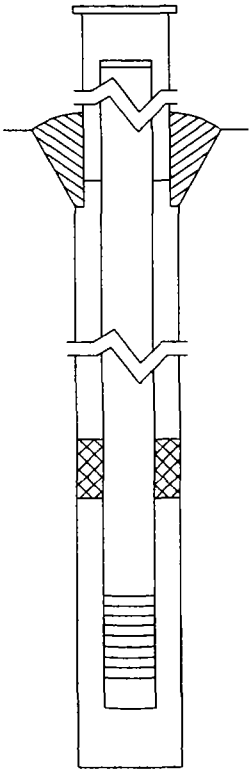
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.40	0.00	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
428.40	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
425.90	2.50	TOP OF SEAL
422.90	5.50	TOP OF SANDPACK
422.50	5.90	TOP OF SCREEN
422.00	6.40	BOTTOM OF SCREEN
421.70	6.70	BOTTOM OF WELL
421.40	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198585040 COUNTY: Madison WELL #: VMP-104VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-104

STATE PLANE COORDINATE: X 2316798.80 (E) Y 790879.86 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/27/05 DATE FINISHED: 04/27/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

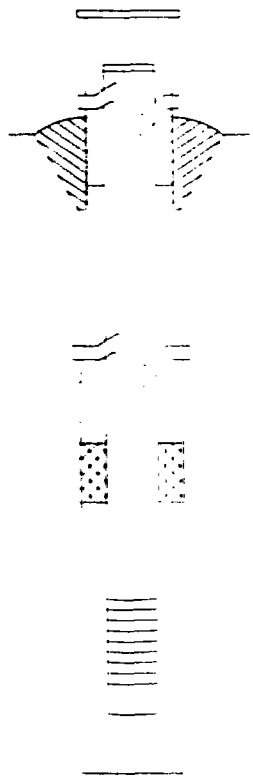
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.64	0.00	TOP OF PROTECTIVE CASING
--	--	TOP OF RISER PIPE
431.64	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
429.14	2.50	TOP OF SEAL
426.14	5.50	TOP OF SANDPACK
425.64	6.00	TOP OF SCREEN
425.14	6.50	BOTTOM OF SCREEN
424.94	6.70	BOTTOM OF WELL
424.64	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing
SCREEN	Stainless Steel Mesh

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	8.00
BOTTOM OF SCREEN TO END CAP (ft)	0.20
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: VMP-105VS (white)

SITE NAME: Village of Hartford, Illinois BOREHOLE #: VMP-105

STATE PLANE COORDINATE: X 2316974.88 (E) Y 790177.54 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly, Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/14/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

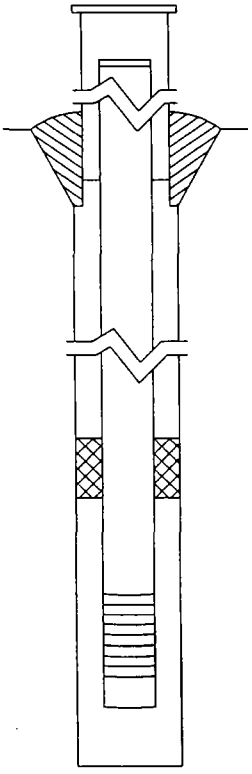
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
432.36	0.00	TOP OF PROTECTIVE CASING
**	**	TOP OF RISER PIPE
432.36	0	GROUND SURFACE
N/A	N/A	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
429.86	2.50	TOP OF SEAL
426.86	5.50	TOP OF SANDPACK
426.46	5.90	TOP OF SCREEN
425.96	6.40	BOTTOM OF SCREEN
425.66	6.70	BOTTOM OF WELL
425.36	7.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

** 2' of SS TUBING ABOVE GROUND SURFACE

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	1/8 " Stainless Steel Tubing	
RISER PIPE BELOW W.T.	1/8 " Stainless Steel Tubing	
SCREEN	Stainless Steel Mesh	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
OD OF RISER PIPE (in)	0.125
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.90
BOTTOM OF SCREEN TO END CAP (ft)	0.30
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	0.50
TOTAL LENGTH OF CASING (ft)	8.70
SCREEN SLOT SIZE **	N/A

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

BUREAU VERITAS

APPENDIX A-4

MONITORING WELL COMPLETION REPORTS

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: HMW-44D

SITE NAME: Premcor Refining Group, Illinois BOREHOLE #: HMW-44D

STATE PLANE COORDINATE: X 2317678.52(E) Y 790116.48 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A.Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 150 gallons water

LOGGED BY: A.Schultz DATE STARTED: 08/11/05 DATE FINISHED: 08/11/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 08/18/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: *Tremie Pipe*

SETTING TIME: ~ 24HRS

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

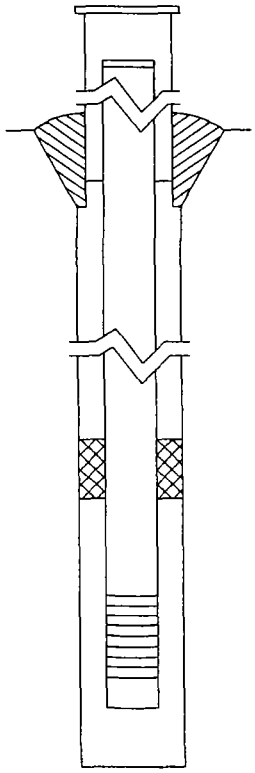
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.76	0.06	TOP OF RISER PIPE
429.82	0	GROUND SURFACE
426.82	3.00	TOP OF ANNULAR SEALANT
398.28	31.54	STATIC WATER LEVEL (AFTER COMPLETION)
391.82	38.00	TOP OF SEAL
387.42	42.40	TOP OF SANDPACK
384.82	45.00	TOP OF SCREEN
380.42	49.40	BOTTOM OF SCREEN
379.82	50.00	BOTTOM OF WELL
379.82	50.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	8.5
ID OF RISER PIPE (In)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	44.94
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.4
TOTAL LENGTH OF CASING (ft)	49.70
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 / ILR000128240 COUNTY: Madison WELL #: HMW-53A

SITE NAME: Premcor Refining Group / Hartford, Illinois BOREHOLE #: HMW-53

STATE PLANE COORDINATE: X 2317753.17(E) Y 789721.77 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Marlo

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): NA

LOGGED BY: A. Schultz DATE STARTED: 08/10/05 DATE FINISHED: 08/10/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 09/19/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hours

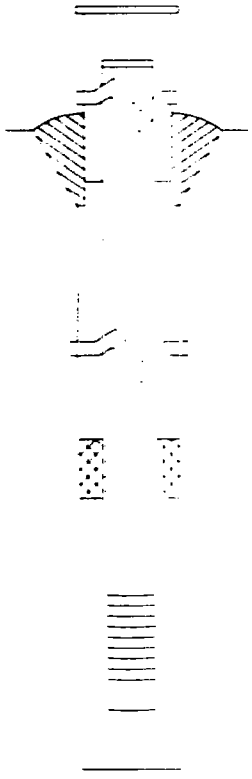
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.73	0.24	TOP OF RISER PIPE
429.97	0	GROUND SURFACE
NA	NA	TOP OF ANNULAR SEALANT
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
426.97	3.00	TOP OF SEAL
420.17	9.80	TOP OF SANDPACK
419.17	10.80	TOP OF SCREEN
414.67	15.30	BOTTOM OF SCREEN
414.17	15.80	BOTTOM OF WELL
413.47	16.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.56
BOTTOM OF SCREEN TO END CAP (ft)	0.5
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.5
TOTAL LENGTH OF CASING (ft)	15.56
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: HMW-53B

SITE NAME: Premcor Refining Group / Hartford, Illinois BOREHOLE #: HMW-53

STATE PLANE COORDINATE: X 2317754.38(E) Y 789716.85 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Marlo

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 75 Gallons (Water)

LOGGED BY: A. Schultz DATE STARTED: 08/09/05 DATE FINISHED: 08/09/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 09/19/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hr

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ----

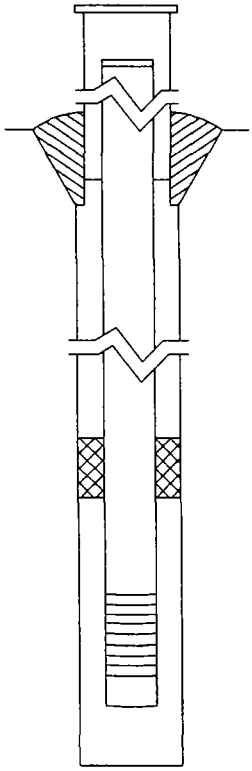
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.76	0.21	TOP OF RISER PIPE
429.97	0	GROUND SURFACE
426.97	3.00	TOP OF ANNULAR SEALANT
398.48	31.49	STATIC WATER LEVEL (AFTER COMPLETION)
408.47	21.50	TOP OF SEAL
405.67	24.30	TOP OF SANDPACK
403.97	26.00	TOP OF SCREEN
389.57	40.40	BOTTOM OF SCREEN
388.97	41.00	BOTTOM OF WELL
385.97	44.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	25.79
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.4
TOTAL LENGTH OF CASING (ft)	40.79
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 / ILR000128240 COUNTY: Madison WELL #: HMW-53C

SITE NAME: Premcor Refining Group / Hartford, Illinois BOREHOLE #: HMW-53

STATE PLANE COORDINATE: X 2317755.56(E) Y 789708.30 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): Water 150 gallons

LOGGED BY: A. Schultz DATE STARTED: 08/10/05 DATE FINISHED: 08/10/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 09/19/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hr

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: —

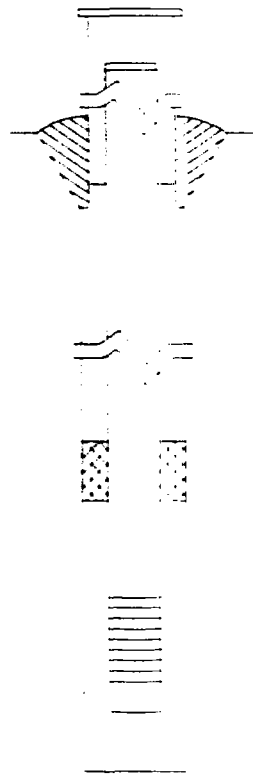
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.66	0.31	TOP OF RISER PIPE
429.97	0	GROUND SURFACE
426.97	3.00	TOP OF ANNULAR SEALANT
398.49	31.48	STATIC WATER LEVEL (AFTER COMPLETION)
392.47	37.50	TOP OF SEAL
389.47	40.50	TOP OF SANDPACK
387.97	42.00	TOP OF SCREEN
383.27	46.70	BOTTOM OF SCREEN
382.97	47.00	BOTTOM OF WELL
381.97	48.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	41.69
BOTTOM OF SCREEN TO END CAP (ft)	0.3
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.7
TOTAL LENGTH OF CASING (ft)	46.69
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: HMW-54A

SITE NAME: Premcor Refining Group / Hartford, Illinois BOREHOLE #: HMW-54

STATE PLANE COORDINATE: X 2317733.01(E) Y 789858.03 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): NA

LOGGED BY: A. Schultz DATE STARTED: 08/10/05 DATE FINISHED: 08/10/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 09/19/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~24 hrs

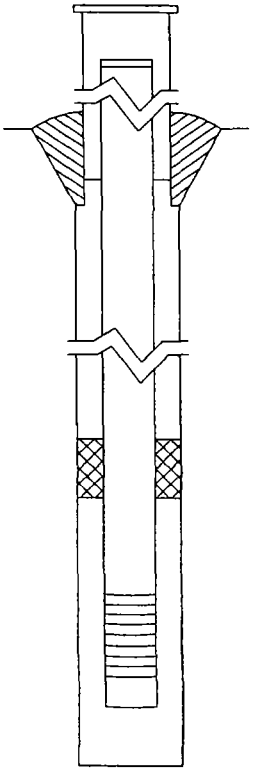
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.54	0.31	TOP OF RISER PIPE
429.85	0	GROUND SURFACE
NA	NA	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
426.85	3.00	TOP OF SEAL
420.15	9.70	TOP OF SANDPACK
419.15	10.70	TOP OF SCREEN
414.65	15.20	BOTTOM OF SCREEN
414.15	15.70	BOTTOM OF WELL
413.15	16.70	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	10.39
BOTTOM OF SCREEN TO END CAP (ft)	0.5
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.5
TOTAL LENGTH OF CASING (ft)	15.39
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 / ILR000128240 COUNTY: Madison WELL #: HMW-54B

SITE NAME: Premcor Refining Group / Hartford, Illinois BOREHOLE #: HMW-54

STATE PLANE COORDINATE: X 2317732.55(E) Y 780062.45 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: T.J. Grisel

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 100 Gallons (Water)

LOGGED BY: T.J. Grisel DATE STARTED: 08/10/05 DATE FINISHED: 08/10/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 09/19/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hr

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: —

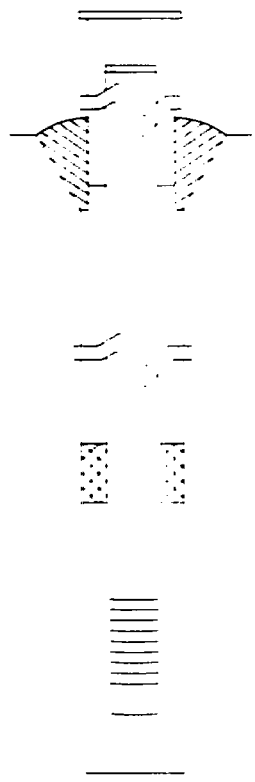
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.55	0.30	TOP OF RISER PIPE
429.85	0	GROUND SURFACE
426.85	3.00	TOP OF ANNULAR SEALANT
398.37	31.48	STATIC WATER LEVEL (AFTER COMPLETION)
404.95	24.90	TOP OF SEAL
401.85	28.00	TOP OF SANDPACK
400.35	29.50	TOP OF SCREEN
385.95	43.90	BOTTOM OF SCREEN
385.35	44.50	BOTTOM OF WELL
382.85	47.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	29.2
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.4
TOTAL LENGTH OF CASING (ft)	44.20
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: HMW-54C

SITE NAME: Premcor Refining Group / Hartford, Illinois BOREHOLE #: HMW-54

STATE PLANE COORDINATE: X 2317731.88(E) Y 789867.08 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, and Tilly Inc. ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Mario

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: A. Schultz

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 150 Gallons (Water)

LOGGED BY: A. Schultz DATE STARTED: 08/08/05 DATE FINISHED: 08/08/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 09/19/05 REVISED: 10/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hr

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: —

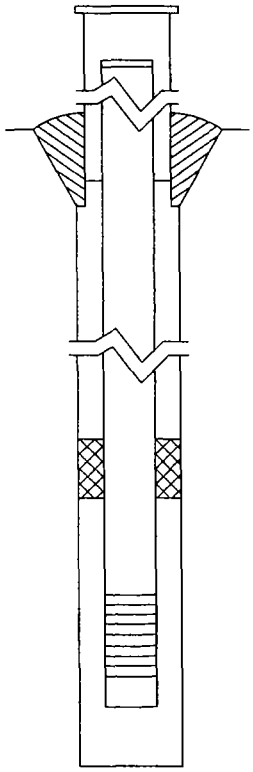
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
NA	NA	TOP OF PROTECTIVE CASING
429.56	0.29	TOP OF RISER PIPE
429.85	0	GROUND SURFACE
426.85	3.00	TOP OF ANNULAR SEALANT
398.38	31.47	STATIC WATER LEVEL (AFTER COMPLETION)
390.85	39.00	TOP OF SEAL
386.85	43.00	TOP OF SANDPACK
385.15	44.70	TOP OF SCREEN
380.45	49.40	BOTTOM OF SCREEN
380.15	49.70	BOTTOM OF WELL
379.85	50.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	8.5
ID OF RISER PIPE (in)	2.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	44.41
BOTTOM OF SCREEN TO END CAP (ft)	0.3
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.7
TOTAL LENGTH OF CASING (ft)	49.41
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-01A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-01

STATE PLANE COORDINATE: X 2315811.29 E Y 788259.05 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 200 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/03/05 DATE FINISHED: 06/03/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 06/23/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

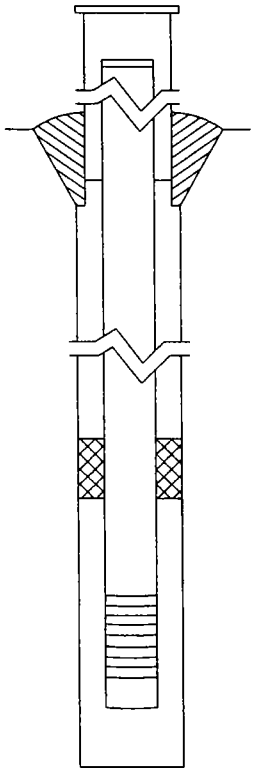
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
425.84	0.51	TOP OF RISER PIPE
426.35	0	GROUND SURFACE
423.35	3.00	TOP OF ANNULAR SEALANT
402.14	24.21	STATIC WATER LEVEL (AFTER COMPLETION)
408.35	18.00	TOP OF SEAL
403.35	23.00	TOP OF SANDPACK
401.66	24.69	TOP OF SCREEN
387.06	39.29	BOTTOM OF SCREEN
386.35	40.00	BOTTOM OF WELL
386.35	40.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.18
BOTTOM OF SCREEN TO END CAP (ft)	0.71
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.60
TOTAL LENGTH OF CASING (ft)	39.49
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: HP-01B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-01

STATE PLANE COORDINATE: X 2315888.87 E Y 788252.78 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 580 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/03/05 DATE FINISHED: 06/03/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 06/23/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: –

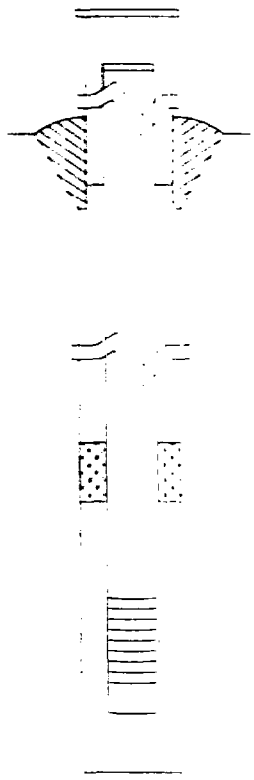
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
425.77	0.51	TOP OF RISER PIPE
426.28	0	GROUND SURFACE
423.28	3.00	TOP OF ANNULAR SEALANT
402.16	24.12	STATIC WATER LEVEL (AFTER COMPLETION)
370.17	56.11	TOP OF SEAL
365.68	60.60	TOP OF SANDPACK
363.44	62.84	TOP OF SCREEN
358.99	67.29	BOTTOM OF SCREEN
358.28	68.00	BOTTOM OF WELL
358.28	68.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	62.33
BOTTOM OF SCREEN TO END CAP (ft)	0.71
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.45
TOTAL LENGTH OF CASING (ft)	67.49
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-01C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-01

STATE PLANE COORDINATE: X 2315808.23 E Y 788248.10 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 1200 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/02/05 DATE FINISHED: 06/02/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 06/23/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

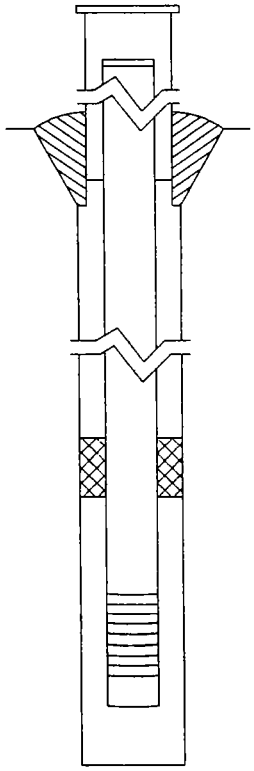
TYPE OF SAND PACK: Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
425.84	0.30	TOP OF RISER PIPE
426.14	0	GROUND SURFACE
423.14	3.00	TOP OF ANNULAR SEALANT
402.11	24.03	STATIC WATER LEVEL (AFTER COMPLETION)
341.14	85.00	TOP OF SEAL
336.14	90.00	TOP OF SANDPACK
333.14	93.00	TOP OF SCREEN
328.70	97.44	BOTTOM OF SCREEN
328.14	98.00	BOTTOM OF WELL
326.14	100.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	92.70
BOTTOM OF SCREEN TO END CAP (ft)	0.56
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.44
TOTAL LENGTH OF CASING (ft)	97.70
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-02

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-02

STATE PLANE COORDINATE: X 2315838.11 E Y 788482.12 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 150 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/14/05 DATE FINISHED: 06/14/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/16/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

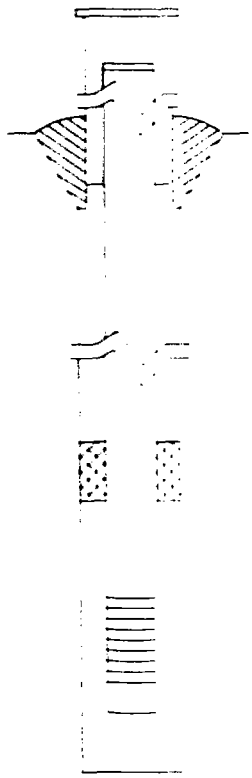
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
429.92	0.34	TOP OF RISER PIPE
430.26	0	GROUND SURFACE
427.26	3.00	TOP OF ANNULAR SEALANT
402.42	27.84	STATIC WATER LEVEL (AFTER COMPLETION)
414.26	16.00	TOP OF SEAL
407.84	22.42	TOP OF SANDPACK
404.97	25.29	TOP OF SCREEN
390.47	39.79	BOTTOM OF SCREEN
389.93	40.33	BOTTOM OF WELL
385.26	45.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.95
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.50
TOTAL LENGTH OF CASING (ft)	39.99
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-03A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-03

STATE PLANE COORDINATE: X 2316128.57 E Y 788560.11 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 250 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/07/05 DATE FINISHED: 06/07/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

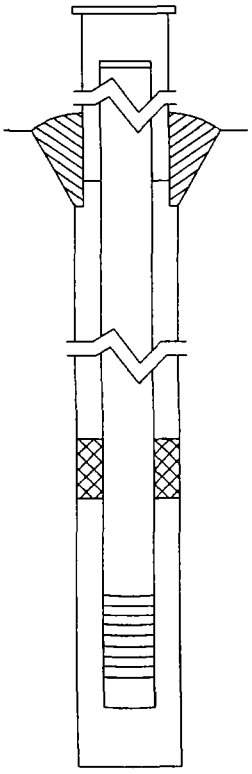
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
429.28	0.36	TOP OF RISER PIPE
429.64	0	GROUND SURFACE
426.64	3.00	TOP OF ANNULAR SEALANT
402.42	27.22	STATIC WATER LEVEL (AFTER COMPLETION)
406.96	22.68	TOP OF SEAL
402.64	27.00	TOP OF SANDPACK
399.66	29.98	TOP OF SCREEN
385.18	44.46	BOTTOM OF SCREEN
384.64	45.00	BOTTOM OF WELL
384.64	45.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	29.62
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.48
TOTAL LENGTH OF CASING (ft)	44.64
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: HP-03B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-03

STATE PLANE COORDINATE: X 2316122.52 E Y 788588.88 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 300 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/07/05 DATE FINISHED: 06/07/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

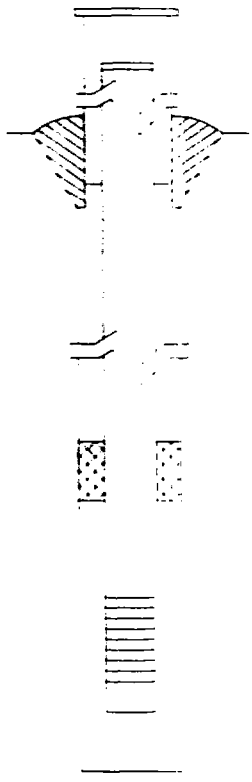
TYPE OF SAND PACK: Silica

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
429.24	0.38	TOP OF RISER PIPE
429.62	0	GROUND SURFACE
426.62	3.00	TOP OF ANNULAR SEALANT
402.34	27.28	STATIC WATER LEVEL (AFTER COMPLETION)
368.91	60.71	TOP OF SEAL
364.62	65.00	TOP OF SANDPACK
362.65	66.97	TOP OF SCREEN
358.18	71.44	BOTTOM OF SCREEN
357.62	72.00	BOTTOM OF WELL
357.62	72.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	66.59
BOTTOM OF SCREEN TO END CAP (ft)	0.56
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.47
TOTAL LENGTH OF CASING (ft)	71.62
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-03C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-03

STATE PLANE COORDINATE: X 2316116.08 E Y 788561.28 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 800 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/06/05 DATE FINISHED: 06/06/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: –

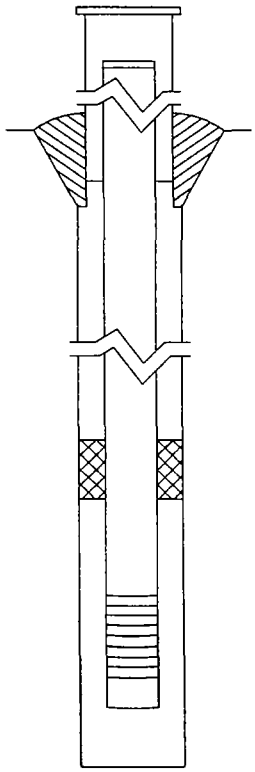
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING	N/A	N/A
TOP OF RISER PIPE	429.10	0.38
GROUND SURFACE	429.48	0
TOP OF ANNULAR SEALANT	426.48	3.00
STATIC WATER LEVEL (AFTER COMPLETION)	402.35	27.13
TOP OF SEAL	339.78	89.70
TOP OF SANDPACK	334.68	94.80
TOP OF SCREEN	332.48	97.00
BOTTOM OF SCREEN	328.02	101.46
BOTTOM OF WELL	327.48	102.00
BOTTOM OF BOREHOLE	301.48	128.00

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	96.62
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.46
TOTAL LENGTH OF CASING (ft)	101.62
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 COUNTY: Madison WELL #: HP-04A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-04

STATE PLANE COORDINATE: X 2316773.74 E Y 788940.91 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 150 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/14/05 DATE FINISHED: 06/14/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

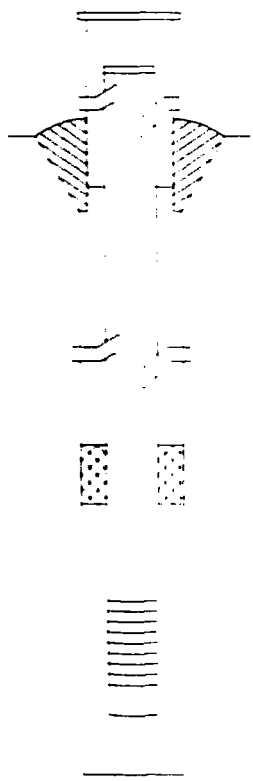
TYPE OF SAND PACK: Silica

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
430.94	0.36	TOP OF RISER PIPE
431.30	0	GROUND SURFACE
428.30	3.00	TOP OF ANNULAR SEALANT
402.01	29.29	STATIC WATER LEVEL (AFTER COMPLETION)
408.10	23.20	TOP OF SEAL
404.27	27.03	TOP OF SANDPACK
400.95	30.35	TOP OF SCREEN
386.46	44.84	BOTTOM OF SCREEN
385.92	45.38	BOTTOM OF WELL
385.90	45.40	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	29.99
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.49
TOTAL LENGTH OF CASING (ft)	45.02
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-04B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-04

STATE PLANE COORDINATE: X 2316773.68 E Y 788942.91 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 300 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/14/05 DATE FINISHED: 06/14/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

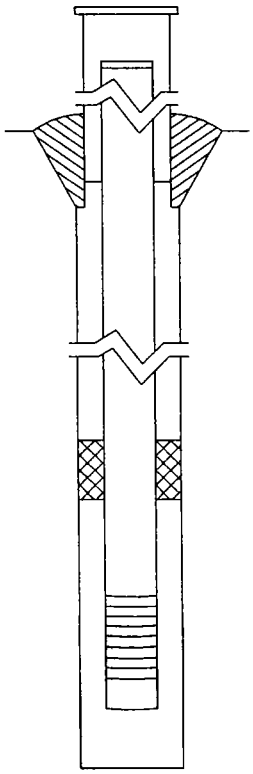
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
430.94	0.37	TOP OF RISER PIPE
431.31	0	GROUND SURFACE
428.31	3.00	TOP OF ANNULAR SEALANT
402.03	29.28	STATIC WATER LEVEL (AFTER COMPLETION)
370.03	61.28	TOP OF SEAL
365.91	65.40	TOP OF SANDPACK
363.03	68.28	TOP OF SCREEN
358.59	72.72	BOTTOM OF SCREEN
358.05	73.26	BOTTOM OF WELL
357.81	73.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	68.65
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.44
TOTAL LENGTH OF CASING (ft)	73.63
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-04C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-04

STATE PLANE COORDINATE: X 2316773.65 E Y 788837.86 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamanna

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 600 gallons

LOGGED BY: D. Lamanna DATE STARTED: 06/08/05 DATE FINISHED: 06/08/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: -

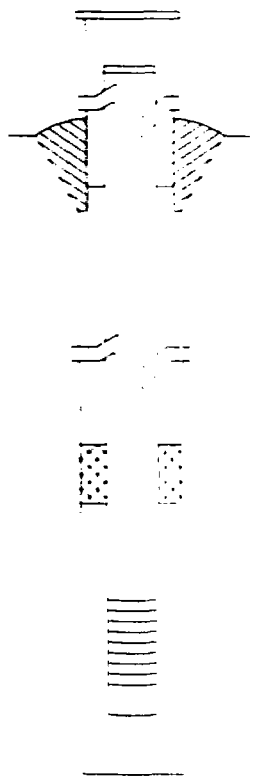
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING	N/A	N/A
TOP OF RISER PIPE	430.96	0.36
GROUND SURFACE	431.32	0
TOP OF ANNULAR SEALANT	428.32	3.00
STATIC WATER LEVEL (AFTER COMPLETION)	402.06	29.26
TOP OF SEAL	340.13	91.19
TOP OF SANDPACK	335.11	96.21
TOP OF SCREEN	333.09	98.23
BOTTOM OF SCREEN	328.65	102.67
BOTTOM OF WELL	328.11	103.21
BOTTOM OF BOREHOLE	311.32	120.00

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	97.87
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.44
TOTAL LENGTH OF CASING (ft)	102.85
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-05A

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-05

STATE PLANE COORDINATE: X 2315709.46 E Y 787986.16 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 300 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/04/05 DATE FINISHED: 06/04/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

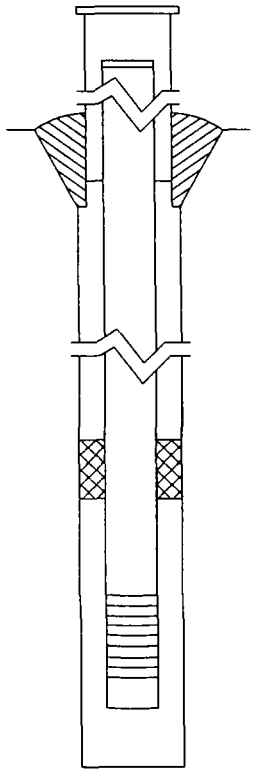
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
TOP OF PROTECTIVE CASING	N/A	N/A	
TOP OF RISER PIPE	424.42	0.51	
GROUND SURFACE	424.93	0	
TOP OF ANNULAR SEALANT	421.93	3.00	
STATIC WATER LEVEL (AFTER COMPLETION)	402.78	22.15	
TOP OF SEAL	406.43	18.50	
TOP OF SANDPACK	402.33	22.60	
TOP OF SCREEN	399.94	24.99	
BOTTOM OF SCREEN	385.48	39.45	
BOTTOM OF WELL	384.93	40.00	
BOTTOM OF BOREHOLE	304.93	120.00	

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.39
BOTTOM OF SCREEN TO END CAP (ft)	0.55
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.46
TOTAL LENGTH OF CASING (ft)	39.40
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-05B

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-05

STATE PLANE COORDINATE: X 2315713.75 E Y 787986.98 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buchanberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 250 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/05/05 DATE FINISHED: 06/05/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

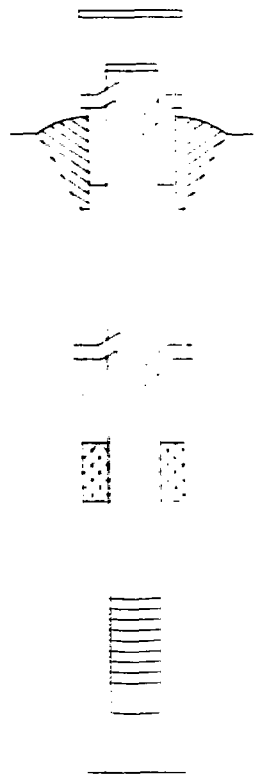
TYPE OF SAND PACK: Silica

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
N/A	N/A	TOP OF PROTECTIVE CASING
424.58	0.31	TOP OF RISER PIPE
424.89	0	GROUND SURFACE
421.89	3.00	TOP OF ANNULAR SEALANT
402.69	22.20	STATIC WATER LEVEL (AFTER COMPLETION)
371.59	53.30	TOP OF SEAL
366.49	58.40	TOP OF SANDPACK
363.88	61.01	TOP OF SCREEN
359.43	65.46	BOTTOM OF SCREEN
358.89	66.00	BOTTOM OF WELL
358.39	66.50	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	60.70
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.45
TOTAL LENGTH OF CASING (ft)	65.69
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-05C

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-05

STATE PLANE COORDINATE: X 2315711.31 E Y 787989.95 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 700 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/04/05 DATE FINISHED: 06/04/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: –

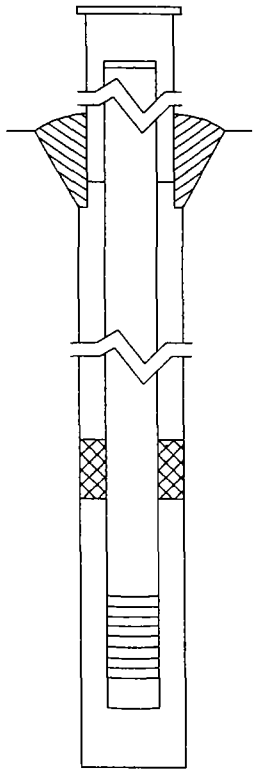
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
	N/A	N/A	TOP OF PROTECTIVE CASING
	424.43	0.45	TOP OF RISER PIPE
	424.88	0	GROUND SURFACE
	421.88	3.00	TOP OF ANNULAR SEALANT
	402.71	22.17	STATIC WATER LEVEL (AFTER COMPLETION)
	344.25	80.63	TOP OF SEAL
	338.38	86.50	TOP OF SANDPACK
	333.88	91.00	TOP OF SCREEN
	329.43	95.45	BOTTOM OF SCREEN
	328.88	96.00	BOTTOM OF WELL
	297.88	127.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	90.55
BOTTOM OF SCREEN TO END CAP (ft)	0.55
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.45
TOTAL LENGTH OF CASING (ft)	95.55
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-06

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-06

STATE PLANE COORDINATE: X 2315795.76 E Y 787922.82 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-082214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 200 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/05/05 DATE FINISHED: 06/05/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/15/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

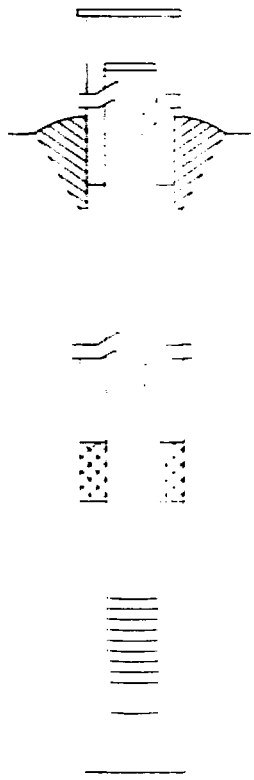
TYPE OF SAND PACK: Silica

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING	N/A	N/A
TOP OF RISER PIPE	425.88	0.38
GROUND SURFACE	426.26	0
TOP OF ANNULAR SEALANT	423.26	3.00
STATIC WATER LEVEL (AFTER COMPLETION)	402.83	23.43
TOP OF SEAL	409.26	17.00
TOP OF SANDPACK	404.03	22.23
TOP OF SCREEN	401.28	24.98
BOTTOM OF SCREEN	386.80	39.46
BOTTOM OF WELL	386.26	40.00
BOTTOM OF BOREHOLE	381.26	45.00

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	24.60
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.48
TOTAL LENGTH OF CASING (ft)	39.62
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-07

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-07

STATE PLANE COORDINATE: X 2316105.93 E Y 787771.17 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water

LOGGED BY: D. Lamsma DATE STARTED: 06/14/05 DATE FINISHED: 06/14/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/16/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

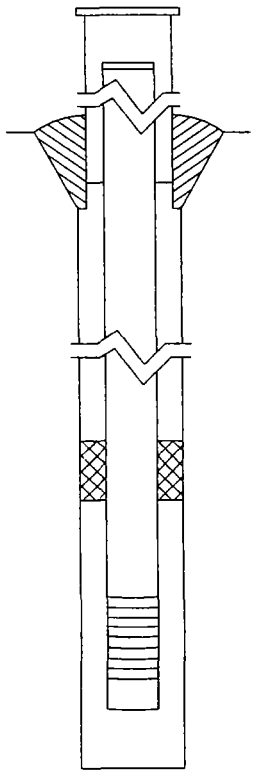
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING	N/A	N/A
TOP OF RISER PIPE	429.04	0.36
GROUND SURFACE	429.40	0
TOP OF ANNULAR SEALANT	426.40	3.00
STATIC WATER LEVEL (AFTER COMPLETION)	403.06	26.34
TOP OF SEAL	406.36	23.04
TOP OF SANDPACK	401.61	27.79
TOP OF SCREEN	398.85	30.55
BOTTOM OF SCREEN	384.40	45.00
BOTTOM OF WELL	383.85	45.55
BOTTOM OF BOREHOLE	383.80	45.60

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	30.19
BOTTOM OF SCREEN TO END CAP (ft)	0.55
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.45
TOTAL LENGTH OF CASING (ft)	45.19
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-08

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-08

STATE PLANE COORDINATE: X 2316214.49 E Y 789082.75 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-082214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 200 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/15/05 DATE FINISHED: 06/15/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/16/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

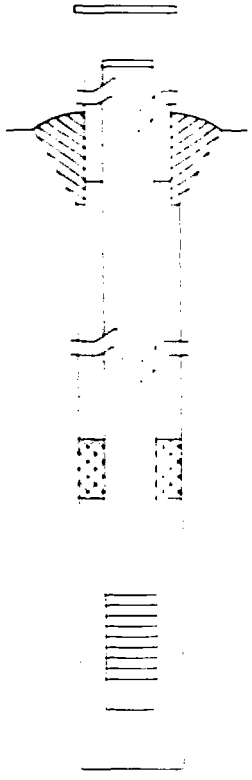
TYPE OF SAND PACK: Silica

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
	N/A	N/A	TOP OF PROTECTIVE CASING
	429.81	0.26	TOP OF RISER PIPE
	430.07	0	GROUND SURFACE
	427.07	3.00	TOP OF ANNULAR SEALANT
	402.95	27.12	STATIC WATER LEVEL (AFTER COMPLETION)
	412.67	17.40	TOP OF SEAL
	408.05	22.02	TOP OF SANDPACK
	404.49	25.58	TOP OF SCREEN
	390.00	40.07	BOTTOM OF SCREEN
	389.45	40.62	BOTTOM OF WELL
	385.07	45.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	25.32
BOTTOM OF SCREEN TO END CAP (ft)	0.55
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.49
TOTAL LENGTH OF CASING (ft)	40.36
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HP-09

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HP-09

STATE PLANE COORDINATE: X 2316668.94 E Y 788081.06 N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Boart Longyear DRILLER: R. Buckenberger

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: D. Lamsma

DRILLING METHOD: Rotasonic DRILLING FLUIDS (TYPE): Water 200 gallons

LOGGED BY: D. Lamsma DATE STARTED: 06/15/05 DATE FINISHED: 06/15/05

REPORT FORM COMPLETED BY: A. Dorn DATE: 06/16/2005 REVISED: 07/05/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie Pipe

SETTING TIME: ~24 hrs

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: --

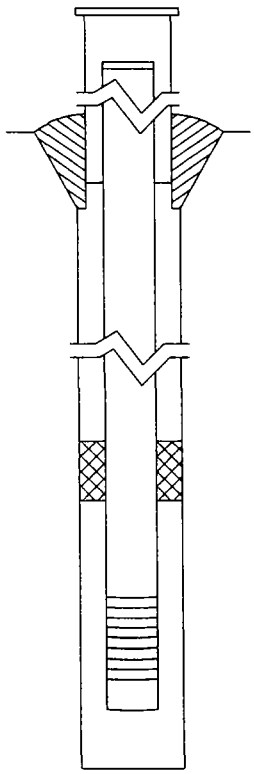
TYPE OF SAND PACK: Silica

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
TOP OF PROTECTIVE CASING	N/A	N/A	
TOP OF RISER PIPE	431.45	0.35	
GROUND SURFACE	431.80	0	
TOP OF ANNULAR SEALANT	428.80	3.00	
STATIC WATER LEVEL (AFTER COMPLETION)	402.78	29.02	
TOP OF SEAL	407.78	24.02	
TOP OF SANDPACK	403.90	27.90	
TOP OF SCREEN	401.61	30.19	
BOTTOM OF SCREEN	387.13	44.67	
BOTTOM OF WELL	386.59	45.21	
BOTTOM OF BOREHOLE	386.30	45.50	

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	6
ID OF RISER PIPE (in)	2
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	29.84
BOTTOM OF SCREEN TO END CAP (ft)	0.54
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	14.48
TOTAL LENGTH OF CASING (ft)	44.86
SCREEN SLOT SIZE **	0.010"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-2S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-2S

STATE PLANE COORDINATE: X 2316468.01 (E) Y 790901.22 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/21/05 DATE FINISHED: 04/21/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

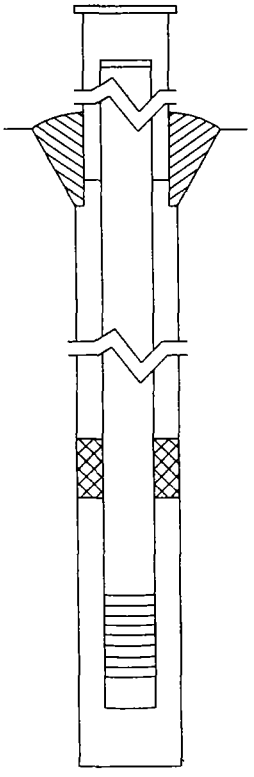
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.67	0	TOP OF PROTECTIVE CASING
428.32	0.35	TOP OF RISER PIPE
428.67	0	GROUND SURFACE
428.17	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
425.67	3.00	TOP OF SEAL
421.17	7.50	TOP OF SANDPACK
420.77	7.90	TOP OF SCREEN
411.27	17.40	BOTTOM OF SCREEN
410.67	18.00	BOTTOM OF WELL
410.67	18.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.55
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	17.65
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-3S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-3S

STATE PLANE COORDINATE: X 2316661.87 (E) Y 790904.90 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/19/05 DATE FINISHED: 04/19/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

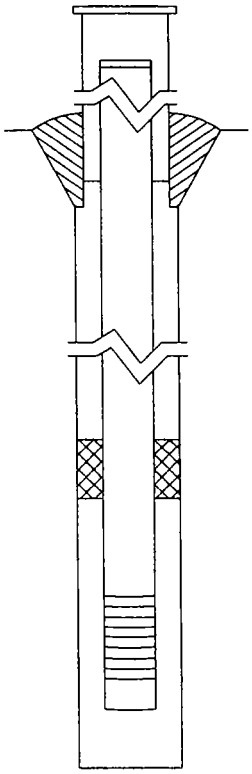
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.73	0	TOP OF PROTECTIVE CASING
430.39	0.34	TOP OF RISER PIPE
430.73	0	GROUND SURFACE
430.23	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.73	3.00	TOP OF SEAL
424.73	6.00	TOP OF SANDPACK
423.83	6.90	TOP OF SCREEN
414.33	16.40	BOTTOM OF SCREEN
413.73	17.00	BOTTOM OF WELL
413.73	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.56
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	16.66
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-4S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-4S

STATE PLANE COORDINATE: X 2316885.78 (E) Y 790911.01 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/21/05 DATE FINISHED: 04/21/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

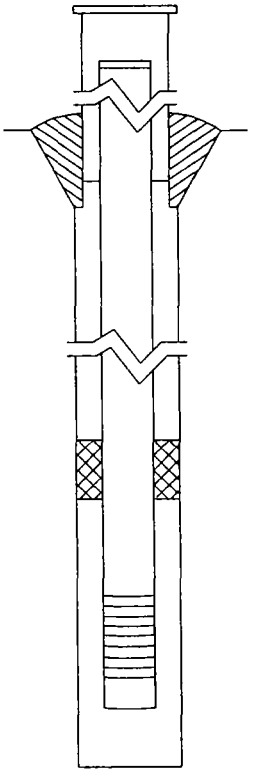
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.95	0	TOP OF PROTECTIVE CASING
430.61	0.34	TOP OF RISER PIPE
430.95	0	GROUND SURFACE
430.45	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.95	3.00	TOP OF SEAL
424.45	6.50	TOP OF SANDPACK
424.05	6.90	TOP OF SCREEN
414.55	16.40	BOTTOM OF SCREEN
413.95	17.00	BOTTOM OF WELL
413.95	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.56
BOTTOM OF SCREEN TO END CAP (ft)	0.8
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	16.66
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-5S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-5S

STATE PLANE COORDINATE: X 2316516.76 (E) Y 790600.56 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/21/05 DATE FINISHED: 04/21/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

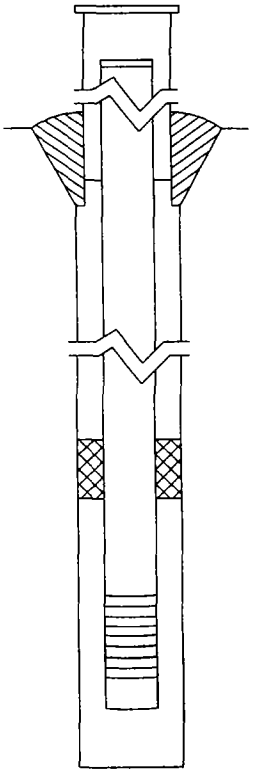
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)	
427.51	0	TOP OF PROTECTIVE CASING
427.22	0.29	TOP OF RISER PIPE
427.51	0	GROUND SURFACE
427.01	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
424.51	3.00	TOP OF SEAL
422.01	5.50	TOP OF SANDPACK
421.41	6.10	TOP OF SCREEN
416.91	10.60	BOTTOM OF SCREEN
416.51	11.00	BOTTOM OF WELL
416.51	11.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.81
BOTTOM OF SCREEN TO END CAP (ft)	0.4
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.5
TOTAL LENGTH OF CASING (ft)	10.71
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-7S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-7S

STATE PLANE COORDINATE: X 2317136.62 (E) Y 790594.35 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/26/05 DATE FINISHED: 04/26/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

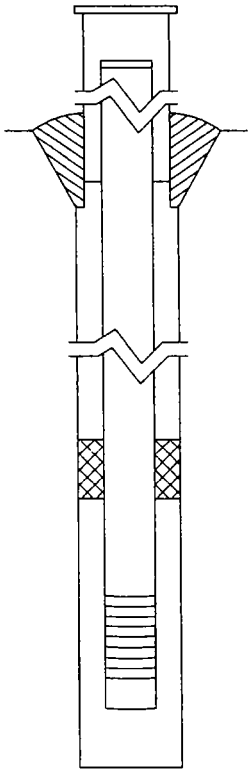
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)	
430.81	0	TOP OF PROTECTIVE CASING
429.67	1.14	TOP OF RISER PIPE
430.81	0	GROUND SURFACE
430.31	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.81	3.00	TOP OF SEAL
425.31	5.50	TOP OF SANDPACK
424.91	5.90	TOP OF SCREEN
420.41	10.40	BOTTOM OF SCREEN
419.81	11.00	BOTTOM OF WELL
419.81	11.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	4.76
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.5
TOTAL LENGTH OF CASING (ft)	9.86
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-9S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-9S

STATE PLANE COORDINATE: X 2317183.82 (E) Y 790289.53 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/02/05 DATE FINISHED: 05/02/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

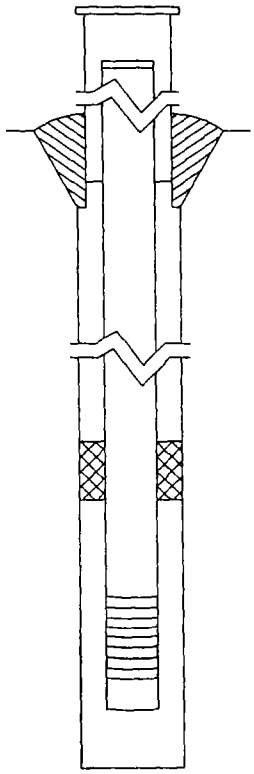
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.70	0	TOP OF PROTECTIVE CASING
429.54	1.16	TOP OF RISER PIPE
430.70	0	GROUND SURFACE
430.20	0.50	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.70	3.00	TOP OF SEAL
424.2	6.50	TOP OF SANDPACK
423.80	6.90	TOP OF SCREEN
419.30	11.40	BOTTOM OF SCREEN
418.70	12.00	BOTTOM OF WELL
418.70	12.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.74
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.5
TOTAL LENGTH OF CASING (ft)	10.84
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-10S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-10S

STATE PLANE COORDINATE: X 2317317.42 (E) Y 790287.64 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/02/05 DATE FINISHED: 05/02/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/17/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 minutes

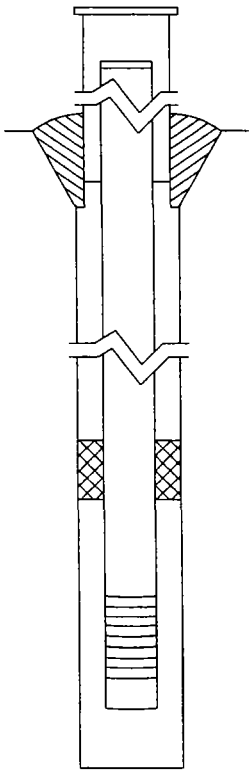
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.90	0	TOP OF PROTECTIVE CASING
429.73	1.17	TOP OF RISER PIPE
430.90	0	GROUND SURFACE
430.40	0.50	TOP OF ANNULAR SEALANT
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.90	3.00	TOP OF SEAL
423.4	7.50	TOP OF SANDPACK
421.90	9.00	TOP OF SCREEN
417.40	13.50	BOTTOM OF SCREEN
416.90	14.00	BOTTOM OF WELL
416.90	14.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.83
BOTTOM OF SCREEN TO END CAP (ft)	0.5
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.5
TOTAL LENGTH OF CASING (ft)	12.83
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-11S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-11S

STATE PLANE COORDINATE: X 2317317.42 (E) Y 790287.64 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 05/02/05 DATE FINISHED: 05/02/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/30/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

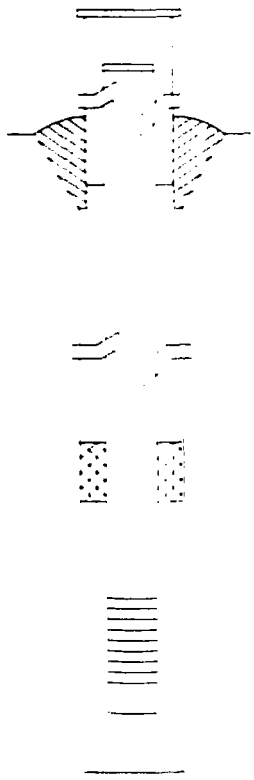
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.90	0	TOP OF PROTECTIVE CASING
429.73	1.17	TOP OF RISER PIPE
430.90	0	GROUND SURFACE
430.4	0.50	TOP OF PEA GRAVEL
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
427.90	3.00	TOP OF SEAL
425.40	5.50	TOP OF SANDPACK
425.00	5.90	TOP OF SCREEN
415.50	15.40	BOTTOM OF SCREEN
414.90	16.00	BOTTOM OF WELL
414.90	16.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	4.73
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	14.83
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-12S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-12S

STATE PLANE COORDINATE: X 2317420.84 (E) Y 789959.44 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/22/05 DATE FINISHED: 04/22/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 6/30/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

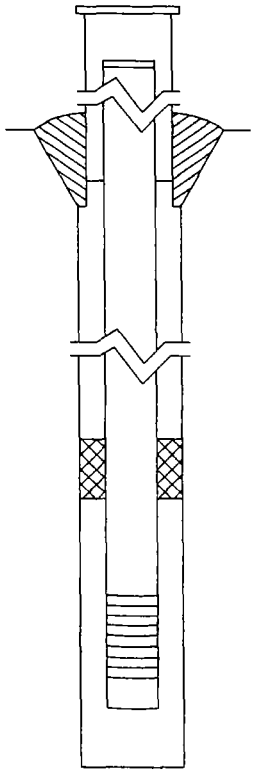
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
428.74	0	TOP OF PROTECTIVE CASING
428.40	0.34	TOP OF RISER PIPE
428.74	0	GROUND SURFACE
428.24	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
425.74	3.00	TOP OF SEAL
423.24	5.50	TOP OF SANDPACK
422.74	6.00	TOP OF SCREEN
413.24	15.50	BOTTOM OF SCREEN
412.74	16.00	BOTTOM OF WELL
412.74	16.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (In.)	10.5
ID OF RISER PIPE (In)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.66
BOTTOM OF SCREEN TO END CAP (ft)	0.5
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	15.66
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-17S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-17S

STATE PLANE COORDINATE: X 2317124.41 (E) Y 789662.73 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Bennett

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Bennett DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/30/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

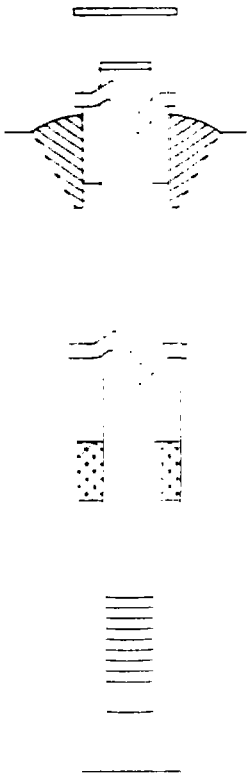
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.38	0	TOP OF PROTECTIVE CASING
430.18	1.20	TOP OF RISER PIPE
431.38	0	GROUND SURFACE
430.88	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.18	3.20	TOP OF SEAL
425.18	6.20	TOP OF SANDPACK
424.68	6.70	TOP OF SCREEN
419.98	11.40	BOTTOM OF SCREEN
419.38	12.00	BOTTOM OF WELL
419.38	12.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.5
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.7
TOTAL LENGTH OF CASING (ft)	10.80
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-18S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-18S

STATE PLANE COORDINATE: X 2317407.24 (E) Y 789662.77 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Bennett

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Bennett DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 6/30/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

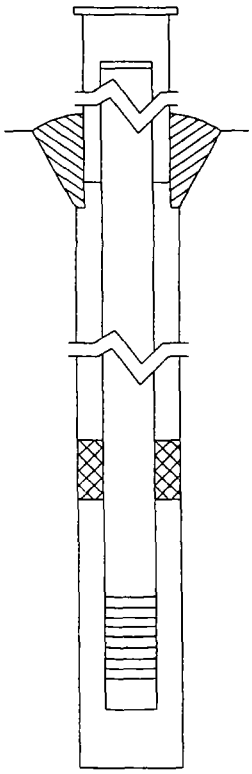
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)	
429.96	0	TOP OF PROTECTIVE CASING
428.78	0.91	TOP OF RISER PIPE
429.96	0	GROUND SURFACE
429.46	0.50	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
426.56	3.40	TOP OF SEAL
423.76	6.20	TOP OF SANDPACK
423.26	6.70	TOP OF SCREEN
418.56	11.40	BOTTOM OF SCREEN
417.96	12.00	BOTTOM OF WELL
417.96	12.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.79
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.7
TOTAL LENGTH OF CASING (ft)	11.09
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198503040 COUNTY: Madison WELL #: HSVE-19S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-19S

STATE PLANE COORDINATE: X 2317674.46 (E) Y 788658.02 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-082214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Bennett

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Bennett DATE STARTED: 05/04/05 DATE FINISHED: 05/04/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/05/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

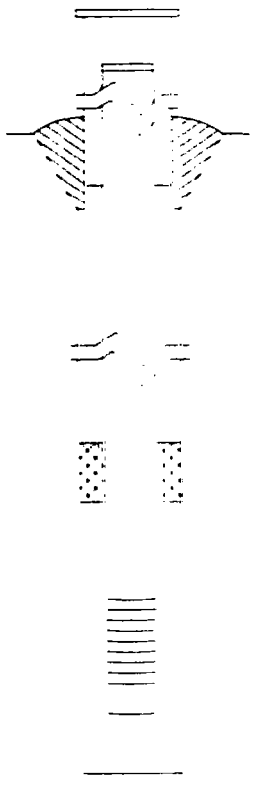
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.20	0	TOP OF PROTECTIVE CASING
427.69	1.51	TOP OF RISER PIPE
429.20	0	GROUND SURFACE
428.60	0.60	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
426.80	2.40	TOP OF SEAL
423.80	5.40	TOP OF SANDPACK
423.50	5.70	TOP OF SCREEN
418.80	10.40	BOTTOM OF SCREEN
418.20	11.00	BOTTOM OF WELL
418.20	11.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	4.19
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	4.7
TOTAL LENGTH OF CASING (ft)	9.49
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-20D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-20D

STATE PLANE COORDINATE: X 2316726.23 (E) Y 791576.45 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Philip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/27/05 DATE FINISHED: 04/27/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

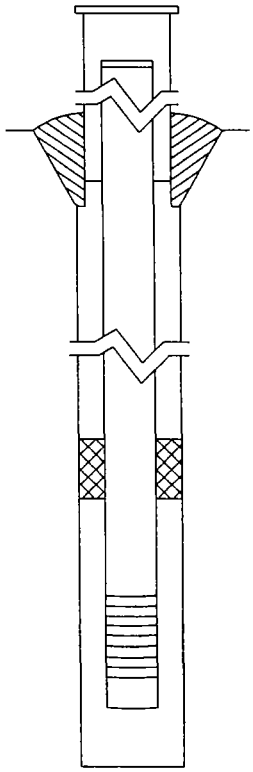
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.52	0	TOP OF PROTECTIVE CASING
430.30	1.22	TOP OF RISER PIPE
431.52	0	GROUND SURFACE
431.02	0.5	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.52	3.0	TOP OF SEAL
425.02	6.5	TOP OF SANDPACK
424.62	6.9	TOP OF SCREEN
405.12	26.4	BOTTOM OF SCREEN
404.52	27.0	BOTTOM OF WELL
403.52	28.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	N/A
RISER PIPE LENGTH (ft)	5.68
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.5
TOTAL LENGTH OF CASING (ft)	25.78
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1100505040 COUNTY: Madison WELL #: HSVE-20S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-20S

STATE PLANE COORDINATE: X 2316713.19E Y 791564.68N (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: J. Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Martin

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Martin DATE STARTED: 02/06/05 DATE FINISHED: 02/06/05

REPORT FORM COMPLETED BY: L. Smith DATE: 2/21/2005 REVISED: 12/21/2005 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: N/A

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: 24 hrs.

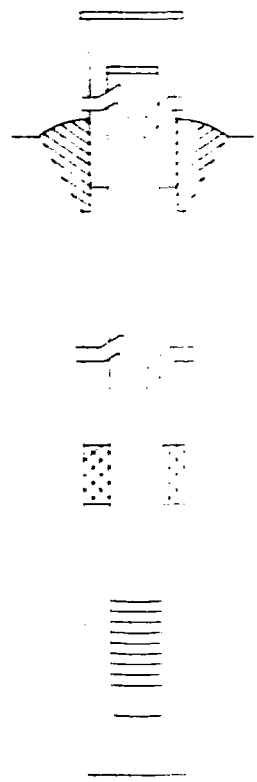
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



	ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
	N/A	N/A	TOP OF PROTECTIVE CASING
	430.33	1.31	TOP OF RISER PIPE
	431.64	0	GROUND SURFACE
	N/A	N/A	TOP OF ANNULAR SEALANT
	–	–	STATIC WATER LEVEL (AFTER COMPLETION)
	428.52	3.8	TOP OF SEAL
	425.02	5.6	TOP OF SANDPACK
	424.62	6.2	TOP OF SCREEN
	405.12	15.8	BOTTOM OF SCREEN
	404.52	16.4	BOTTOM OF WELL
	403.52	16.4	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	None
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	N/A
RISER PIPE LENGTH (ft)	7.20
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.6
TOTAL LENGTH OF CASING (ft)	17.40
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-21

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-21

STATE PLANE COORDINATE: X 2316872.94 (E) Y 790078.67 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillips Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: N. Bolivar

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: N. Bolivar DATE STARTED: 03/31/05 DATE FINISHED: 03/31/05

REPORT FORM COMPLETED BY: B. Hoekman DATE: 4/12/2005 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: N/A

INSTALLATION METHOD: N/A

SETTING TIME: N/A

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~

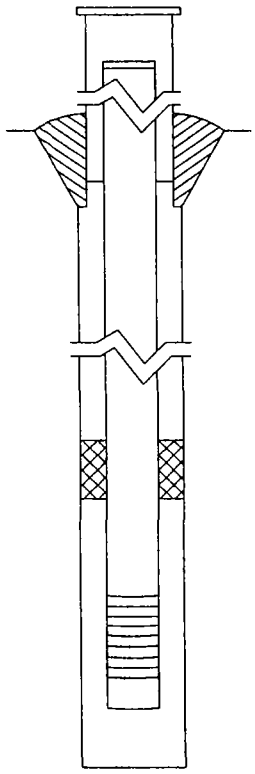
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)	
432.08	N/A	TOP OF PROTECTIVE CASING
432.07	0.01	TOP OF RISER PIPE
432.08	0	GROUND SURFACE
431.08	1.0	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
429.08	3.0	TOP OF SEAL
425.58	6.5	TOP OF SANDPACK
425.08	7.0	TOP OF SCREEN
405.68	26.4	BOTTOM OF SCREEN
405.08	27.0	BOTTOM OF WELL
400.08	32.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	N/A
RISER PIPE LENGTH (ft)	6.99
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.4
TOTAL LENGTH OF CASING (ft)	26.99
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190580040 COUNTY: Madison WELL #: HSVE-22

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-22

STATE PLANE COORDINATE: X 2317915.27 (E) Y 790007.45 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-062214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Bennett

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Bennett DATE STARTED: 04/12/05 DATE FINISHED: 04/12/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 4/22/2005 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

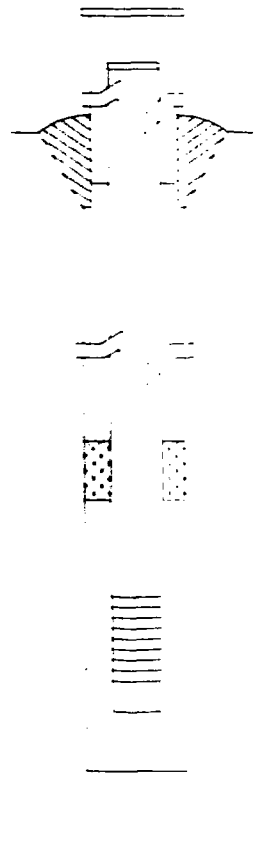
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.43	0	TOP OF PROTECTIVE CASING
430.79	0.64	TOP OF RISER PIPE
431.43	0	GROUND SURFACE
430.53	0.9	TOP OF PE GRAVEL
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
428.03	3.4	TOP OF SEAL
425.03	6.4	TOP OF SANDPACK
424.53	6.9	TOP OF SCREEN
405.03	26.4	BOTTOM OF SCREEN
404.43	27.0	BOTTOM OF WELL
403.43	28.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	None
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	N/A
RISER PIPE LENGTH (ft)	6.26
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.5
TOTAL LENGTH OF CASING (ft)	26.36
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-23D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-23D

STATE PLANE COORDINATE: X 2316489.61 (E) Y 791553.90 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: John Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Mueller DATE STARTED: 04/20/05 DATE FINISHED: 04/20/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

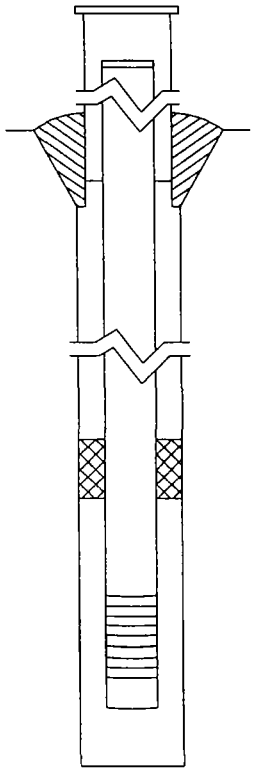
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.39	0	TOP OF PROTECTIVE CASING
429.90	0.49	TOP OF RISER PIPE
430.39	0	GROUND SURFACE
429.89	0.5	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
427.39	3.0	TOP OF SEAL
423.89	6.5	TOP OF SANDPACK
423.39	7.0	TOP OF SCREEN
403.99	26.4	BOTTOM OF SCREEN
403.39	27.0	BOTTOM OF WELL
402.39	28.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	None
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.51
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.4
TOTAL LENGTH OF CASING (ft)	26.51
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-23S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-23S

STATE PLANE COORDINATE: X 2316475.18 (E) Y 791553.28 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/21/05 DATE FINISHED: 04/21/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

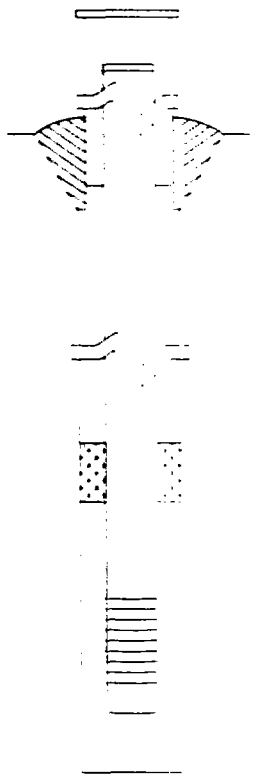
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
430.30	0	TOP OF PROTECTIVE CASING
429.96	0.43	TOP OF RISER PIPE
430.39	0	GROUND SURFACE
429.89	0.50	TOP OF PEA GRAVEL
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
427.39	3.00	TOP OF SEAL
423.89	6.50	TOP OF SANDPACK
423.46	6.90	TOP OF SCREEN
413.99	16.40	BOTTOM OF SCREEN
413.39	17.00	BOTTOM OF WELL
413.39	17.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.47
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	16.57
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-24D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-24D

STATE PLANE COORDINATE: X 2316614.81 (E) Y 791422.97 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: John Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: M. Mueller

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: M. Mueller DATE STARTED: 04/21/05 DATE FINISHED: 04/21/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

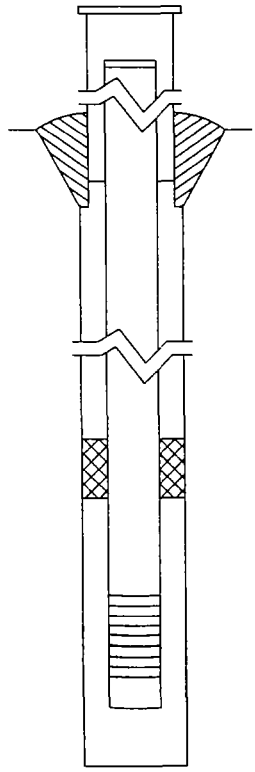
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.62	0	TOP OF PROTECTIVE CASING
431.20	0.42	TOP OF RISER PIPE
431.62	0	GROUND SURFACE
431.12	0.5	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
428.62	3.0	TOP OF SEAL
425.12	6.5	TOP OF SANDPACK
424.62	7.0	TOP OF SCREEN
405.22	26.4	BOTTOM OF SCREEN
404.62	27.0	BOTTOM OF WELL
403.62	28.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	None
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.58
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.4
TOTAL LENGTH OF CASING (ft)	26.58
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198385040 COUNTY: Madison WELL #: HSVE-24S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-24S

STATE PLANE COORDINATE: X 2316619.72 (E) Y 791422.53 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-062214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/20/05 DATE FINISHED: 04/20/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

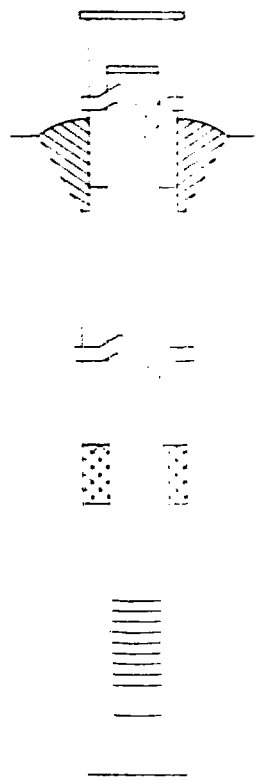
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: Not Applicable (IF APPLICABLE)

INSTALLATION METHOD: Not Applicable



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
431.67	0	TOP OF PROTECTIVE CASING
431.28	0.39	TOP OF RISER PIPE
431.67	0	GROUND SURFACE
431.17	0.50	TOP OF PEA GRAVEL
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
428.67	3.00	TOP OF SEAL
424.17	7.50	TOP OF SANDPACK
423.77	7.90	TOP OF SCREEN
414.27	17.40	BOTTOM OF SCREEN
413.67	18.00	BOTTOM OF WELL
413.67	18.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	7.51
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	17.61
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-25D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-25D

STATE PLANE COORDINATE: X 2316471.07 (E) Y 791212.45 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: John Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 04/27/05 DATE FINISHED: 04/27/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

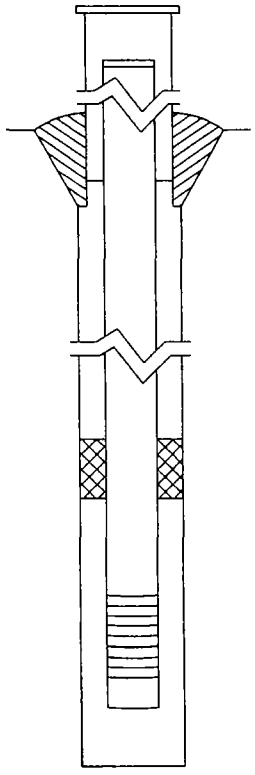
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.03	0	TOP OF PROTECTIVE CASING
428.80	0.23	TOP OF RISER PIPE
429.03	0	GROUND SURFACE
428.53	0.5	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
426.03	3.0	TOP OF SEAL
422.53	6.5	TOP OF SANDPACK
422.03	7.0	TOP OF SCREEN
402.43	26.6	BOTTOM OF SCREEN
401.83	27.2	BOTTOM OF WELL
401.03	28.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.77
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.6
TOTAL LENGTH OF CASING (ft)	26.97
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198303040 COUNTY: Madison WELL #: HSVE-25S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-25S

STATE PLANE COORDINATE: X 2316476.05 (E) Y 791212.38 (N) (or) LATITUDE: LONGITUDE:

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/18/05 DATE FINISHED: 04/18/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 4/22/2005 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

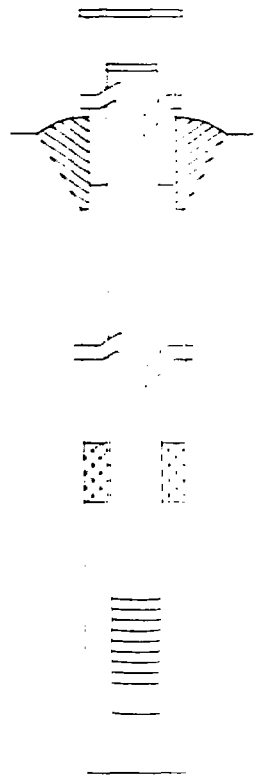
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.12	0	TOP OF PROTECTIVE CASING
428.67	0.45	TOP OF RISER PIPE
429.12	0	GROUND SURFACE
428.62	0.5	TOP OF PEA GRAVEL
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
426.12	3.0	TOP OF SEAL
423.62	5.5	TOP OF SANDPACK
423.02	6.1	TOP OF SCREEN
413.52	15.6	BOTTOM OF SCREEN
413.12	16.0	BOTTOM OF WELL
413.12	16.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	5.65
BOTTOM OF SCREEN TO END CAP (ft)	0.4
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	15.55
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-26D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-26D

STATE PLANE COORDINATE: X 2316706.26 (E) Y 791206.75 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: John Gates

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: H. Mendygral

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: H. Mendygral DATE STARTED: 04/29/05 DATE FINISHED: 04/29/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 05/03/05 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

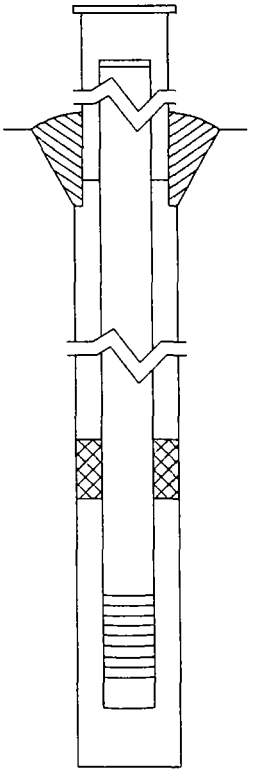
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.95	0	TOP OF PROTECTIVE CASING
429.68	0.27	TOP OF RISER PIPE
429.95	0	GROUND SURFACE
429.45	0.5	TOP OF PEA GRAVEL
--	--	STATIC WATER LEVEL (AFTER COMPLETION)
426.95	3.0	TOP OF SEAL
423.95	6.0	TOP OF SANDPACK
423.15	6.8	TOP OF SCREEN
403.55	26.4	BOTTOM OF SCREEN
402.95	27.0	BOTTOM OF WELL
401.95	28.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	6.53
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	19.6
TOTAL LENGTH OF CASING (ft)	26.73
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 COUNTY: Madison WELL #: HSVE-26S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-26S

STATE PLANE COORDINATE: X 2316710.98 (E) Y 791205.96 (N) (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Phillip Environmental Services DRILLER: J. Bignall

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: B. Hoekman

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): None

LOGGED BY: B. Hoekman DATE STARTED: 04/18/05 DATE FINISHED: 04/18/05

REPORT FORM COMPLETED BY: D. Lamsma DATE: 4/22/2005 REVISED: 7/1/05 (MEM)

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Concrete

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

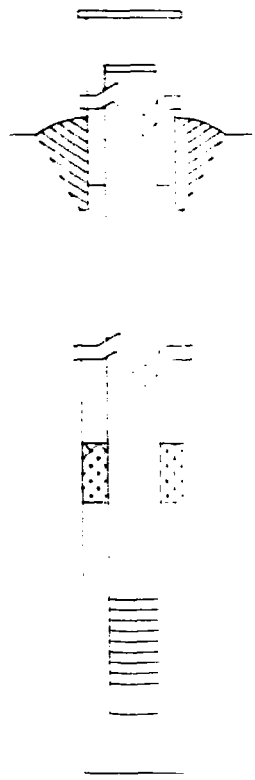
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS)	(.01 ft)
429.99	0	TOP OF PROTECTIVE CASING
429.59	0.4	TOP OF RISER PIPE
429.99	0	GROUND SURFACE
429.49	0.5	TOP OF PEA GRAVEL
–	–	STATIC WATER LEVEL (AFTER COMPLETION)
426.99	3.0	TOP OF SEAL
421.59	8.4	TOP OF SANDPACK
421.09	8.9	TOP OF SCREEN
411.59	18.4	BOTTOM OF SCREEN
410.99	19.0	BOTTOM OF WELL
410.99	19.0	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER: Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	10.5
ID OF RISER PIPE (in)	4
PROTECTIVE CASING LENGTH (ft)	1.0
RISER PIPE LENGTH (ft)	8.50
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	18.60
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1190505040 / ILR000128249 COUNTY: Madison WELL #: HSVE-27D

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-27D

STATE PLANE COORDINATE: X _____ Y _____ (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Marlo

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: J. Thomas

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 70-gallons (water)

LOGGED BY: J. Thomas DATE STARTED: 09/29/05 DATE FINISHED: 09/30/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 10/28/2005 REVISED: _____

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Pea Gravel

TYPE OF ANNULAR SEALANT: Grout

INSTALLATION METHOD: Tremie pipe

SETTING TIME: ~ 24hours

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~

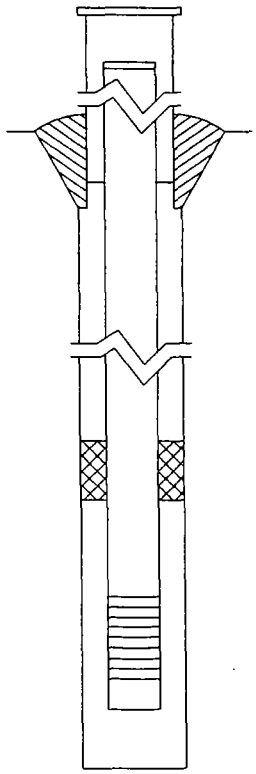
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: 01

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)	
	0	TOP OF PROTECTIVE CASING
	0.0	TOP OF RISER PIPE
	0	GROUND SURFACE
	3.3	TOP OF ANNULAR SEALANT
	~	STATIC WATER LEVEL (AFTER COMPLETION)
	16.0	TOP OF SEAL
	18.0	TOP OF SANDPACK
	20.2	TOP OF SCREEN
	26.7	BOTTOM OF SCREEN
	27.0	BOTTOM OF WELL
	29.8	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Vault
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	12.0
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	3' vault
RISER PIPE LENGTH (ft)	20.20
BOTTOM OF SCREEN TO END CAP (ft)	0.3
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	6.5
TOTAL LENGTH OF CASING (ft)	27.00
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

Illinois Environmental Protection Agency Well Completion Report

SITE #: 1198505040 / ILR000128240 COUNTY: Madison WELL #: HSVE-27S

SITE NAME: Village of Hartford, Illinois BOREHOLE #: HSVE-27D

STATE PLANE COORDINATE: X _____ Y _____ (or) LATITUDE: _____ LONGITUDE: _____

SURVEYED BY: Crawford, Murphy, & Tilly ILL REGISTRATION #: 035-002214

DRILLING CONTRACTOR: Terra Drill DRILLER: T. Marlo

CONSULTING FIRM: Clayton Group Services, Inc. GEOLOGIST: J. Thomas

DRILLING METHOD: Hollow Stem Auger DRILLING FLUIDS (TYPE): 60-gallons (water)

LOGGED BY: J. Thomas DATE STARTED: 09/29/05 DATE FINISHED: 09/30/05

REPORT FORM COMPLETED BY: M. Mueller DATE: 10/28/2005 REVISED: _____

ANNULAR SPACE DETAILS

TYPE OF SURFACE SEAL: Pea Gravel

TYPE OF ANNULAR SEALANT: NA

INSTALLATION METHOD: NA

SETTING TIME: NA

TYPE OF BENTONITE SEAL-

GRANULAR, PELLET, SLURRY, CHIPS (CIRCLE ONE)

INSTALLATION METHOD: Poured

SETTING TIME: ~ 15 min

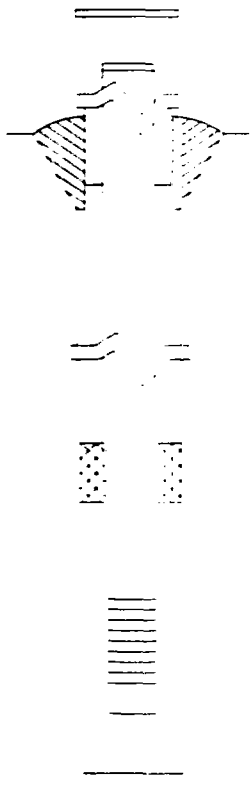
TYPE OF SAND PACK: Industrial Quartz

GRAIN SIZE: #1

INSTALLATION METHOD: Poured

TYPE OF BACKFILL MATERIAL: NA (IF APPLICABLE)

INSTALLATION METHOD: N/A



	ELEVATIONS (MSL) *	DEPTHS (BGS) (.01 ft)
TOP OF PROTECTIVE CASING		0
TOP OF RISER PIPE		0.0
GROUND SURFACE		0
TOP OF ANNULAR SEALANT		3.3
STATIC WATER LEVEL (AFTER COMPLETION)		--
TOP OF SEAL		9.0
TOP OF SANDPACK		10.0
TOP OF SCREEN		11.9
BOTTOM OF SCREEN		16.4
BOTTOM OF WELL		17.0
BOTTOM OF BOREHOLE		17.0

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS

(CIRCLE ONE)

PROTECTIVE CASING	SS304, SS316, PTFE, PVC OR OTHER:	Steel
RISER PIPE ABOVE W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
RISER PIPE BELOW W.T.	SS304, SS316, PTFE, PVC OR OTHER:	
SCREEN	SS304, SS316, PTFE, PVC OR OTHER:	

CASING MEASUREMENTS

DIAMETER OF BOREHOLE (in.)	12.0
ID OF RISER PIPE (in)	4.0
PROTECTIVE CASING LENGTH (ft)	3' vault
RISER PIPE LENGTH (ft)	11.9
BOTTOM OF SCREEN TO END CAP (ft)	0.6
SCREEN LENGTH (1st SLOT TO LAST SLOT) (ft)	9.5
TOTAL LENGTH OF CASING (ft)	22.00
SCREEN SLOT SIZE **	0.020"

** HAND-SLOTTED WELL SCREENS ARE UNACCEPTABLE

BUREAU VERITAS

APPENDIX A-5

WELL DEVELOPMENT INDICATOR PARAMETERS

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
MP-68	12/10/04	—	Dry	—	—	—	—	—	—
MP-69	12/10/04	—	Dry	—	—	—	—	—	—
MP-70	12/10/04	—	Dry	—	—	—	—	—	—
MP-71	12/10/04	—	Dry	—	—	—	—	—	—
MP-72	12/10/04	—	Dry	—	—	—	—	—	—
MP-73	12/10/04	—	Dry	—	—	—	—	—	—
MP-74	12/10/04	—	Dry	—	—	—	—	—	—
MP-75	12/10/04	—	Dry	—	—	—	—	—	—
MP-76	12/10/04	—	Dry	—	—	—	—	—	—
MP-77A	05/10/05	—	Dry	—	—	—	—	—	—
MP-77B	05/10/05	—	Dry	—	—	—	—	—	—
MP-77C	05/10/05	1538	35	64.9	18.3	6.68	1052	606	Turbid
		1541	50	63.5	17.5	6.55	1055	612	Cloudy
		1543	60	62.8	17.1	6.88	1074	620	Cloudy
		1545	70	62.6	17.0	6.88	1061	615	Turbid
		1546	75	62.6	17.0	6.88	1072	624	Cloudy
		1548	85	62.4	16.9	6.87	1063	618	Cloudy
		1550	95	62.1	16.7	6.88	1069	618	Cloudy
MP-78A	05/12/05	—	Dry	—	—	—	—	—	—
MP-78B	05/12/05	—	Dry	—	—	—	—	—	—
MP-78C	05/12/05	1123	Dry	—	—	—	—	—	—
MP-78D	05/05/05	1307	15	68.9	20.5	6.24	1085	614	Turbid
		1309	30	66.0	18.9	6.23	1111	643	Cloudy
		1310	37.5	66.7	19.3	6.22	1103	638	Cloudy
		1311	45	64.4	18.0	6.14	1110	644	Clear
		1312	52.5	63.5	17.5	6.20	1096	628	Clear
		1314	67.5	63.0	17.2	6.24	1099	639	Clear
		1315	75	63.5	17.5	6.17	1055	613	Very Turbid
		1318	97.5	62.9	17.2	6.10	1116	643	Turbid
		1319	105	62.4	16.9	6.23	1100	644	Turbid
		1321	120	62.2	16.8	6.13	1057	645	Cloudy
		1322	127.5	62.2	16.8	6.18	1115	645	Clear
		1323	135	62.2	16.8	6.13	1111	643	Clear
		1325	150	63.1	17.3	6.16	1114	649	Clear
MP-79A	05/05/05	—	Dry	—	—	—	—	—	—
MP-79B	05/05/05	—	Dry	—	—	—	—	—	—
MP-79C	05/05/05	1657	8	63.3	17.4	6.89	891	510	Very Turbid
		1701	10	62.8	17.1	6.60	916	530	Very Turbid
		1710	16	62.6	17.0	6.43	923	533	Very Turbid

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
MP-79C	05/05/05	1716	25	62.4	16.9	6.52	930	537	Cloudy
		1718	26	63.3	17.4	6.47	890	499	Cloudy
		1720	27	63.1	17.3	6.46	945	546	Cloudy
		1721	28	63.0	17.2	6.42	933	530	Cloudy
MP-79D	05/05/05	1529	100	66.9	19.4	6.43	928	537	Turbid
		1530	108	64.2	17.9	6.33	920	533	Cloudy
		1531	115	63.9	17.7	6.34	936	528	Clear
		1532	122	63.1	17.3	6.31	929	538	Clear
		1533	130	62.4	16.9	6.32	923	540	Clear
		1534	138	63.0	17.2	6.37	934	542	Cloudy
		1535	145	61.9	16.6	6.37	935	540	Clear
		1536	152	61.9	16.6	6.45	933	542	Clear
		1537	160	61.9	16.6	6.61	932	543	Clear
		1538	168	62.1	16.7	6.41	935	545	Clear
		1539	175	61.9	16.6	6.34	934	542	Clear
		1540	182	61.9	16.6	6.32	937	545	Clear
MP-80A	05/05/05	---	Dry	---	--	---	---	---	---
MP-80B	05/05/05	---	Dry	---	--	---	---	---	---
MP-80C	05/06/05	0812	32	59.5	15.3	6.75	1025	595	Cloudy
		0815	44	59.9	15.5	6.89	1028	595	Clear
		0817	52	59.9	15.5	6.55	1031	597	Clear
		0819	60	60.1	15.6	6.46	1025	597	Clear
		0820	64	60.4	15.8	6.45	1020	590	Clear
		0822	72	60.6	15.9	6.42	1016	585	Clear
MP-81A	05/05/05	---	Dry	---	--	---	---	---	---
MP-81B	05/05/05	---	Dry	---	--	---	---	---	---
MP-81C	05/05/05	1125	50	63.3	17.4	6.69	1228	735	Turbid
		1126	52	62.4	16.9	6.58	1218	709	Turbid
		1128	56	62.8	17.0	6.27	1204	697	Cloudy
		1131	62	62.2	16.8	6.15	1207	697	Cloudy
		1133	66	62.4	16.9	6.21	1213	704	Clear
		1135	70	62.2	16.8	6.17	1188	689	Clear
		1136	72	62.2	16.8	6.16	1234	702	Clear
MP-82A	05/11/05	---	Dry	---	--	---	---	---	---
MP-82B	05/11/05	---	Dry	---	--	---	---	---	---
MP-82C	05/11/05	1720	50	67.5	19.7	6.49	1550	---	Turbid
		1731	105	68.5	20.3	6.54	1540	---	Clear
		1733	115	68.0	20.0	6.55	1540	---	Clear
		1735	125	66.9	19.4	6.53	1540	---	Clear
MP-83A	05/06/05	---	Dry	---	--	---	---	---	---

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
MP-83B	05/06/05	—	Dry	—	—	—	—	—	—
MP-83C	05/06/05	0856	24	62.8	17.1	6.30	1094	635	Very Turbid
		0859	36	60.3	15.7	6.27	1118	647	Very Turbid
		0901	44	60.3	15.7	6.31	1128	651	Turbid
		0903	52	60.3	15.7	6.32	1115	644	Turbid
		0905	60	60.4	15.8	6.34	1115	644	Cloudy
		0907	68	60.8	16.0	6.39	1113	645	Clear
		0908	72	60.6	15.9	6.37	1111	644	Clear
		0909	76	60.6	15.9	6.39	1106	640	Clear
MP-84A	05/11/05	—	Dry	—	—	—	—	—	—
MP-84B	05/11/05	—	Dry	—	—	—	—	—	—
MP-84C	05/11/05	1430	40	70.7	21.5	6.76	656	—	—
		1436	46	72.0	22.2	6.93	709	—	—
		1442	52	72.5	22.5	6.87	715	—	—
		1446	56	73.4	23.0	6.49	930	—	—
		1451	61	74.3	23.5	6.35	1050	—	—
		1458	62	73.4	23.0	6.30	950	—	—
MP-85A	05/11/05	—	Dry	—	—	—	—	—	—
MP-85B	05/11/05	—	Dry	—	—	—	—	—	—
MP-85C	05/11/05	1205	10	—	—	—	—	—	Turbid
	05/12/05	1023	21	65.3	18.5	6.49	733	—	Moderate
		1505	30	76.1	24.5	6.83	637	—	Turbid
		1509	31	66.9	19.4	6.85	692	—	Clear
		1512	32	66.6	19.2	6.92	693	—	Slightly Turbid
		1516	39	66.4	19.1	6.91	702	—	Clear
MP-85D	05/10/05	1645	42	63.9	17.7	6.63	925	538	Clear
		1648	60	61.7	16.5	6.88	944	546	Clear
		1650	72	61.3	16.3	6.88	944	547	Clear
		1651	78	61.3	16.3	6.88	935	544	Clear
		1653	90	61.2	16.2	6.88	949	547	Clear
MP-86A	05/11/05	—	Dry	—	—	—	—	—	—
MP-86B	05/11/05	—	Dry	—	—	—	—	—	—
MP-86C	05/11/05	1145	15	69.4	20.8	6.89	1500	—	—
		1152	24	68.4	20.2	6.84	1570	—	—
		1159	38	69.3	20.7	6.87	1430	—	—
		1204	48	67.3	19.6	6.82	1420	—	—
		1207	54	66.7	19.3	6.87	1430	—	—
		1210	60	66.4	19.1	6.86	1440	—	—
MP-86A	05/11/05	—	Dry	—	—	—	—	—	—

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
MP-86B	05/11/05	---	Dry	---	--	---	---	---	---
MP-87C	05/11/05	1555	48	70.3	21.3	6.49	990	---	Slightly Turbid
		1557	58	68.0	20.0	6.46	980	---	Clear
		1559	68	67.1	19.5	6.47	1020	---	Clear
		1601	78	67.1	19.5	6.45	900	---	Clear
MP-88A	08/09/05	---	Dry	---	--	---	---	---	---
MP-88B	08/09/05	---	Dry	---	--	---	---	---	---
MP-88C	08/09/05	1130	38	66.4	19.1	6.76	1070	---	Clear
		1131	39.5	66.2	19.0	6.78	1065	---	Clear
		1132	41	65.5	18.6	6.81	NM	---	Clear
		1133	43	65.7	18.7	6.81	1066	---	Clear
		1135	44	66.0	18.9	6.89	1063	---	Clear
MP-89A	08/09/05	---	Dry	---	--	---	---	---	---
MP-89B	08/09/05	---	Dry	---	--	---	---	---	---
MP-89C	08/09/05	1446	80	71.8	22.1	7.04	681	---	Clear
		1449	81	61.5	16.4	7.07	603	---	Clear
		1452	82	61.5	16.4	7.04	594	---	Clear
		1453	83	63.0	17.2	7.01	594	---	Clear
		1454	84	63.0	17.2	7.00	592	---	Clear
		1456	85	63.0	17.2	6.99	599	---	Clear
HMW-44D	08/17/05	1607	136	64.6	18.1	6.90	1044	---	Slighty Cloudy
		1614	153	64.6	18.1	6.91	1031	---	Slightly Cloudy
		1618	161	64.6	18.1	6.98	1033	---	Clear
		1621	170	63.7	17.7	6.95	998	---	Clear
		1650	180	64.0	17.8	6.95	996	---	Clear
HMW-54A	08/10/05	---	Dry	---	--	---	---	---	---
HMW-54B	08/15/05	1328	65	64.2	17.9	6.30	945.00	---	Clear
		1400	85	64.4	18.0	6.44	952.00	---	Clear
		1405	93	64.2	17.9	6.68	973.00	---	Clear
		1409	102	64.0	17.8	6.84	1010.00	---	Clear
		1431	105	63.5	17.5	7.17	1004.00	---	Clear
		1435	112	63.3	17.4	7.14	958.00	---	Clear
		1439	119	63.3	17.4	7.04	1045.00	---	Clear
		1443	128	63.5	17.5	7.36	1032.00	---	Clear
HMW-54C	08/10/05	1027	165	66.7	19.3	6.63	965.00	---	Clear
		1029	167	63.7	17.6	7.22	942.00	---	Clear
		1031	169	64.2	17.9	7.16	941.00	---	Clear
		1033	171	63.0	17.2	7.46	938.00	---	Clear
		1035	173	63.7	17.6	7.42	945.00	---	Clear

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
HMW-54C	08/10/05	1037	175	63.1	17.3	7.61	941.00	—	Clear
		1039	177	63.9	17.7	7.57	942.00	—	Clear
		1041	179	62.8	17.1	7.62	943.00	—	Clear
HP-01A	06/14/05	1703	100	69.4	20.8	7.13	1160	NM	Cloudy
		1706	125	65.3	18.5	7.12	1277	NM	Cloudy
		1725	130	65.3	18.5	7.06	1102	NM	Cloudy
		1750	150	68.4	20.2	7.00	1119	NM	Clear
		1755	170	66.0	18.9	7.04	1049	NM	Slightly cloudy
		1830	200	67.1	19.5	6.93	1190	NM	Clear
HP-01B	06/15/05	1218	350	63.7	17.6	6.91	1346	NM	Clear
		1343	375	61.9	16.6	6.85	1302	NM	Clear
		1351	425	61.2	16.2	6.98	1069	NM	Clear
		1355	450	61.3	16.3	6.98	1113	NM	Clear
		1423	500	63.0	17.2	6.90	1099	NM	Clear
		1428	525	61.2	16.2	7.03	1316	NM	Clear
		1436	575	62.4	16.9	6.98	1328	NM	Clear
HP-01C	06/16/05	1202	1100	62.6	17.0	7.13	1133	NM	Clear
		1205	1125	61.2	16.2	7.28	935	NM	Clear
		1209	1150	61.0	16.1	7.29	1105	NM	Clear
		1216	1200	60.8	16.0	7.31	900	NM	Clear
		1229	1250	61.9	16.6	7.32	882	NM	Clear
		1239	1300	61.7	16.5	7.27	1295	NM	Clear
		1242	1330	61.3	16.3	7.25	935	NM	Clear
HP-02A	06/20/05	0858	75	64.2	17.9	6.53	1220	NM	Cloudy
		0903	125	63.1	17.3	6.85	1214	NM	Slightly cloudy
		0908	150	63.3	17.4	6.88	1252	NM	Slightly cloudy
		0910	175	62.8	17.1	6.88	1198	NM	Clear
		NM	185	NM	NM	NM	NM	NM	NM
HP-03A	06/19/05	1245	100	67.1	19.5	6.98	986	NM	Clear
		1330	150	65.8	18.8	6.99	971	NM	Slightly cloudy
		1405	190	64.6	18.1	6.82	972	NM	Slightly cloudy
		1430	210	65.1	18.4	6.94	986	NM	Clear
		1500	250	64.9	18.3	6.96	962	NM	Clear
		1530	300	65.1	18.4	6.94	968	NM	Clear
HP-03B	06/19/05	0824	100	63.1	17.3	6.86	932	NM	Cloudy
		0842	150	63.3	17.4	7.04	992	NM	Clear
		0901	200	63.7	17.6	7.07	978	NM	Clear
		0916	250	62.8	17.1	7.06	939	NM	Clear
		0930	300	63.3	17.4	7.05	946	NM	Clear

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
HP-03B	06/19/05	0943	350	63.5	17.5	7.06	969	NM	Clear
		0954	400	63.5	17.5	7.04	974	NM	Clear
HP-03C	06/18/05	1208	500	66.0	18.9	7.26	845	NM	Clear
		1227	575	64.0	17.8	7.22	851	NM	Clear
		1250	650	64.6	18.1	7.20	839	NM	Clear
		1350	800	66.4	19.1	7.11	826	NM	Clear
		1408	850	65.7	18.7	7.16	838	NM	Clear
		1415	875	63.9	17.7	7.22	954	NM	Clear
		1422	900	63.7	17.6	7.21	857	NM	Clear
		1429	925	64.0	17.8	7.21	840	NM	Clear
		1436	950	63.3	17.4	7.28	850	NM	Clear
HP-04A	06/21/05	1006	100	64.8	18.2	6.80	1257	NM	Very slightly cloudy/surged 30 sec
		1012	120	64.2	17.9	6.79	1246	NM	Slightly cloudy/Surged 30 sec
		1016	145	64.9	18.3	6.79	1270	NM	Clear
		1021	160	64.9	18.3	6.75	1319	NM	Very slightly cloudy/Surged 30 sec
		1026	180	64.9	18.3	6.74	1298	NM	Clear
HP-04B	06/21/05	1155	275	65.8	18.8	6.92	1036	NM	Clear
		1200	320	64.4	18.0	7.03	1011	NM	Clear
		1204	350	65.1	18.4	6.98	1002	NM	Clear
		1321	360	66.0	18.9	6.93	999	NM	Clear
		1325	385	64.6	18.1	6.95	995	NM	Clear
HP-04C	06/21/05	1620	610	64.4	18.0	7.04	1054	NM	Clear
		1629	670	63.7	17.6	6.97	1050	NM	Clear
		1628	700	63.5	17.5	6.93	1046	NM	Clear
		1646	705	63.0	17.2	6.99	1042	NM	Clear
		1649	725	62.6	17.0	7.03	1059	NM	Clear
HP-05A	06/13/05	1311	110	67.1	19.5	6.99	1799	NM	Very slightly cloudy
		1331	175	71.2	21.8	6.90	1195	NM	Very slightly cloudy
		1410	200	67.6	19.8	7.16	1403	NM	Cloudy
		1434	250	67.5	19.7	6.99	1024	NM	Slightly cloudy
		1444	275	66.9	19.4	6.91	1401	NM	Very slightly cloudy
		1453	300	65.1	18.4	6.88	1181	NM	Cloudy
		1457	315	66.0	18.9	6.75	1053	NM	Cloudy
		1542	375	68.5	20.3	6.89	1165	NM	Cloudy
		1551	400	66.2	19.0	6.90	1093	NM	Cloudy
		1603	425	67.1	19.5	7.01	1093	NM	Cloudy
		1611	450	64.9	18.3	6.90	1086	NM	Cloudy
		1618	500	67.8	19.9	6.86	1085	NM	Slightly cloudy
		1625	525	67.1	19.5	6.98	1030	NM	Slightly cloudy
		1630	540	65.5	18.6	6.90	1025	NM	Slightly cloudy

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
HP-05A	06/13/05	1635	550	63.9	17.7	6.87	1041	NM	Slightly cloudy
		1638	560	63.5	17.5	6.85	1021	NM	Slightly cloudy
HP-05B	06/14/05	1353	75	64.4	18.0	7.15	1256	NM	Cloudy
		1405	150	63.1	17.3	7.14	907	NM	Slightly cloudy
		1419	250	63.0	17.2	7.15	861	NM	Cloudy
		1422	300	62.2	16.8	7.22	854	NM	Cloudy
		1426	325	63.5	17.5	7.10	1038	NM	Cloudy
		1520	400	64.8	18.2	7.20	907	NM	Slightly cloudy
		1527	425	63.3	17.4	7.27	1227	NM	Slightly cloudy
		NM	450	NM	NM	NM	NM	NM	NM
HP-05C	06/14/05	0916	325	64.2	17.9	7.33	1351	NM	Very slightly cloudy
		1027	450	63.5	17.5	7.28	970	NM	Slightly cloudy
		1054	700	64.8	18.2	7.30	1236	NM	Very slightly cloudy
		1151	750	64.2	17.9	7.34	944	NM	Clear
		1155	765	64.9	18.3	7.34	958	NM	Clear
		1203	825	65.1	18.4	7.42	941	NM	Clear
HP-06A	06/17/05	1449	150	64.6	18.1	6.92	985	NM	Cloudy
		1452	180	62.2	16.8	6.98	992	NM	Cloudy
		1457	200	63.9	17.7	7.00	988	NM	Very slightly cloudy
		1501	220	64.0	17.8	6.94	974	NM	Very slightly cloudy
		NM	250	NM	NM	NM	NM	NM	NM
HP-07A	06/20/05	1719	127	63.9	17.7	6.56	1912	NM	Cloudy/ Surged 30sec
		1723	150	64.4	18.0	6.61	1783	NM	Cloudy
		1726	160	62.6	17.0	6.60	2110	NM	Cloudy/Surged 30sec
		1729	175	63.0	17.2	6.66	1966	NM	Slightly cloudy
		1734	190	62.8	17.1	6.63	2110	NM	Slightly cloudy/ Surged 30sec
		1738	210	62.6	17.0	6.58	2160	NM	Slightly cloudy
		1741	220	63.3	17.4	6.54	1943	NM	Very slightly cloudy
		1745	235	63.5	17.5	6.50	2160	NM	Slightly cloudy/ Surged 30sec
		NM	245	NM	NM	NM	NM	NM	NM
HP-08A	06/20/05	1137	100	67.5	19.7	6.71	1073	NM	Clear
		1159	125	65.3	18.5	6.74	1166	NM	Clear/ Surged 1min
		1255	175	66.4	19.1	6.78	1047	NM	Clear
		1323	200	65.8	18.8	6.65	1068	NM	Cloudy/ Surged 1min
		1327	205	65.5	18.6	6.76	1053	NM	Cloudy
		1334	210	65.8	18.8	6.74	1038	NM	Slightly cloudy
		1336	212	64.8	18.2	6.75	1065	NM	Slightly cloudy
		1340	215	64.9	18.3	6.78	1072	NM	Very slightly cloudy
		1343	220	64.9	18.3	6.74	1075	NM	Clear
		1347	223	65.1	18.4	6.77	1043	NM	Clear

APPENDIX A-5
WELL DEVELOPMENT INDICATOR PARAMETERS
The Hartford Area Hydrocarbon Plume Site

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Probe/Well Number	Date	Time	Total Volume of Water Purged (gals)	Temperature (°F)	Temperature (°C)	pH (std. units)	Conductivity (uS/cm)	Total Dissolved Solids (ppm)	Visual Clarity/Observations
HP-09A	06/20/05	1528	125	63.5	17.5	6.80	1038	NM	Very cloudy/ Surged 2min
		1533	150	63.3	17.4	6.88	1065	NM	Cloudy
		1538	180	63.5	17.5	6.90	1076	NM	Slightly cloudy/ Surged 1min
		1541	210	63.7	17.6	6.88	1093	NM	Slightly cloudy
		1543	225	63.9	17.7	6.86	1092	NM	Slightly cloudy
		1548	240	63.7	17.6	6.94	1088	NM	Slightly cloudy

NOTES:
°F = Degrees Fahrenheit
uS/cm = microsiemens per centimeter
ppm = parts per million
--- = No Data Available

APPENDIX B

CPT LOGS

FUGRO GEOSCIENCES, INC.

6105 Rookin
Houston, Texas 77074
Phone : 713-346-4000
Fax : 713-346-4002

September 29, 2005
Report Number: 0305-1583

Clayton Group Servies, Inc.
3140 Finley Road
Downers Grove, Il 60515

Attn.: Ms. Heidi Mendygral

DATA REPORT
PIEZOCONE PENETRATION AND
RAPID OPTICAL SCREENING TOOL TESTING
HARTLAND SITE
HARTFORD, ILLINOIS

Dear Ms. Mendygral:

Fugro Geosciences (Fugro) is pleased to present this data report for Cone Penetration (CPT) and Rapid Optical Screening Tool (ROST™) testing at the above-referenced site. CPT/ROST™ provided continuous characterization of stratigraphy and petroleum hydrocarbon distribution at the testing locations. A description of the CPT and ROST™ technologies and a discussion of general ROST™ data interpretation follows. CPT and ROST™ logs and electronic data CD are included as attachments.

Cone Penetration Testing

CPT was performed simultaneously with each ROST™ sounding and yielded real-time stratigraphic data. CPT is a proven method for rapidly evaluating the physical characteristics of unconsolidated soils. It is based on the resistance to penetration of an electronically-instrumented cone which is continuously advanced into the subsurface. In accordance with ASTM Standard D5778-95, the cone was advanced at a rate of two centimeters per second with the driving force provided by hydraulic rams.

The CPT cone used at this site had an apex angle of 60 degrees with a base area of 15 square centimeters (cm^2), and friction sleeve with a surface area of 200 cm^2. The standard geotechnical sensors within the cone measure tip resistance and sleeve friction in tons per square foot (TSF). The combined data from the tip resistance and sleeve friction form the basis of the soil classification (e.g., sand, silt, clay, etc.).

Soil stratigraphy was identified using Campanella and Robertson's Simplified Soil Behavior Chart. Please note that because of the empirical nature of the soil behavior chart, the soil identification should be verified locally.

ROST™ Testing

Fugro Geosciences' ROST™ Laser-Induced Fluorescence system was used for this investigation to screen soils for petroleum hydrocarbon materials containing aromatic hydrocarbon constituents. The system consists of a tunable laser mounted in the CPT truck that is connected to a down-hole sensor. The down-hole sensor consists of a small diameter sapphire window mounted flush with the side of the cone penetrometer probe.

The laser and associated equipment transmit 50 pulses of light per second to the sensor through a fiber optic cable. The wavelength of the pulsed excitation light is tunable and can be set to wavelengths of 266 nanometers (nm) or to wavelengths between 280 and 300 nm. An excitation wavelength of 290 nm was used for each test during this project.

The laser light passes through the sapphire window and is absorbed by aromatic hydrocarbon molecules in contact with the window, as the probe is advanced. This addition of energy (photons) to the aromatic hydrocarbons causes them to fluoresce. A portion of the fluorescence emitted from any encountered aromatic constituents is returned through the sapphire window and conveyed by a second fiber optic cable to a detection system within the CPT rig. The emission data resulting from the pulsed laser light is averaged into one reading per one second interval (approximately one reading per 2 cm vertical interval) and is recorded continuously. ROST™ may be operated in single or multi-wavelength mode, depending on project objectives. For this project, ROST™ was operated in multi-wavelength mode (MWL).

Multi-Wavelength Mode (MWL). In MWL mode, several characteristics of the emitted fluorescence are measured and recorded simultaneously at four (4) specific wavelengths (340, 390, 440, and 490 nm). These four wavelengths represent the spectrum of fluorescence typically produced by aromatic hydrocarbons ranging from light fuels through heavy contaminants such as coal tar and creosote. The recorded data is then presented as a color graph of fluorescence intensity (the combined fluorescence of all four monitored wavelengths) versus depth (FVD).

On the FVD graph, each of the four monitored wavelengths is assigned a color. These colors are combined based on the proportional fluorescence intensity of each of the individual wavelengths. The combined color is then used on the FVD graph. Changes in color on the FVD graph typically represent changes in product type. Similarly, like colors on the FVD graph typically represent the same product, regardless of the total fluorescence intensity. Changes in the total fluorescence intensity typically indicate changes in contaminant concentration, with higher fluorescence intensities representing proportionally higher concentrations when compared to lower fluorescence intensities.

In addition to the FVD graph, depth specific waveforms are presented at four (4) selected depths throughout the sounding. These waveform graphs are presented to the right of the FVD graph on each plot. In the waveform graphs, the fluorescence intensity and duration of fluorescence of each of the monitored wavelengths is represented by an individual peak, starting at 340 nm and increasing in 50 nm wavelengths as you move to the right. The intensity of each wavelength is represented by the height of the peaks, and the duration of fluorescence is represented by the width of each peak. For general interpretation purposes, lighter aromatic hydrocarbon molecules will emit fluorescence at the shorter wavelengths, and heavier, longer chained hydrocarbons will emit fluorescence at the longer wavelengths. The presented waveforms can be compared to waveforms typical of common hydrocarbon products to determine the likely product type that has been encountered. Please note that the waveforms are available at every two centimeter interval throughout the entire sounding. Additional waveforms can be generated at any time during or after testing is complete.

Reference Solution. The fluorescence intensity of a reference solution placed on the sapphire window was measured immediately prior to conducting each test. This reference solution measurement serves two purposes. First, as a quality control check, the solution is used to ensure that the performance of the system is within specifications. Second, it allows for normalization of the data from different test locations for variation in laser power, operating conditions, and monitored emission

wavelength. The reference solution used for this project was the standard M1 reference, which is a proprietary PHC containing solution. M1 provides consistent fluorescence response across the portion of the spectrum analyzed by ROST and therefore, allows the fluorescence data collected to be consistently normalized to intensities recorded as a percentage of M1.

LIMITATIONS OF ENVIRONMENTAL SUBSURFACE WORK

Fugro Geosciences' report is based upon our observations made during field work, the information provided to Fugro and the results of the ROST/CPT survey. Given the inherent limitation of environmental subsurface work, Fugro cannot guarantee that the site is free of hazardous or potentially hazardous materials or conditions or that latent or undiscovered conditions will not become evident in the future. Fugro's report was prepared in accordance with our proposal and the General Conditions agreed to between Fugro and Client and no warranties, representations, or certifications are made.

Fugro Geosciences, Inc. appreciates the opportunity to be of service to your organization. Please do not hesitate to contact us if we can be of further assistance. We look forward to working with you in the future.

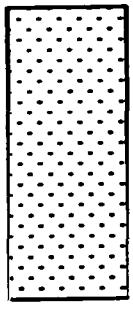
Sincerely,
FUGRO GEOSCIENCES, INC.

Recep Yilmaz
President

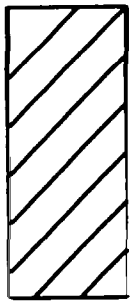
RY/mdt

Enclosure: - 1 CD

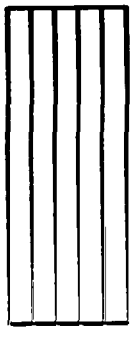
KEY TO SOIL BEHAVIOR TYPE



SAND AND SANDY SOIL



CLAY AND CLAYEY SOIL



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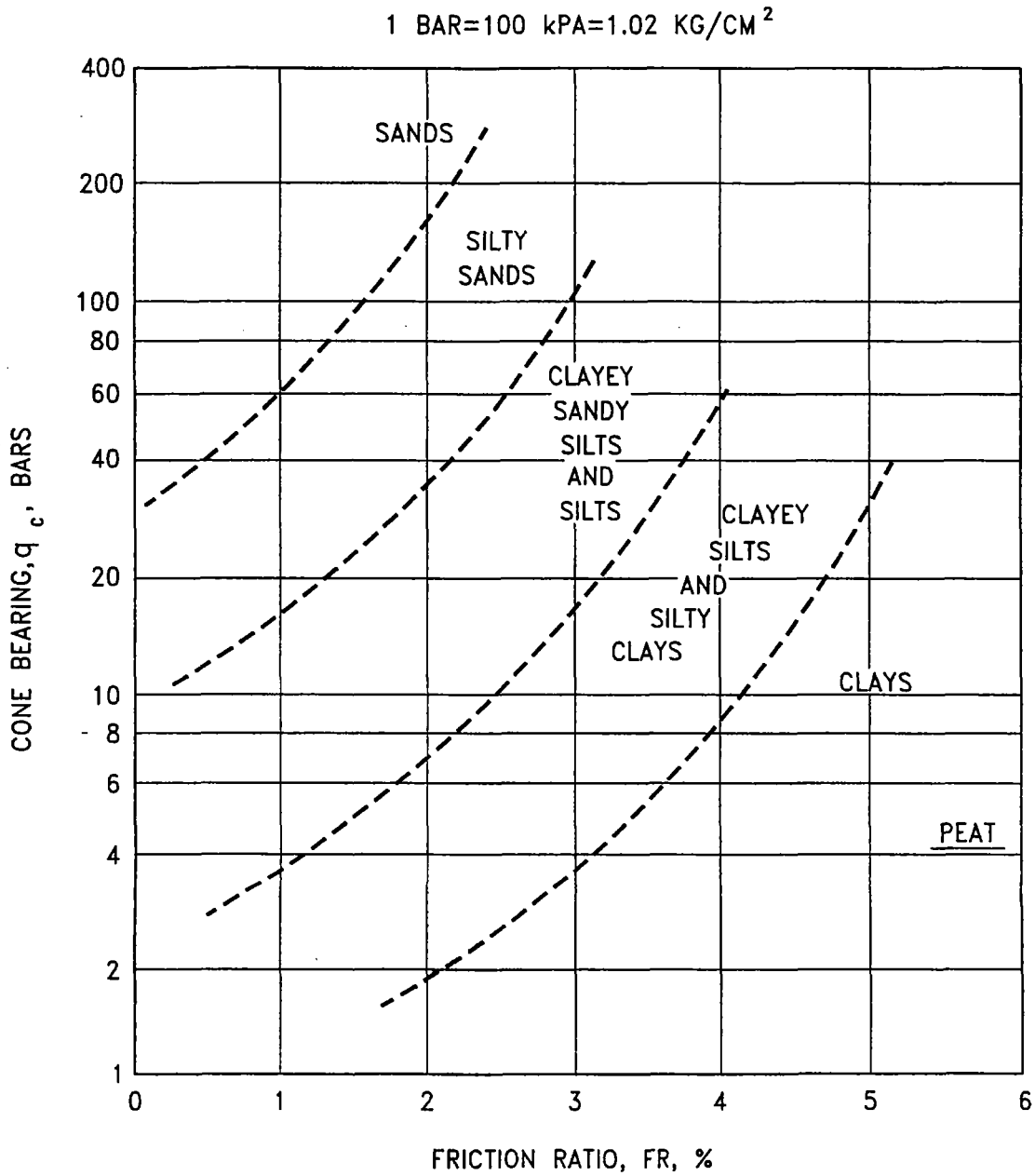
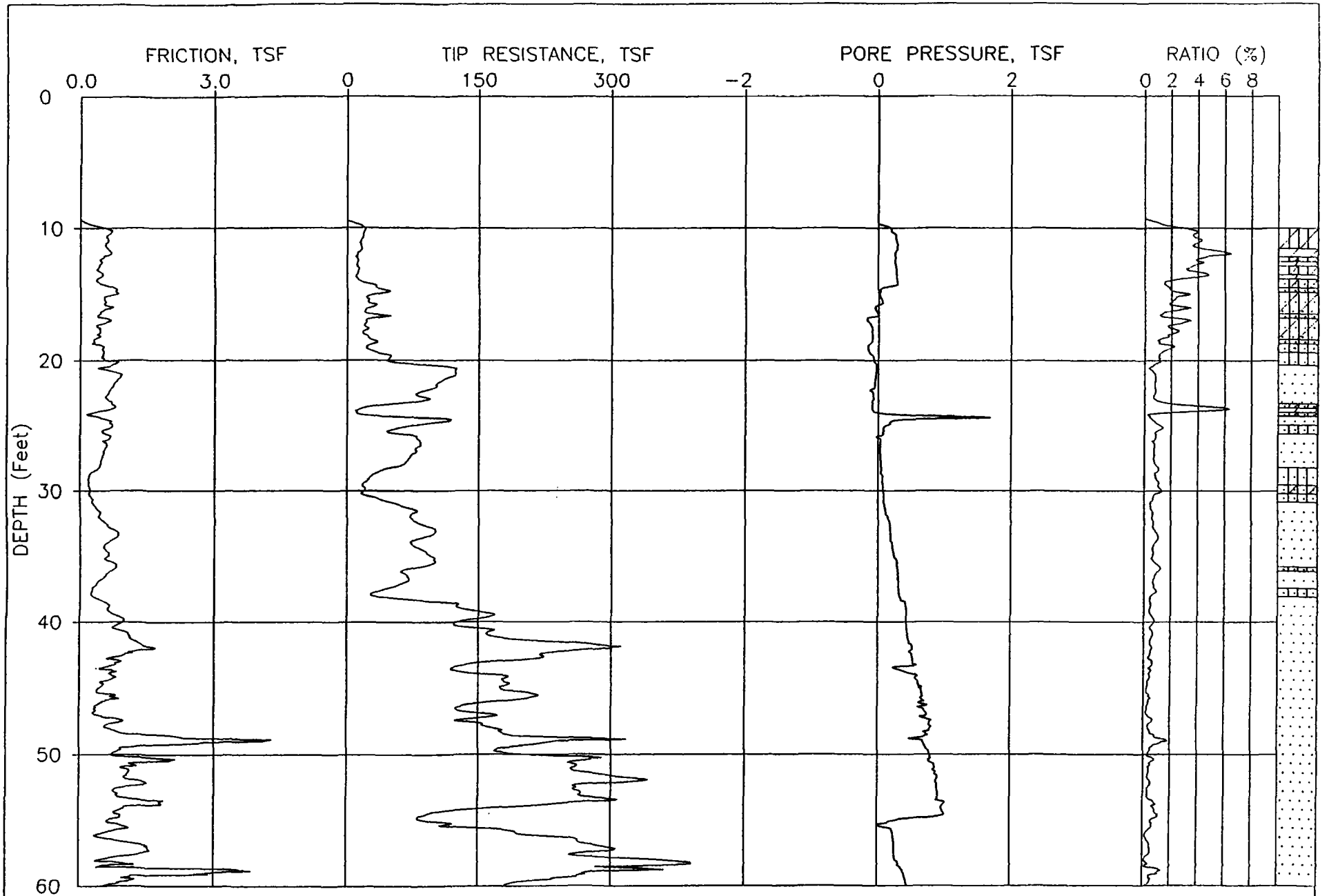


MODIFIED CAMPANELLA AND ROBERTSON SOIL BEHAVIOR CHART (1983)

CPT LOGS



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ELEVATION: 0.00

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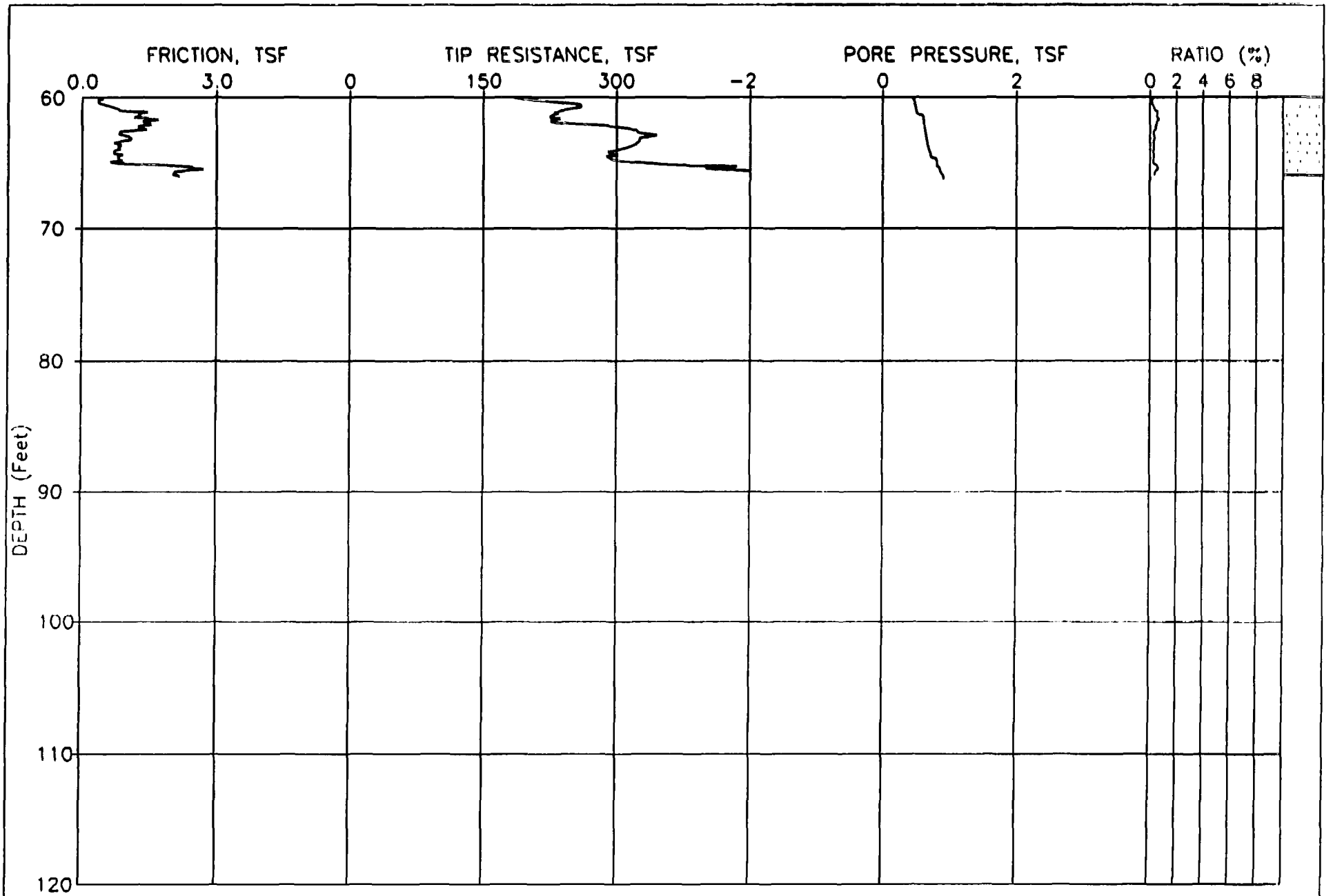
CONE NUMBER: F7.5CKEW1511

DATE: 05-23-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



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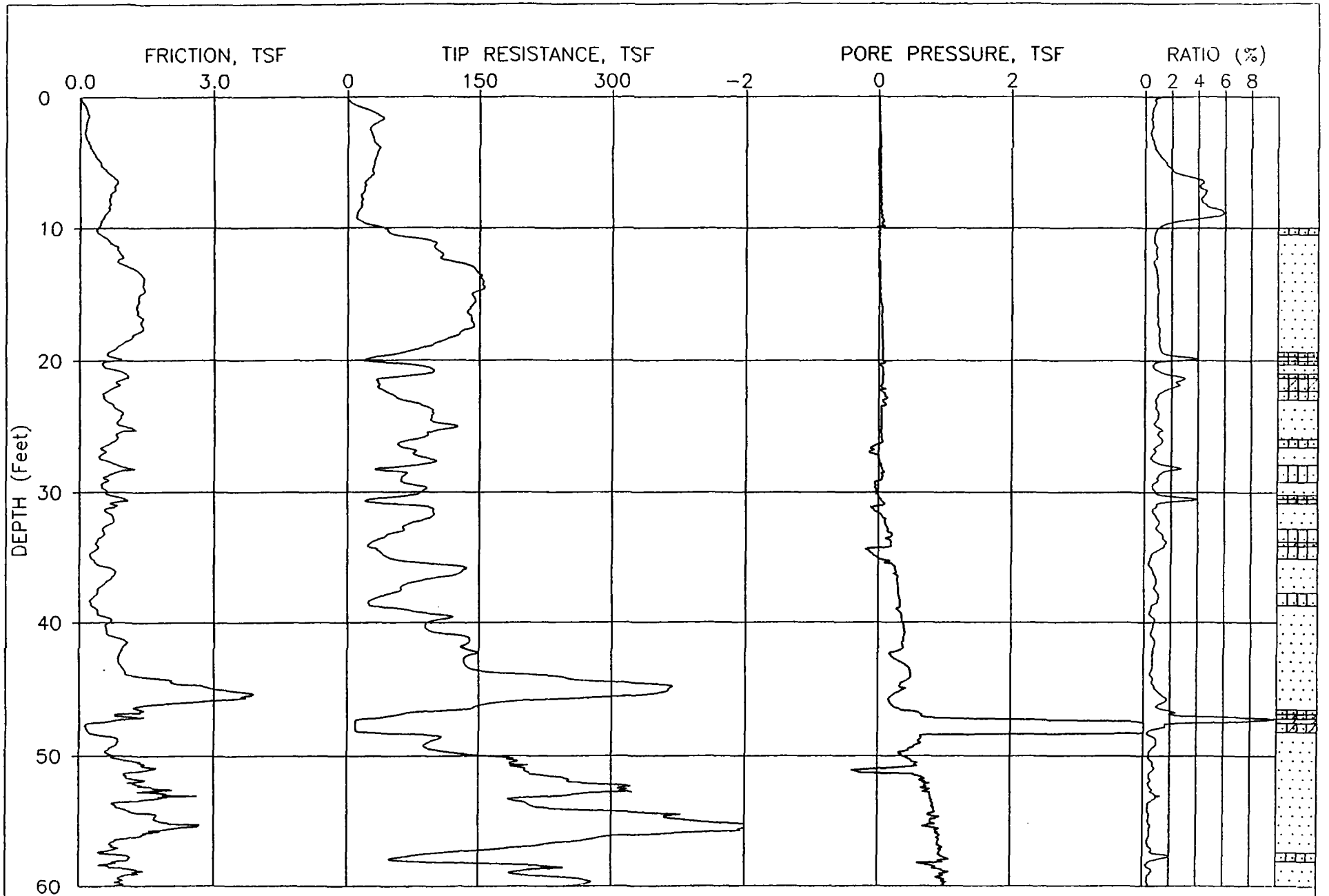
DATE: 05-23-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



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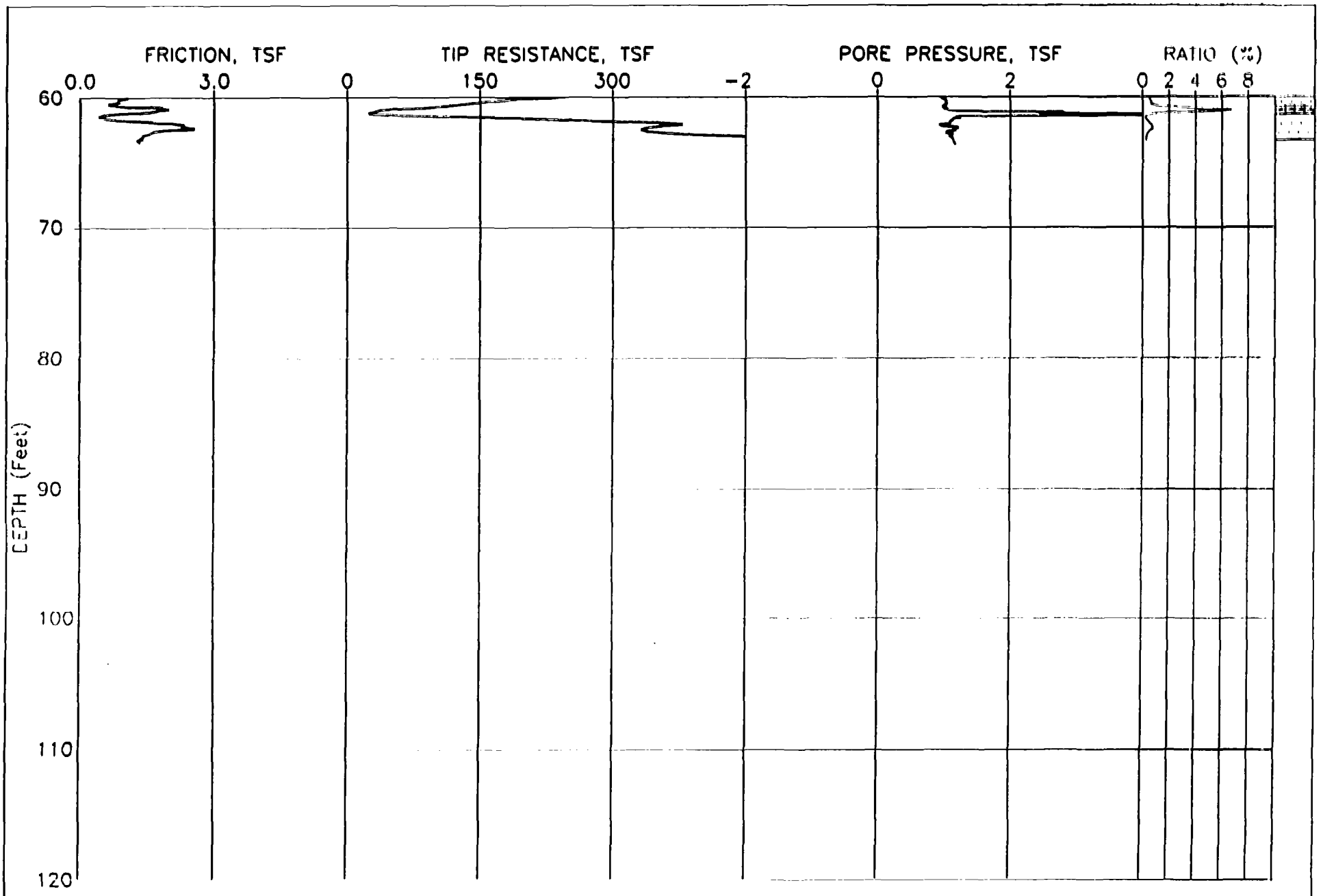
DATE: 05-24-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



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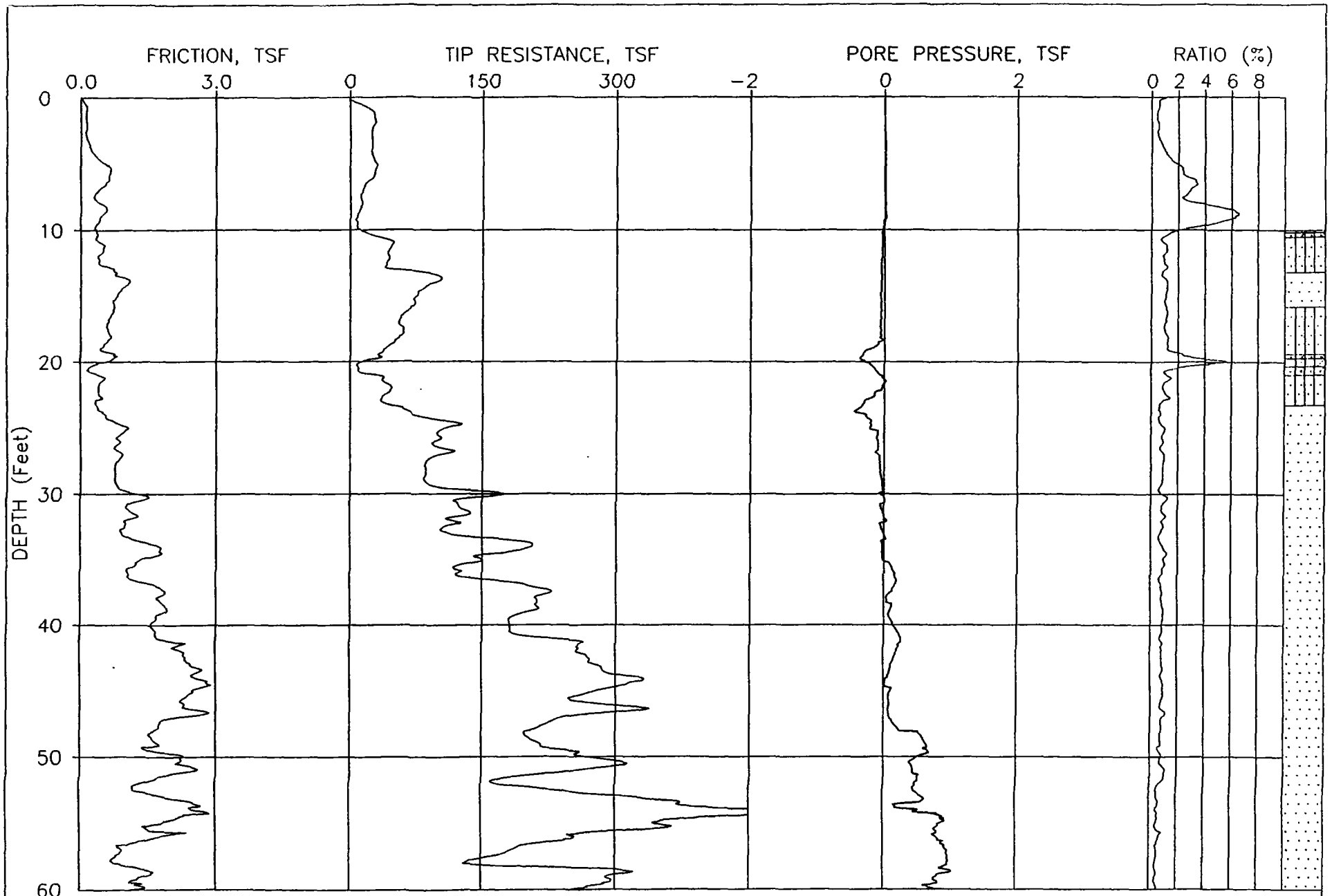
DATE: 05-24-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



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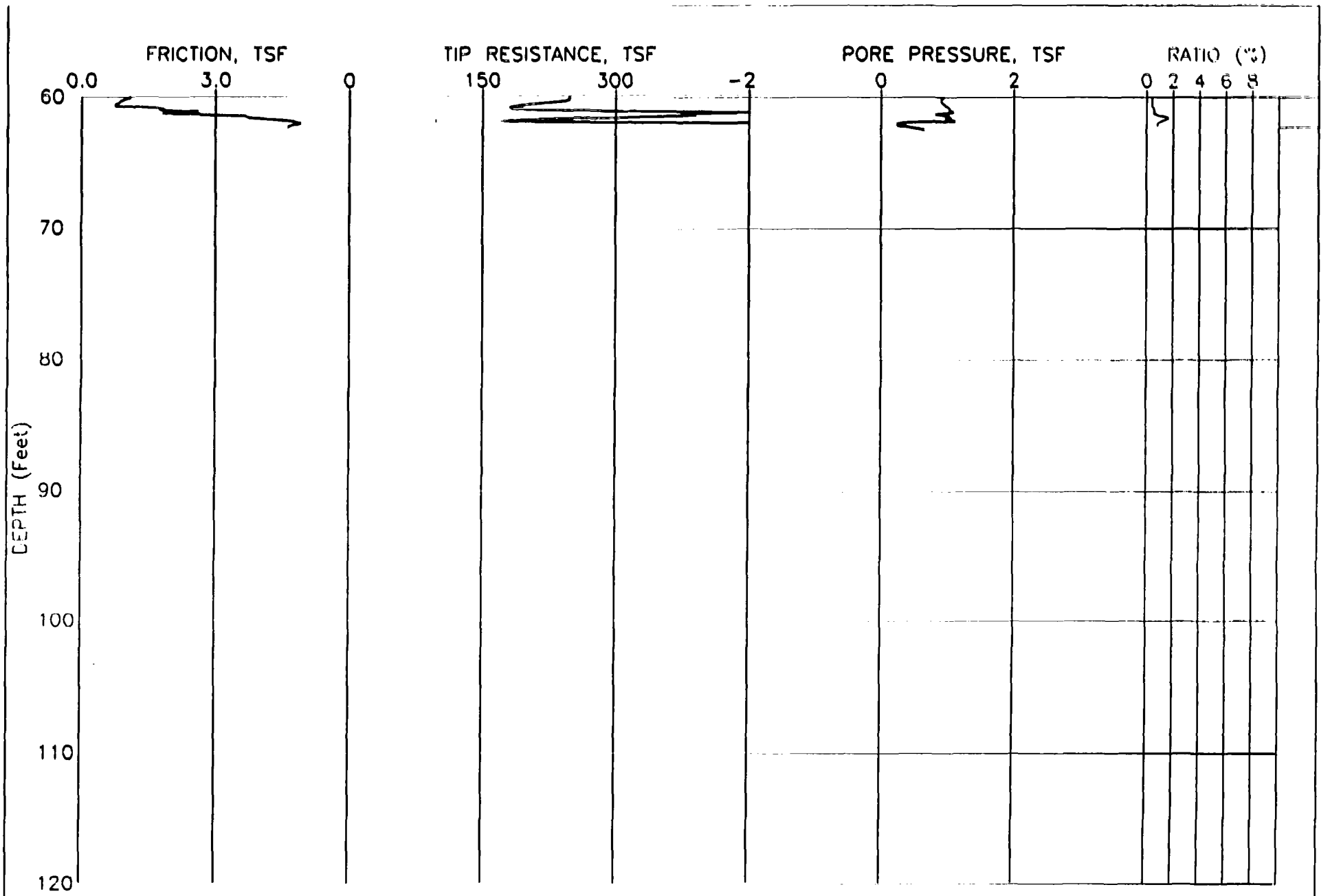
DATE: 05-24-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



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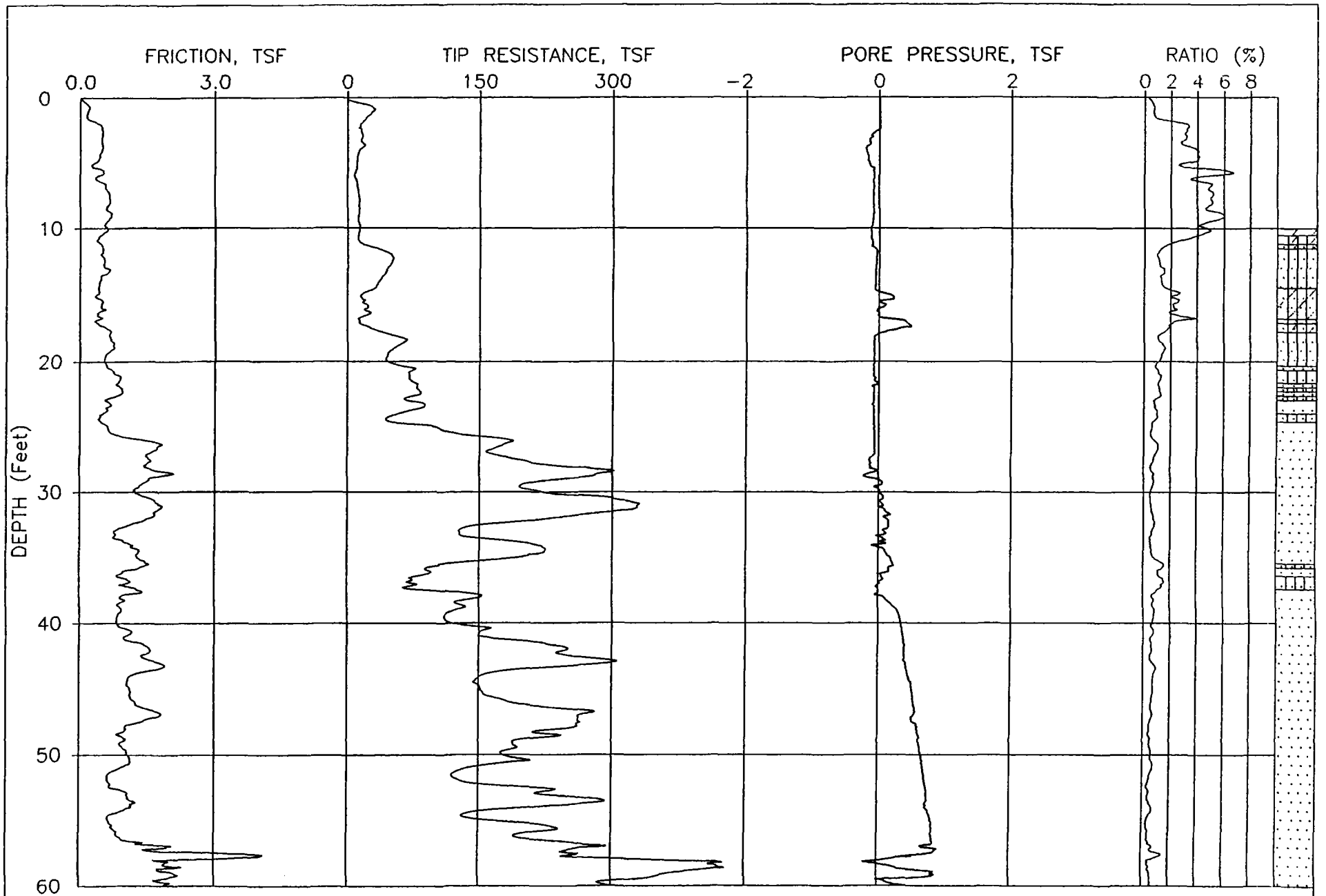
DATE: 05-24-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



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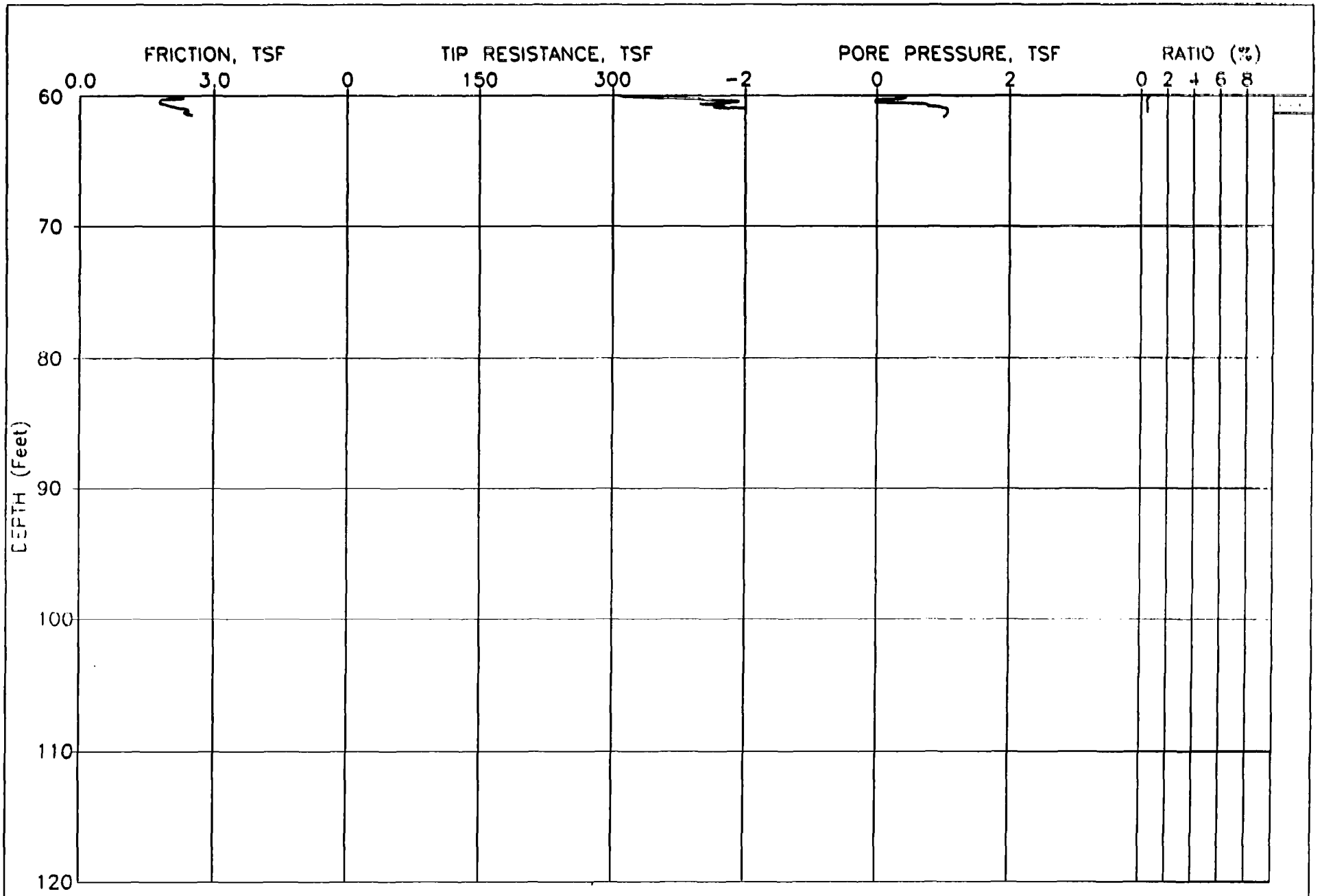
DATE: 05-24-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



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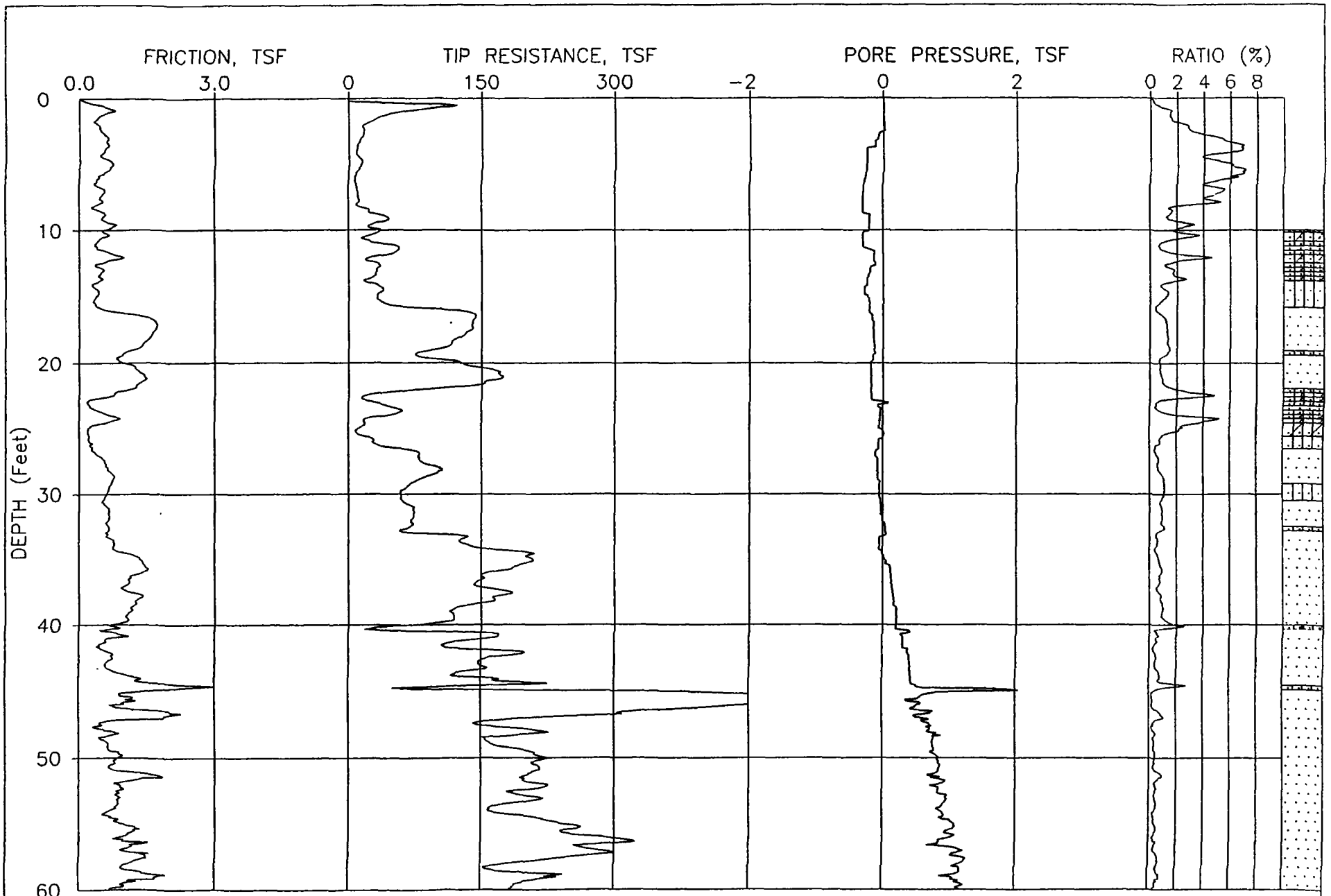
DATE: 05-24-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



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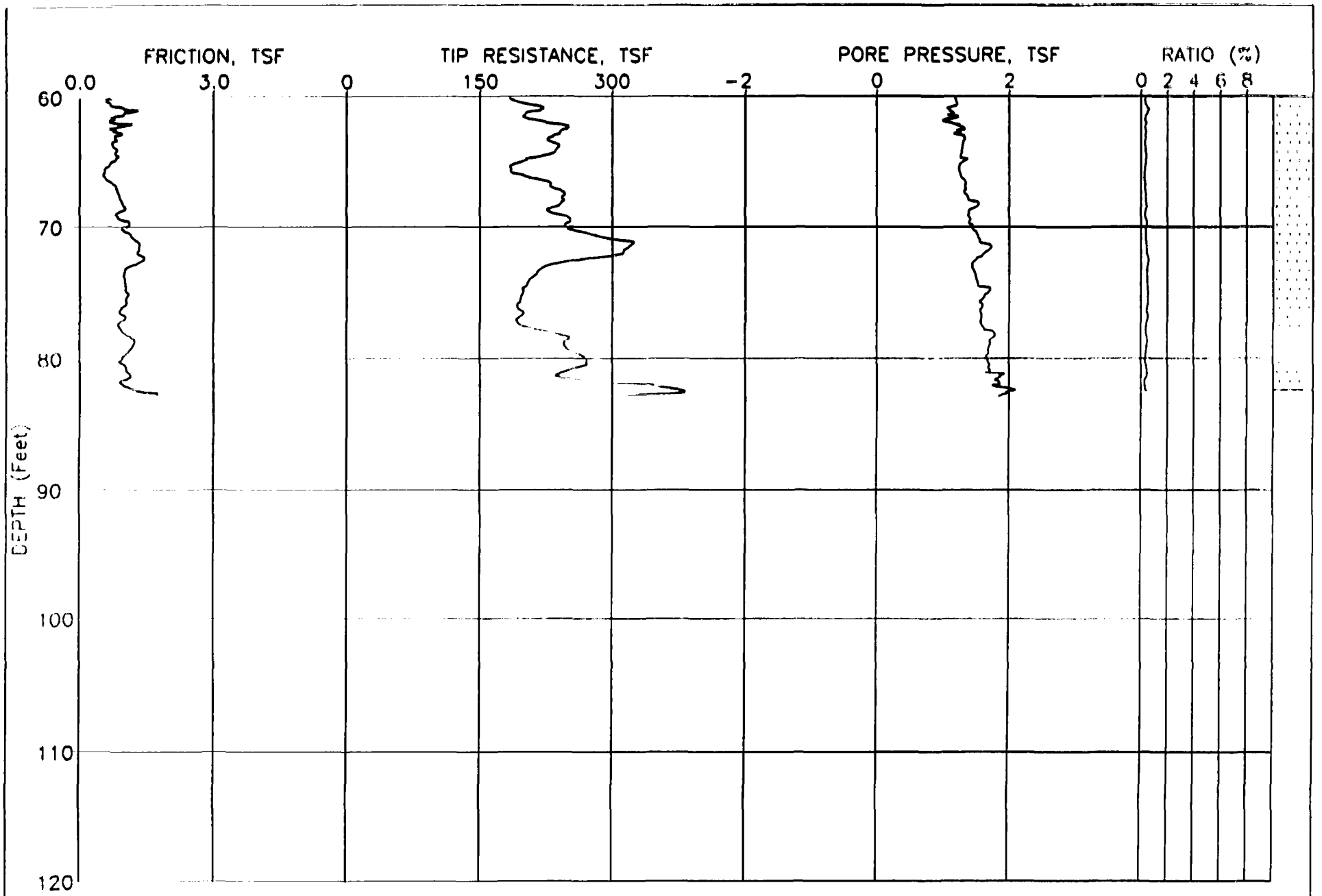
DATE: 05-23-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



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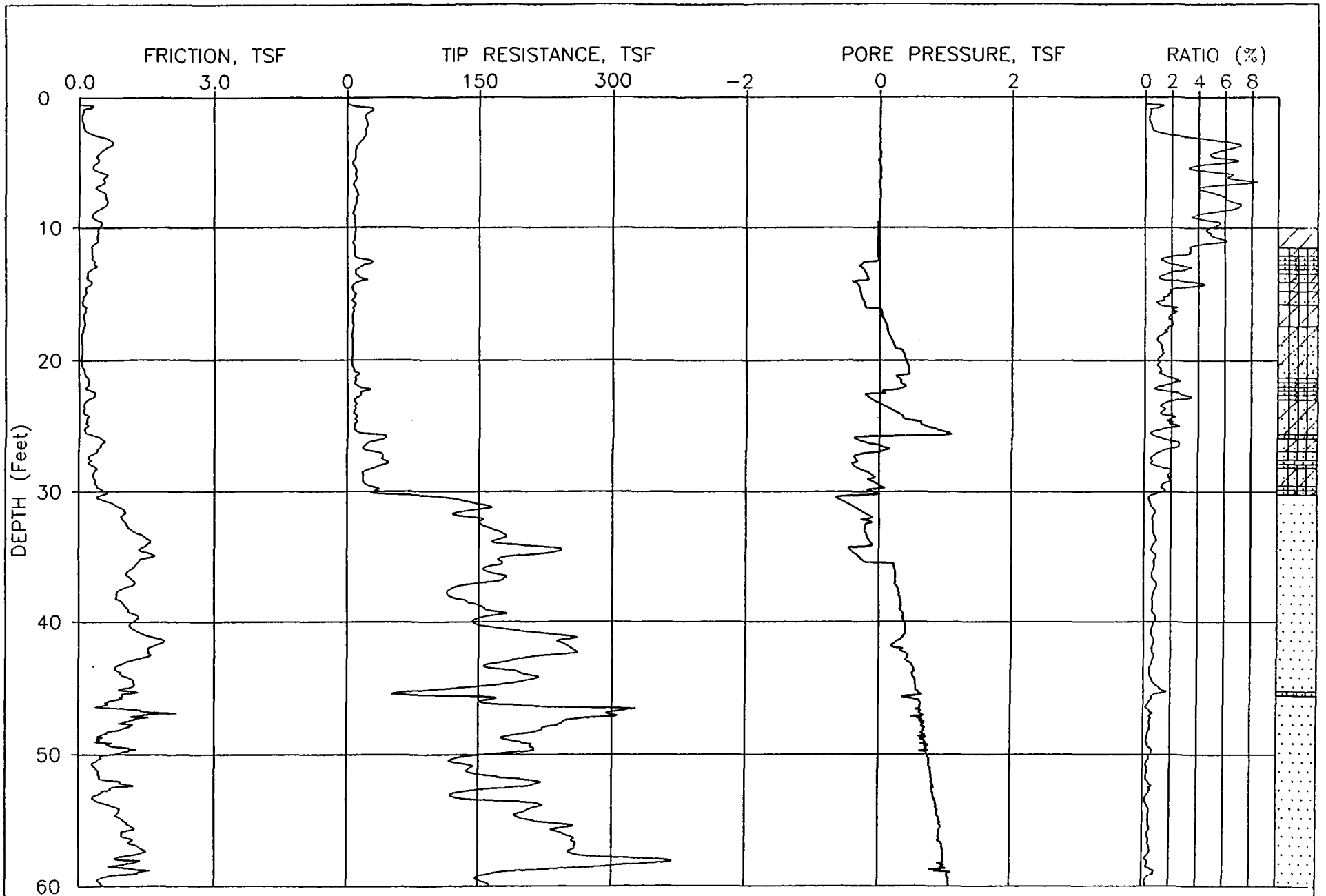
DATE: 05-23-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



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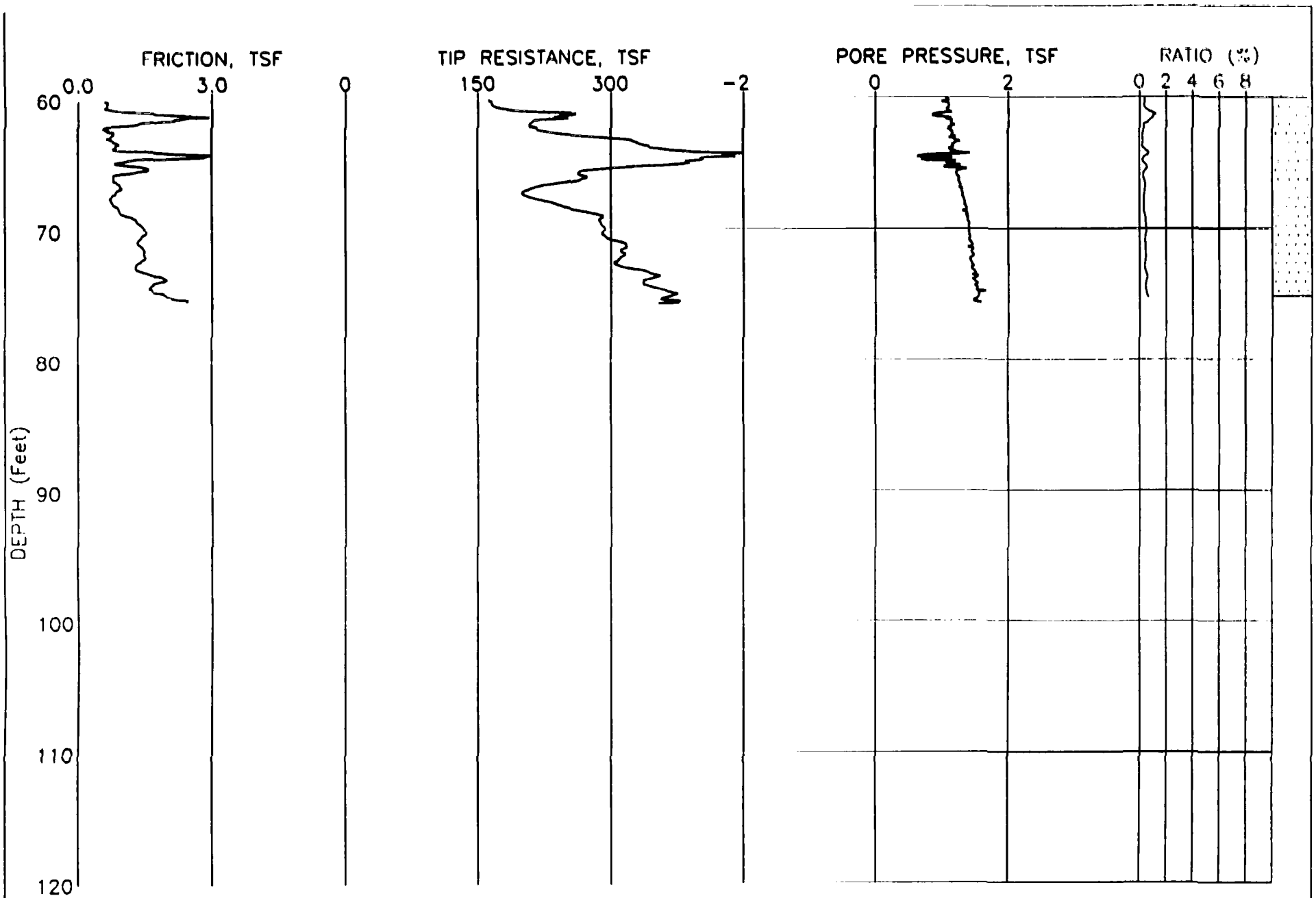
CONE NUMBER: F7.5CKEW1511

DATE: 05-23-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



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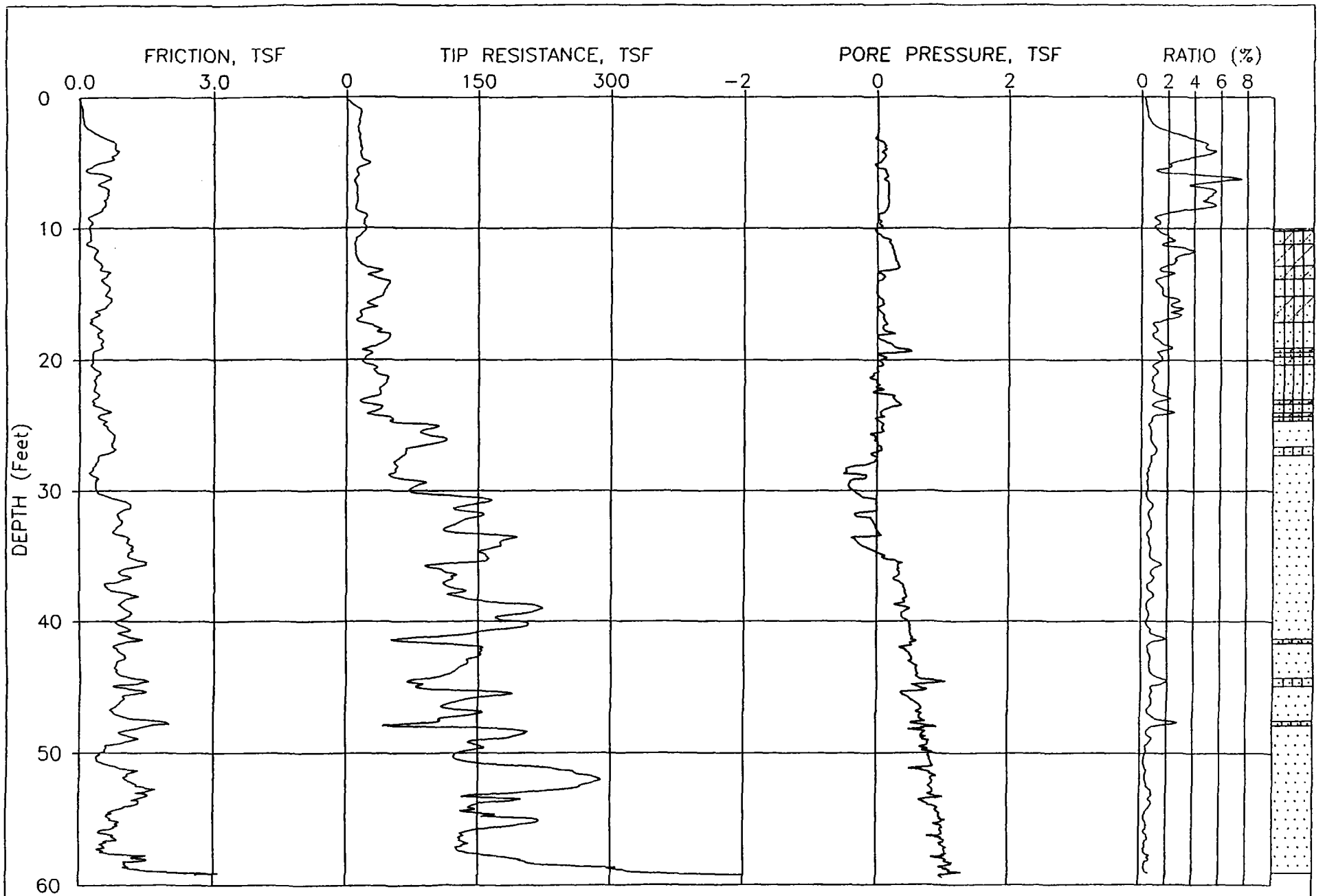
CPT NUMBER: HP-06
CONE NUMBER: F7.5CKEW1511

DATE: 05-23-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



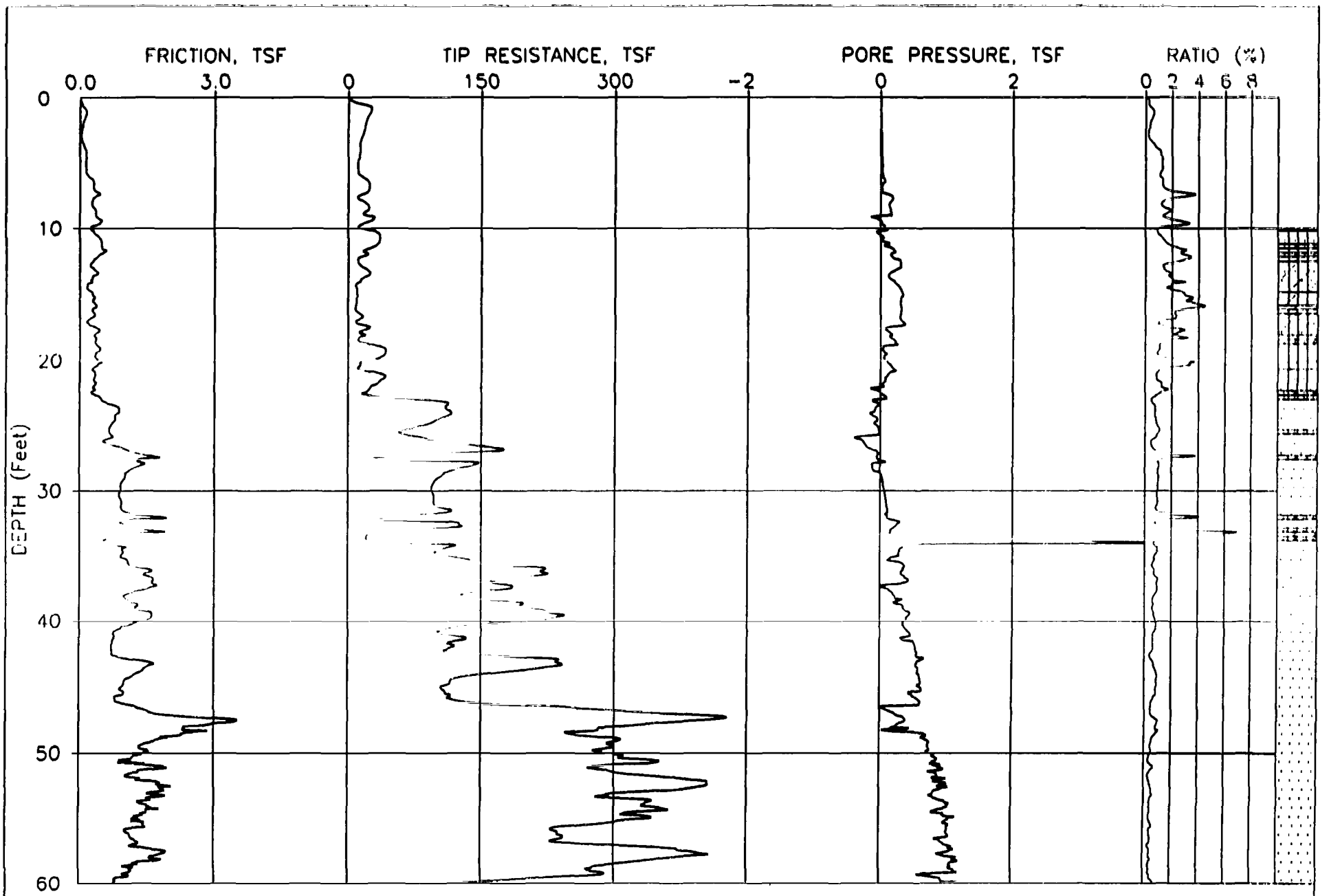
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HP-07
CONE NUMBER: F7.5CKEW1511

DATE: 05-24-2005

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



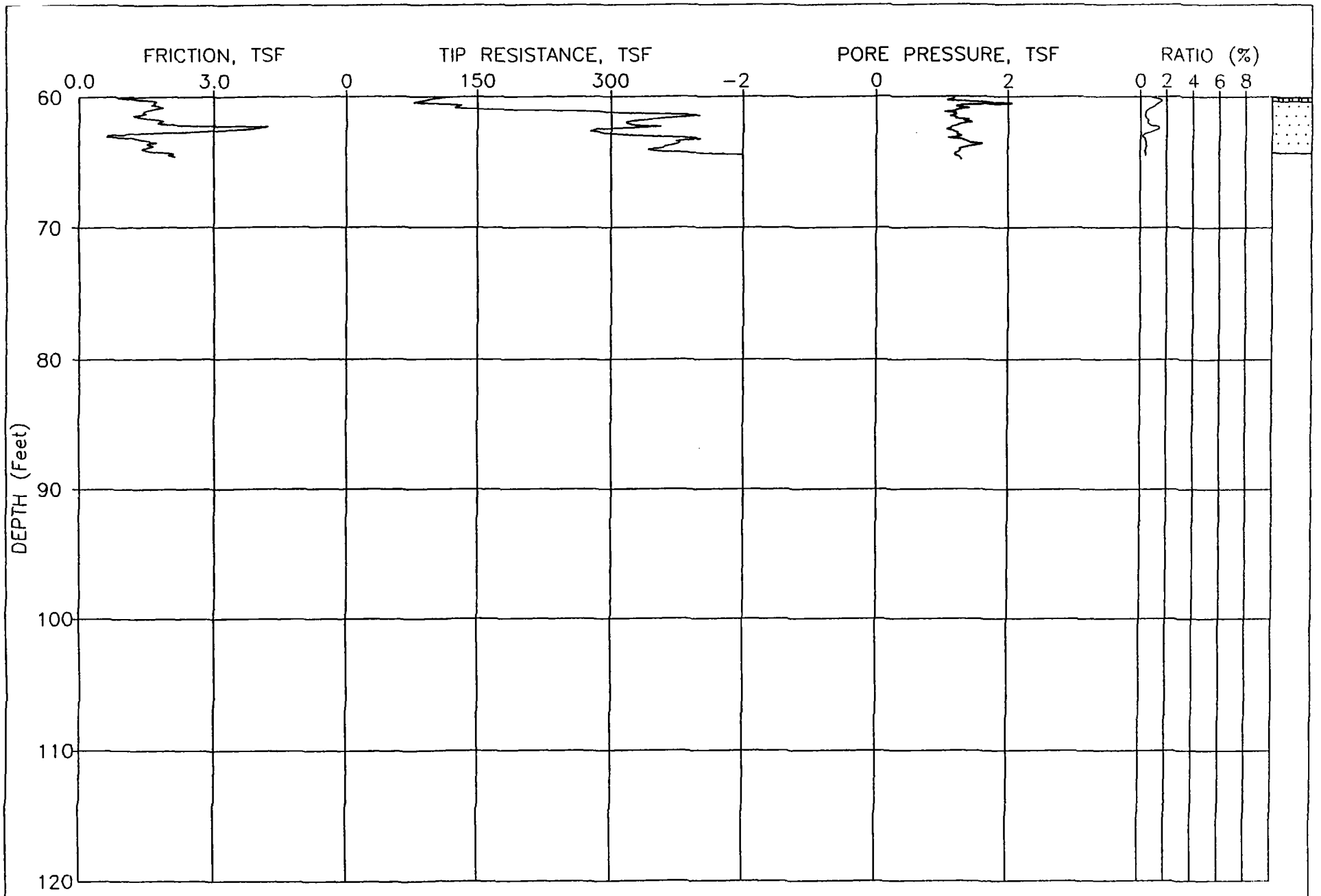
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HP-08
CONE NUMBER: F7.5CKEW1511

DATE: 05-24-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



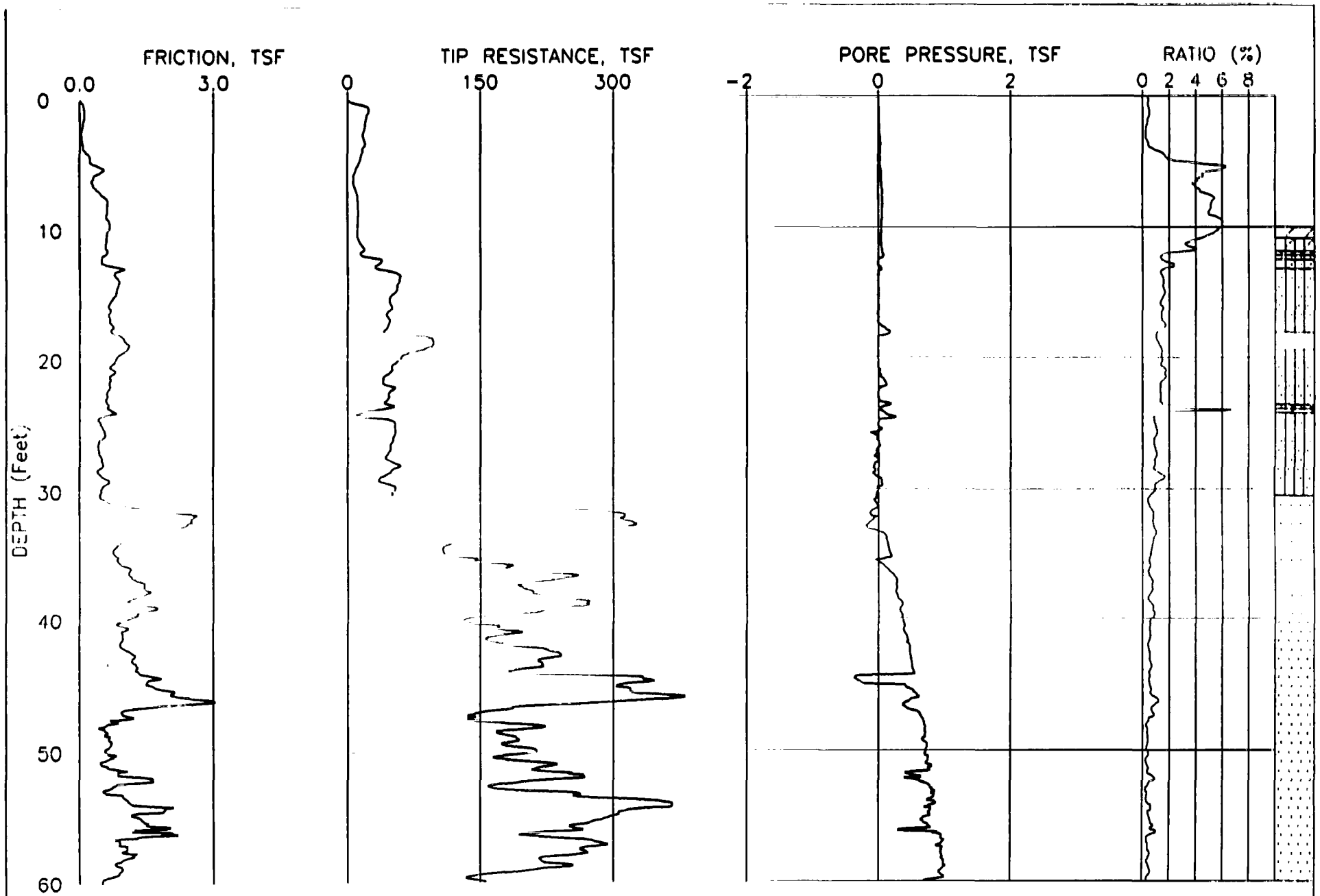
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HP-08
CONE NUMBER: F7.5CKEW1511

DATE: 05-24-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



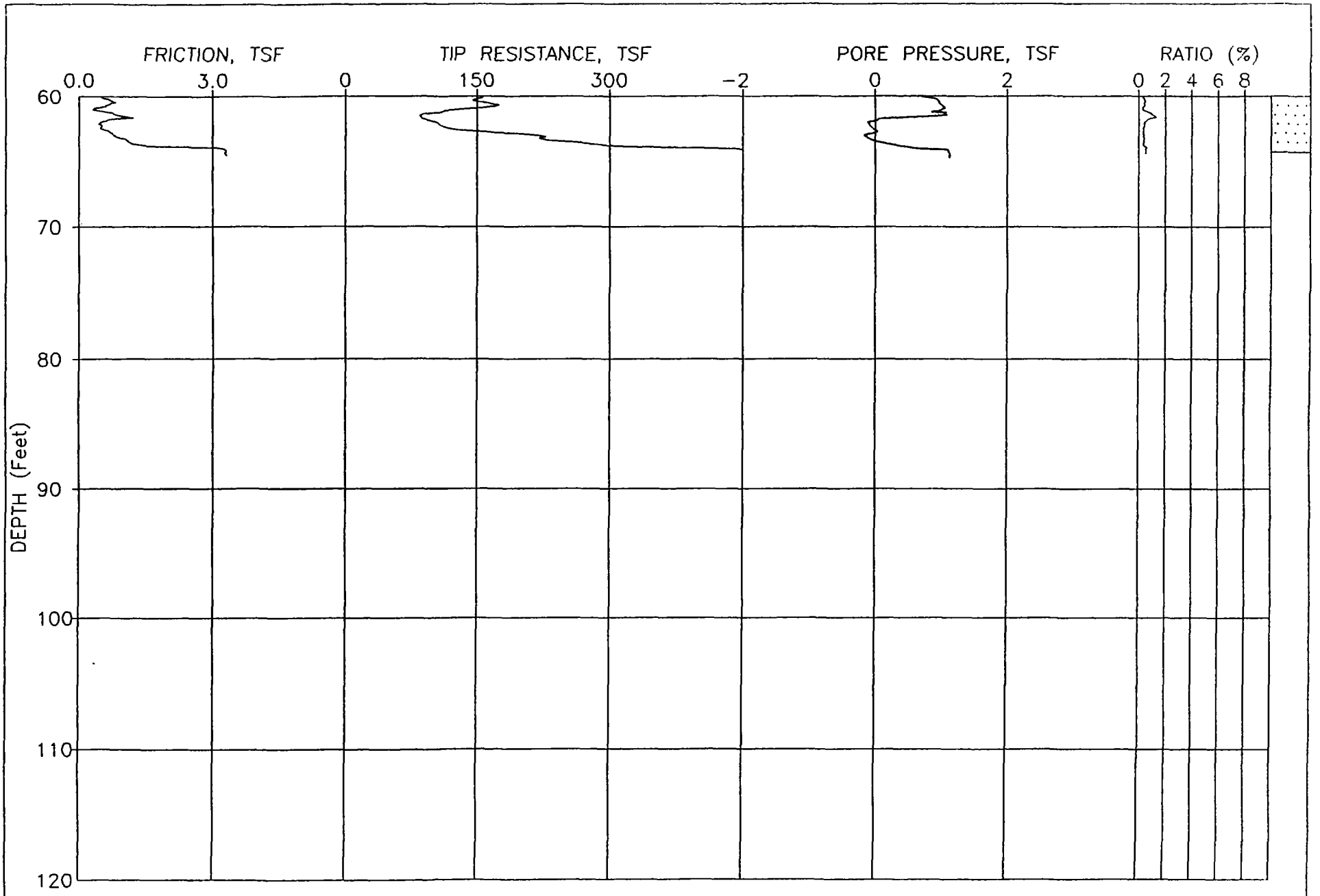
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HP-09
CONE NUMBER: F7.5CKEW1511

DATE: 05-24-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



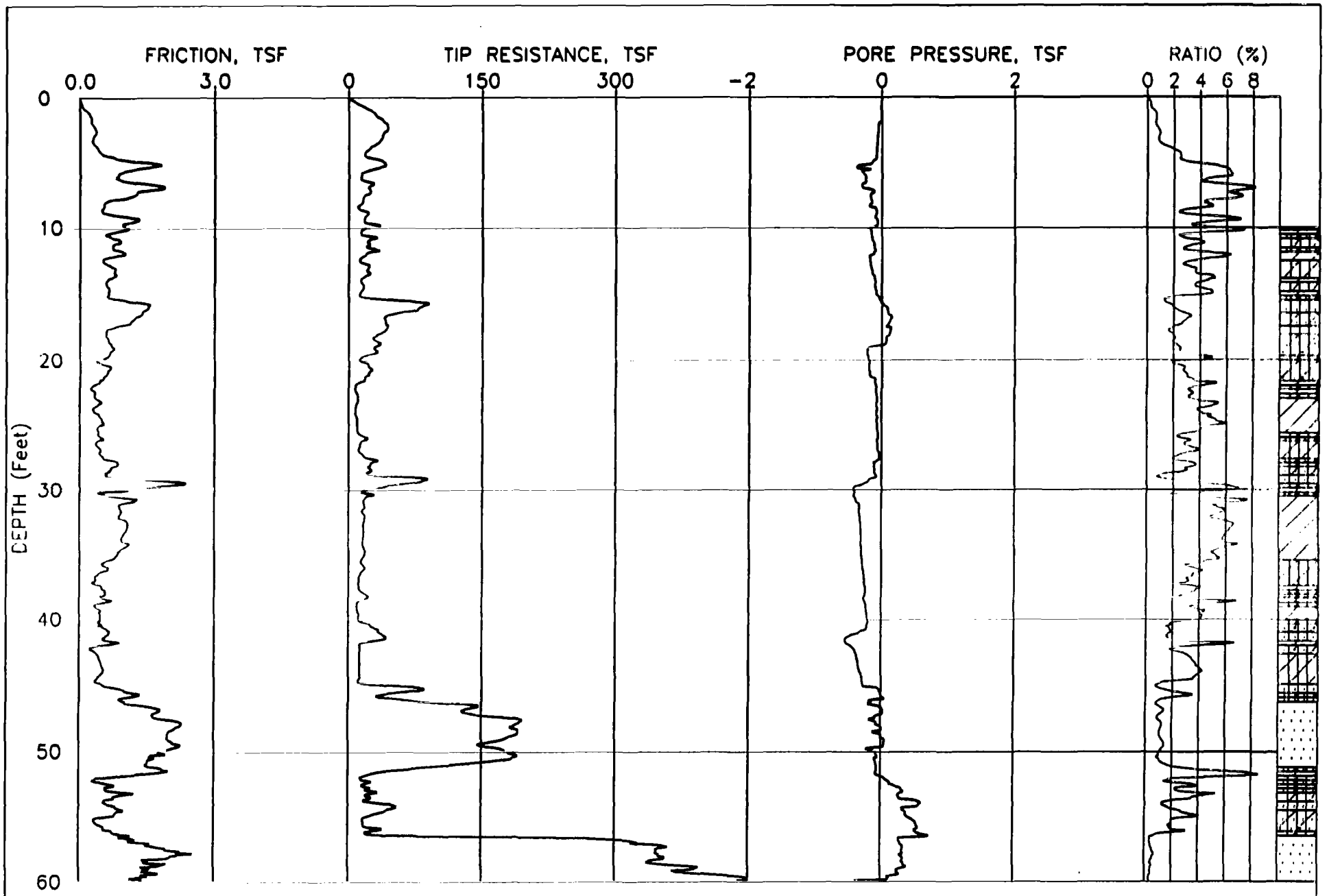
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HP-09
CONE NUMBER: F7.5CKEW1511

DATE: 05-24-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-81

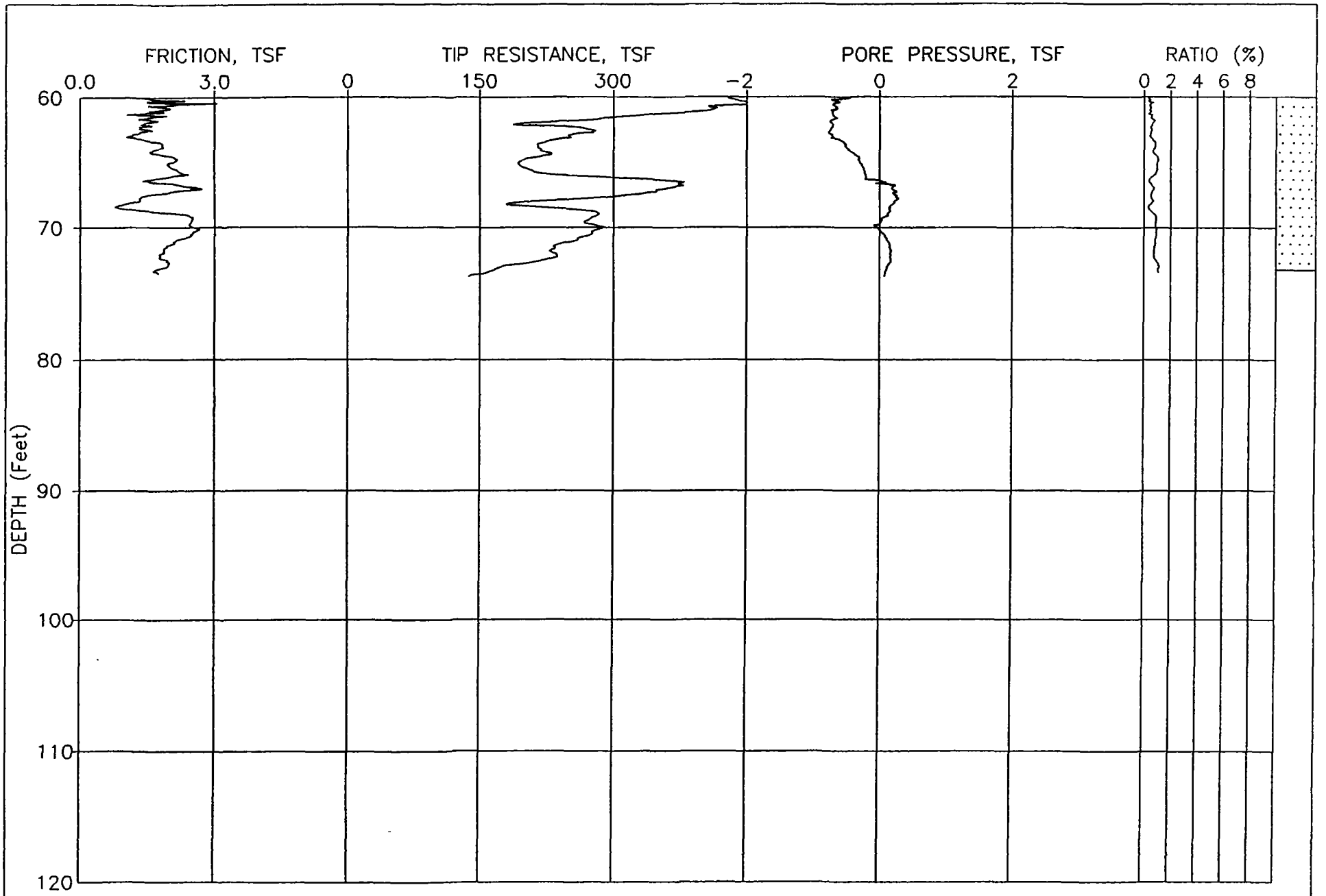
DATE: 06-22-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-81

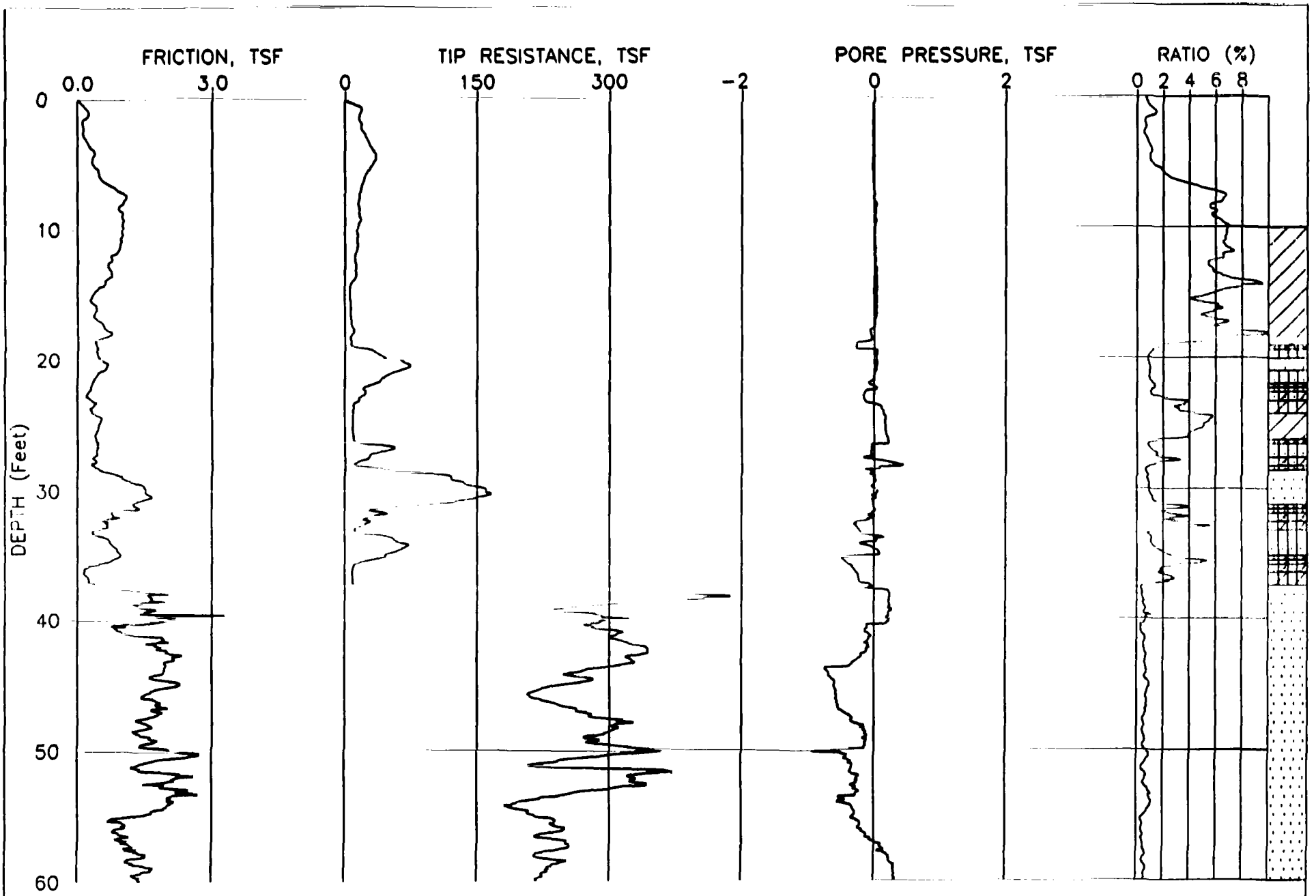
DATE: 06-22-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

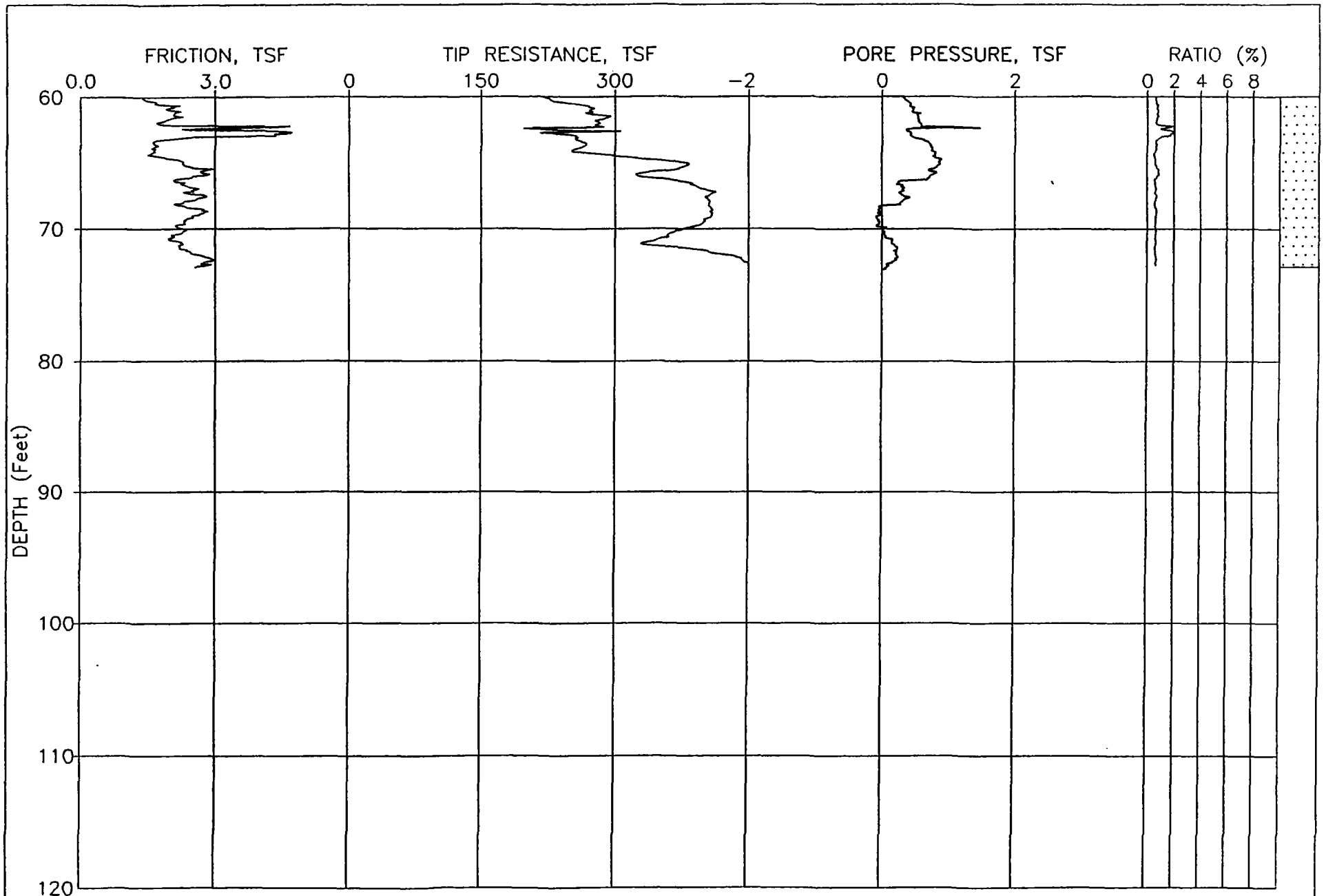
CPT NUMBER: HROST-82

CONE NUMBER: F7.5CKEW1346

DATE: 06-21-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−82

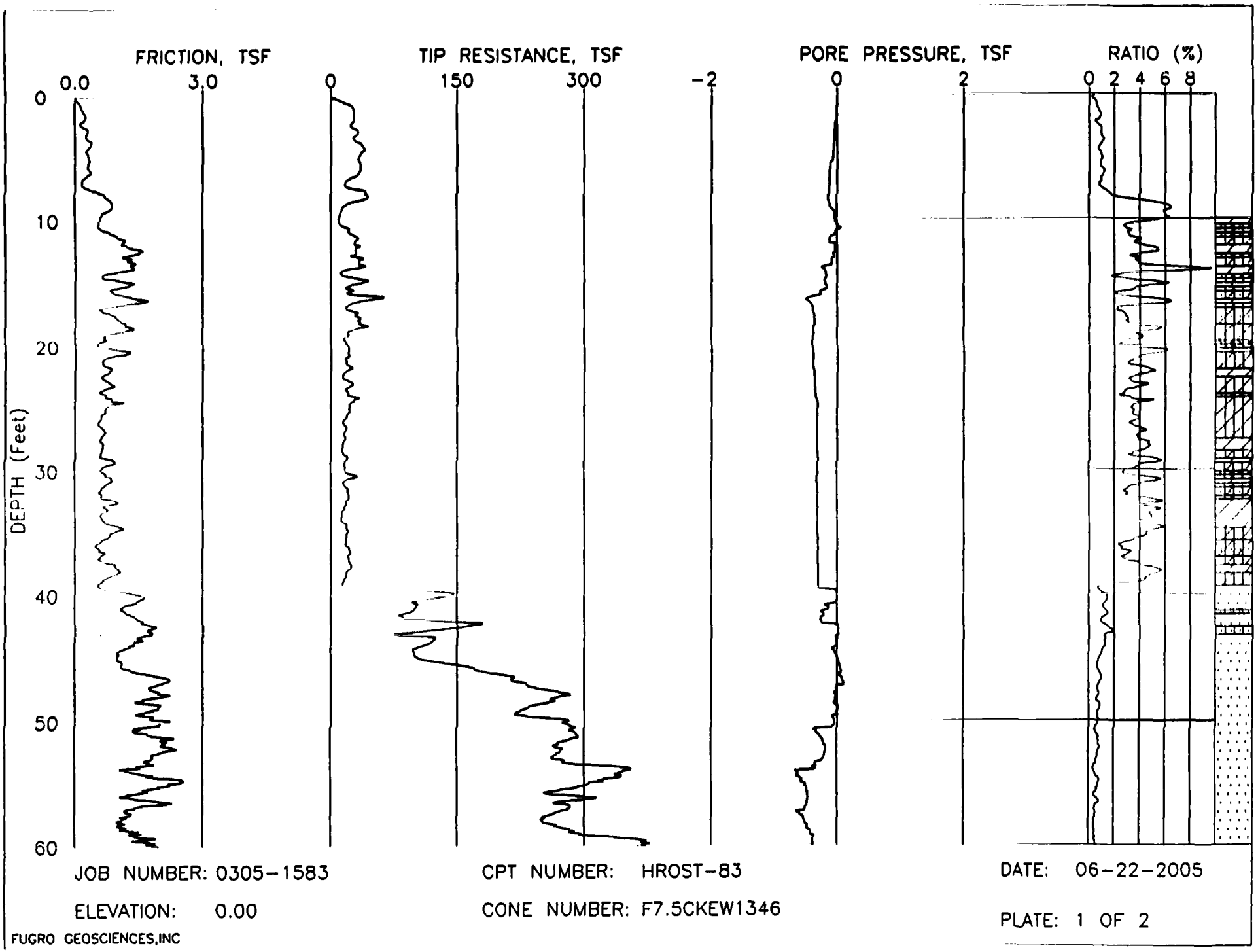
DATE: 06−21−2005

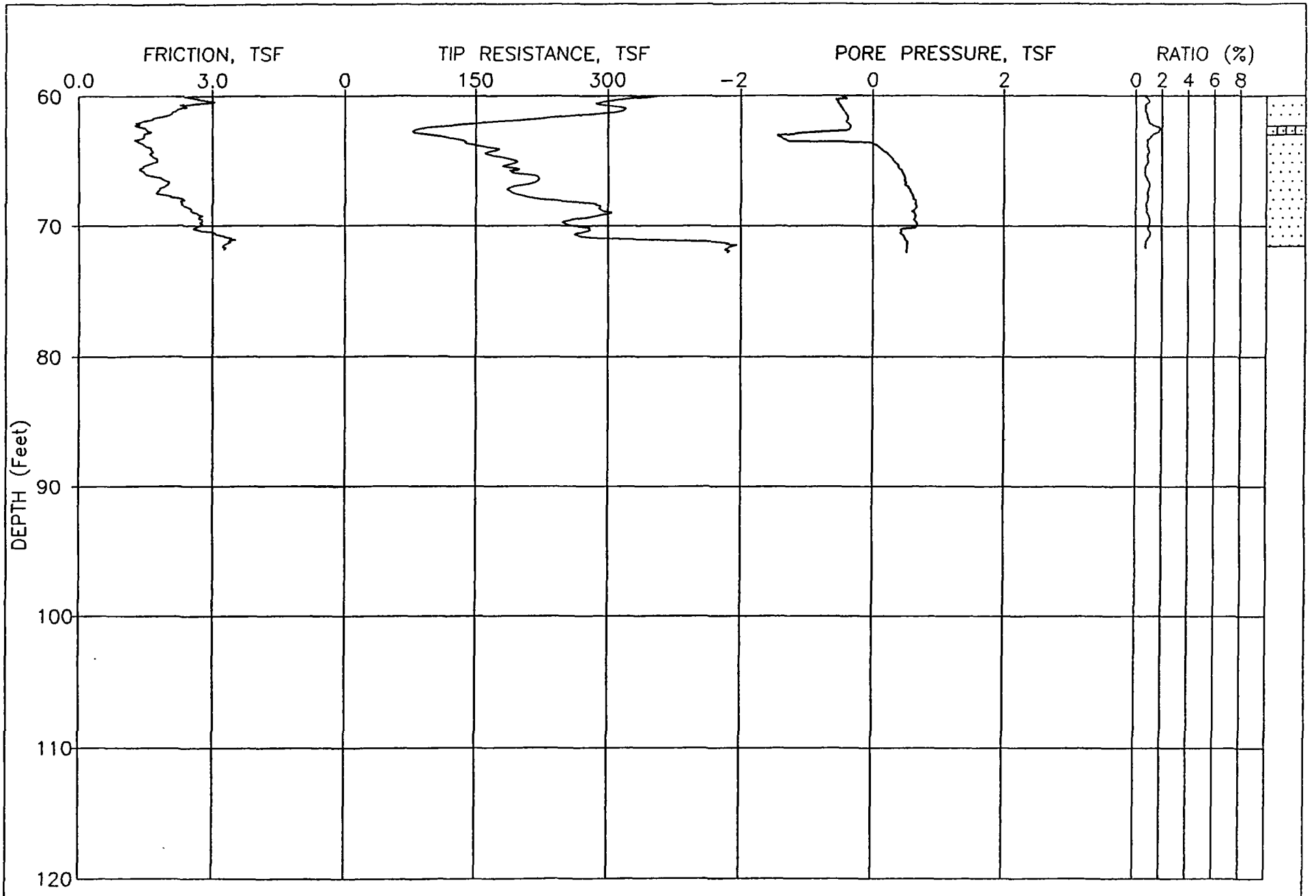
ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC


FRICTION, TSF
0.0
3.0
TIP RESISTANCE, TSF
0
150
300
PORE PRESSURE, TSF
-2
0
2
RATIO (%)
0 2 4 6 8
DEPTH (Feet)
0
10
20
30
40
50
60
JOB NUMBER: 0305-1583
ELEVATION: 0.00
CPT NUMBER: HROST-83
CONE NUMBER: F7.5CKEW1346
DATE: 06-22-2005
PLATE: 1 OF 2
FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-83

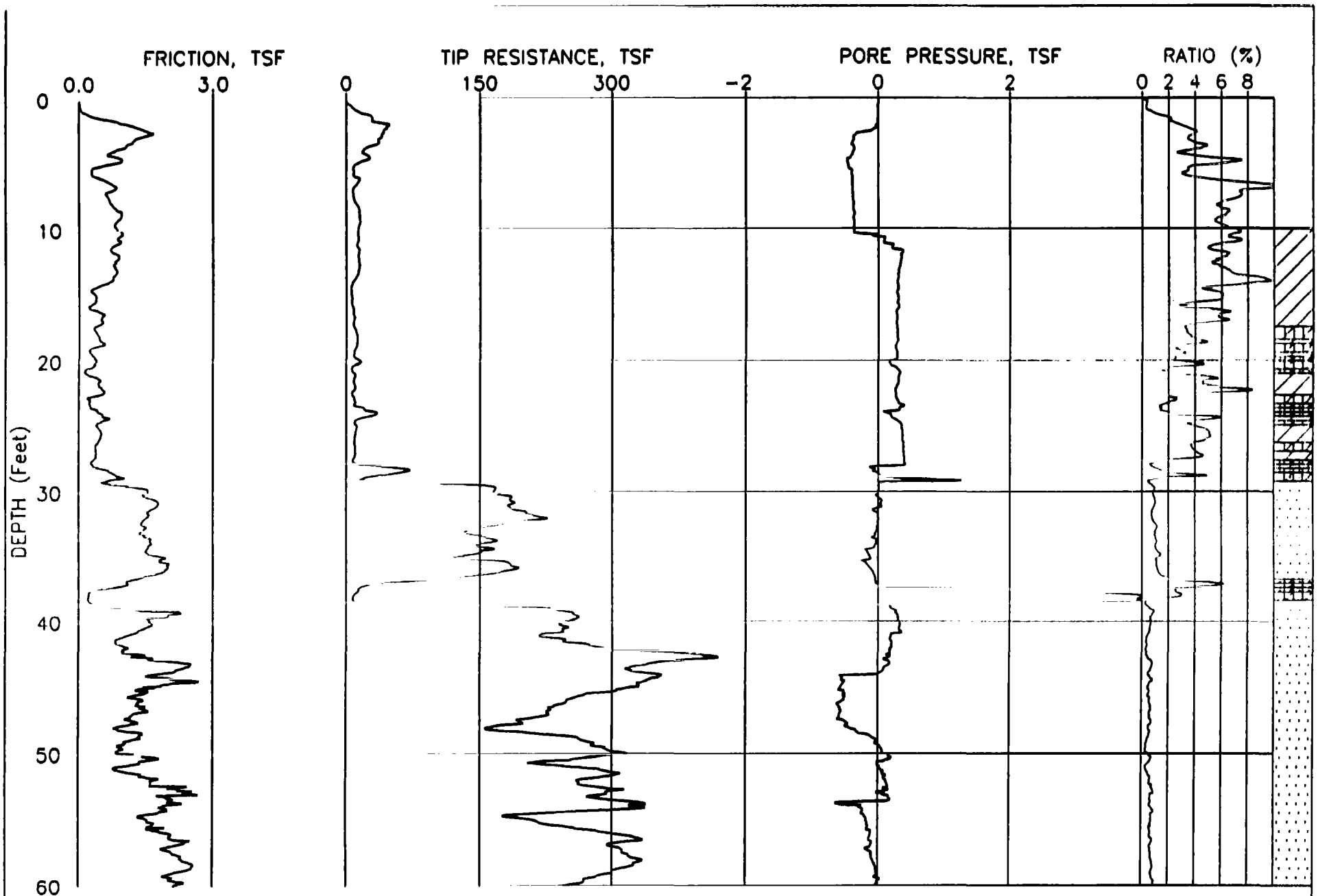
DATE: 06-22-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

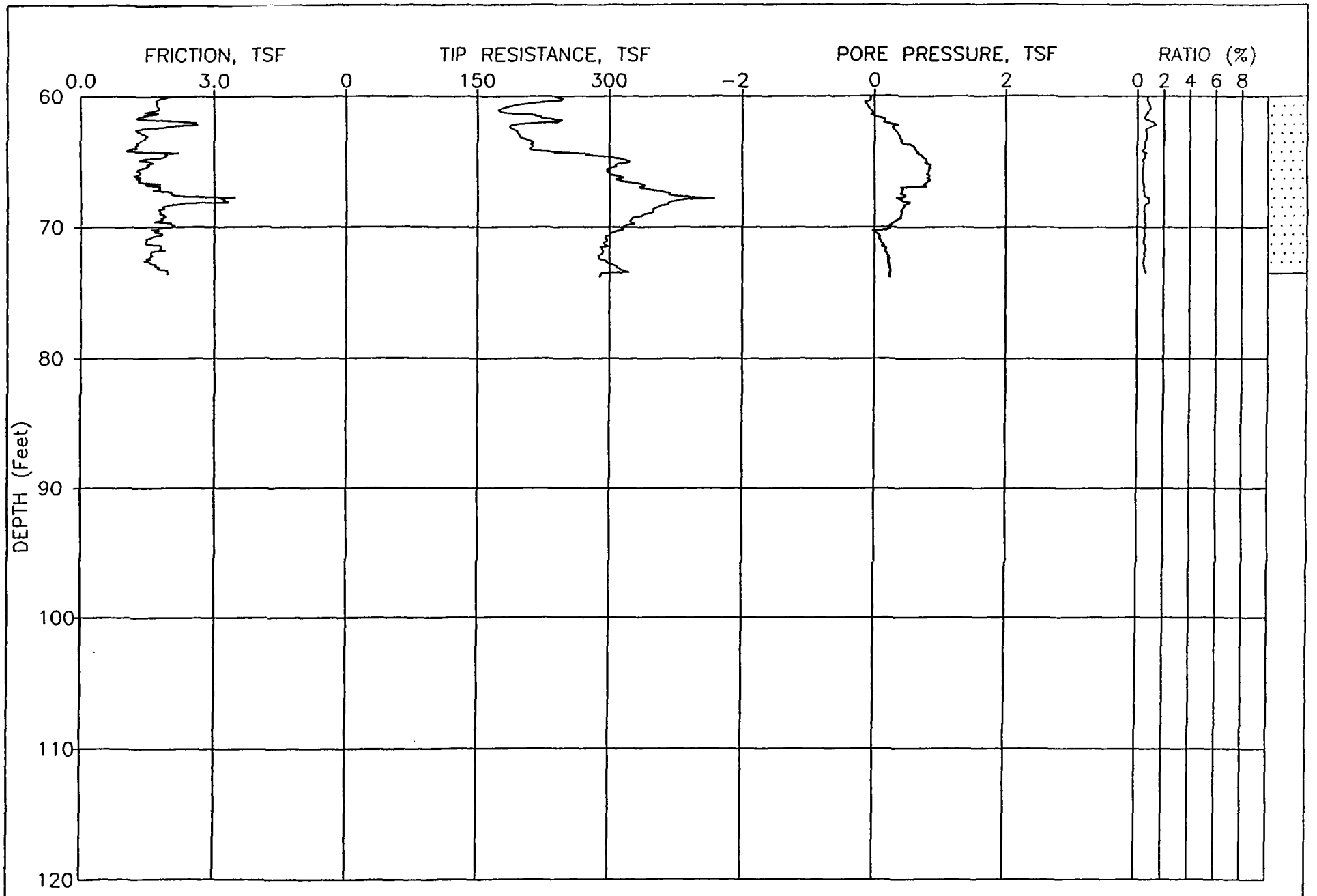
CPT NUMBER: HROST-84

CONE NUMBER: F7.5CKEW1346

DATE: 06-17-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-84

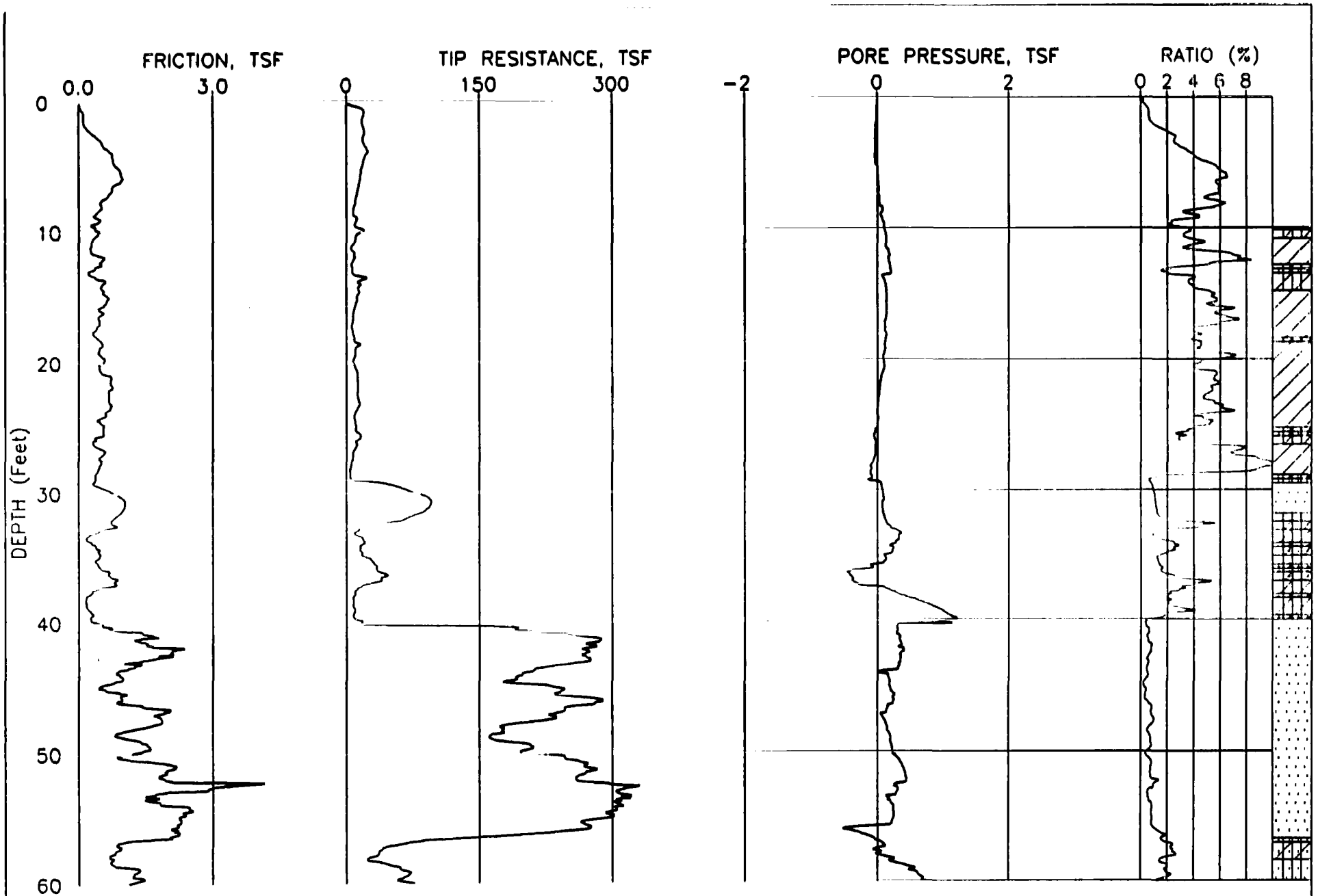
DATE: 06-17-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

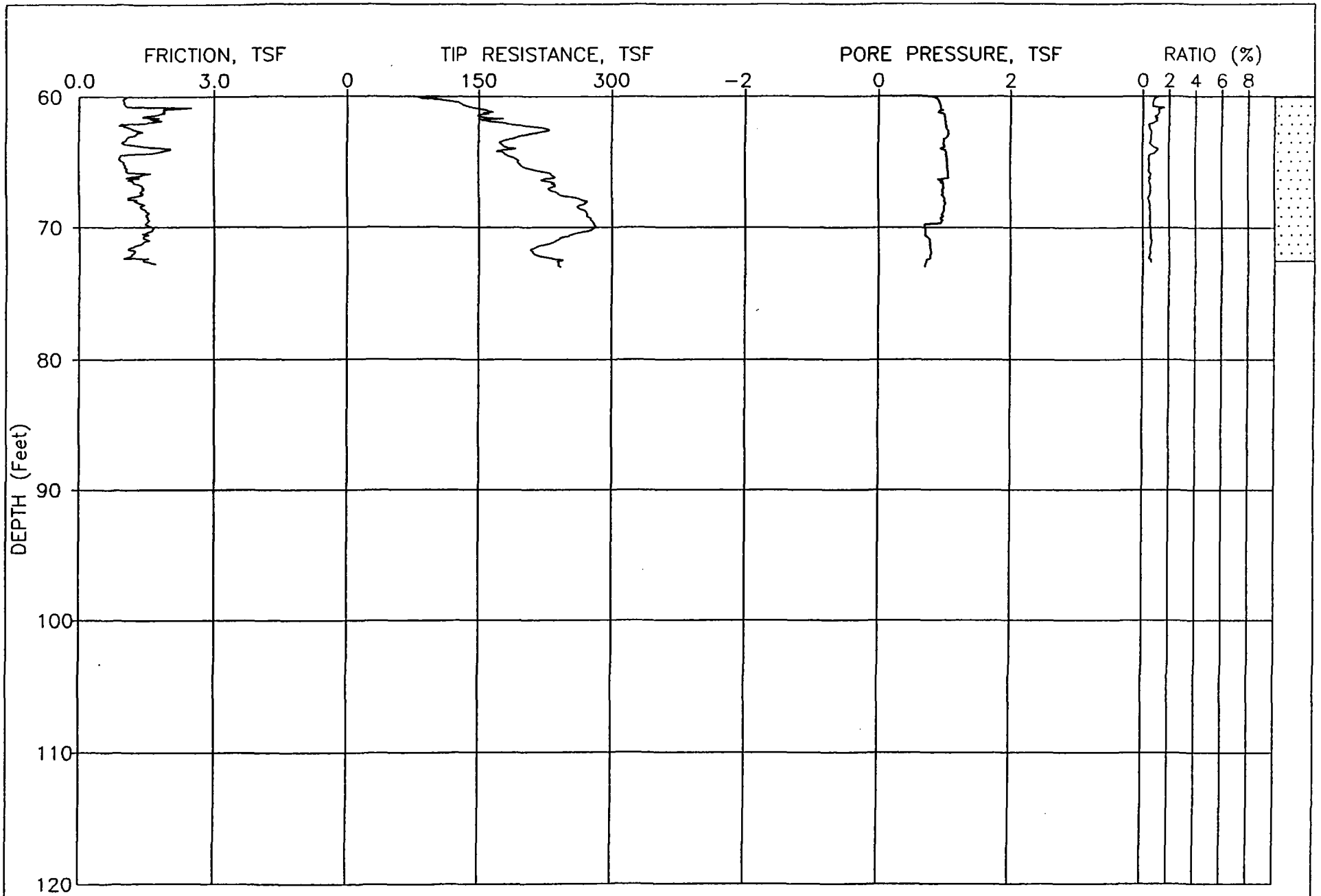
CPT NUMBER: HROST-85

CONE NUMBER: F7.5CKEW1346

DATE: 06-21-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−85

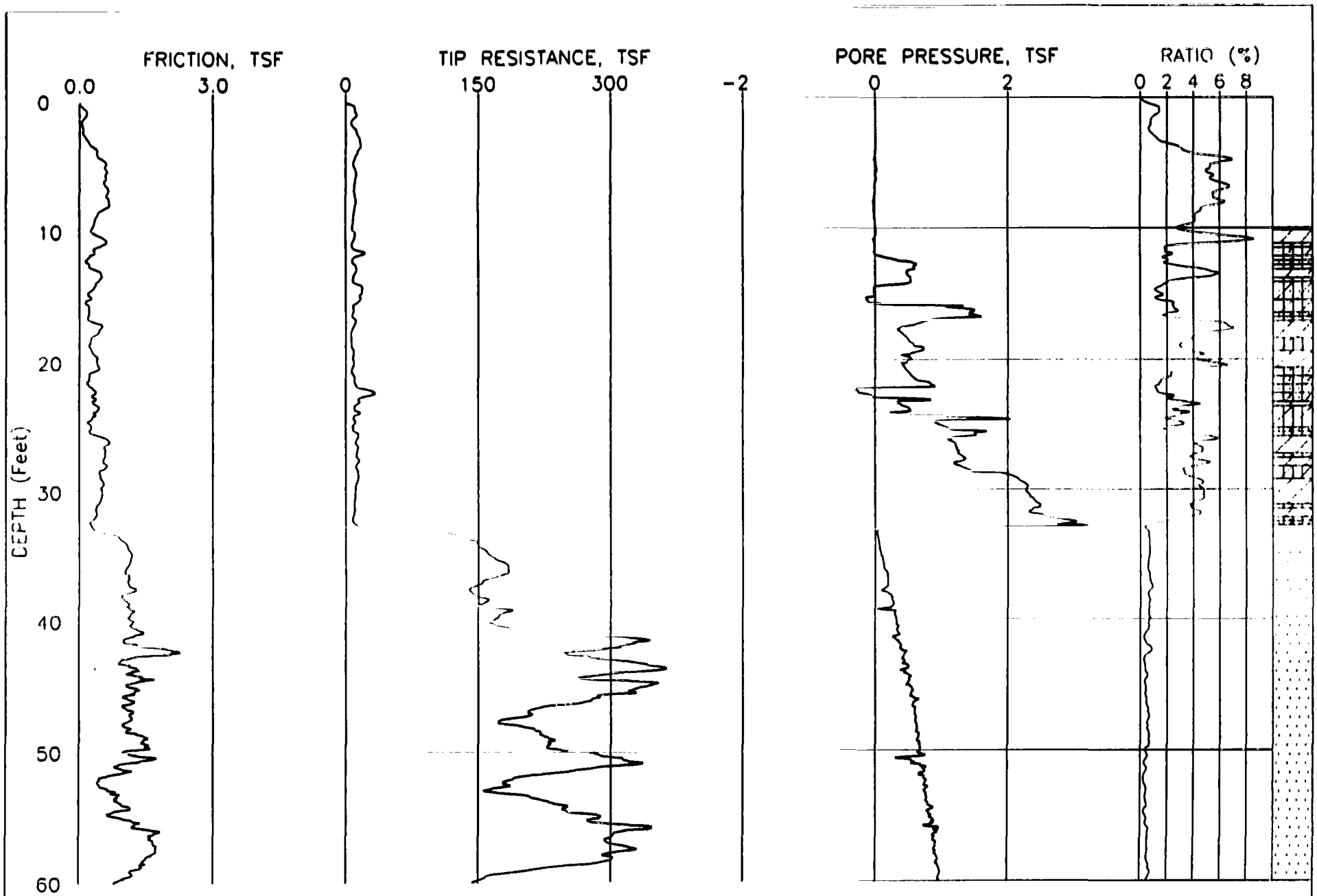
DATE: 06−21−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



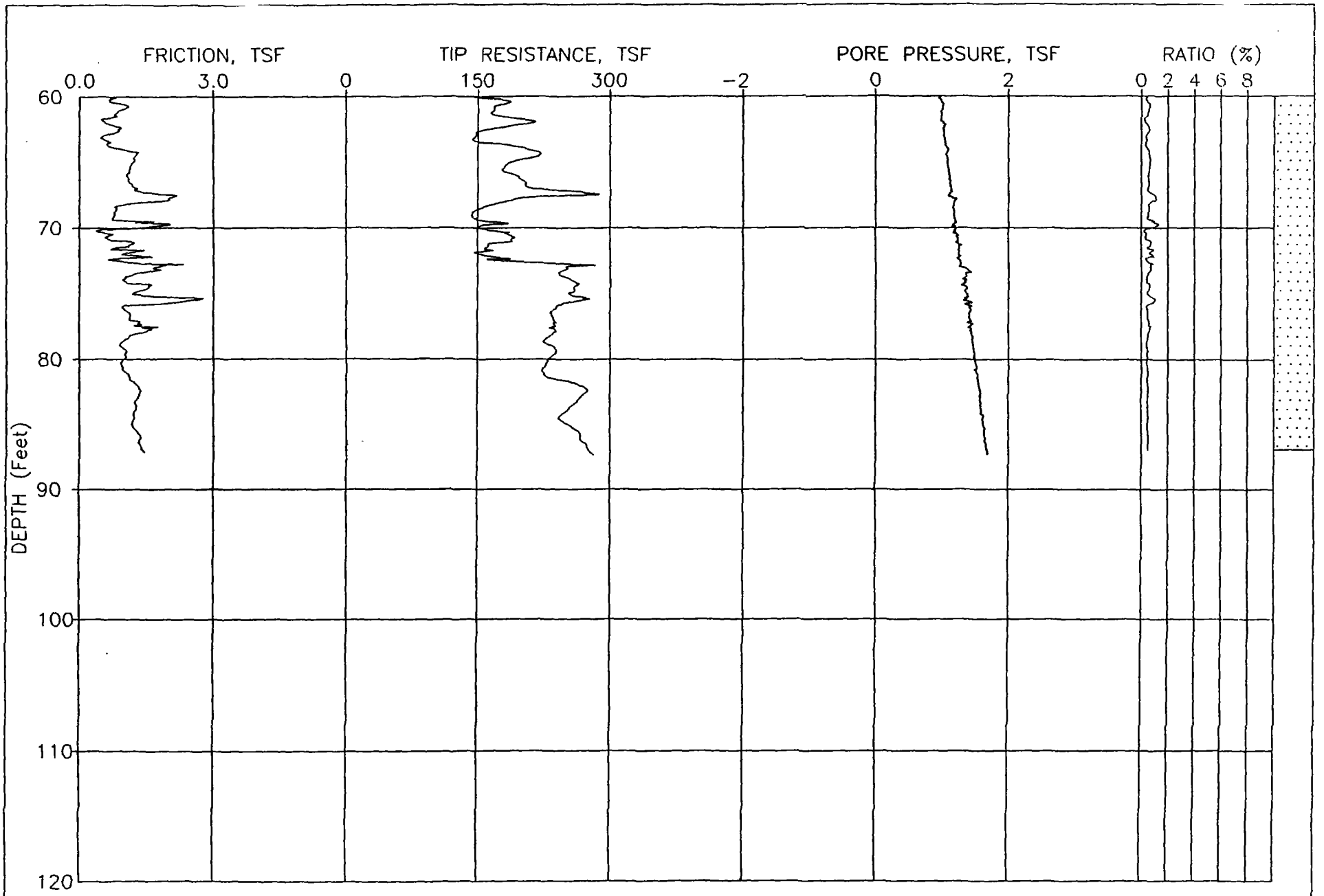
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-87
CONE NUMBER: F7.5CKEW1511

DATE: 05-25-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



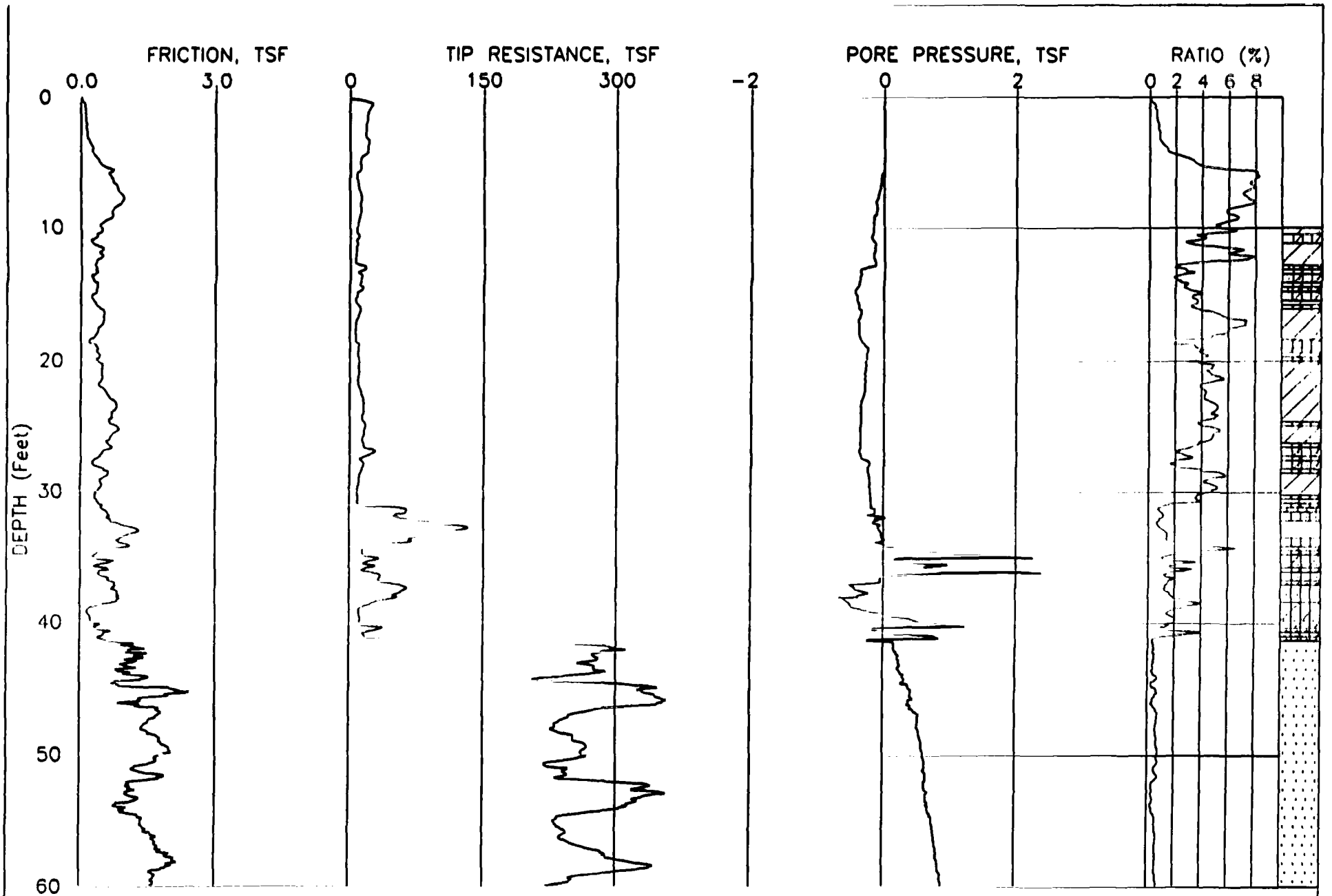
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-87
CONE NUMBER: F7.5CKEW1511

DATE: 05-25-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

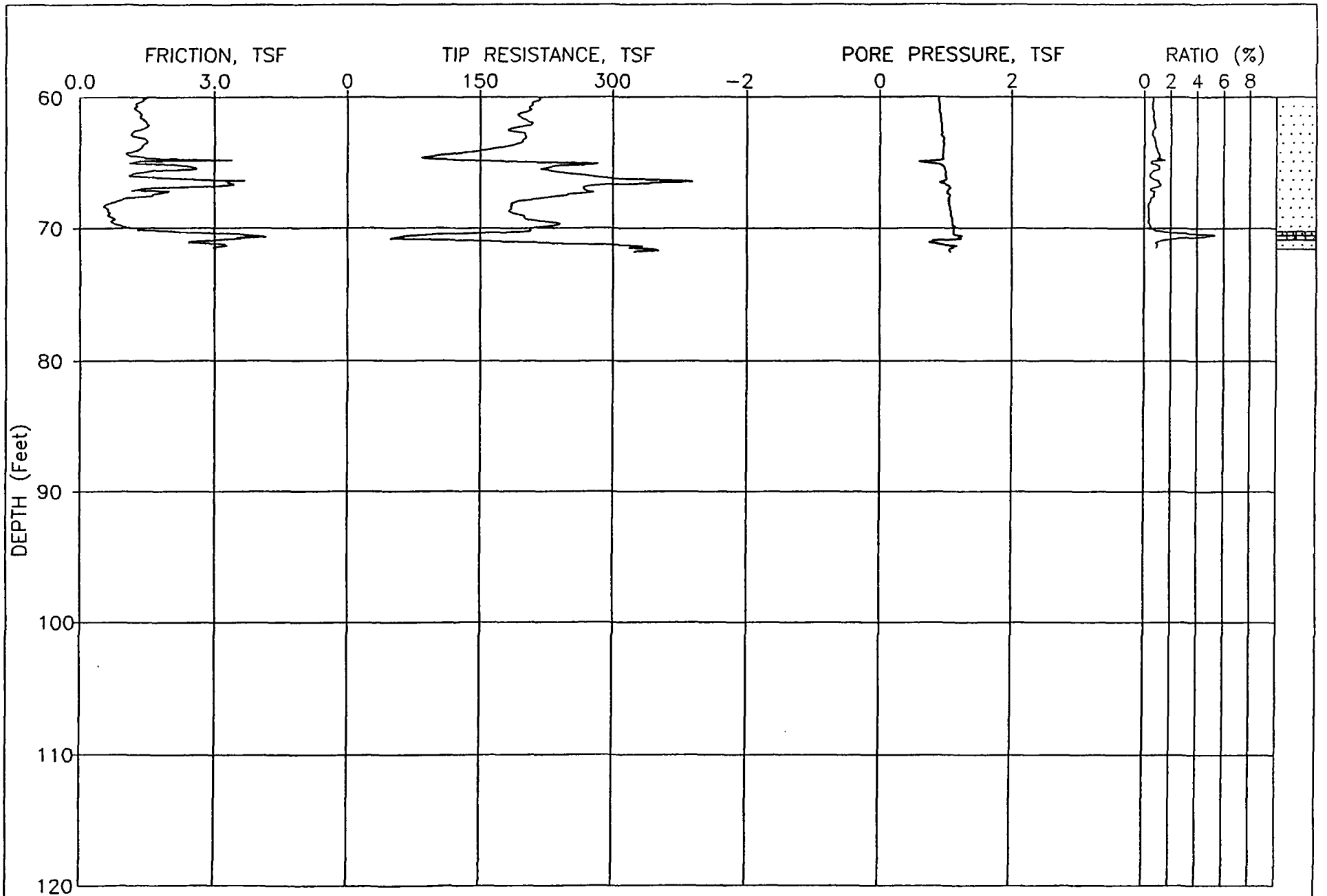
CPT NUMBER: HROST-88

CONE NUMBER: F7.5CKEW1583

DATE: 06-08-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-88

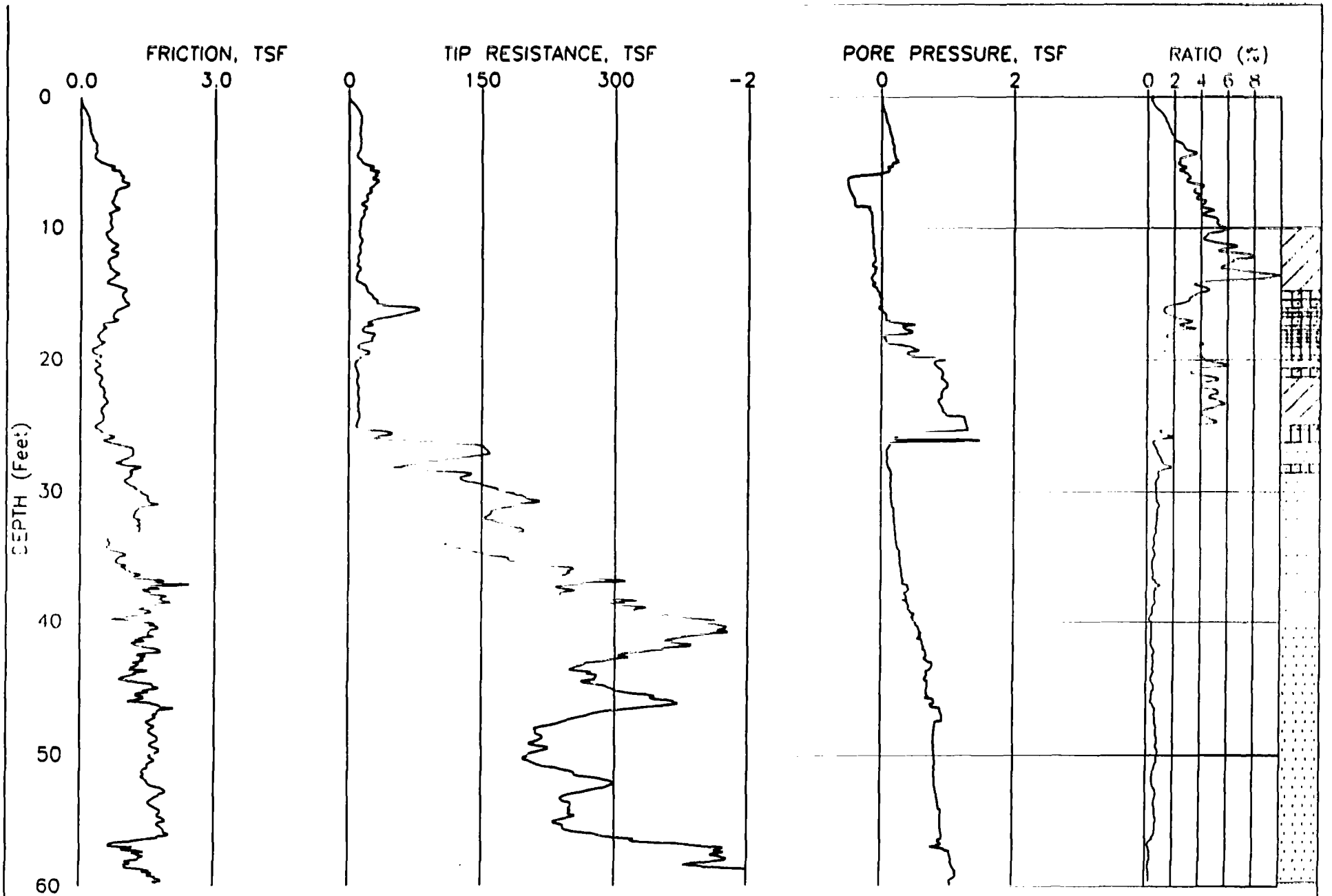
DATE: 06-08-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1583

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



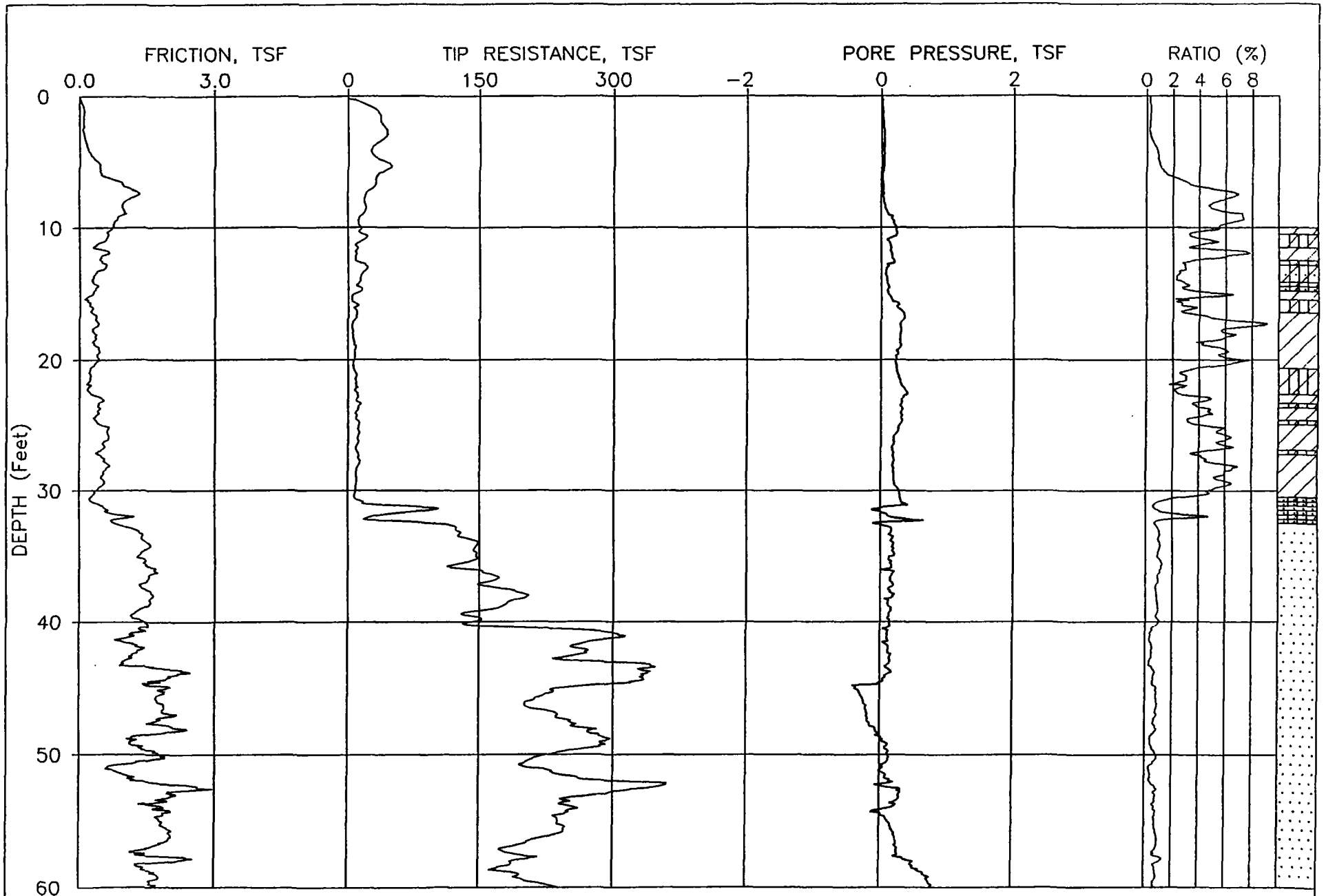
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-89
CONE NUMBER: F7.5CKEW1511

DATE: 06-02-2005

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−90

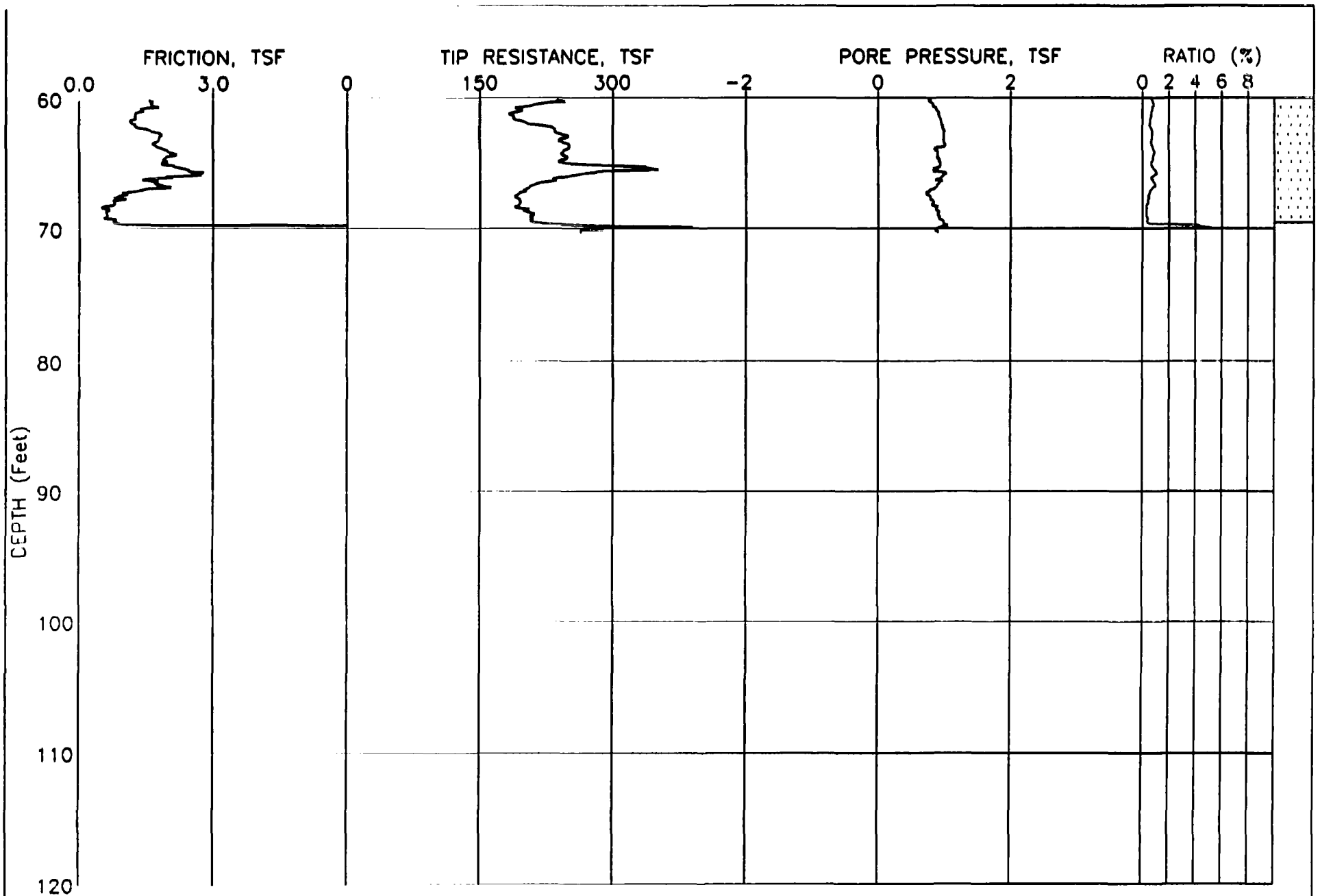
DATE: 06−22−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-90

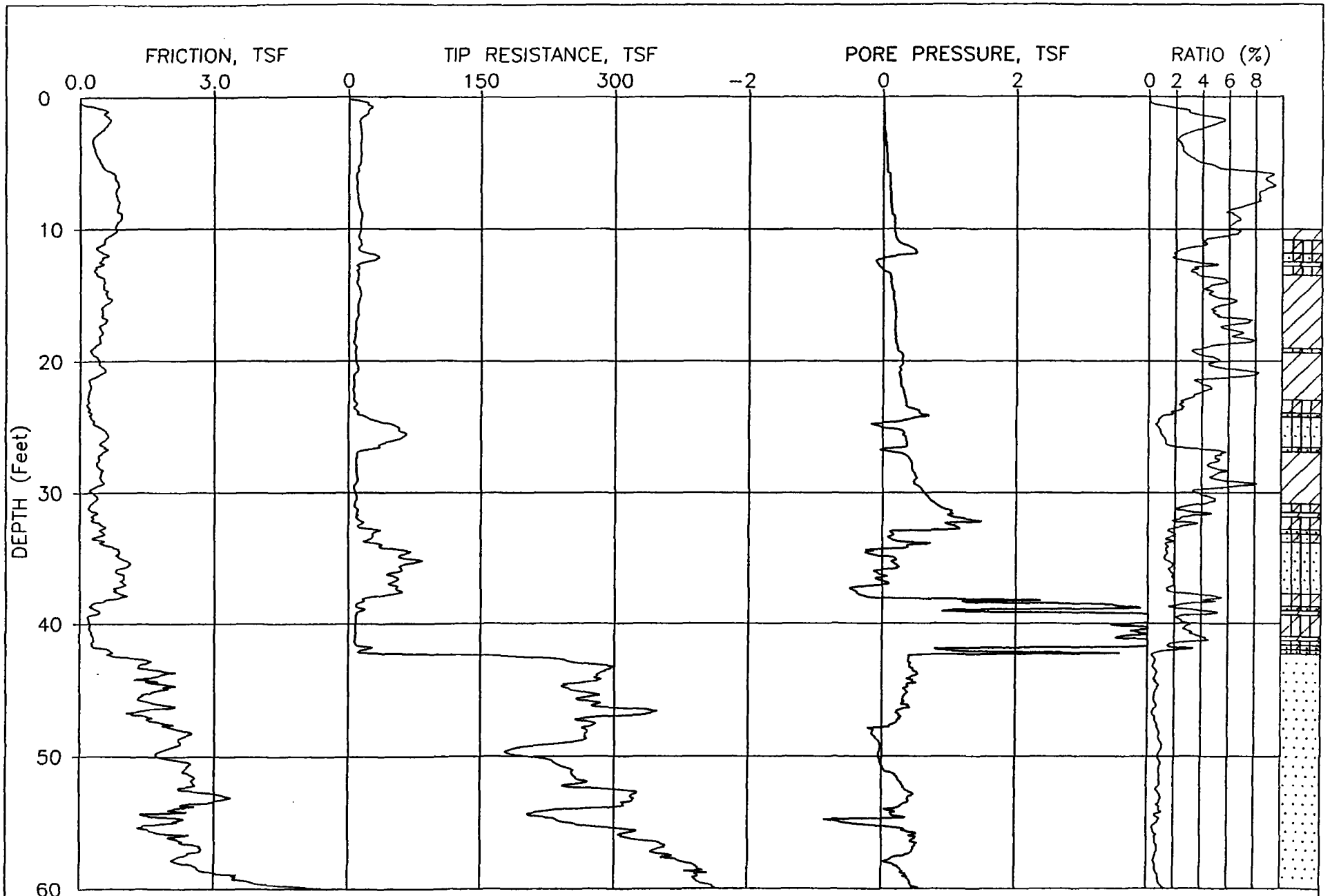
DATE: 06-22-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-91

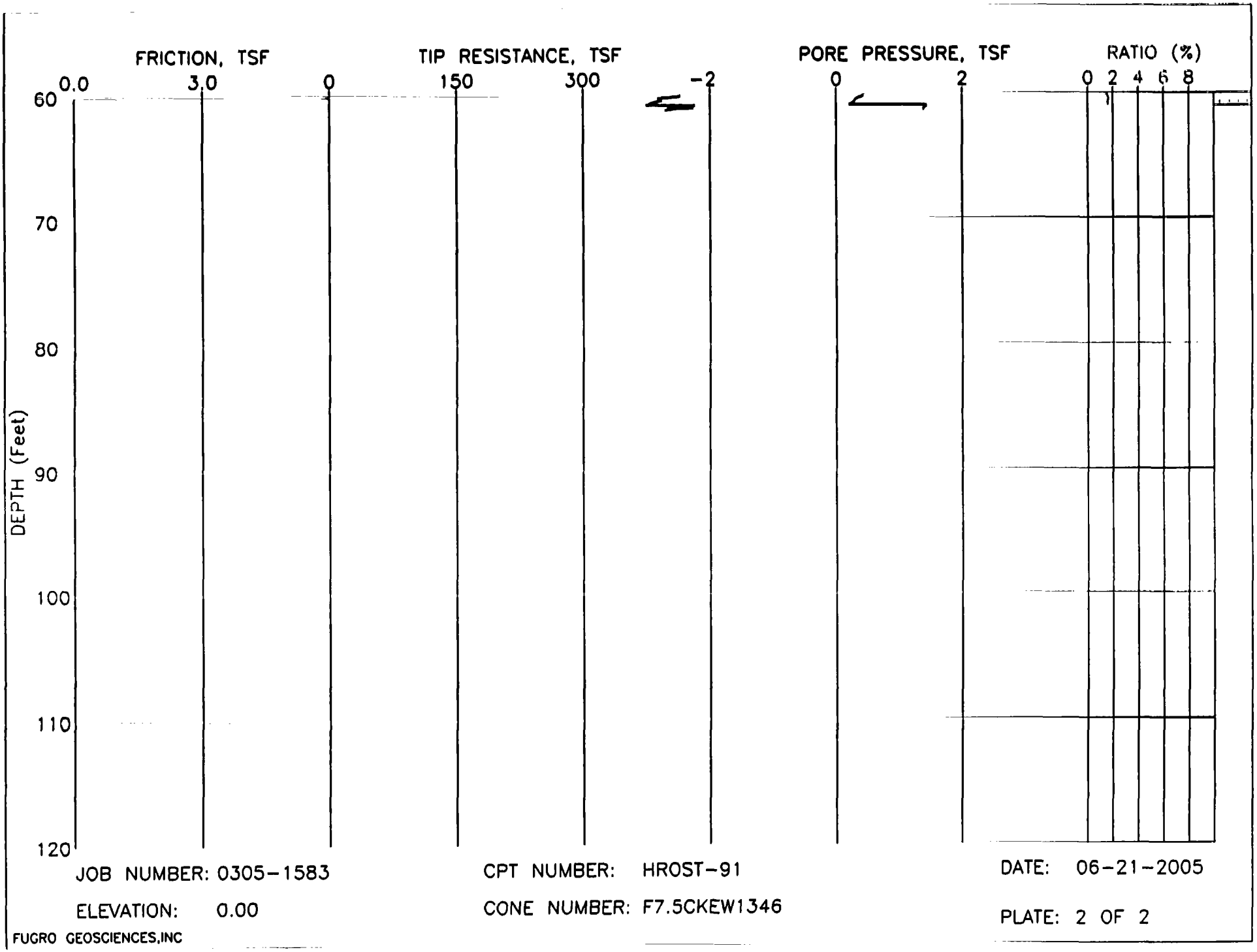
DATE: 06-21-2005

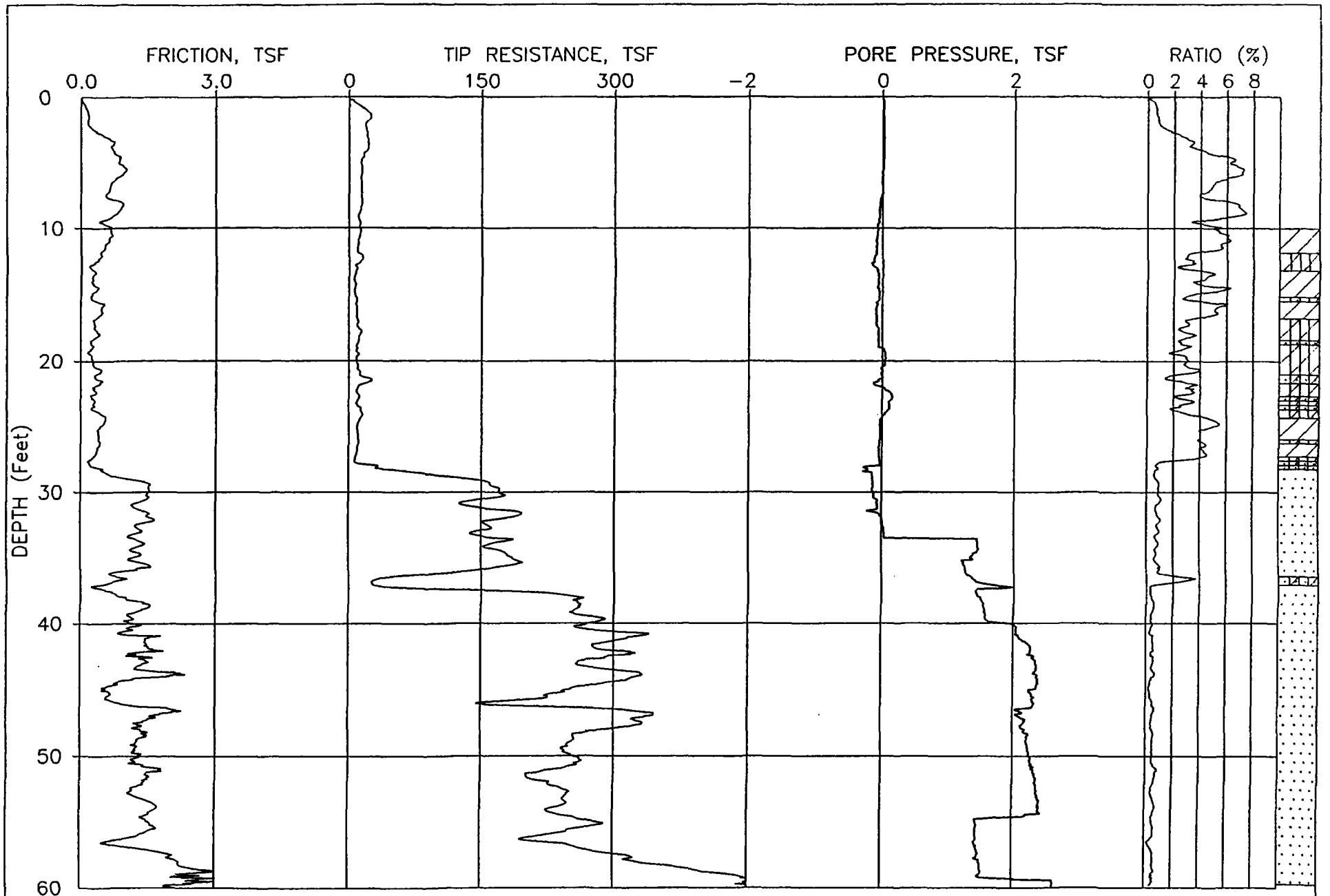
ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC


FRICTION, TSF
0.0
3.0
TIP RESISTANCE, TSF
0
150
300
PORE PRESSURE, TSF
-2
0
2
RATIO (%)
0 2 4 6 8
DEPTH (Feet)
60
70
80
90
100
110
120
JOB NUMBER: 0305-1583
ELEVATION: 0.00
CPT NUMBER: HROST-91
CONE NUMBER: F7.5CKEW1346
DATE: 06-21-2005
PLATE: 2 OF 2
FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-92

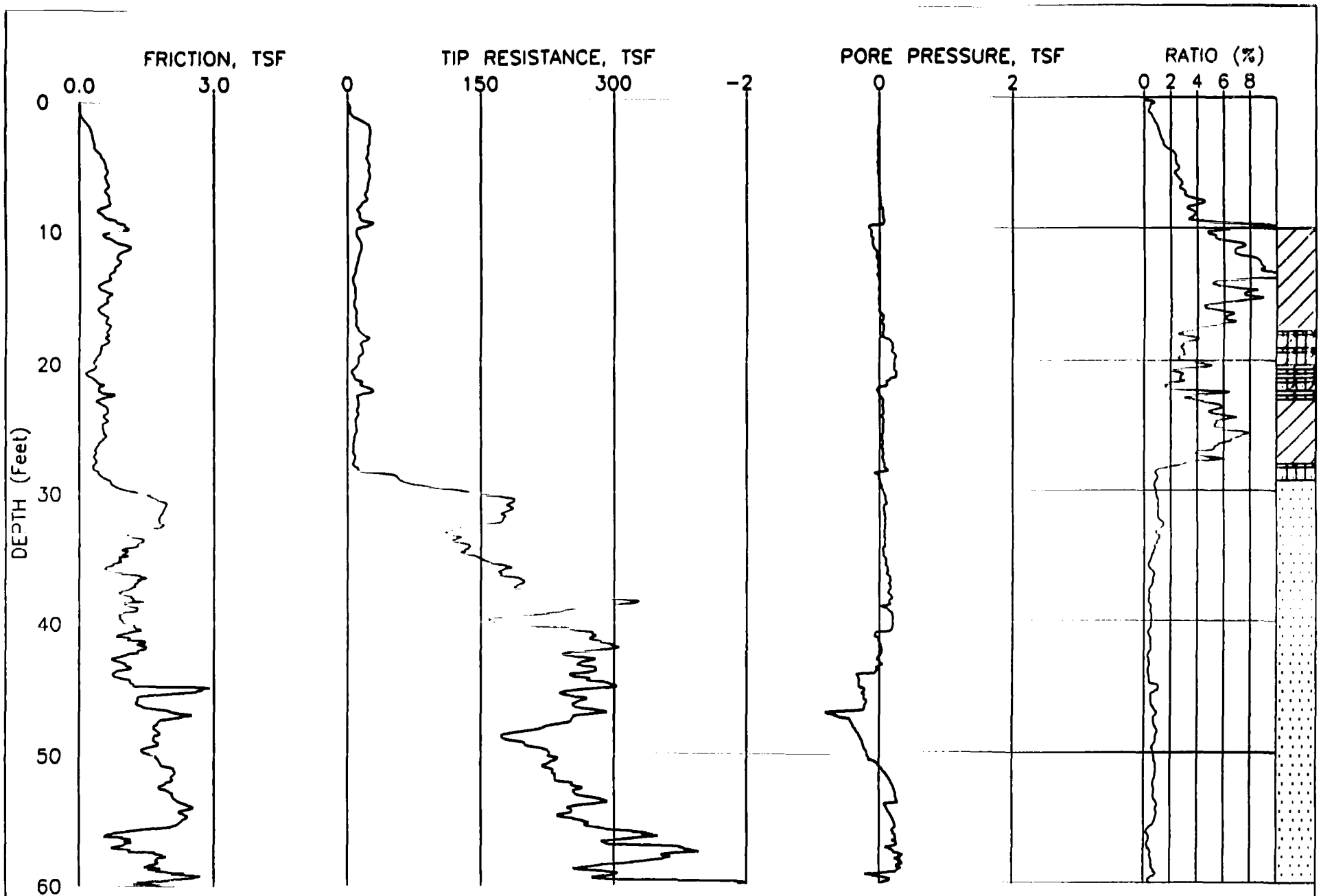
DATE: 06-05-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1583

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

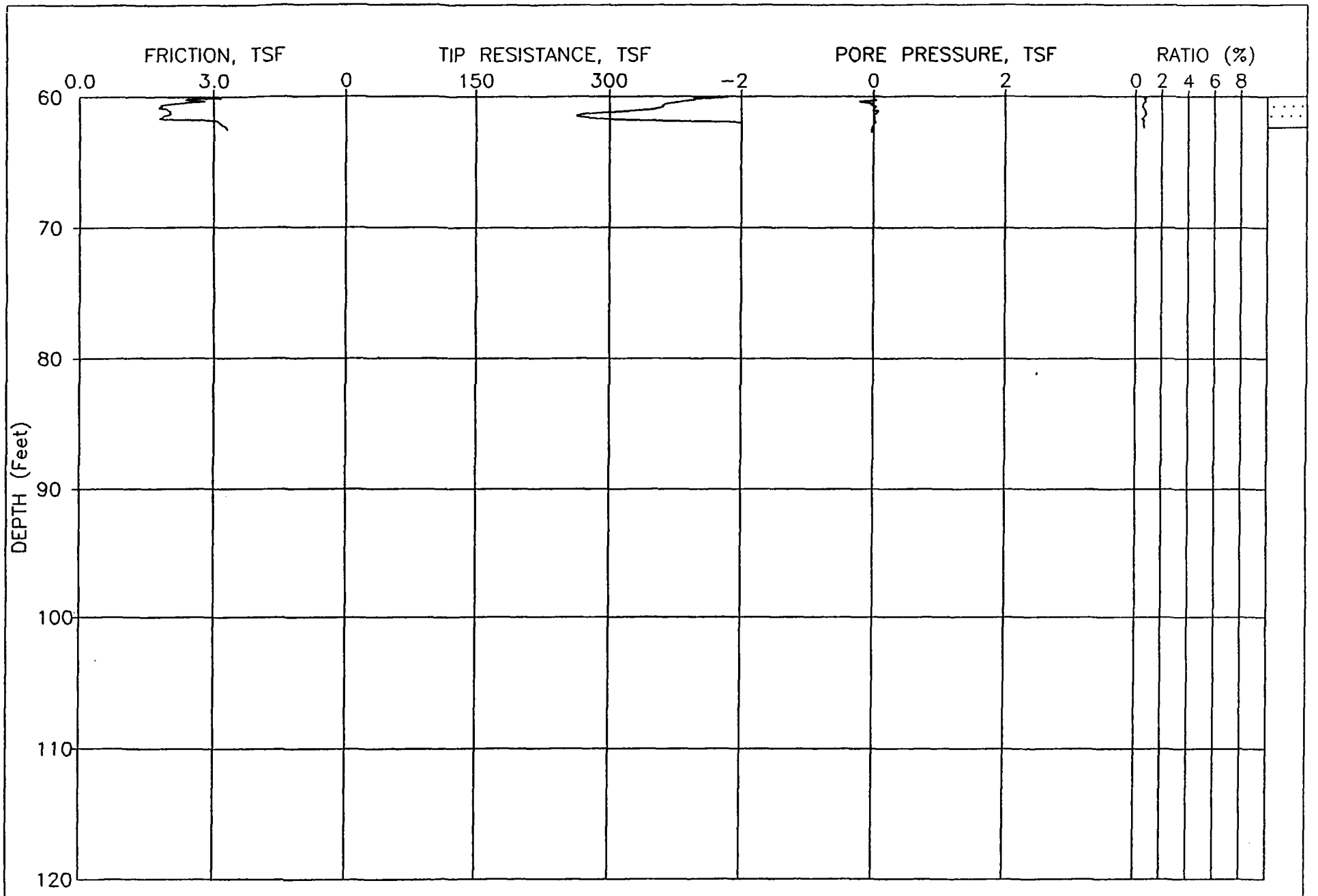
CPT NUMBER: HROST-93

CONE NUMBER: F7.5CKEW1346

DATE: 06-17-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-93

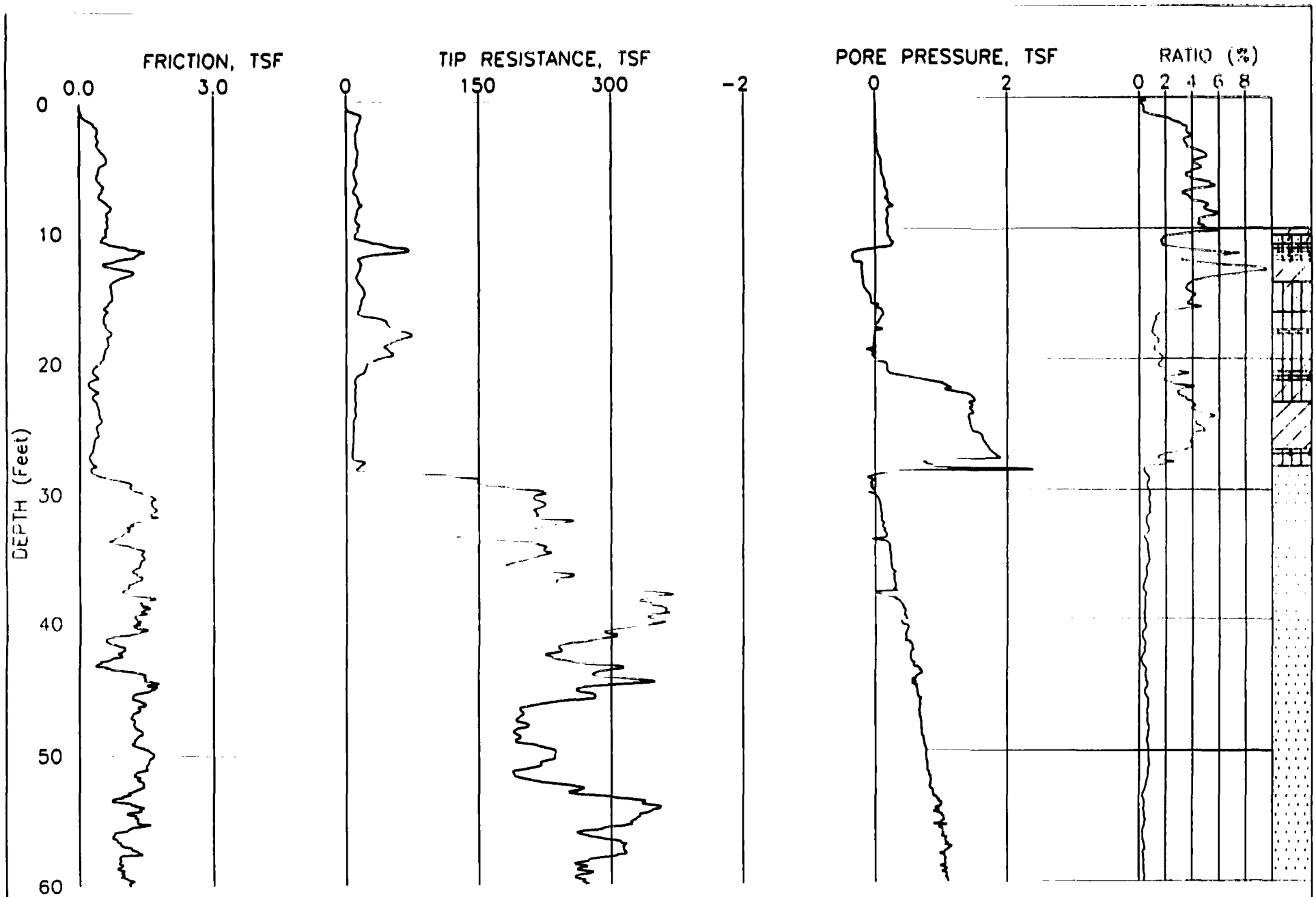
DATE: 06-17-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



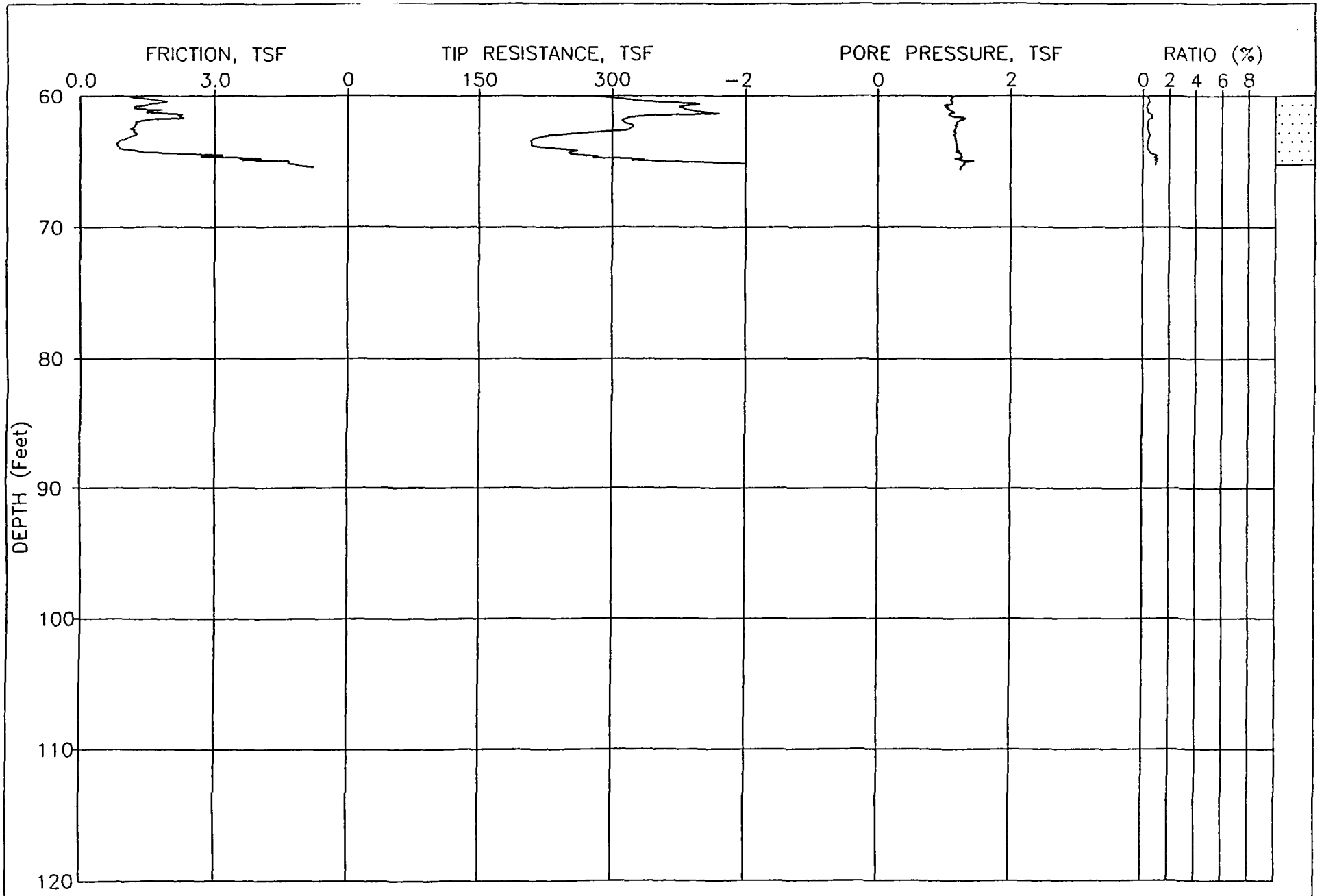
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-94
CONE NUMBER: F7.5CKEW1511

DATE: 06-02-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



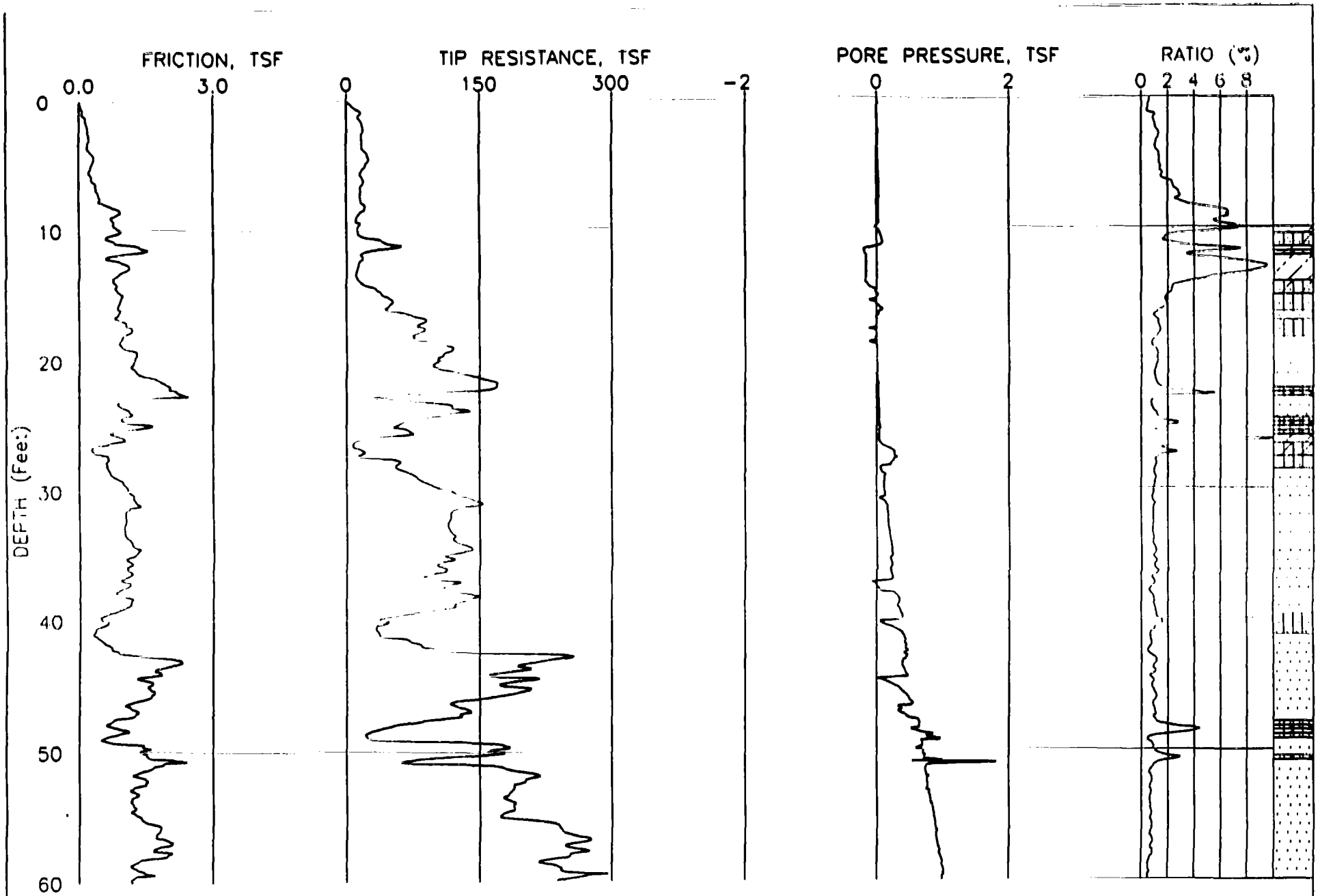
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-94
CONE NUMBER: F7.5CKEW1511

DATE: 06-02-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



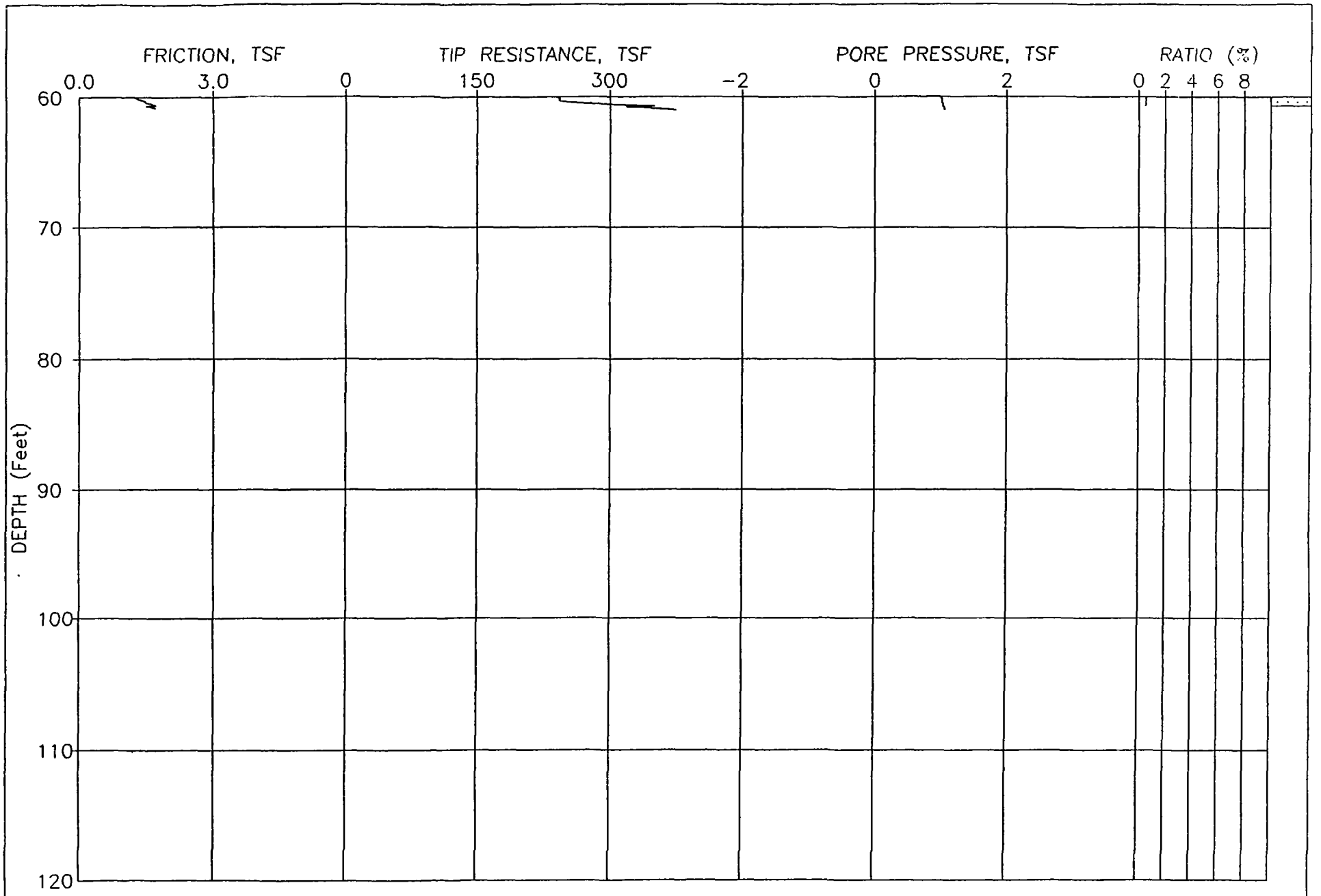
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-96
CONE NUMBER: F7.5CKEW1511

DATE: 06-02-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



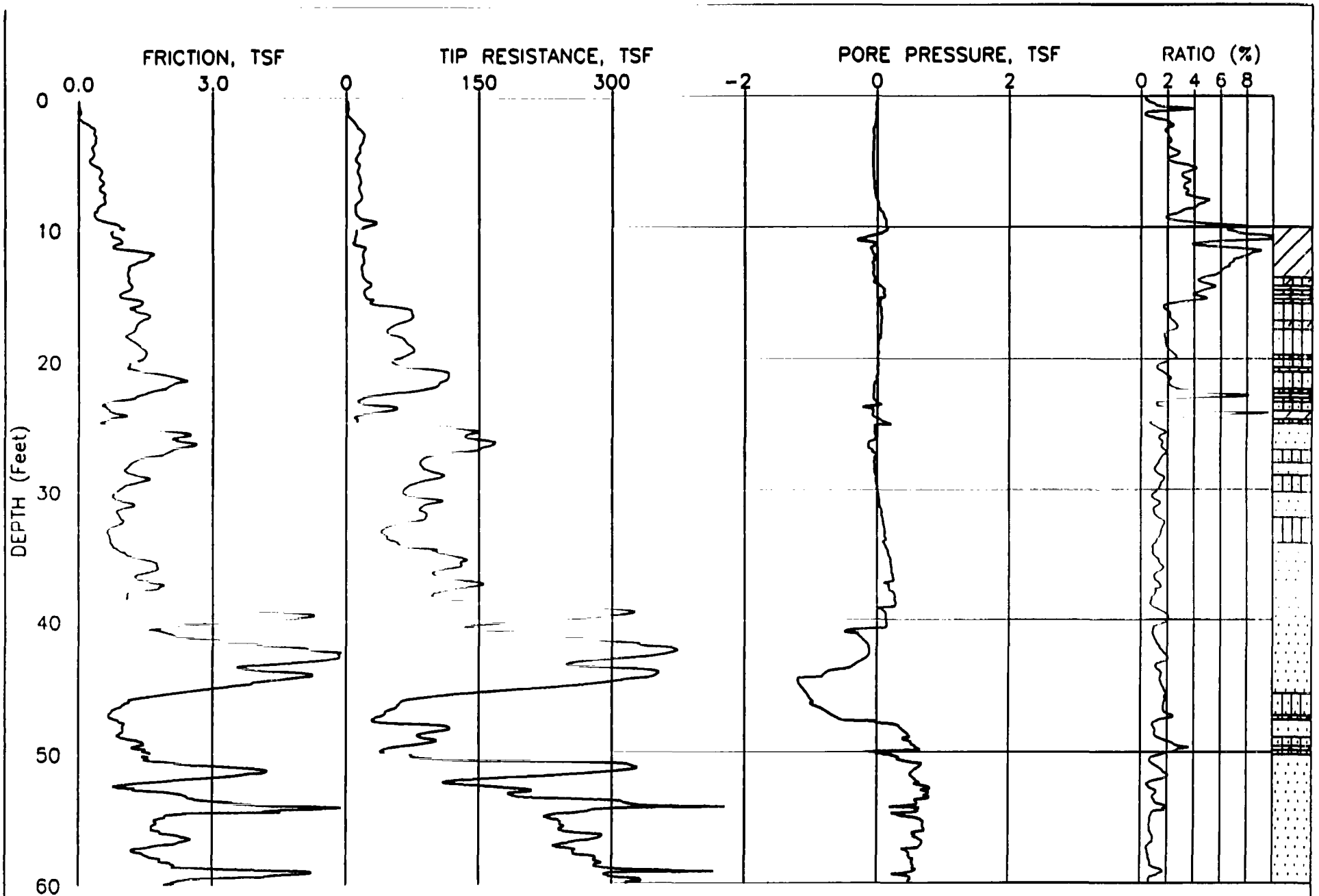
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-96
CONE NUMBER: F7.5CKEW1511

DATE: 06-02-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

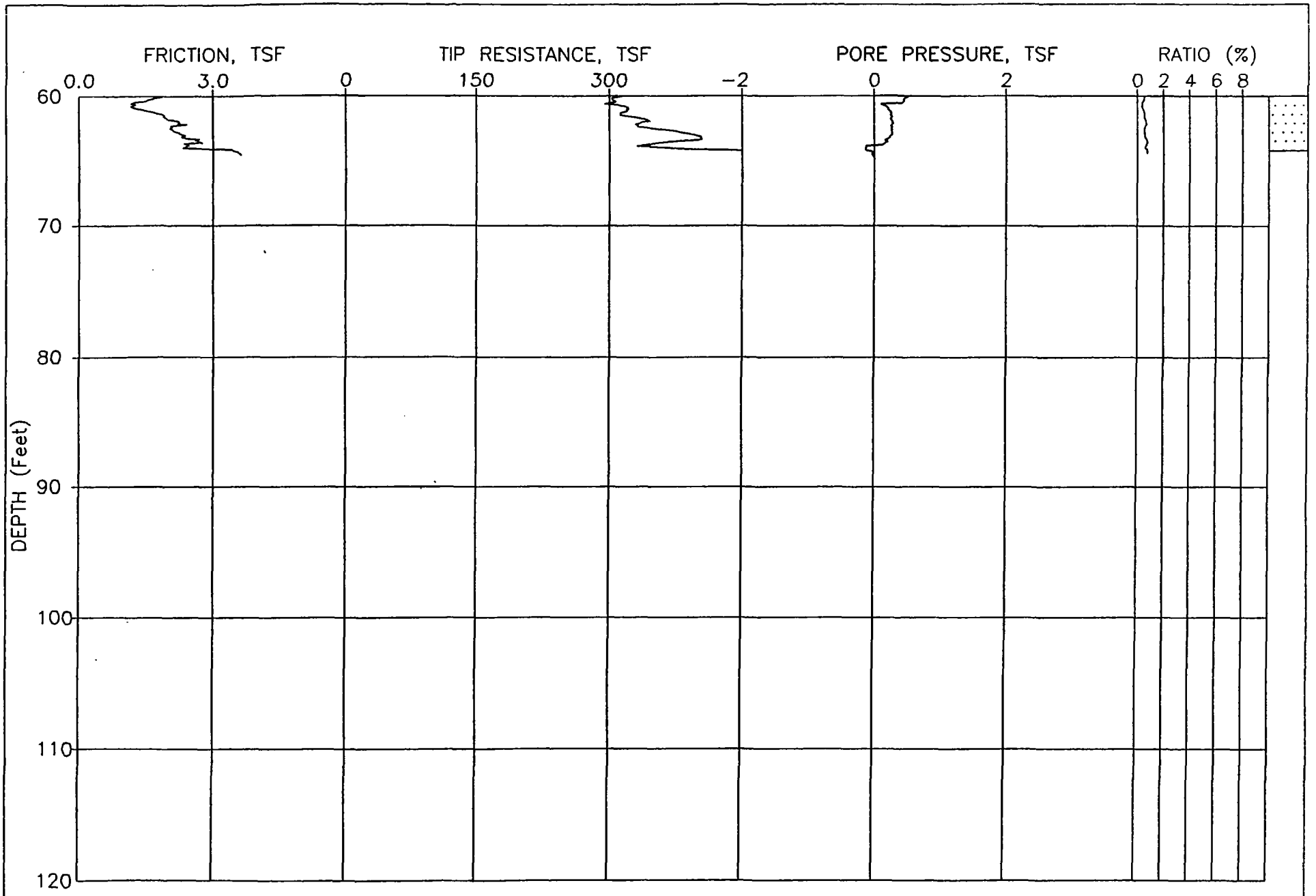
CPT NUMBER: HROST-97

CONE NUMBER: F7.5CKEW1346

DATE: 06-16-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-97

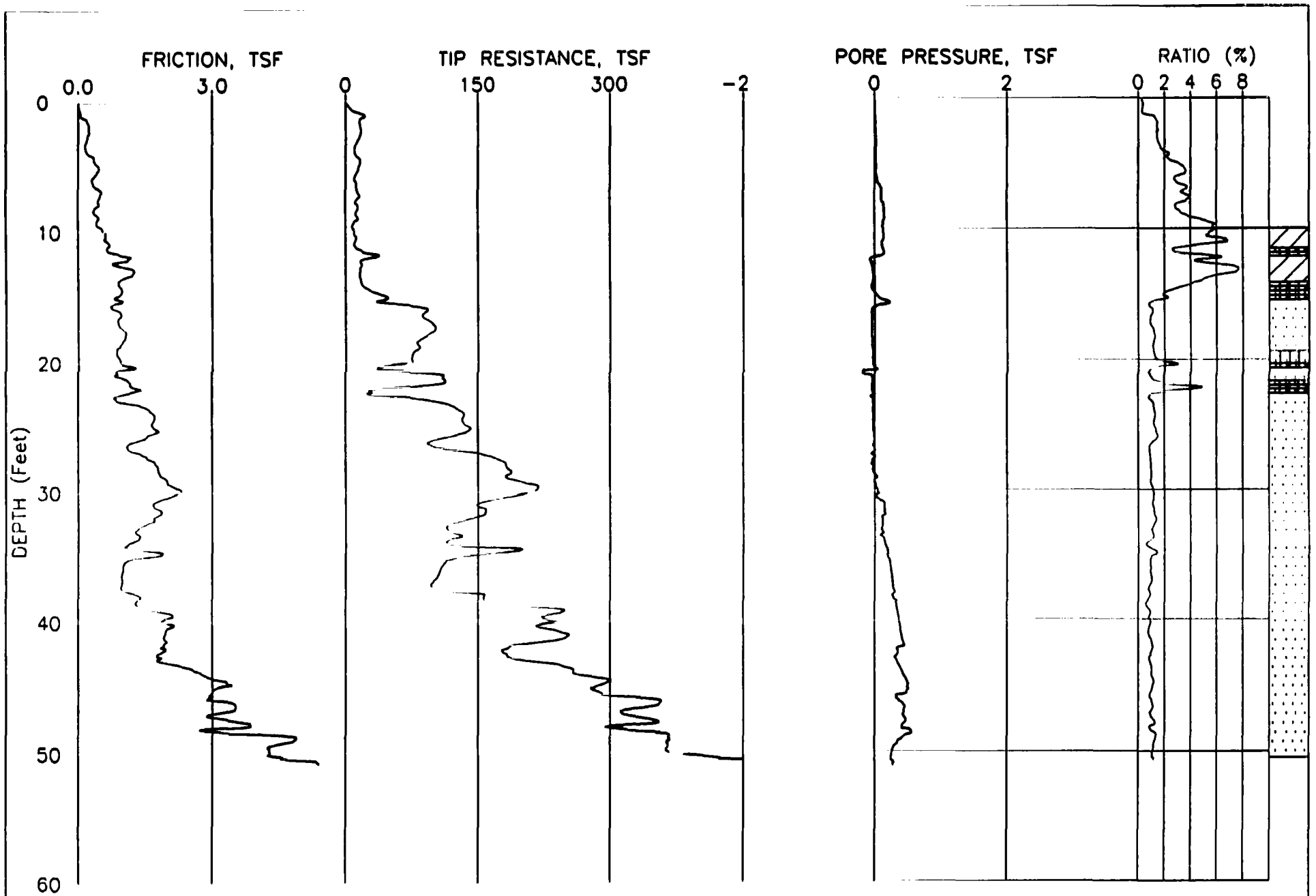
DATE: 06-16-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

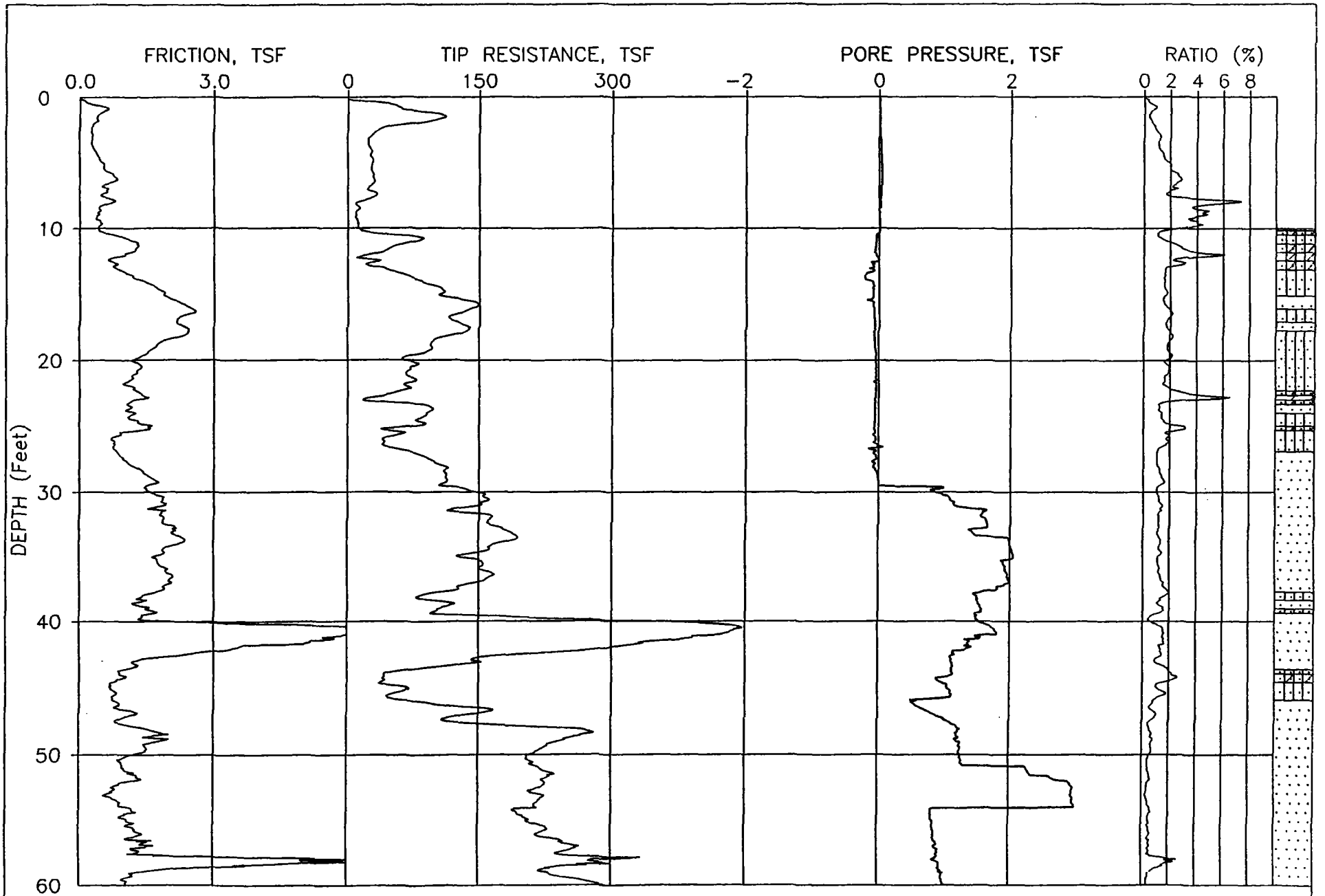
CPT NUMBER: HROST-98

CONE NUMBER: F7.5CKEW1511

DATE: 06-02-2005

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-99

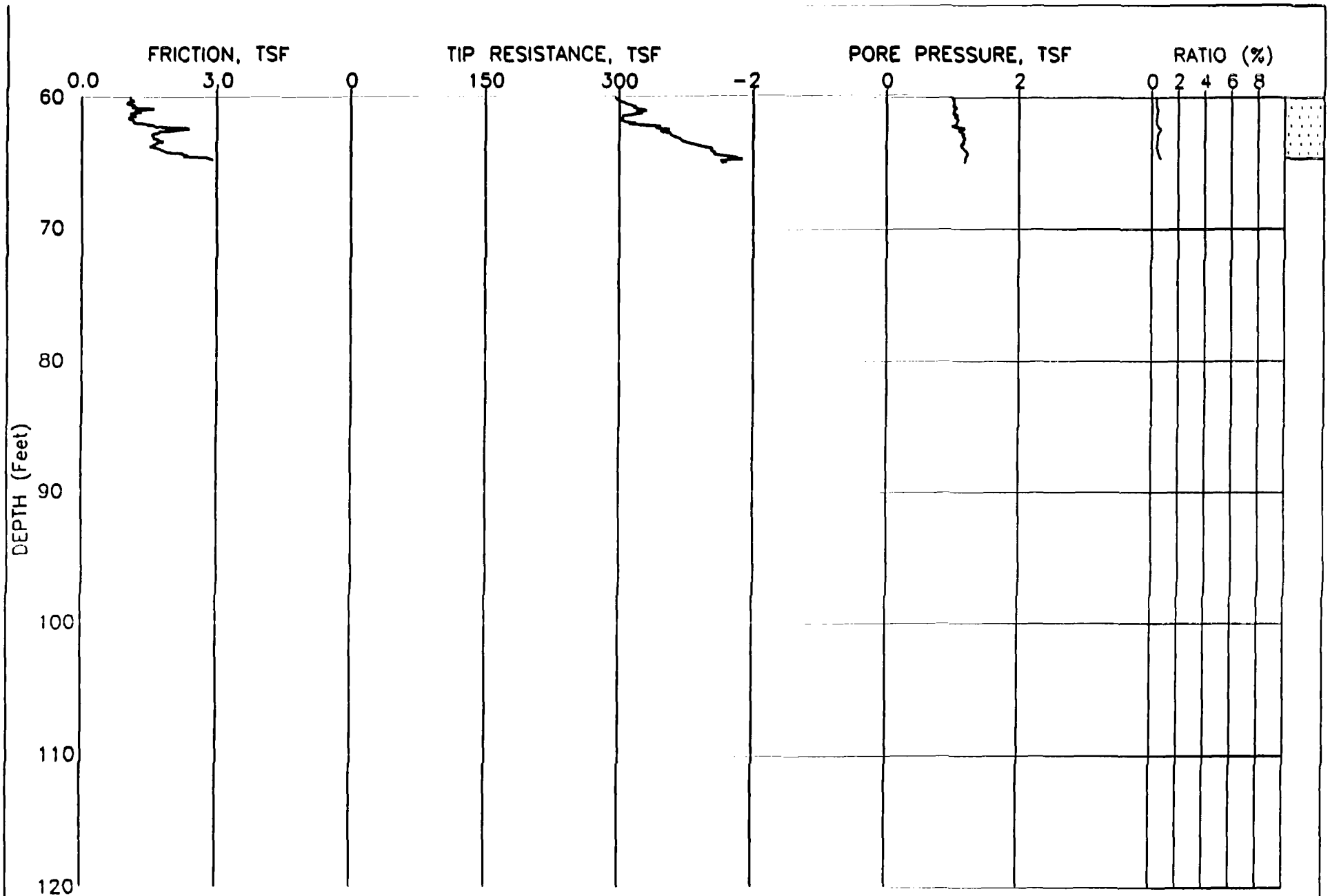
DATE: 06-05-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1583

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

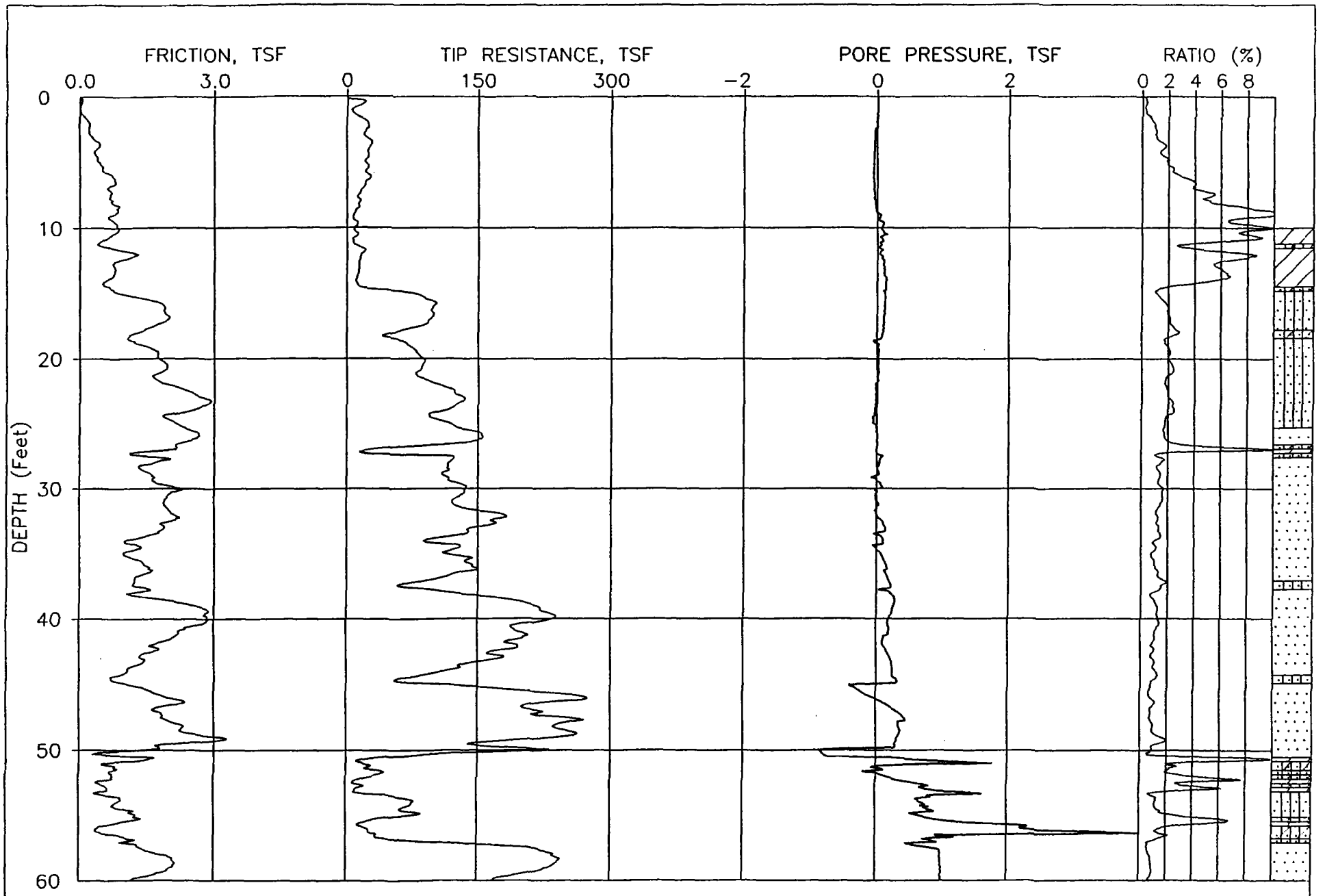
CPT NUMBER: HROST-99

CONE NUMBER: F7.5CKEW1583

DATE: 06-05-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−101

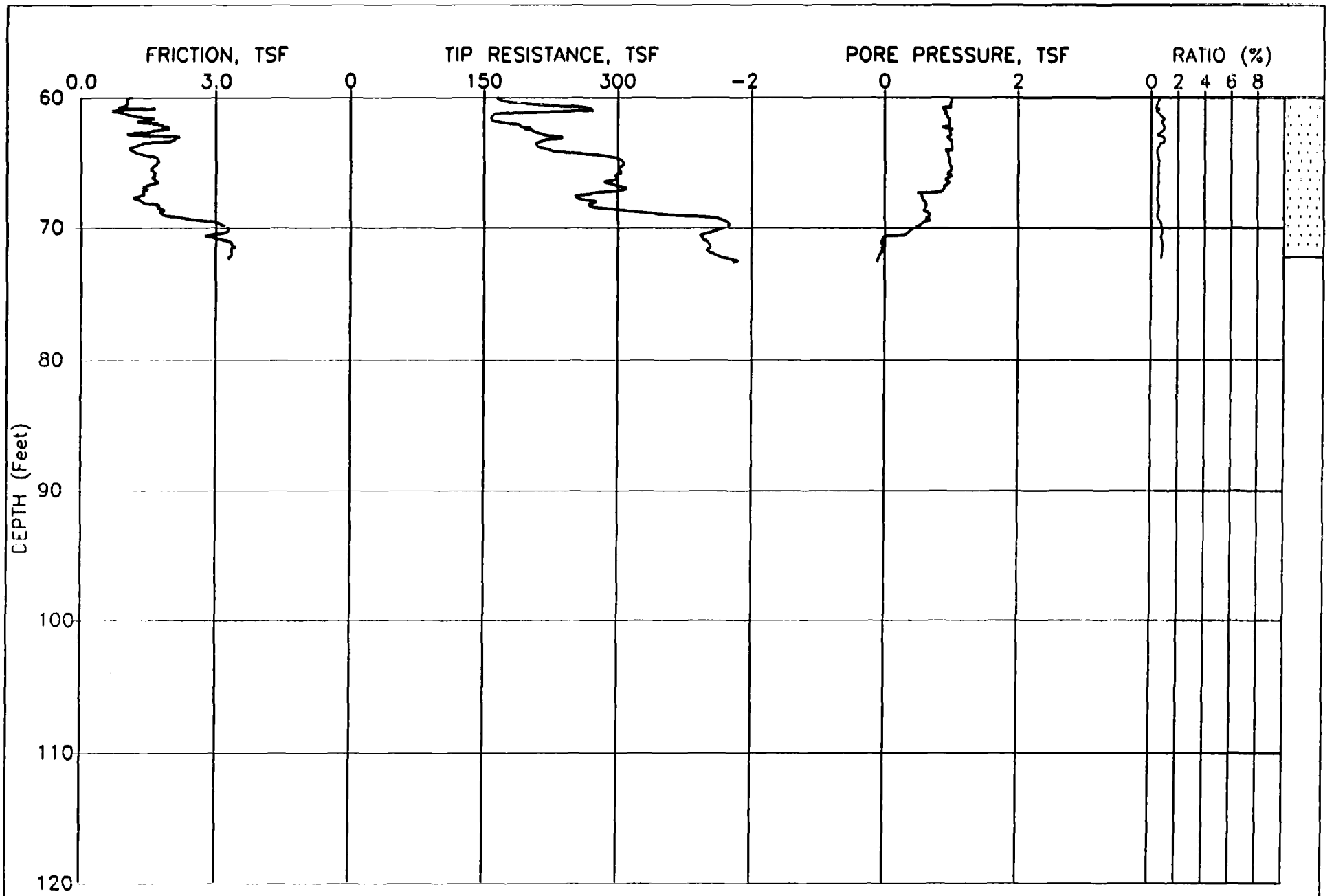
DATE: 06−16−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-101

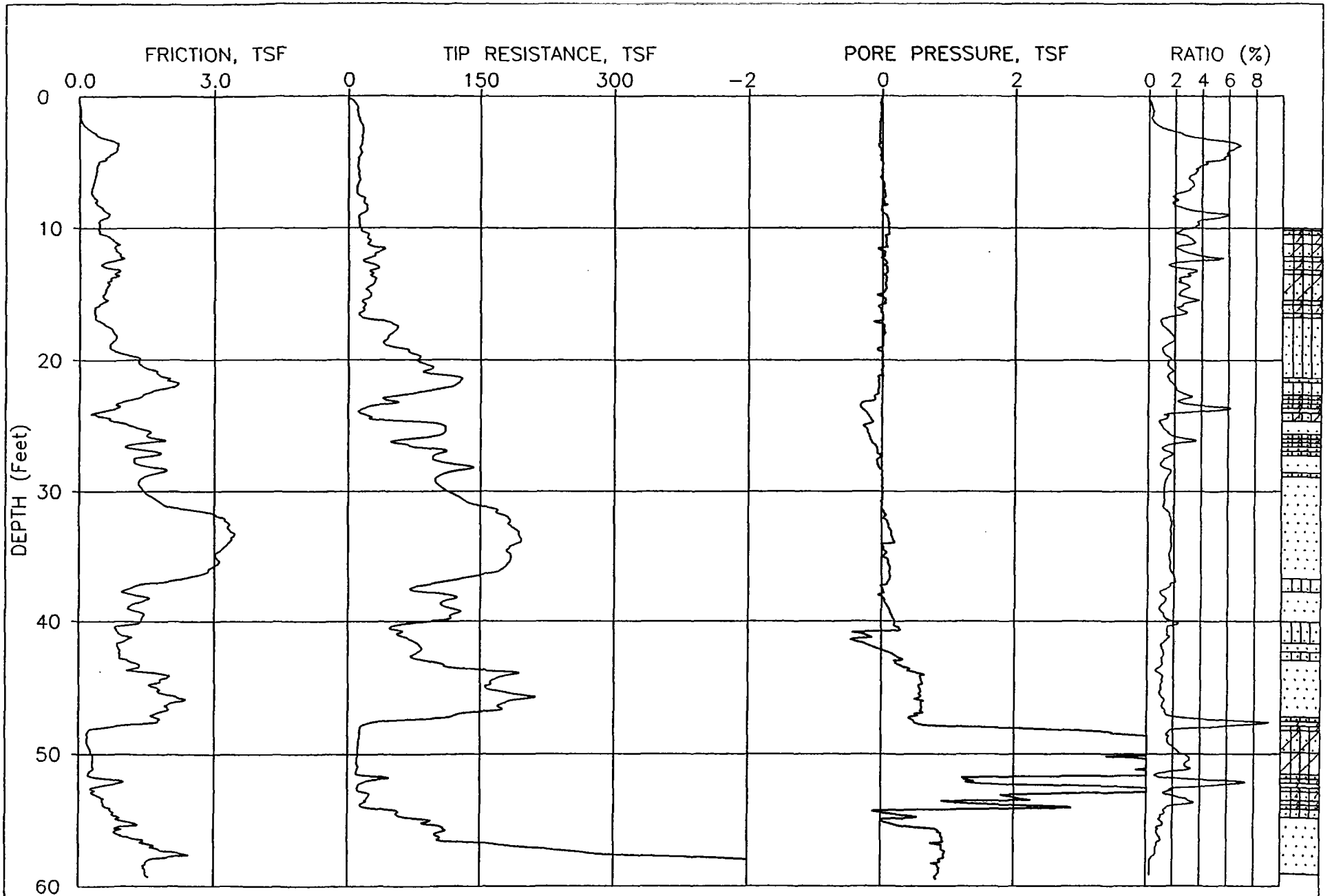
DATE: 06-16-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−103

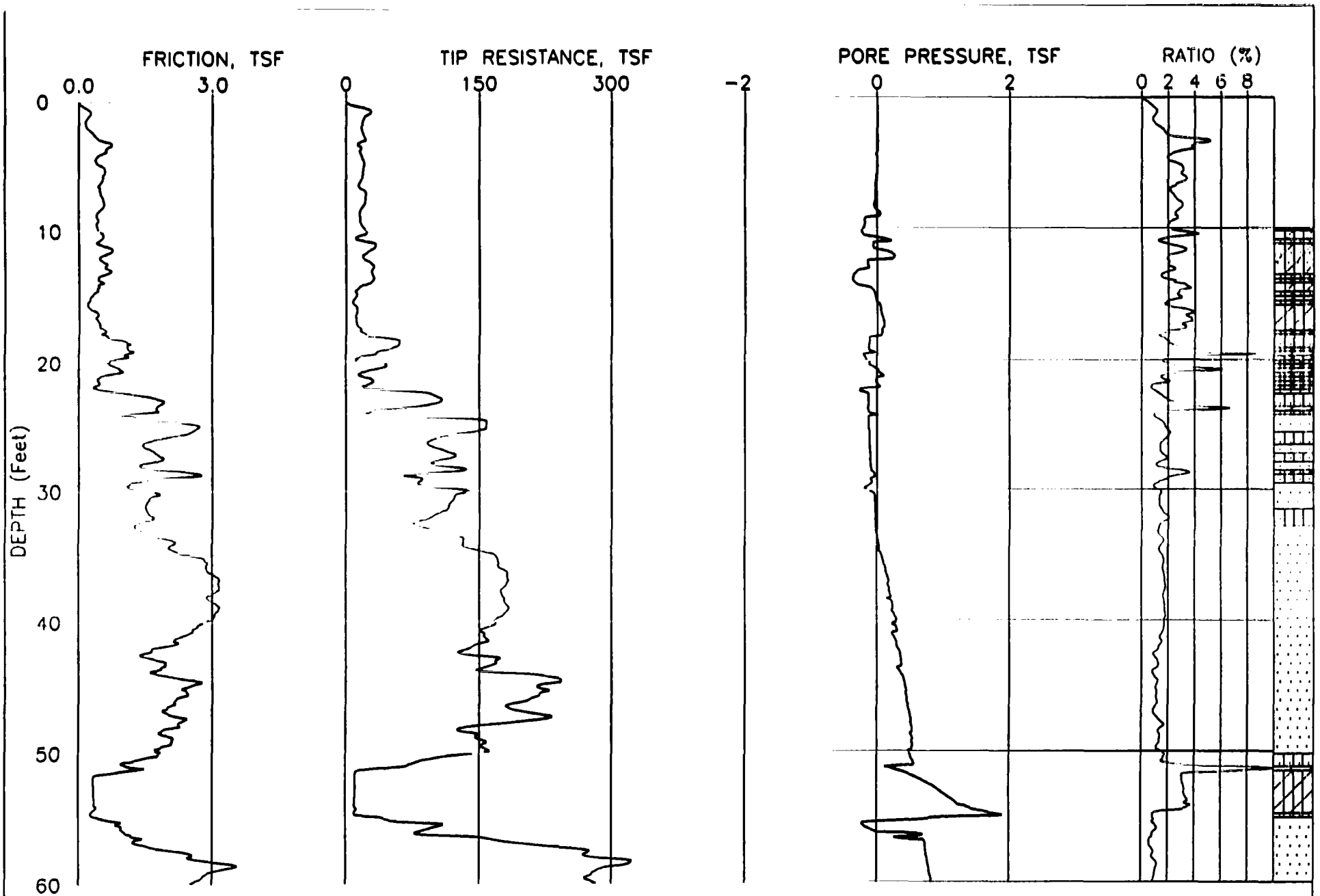
DATE: 06−21−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

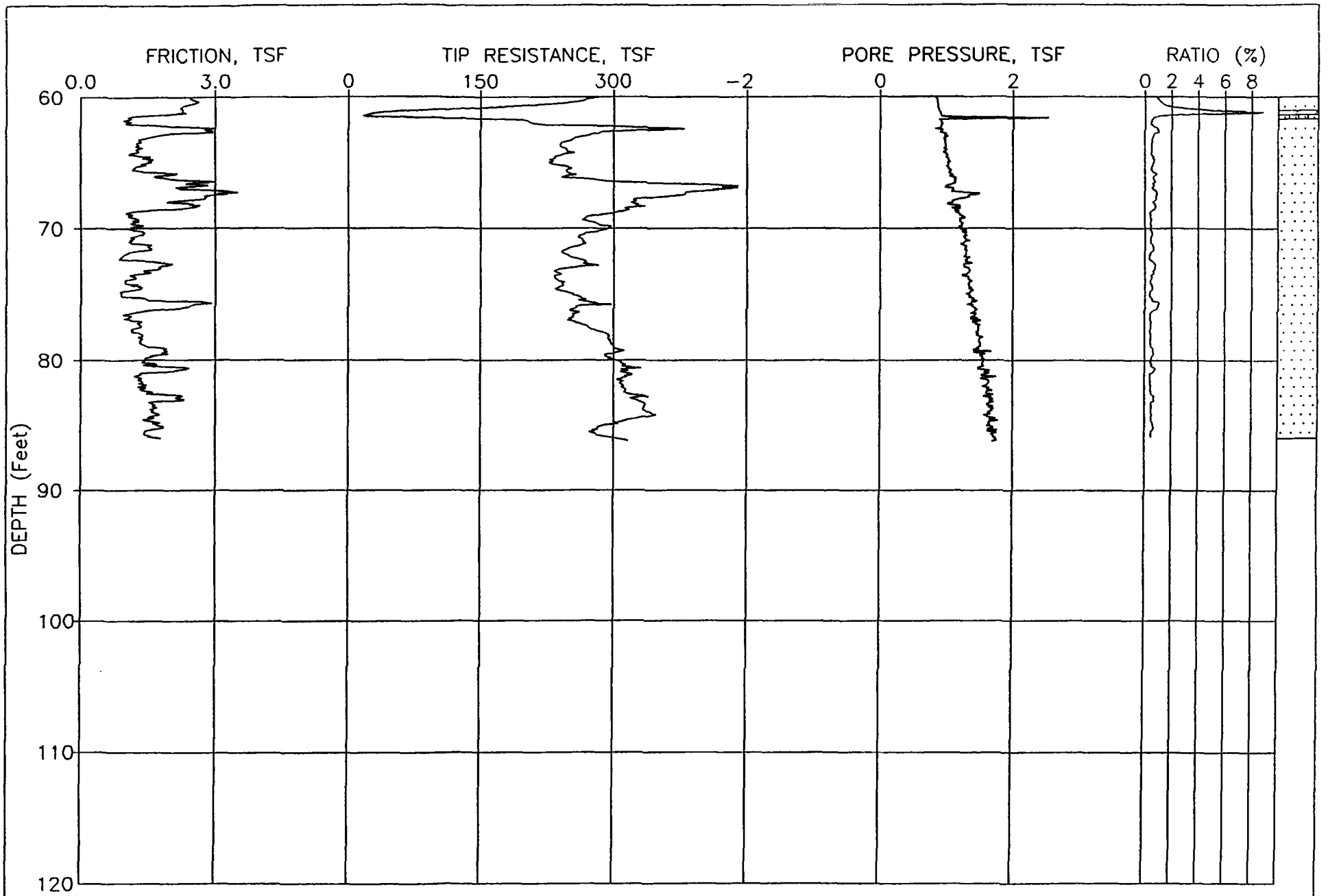
CPT NUMBER: HROST-104

CONE NUMBER: F7.5CKEW1511

DATE: 06-05-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-104

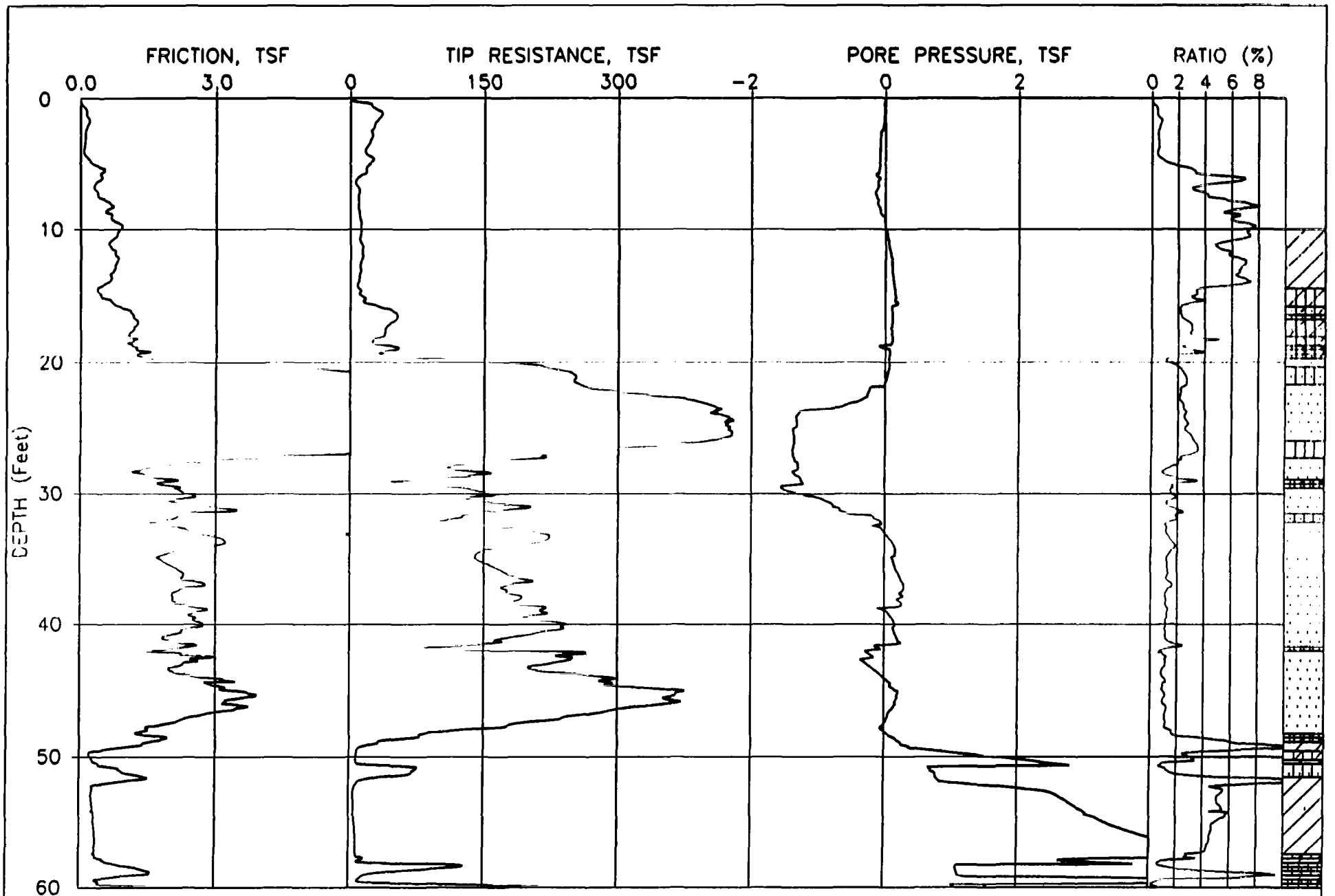
DATE: 06-05-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-106

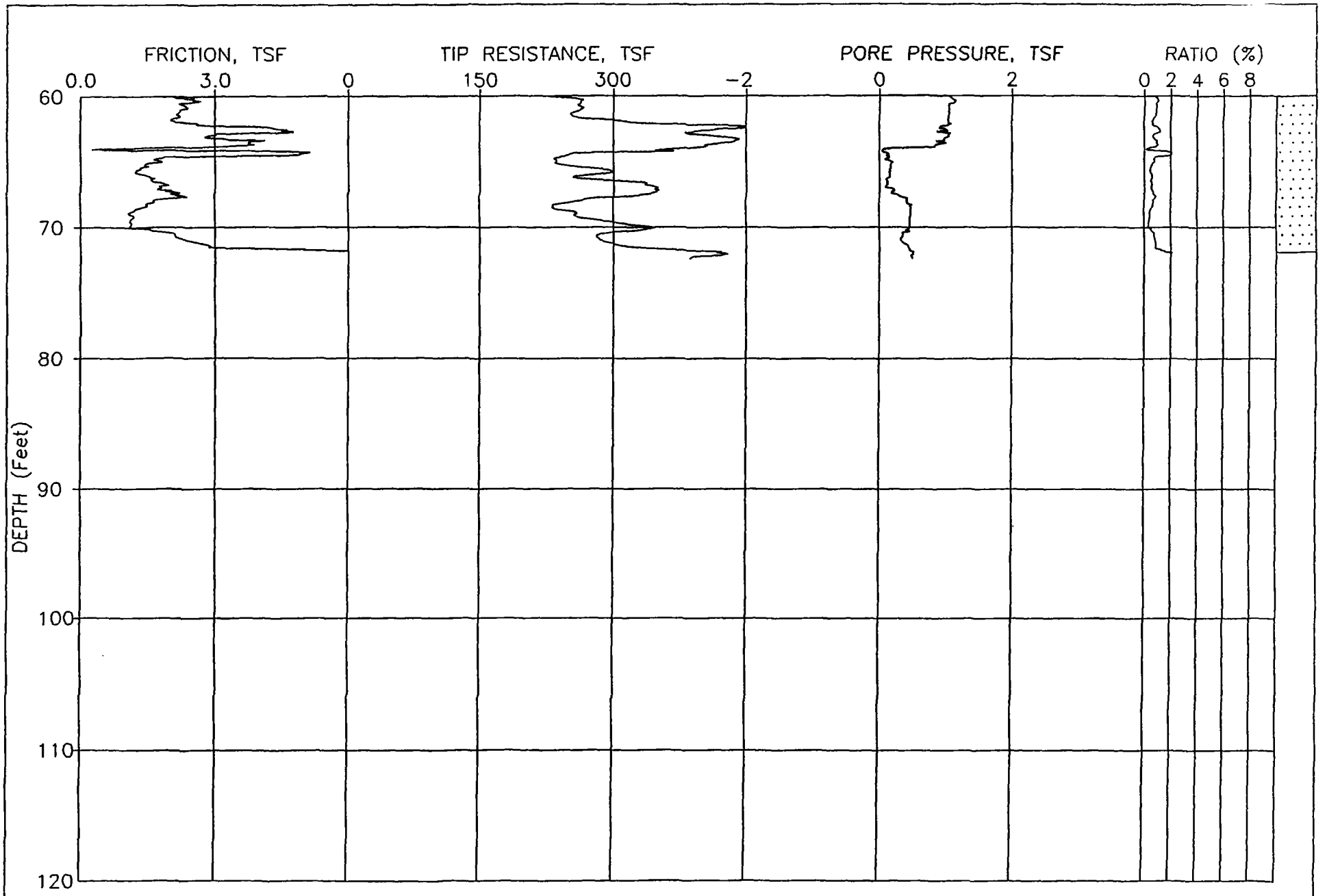
DATE: 06-21-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-106

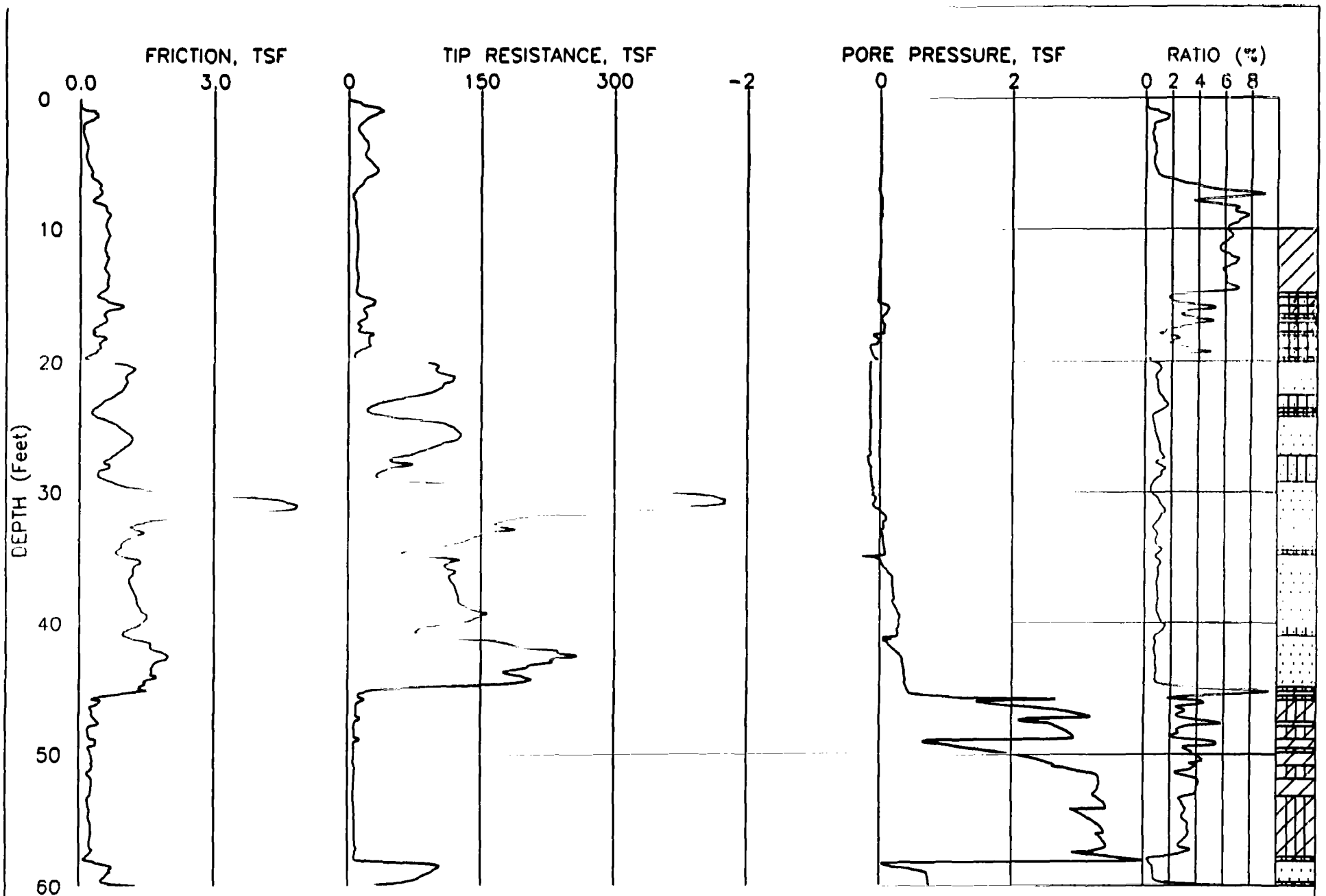
DATE: 06-21-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

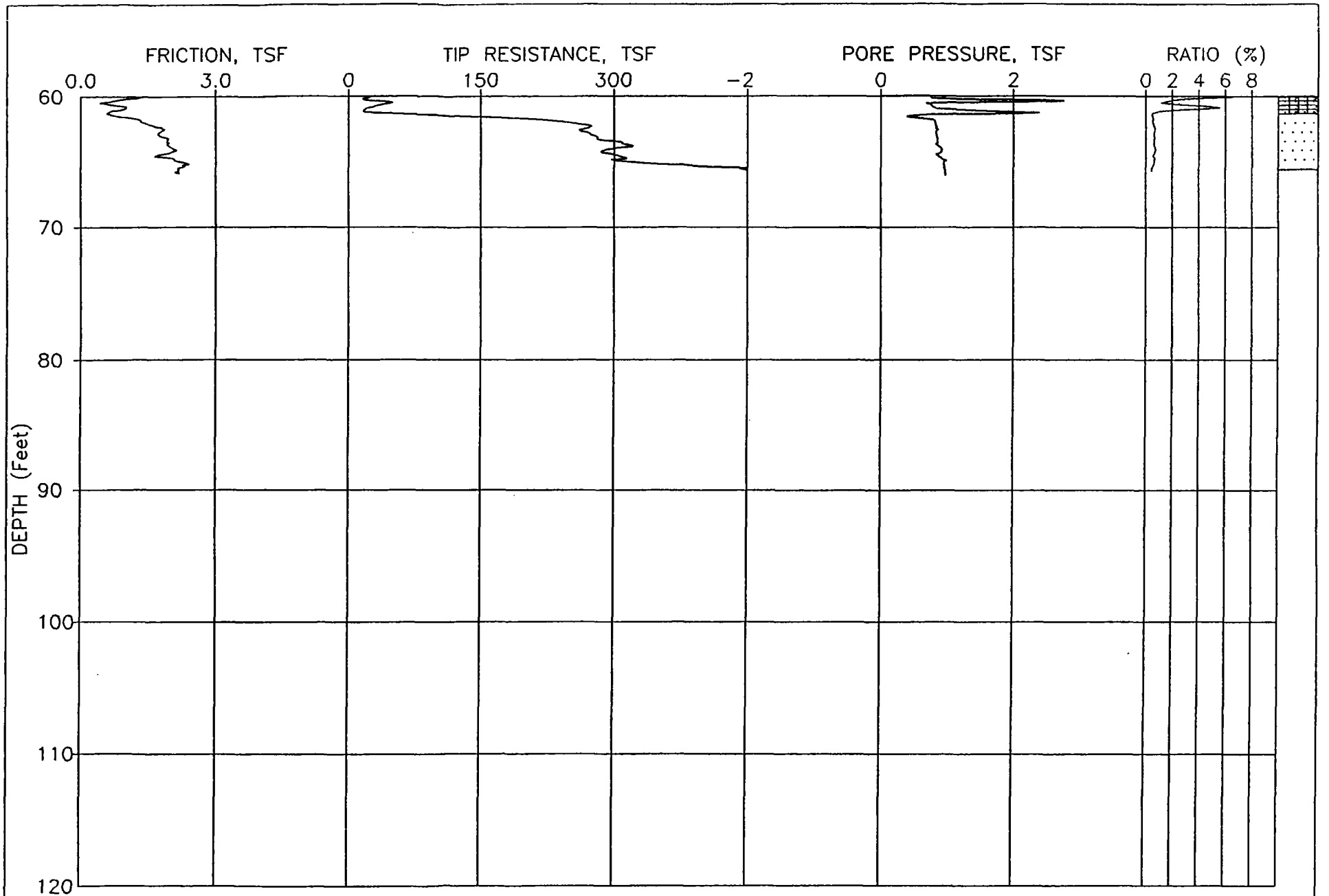
CPT NUMBER: HROST-107

CONE NUMBER: F7.5CKEW1511

DATE: 06-05-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-107

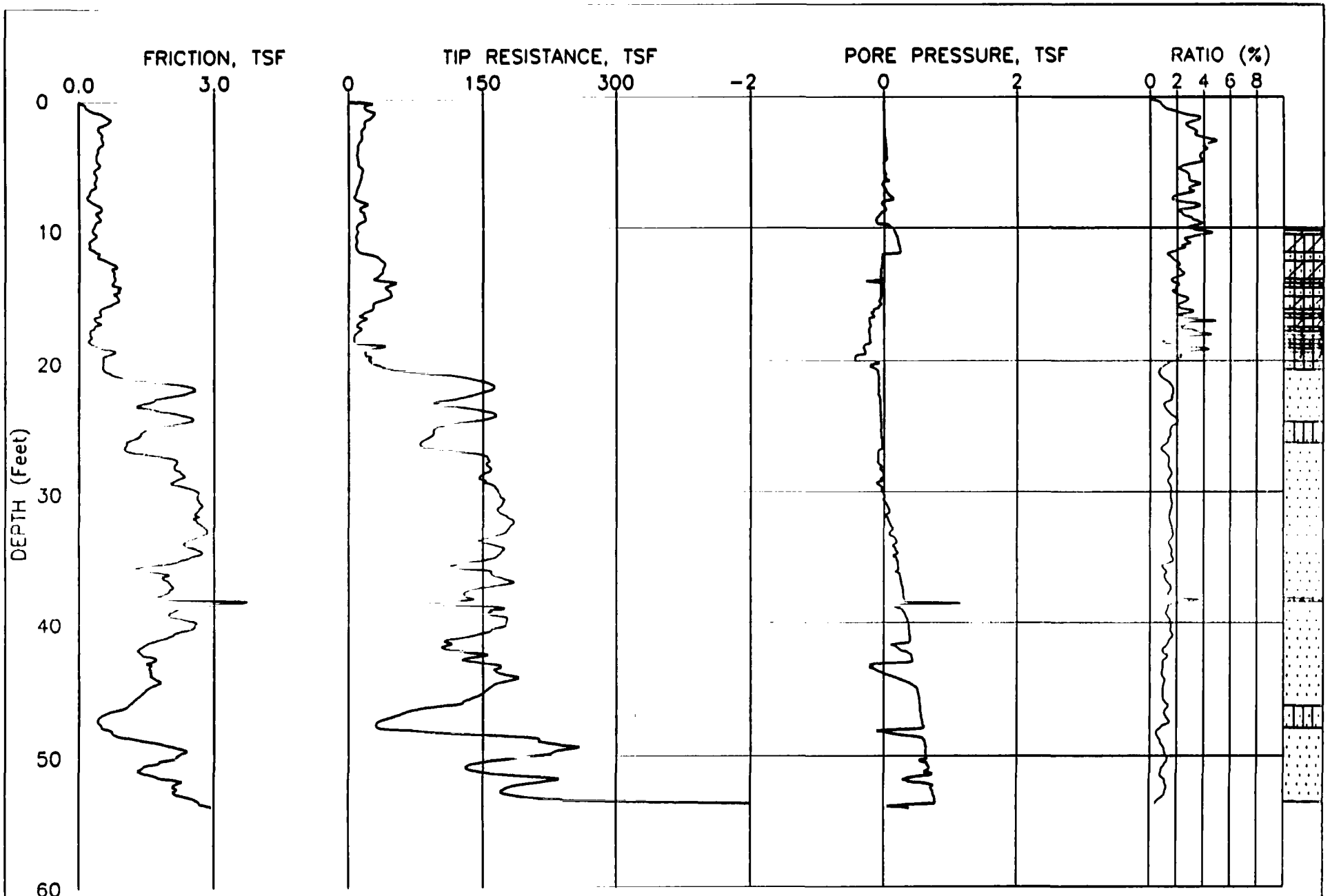
DATE: 06-05-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

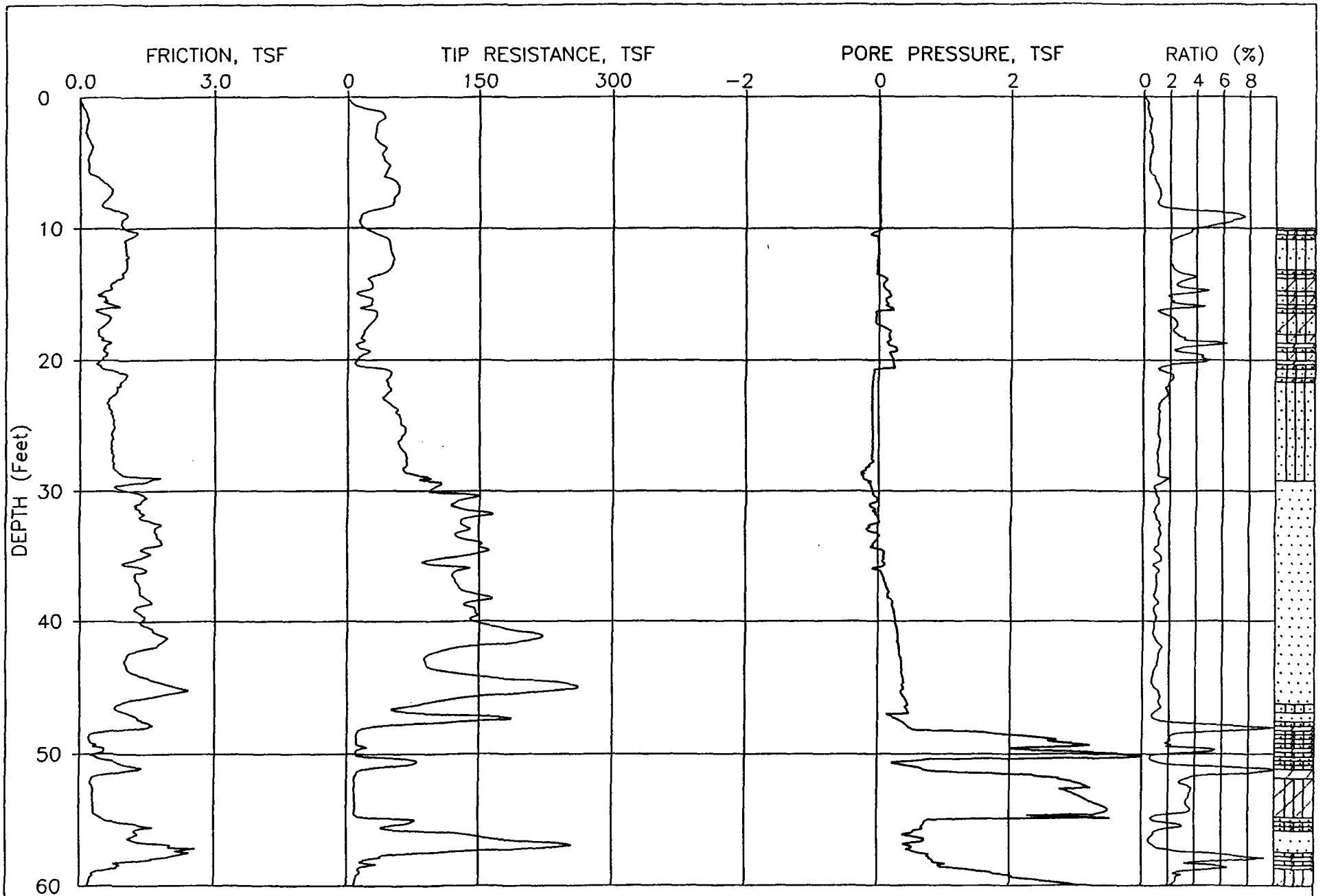
CPT NUMBER: HROST-109

CONE NUMBER: F7.5CKEW1511

DATE: 06-05-2005

PLATE: 1 OF 1

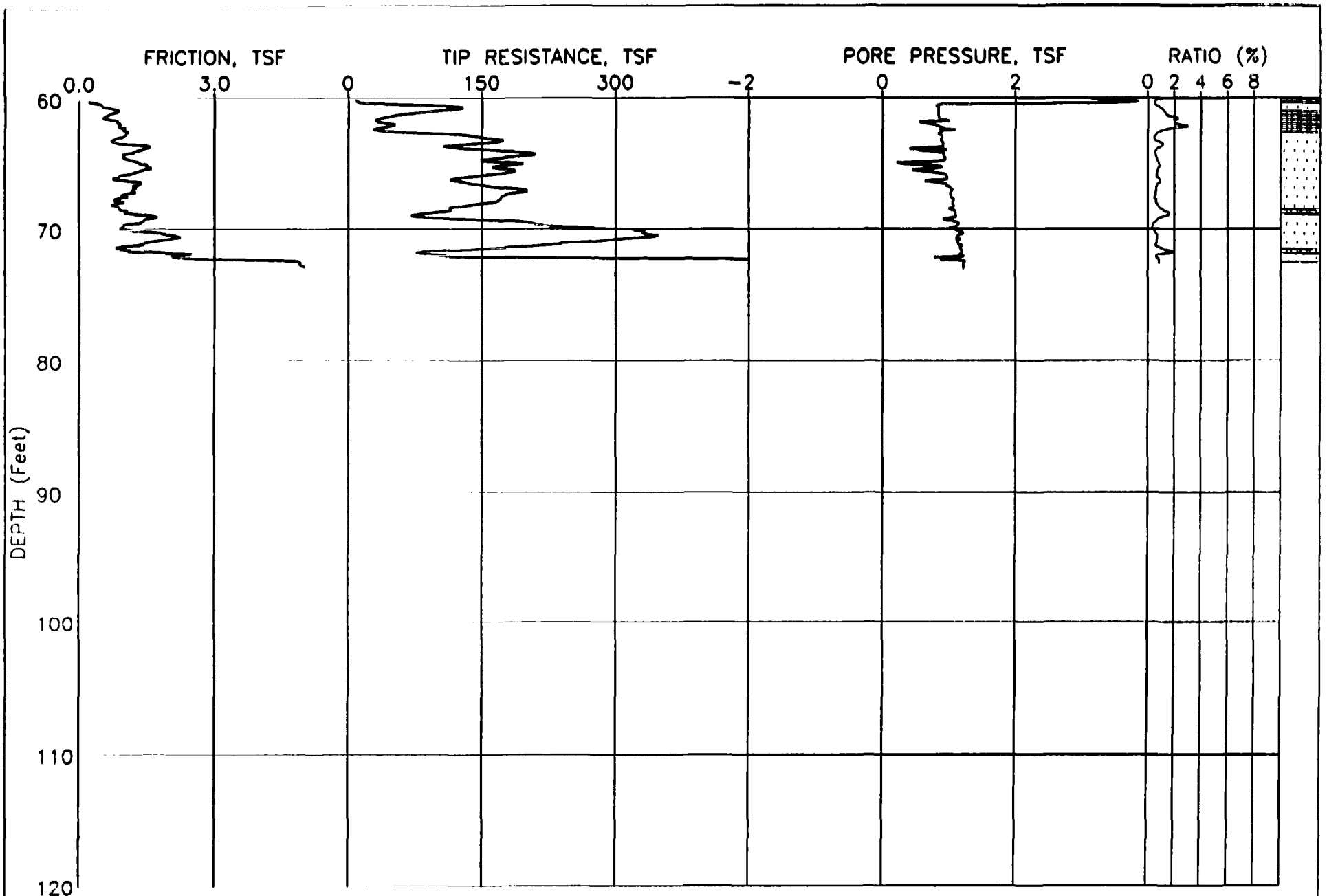
FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583 CPT NUMBER: HROST−110 DATE: 06−04−2005

ELEVATION: 0.00 CONE NUMBER: F7.5CKEW1511 PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-110

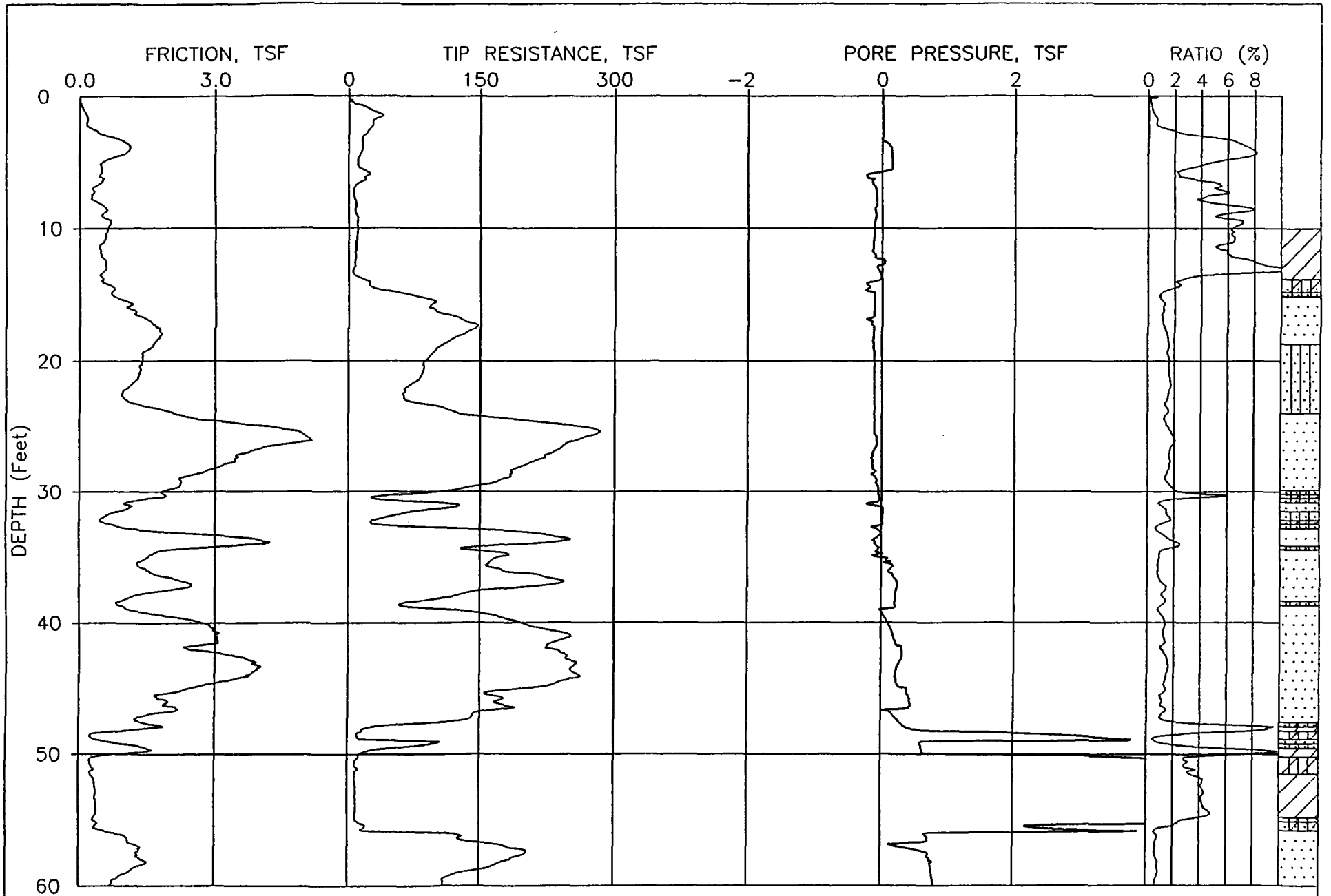
DATE: 06-04-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-111

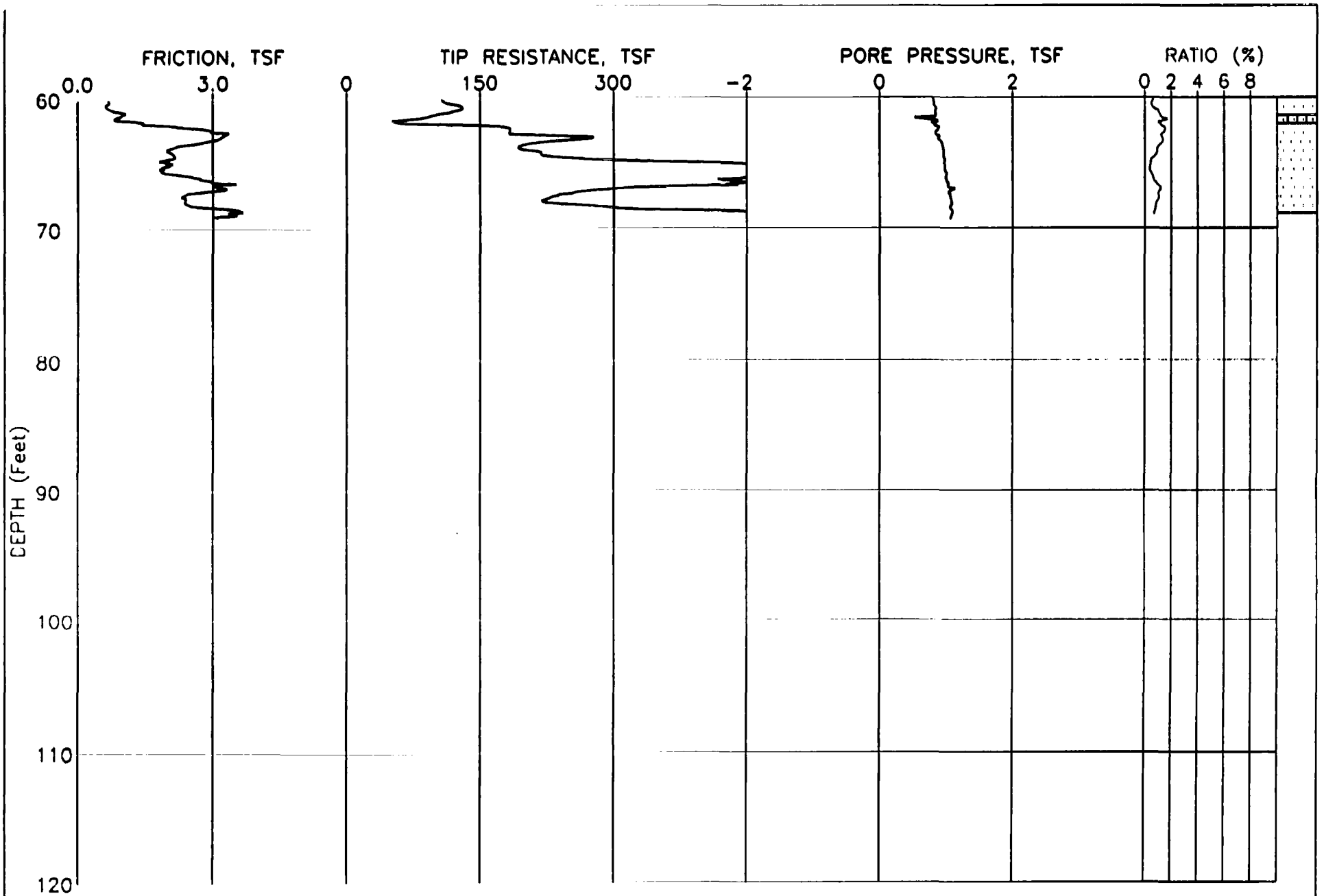
DATE: 06-04-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

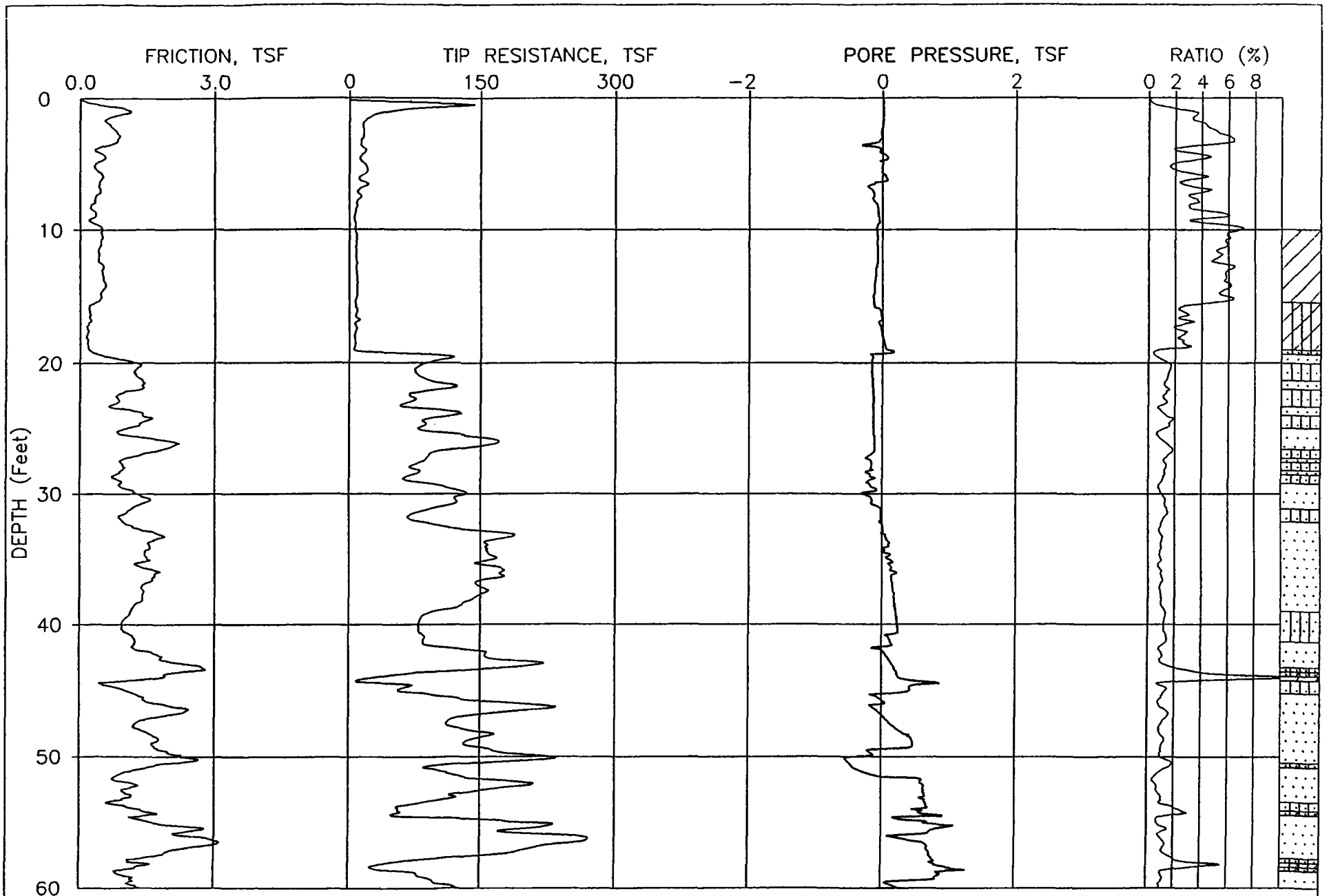
CPT NUMBER: HROST-111

CONE NUMBER: F7.5CKEW1511

DATE: 06-04-2005

PLATE: 2 OF 2

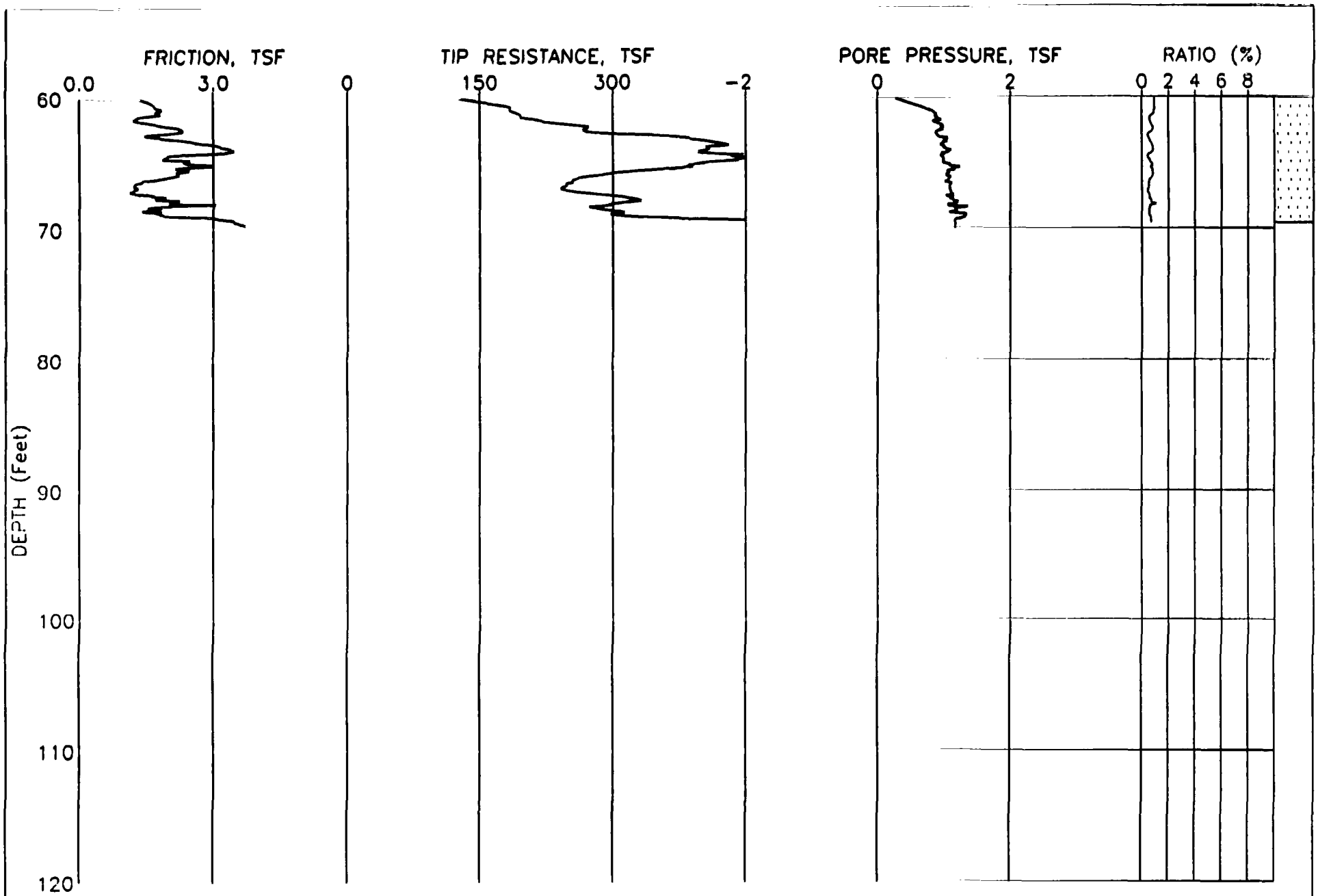
FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583 CPT NUMBER: HROST−112 DATE: 06−04−2005

ELEVATION: 0.00 CONE NUMBER: F7.5CKEW1511 PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

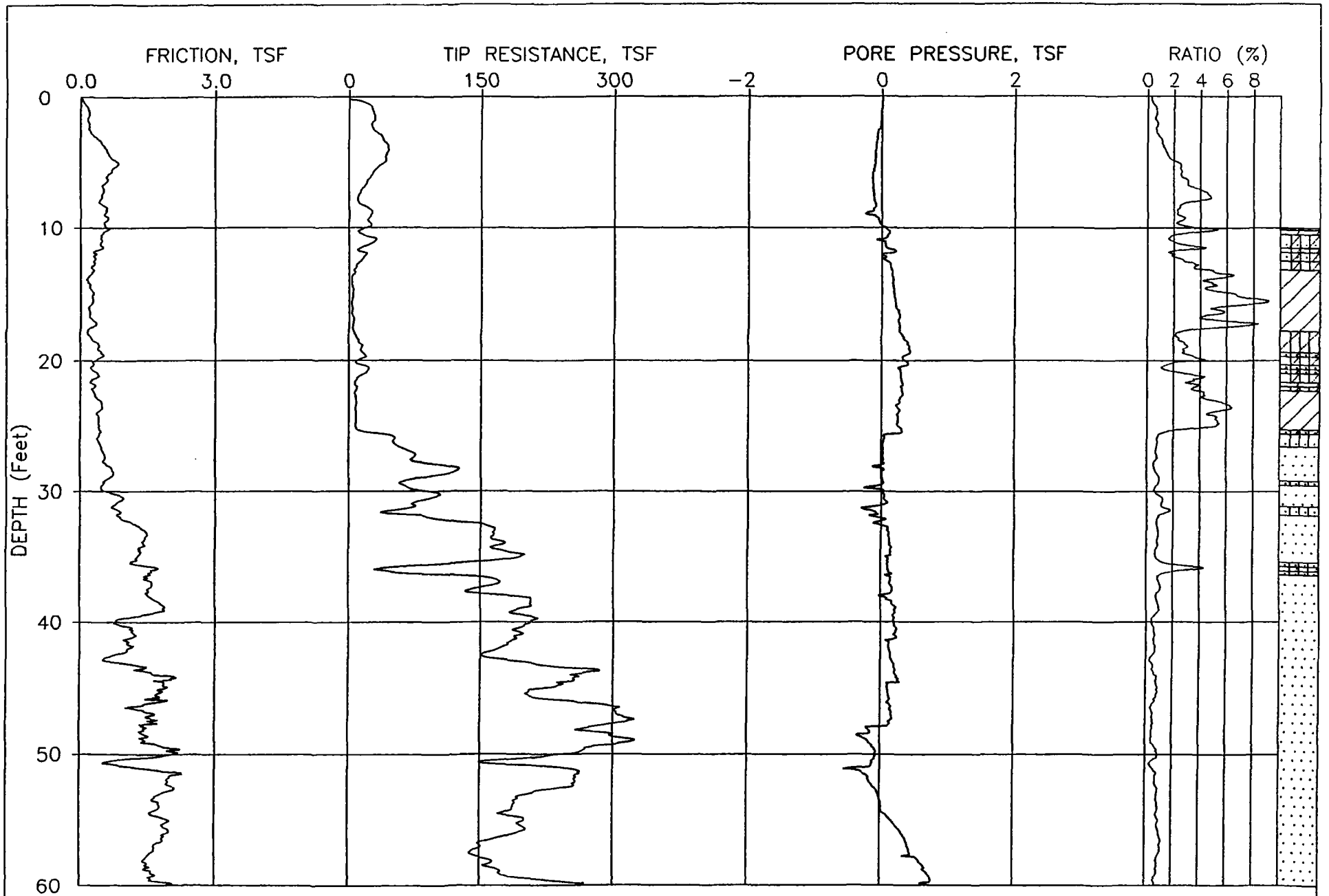
CPT NUMBER: HROST-112

CONE NUMBER: F7.5CKEW1511

DATE: 06-04-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−113

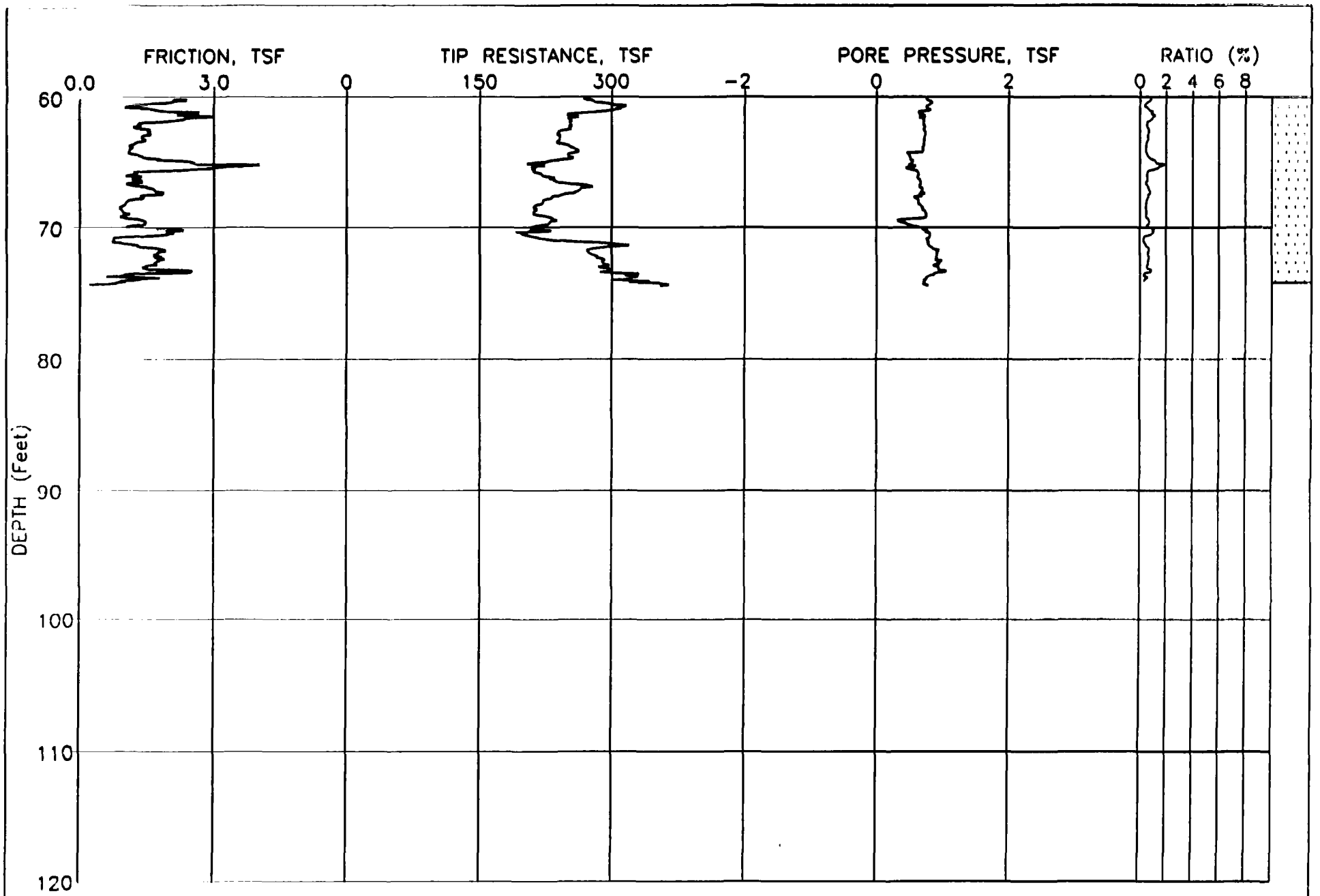
DATE: 06−20−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-113

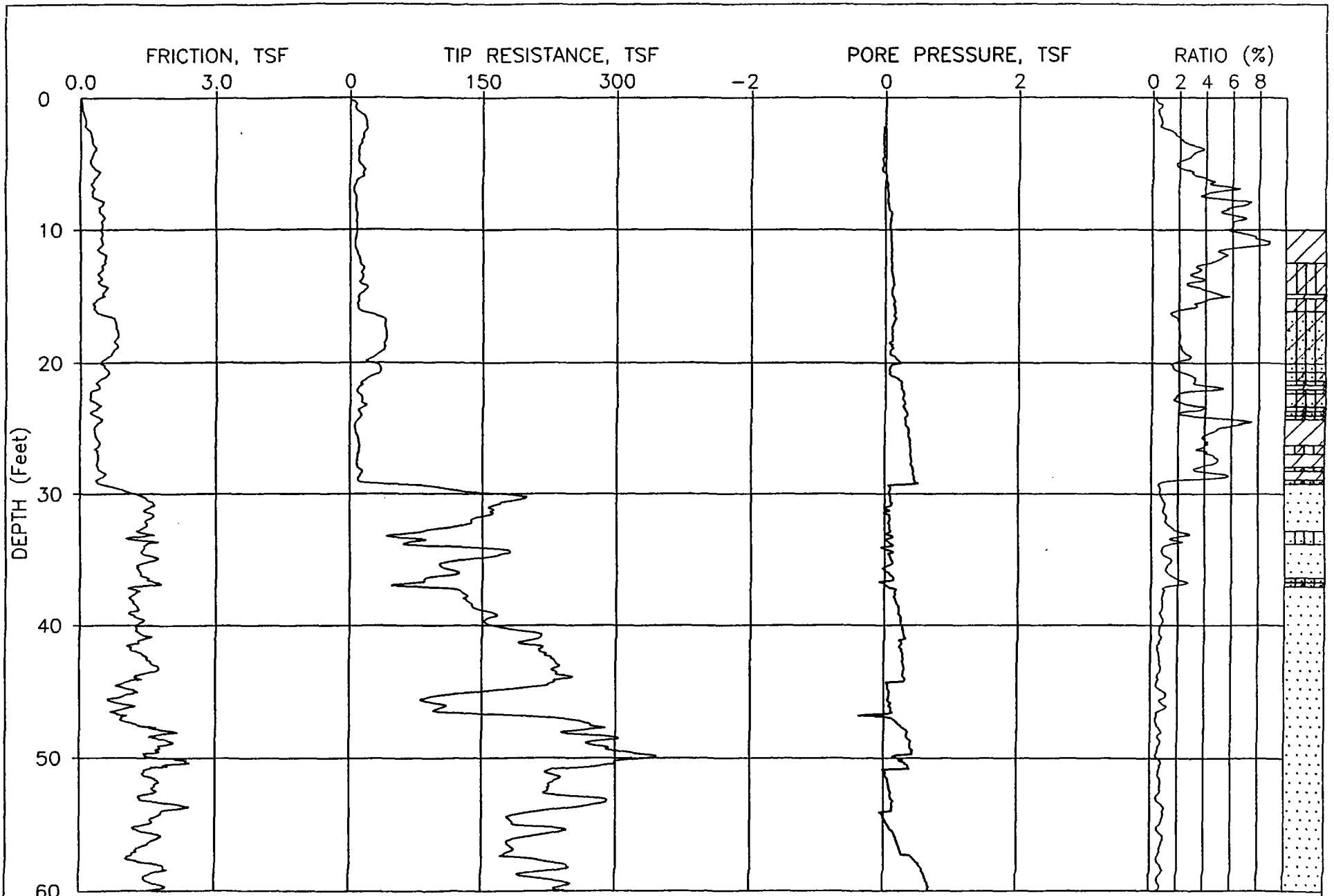
DATE: 06-20-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

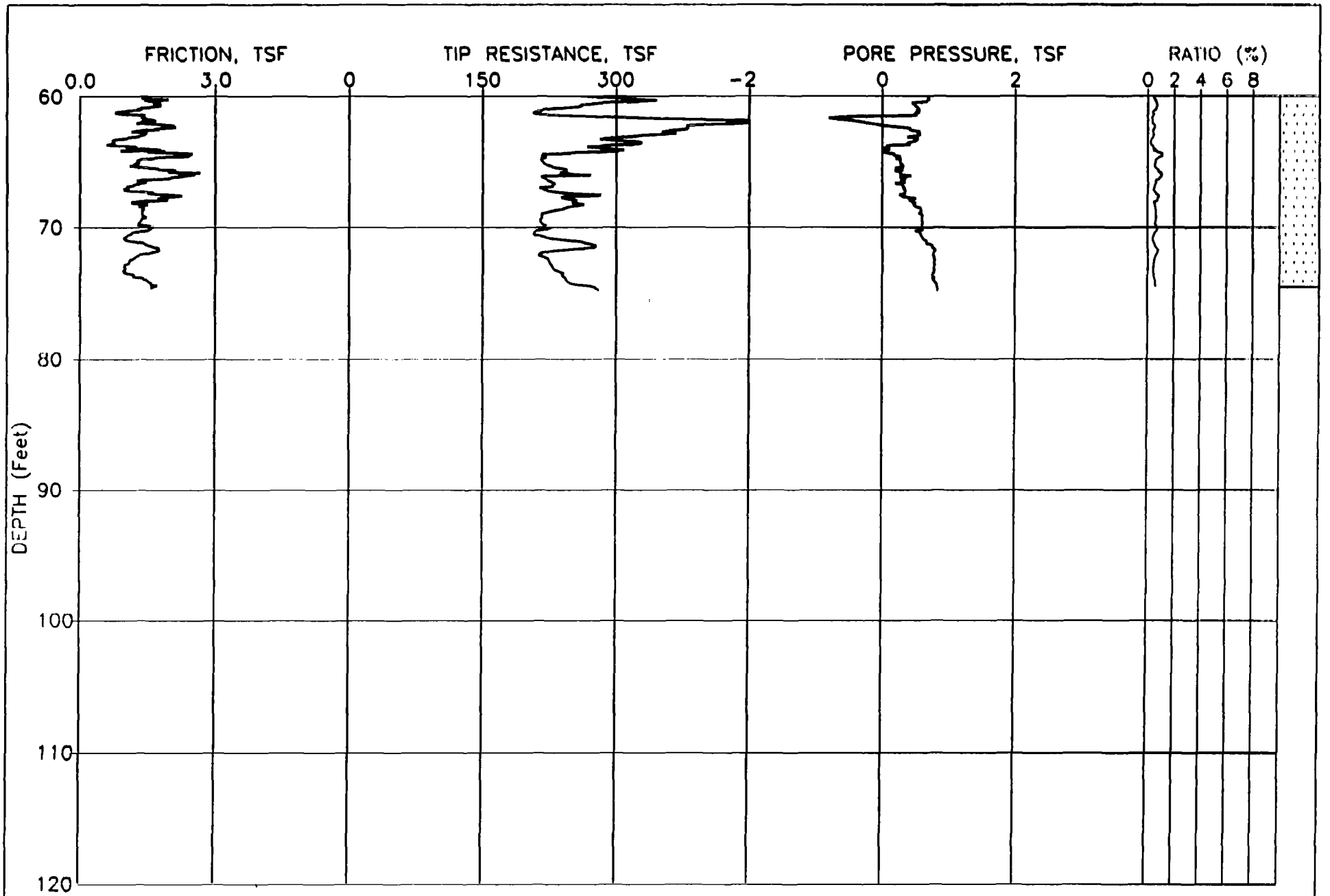
FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583 CPT NUMBER: HROST−114 DATE: 06−20−2005

ELEVATION: 0.00 CONE NUMBER: F7.5CKEW1346 PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-114

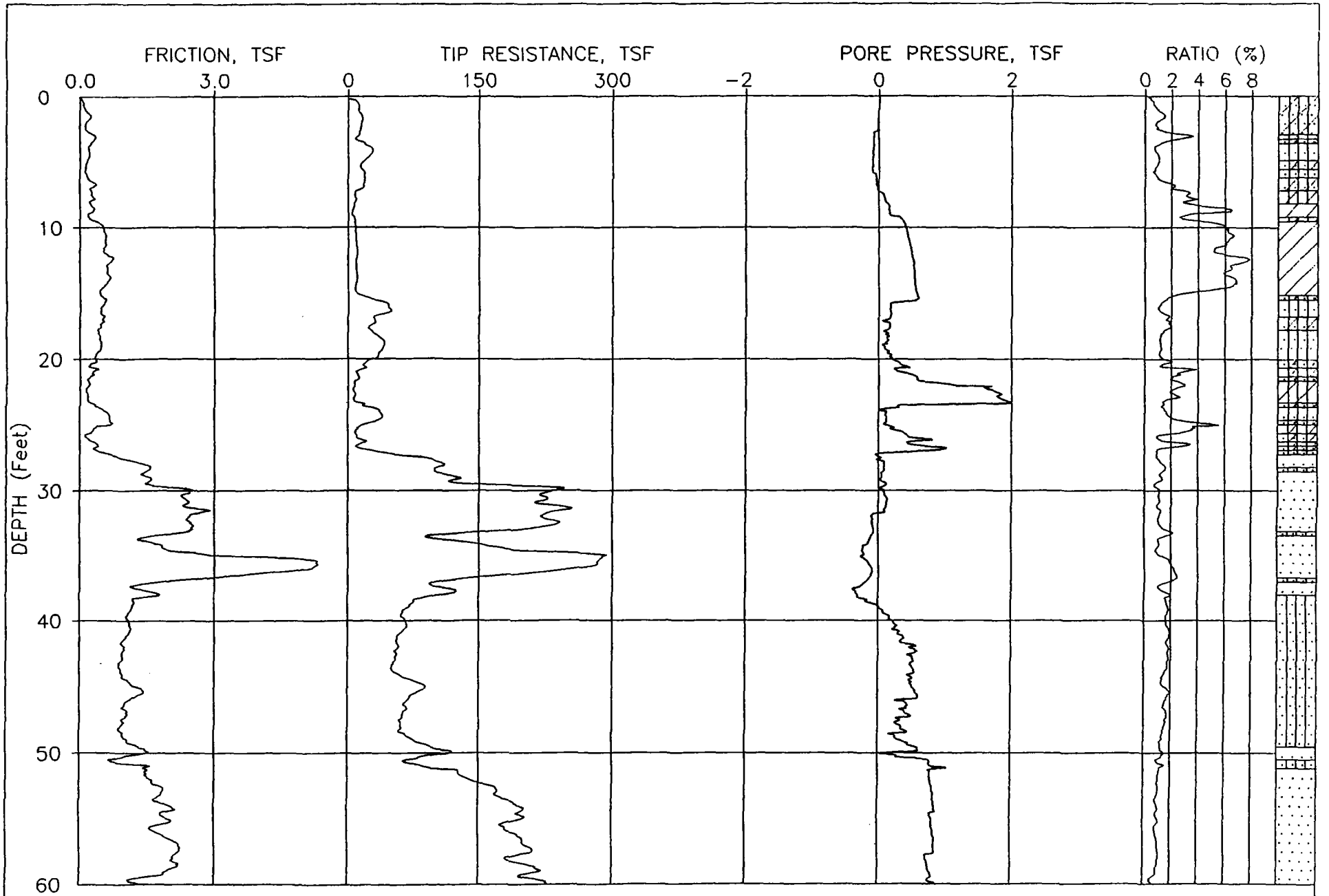
DATE: 06-20-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



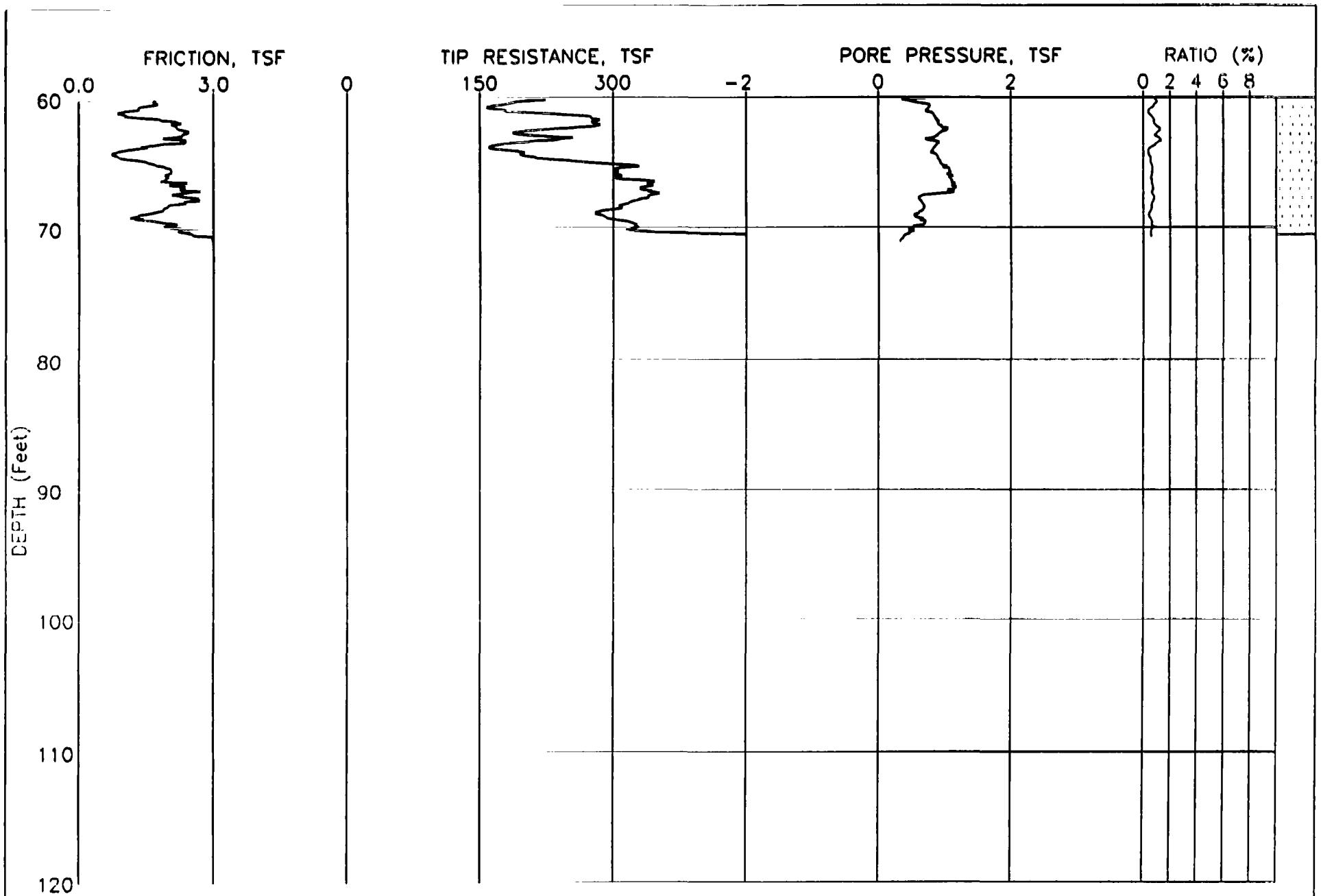
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-115
CONE NUMBER: F7.5CKEW1346

DATE: 06-27-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



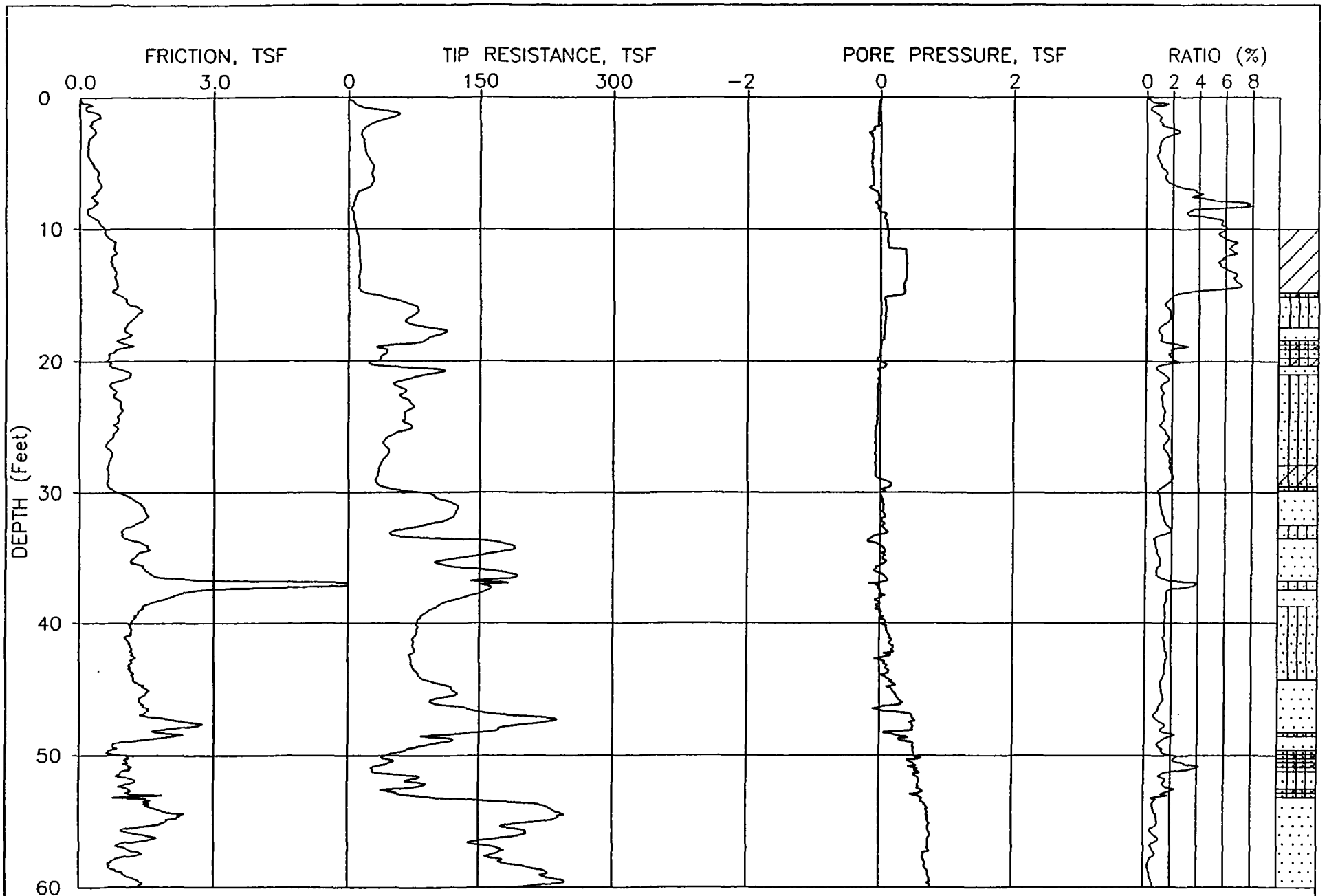
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-115
CONE NUMBER: F7.5CKEW1346

DATE: 06-27-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−116

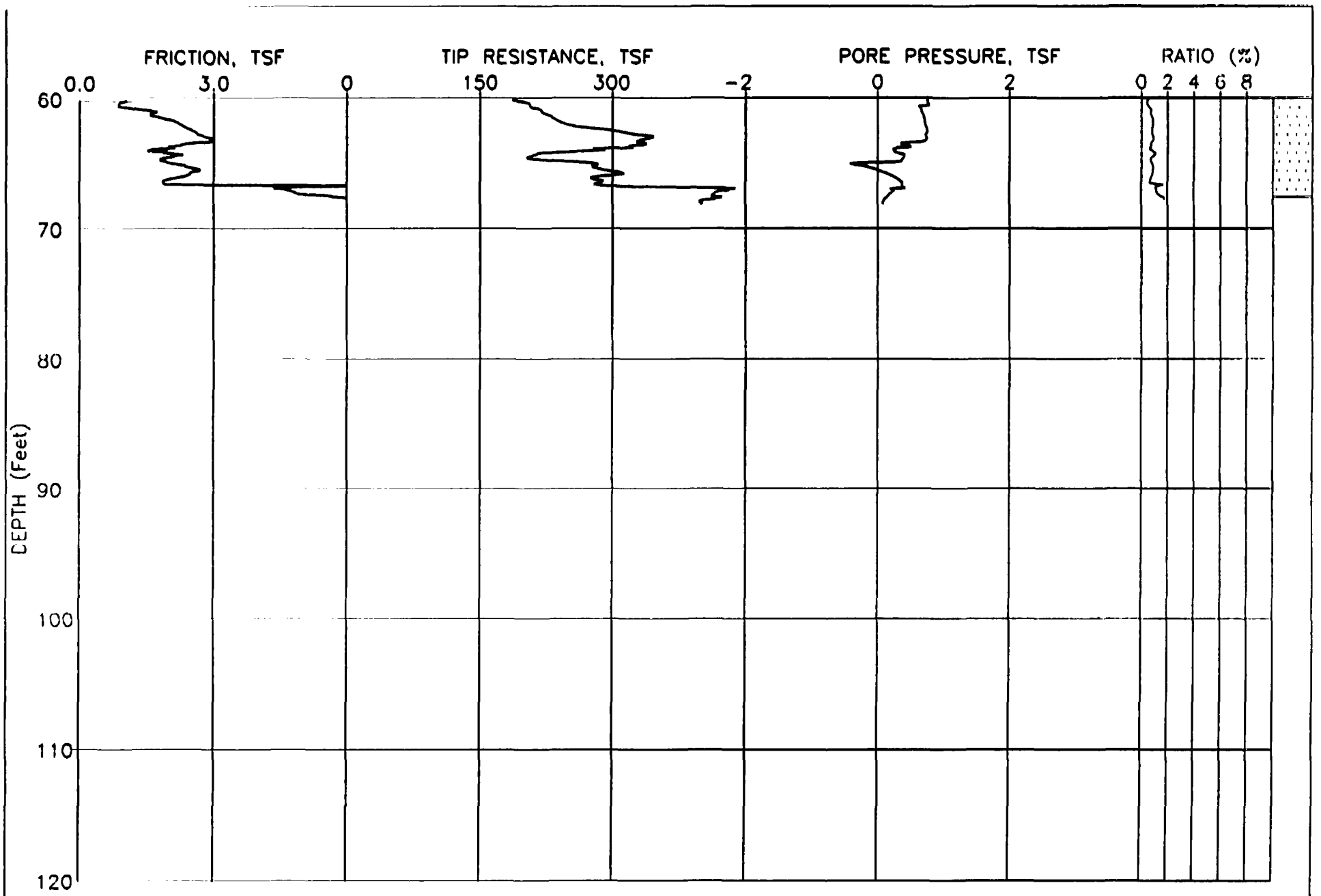
DATE: 06−20−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-116

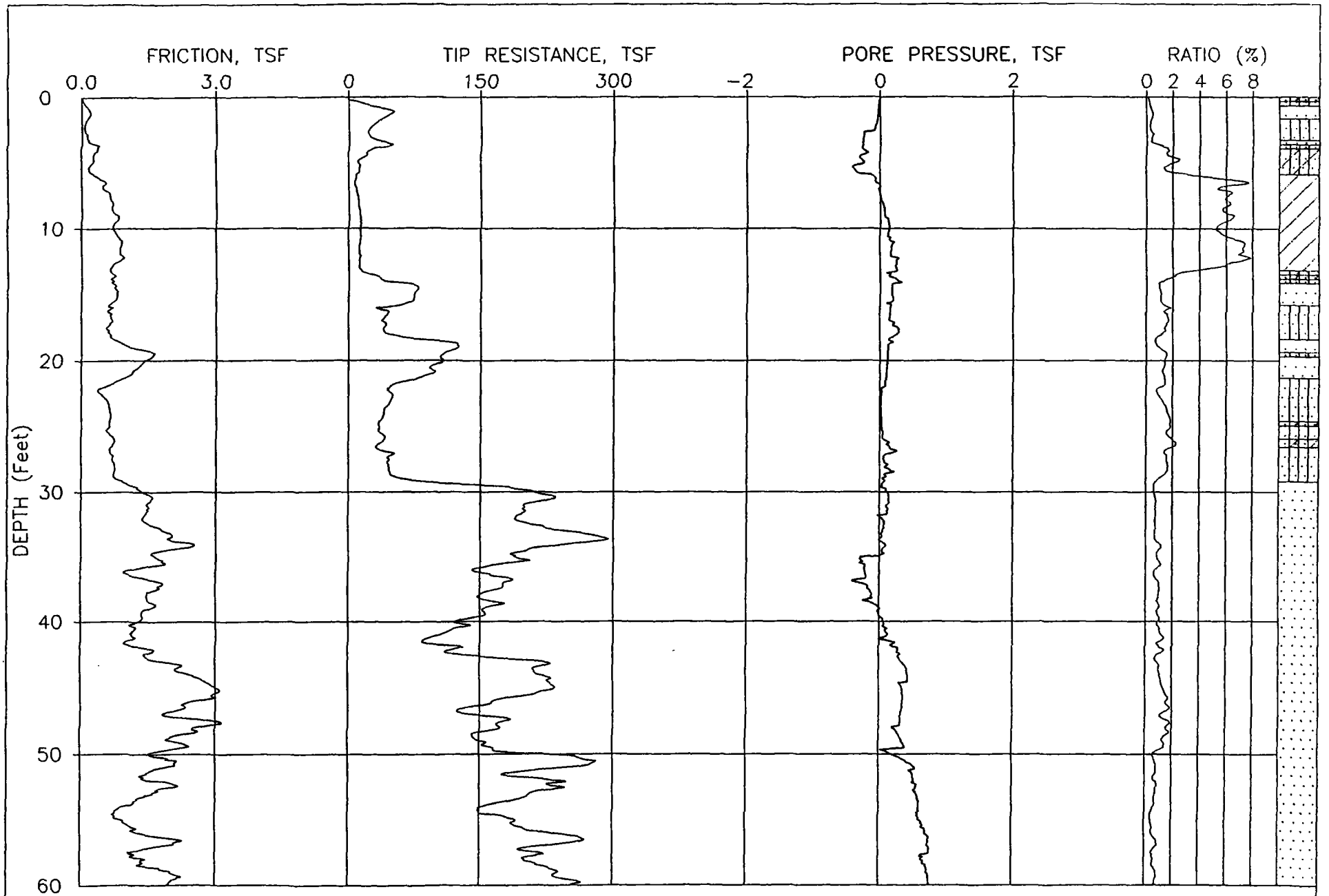
DATE: 06-20-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



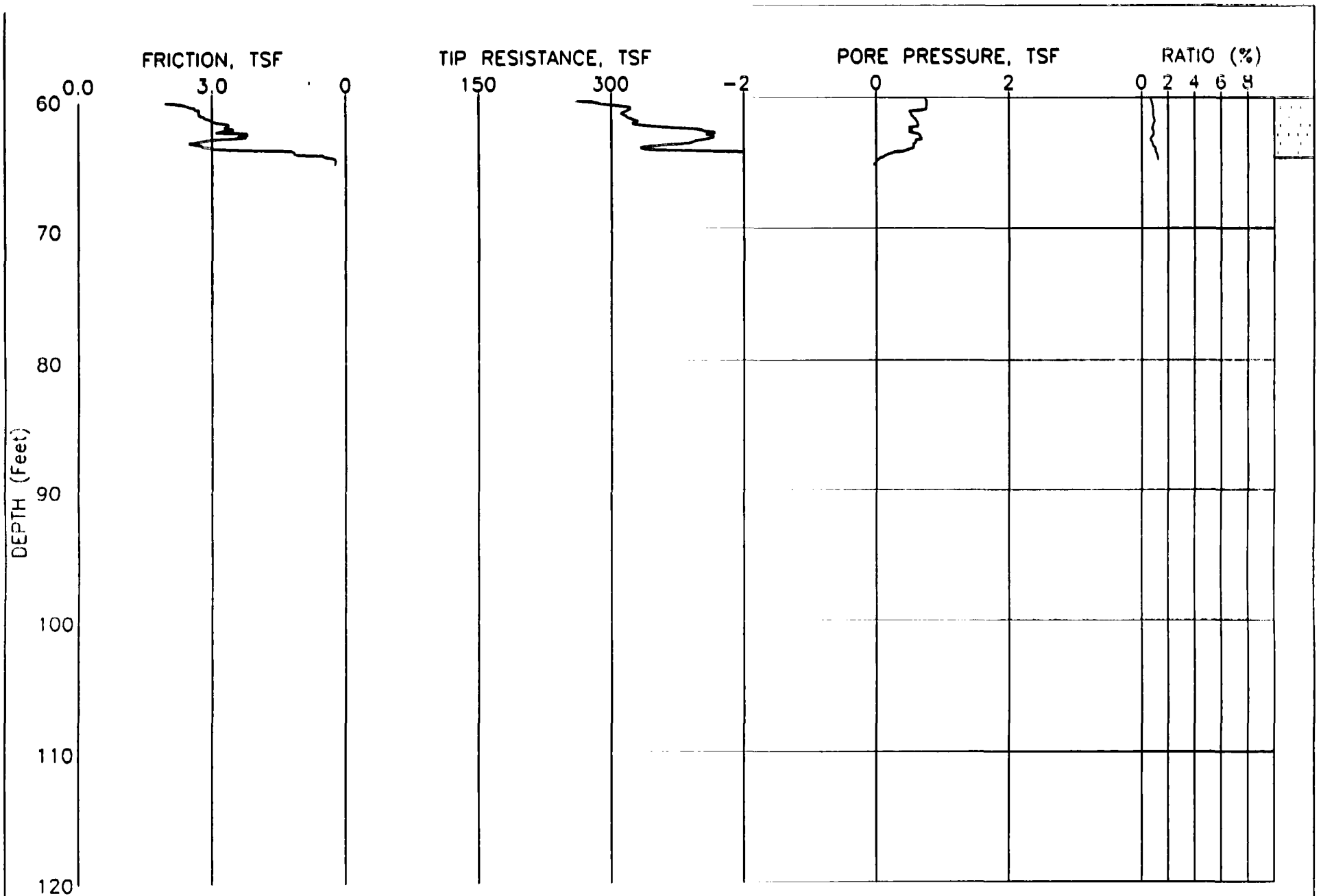
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-117
CONE NUMBER: F7.5CKEW1346

DATE: 06-27-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



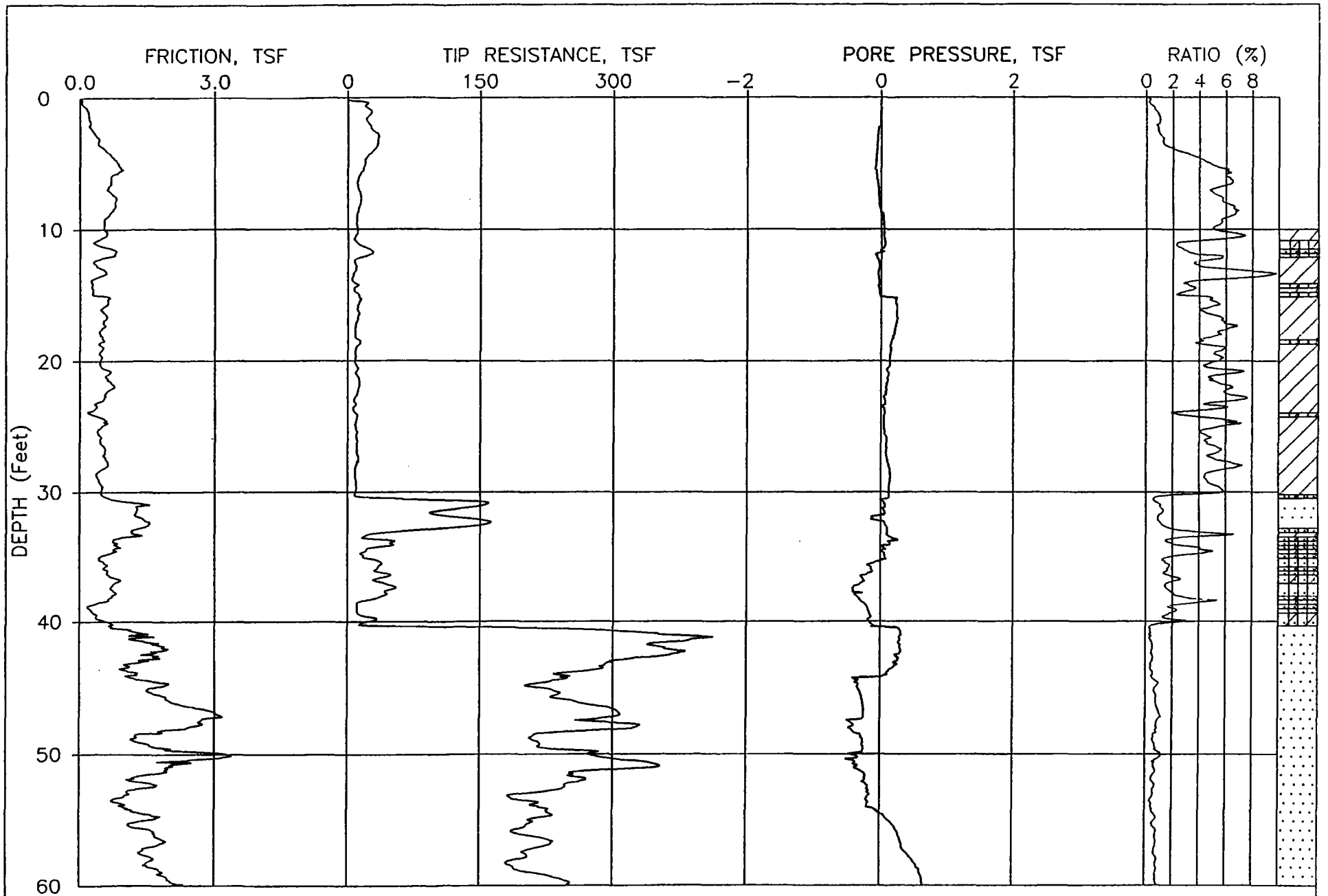
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-117
CONE NUMBER: F7.5CKEW1346

DATE: 06-27-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-118

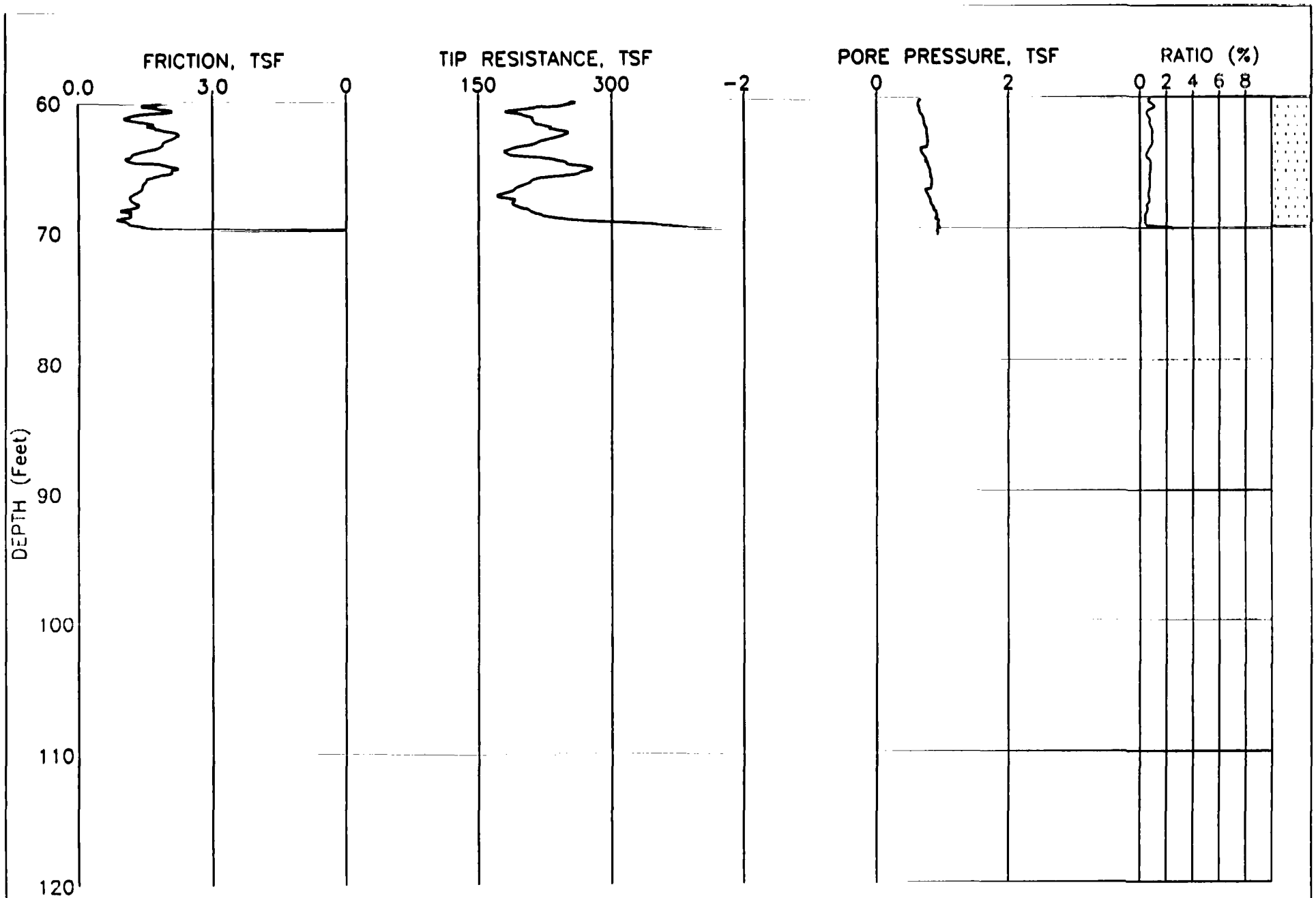
DATE: 06-21-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1346

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

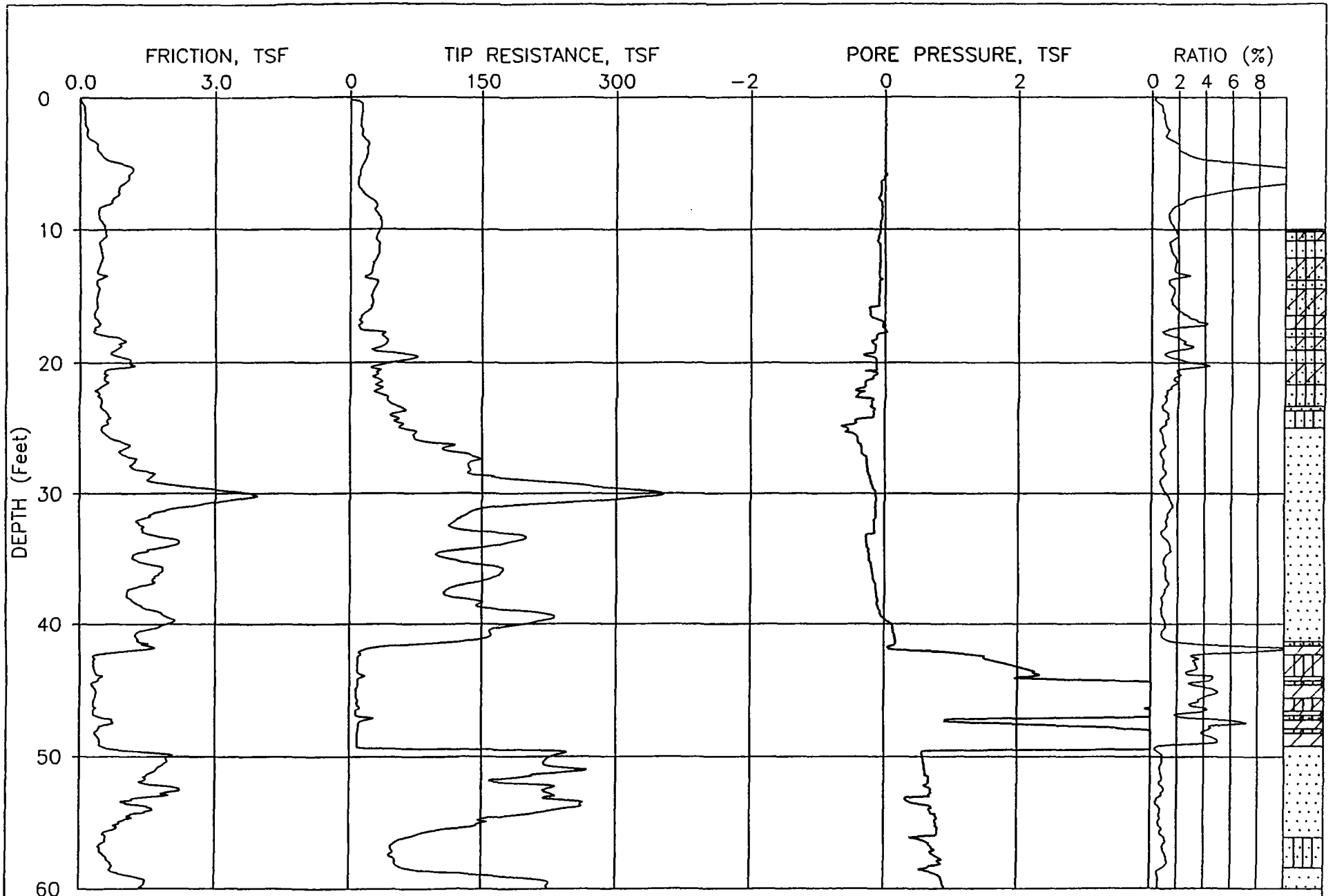
CPT NUMBER: HROST-118

CONE NUMBER: F7.5CKEW1346

DATE: 06-21-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−119

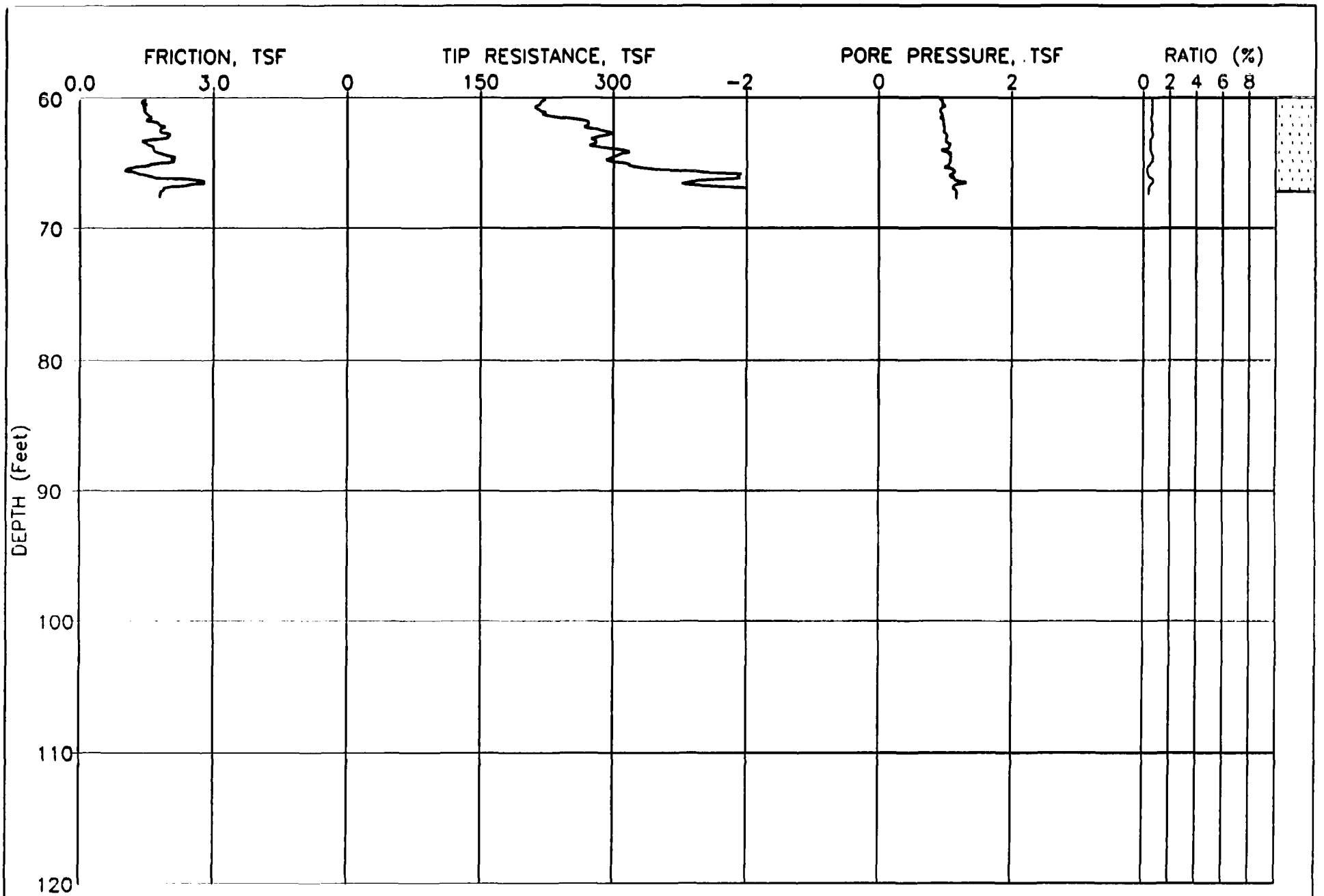
DATE: 06−04−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-119

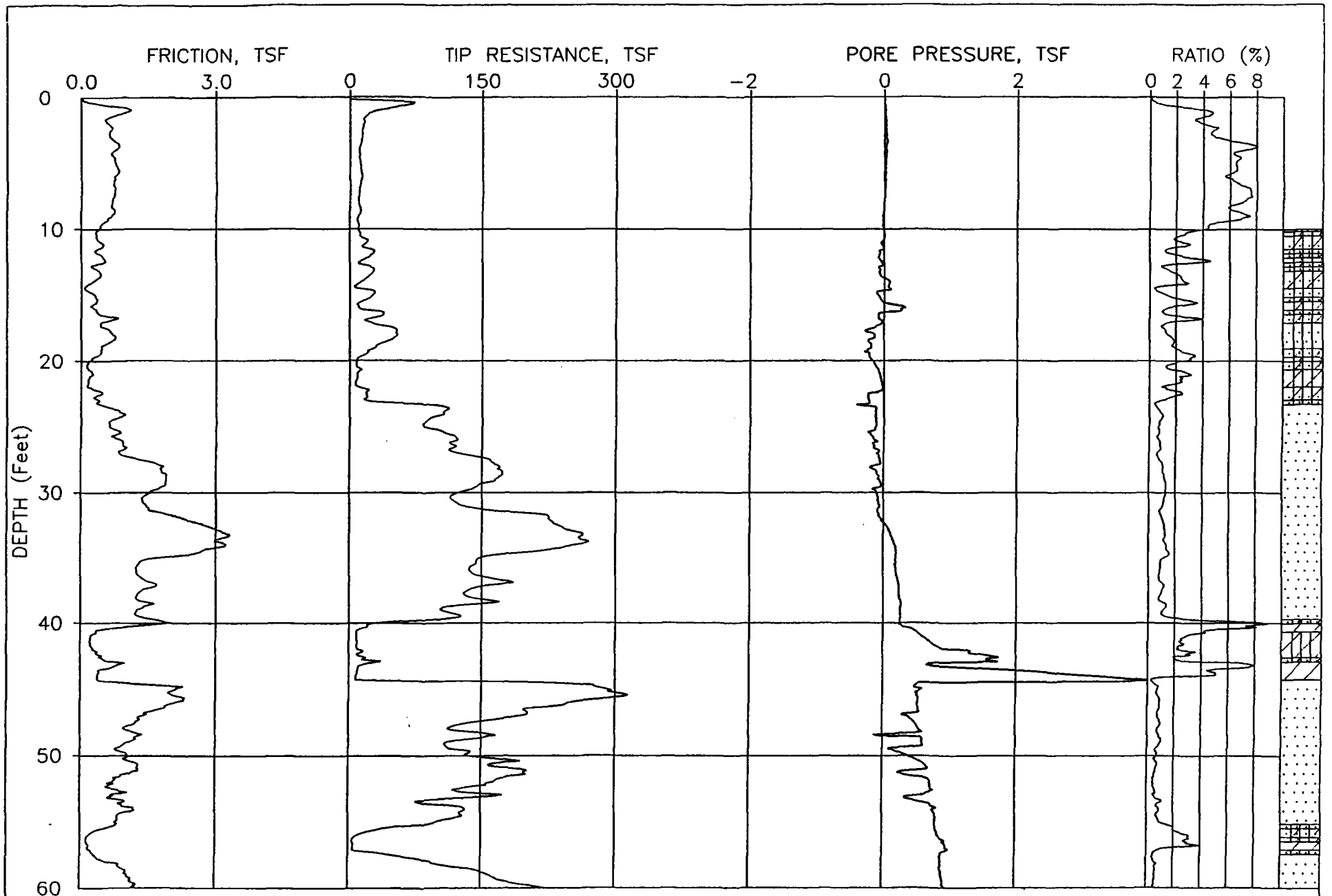
DATE: 06-04-2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1583

CPT NUMBER: HROST−120

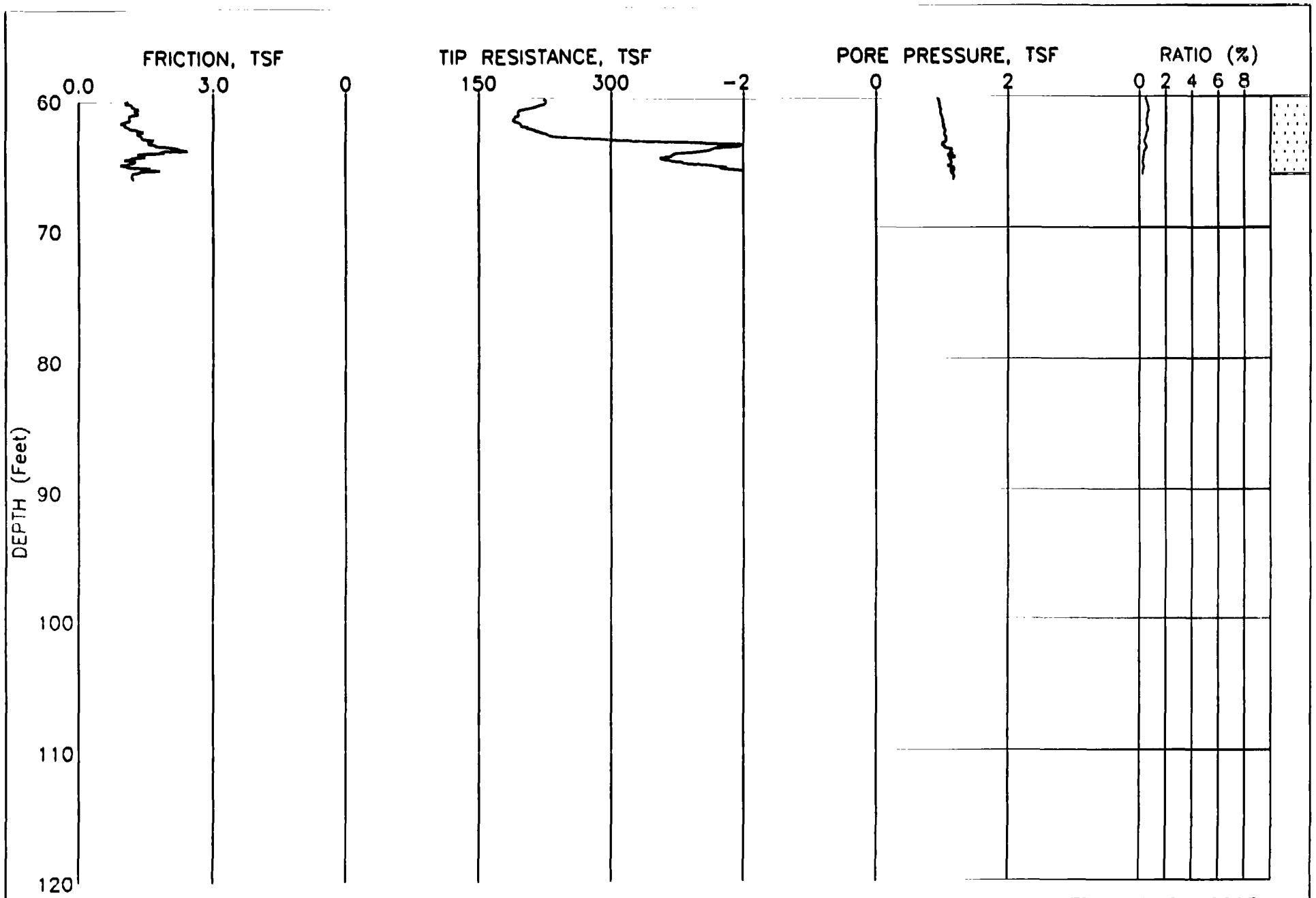
DATE: 06−04−2005

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

ELEVATION: 0.00

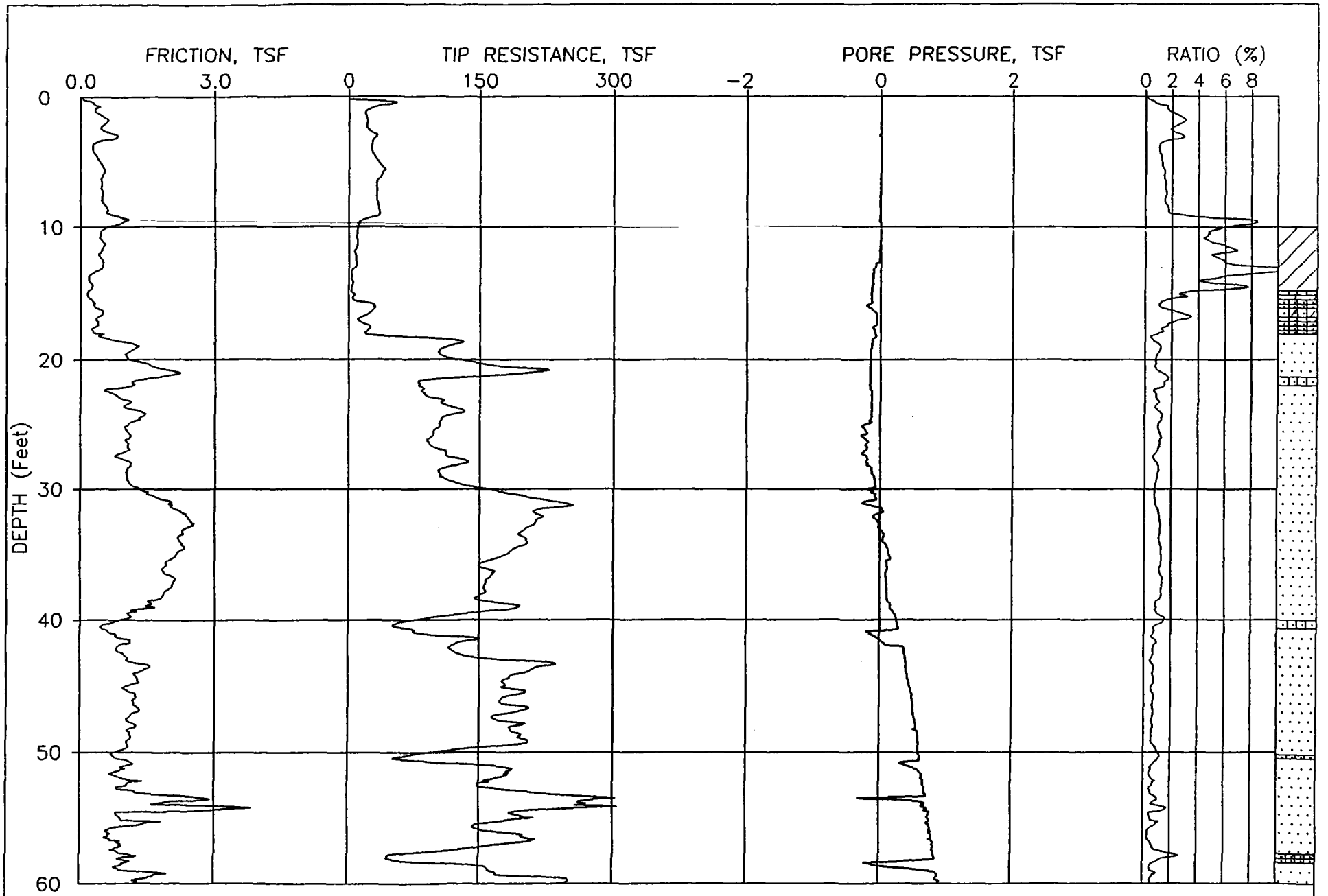
CPT NUMBER: HROST-120

CONE NUMBER: F7.5CKEW1511

DATE: 06-04-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583

CPT NUMBER: HROST-121

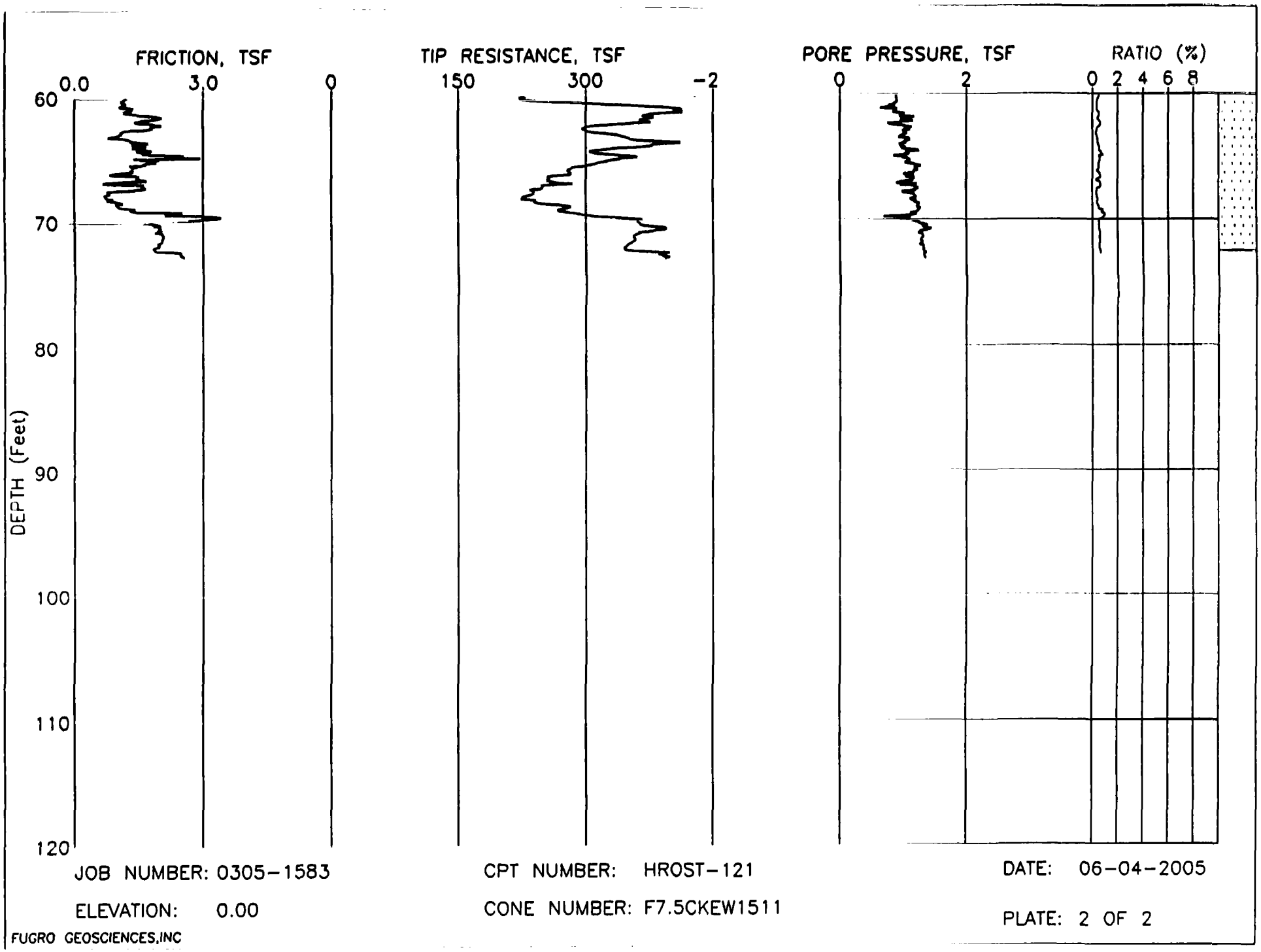
DATE: 06-04-2005

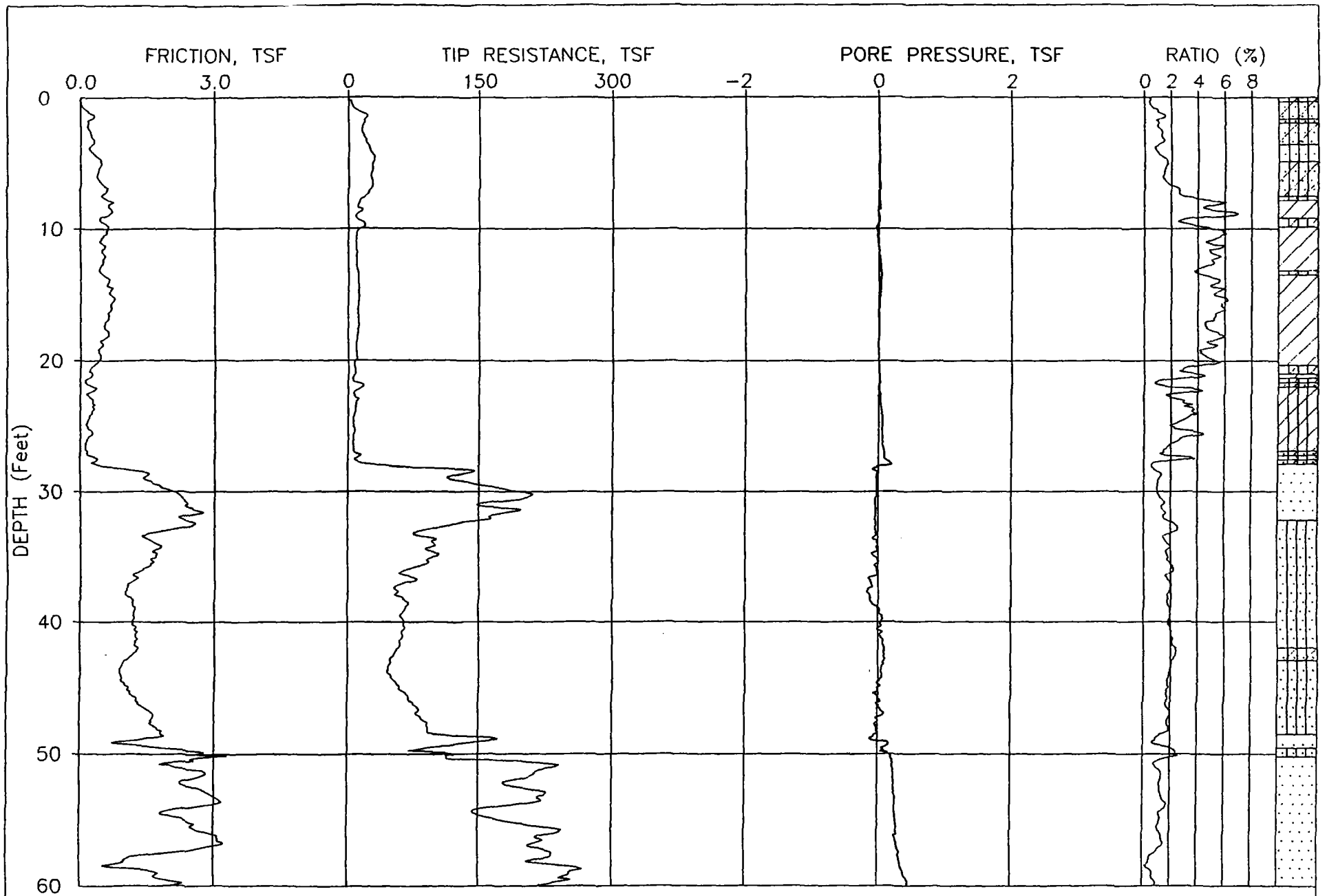
ELEVATION: 0.00

CONE NUMBER: F7.5CKEW1511

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC


FRICTION, TSF
0.0
3.0
TIP RESISTANCE, TSF
150
300
PORE PRESSURE, TSF
0
2
-2
RATIO (%)
0 2 4 6 8
DEPTH (Feet)
60
70
80
90
100
110
120
JOB NUMBER: 0305-1583
ELEVATION: 0.00
CPT NUMBER: HROST-121
CONE NUMBER: F7.5CKEW1511
DATE: 06-04-2005
PLATE: 2 OF 2
FUGRO GEOSCIENCES,INC



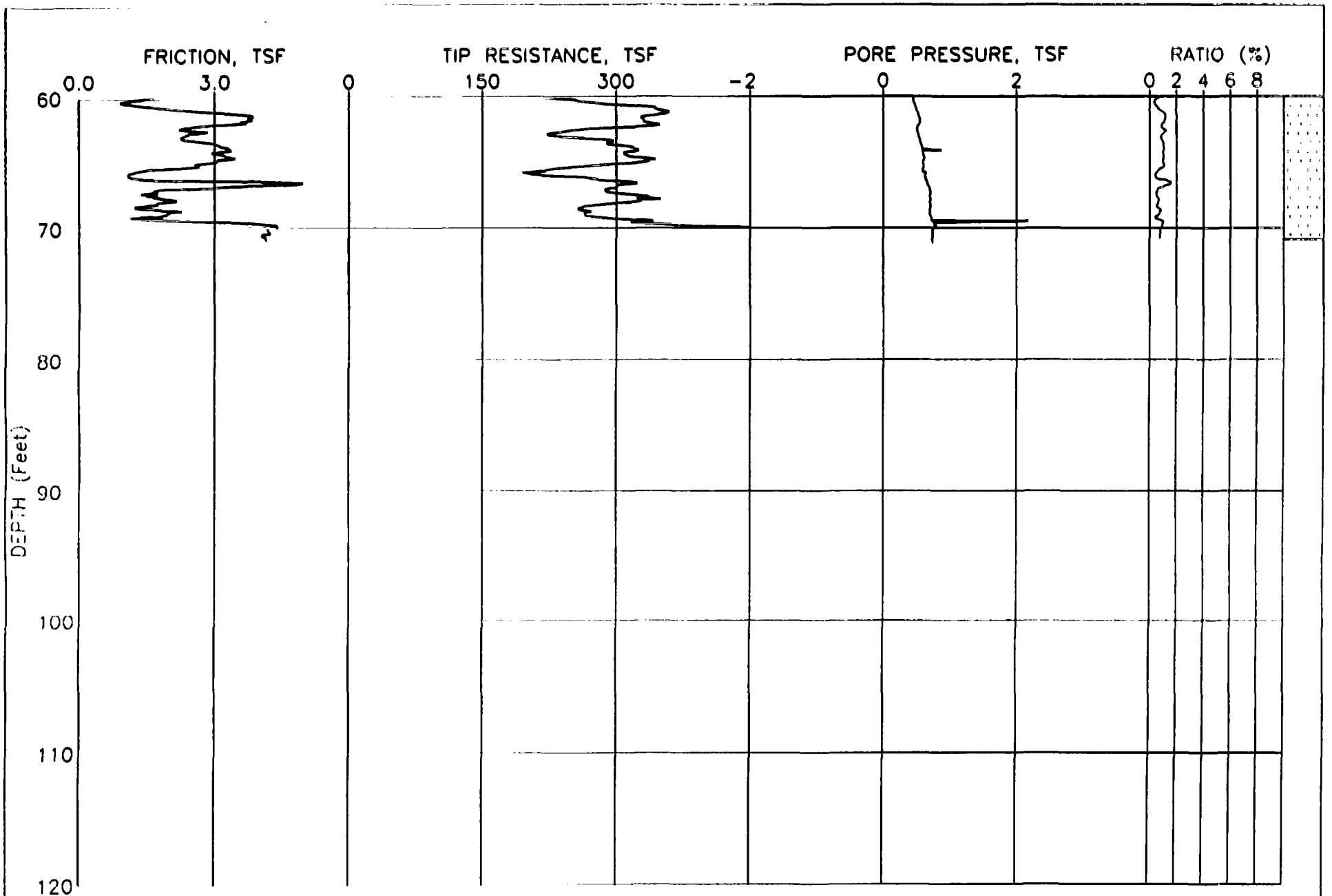
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-122
CONE NUMBER: F7.5CKEW1165

DATE: 08-15-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



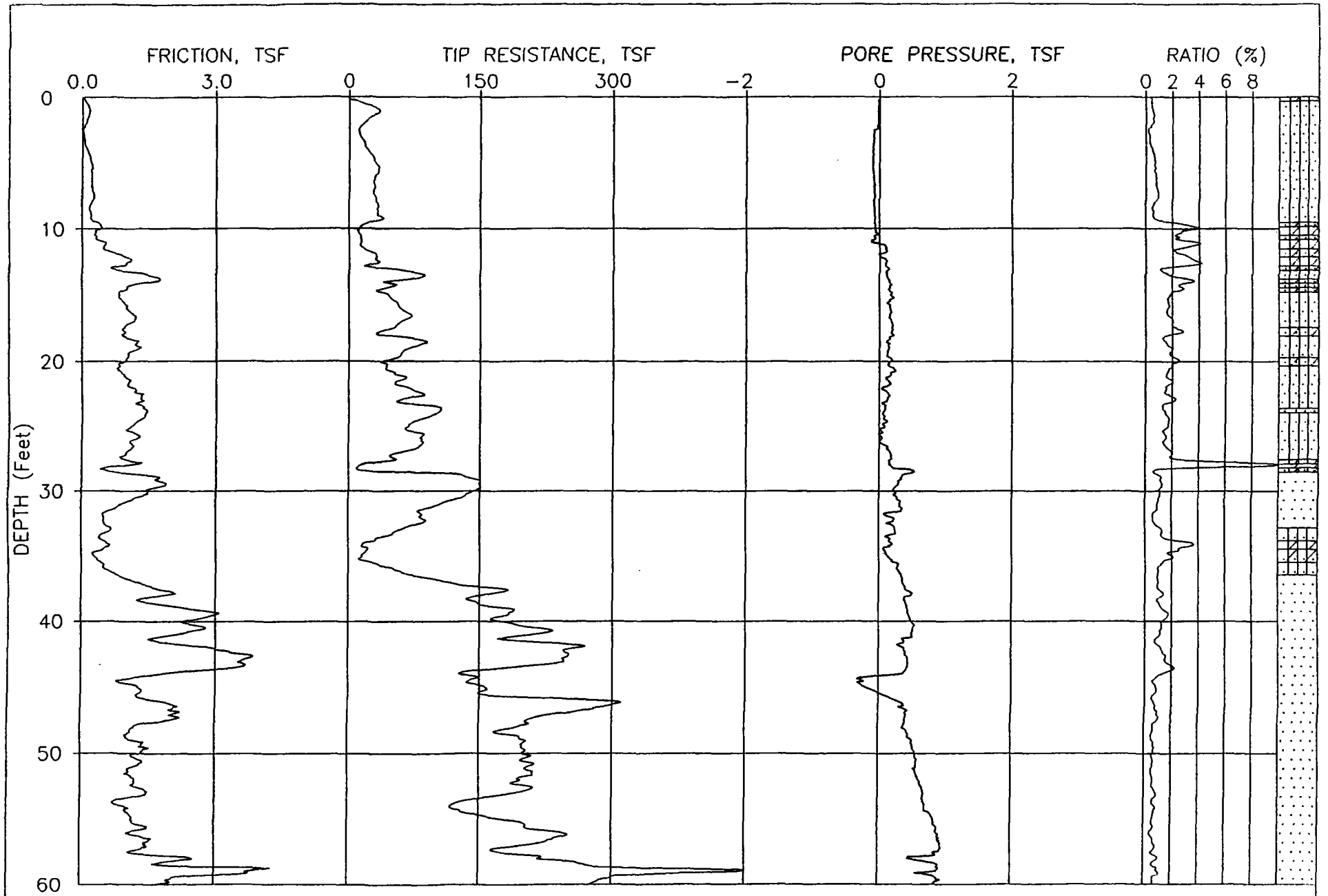
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-122
CONE NUMBER: F7.5CKEW1165

DATE: 08-15-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



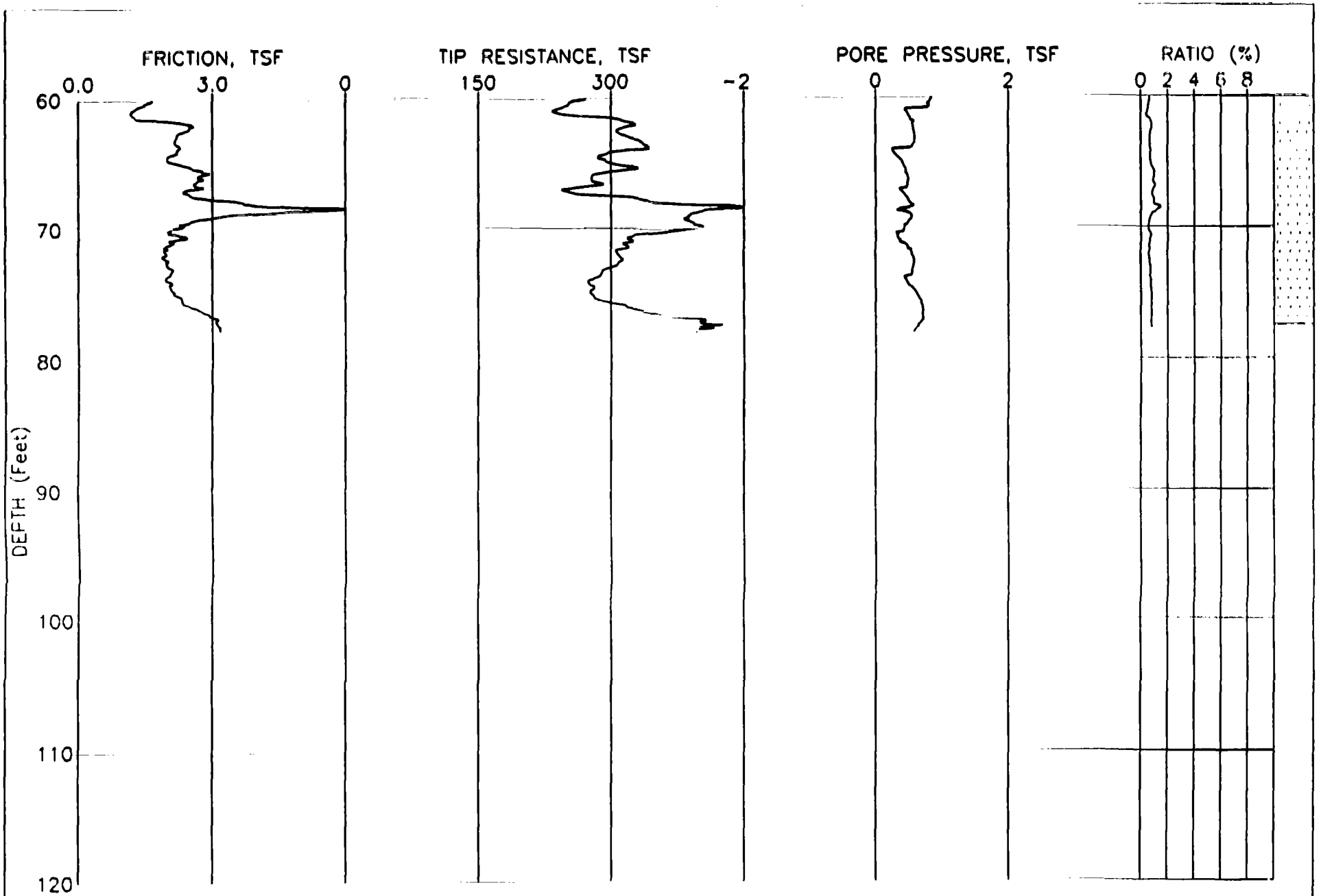
JOB NUMBER: 0305−1583
ELEVATION: 0.00

CPT NUMBER: HROST−123
CONE NUMBER: F7.5CKEW1346

DATE: 06−27−2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



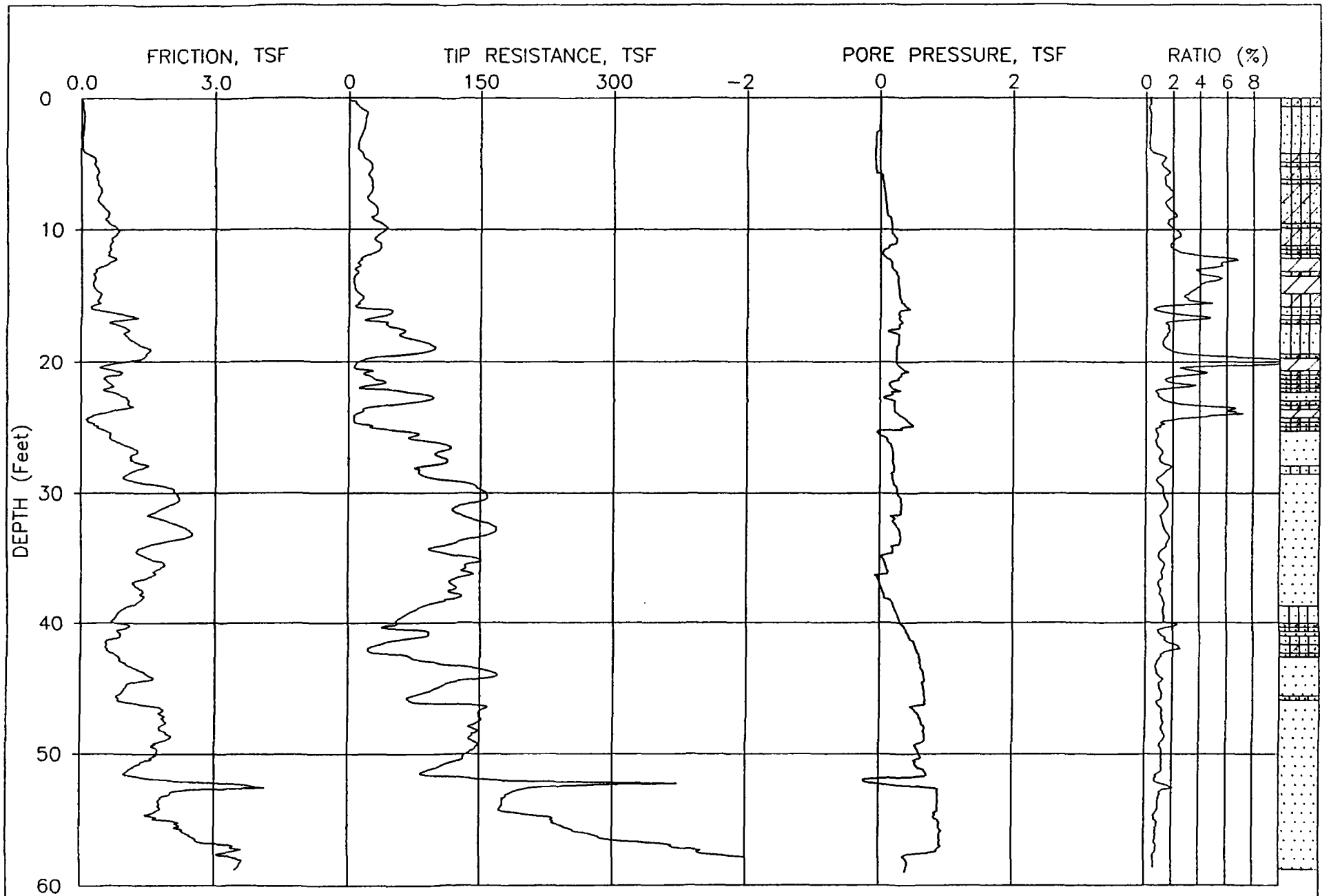
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-123
CONE NUMBER: F7.5CKEW1346

DATE: 06-27-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



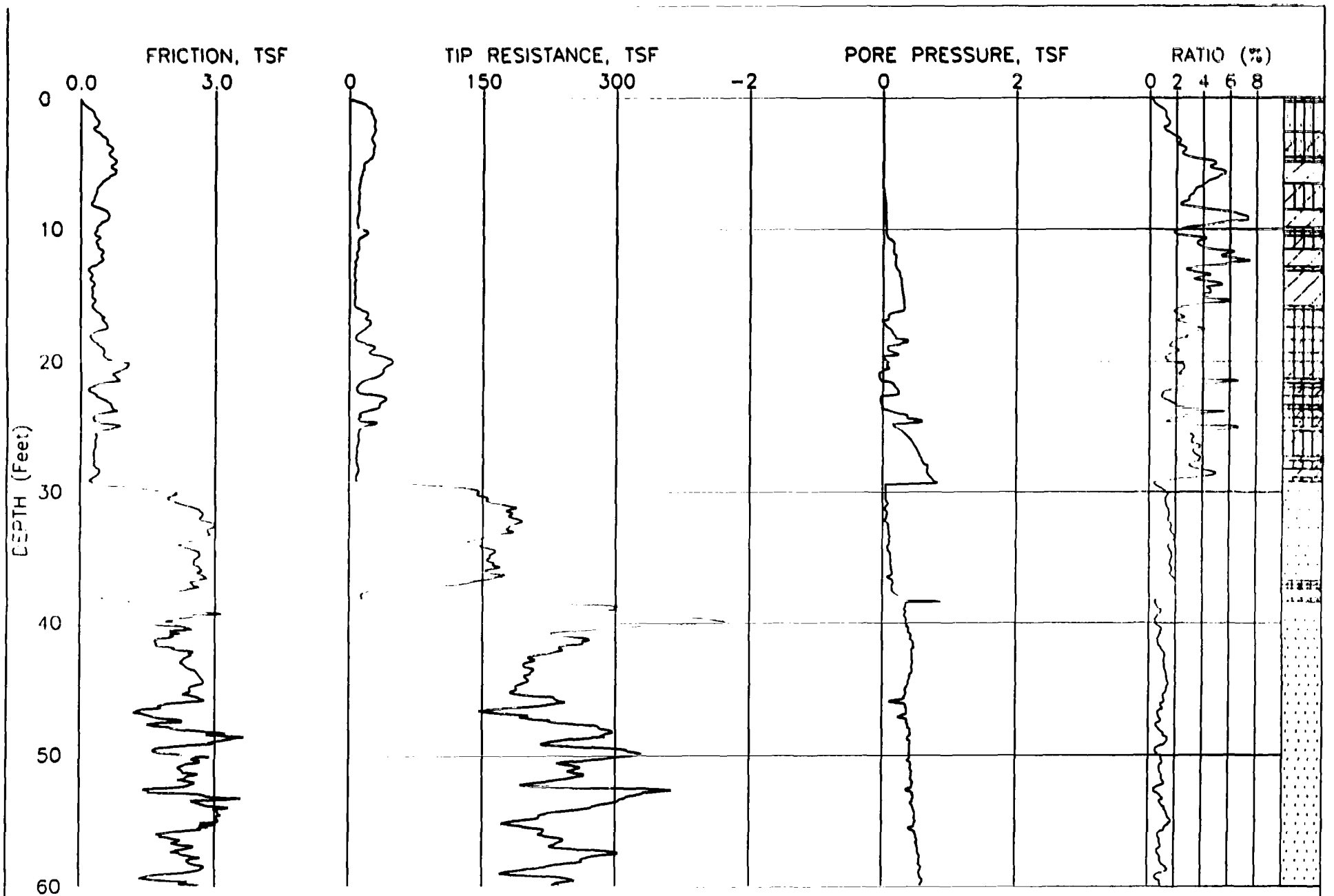
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-124
CONE NUMBER: F7.5CKEW1346

DATE: 06-27-2005

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



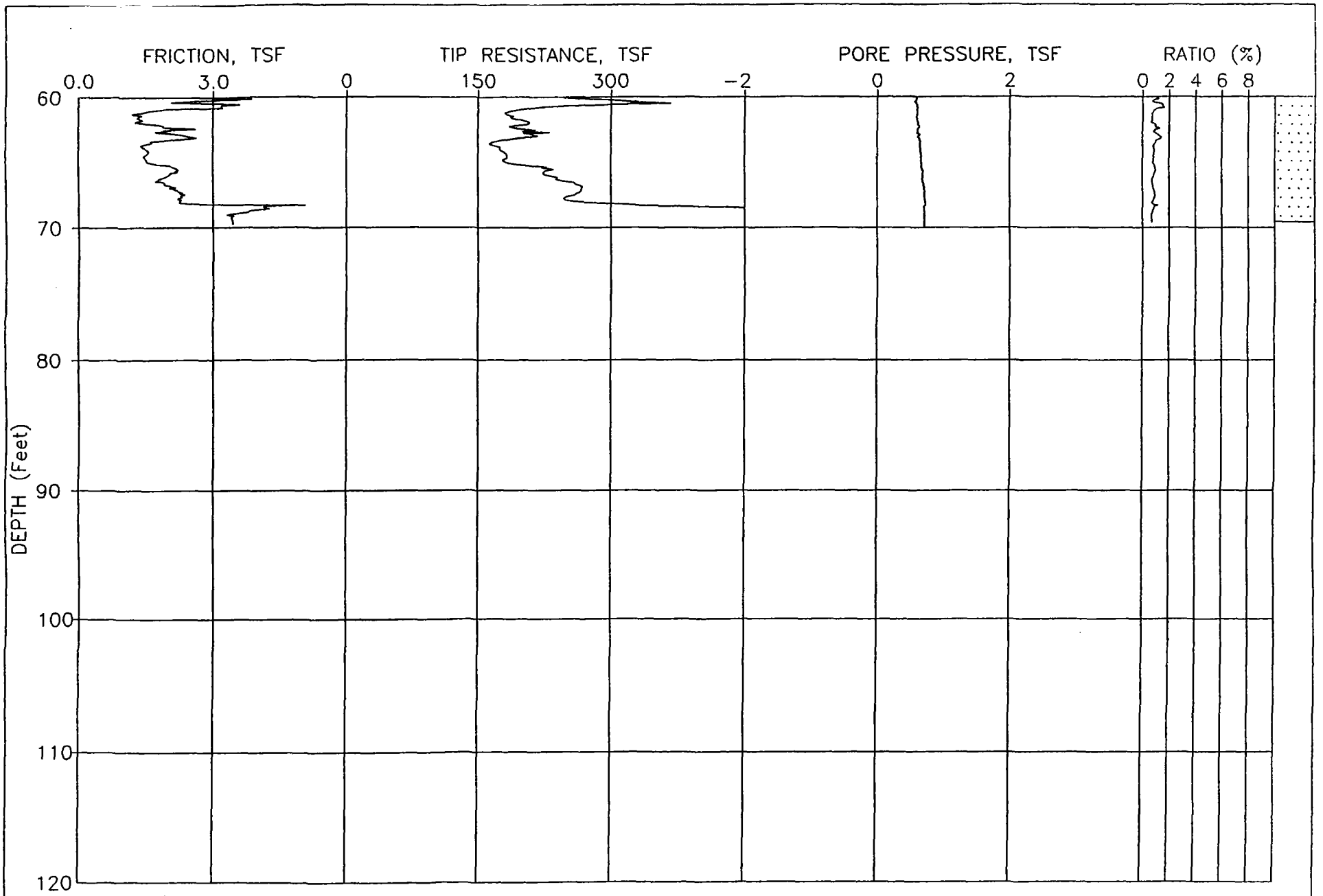
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-125
CONE NUMBER: F7.5CKEW1165

DATE: 09-16-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



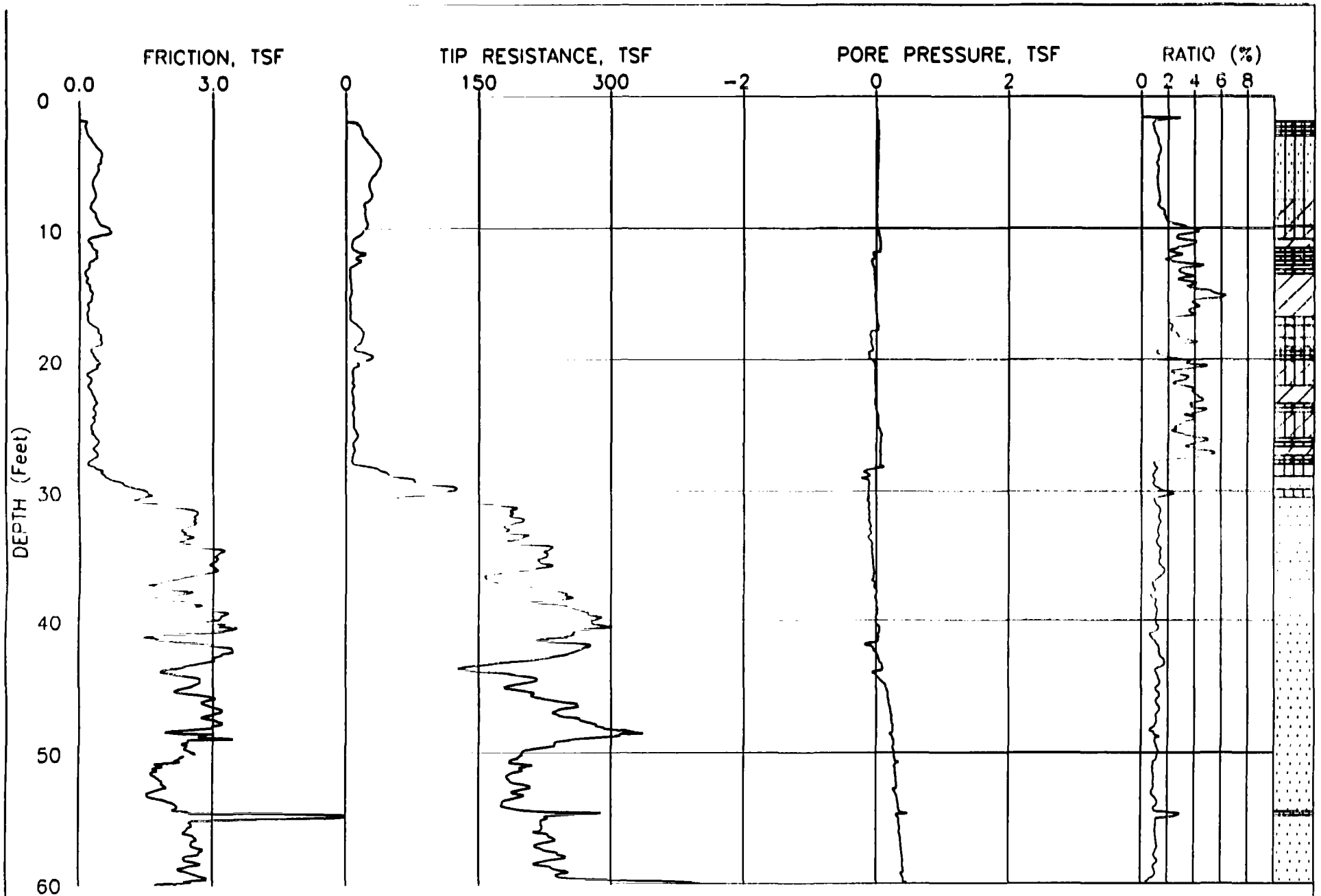
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-125
CONE NUMBER: F7.5CKEW1165

DATE: 09-16-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



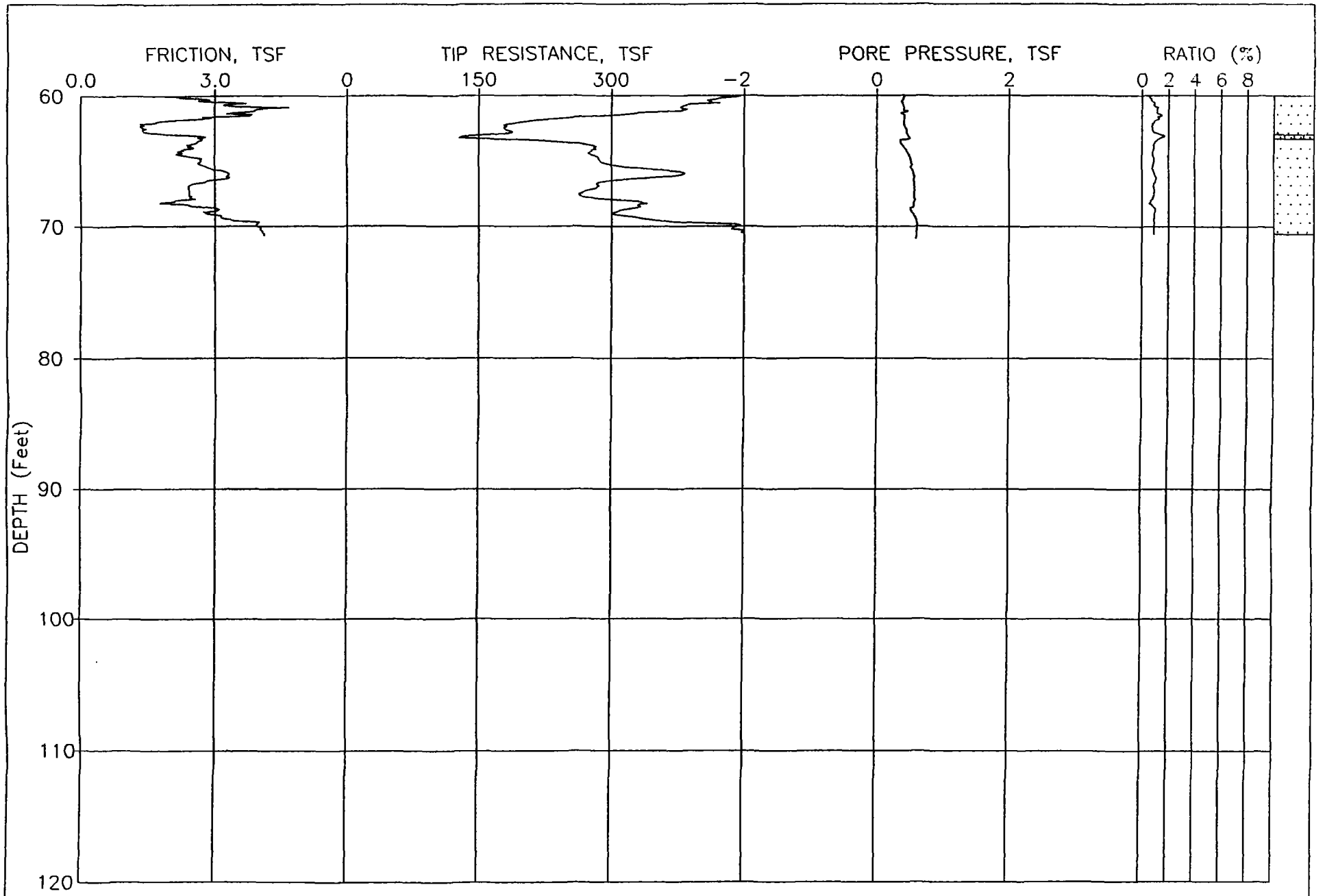
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-126
CONE NUMBER: F7.5CKEW1165

DATE: 08-29-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



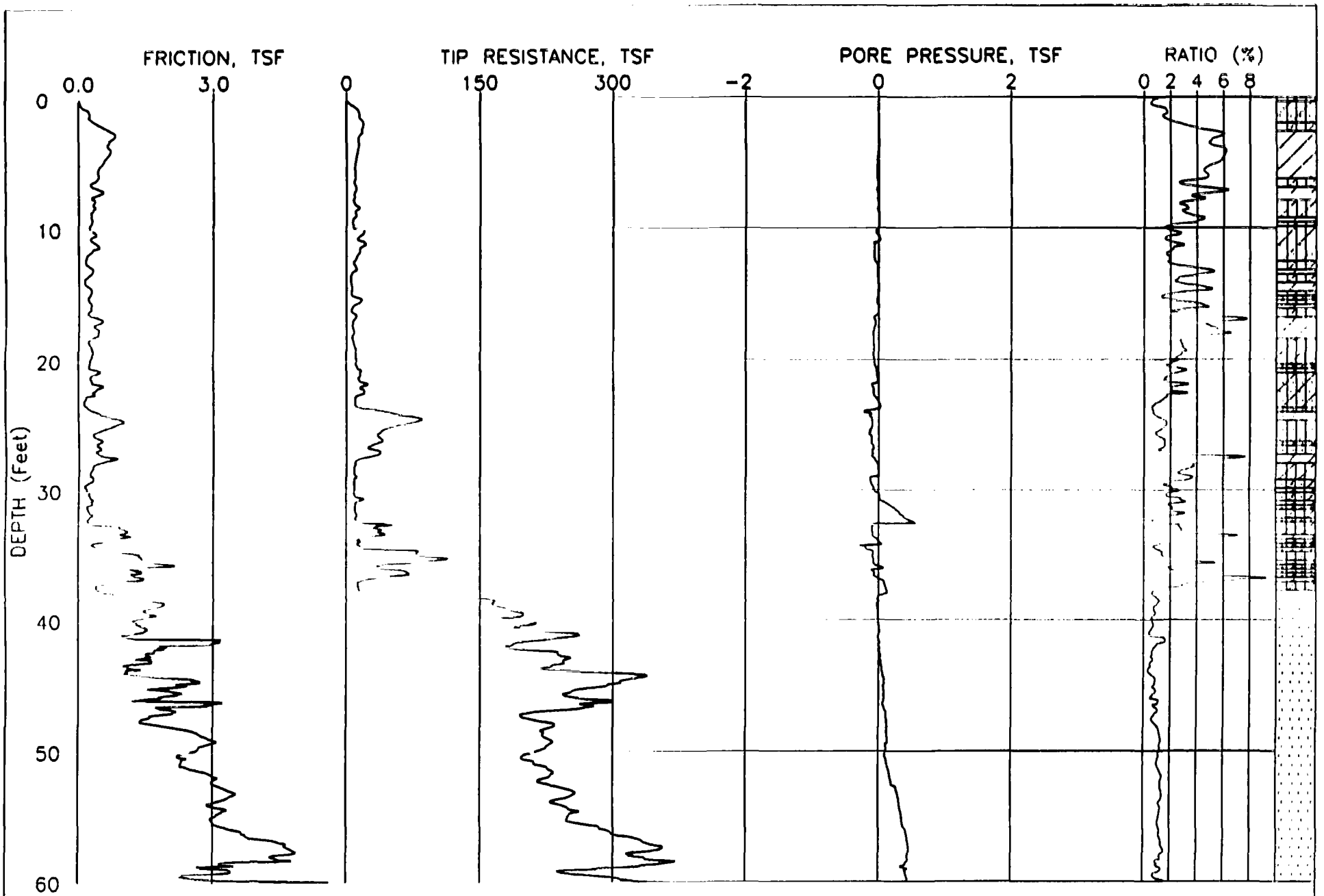
JOB NUMBER: 0305−1583
ELEVATION: 0.00

CPT NUMBER: HROST−126
CONE NUMBER: F7.5CKEW1165

DATE: 08−29−2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



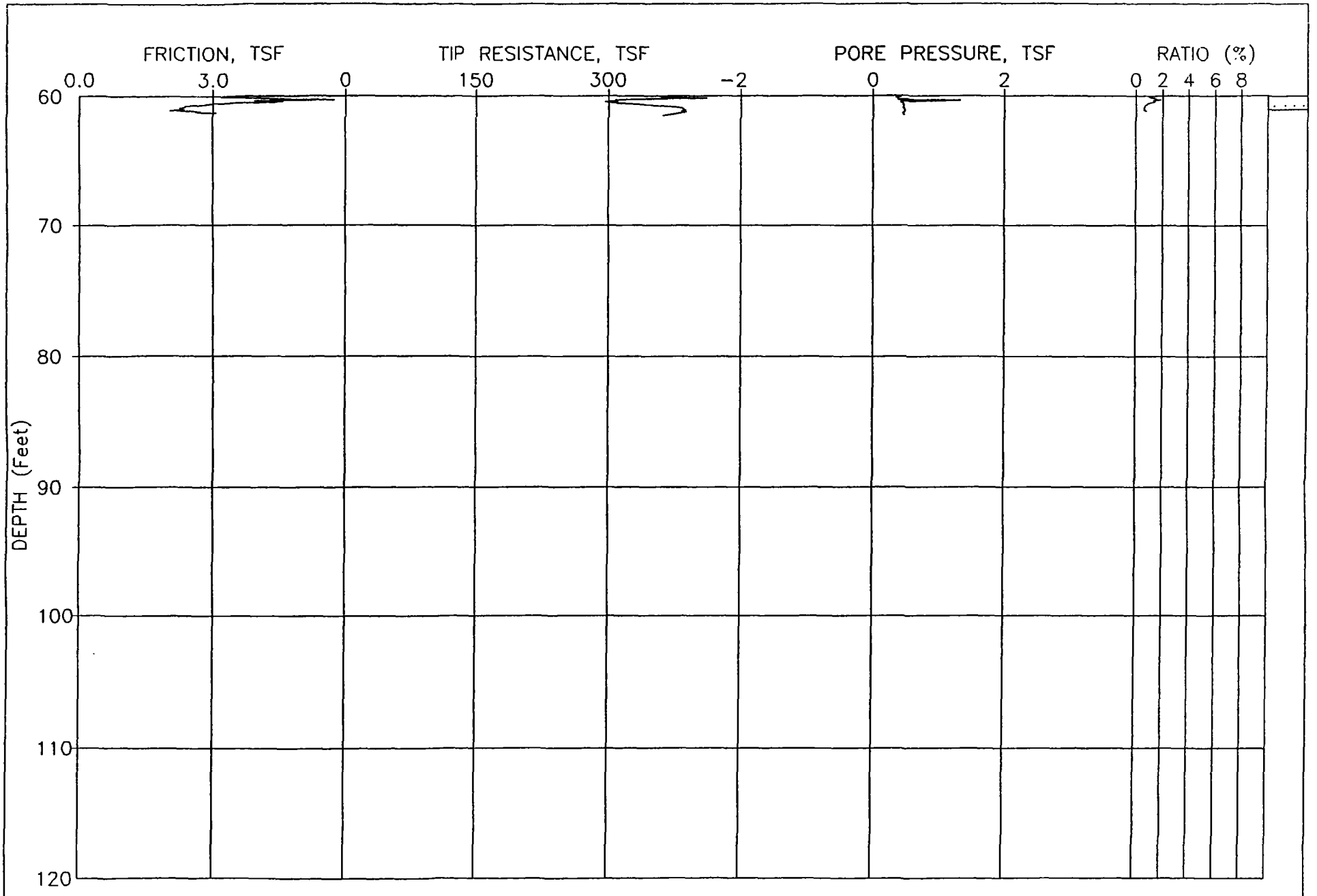
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-128
CONE NUMBER: F7.5CKEW1165

DATE: 08-29-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



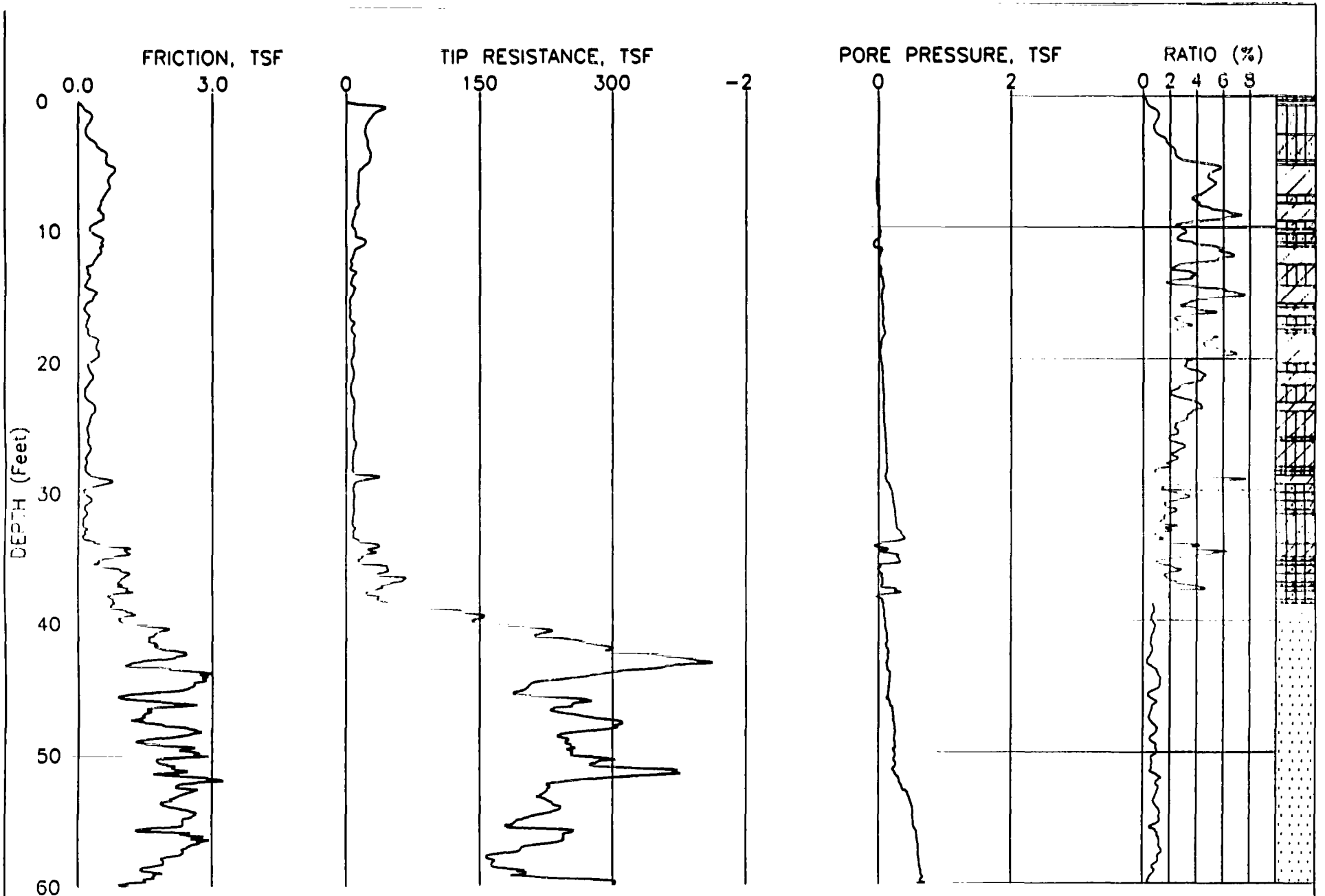
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-128
CONE NUMBER: F7.5CKEW1165

DATE: 08-29-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



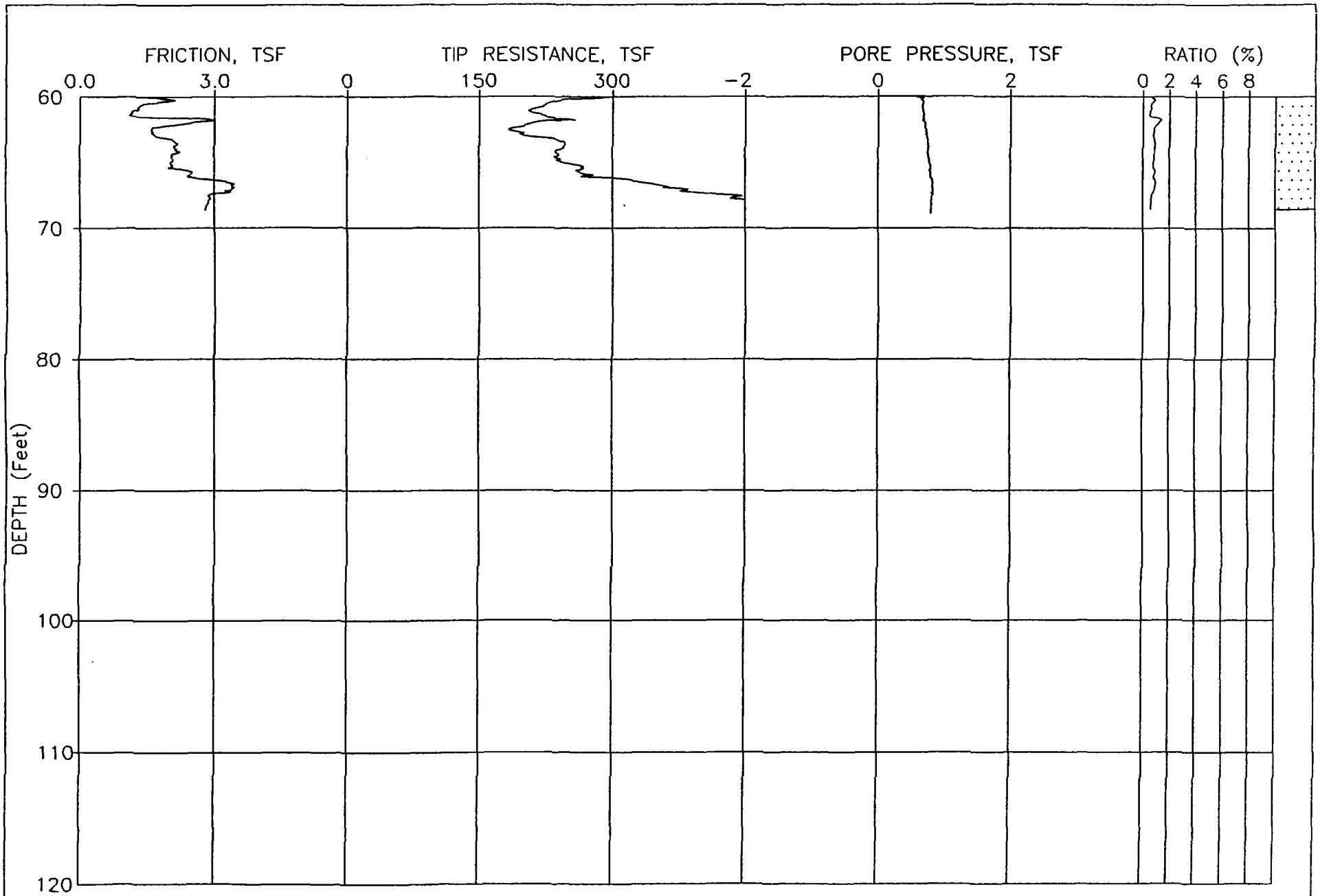
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-129
CONE NUMBER: F7.5CKEW1165

DATE: 08-30-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



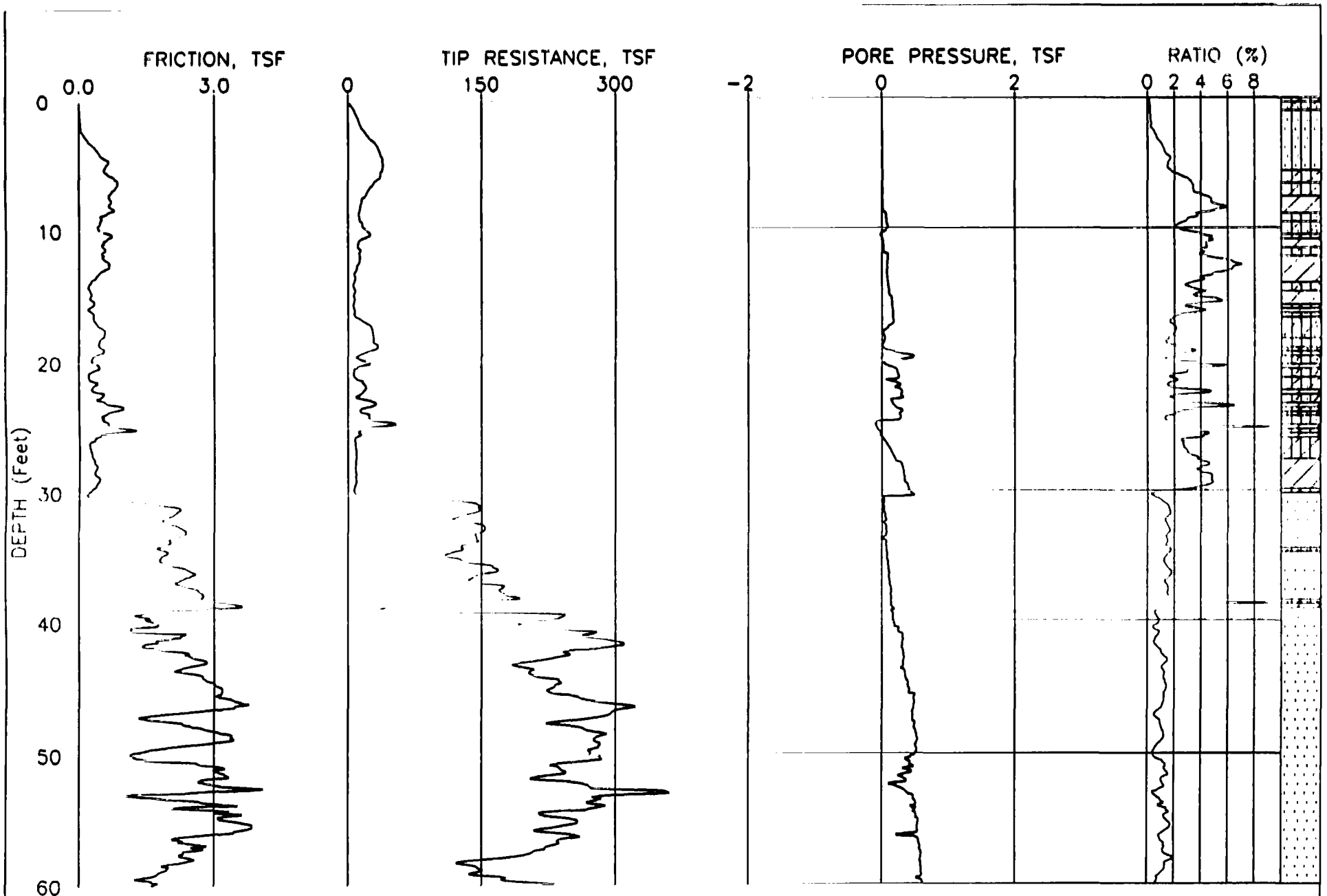
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-129
CONE NUMBER: F7.5CKEW1165

DATE: 08-30-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC



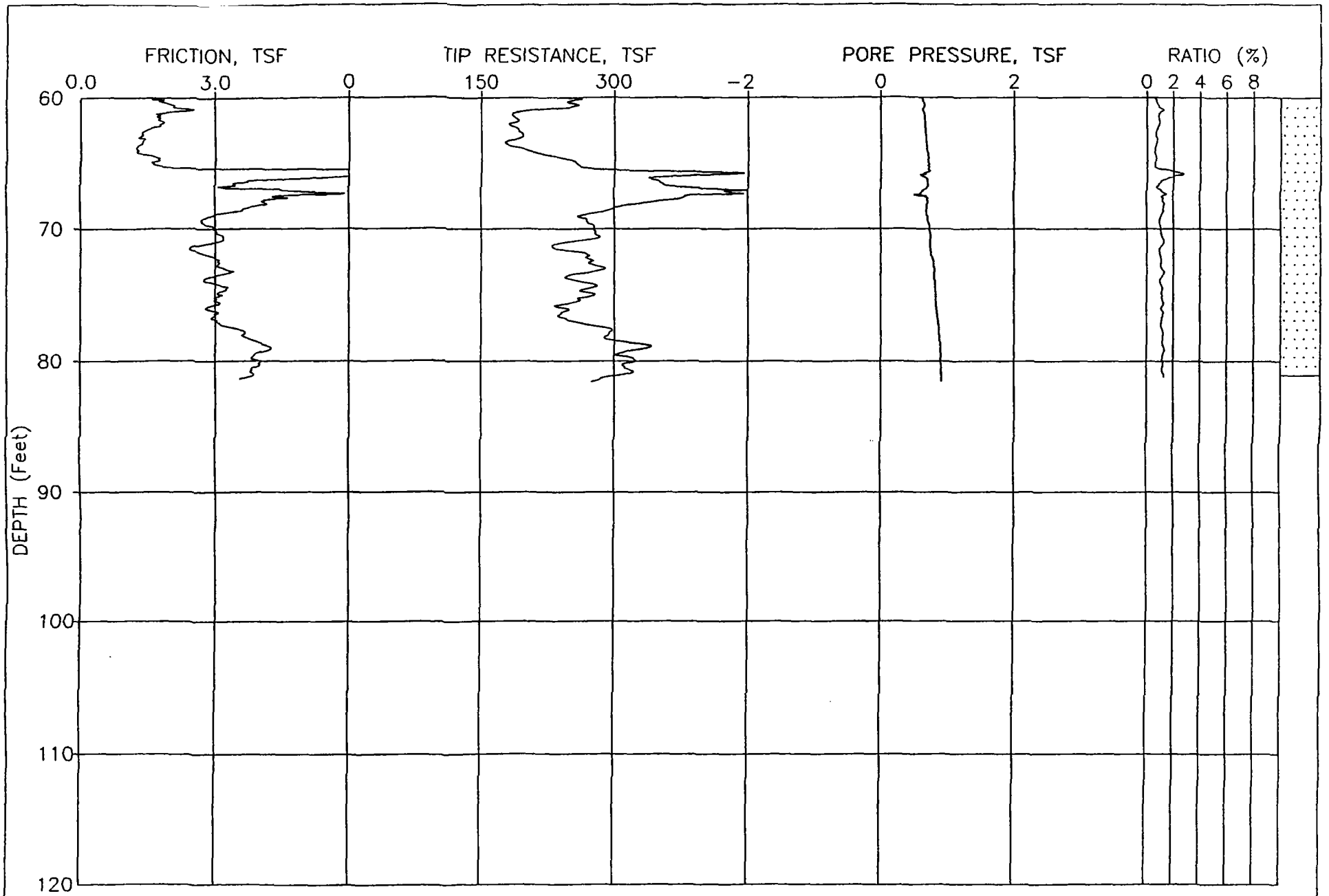
JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-130
CONE NUMBER: F7.5CKEW1165

DATE: 09-16-2005

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1583
ELEVATION: 0.00

CPT NUMBER: HROST-130
CONE NUMBER: F7.5CKEW1165

DATE: 09-16-2005

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC

APPENDIX C

ROST™ LOGS

Appendix C: ROST™ RESULTS

The ROST results indicate that there are four main hydrocarbon wavelengths (ROST Responses), which can be distinguished by color, present within Hartford. The orange/red ROST Response is generally representative of the presence of a heavier-range hydrocarbon. The green ROST Response is generally representative of a mid-range hydrocarbon, while the blue ROST Response is generally representative of a lighter-range hydrocarbon. The yellow ROST Response is generally representative of light to heavier range hydrocarbon mixtures. The majority of the LNAPL in the Main Sand beneath the Site has been identified as gasoline range organics (GROs) except in the northern and easternmost portions, which contain separate phase mixtures of primarily GROs with varying percentages of diesel range organics (DROs) (Clayton 2005d). The LNAPL in both the EPA and Rand Strata consists predominantly of DROs, though there are mixtures containing smaller amounts of GROs in the EPA Stratum. To place these ROST responses in context, the blue response is considered to be associated with GROs while the remaining ROST responses are interpreted to be associated with DROs and GRO/DRO mixtures.
The orange/red ROST Response is identified at one location, specifically, on North Olive Street between the intersections of East Elm Street and East Watkins Street. It is bounded to the west by the north/south alley that runs through the east side of Hartford. It is present in the North Olive Stratum, the Rand Stratum and the Main Sand (Figures 5-1 through 5-5). The orange/red ROST Response is identified as shallow as six feet bgs and as deep as 45 feet bgs.

The green ROST Response is mainly found in the northern portion of the investigation area. The area containing the green ROST response is generally bounded by Fred's Mobile Home Park (located immediately adjacent to and north of Rand Avenue) to the north, Birch Street to the south, Old St. Louis Road to the west, and North Olive Street/the northwest corner of the Shell Tannery property to the east. The green ROST response is also found in a few isolated areas on East Elm Street (Figures 5-1 through 5-5). It is present in the North Olive, Rand, EPA and Main Sand Strata, including the Main Sand below the D Clay Stratum. The green ROST response is present as shallow as one foot bgs, however the majority of it is present in the EPA Stratum and at the surface of the saturated zone in the Main Sand. The green ROST Response is found as deep as approximately 56 feet bgs.

The blue ROST Response is present throughout the central and southern portion of the investigation area and makes up the majority of the identified LNAPL in Hartford. The blue ROST Response is

approximately bounded to the north by West Arbor Street and East Birch Street. The southern extent is approximately bounded by East Maple Street and West Watkins Street. North of Date Street, the blue ROST Response is generally present from Old St. Louis Road to the west and extends to North Olive Street to the east. South of West Date Street, the blue ROST Response is generally bounded by an arc starting near the intersection of Old St. Louis Road and West Date Street, and trending southeasterly to the intersection of West Watkins Street and North Delmar Avenue. It then extends easterly to approximately North Olive Street. The blue ROST Response is also present in localized areas north of Rand Avenue (Figures 5-1 through 5-5). The majority of the blue ROST Response is found at the surface of the saturated zone in the Main Sand; however, it is also present in the North Olive, Rand and EPA Strata along with the Main Silt and the Main Sand below the D Clay Stratum. The blue ROST Response is present as shallow as seven feet bgs and as deep as approximately 67 feet bgs.

The yellow ROST Response is identified mainly in two areas. One area is on North Olive Street between the intersections of East Date Street and East Watkins Street. It is bounded to the west by the north/south alley that runs through the east side of Hartford. The second area of yellow ROST Response is present north of Rand Avenue, approximately bounded by Illinois State Route 3 to the west and North Delmar Avenue to the east. The yellow ROST Response is also present in other localized areas throughout the investigation area though it is commingled with other ROST Responses. It is present in the North Olive, the Rand, the EPA and the Main Sand Strata, and it is also present in the Main Sand below the D Clay Stratum. The yellow ROST Response is present as shallow as five feet bgs and as deep as approximately 56 feet bgs.

The ROST identifies LNAPL, which may or may not be of sufficient saturation and volume to flow into a well. ROST- identified LNAPL which is not of sufficient saturation and volume to flow into a well is termed residual LNAPL in this report. In 46 of the ROST borings, no indications of LNAPL were interpreted to be present (Figures 5-1 through 5-5). This was evaluated by the percentage of fluorescence (% RE) intensity interpreted to be below background levels (approximately 1-3% RE). The presence of LNAPL has generally not been identified west of Illinois State Route 3. It has also not been identified south of an area generally bounded by an arc starting near the intersection of Old St. Louis Road and West Date Street, and trending southeasterly to the intersection of West Watkins Street and North Delmar Avenue. The arc then extends easterly to approximately North Olive Street.

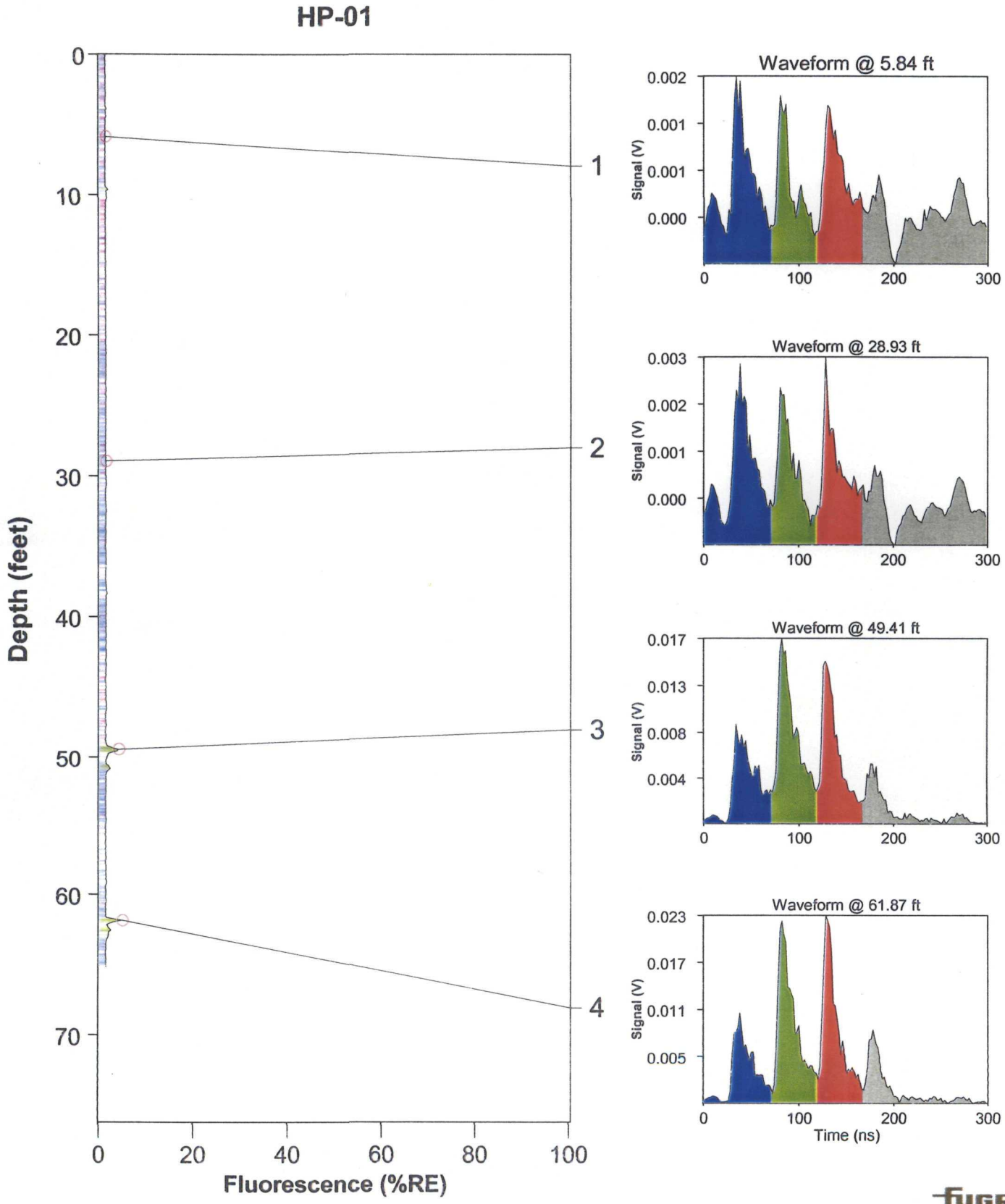
Occasional "peaks" on the ROST logs, such as at a depth of approximately 62 feet bgs at HP-06, are considered spectral interference, likely from naturally occurring fluorescent minerals such as calcite, a common mineral in the area. The ROST responses resulting from spectral interferences generally occur in spans of less than 1.5 feet and display a fluorescent response of less than 5% RE). In contrast, the ROST responses in the LNAPL-impacted areas in northern Hartford generally extend over 4 to 15 feet and, more importantly, have fluorescent responses ranging from 25 to >250 %RE. Spectral interference was identified at the following locations:

Boring Location	Depth(s) of Spectral Interference (ft bgs)
HROST-93	62
HROST-94	42, 62
HROST-96	60
HROST-97	60
HROST-101	61
HROST-104	63, 67
HROST-106	65
HROST-107	36
HROST-111	67 to 68
HROST-112	60 to 61.5, 63 to 65
HROST-120	56.5 to 58
HROST-121	63, 68
HP-01	49, 51, 62, and 63
HP-05	55
HP-06	47, 59, and 62

Groundwater samples collected from the locations of some of these "peaks" have not shown the presence of petroleum-related constituents in the groundwater.

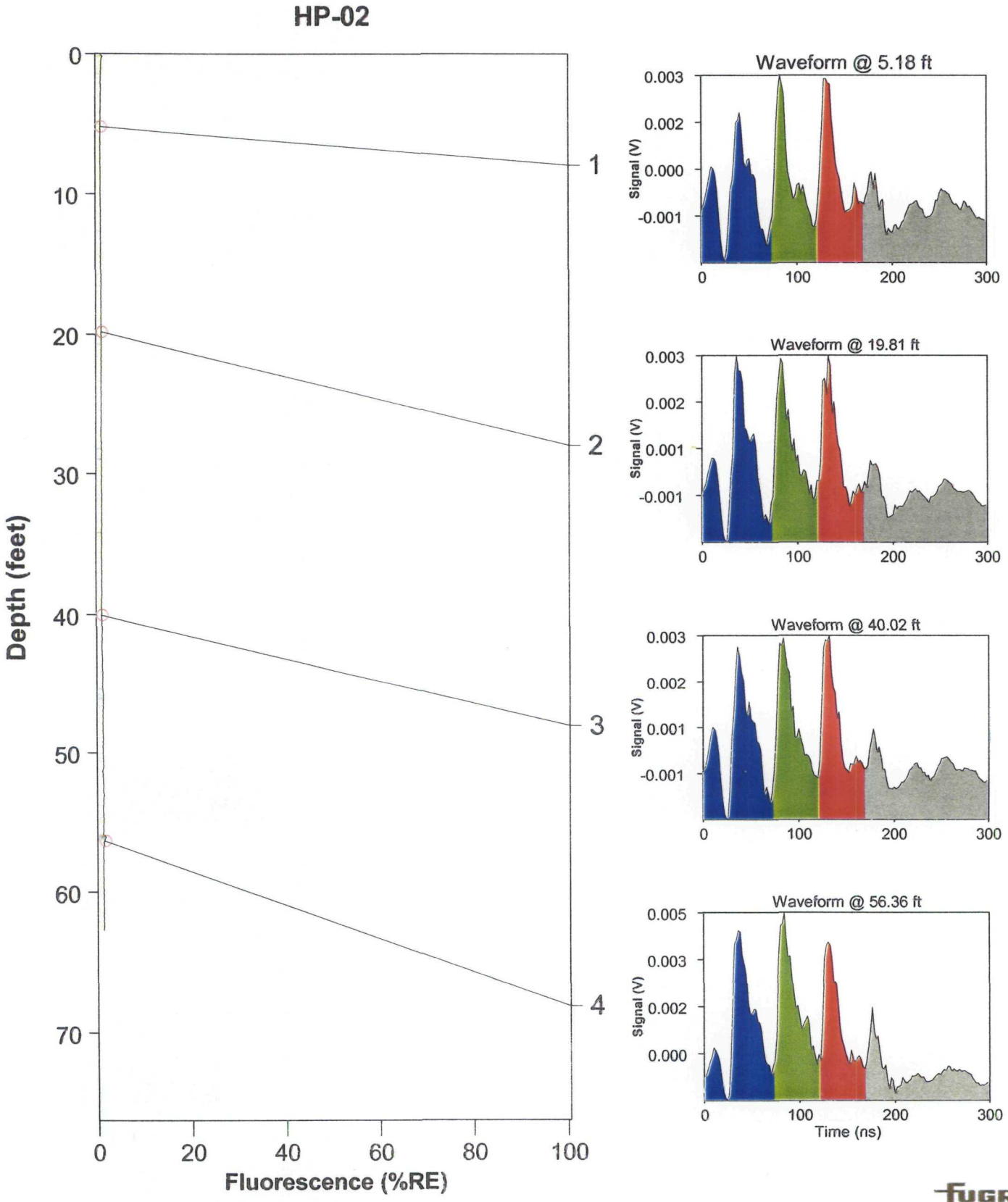
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/23/2005 @ 1:18:50 PM	Max fluorescence: 4.56% @ 61.87 ft
ROST Unit: III	Final depth BGS: 65.22 ft



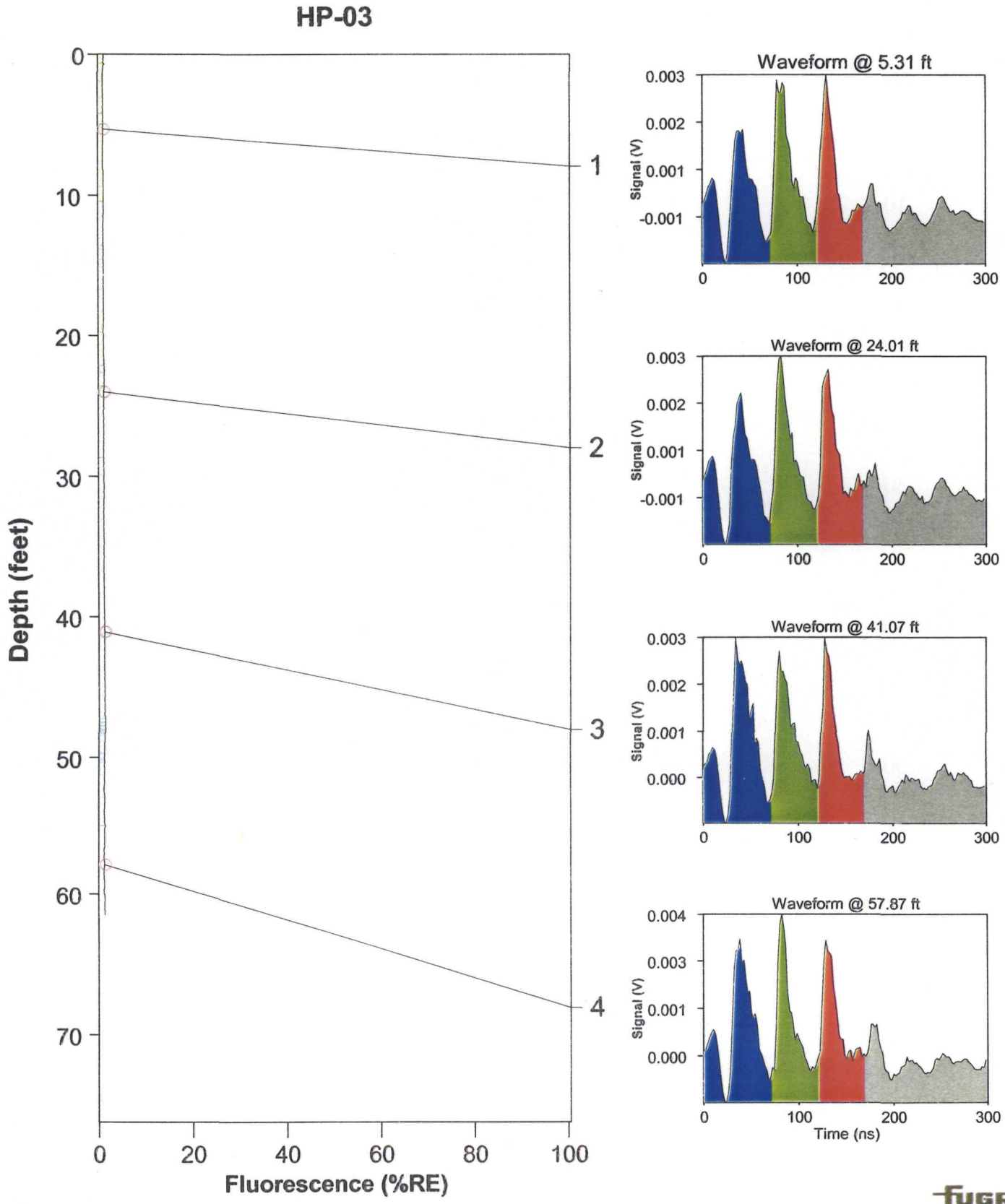
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/24/2005 @ 12:09:51 PM	Max fluorescence: 1.30% @ 56.10 ft
ROST Unit: III	Final depth BGS: 62.73 ft



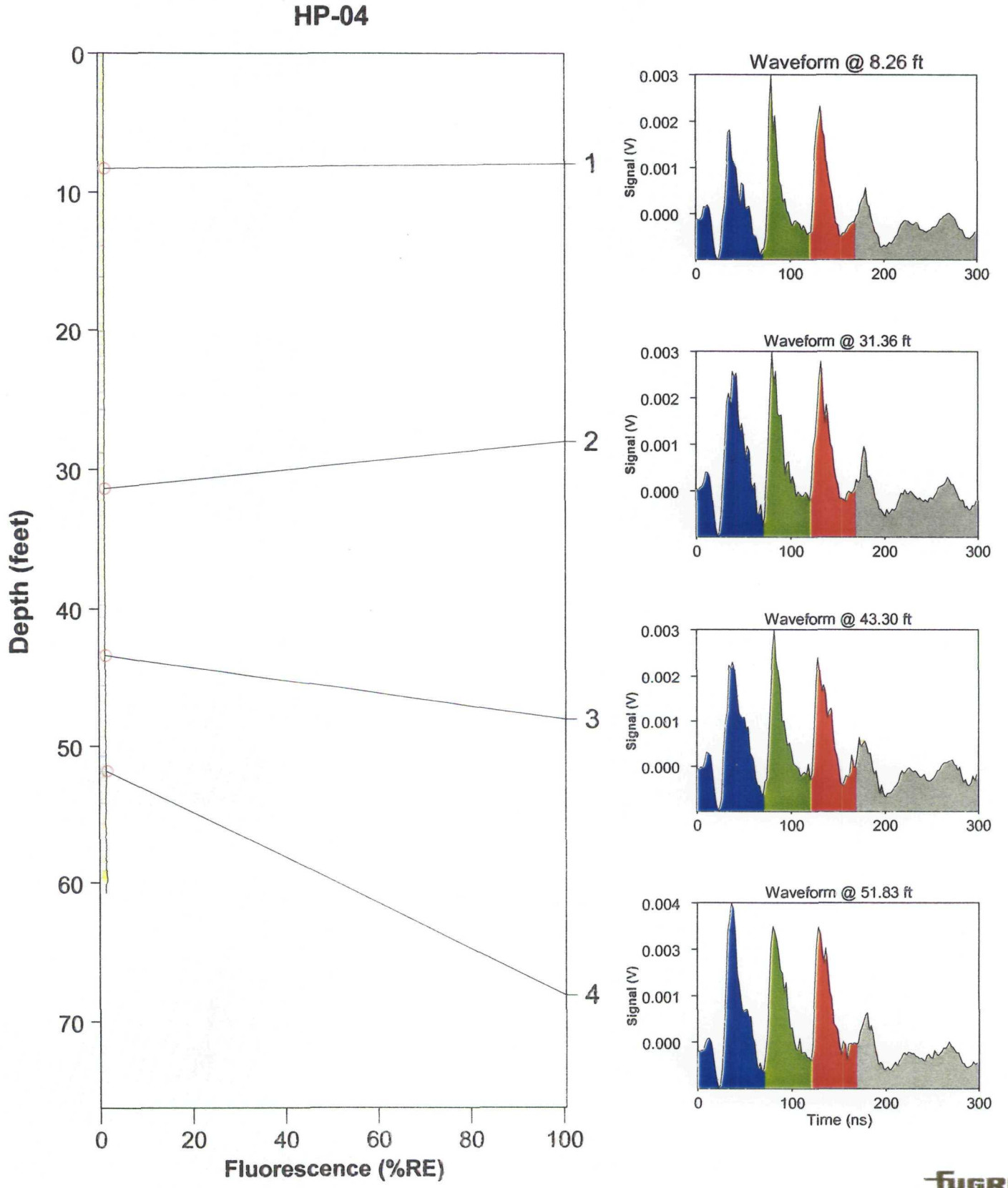
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/24/2005 @ 2:35:26 PM	Max fluorescence: 0.94% @ 0.72 ft
ROST Unit: III	Final depth BGS: 61.55 ft



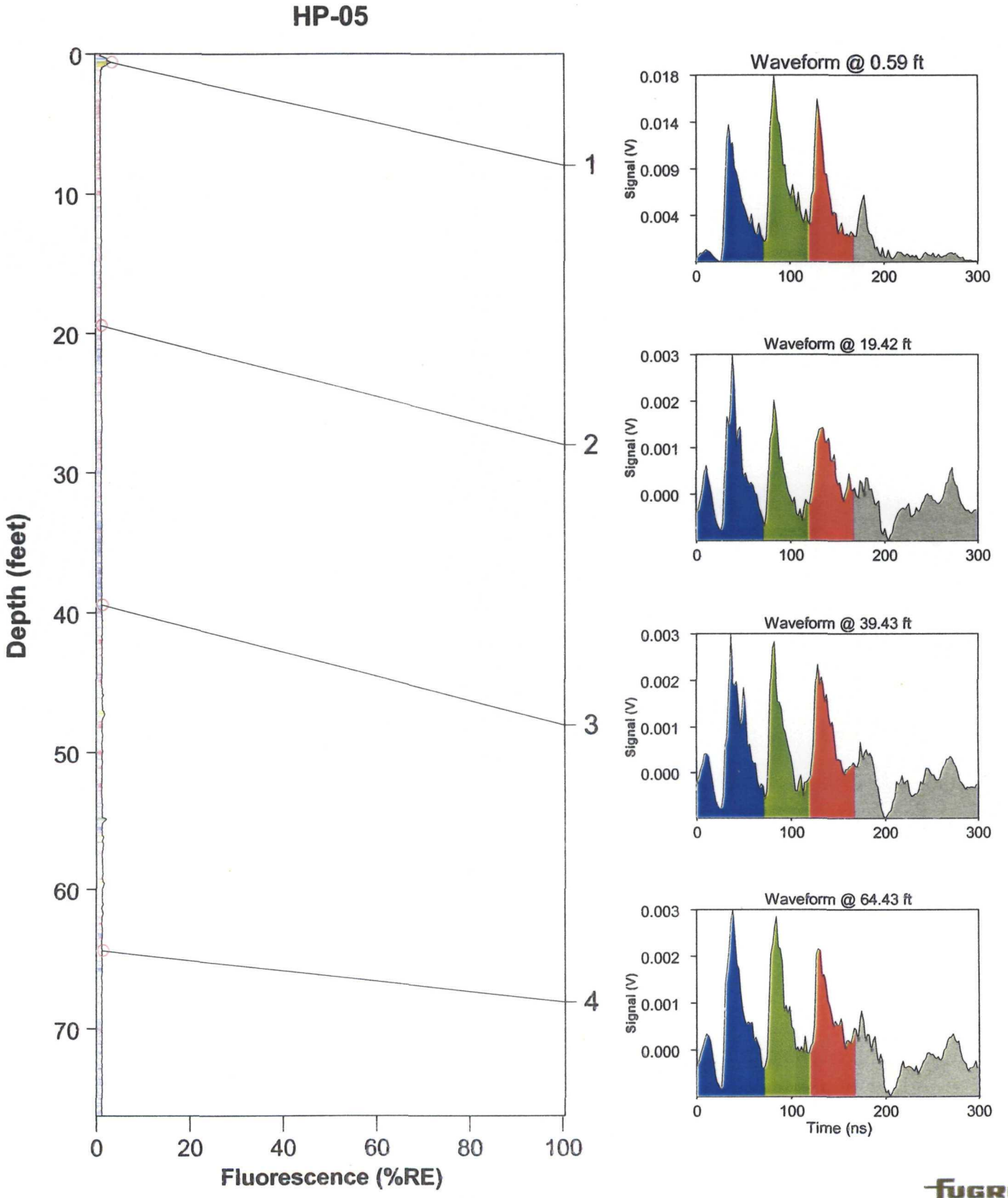
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/24/2005 @ 3:56:06 PM	Max fluorescence: 1.16% @ 59.77 ft
ROST Unit: III	Final depth BGS: 60.76 ft



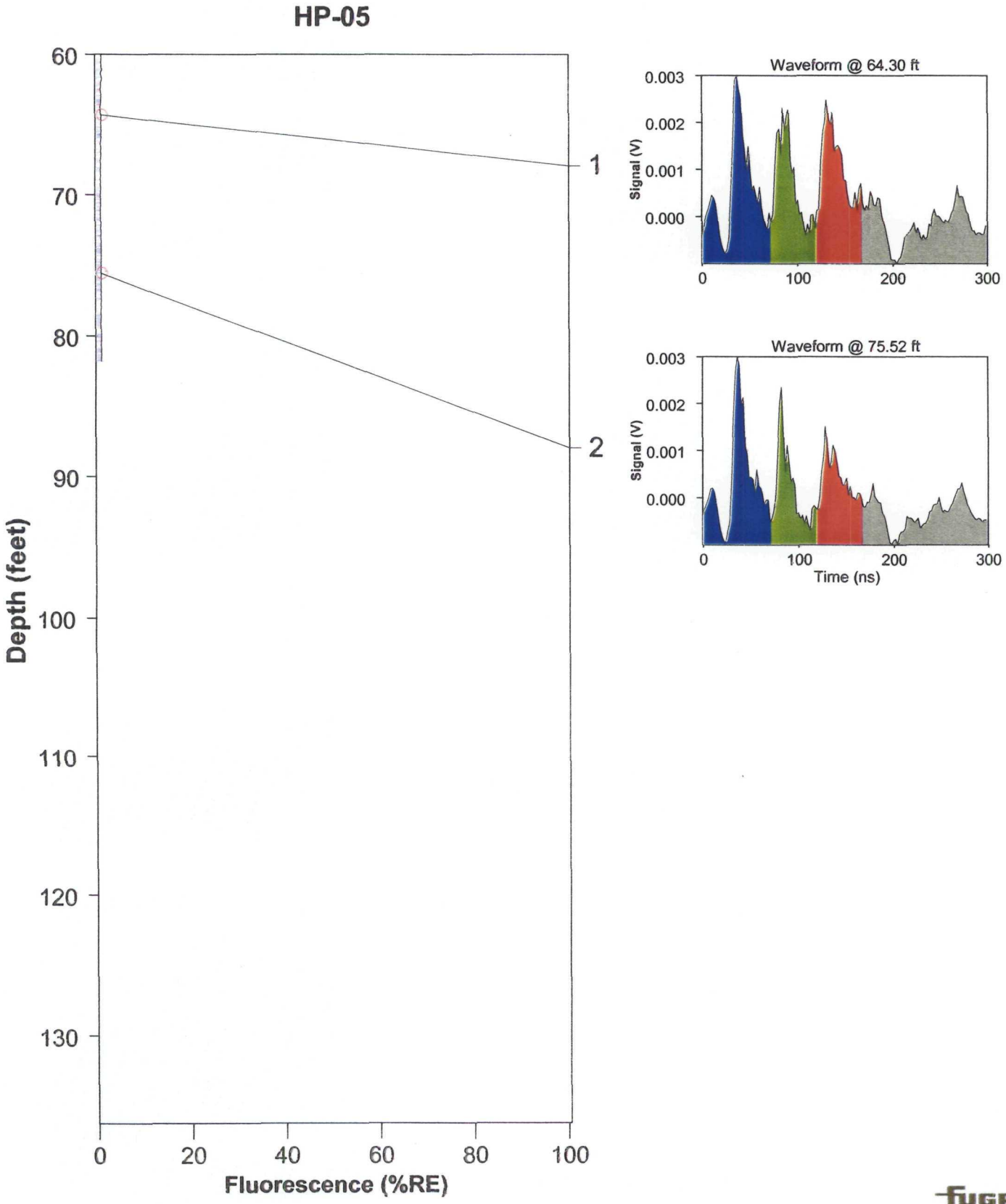
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/23/2005 @ 2:34:40 PM	Max fluorescence: 2.95% @ 0.59 ft
ROST Unit: III	Final depth BGS: 81.82 ft



ROST Fluorescence Response Data

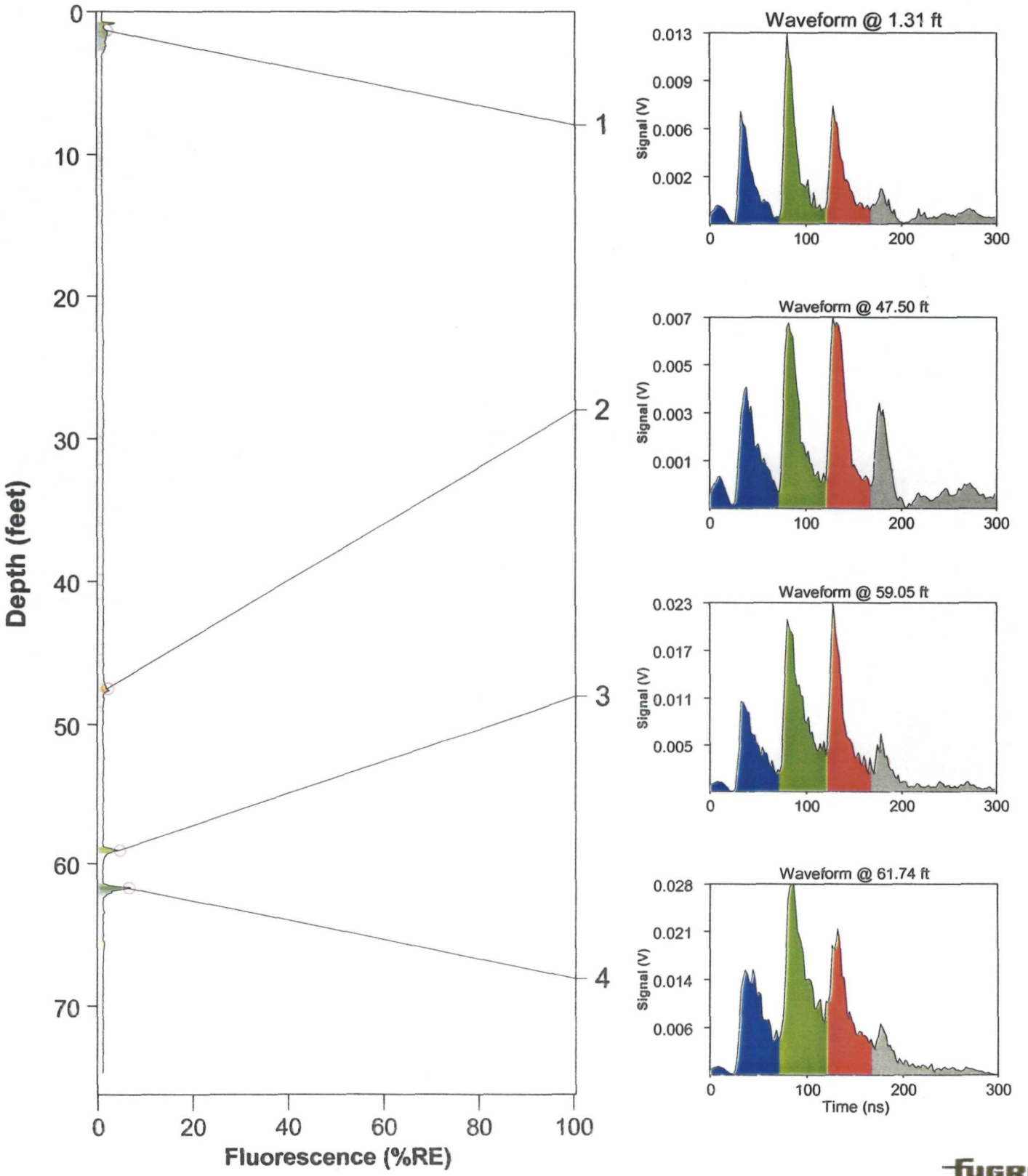
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/23/2005 @ 2:34:40 PM	Max fluorescence: 2.95% @ 0.59 ft
ROST Unit: III	Final depth BGS: 81.82 ft



ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/23/2005 @ 4:48:35 PM	Max fluorescence: 6.46% @ 61.68 ft
ROST Unit: III	Final depth BGS: 74.73 ft

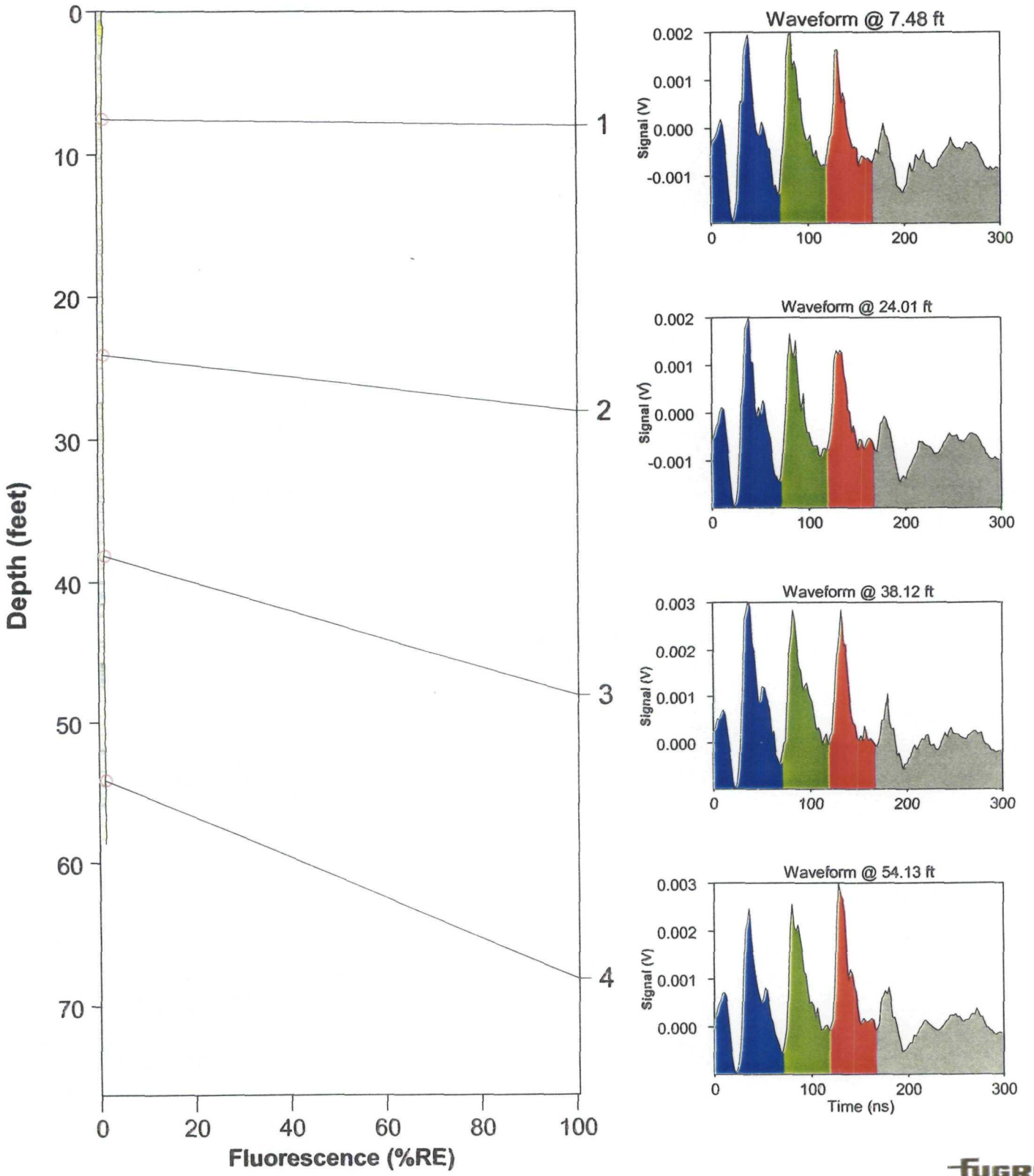
HP-06



ROST Fluorescence Response Data

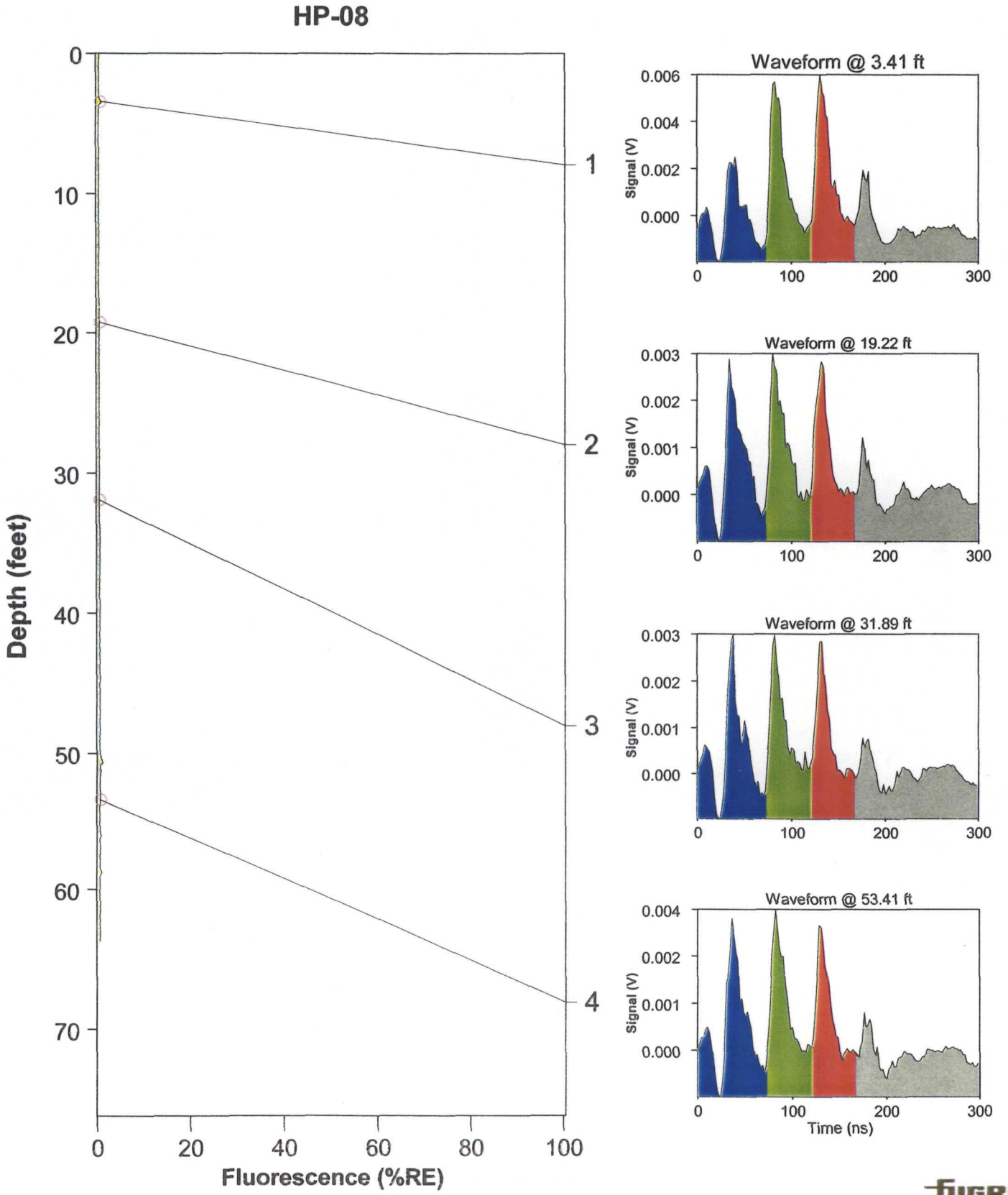
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/24/2005 @ 9:08:20 AM	Max fluorescence: 1.15% @ 0.00 ft
ROST Unit: III	Final depth BGS: 58.66 ft

HP-07



ROST Fluorescence Response Data

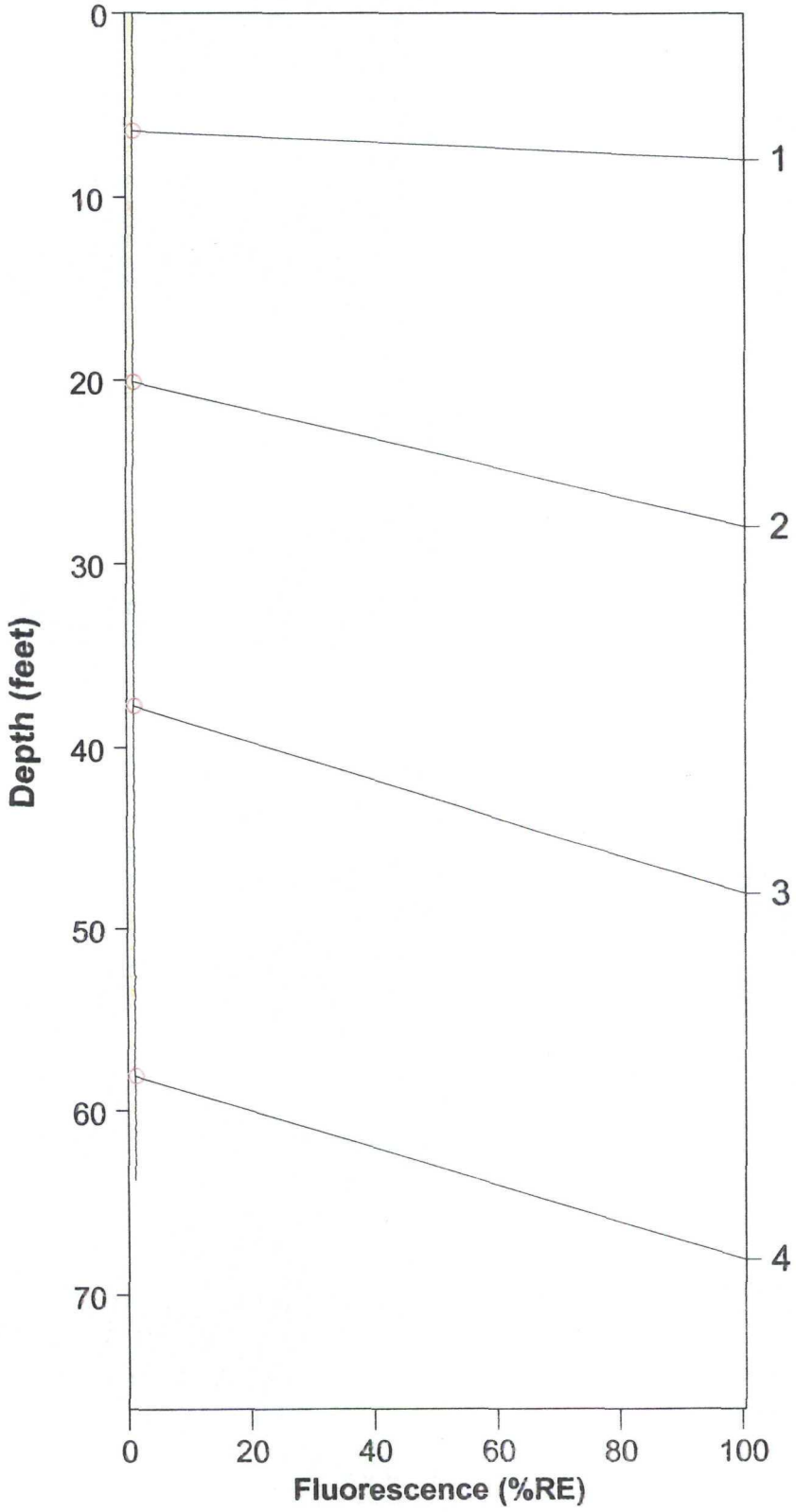
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/24/2005 @ 10:04:16 AM	Max fluorescence: 0.69% @ 50.72 ft
ROST Unit: III	Final depth BGS: 63.78 ft

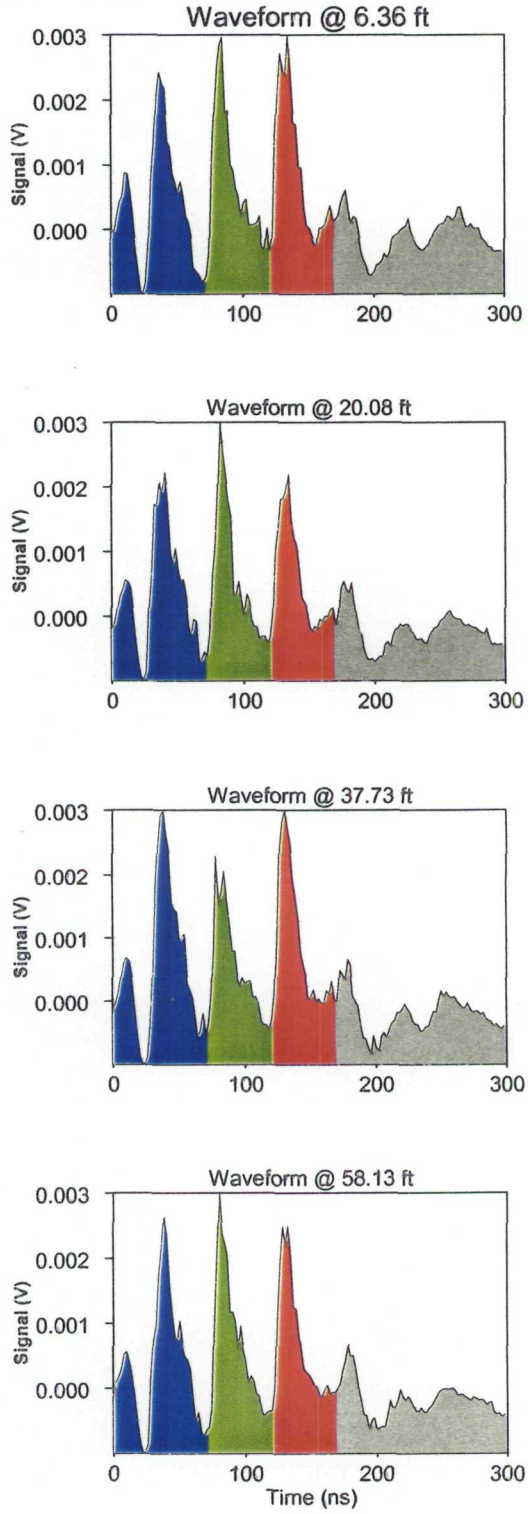


ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/24/2005 @ 11:02:21 AM	Max fluorescence: 0.90% @ 52.69 ft
ROST Unit: III	Final depth BGS: 63.78 ft

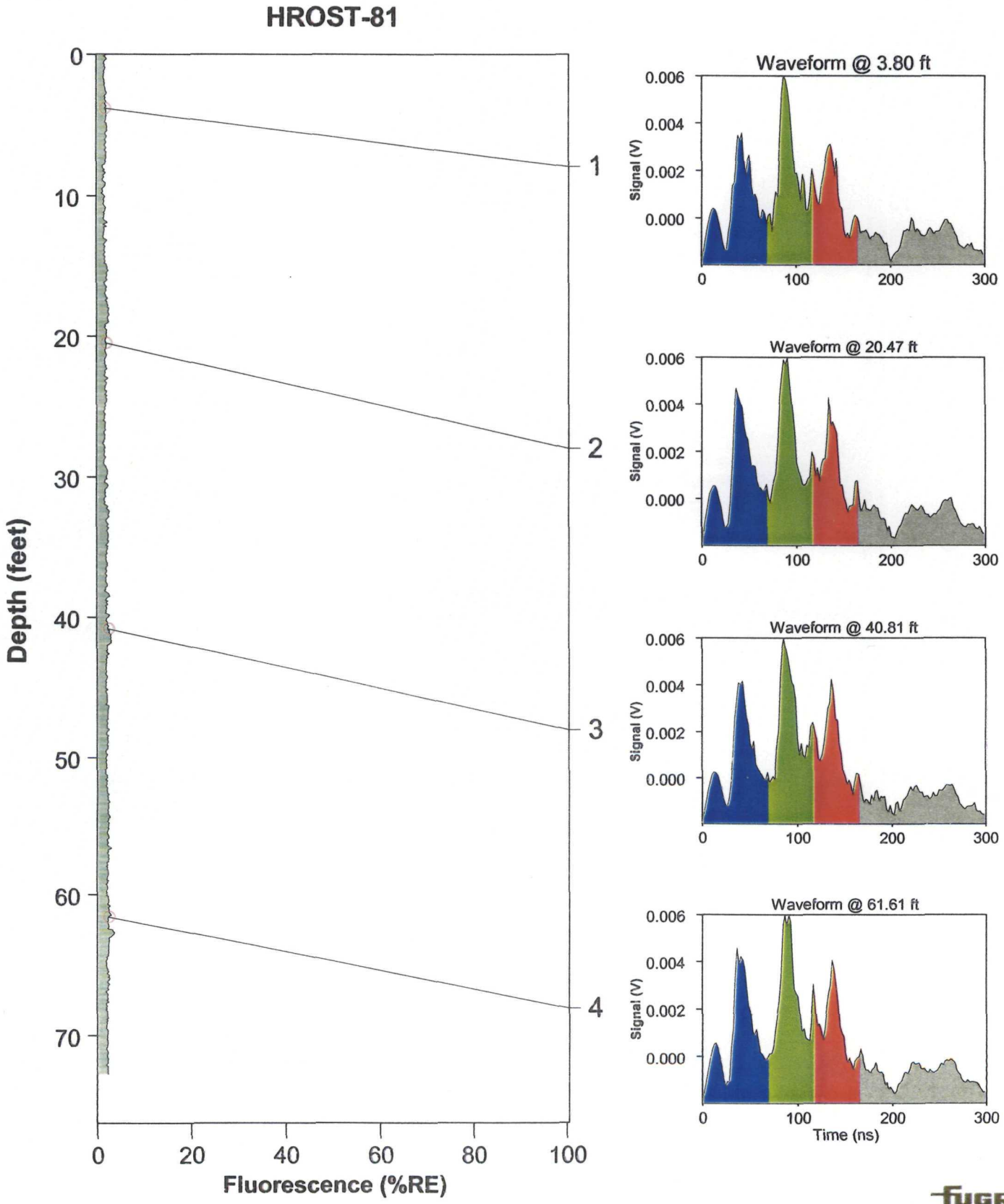
HP-09





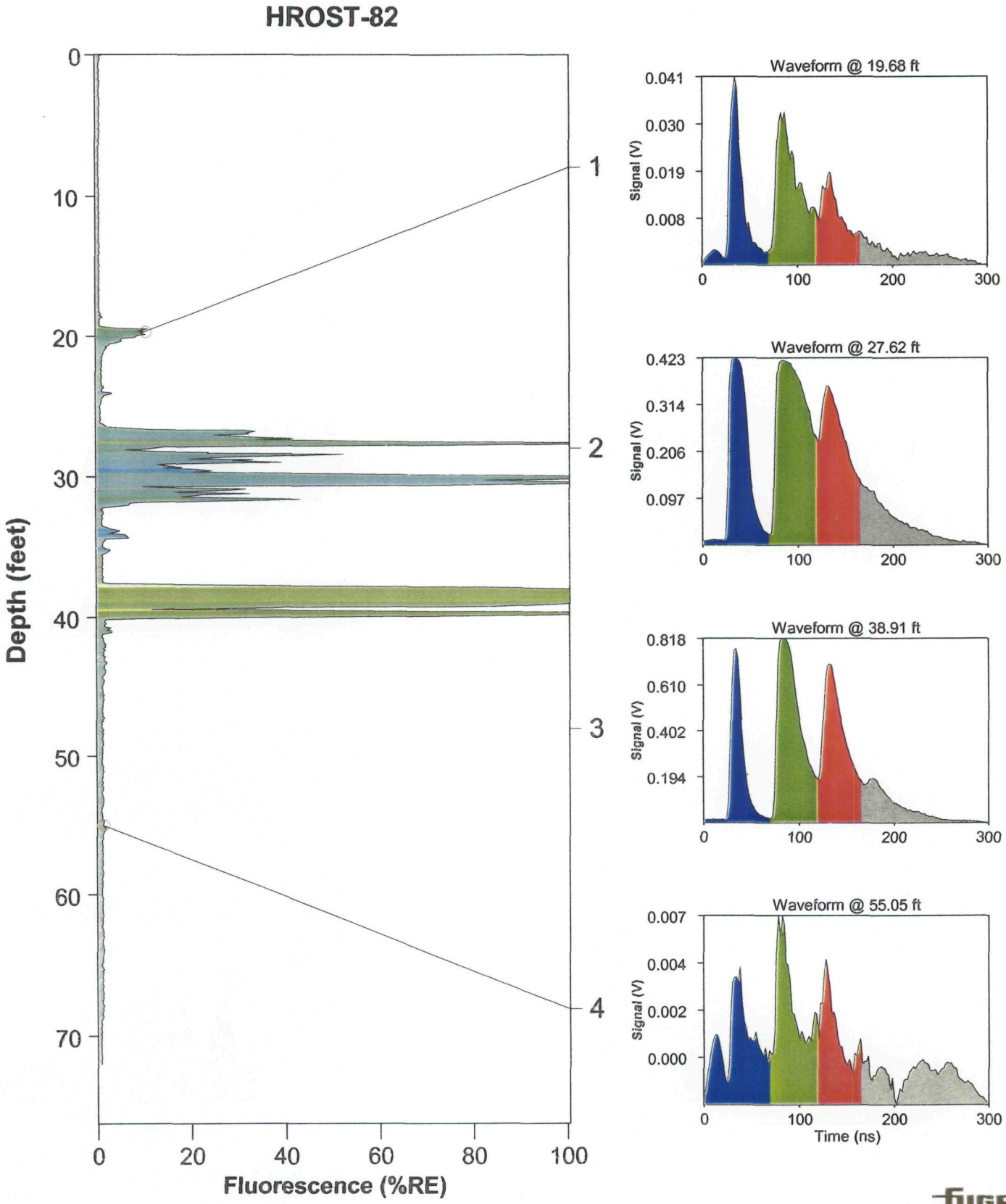
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/22/2005 @ 1:06:15 PM	Max fluorescence: 3.23% @ 62.73 ft
ROST Unit: III	Final depth BGS: 72.77 ft



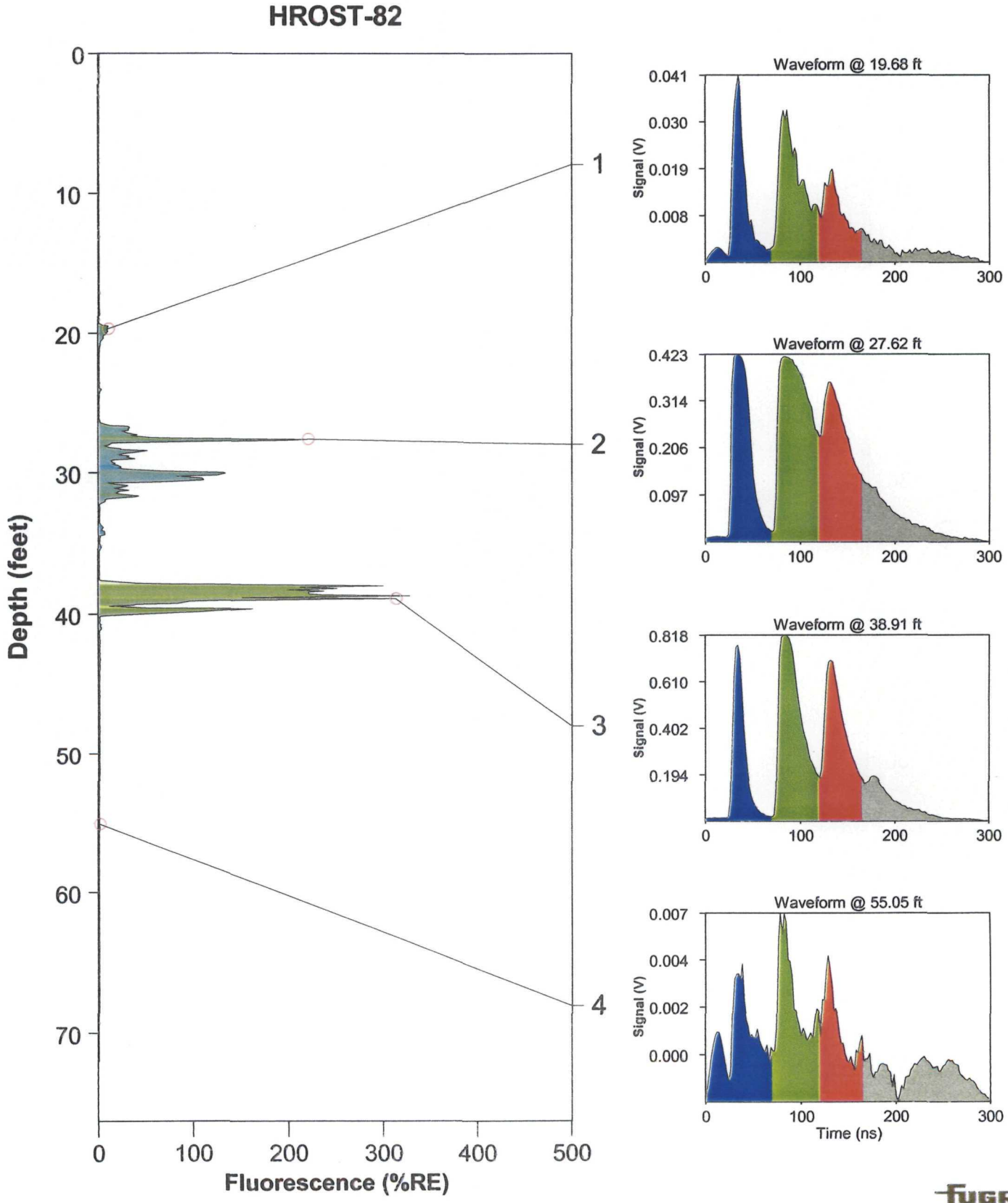
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 11:41:20 AM	Max fluorescence: 328.27% @ 38.71 ft
ROST Unit: III	Final depth BGS: 72.04 ft



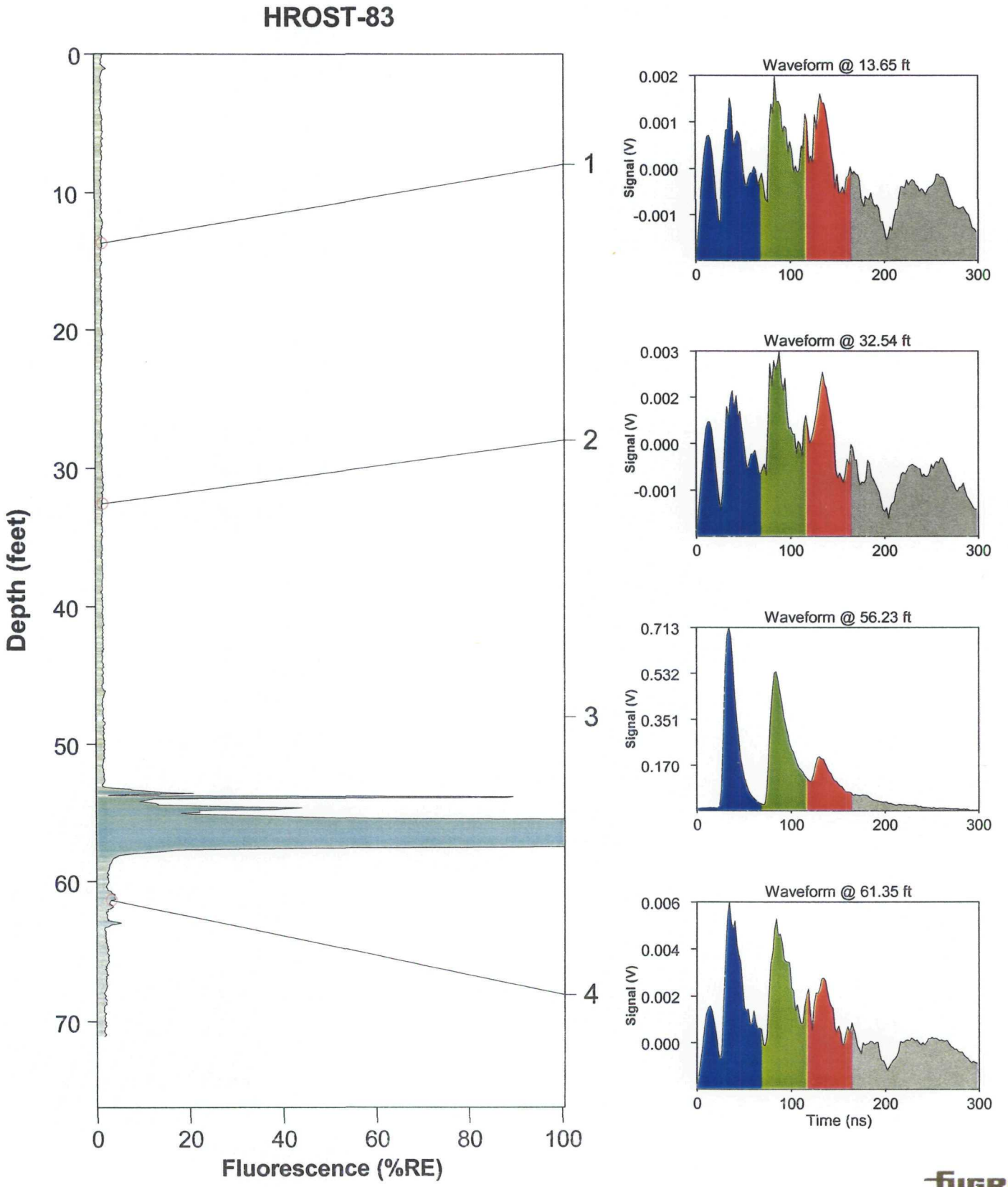
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 11:41:20 AM	Max fluorescence: 328.27% @ 38.71 ft
ROST Unit: III	Final depth BGS: 72.04 ft



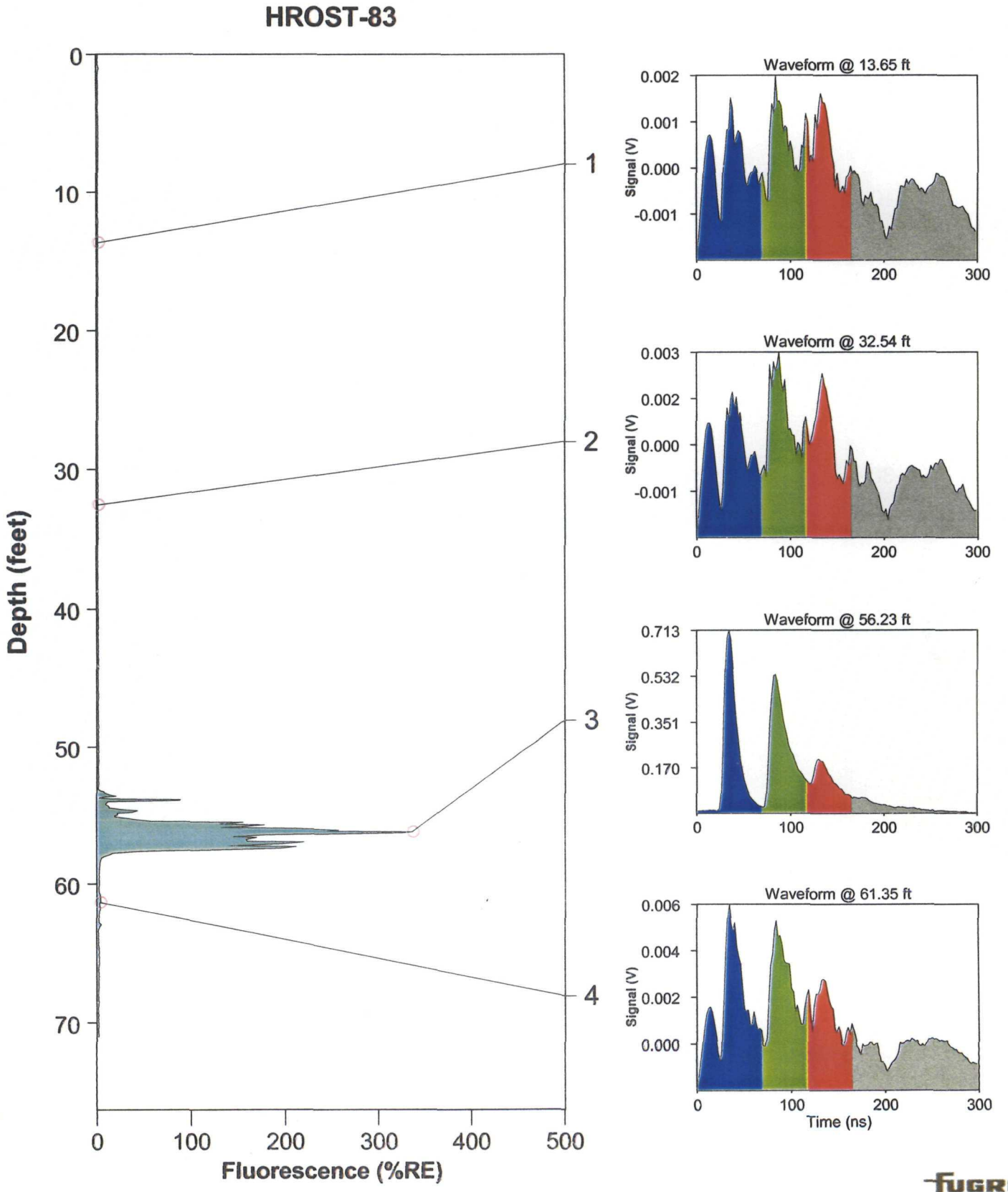
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/22/2005 @ 11:40:15 AM	Max fluorescence: 336.24% @ 56.23 ft
ROST Unit: III	Final depth BGS: 71.06 ft



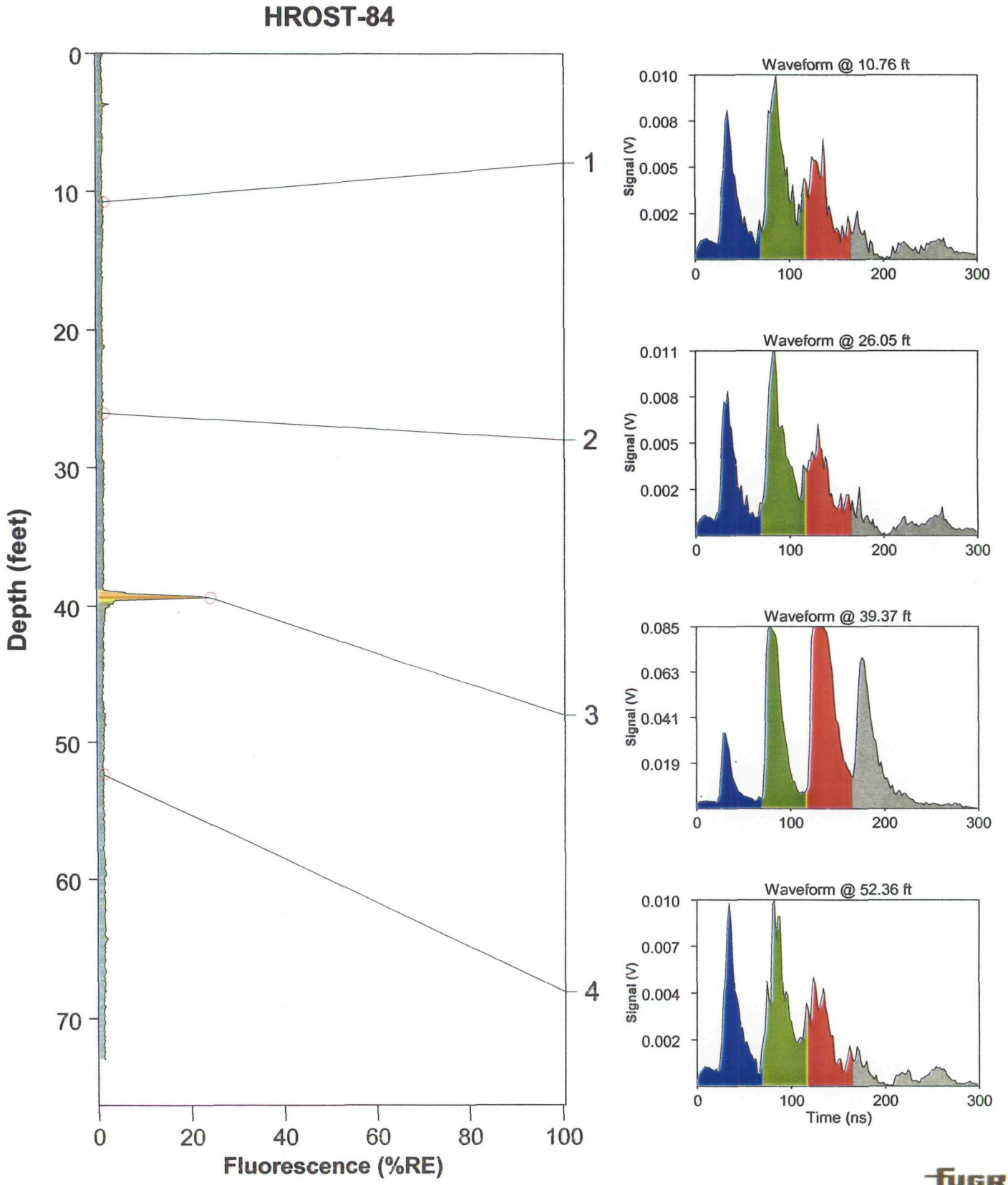
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/22/2005 @ 11:40:15 AM	Max fluorescence: 336.24% @ 56.23 ft
ROST Unit: III	Final depth BGS: 71.06 ft



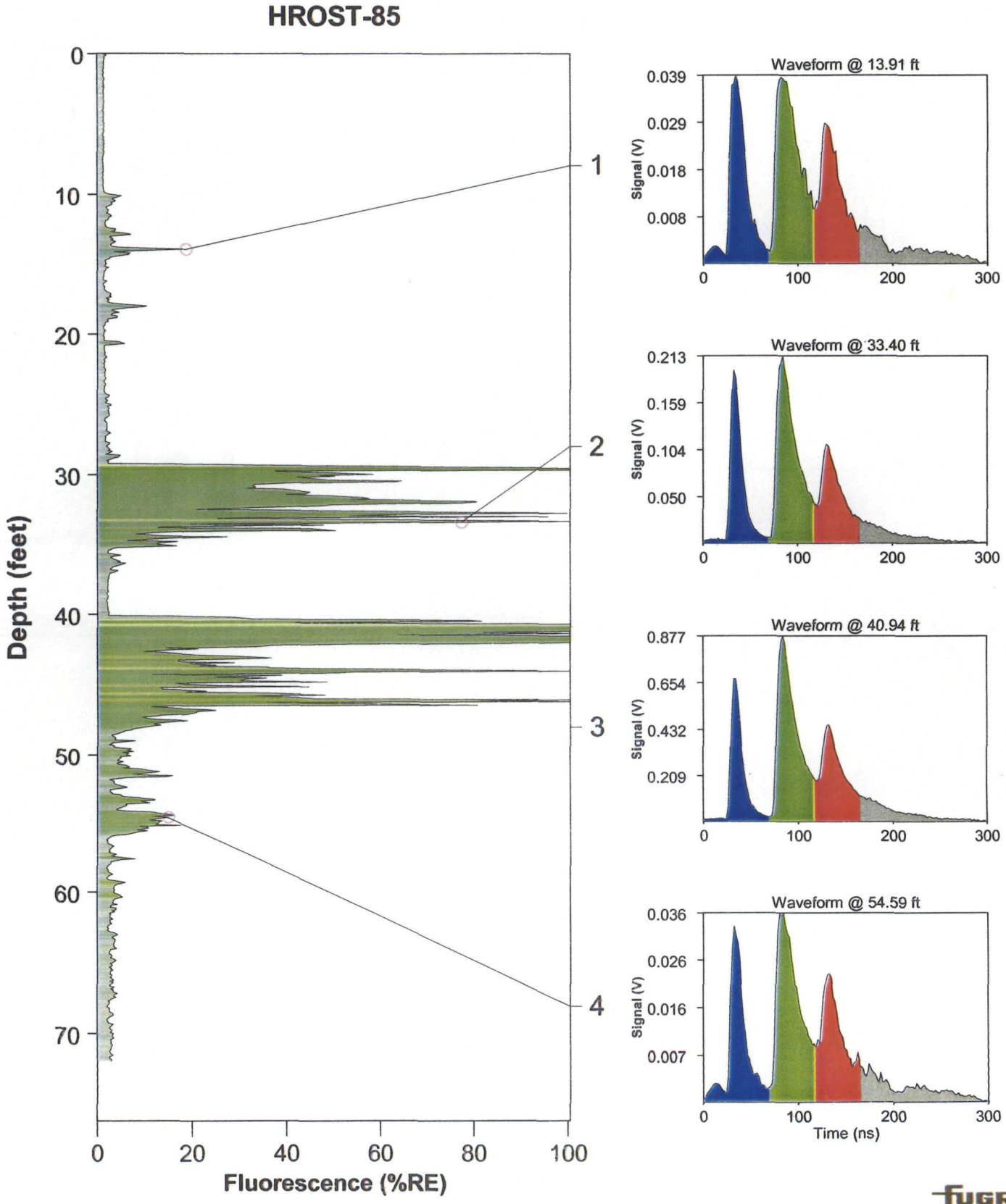
ROST Fluorescence Response Data

Site: PREMCOR REFINING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/17/2005 @ 11:12:26 AM	Max fluorescence: 23.56% @ 39.37 ft
ROST Unit: III	Final depth BGS: 72.96 ft



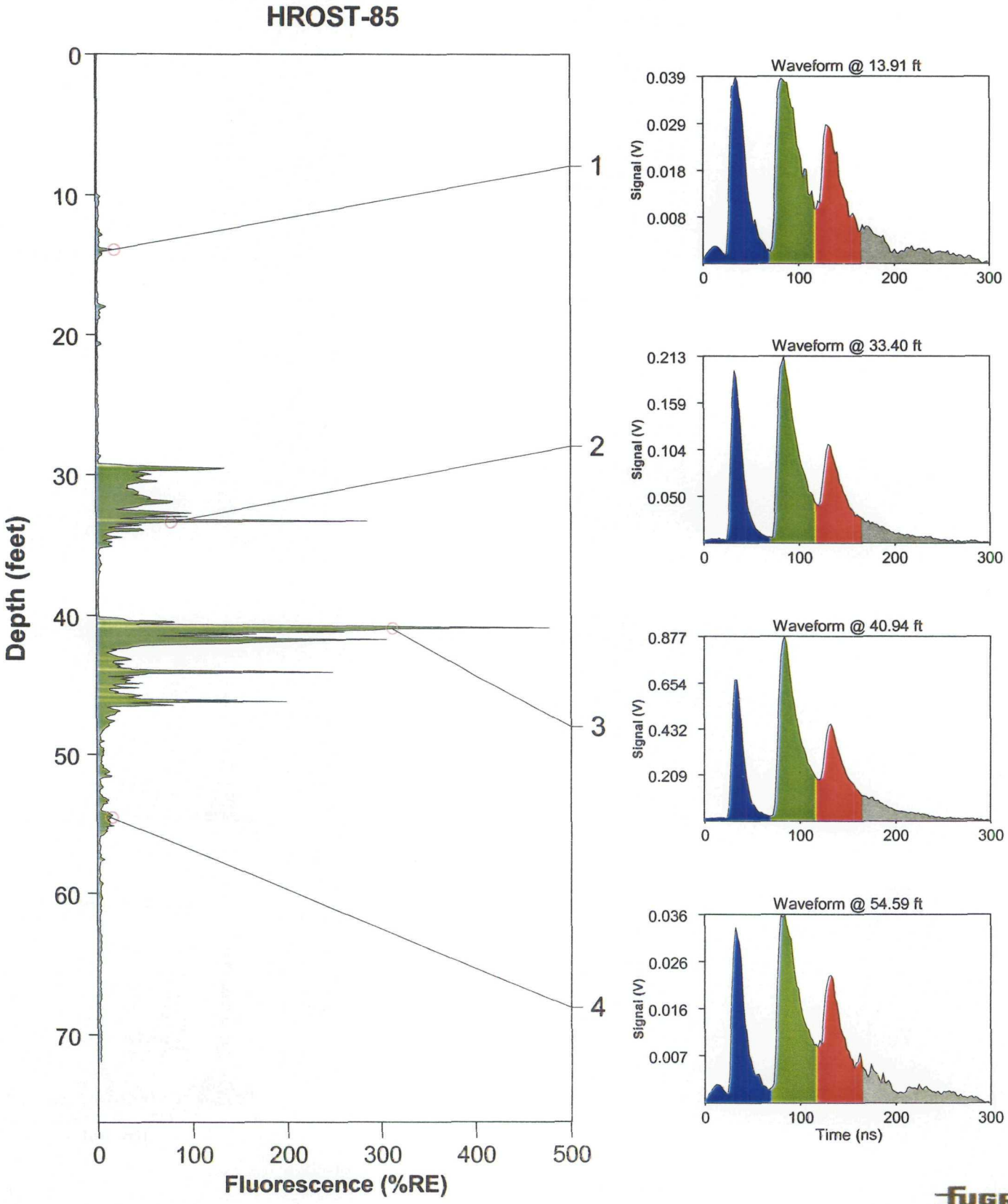
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 12:58:27 PM	Max fluorescence: 477.16% @ 40.88 ft
ROST Unit: III	Final depth BGS: 71.98 ft



ROST Fluorescence Response Data

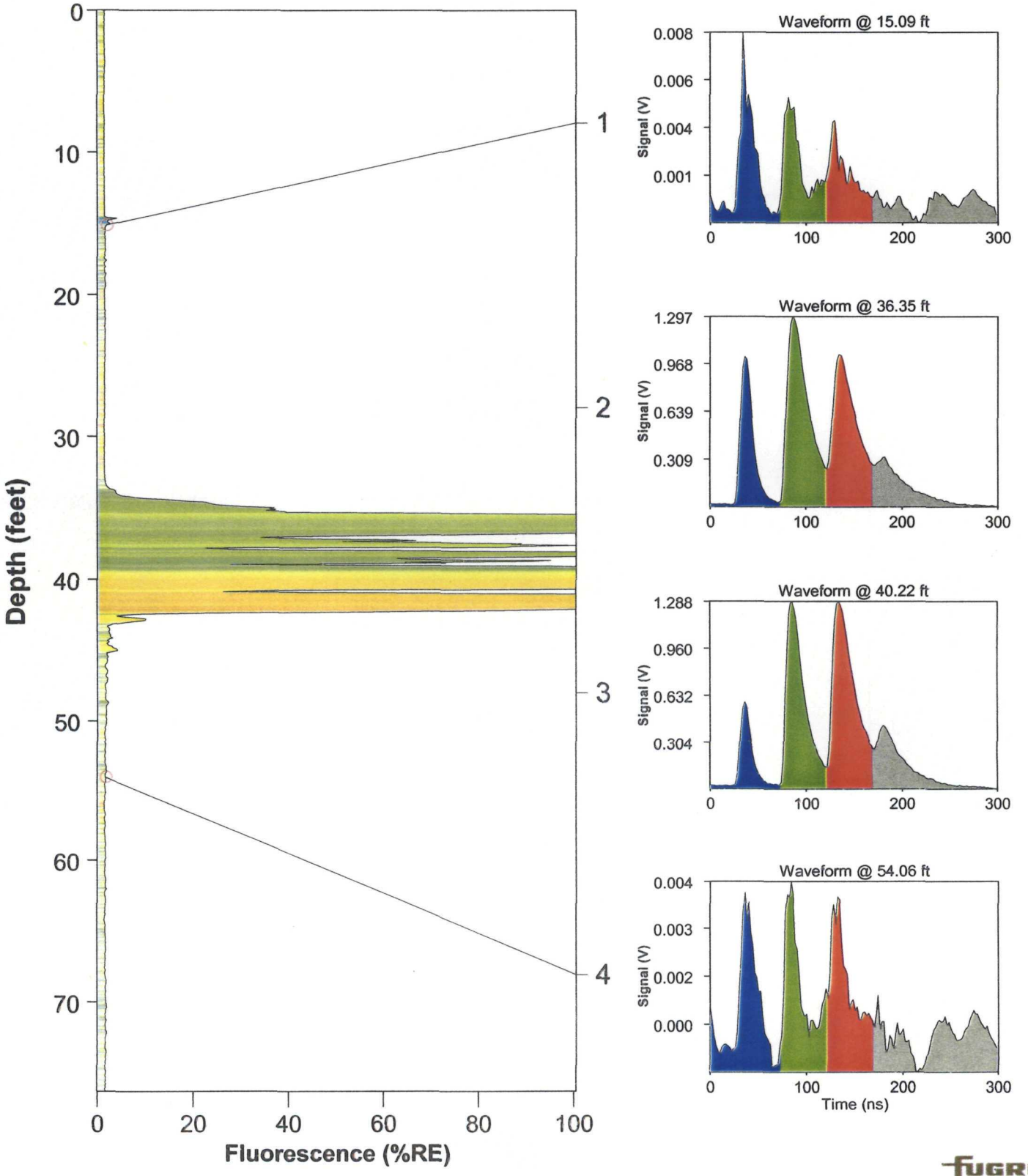
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 12:58:27 PM	Max fluorescence: 477.16% @ 40.88 ft
ROST Unit: III	Final depth BGS: 71.98 ft



ROST Fluorescence Response Data

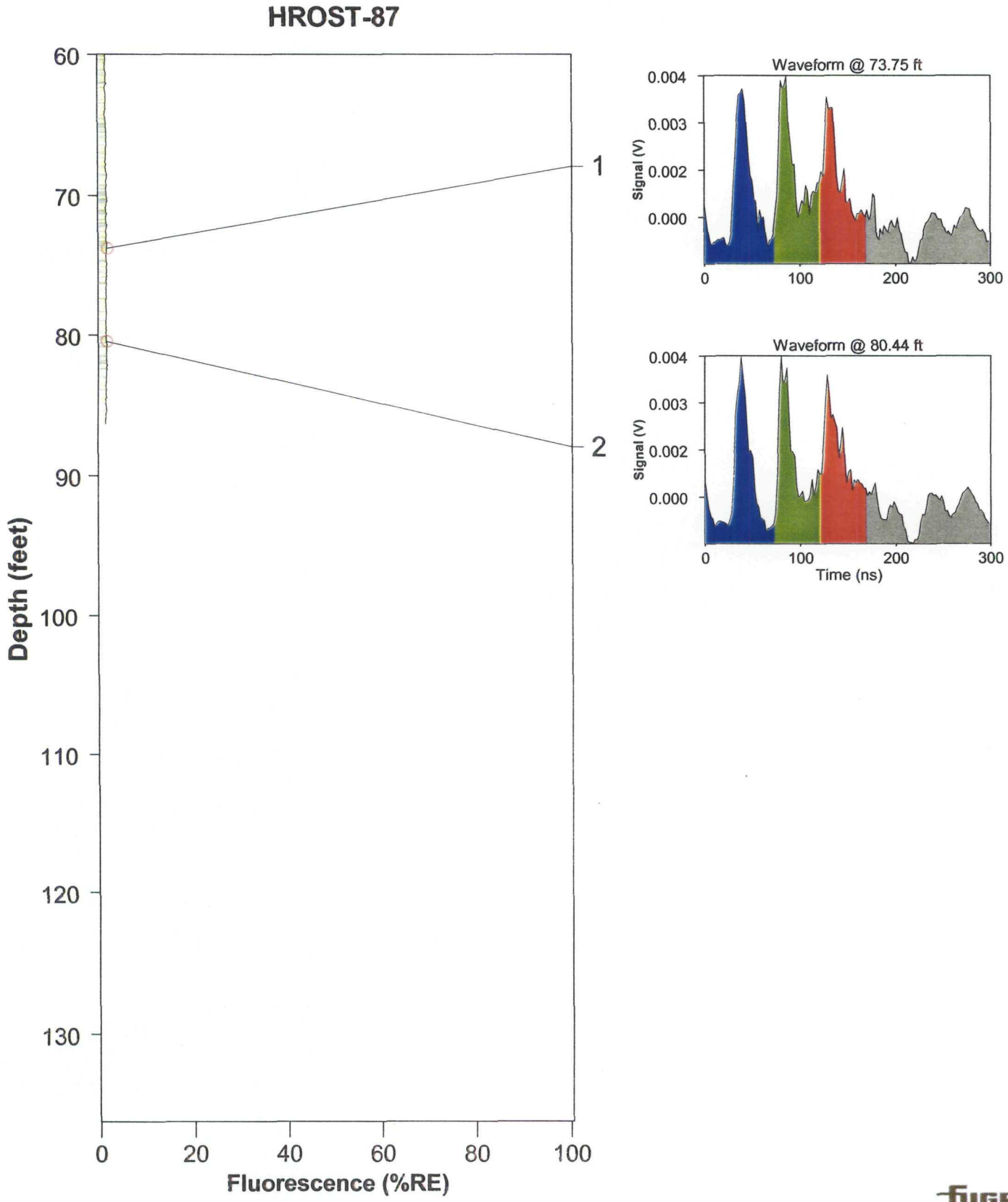
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/25/2005 @ 10:56:29 AM	Max fluorescence: 278.64% @ 39.76 ft
ROST Unit: III	Final depth BGS: 86.35 ft

HROST-87



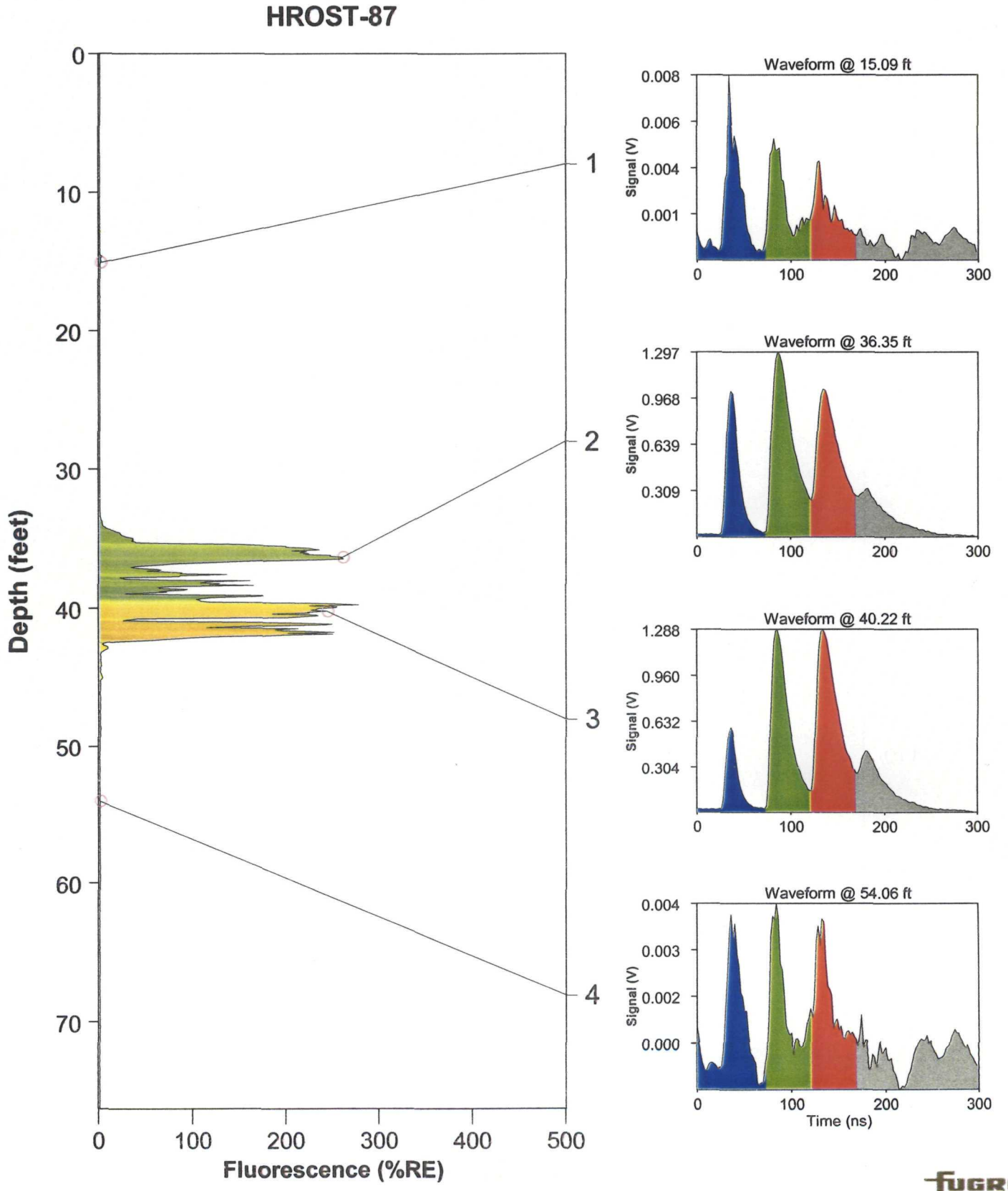
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/25/2005 @ 10:56:29 AM	Max fluorescence: 278.64% @ 39.76 ft
ROST Unit: III	Final depth BGS: 86.35 ft



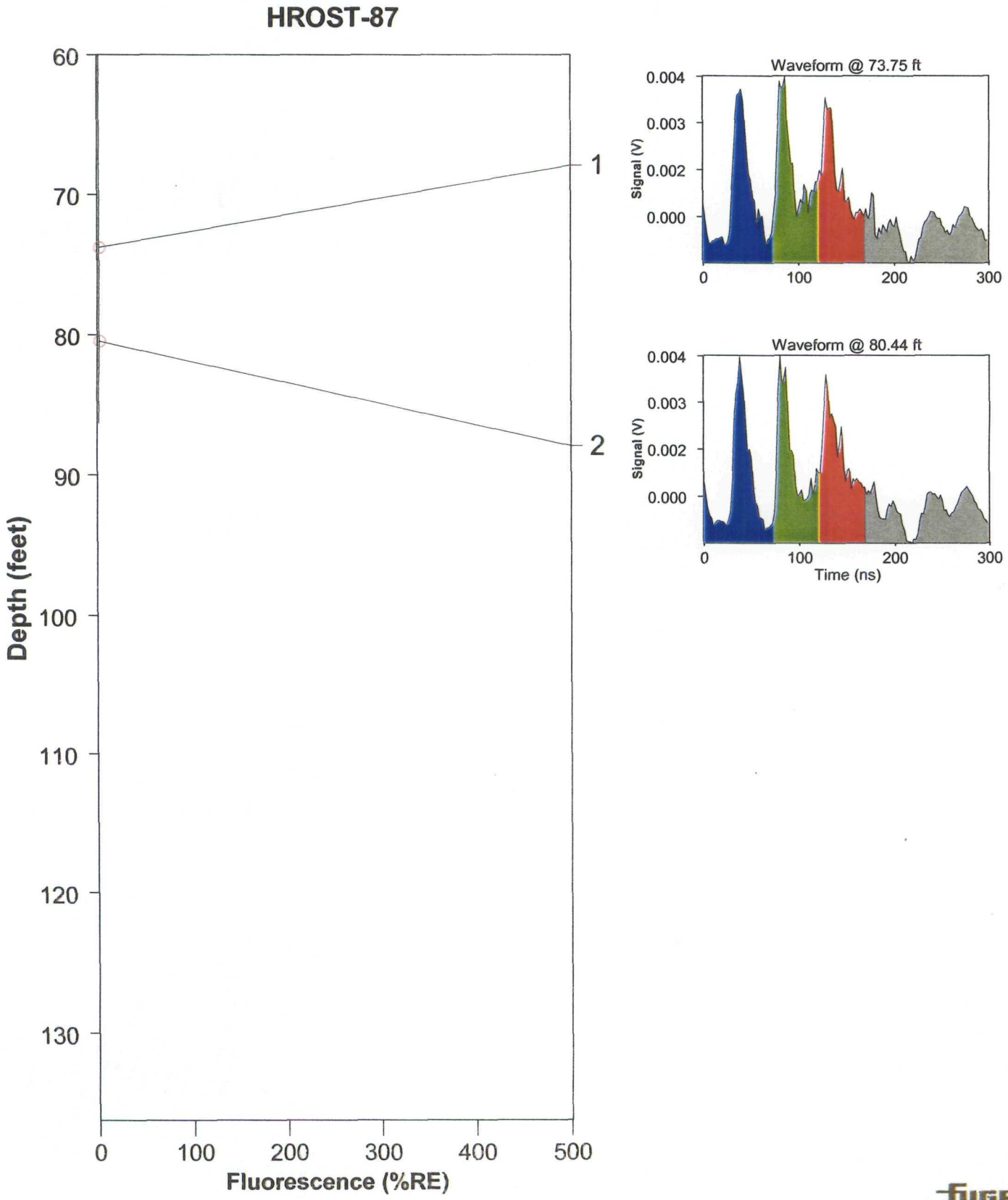
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/25/2005 @ 10:56:29 AM	Max fluorescence: 278.64% @ 39.76 ft
ROST Unit: III	Final depth BGS: 86.35 ft



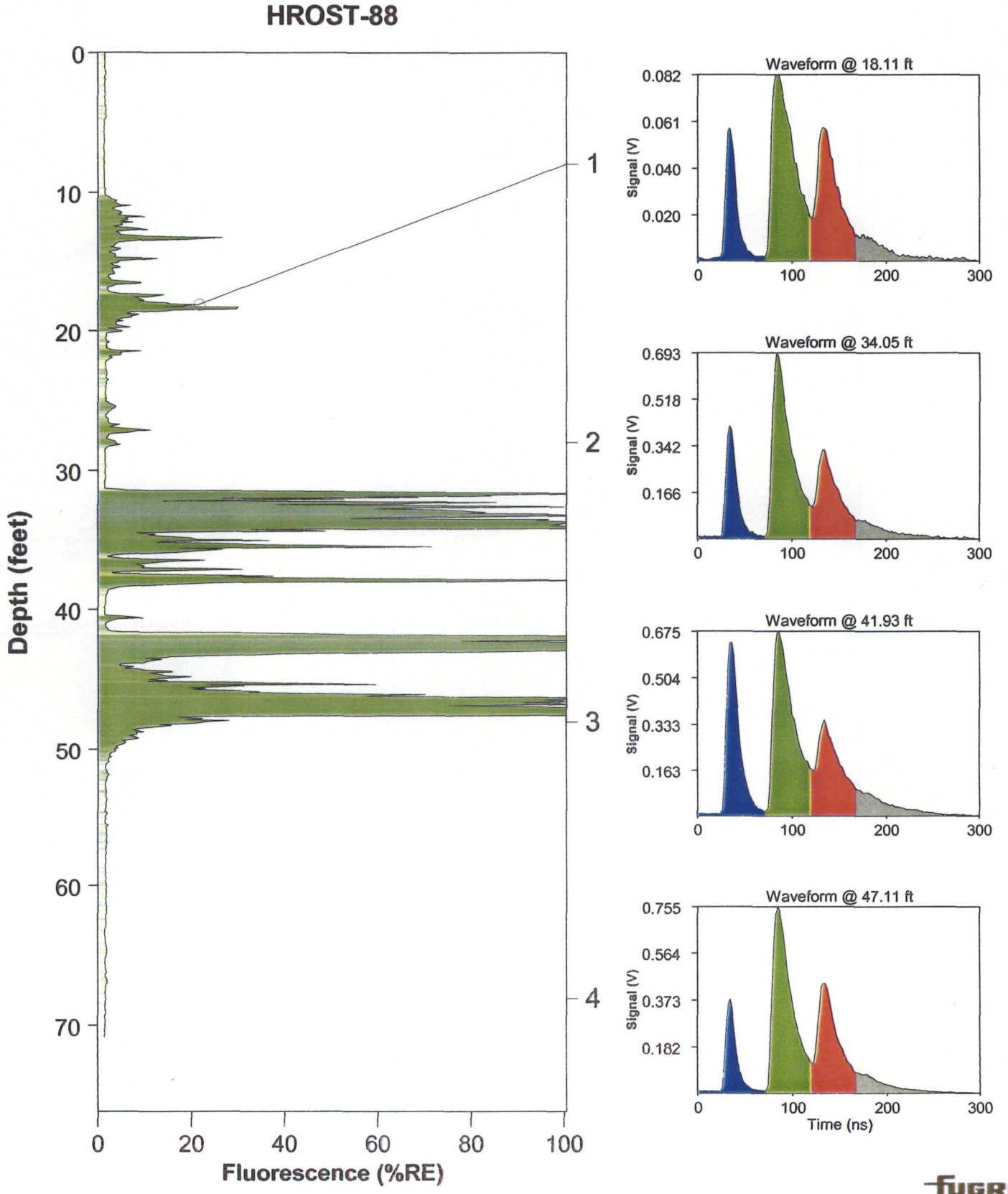
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 5/25/2005 @ 10:56:29 AM	Max fluorescence: 278.64% @ 39.76 ft
ROST Unit: III	Final depth BGS: 86.35 ft



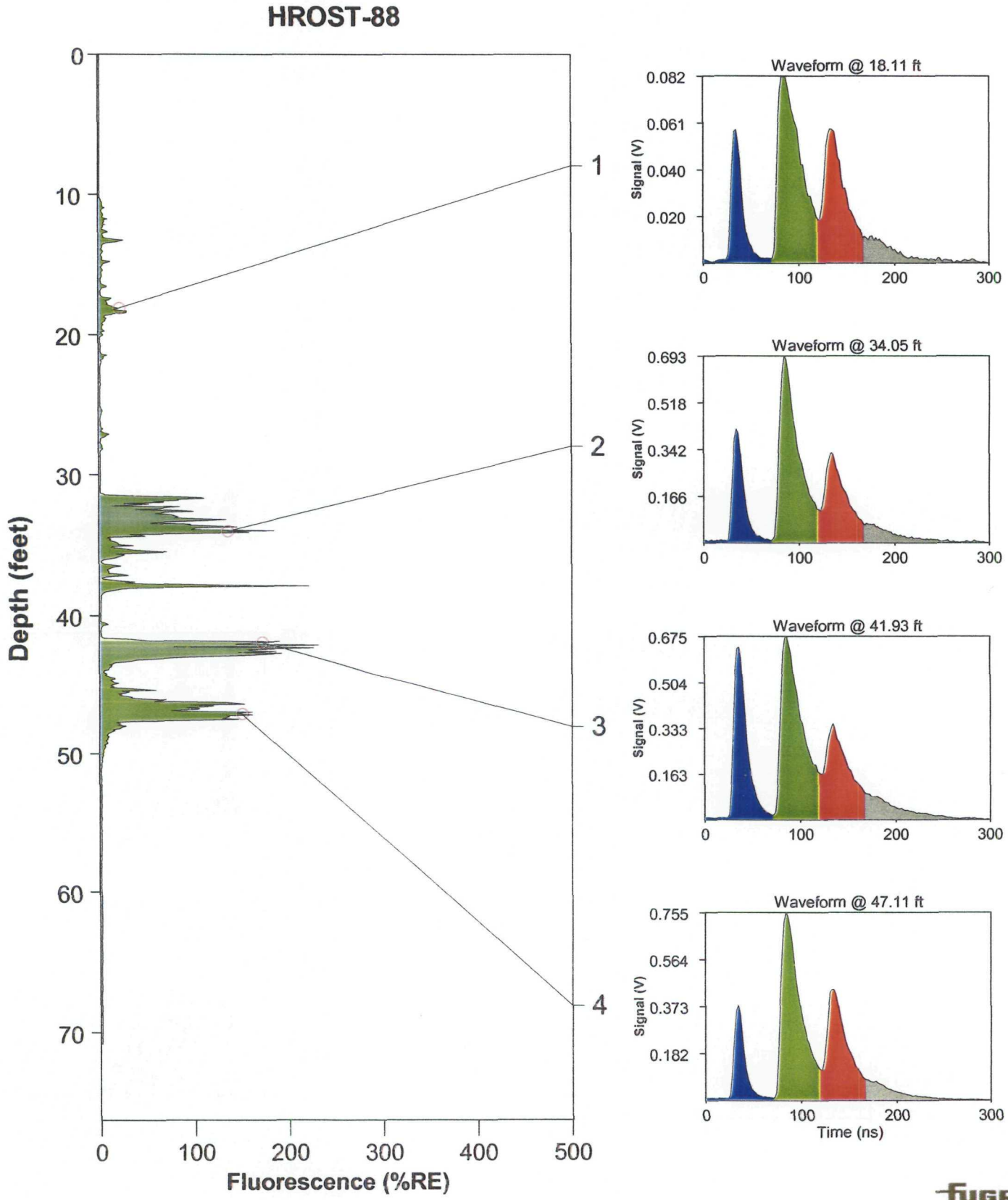
ROST Fluorescence Response Data

Site: PREMCOR REFINING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/8/2005 @ 12:44:32 PM	Max fluorescence: 231.88% @ 42.12 ft
ROST Unit: III	Final depth BGS: 70.86 ft



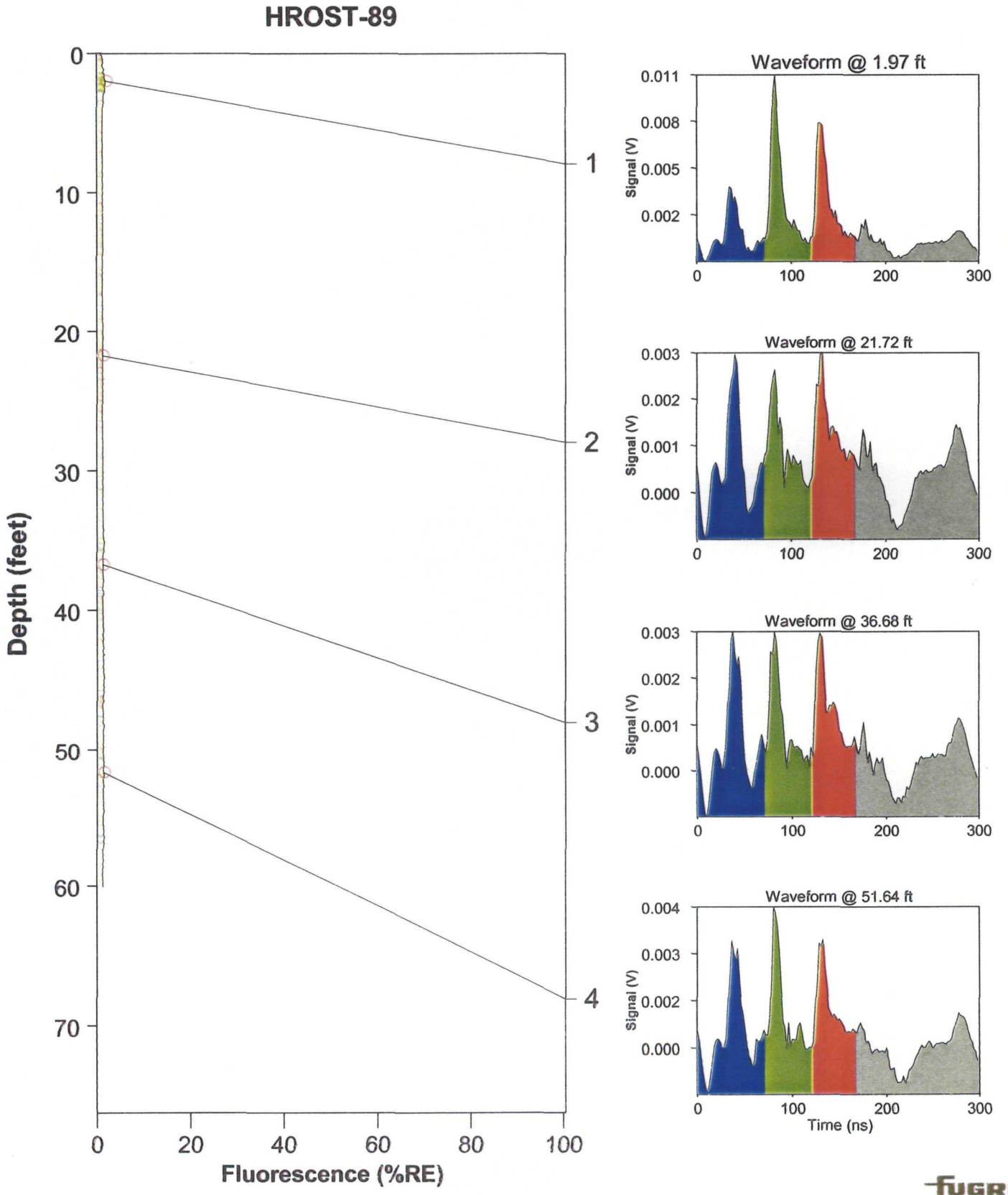
ROST Fluorescence Response Data

Site: PREMCOR REFINING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/8/2005 @ 12:44:32 PM	Max fluorescence: 231.88% @ 42.12 ft
ROST Unit: III	Final depth BGS: 70.86 ft



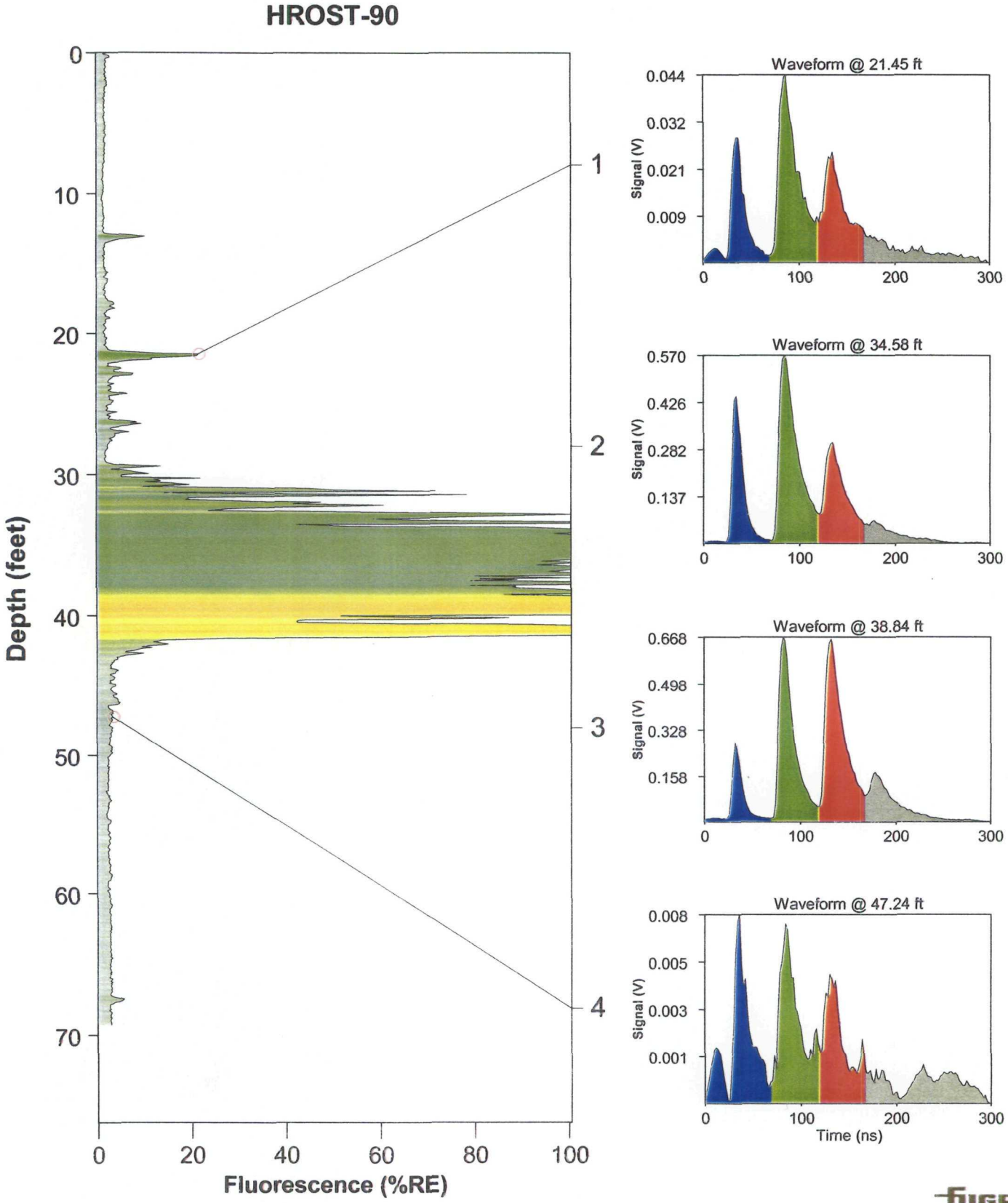
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/2/2005 @ 8:44:15 AM	Max fluorescence: 1.41% @ 1.97 ft
ROST Unit: III	Final depth BGS: 60.04 ft



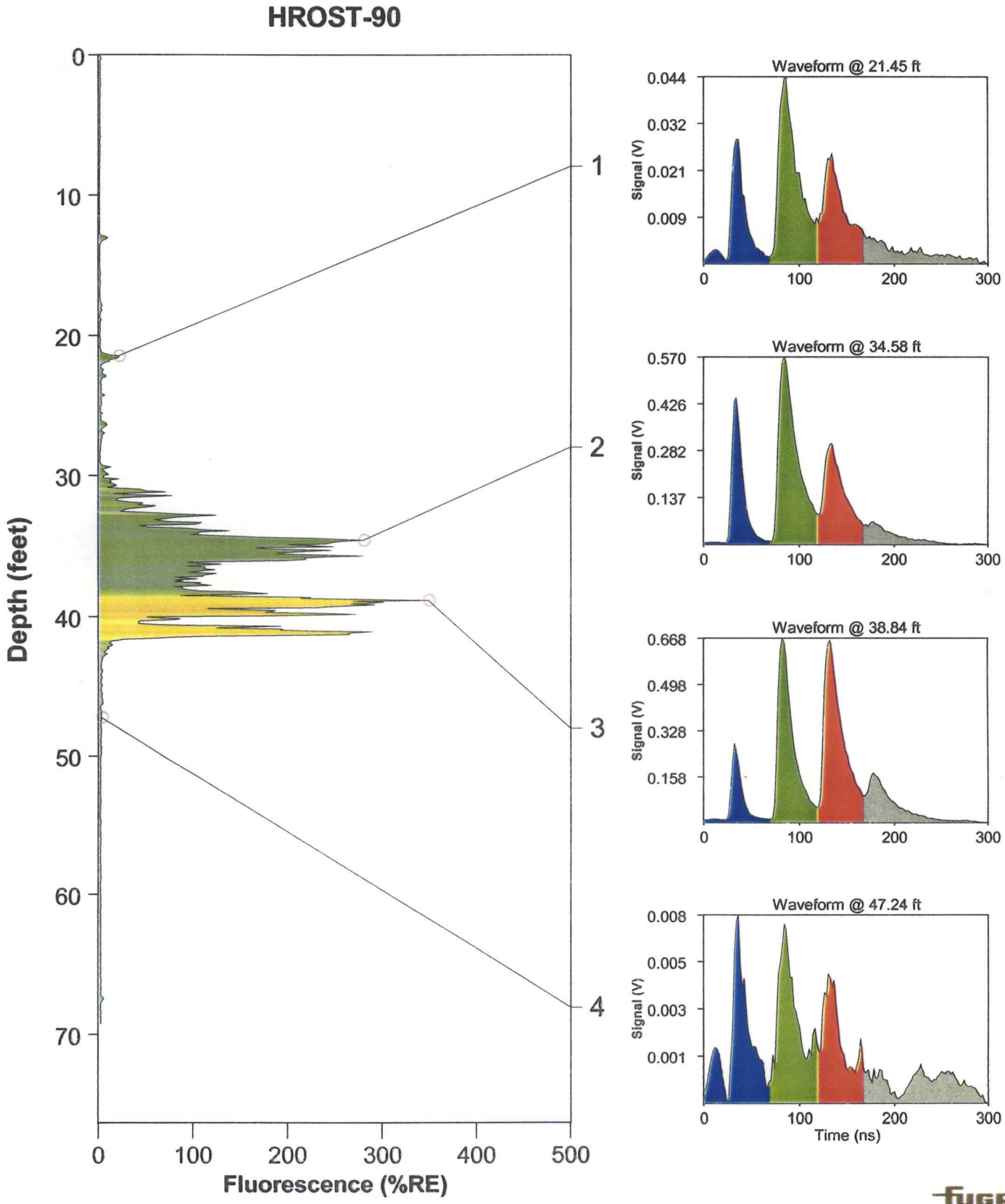
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/22/2005 @ 10:04:12 AM	Max fluorescence: 348.87% @ 38.84 ft
ROST Unit: III	Final depth BGS: 69.29 ft



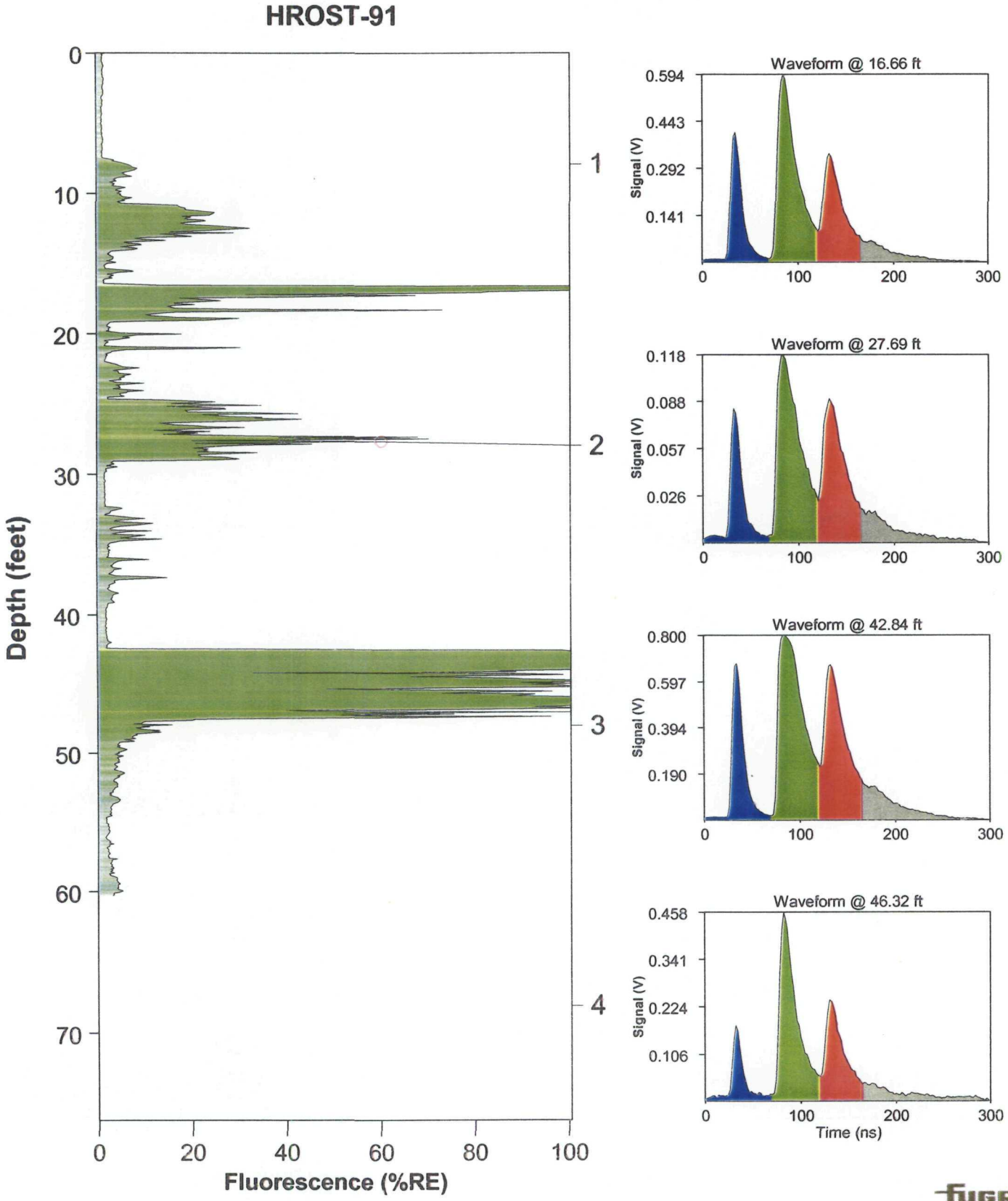
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/22/2005 @ 10:04:12 AM	Max fluorescence: 348.87% @ 38.84 ft
ROST Unit: III	Final depth BGS: 69.29 ft



ROST Fluorescence Response Data

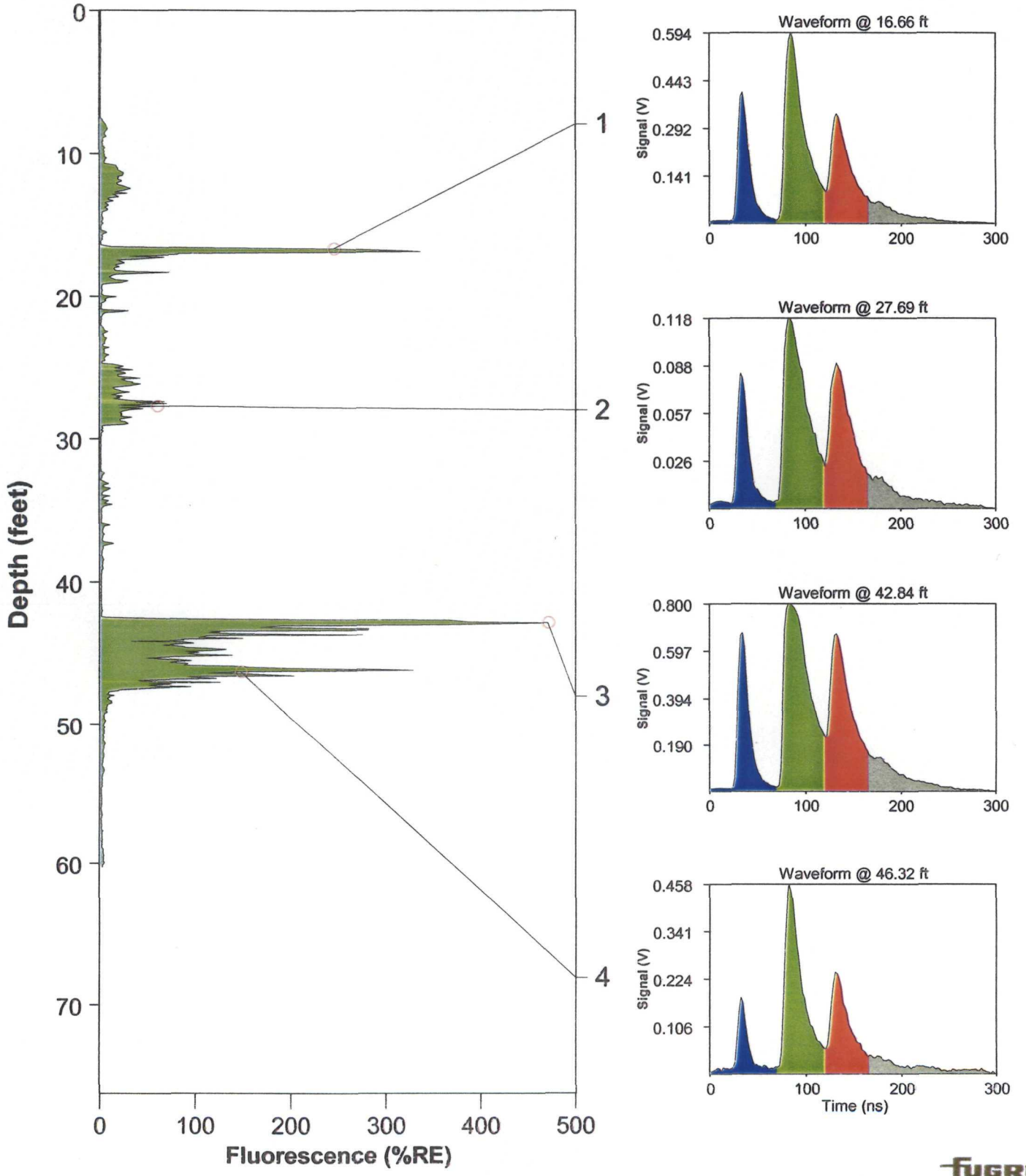
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 3:39:00 PM	Max fluorescence: 470.49% @ 42.84 ft
ROST Unit: III	Final depth BGS: 60.30 ft



ROST Fluorescence Response Data

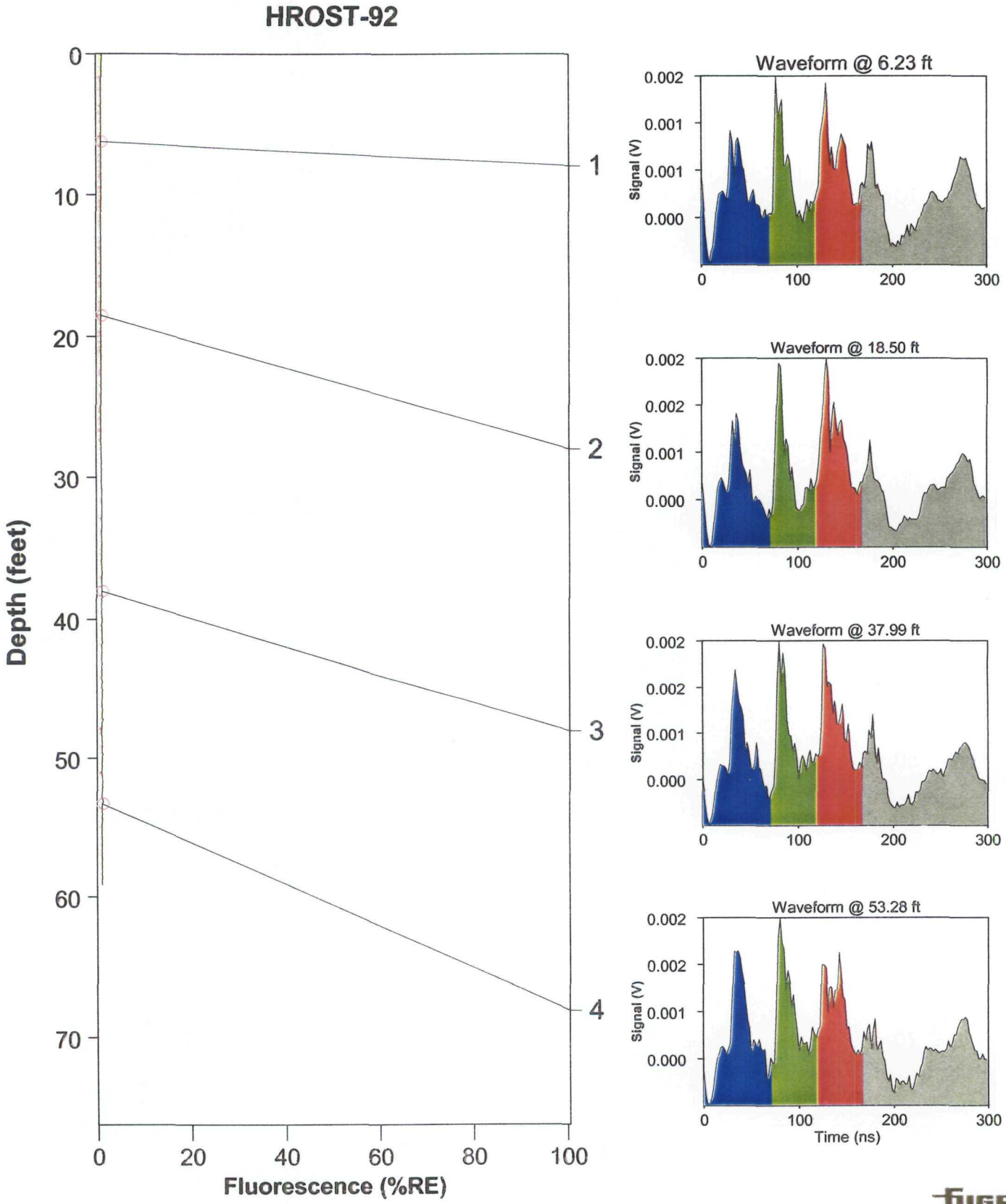
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 3:39:00 PM	Max fluorescence: 470.49% @ 42.84 ft
ROST Unit: III	Final depth BGS: 60.30 ft

HROST-91



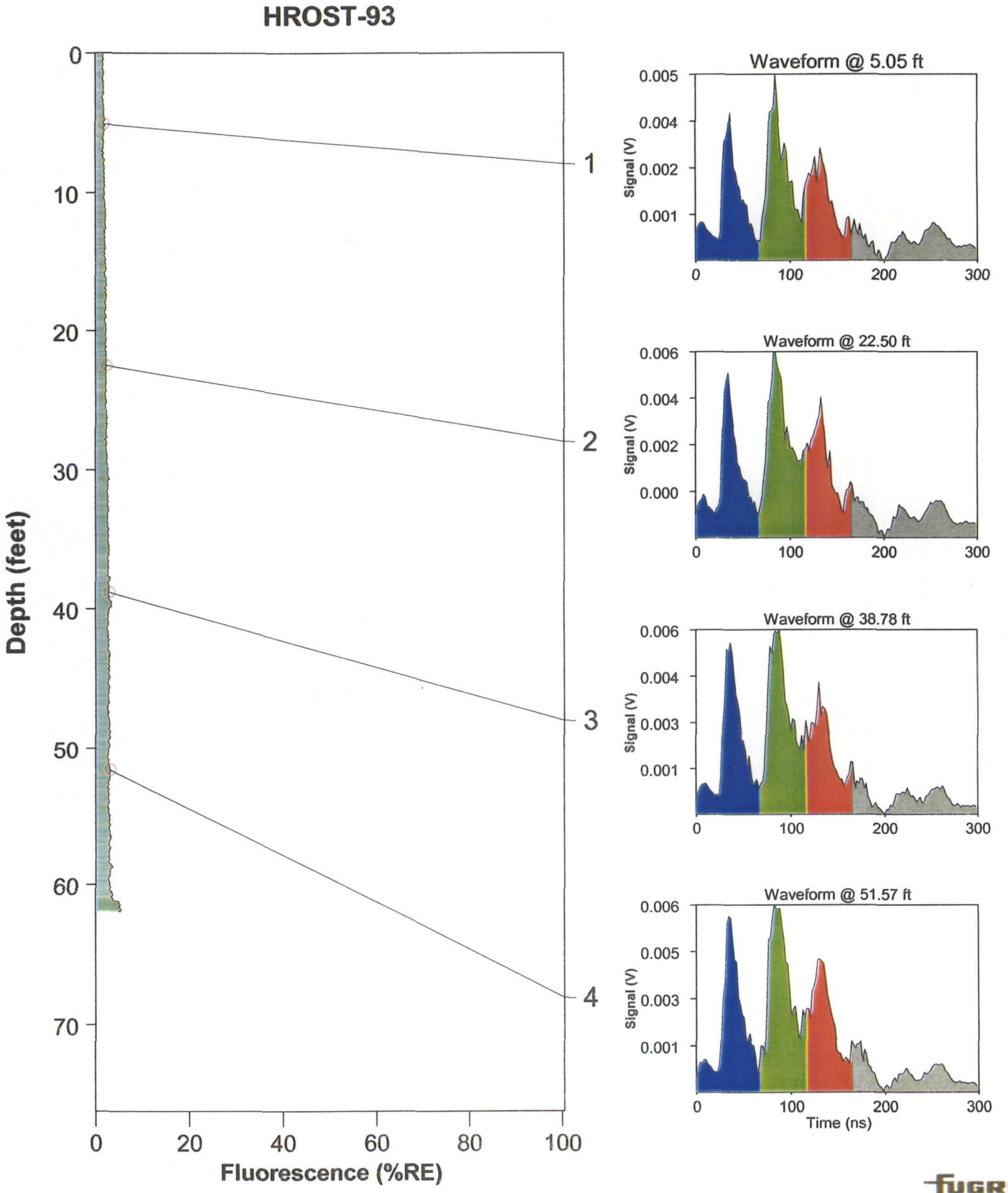
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/5/2005 @ 4:01:13 PM	Max fluorescence: 0.80% @ 53.15 ft
ROST Unit: III	Final depth BGS: 59.18 ft



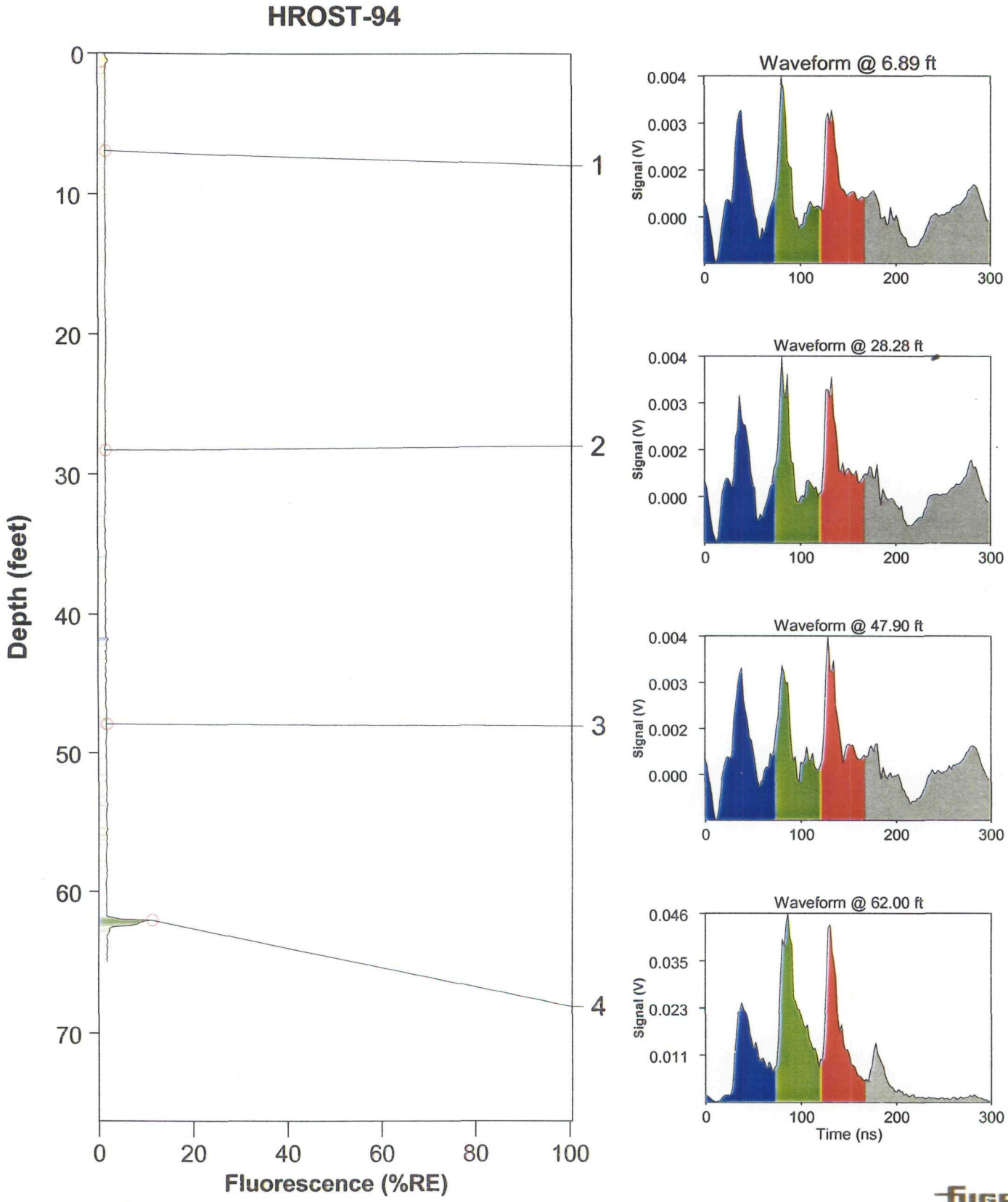
ROST Fluorescence Response Data

Site: PREMCOR REFINING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/17/2005 @ 10:17:47 AM	Max fluorescence: 5.09% @ 61.87 ft
ROST Unit: III	Final depth BGS: 62.00 ft



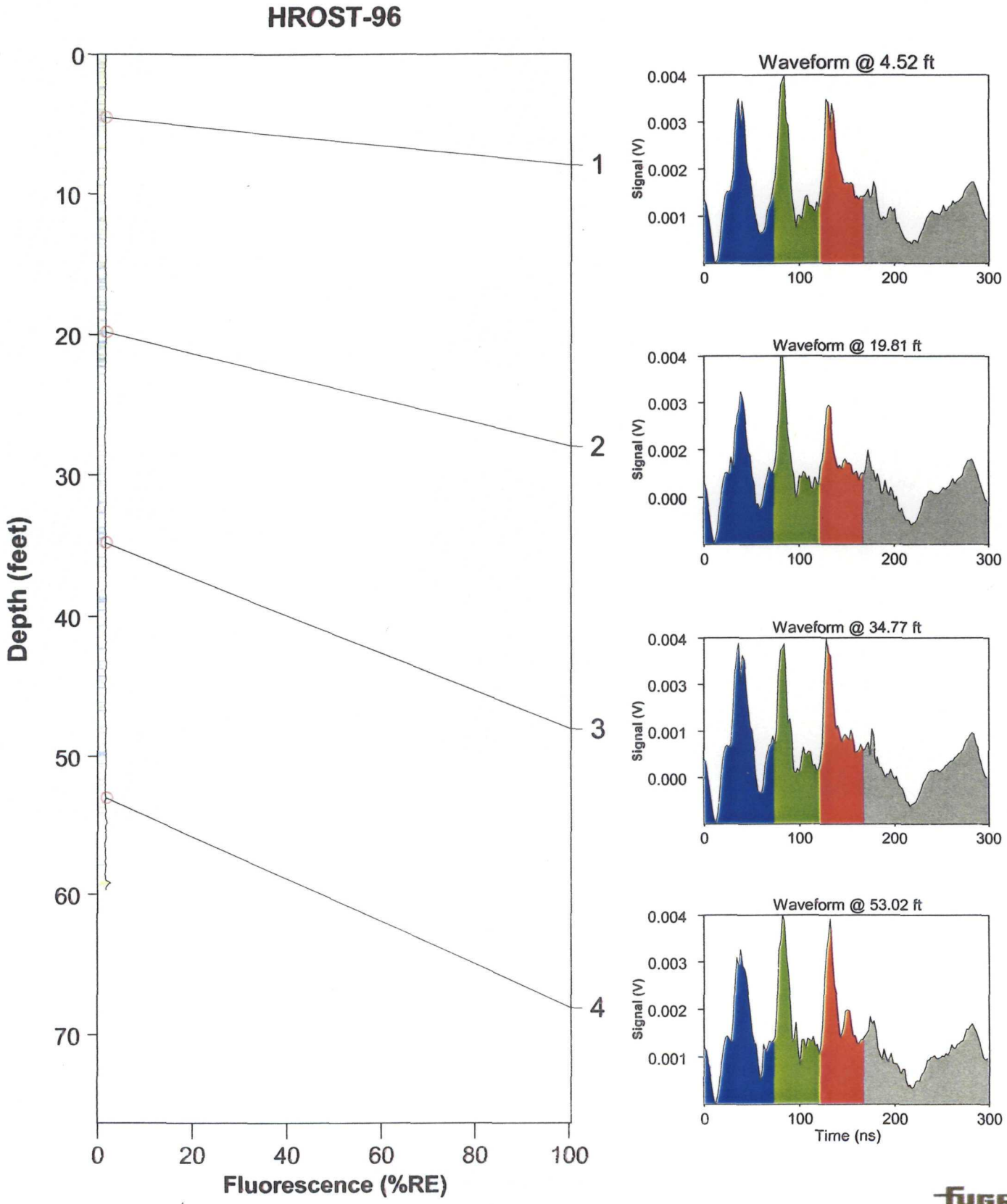
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/2/2005 @ 9:57:37 AM	Max fluorescence: 10.66% @ 62.00 ft
ROST Unit: III	Final depth BGS: 64.96 ft



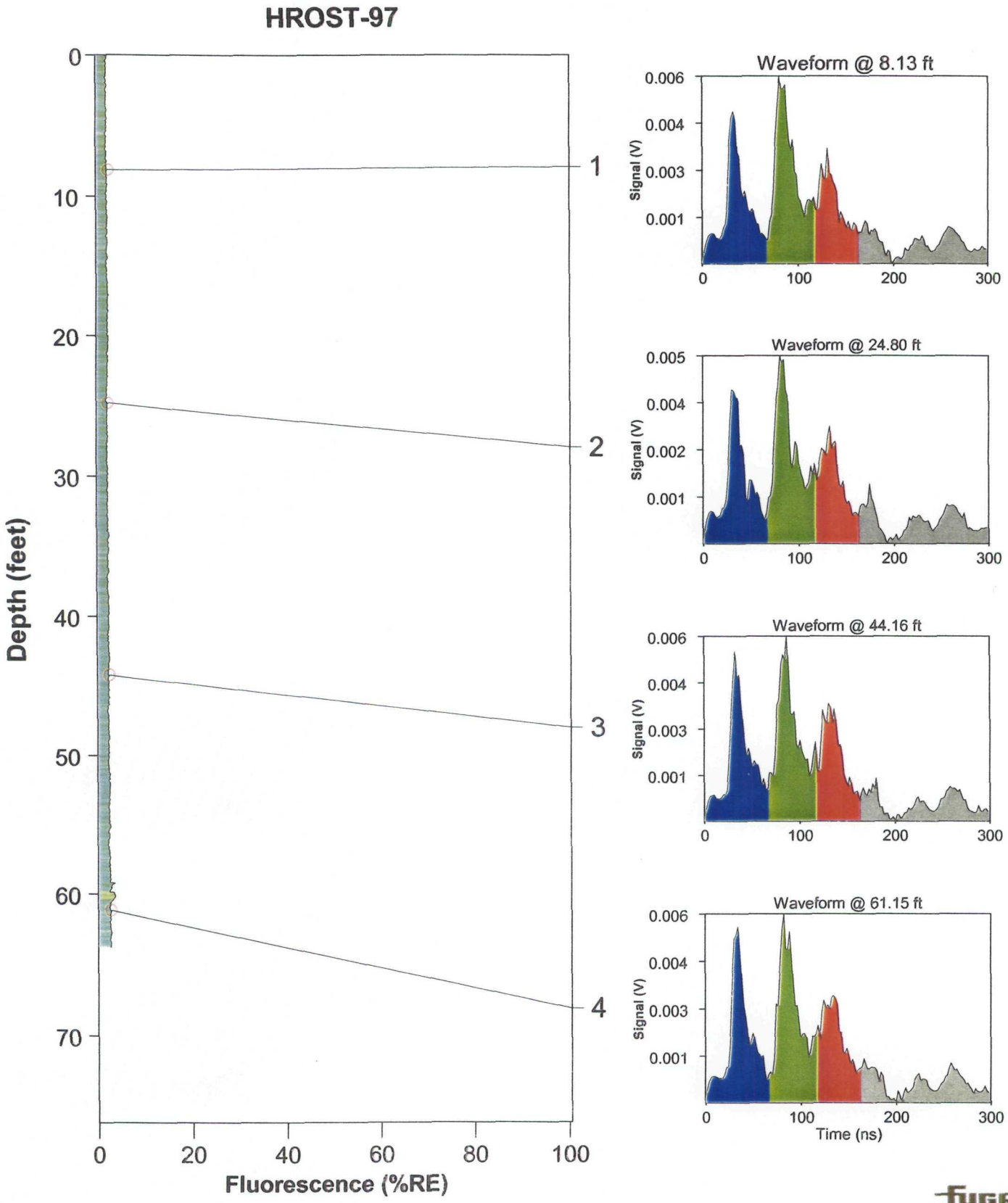
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/2/2005 @ 11:01:25 AM	Max fluorescence: 2.26% @ 59.18 ft
ROST Unit: III	Final depth BGS: 59.71 ft



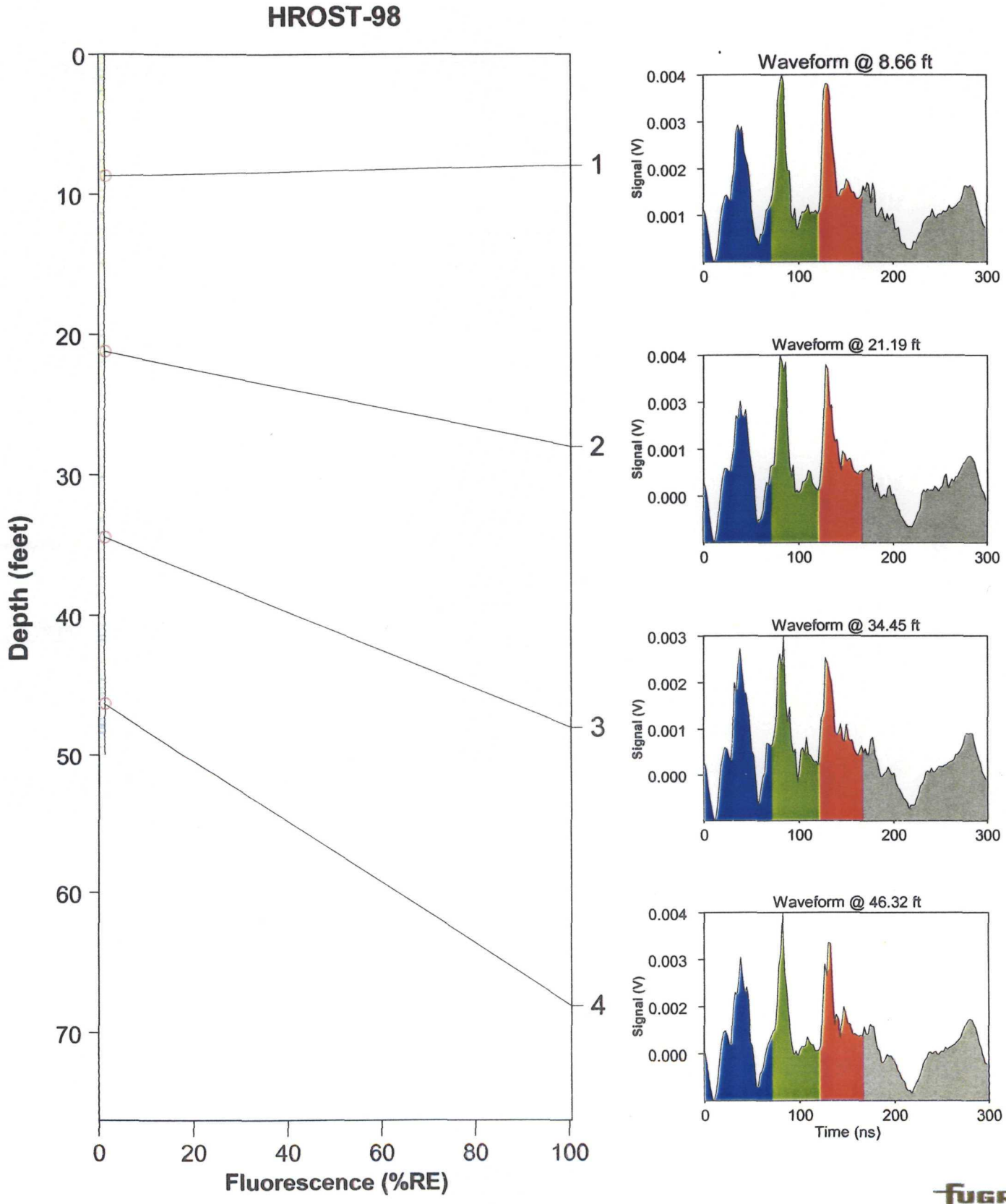
ROST Fluorescence Response Data

Site: PREMCOR REFINING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/16/2005 @ 3:31:34 PM	Max fluorescence: 3.13% @ 59.25 ft
ROST Unit: III	Final depth BGS: 63.78 ft



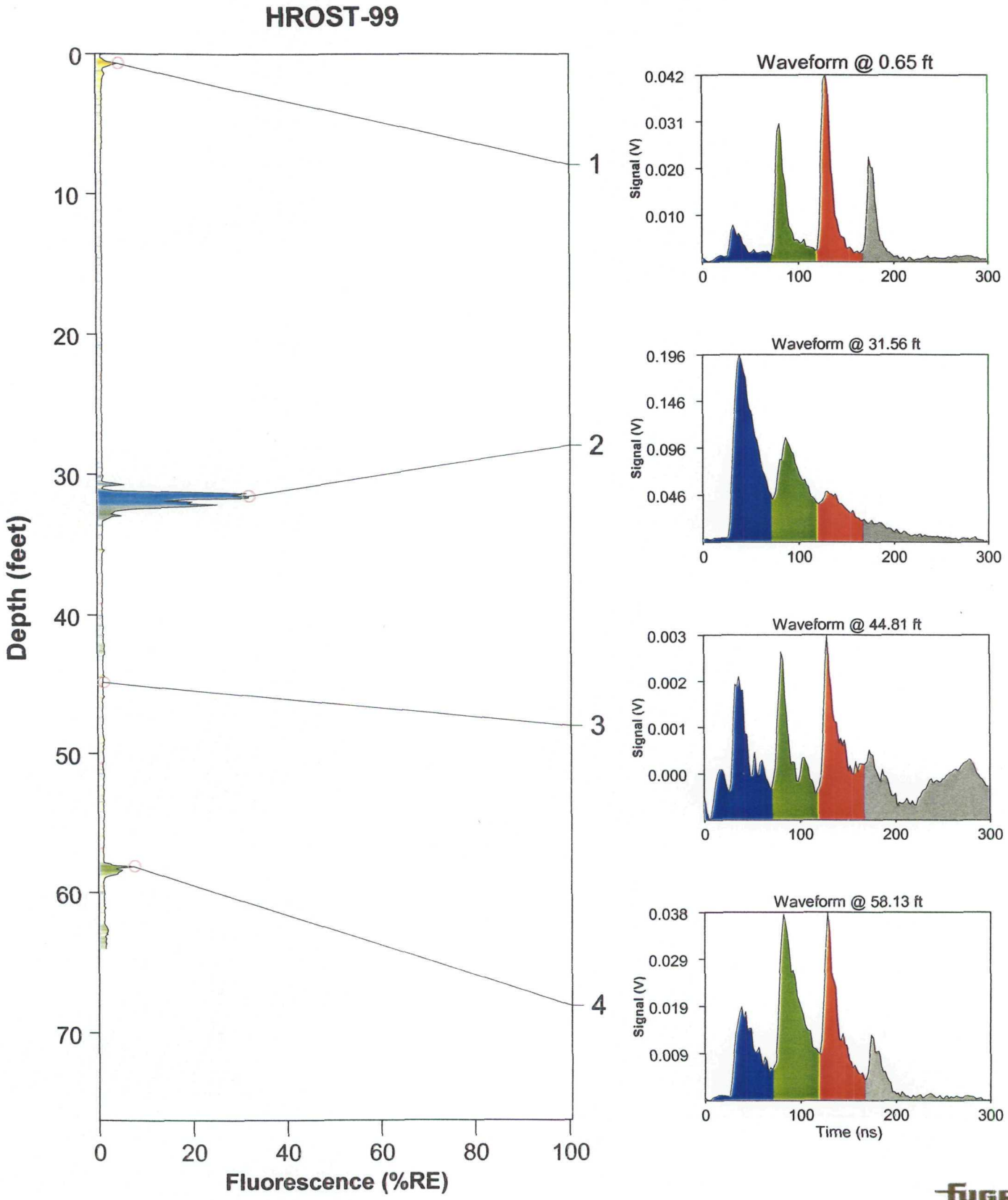
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1584
Date/Time: 6/2/2005 @ 12:20:41 PM	Max fluorescence: 0.97% @ 0.00 ft
ROST Unit: III	Final depth BGS: 50.00 ft



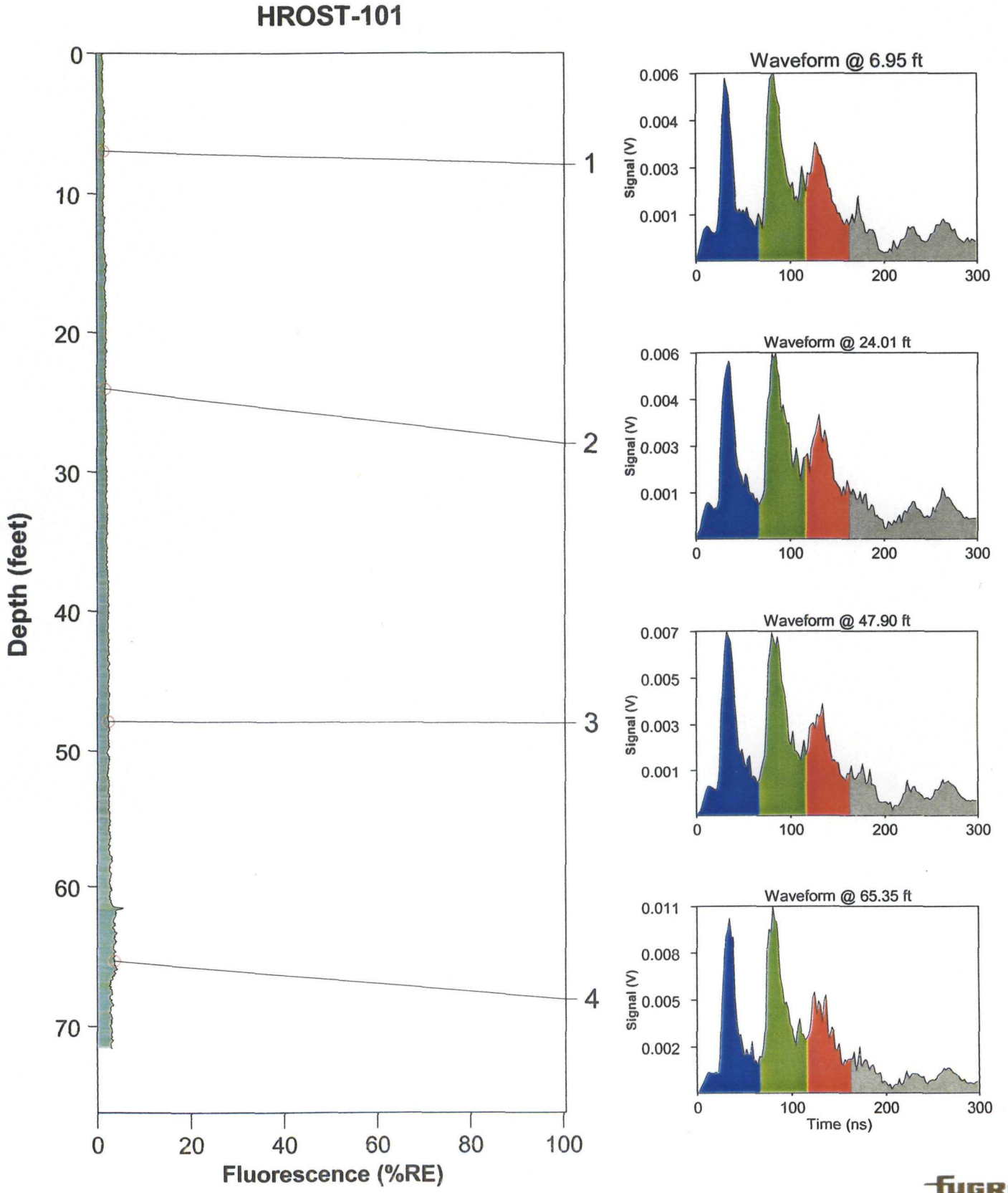
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/5/2005 @ 2:57:34 PM	Max fluorescence: 31.57% @ 31.69 ft
ROST Unit: III	Final depth BGS: 64.04 ft



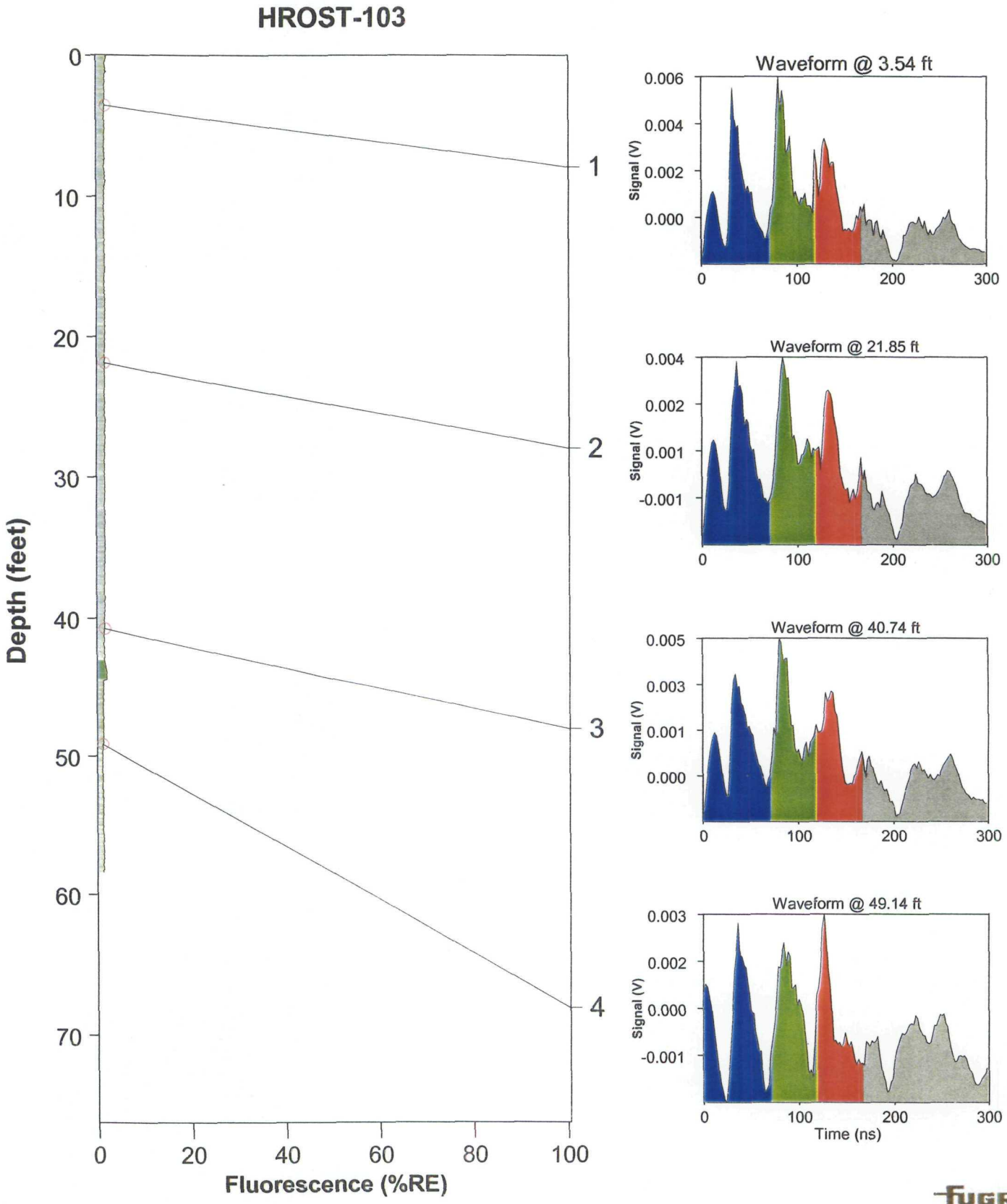
ROST Fluorescence Response Data

Site: PREMCOR REFINING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/16/2005 @ 2:26:31 PM	Max fluorescence: 5.08% @ 61.55 ft
ROST Unit: III	Final depth BGS: 71.58 ft



ROST Fluorescence Response Data

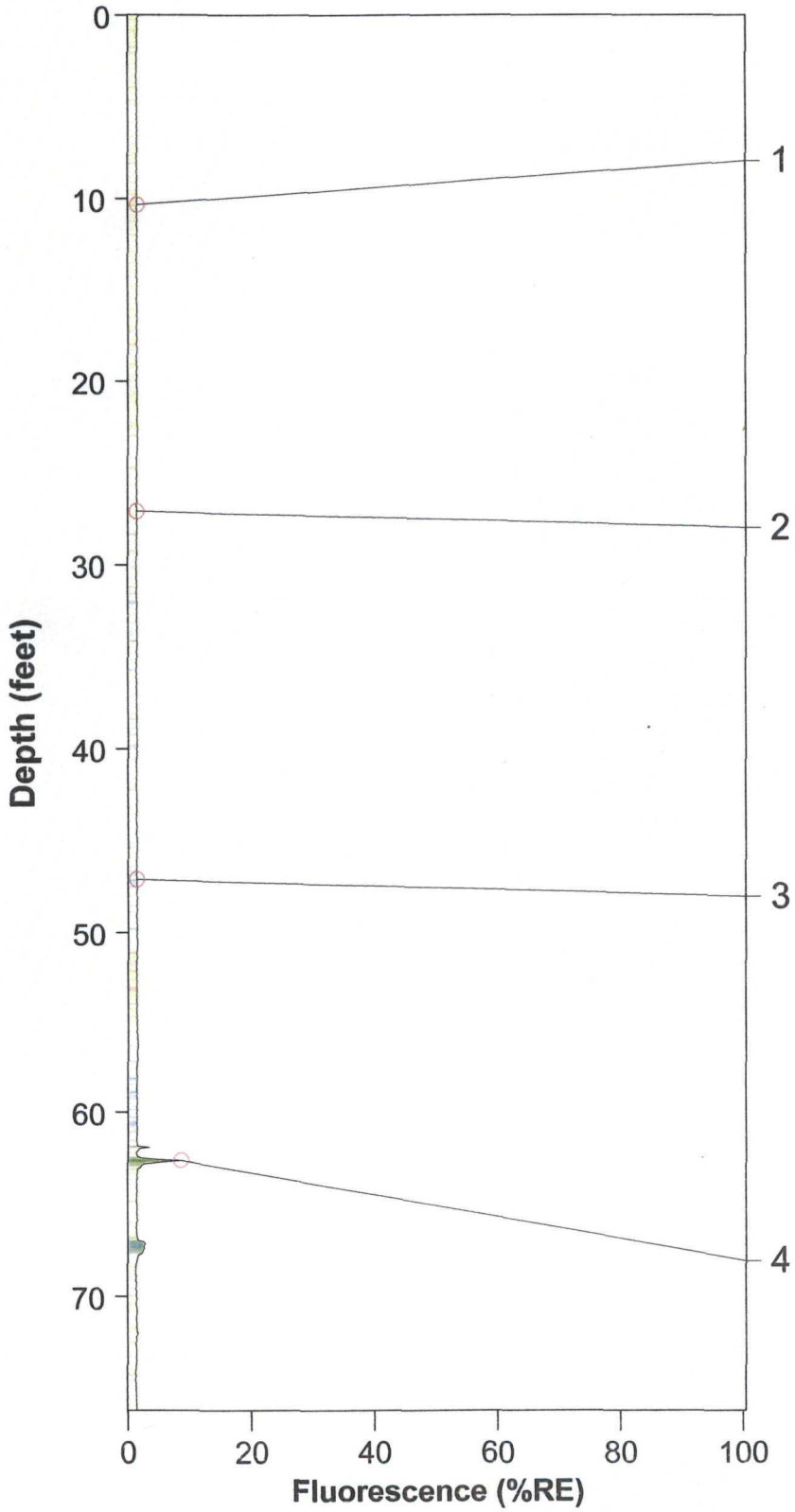
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 8:55:29 AM	Max fluorescence: 1.85% @ 0.06 ft
ROST Unit: III	Final depth BGS: 58.46 ft

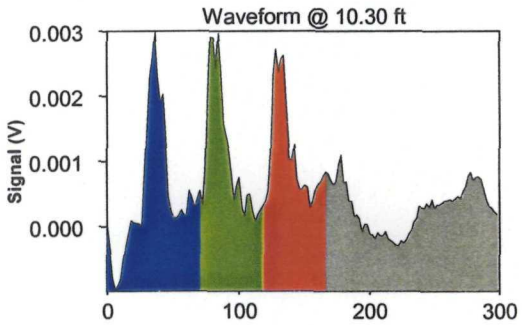


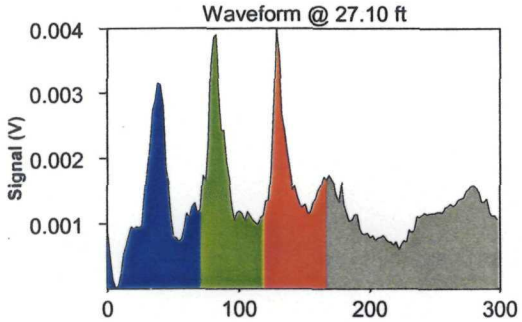
ROST Fluorescence Response Data

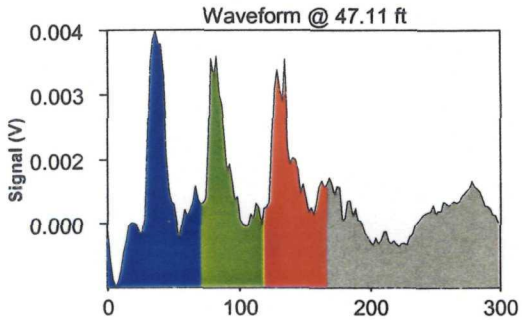
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/5/2005 @ 11:19:25 AM	Max fluorescence: 8.07% @ 62.66 ft
ROST Unit: III	Final depth BGS: 85.17 ft

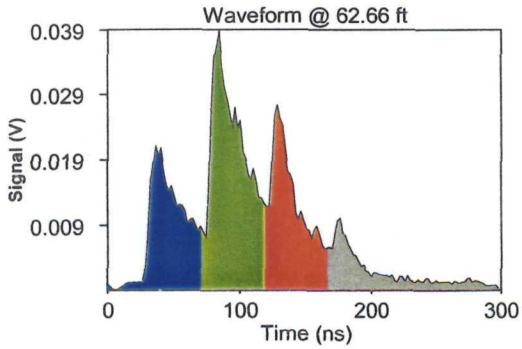
HROST-104





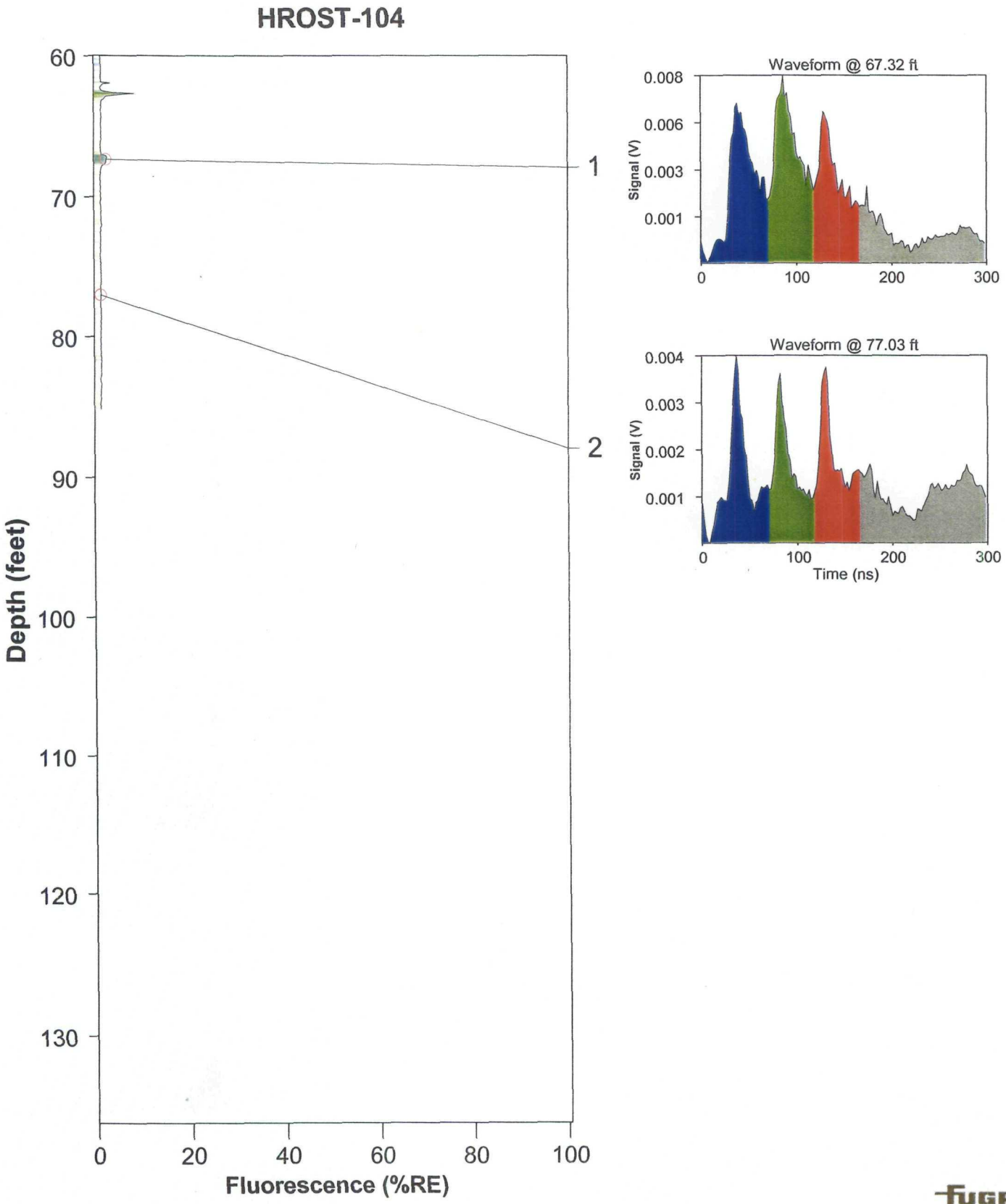






ROST Fluorescence Response Data

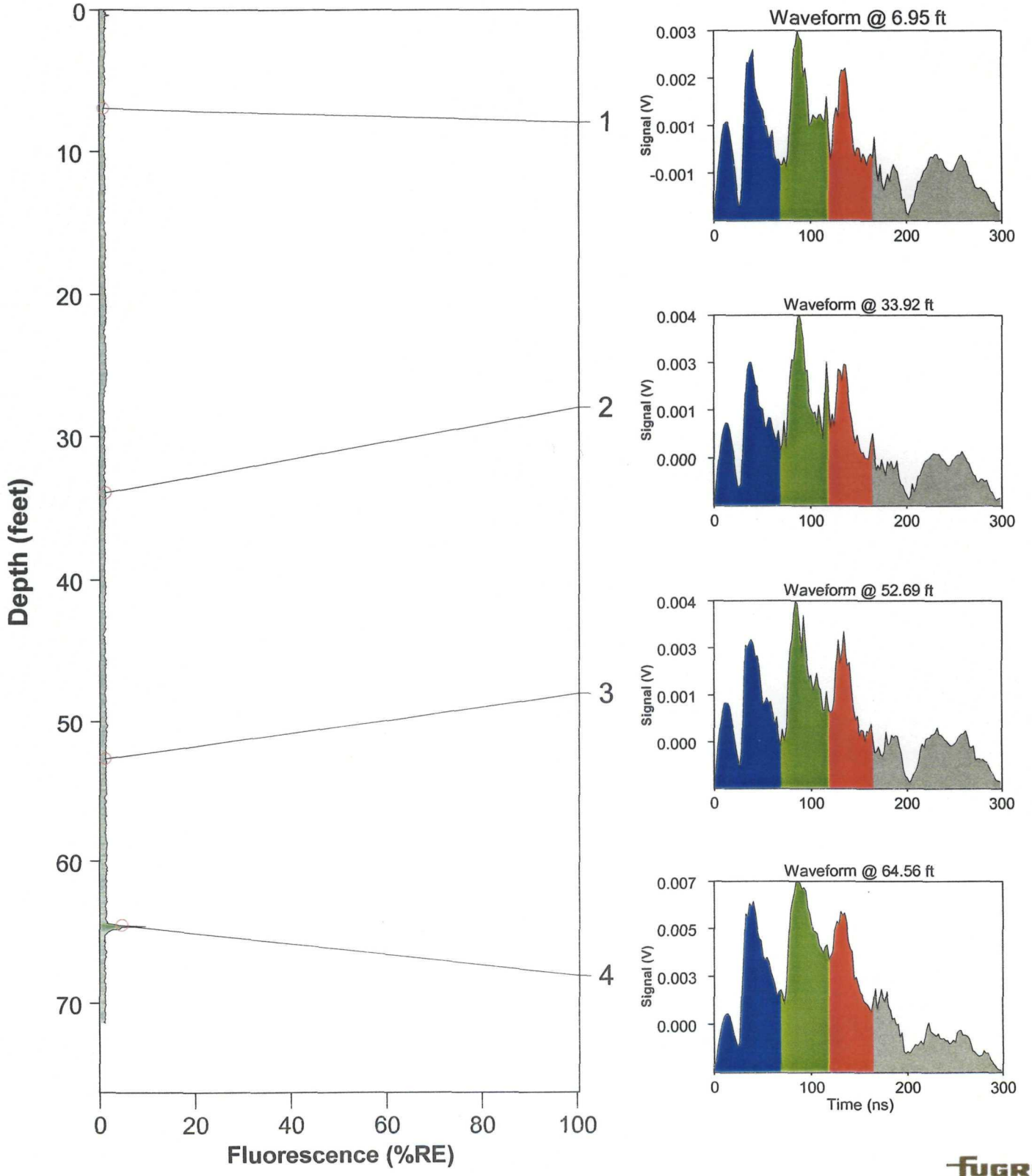
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/5/2005 @ 11:19:25 AM	Max fluorescence: 8.07% @ 62.66 ft
ROST Unit: III	Final depth BGS: 85.17 ft



ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 2:13:27 PM	Max fluorescence: 9.10% @ 64.63 ft
ROST Unit: III	Final depth BGS: 71.39 ft

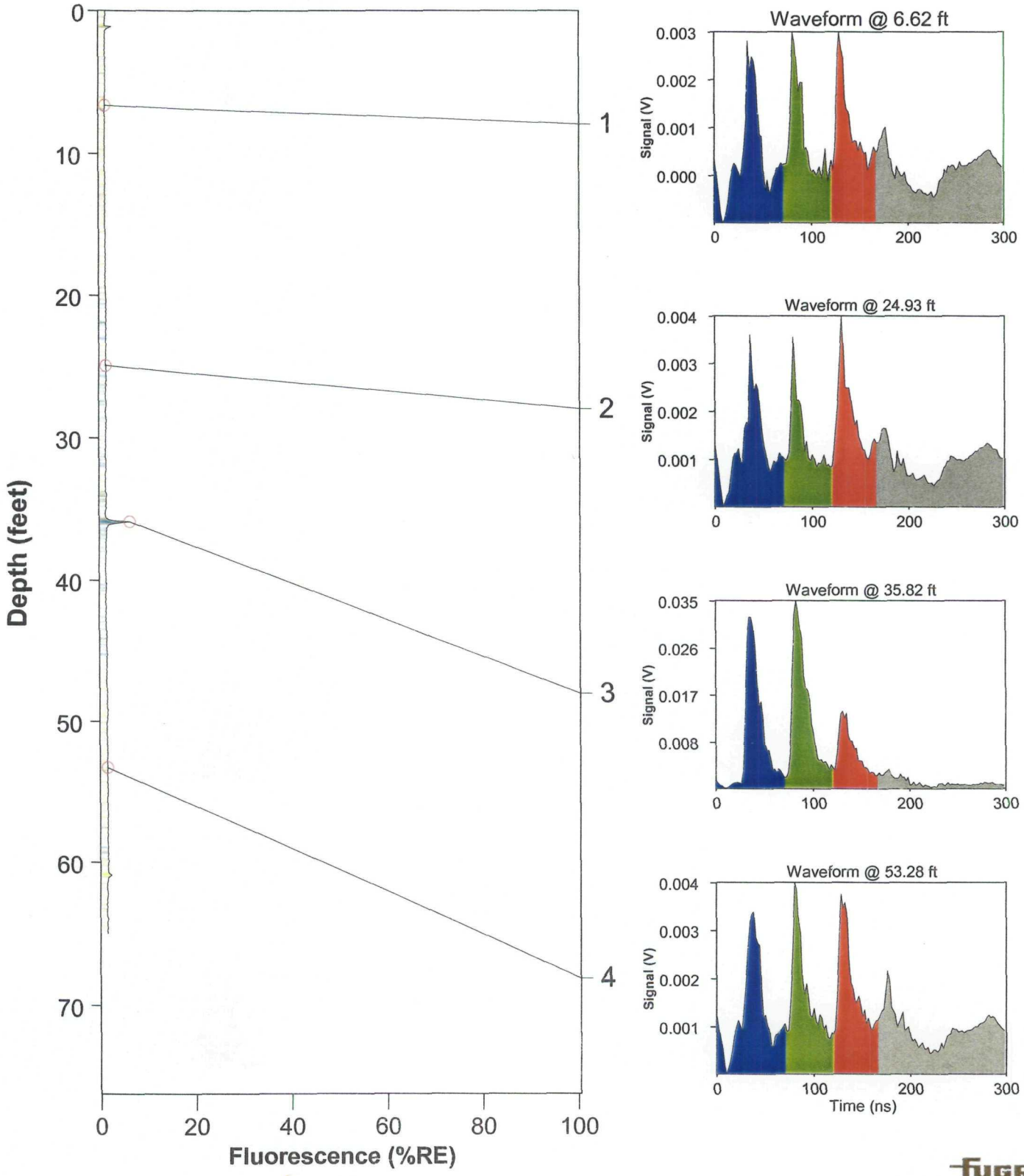
HROST-106



ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/5/2005 @ 9:13:29 AM	Max fluorescence: 5.87% @ 35.82 ft
ROST Unit: III	Final depth BGS: 65.02 ft

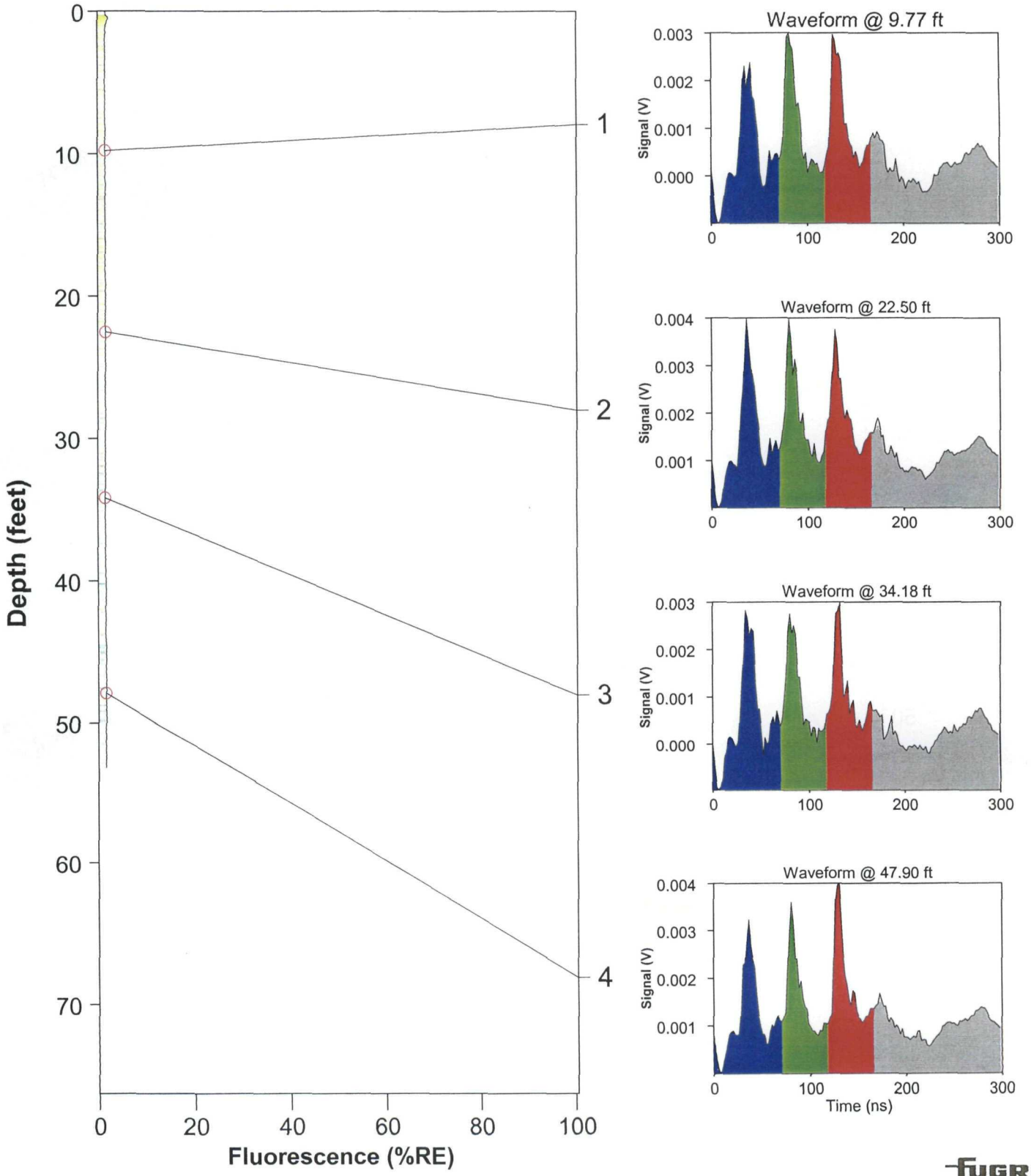
HROST-107



ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/5/2005 @ 10:14:31 AM	Max fluorescence: 1.66% @ 0.52 ft
ROST Unit: III	Final depth BGS: 53.28 ft

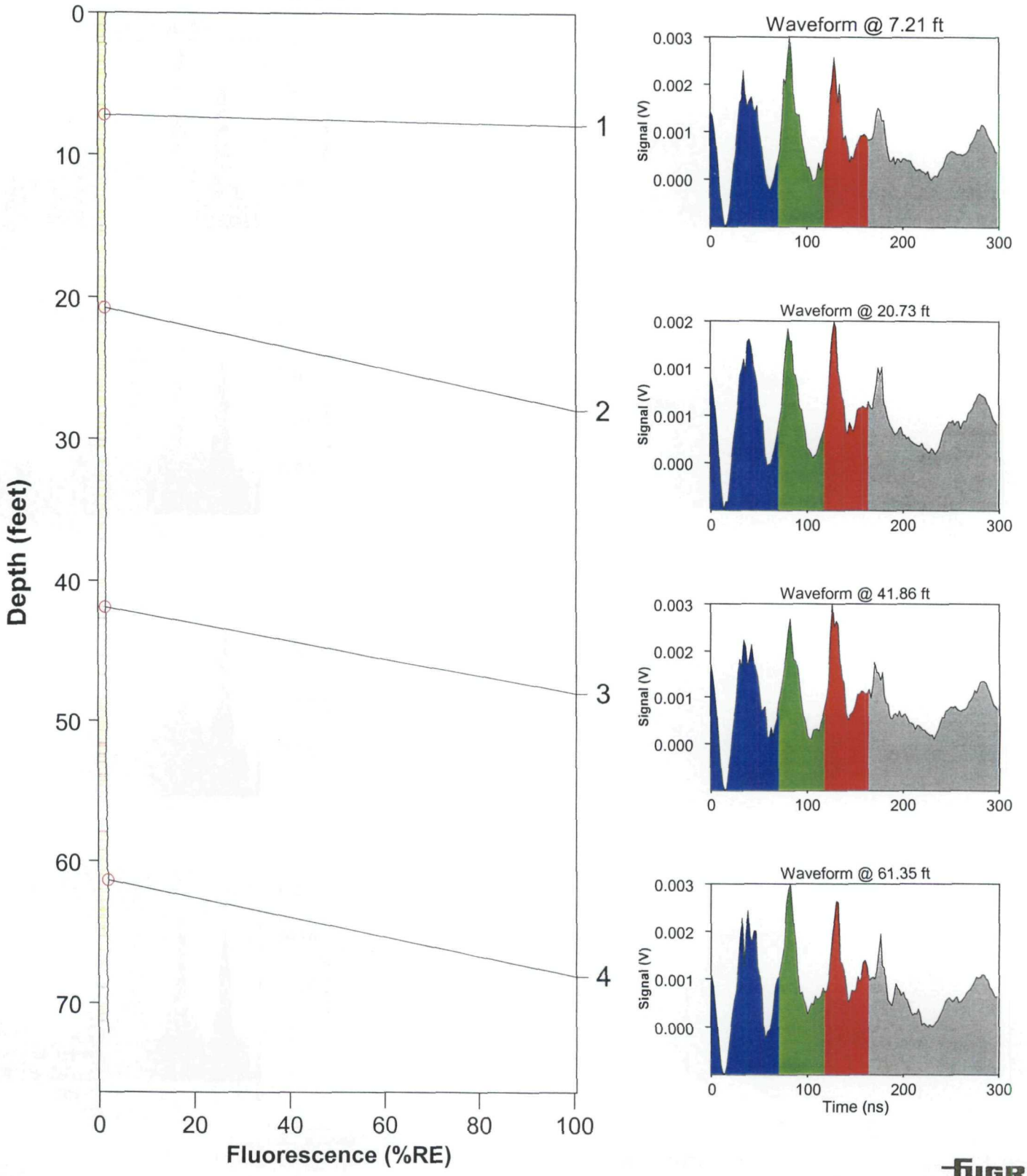
HROST-109



ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/4/2005 @ 4:35:19 PM	Max fluorescence: 1.63% @ 62.07 ft
ROST Unit: III	Final depth BGS: 72.11 ft

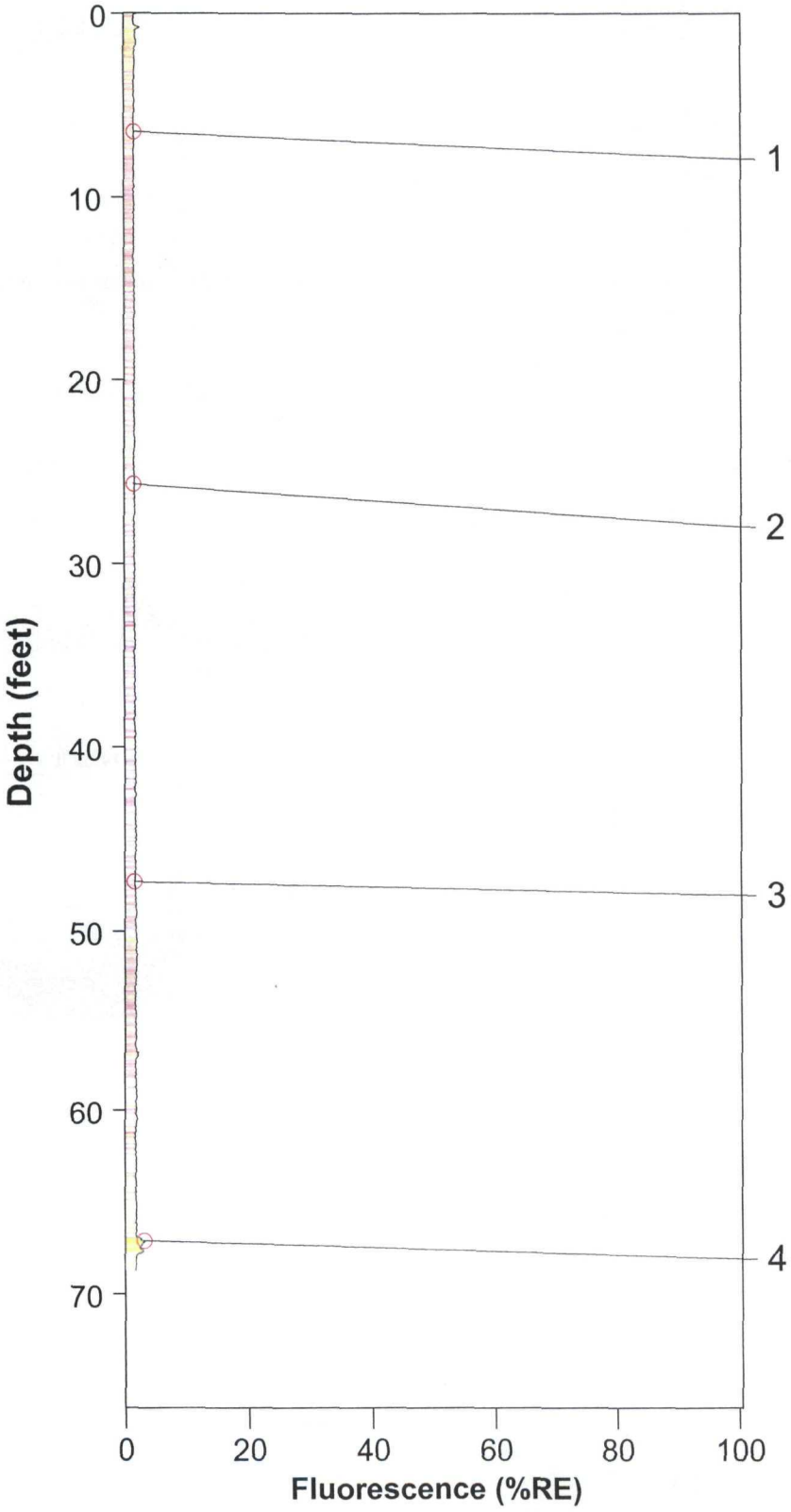
HROST-110

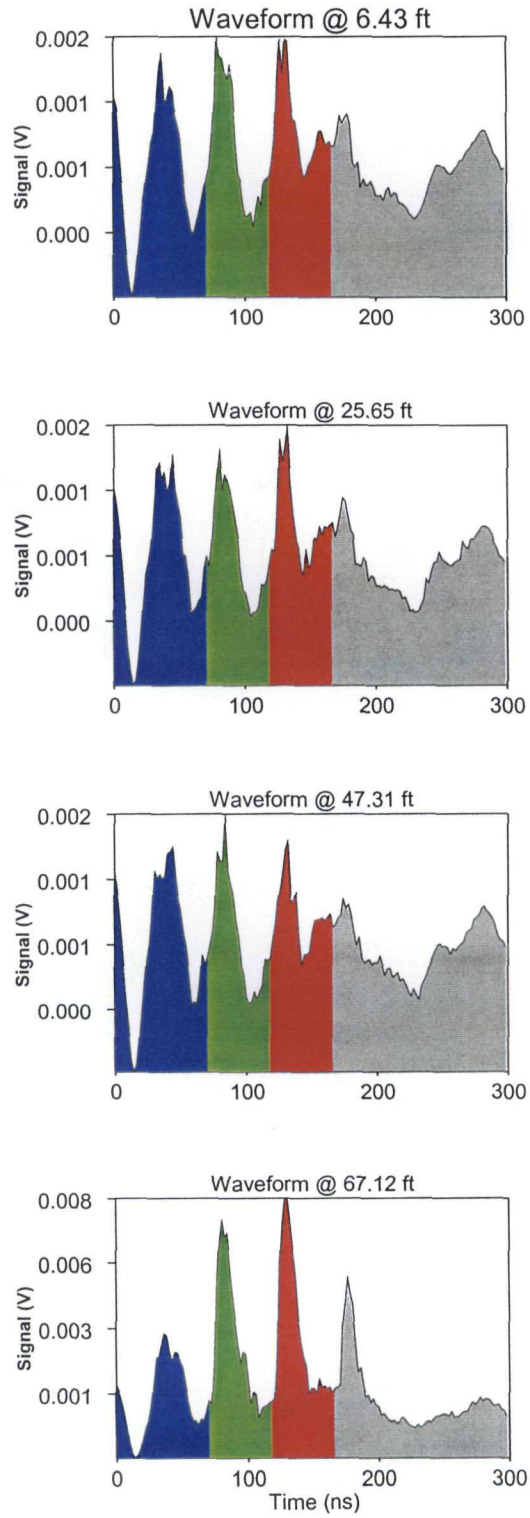


ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/4/2005 @ 3:32:18 PM	Max fluorescence: 2.63% @ 67.12 ft
ROST Unit: III	Final depth BGS: 68.76 ft

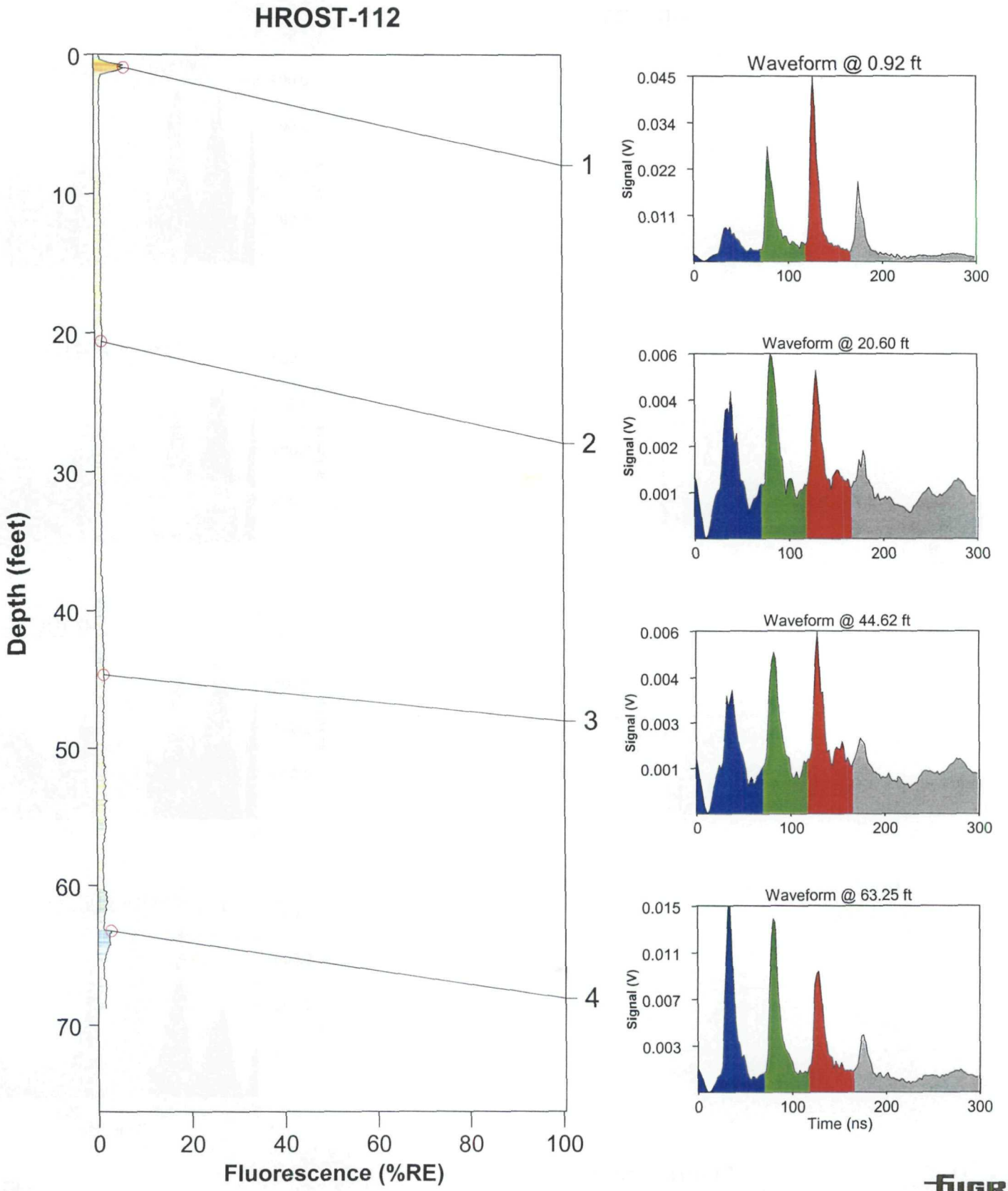
HROST-111





ROST Fluorescence Response Data

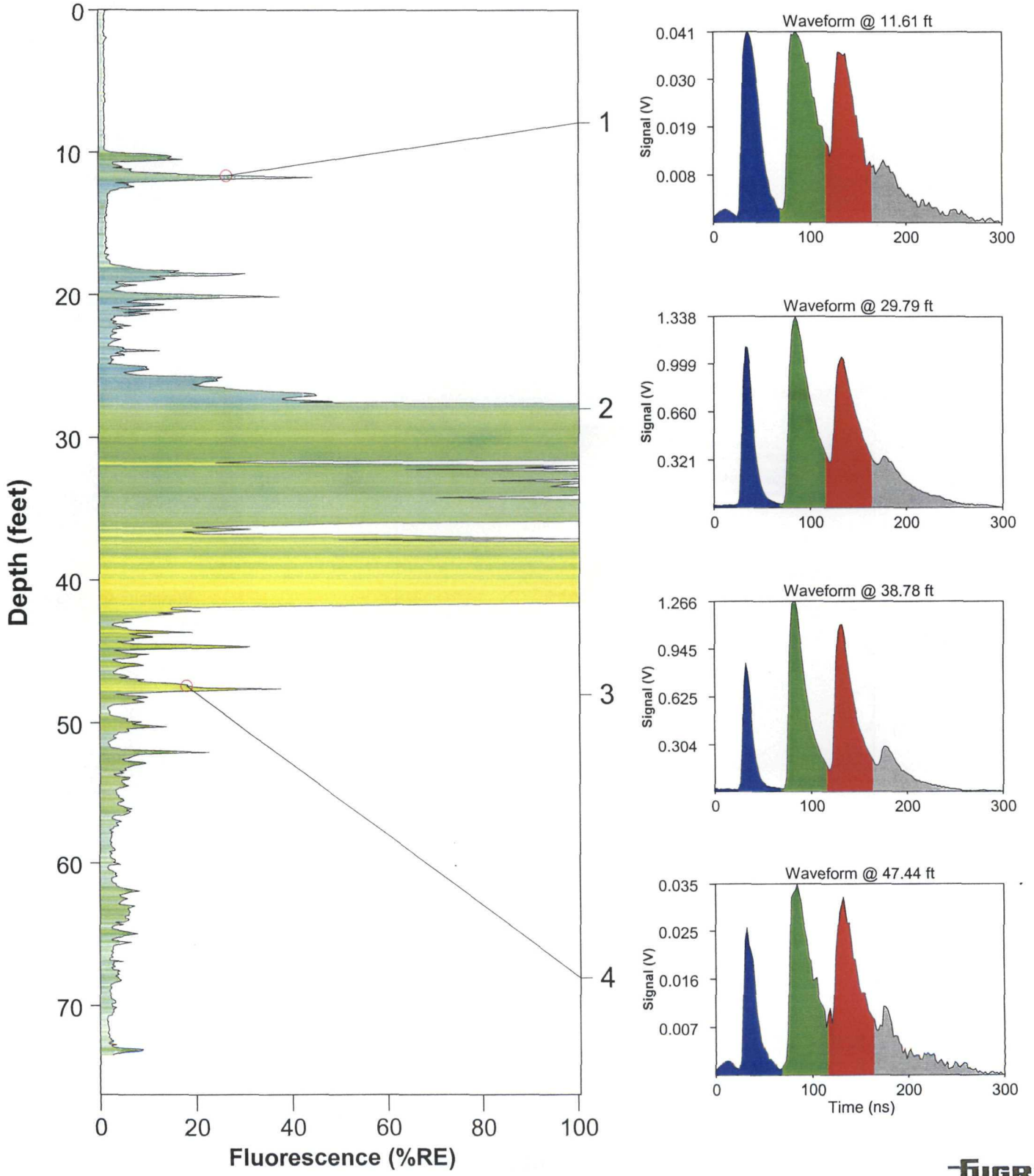
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/4/2005 @ 1:55:36 PM	Max fluorescence: 5.93% @ 0.92 ft
ROST Unit: III	Final depth BGS: 68.83 ft



ROST Fluorescence Response Data

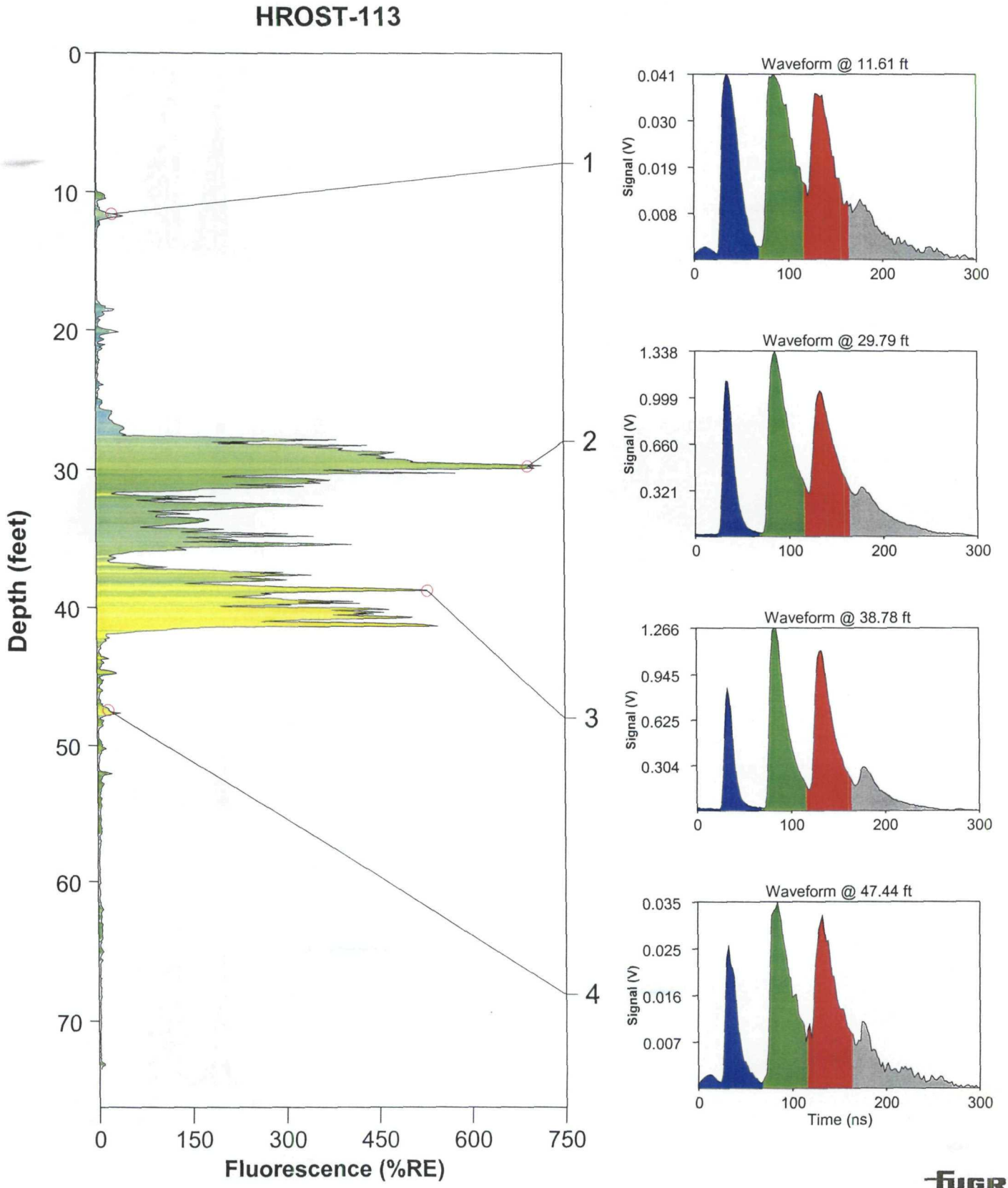
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/20/2005 @ 2:05:34 PM	Max fluorescence: 714.92% @ 29.72 ft
ROST Unit: III	Final depth BGS: 73.49 ft

HROST-113



ROST Fluorescence Response Data

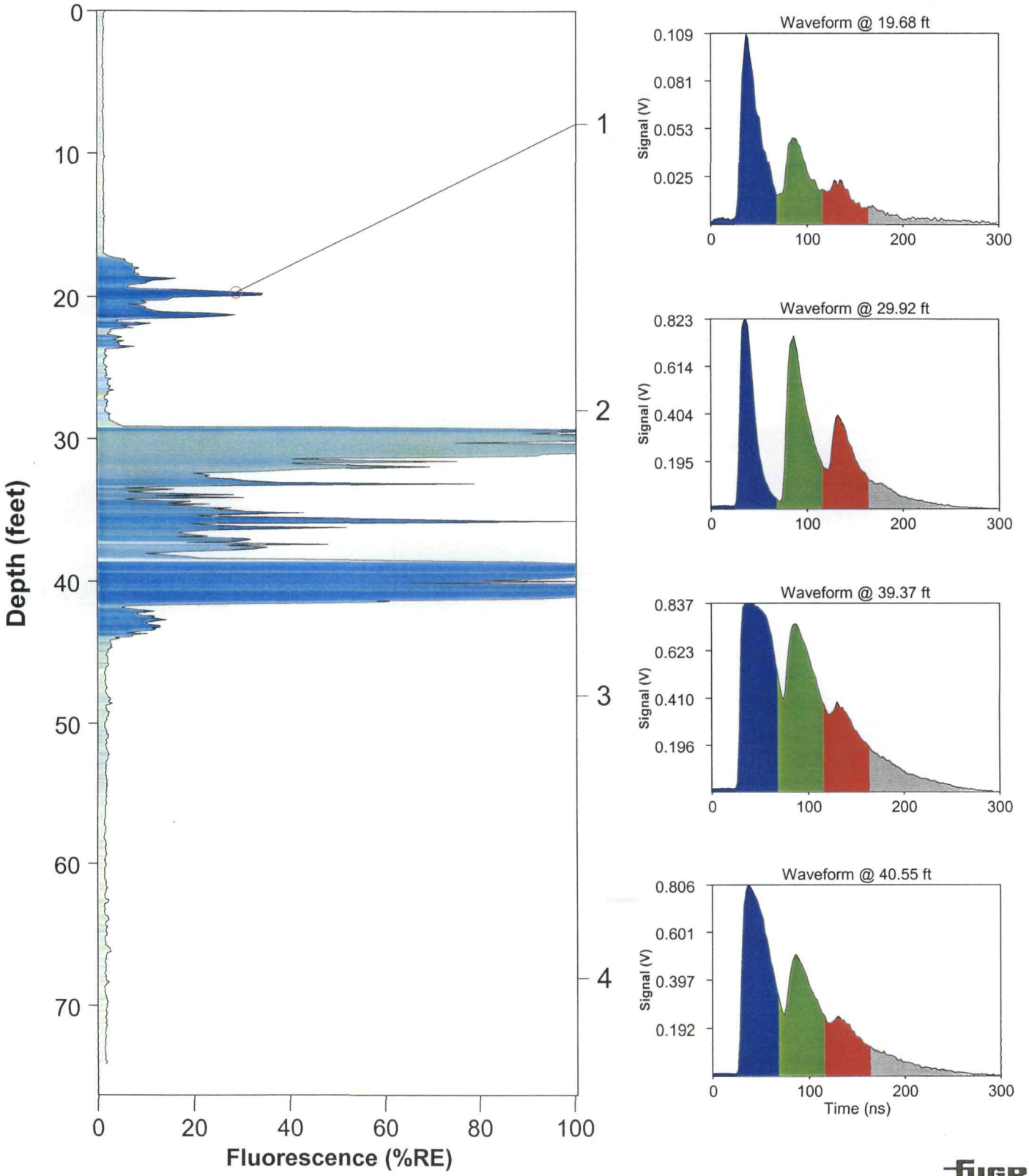
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/20/2005 @ 2:05:34 PM	Max fluorescence: 714.92% @ 29.72 ft
ROST Unit: III	Final depth BGS: 73.49 ft



ROST Fluorescence Response Data

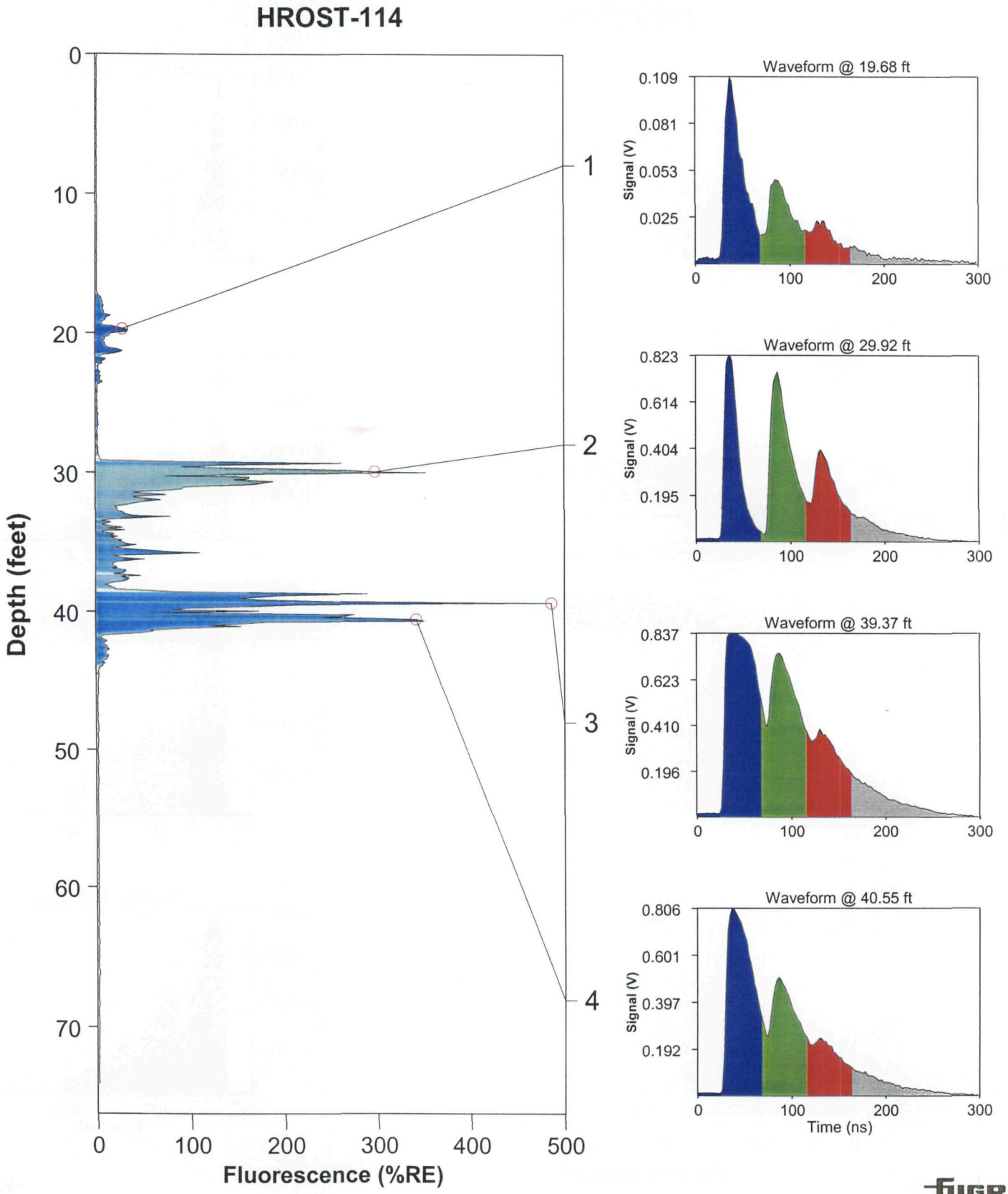
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/20/2005 @ 3:32:14 PM	Max fluorescence: 486.02% @ 39.37 ft
ROST Unit: III	Final depth BGS: 74.08 ft

HROST-114



ROST Fluorescence Response Data

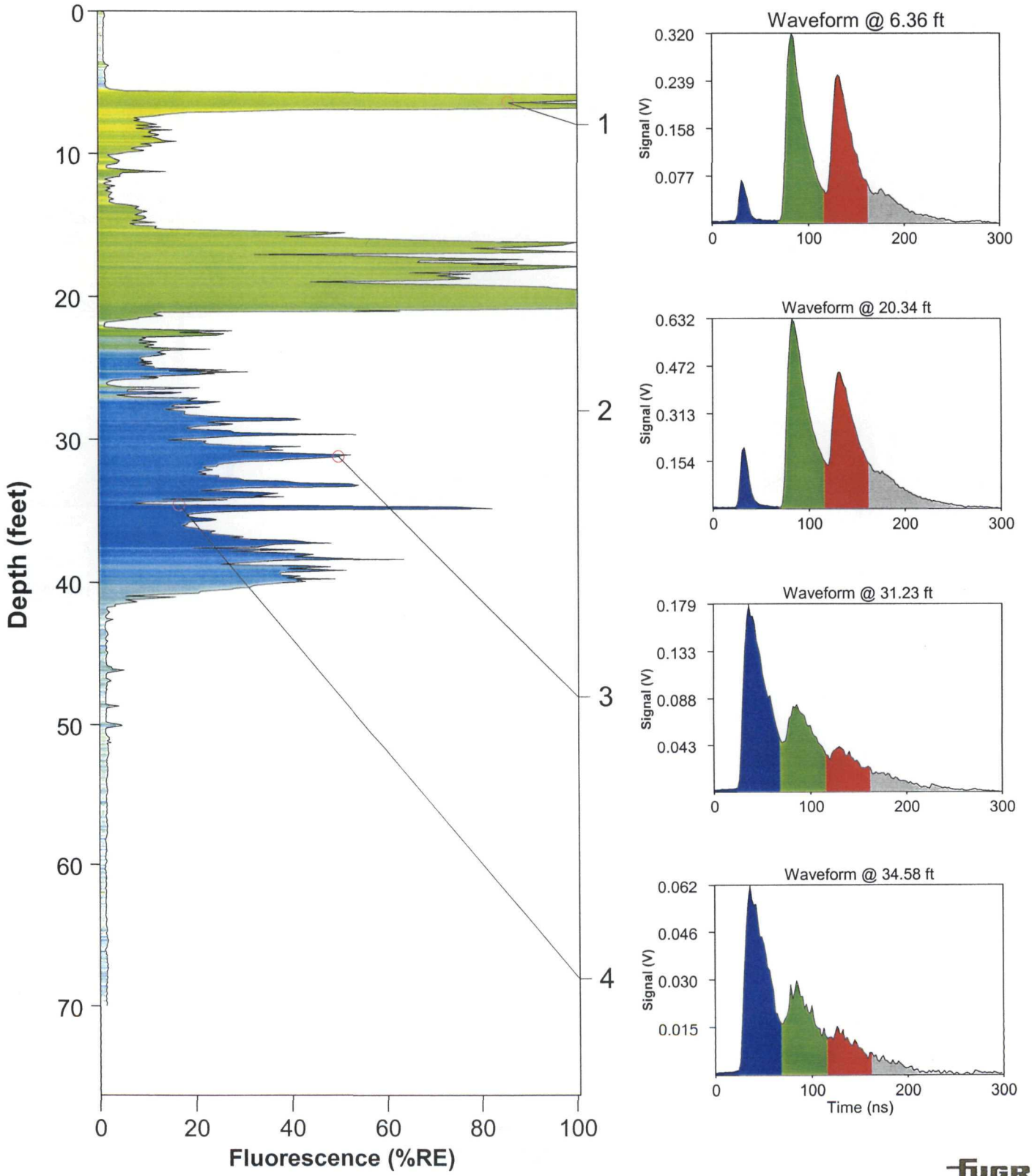
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/20/2005 @ 3:32:14 PM	Max fluorescence: 486.02% @ 39.37 ft
ROST Unit: III	Final depth BGS: 74.08 ft



ROST Fluorescence Response Data

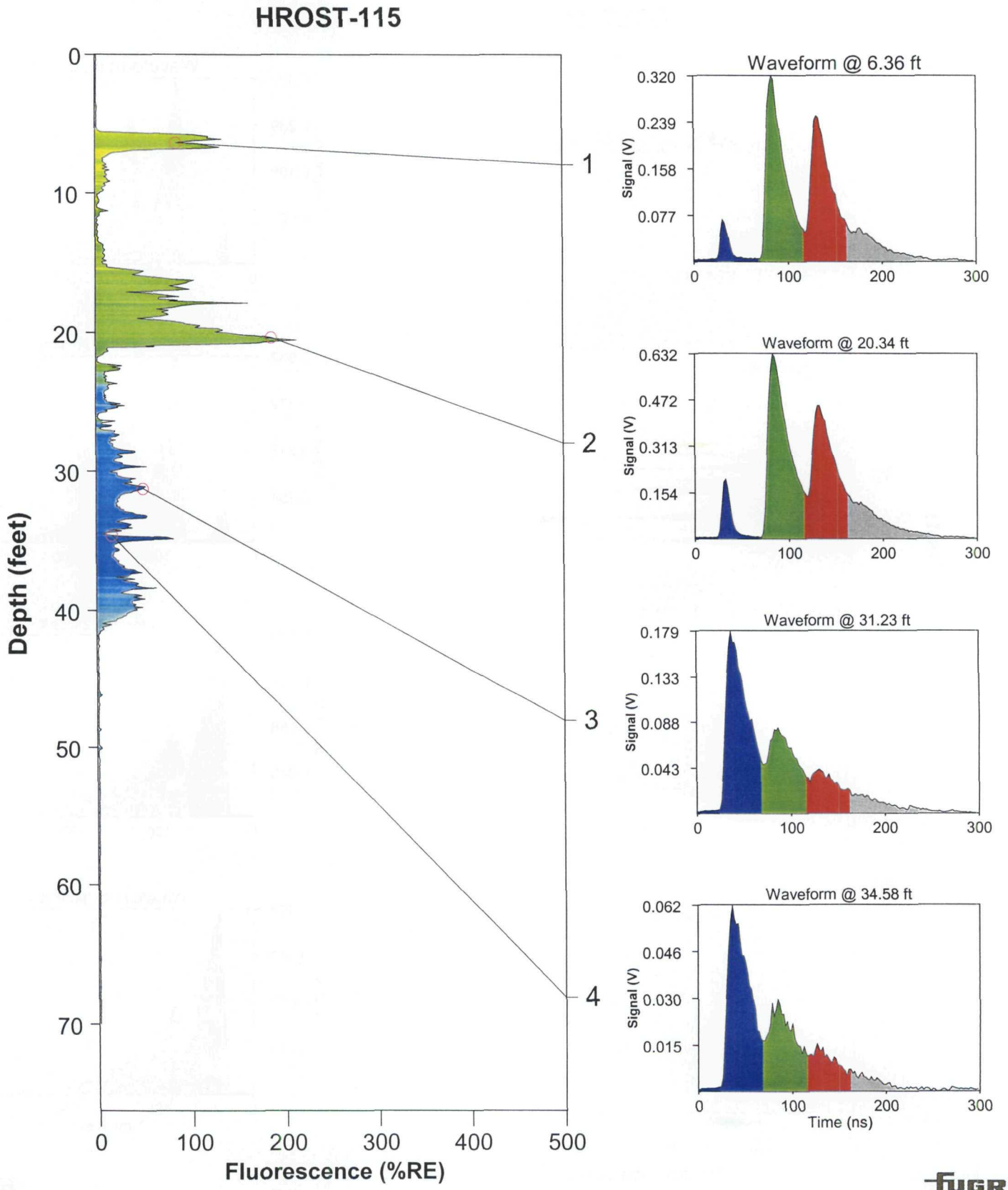
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 4:32:48 PM	Max fluorescence: 214.11% @ 20.53 ft
ROST Unit: III	Final depth BGS: 70.01 ft

HROST-115



ROST Fluorescence Response Data

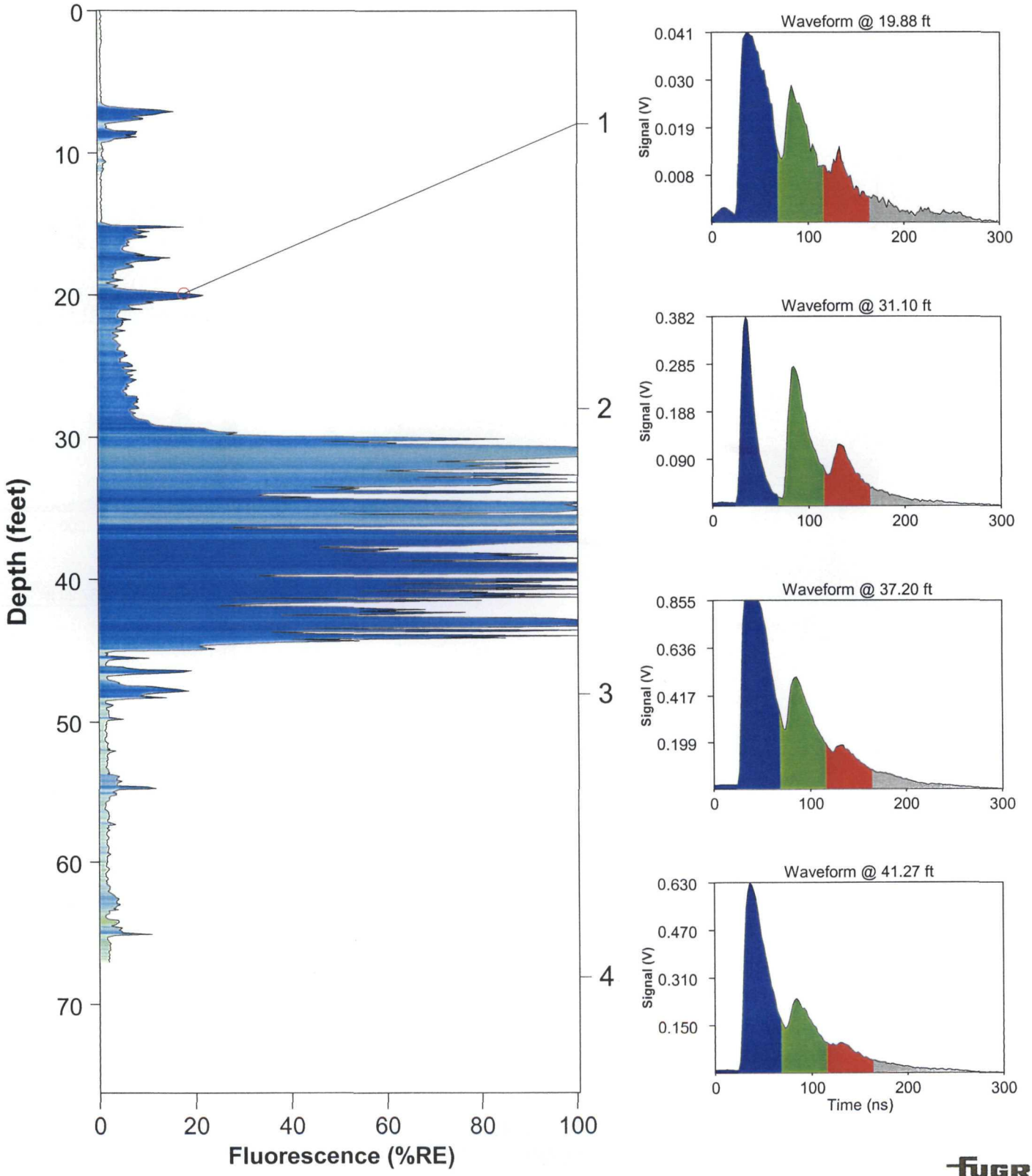
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 4:32:48 PM	Max fluorescence: 214.11% @ 20.53 ft
ROST Unit: III	Final depth BGS: 70.01 ft



ROST Fluorescence Response Data

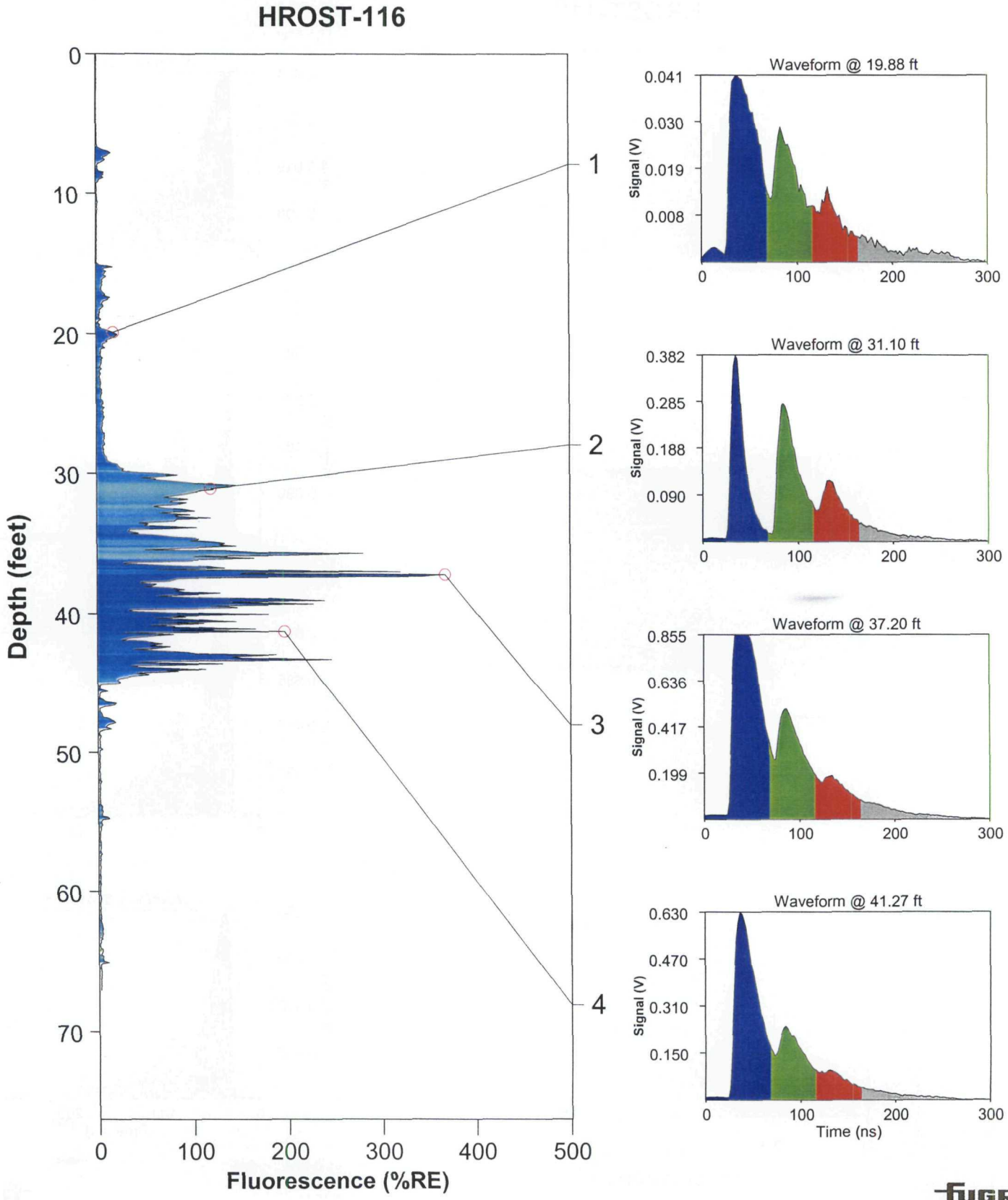
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/20/2005 @ 4:45:34 PM	Max fluorescence: 367.59% @ 37.20 ft
ROST Unit: III	Final depth BGS: 67.06 ft

HROST-116



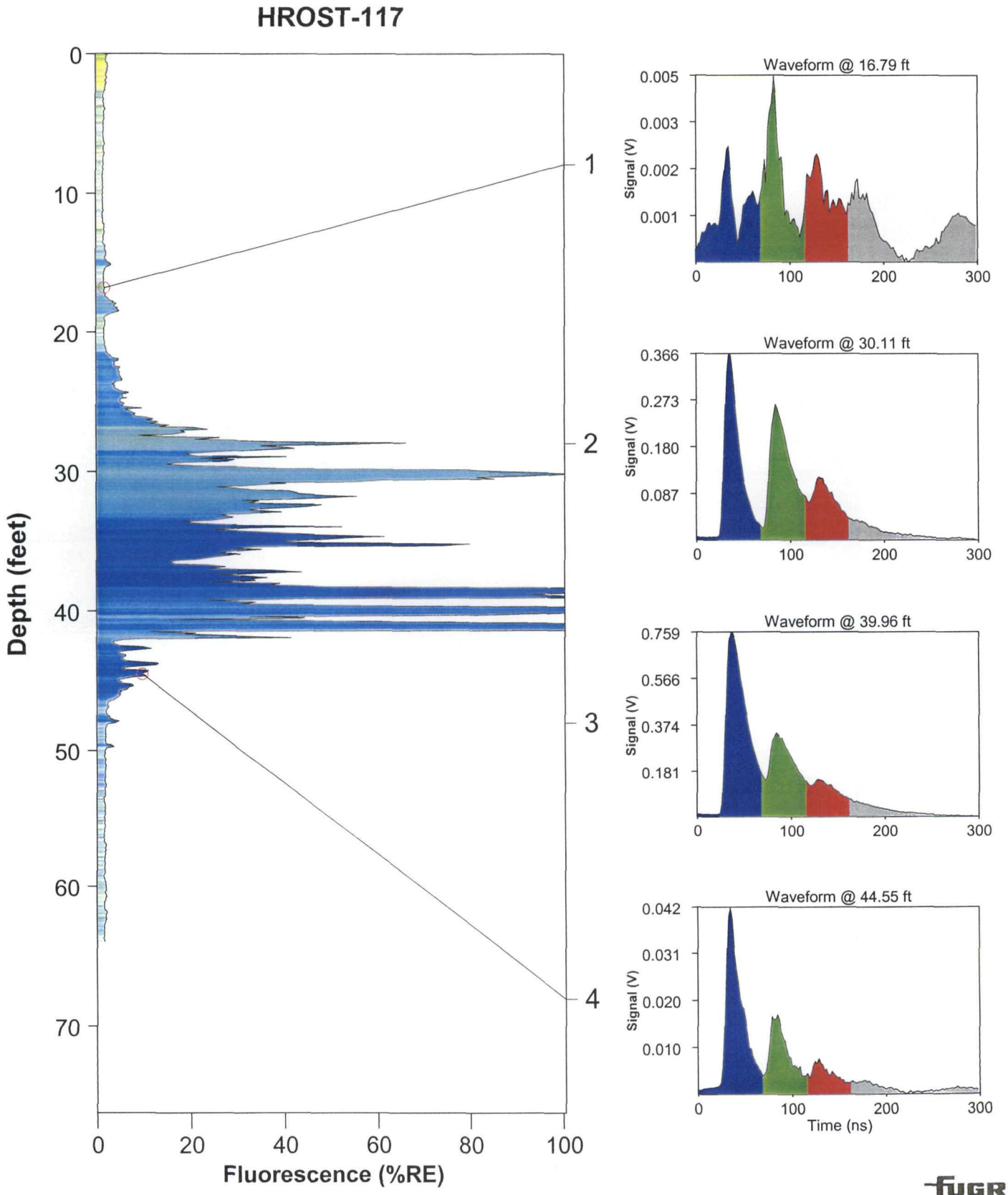
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/20/2005 @ 4:45:34 PM	Max fluorescence: 367.59% @ 37.20 ft
ROST Unit: III	Final depth BGS: 67.06 ft



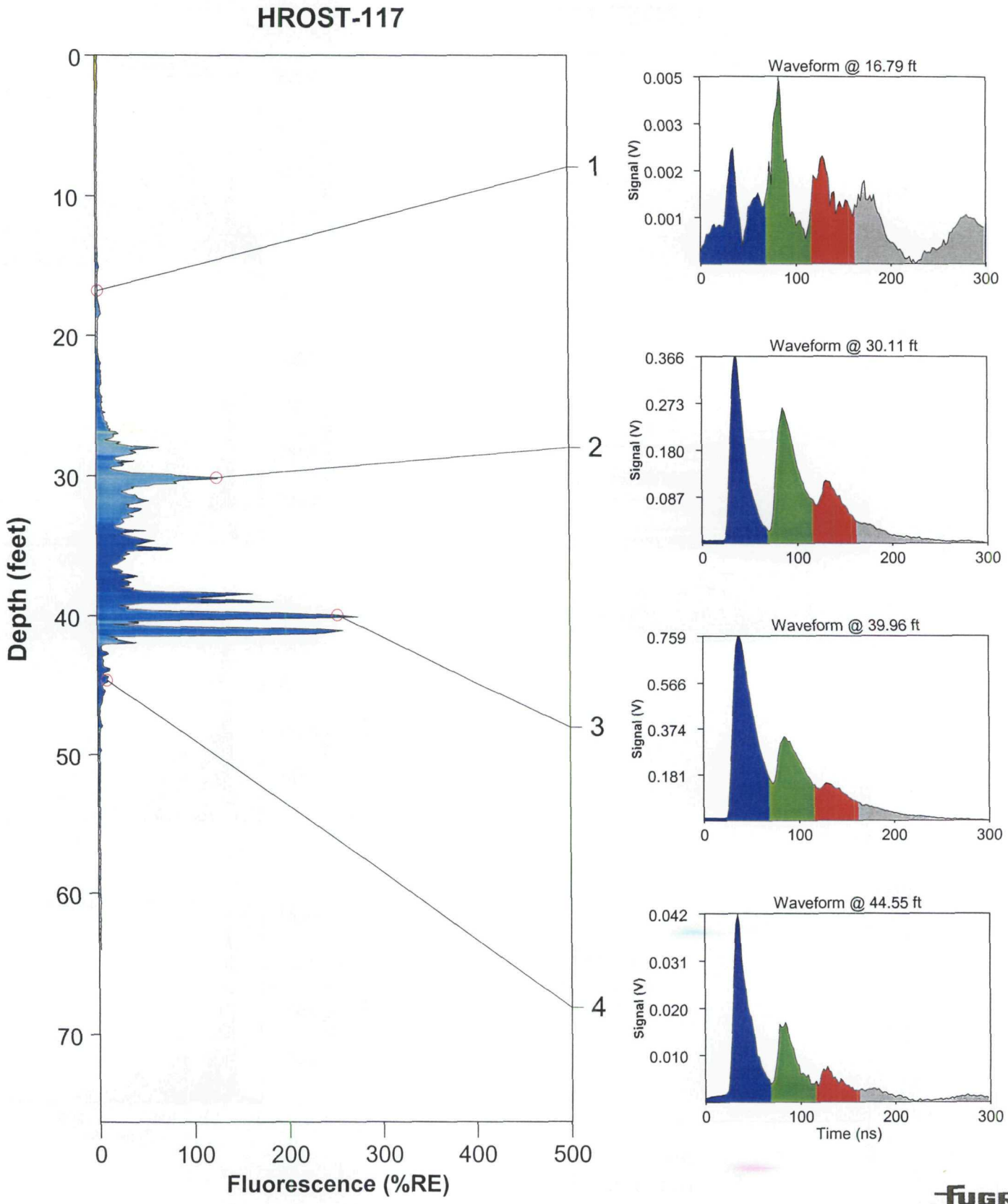
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 3:36:35 PM	Max fluorescence: 275.69% @ 40.09 ft
ROST Unit: III	Final depth BGS: 64.04 ft



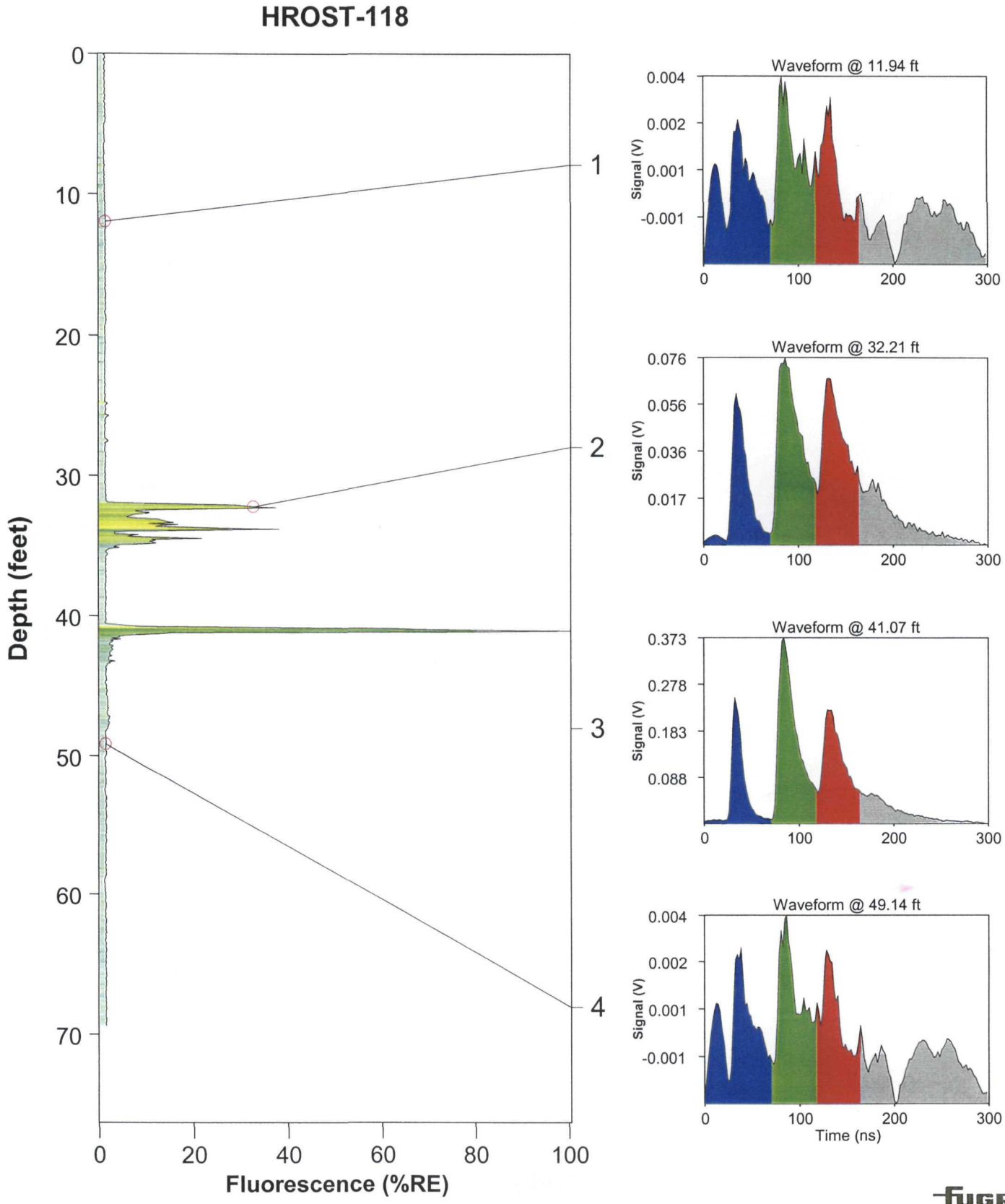
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 3:36:35 PM	Max fluorescence: 275.69% @ 40.09 ft
ROST Unit: III	Final depth BGS: 64.04 ft



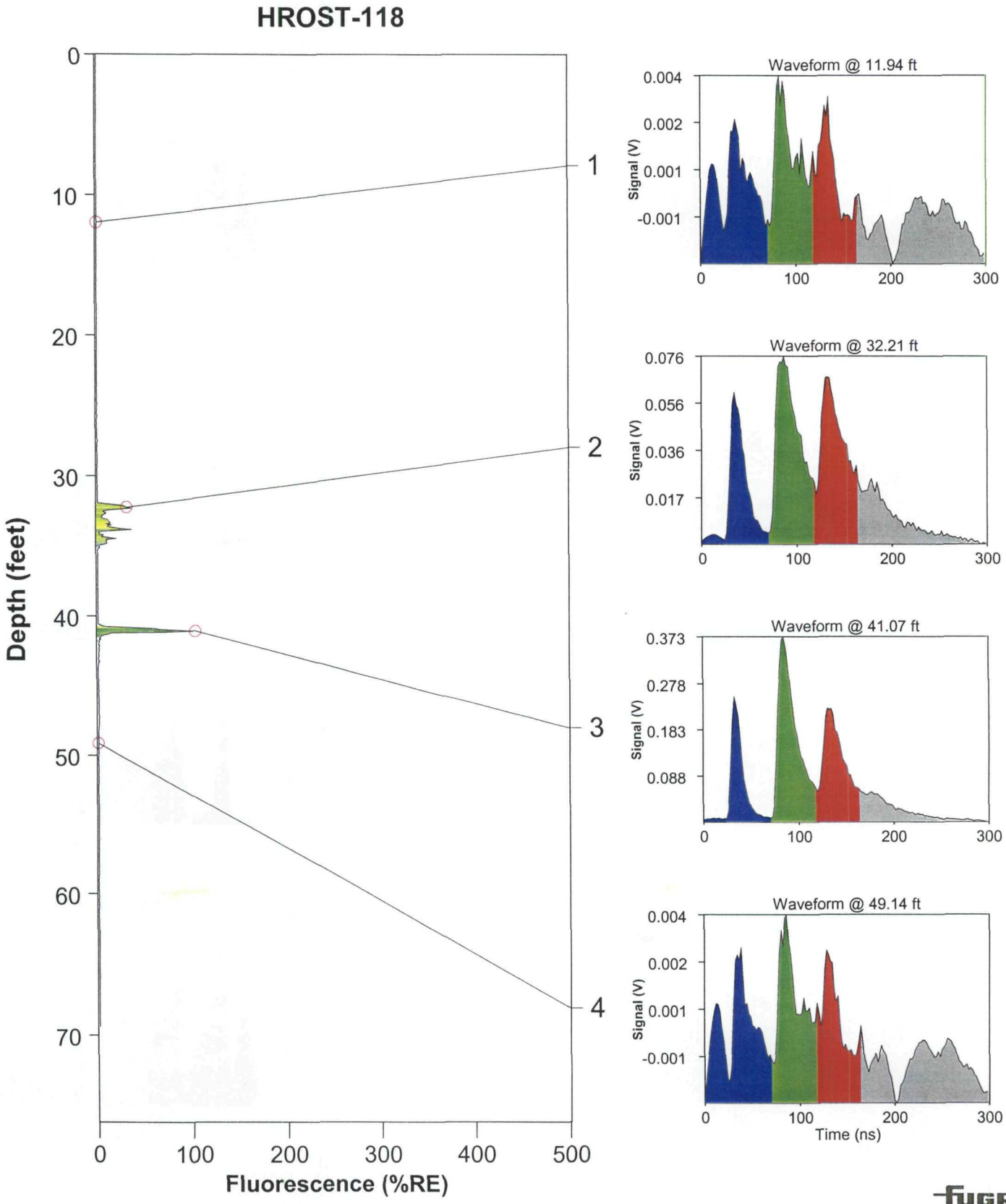
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 10:23:01 AM	Max fluorescence: 104.21% @ 41.07 ft
ROST Unit: III	Final depth BGS: 69.42 ft



ROST Fluorescence Response Data

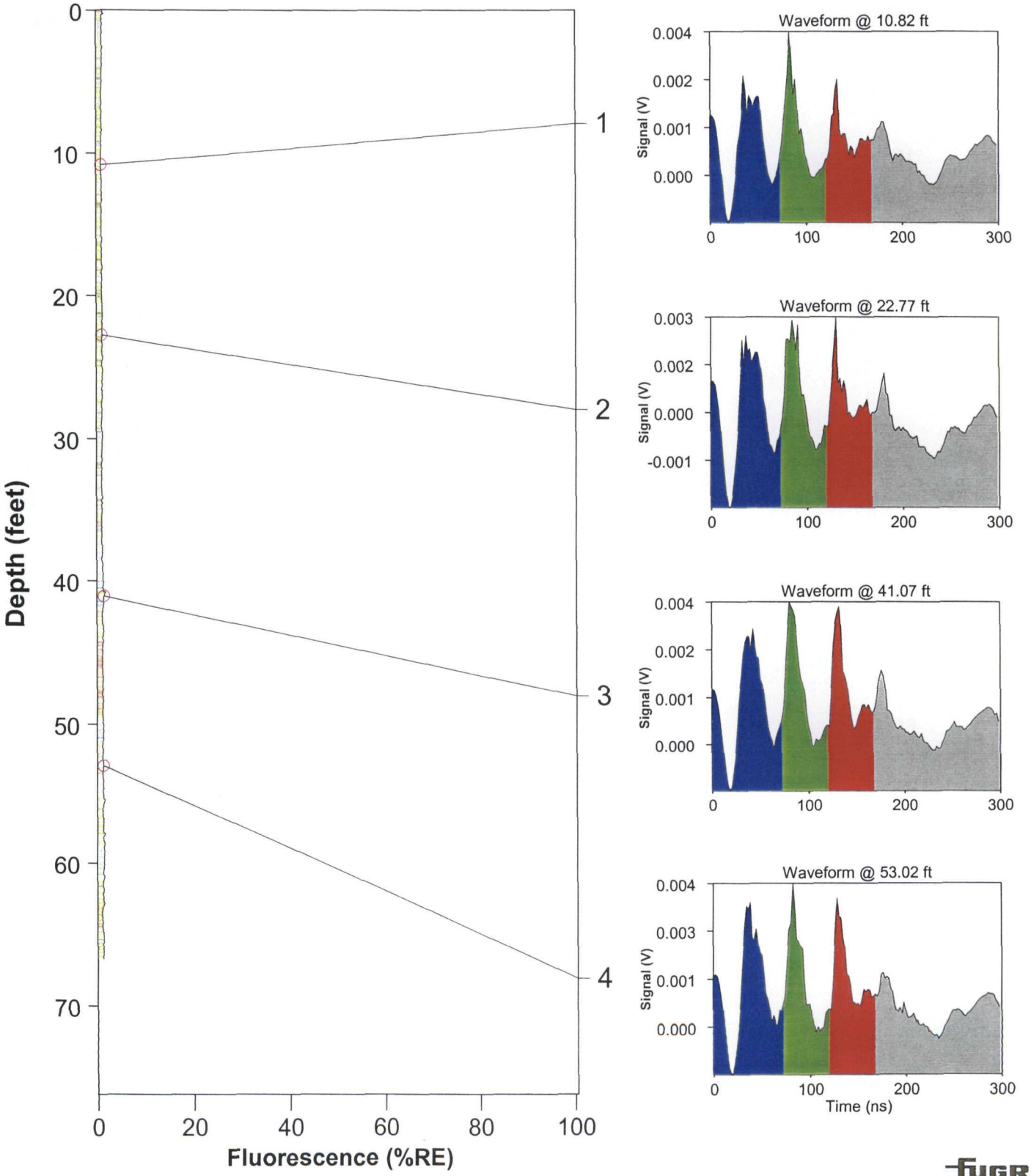
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/21/2005 @ 10:23:01 AM	Max fluorescence: 104.21% @ 41.07 ft
ROST Unit: III	Final depth BGS: 69.42 ft



ROST Fluorescence Response Data

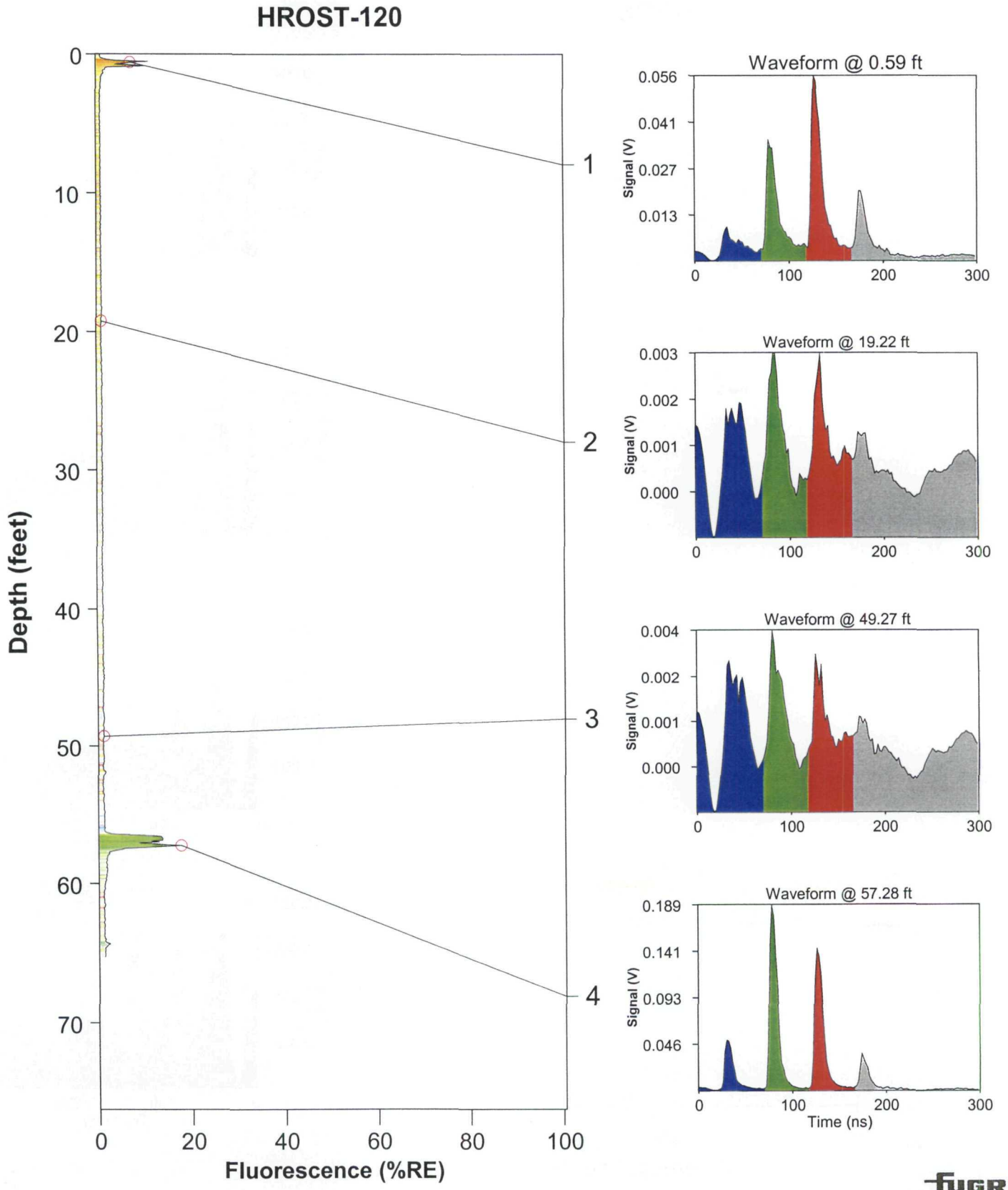
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/4/2005 @ 9:37:38 AM	Max fluorescence: 1.39% @ 40.81 ft
ROST Unit: III	Final depth BGS: 66.73 ft

HROST-119



ROST Fluorescence Response Data

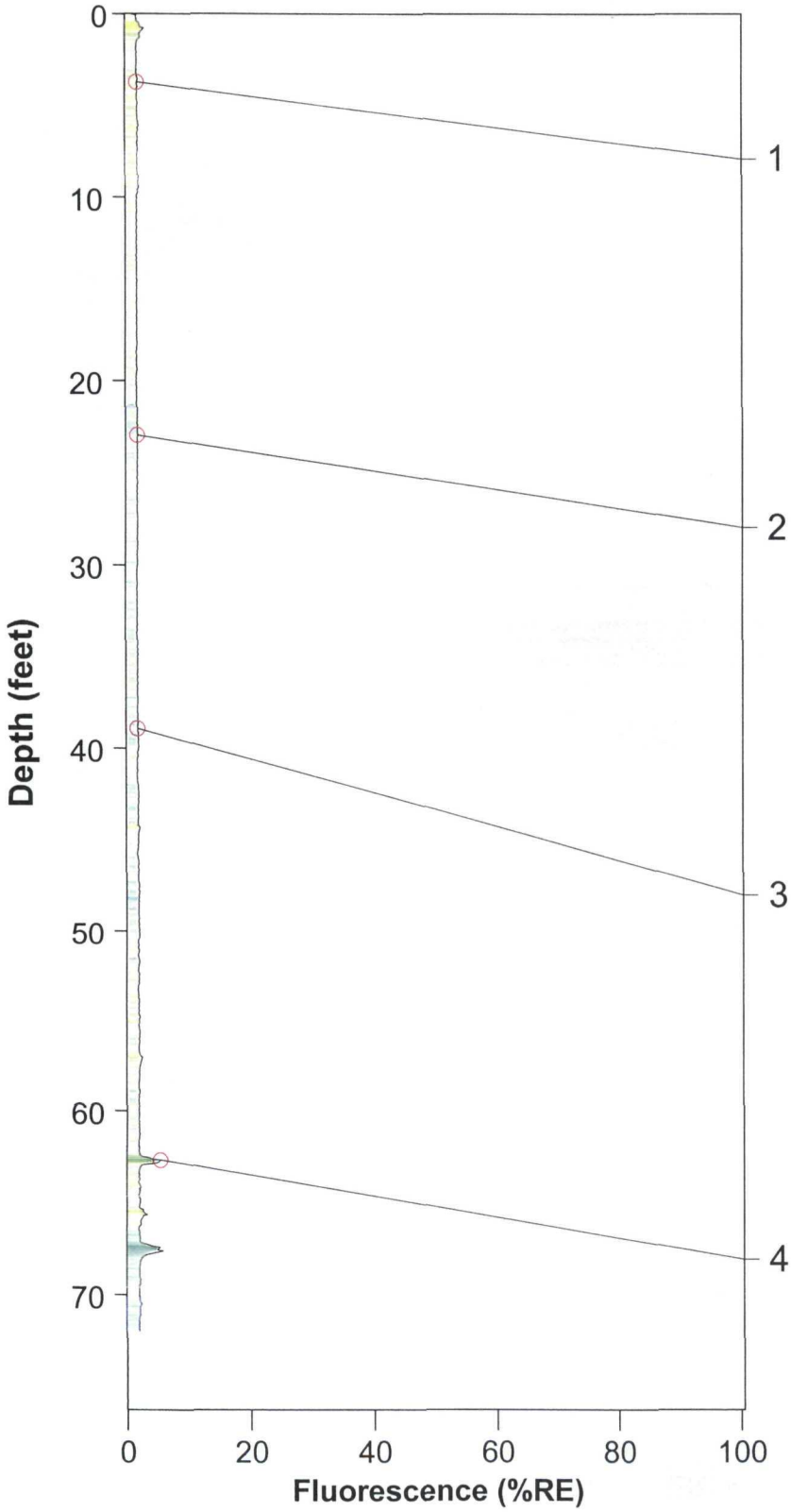
Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/4/2005 @ 10:42:05 AM	Max fluorescence: 17.21% @ 57.28 ft
ROST Unit: III	Final depth BGS: 65.29 ft

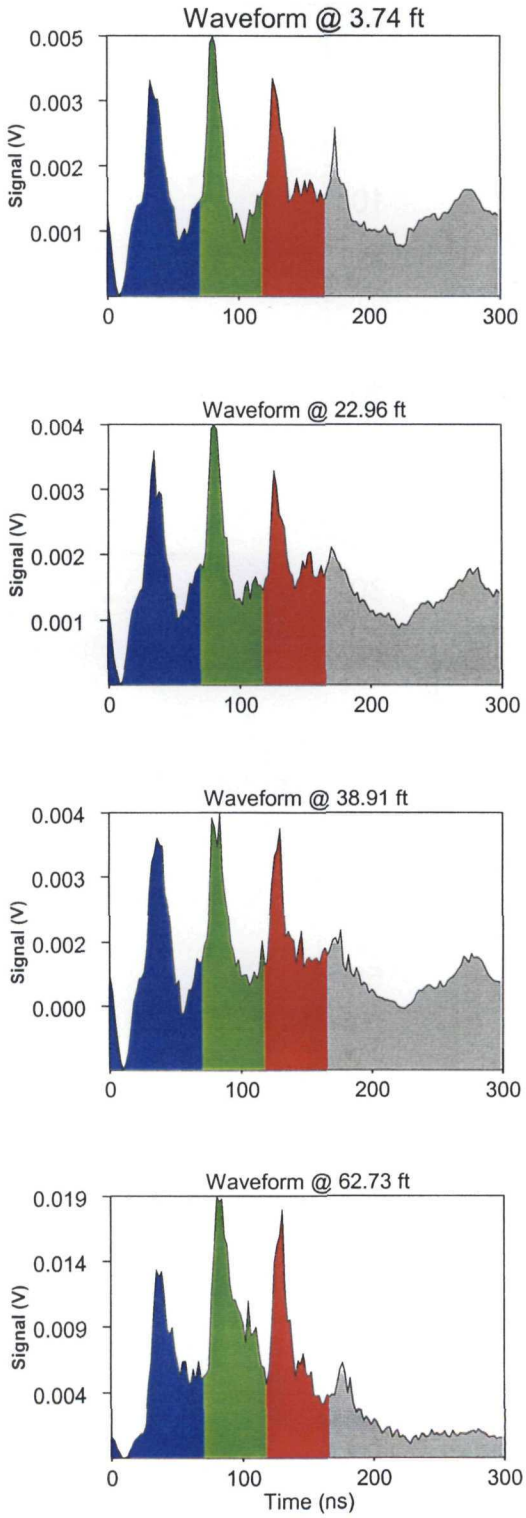


ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/4/2005 @ 12:21:05 PM	Max fluorescence: 5.37% @ 67.65 ft
ROST Unit: III	Final depth BGS: 71.98 ft

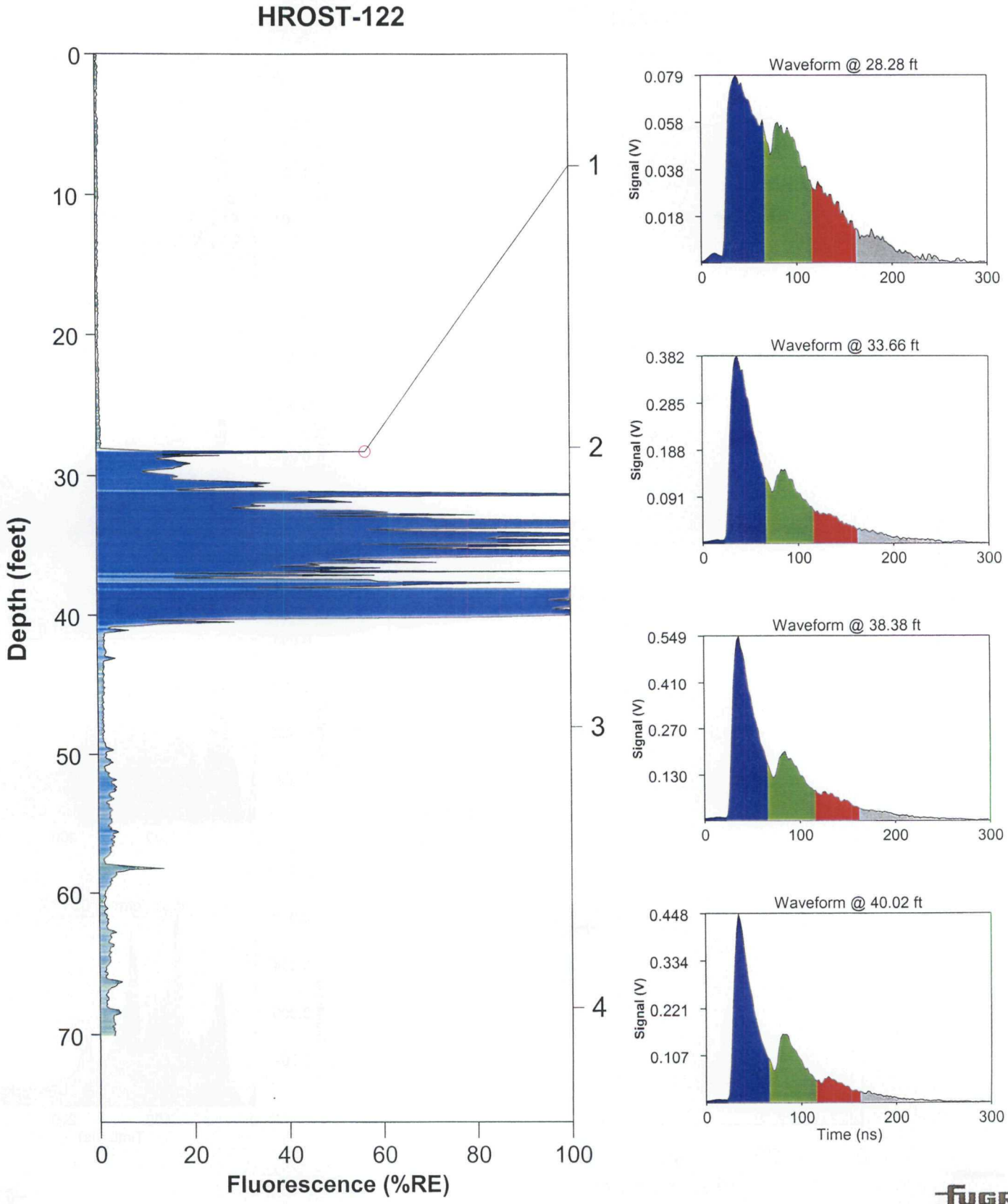
HROST-121





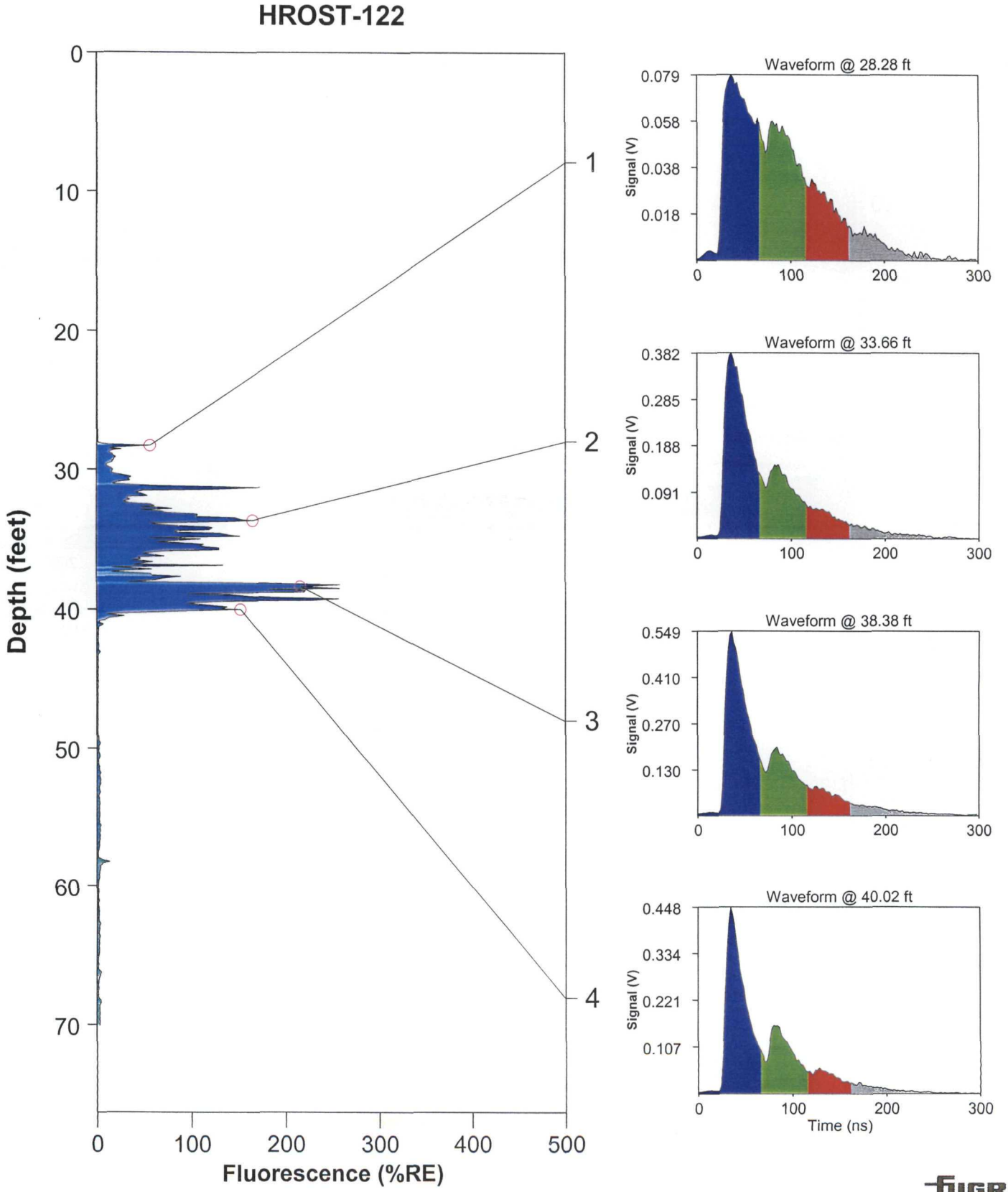
ROST Fluorescence Response Data

Site: Village of Hartford working group.	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 8/15/2005 @ 12:52:07 PM	Max fluorescence: 258.14% @ 38.25 ft
ROST Unit: III	Final depth BGS: 70.08 ft



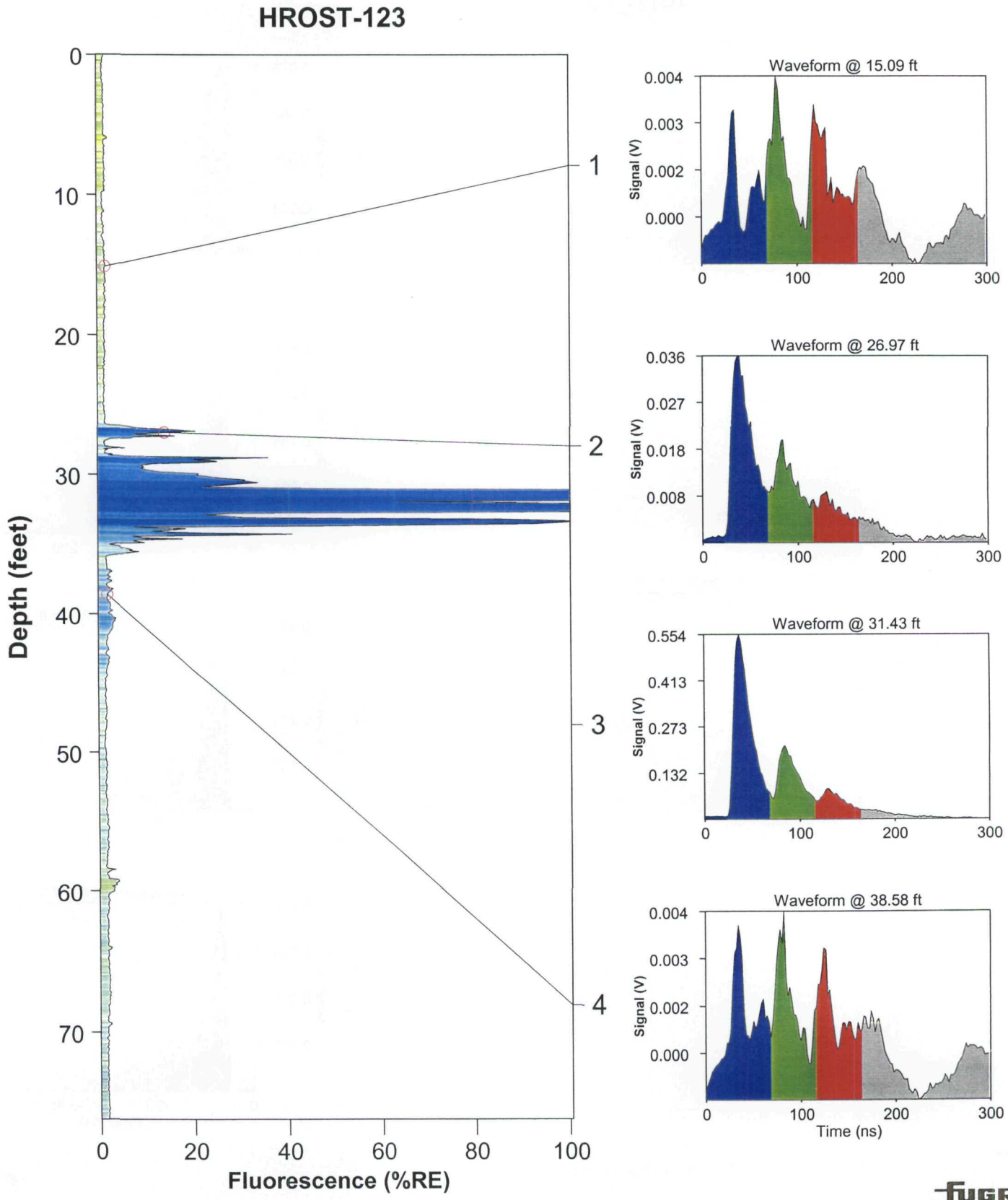
ROST Fluorescence Response Data

Site: Village of Hartford working group.	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 8/15/2005 @ 12:52:07 PM	Max fluorescence: 258.14% @ 38.25 ft
ROST Unit: III	Final depth BGS: 70.08 ft



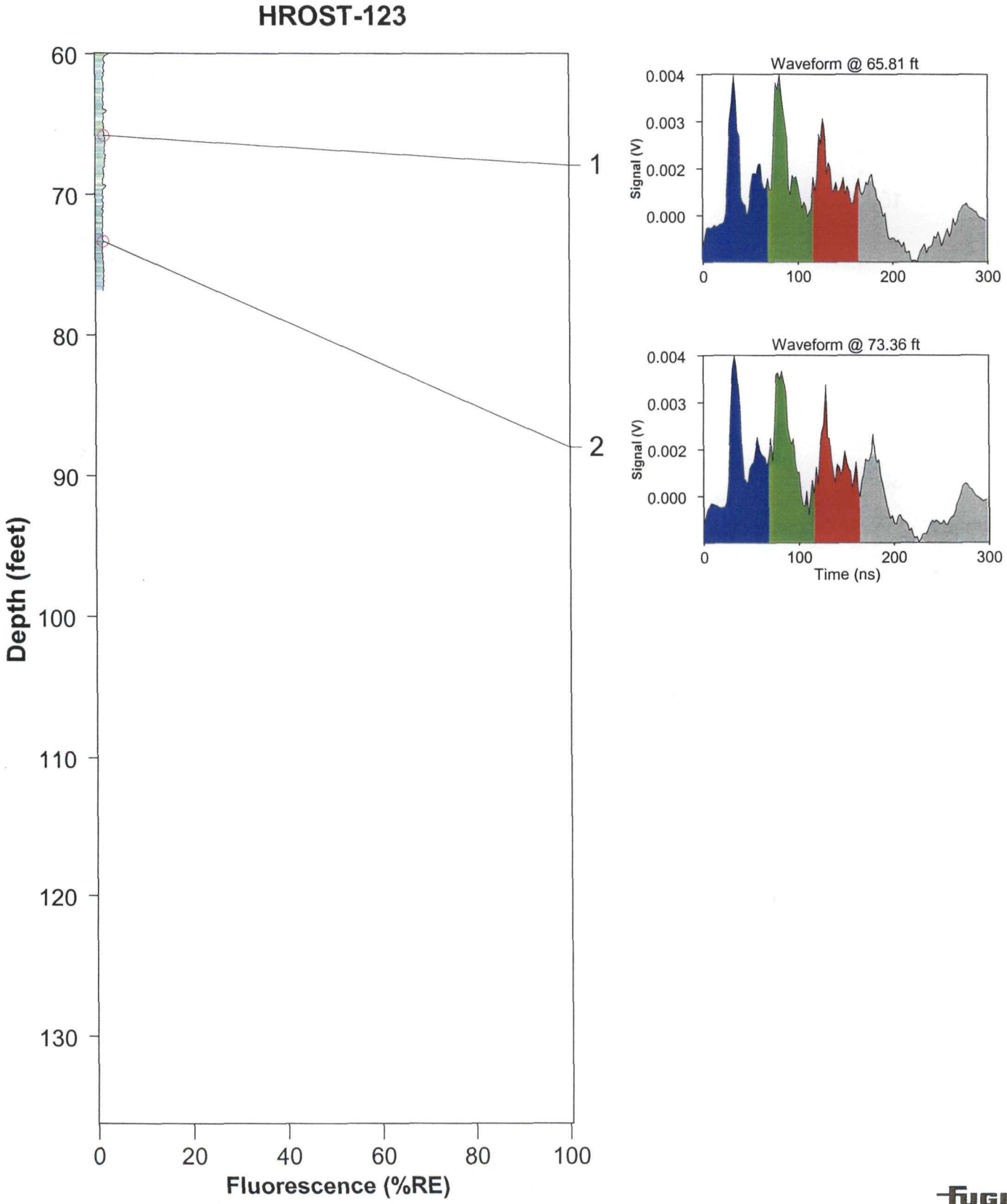
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 2:32:25 PM	Max fluorescence: 166.42% @ 32.35 ft
ROST Unit: III	Final depth BGS: 76.90 ft



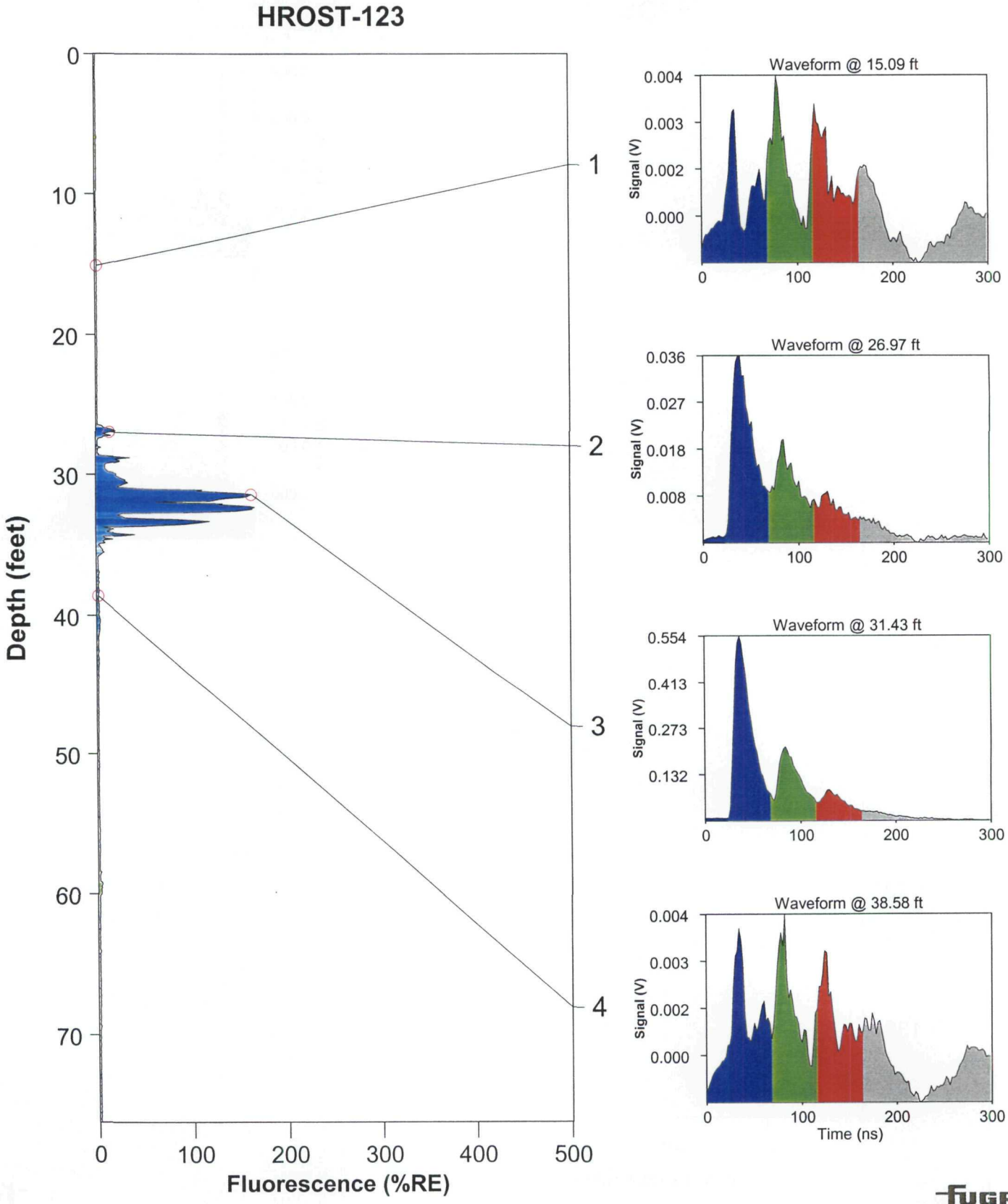
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 2:32:25 PM	Max fluorescence: 166.42% @ 32.35 ft
ROST Unit: III	Final depth BGS: 76.90 ft



ROST Fluorescence Response Data

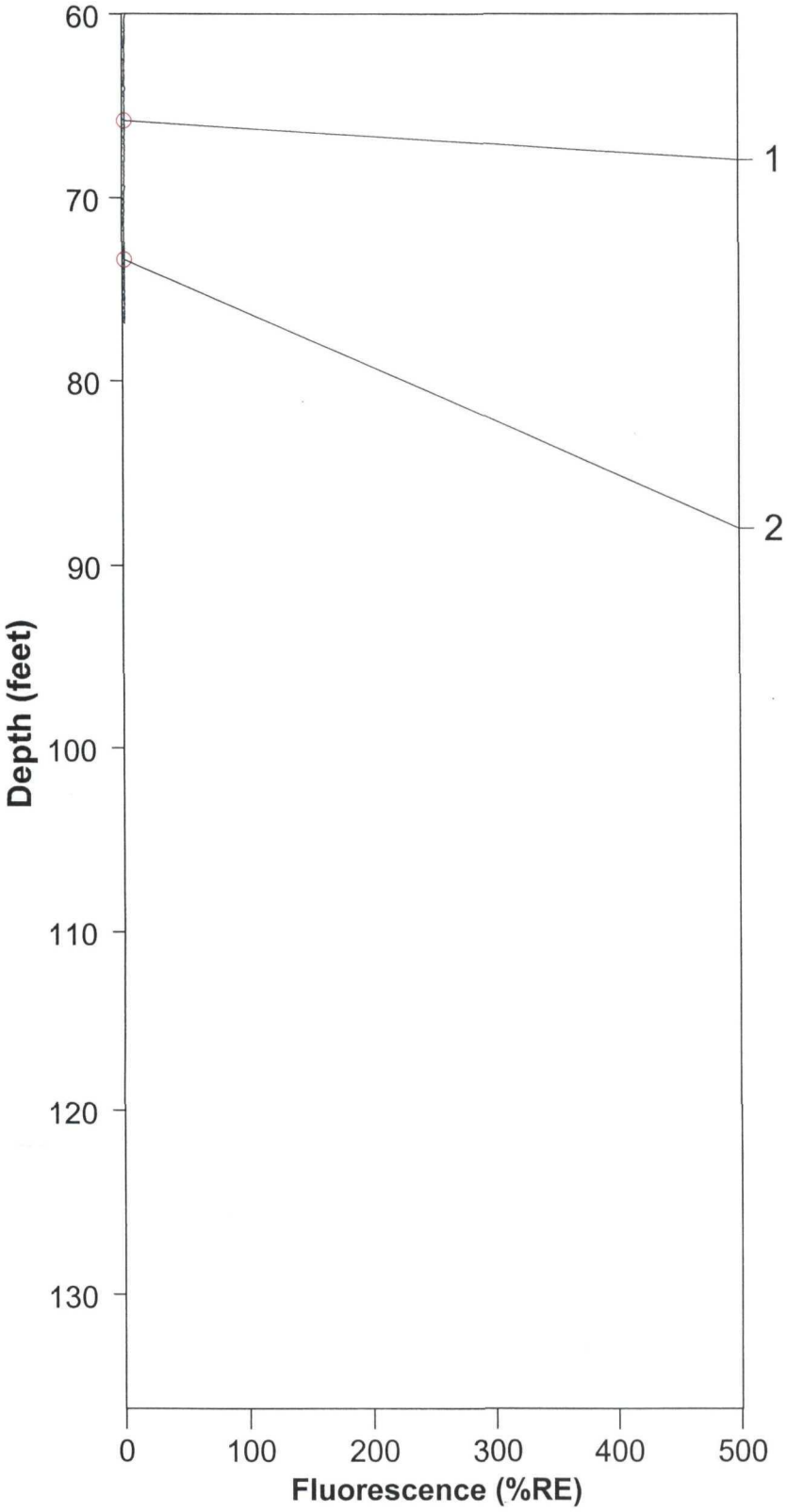
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 2:32:25 PM	Max fluorescence: 166.42% @ 32.35 ft
ROST Unit: III	Final depth BGS: 76.90 ft

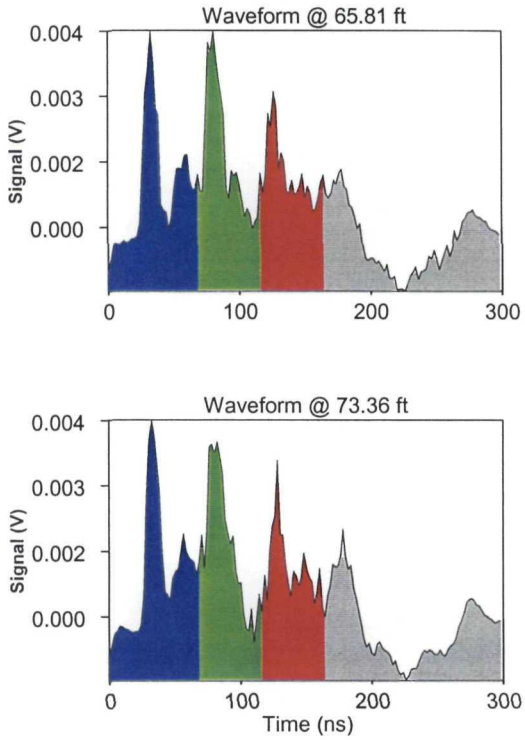


ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 2:32:25 PM	Max fluorescence: 166.42% @ 32.35 ft
ROST Unit: III	Final depth BGS: 76.90 ft

HROST-123

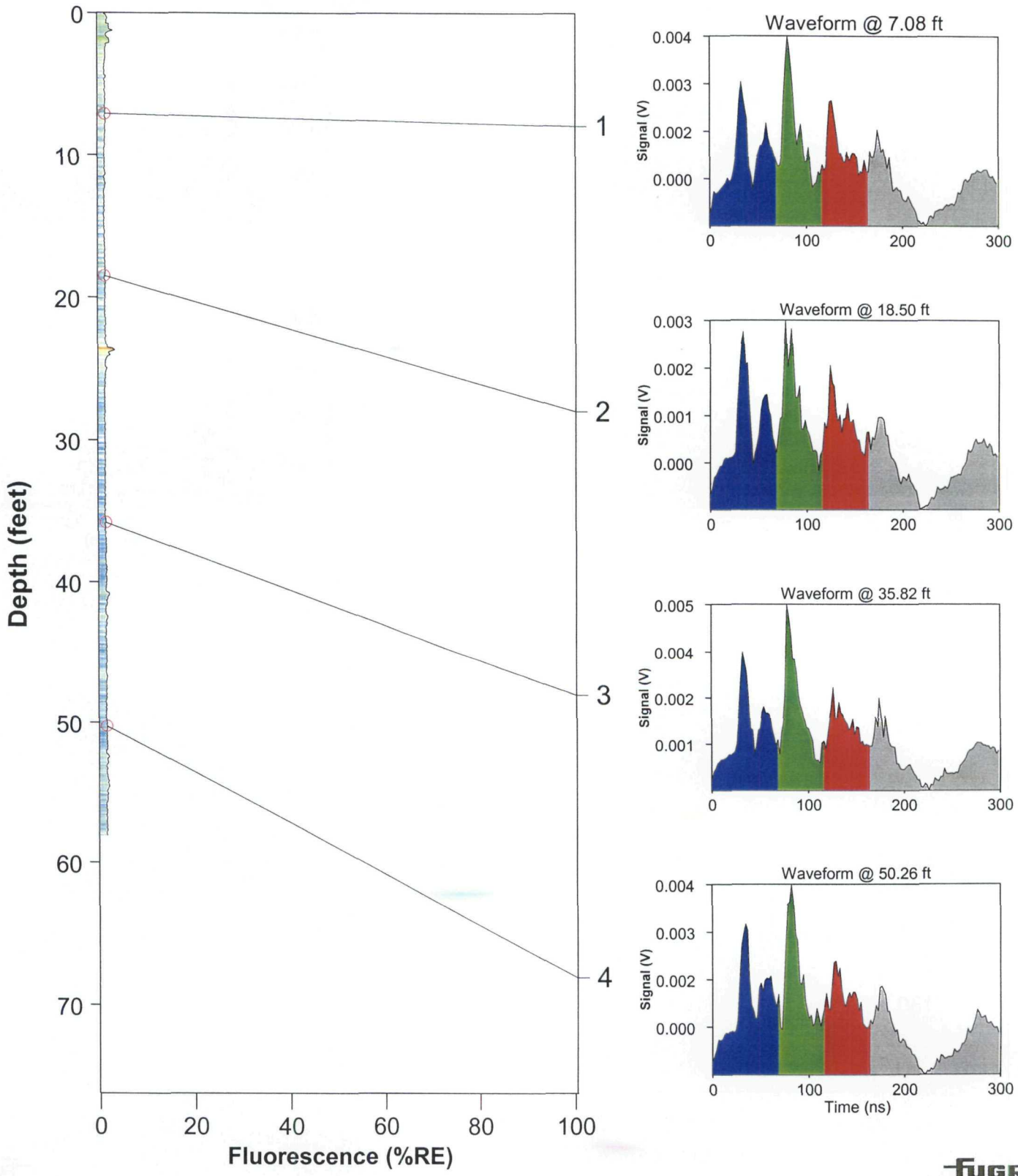




ROST Fluorescence Response Data

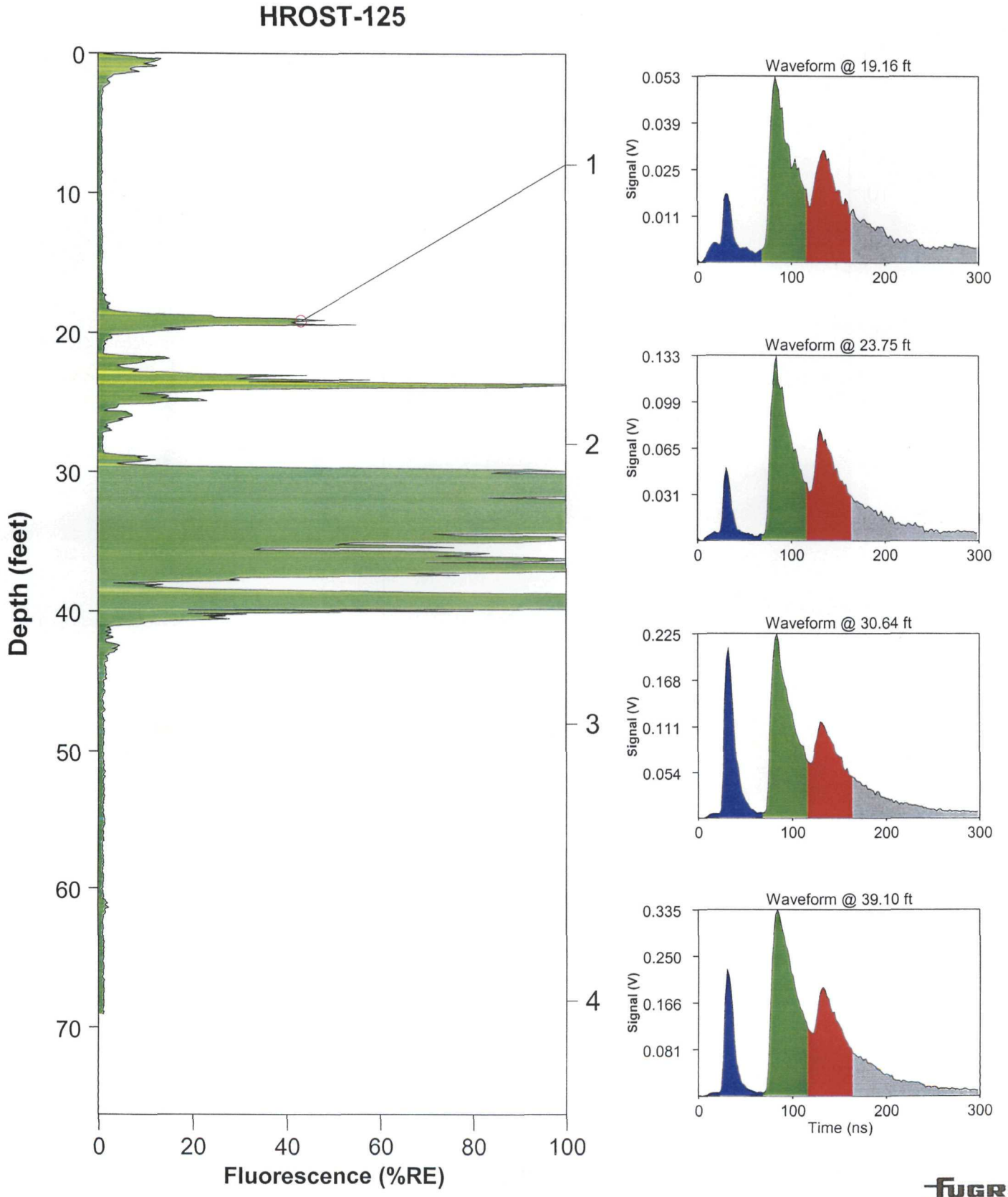
Site: HARTFORD WORKING GROUP	Operator: Robert Biehle
Client: CLAYTON	Fugro Job #: 0305-1583
Date/Time: 6/27/2005 @ 1:24:07 PM	Max fluorescence: 3.03% @ 23.68 ft
ROST Unit: III	Final depth BGS: 58.13 ft

HROST-124



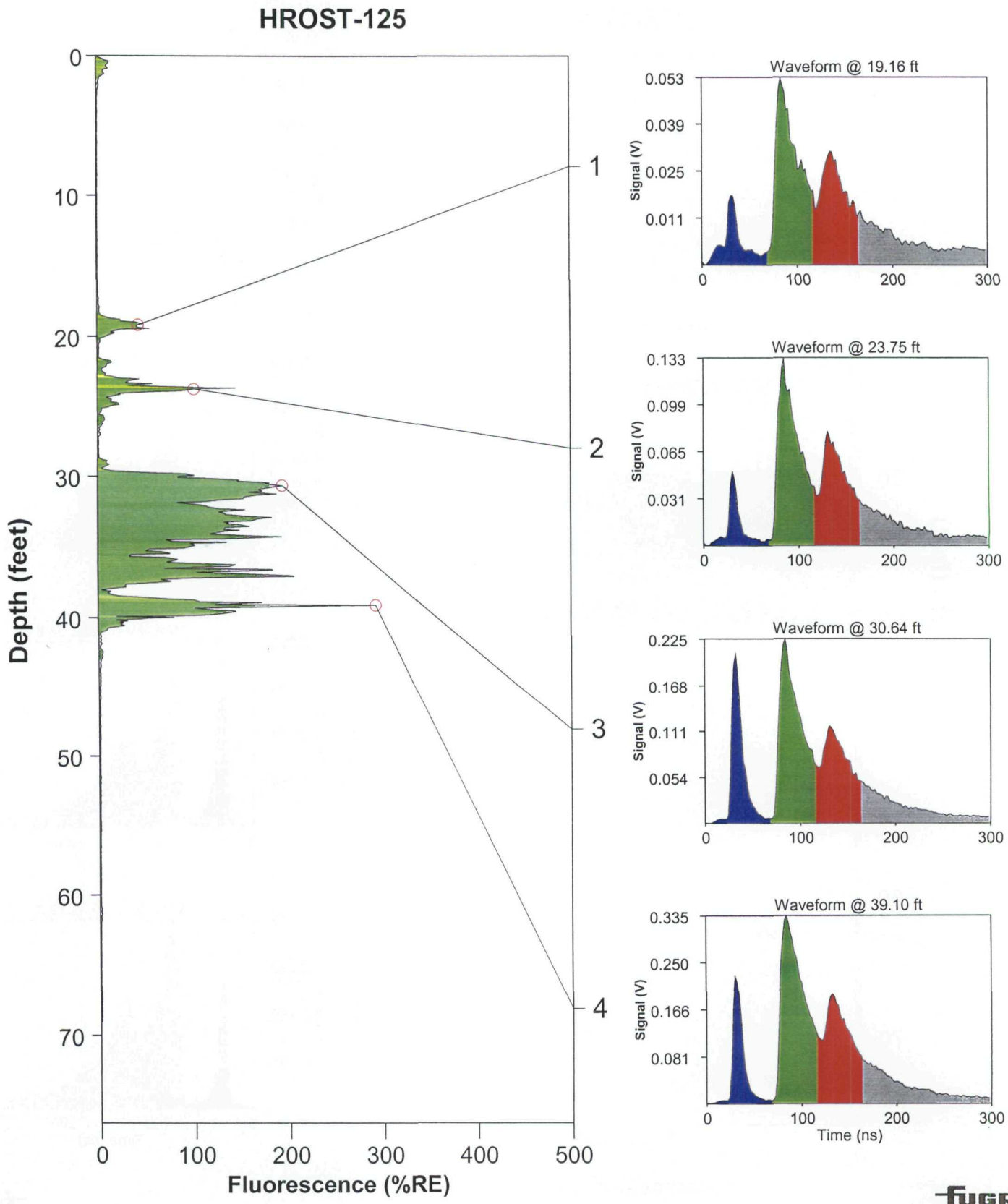
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP.	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 9/16/2005 @ 8:36:06 AM	Max fluorescence: 293.04% @ 39.10 ft
ROST Unit: III	Final depth BGS: 69.09 ft



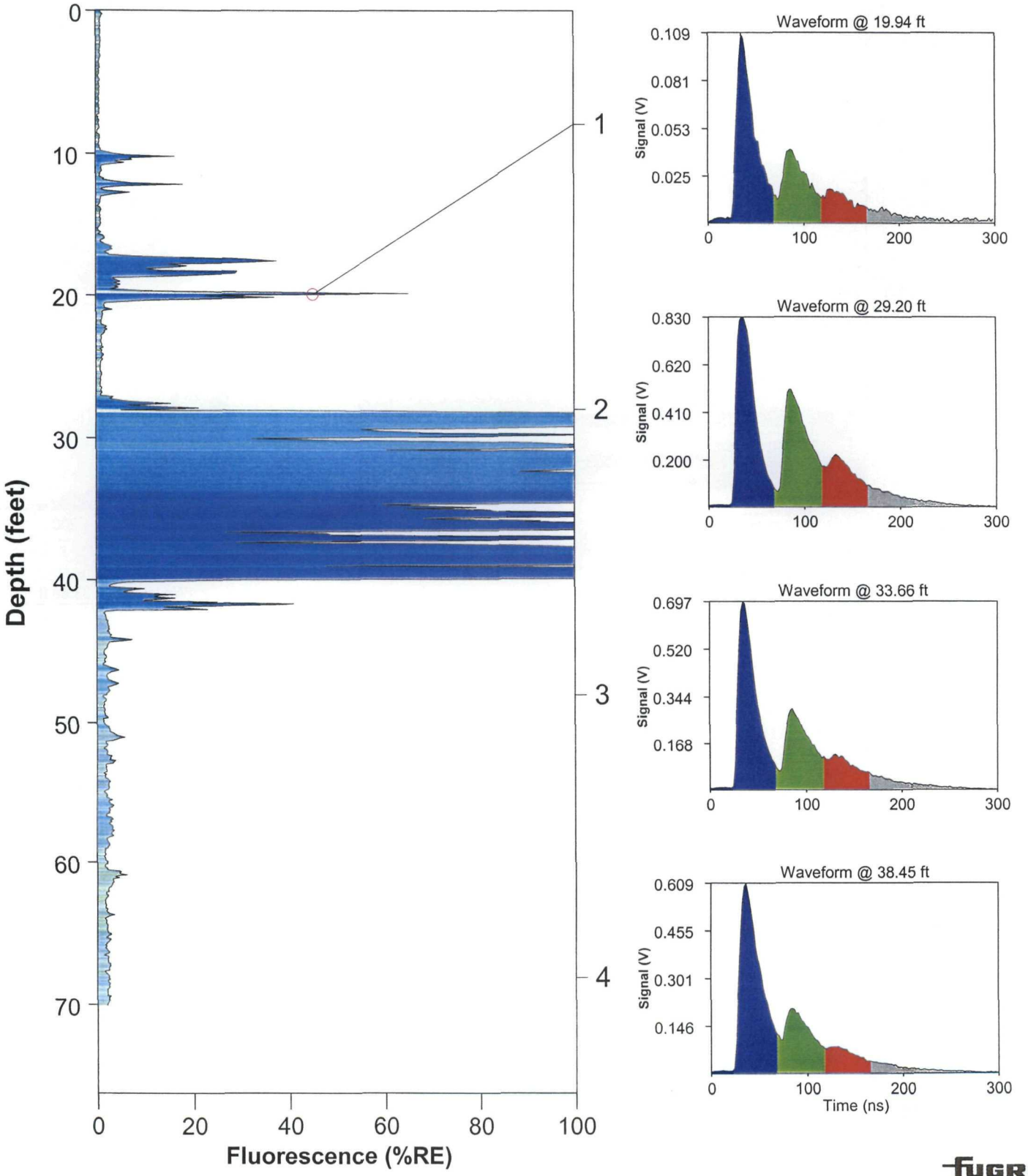
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP.	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 9/16/2005 @ 8:36:06 AM	Max fluorescence: 293.04% @ 39.10 ft
ROST Unit: III	Final depth BGS: 69.09 ft



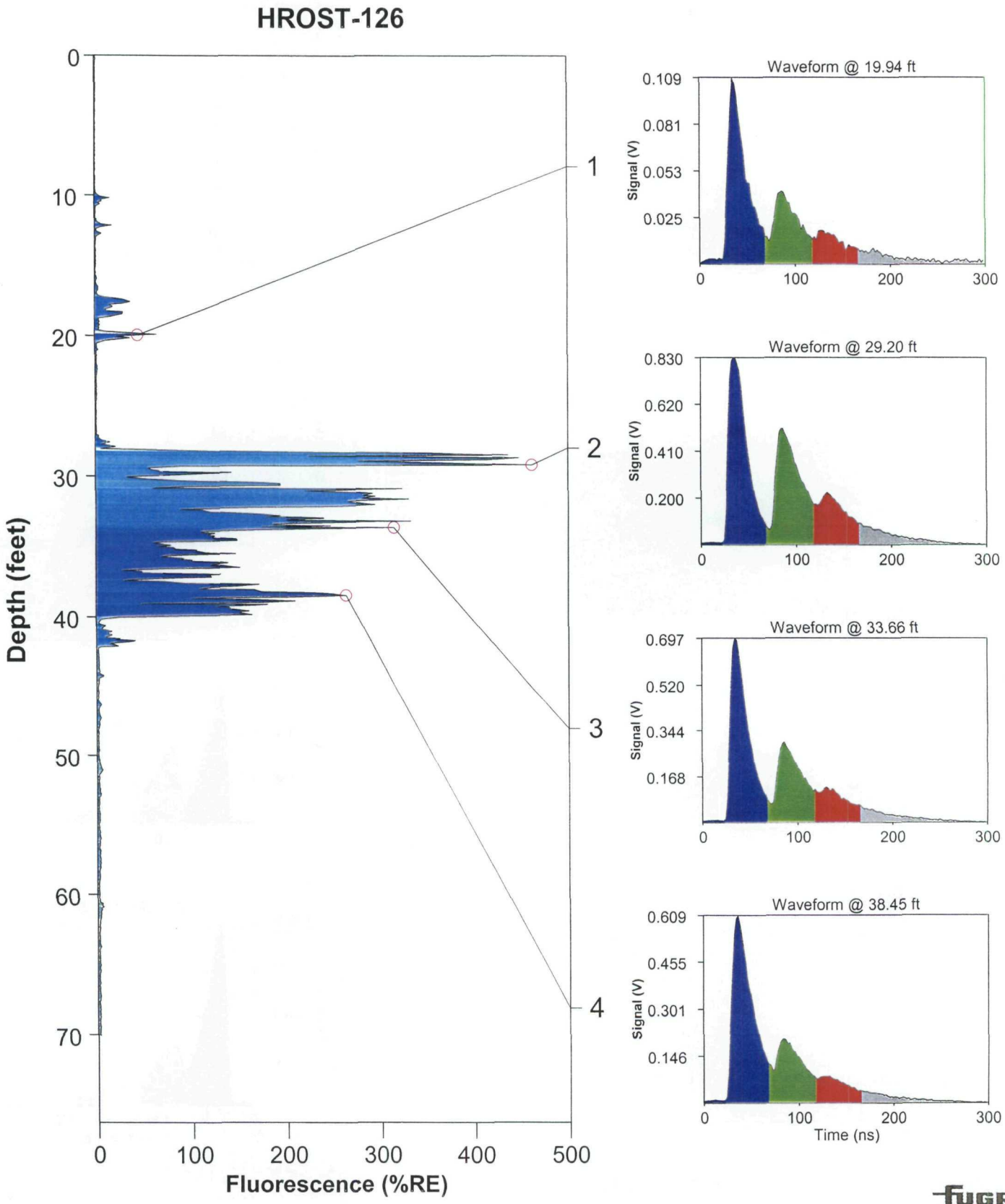
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD WORKIG GROUP	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 8/29/2005 @ 3:14:38 PM	Max fluorescence: 461.84% @ 29.20 ft
ROST Unit: III	Final depth BGS: 70.08 ft



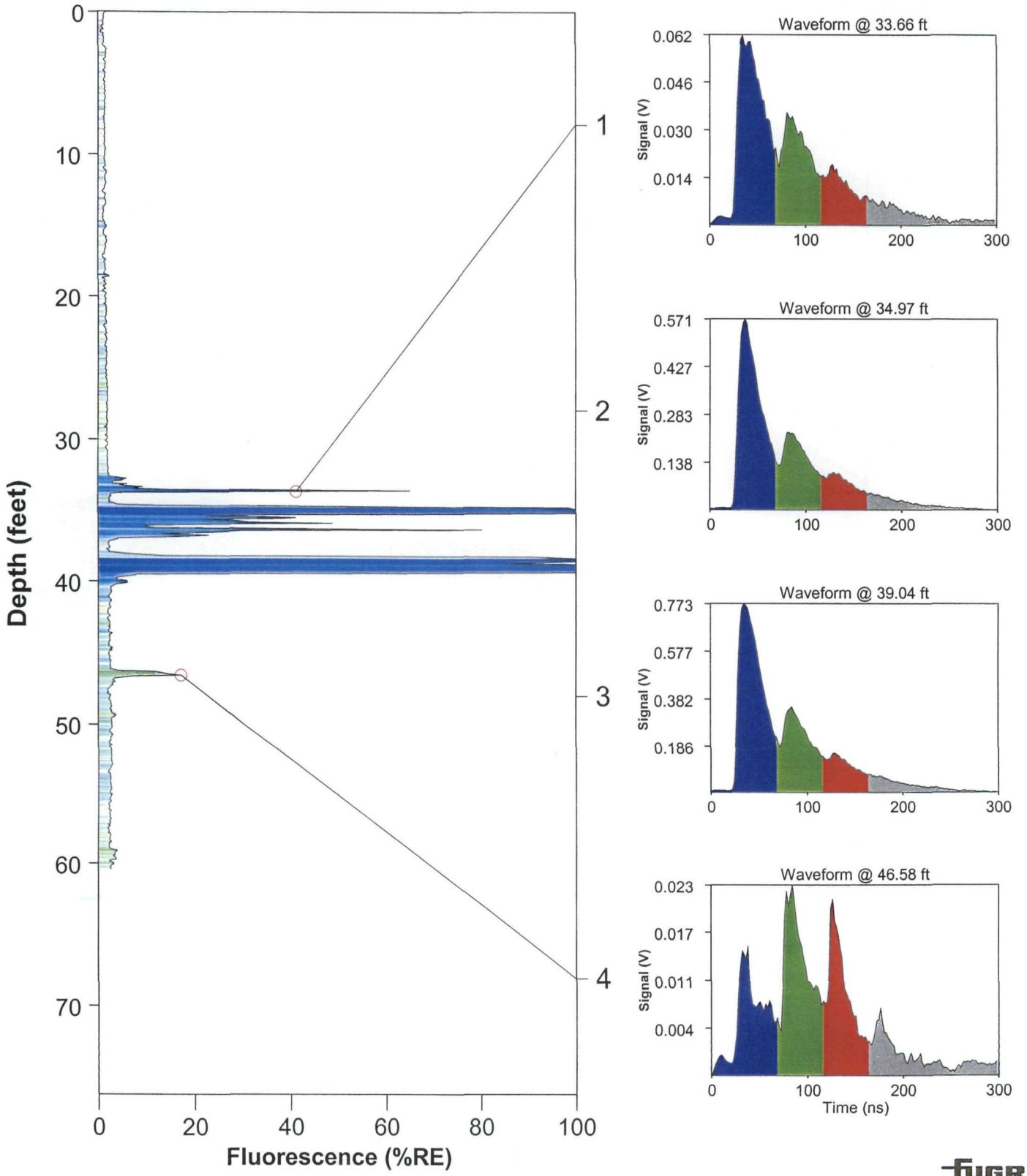
ROST Fluorescence Response Data

Site: VILLAGE OF HARTFORD WORKIG GROUP	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 8/29/2005 @ 3:14:38 PM	Max fluorescence: 461.84% @ 29.20 ft
ROST Unit: III	Final depth BGS: 70.08 ft



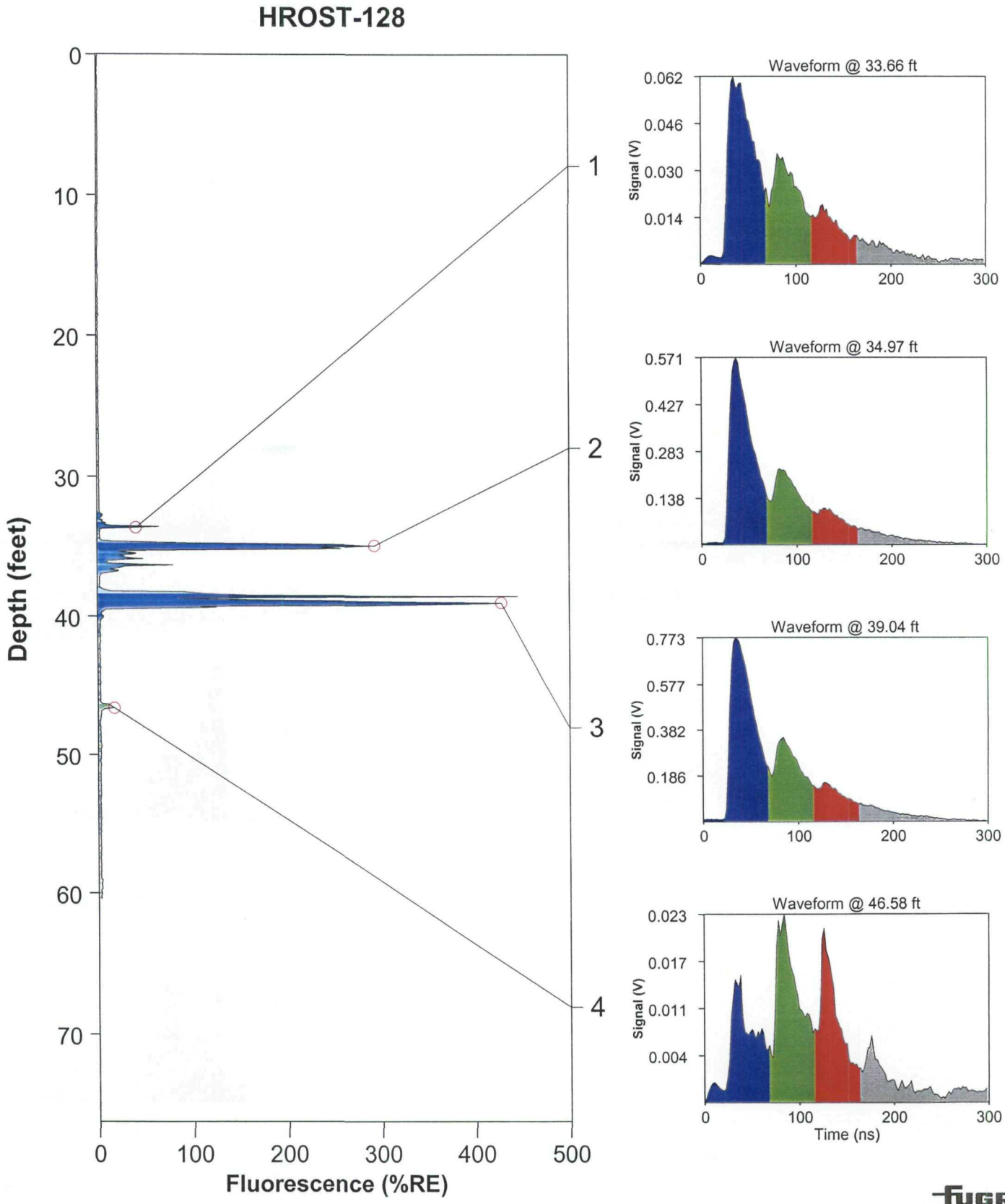
ROST Fluorescence Response Data

Site: HARTFORD WORKIG GROUP	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 8/29/2005 @ 4:41:47 PM	Max fluorescence: 445.61% @ 38.58 ft
ROST Unit: III	Final depth BGS: 60.43 ft



ROST Fluorescence Response Data

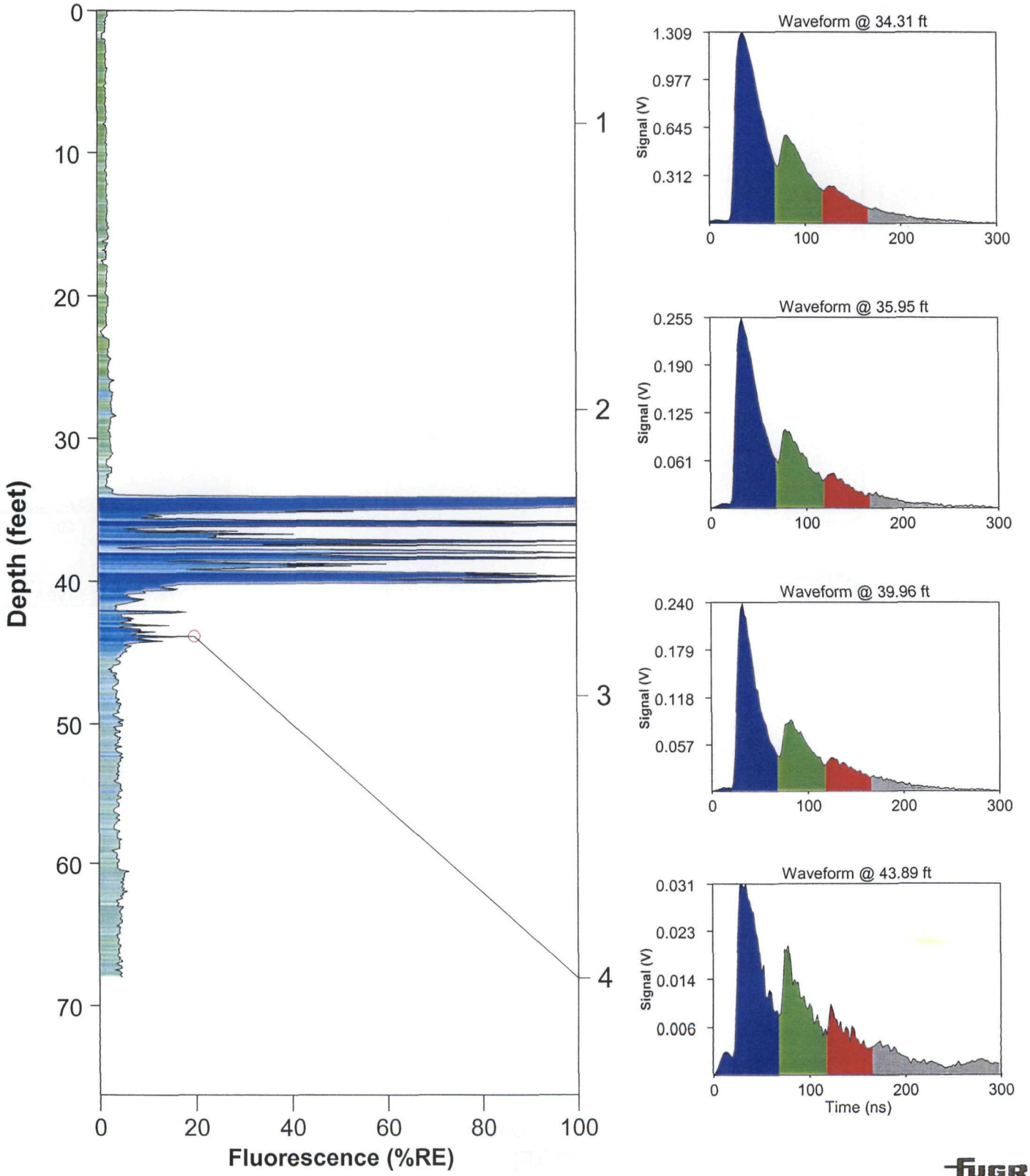
Site: HARTFORD WORKIG GROUP	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 8/29/2005 @ 4:41:47 PM	Max fluorescence: 445.61% @ 38.58 ft
ROST Unit: III	Final depth BGS: 60.43 ft



ROST Fluorescence Response Data

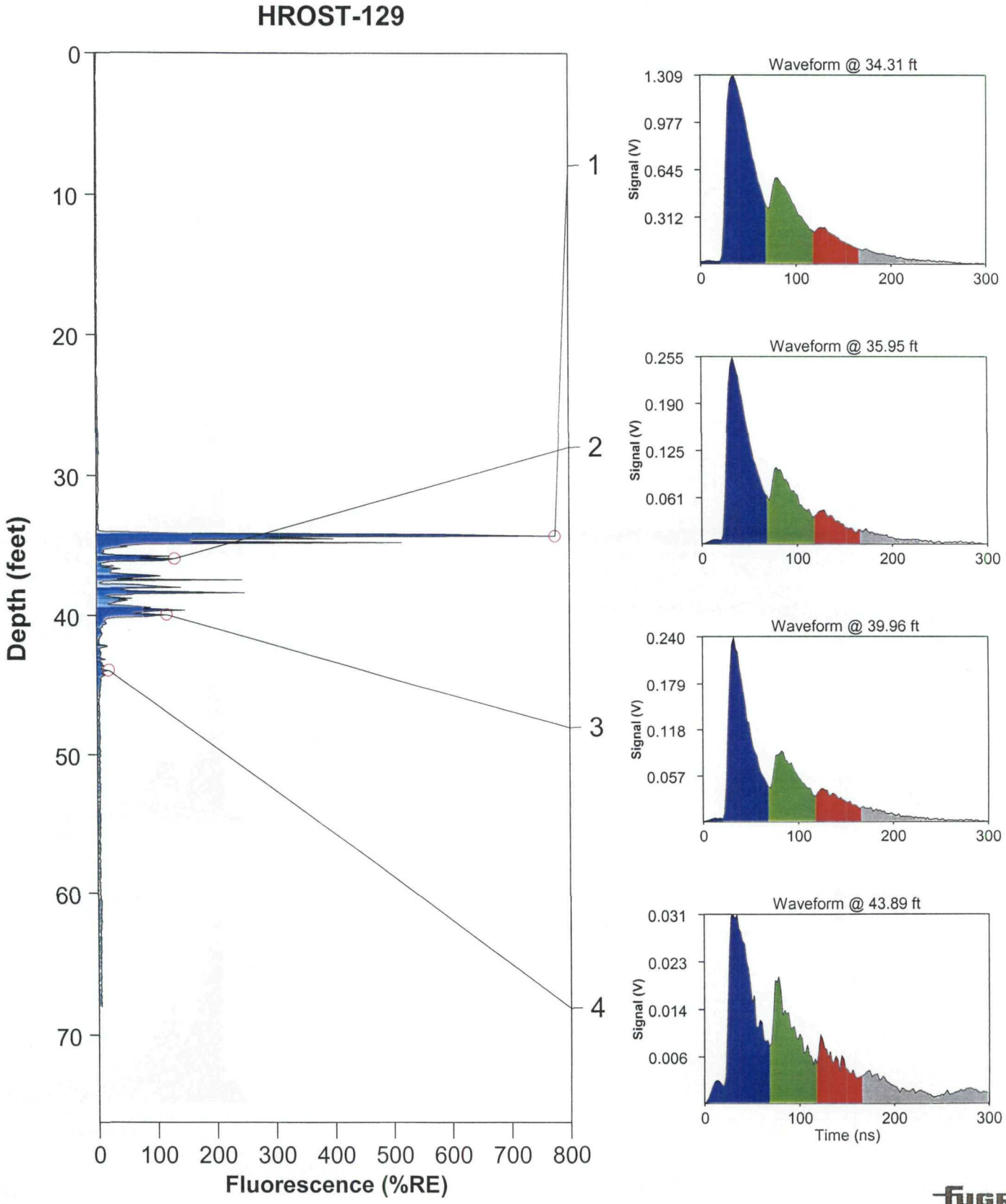
Site: HARTFORD WORKIG GROUP	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 8/30/2005 @ 8:28:19 AM	Max fluorescence: 775.84% @ 34.31 ft
ROST Unit: III	Final depth BGS: 68.04 ft

HROST-129



ROST Fluorescence Response Data

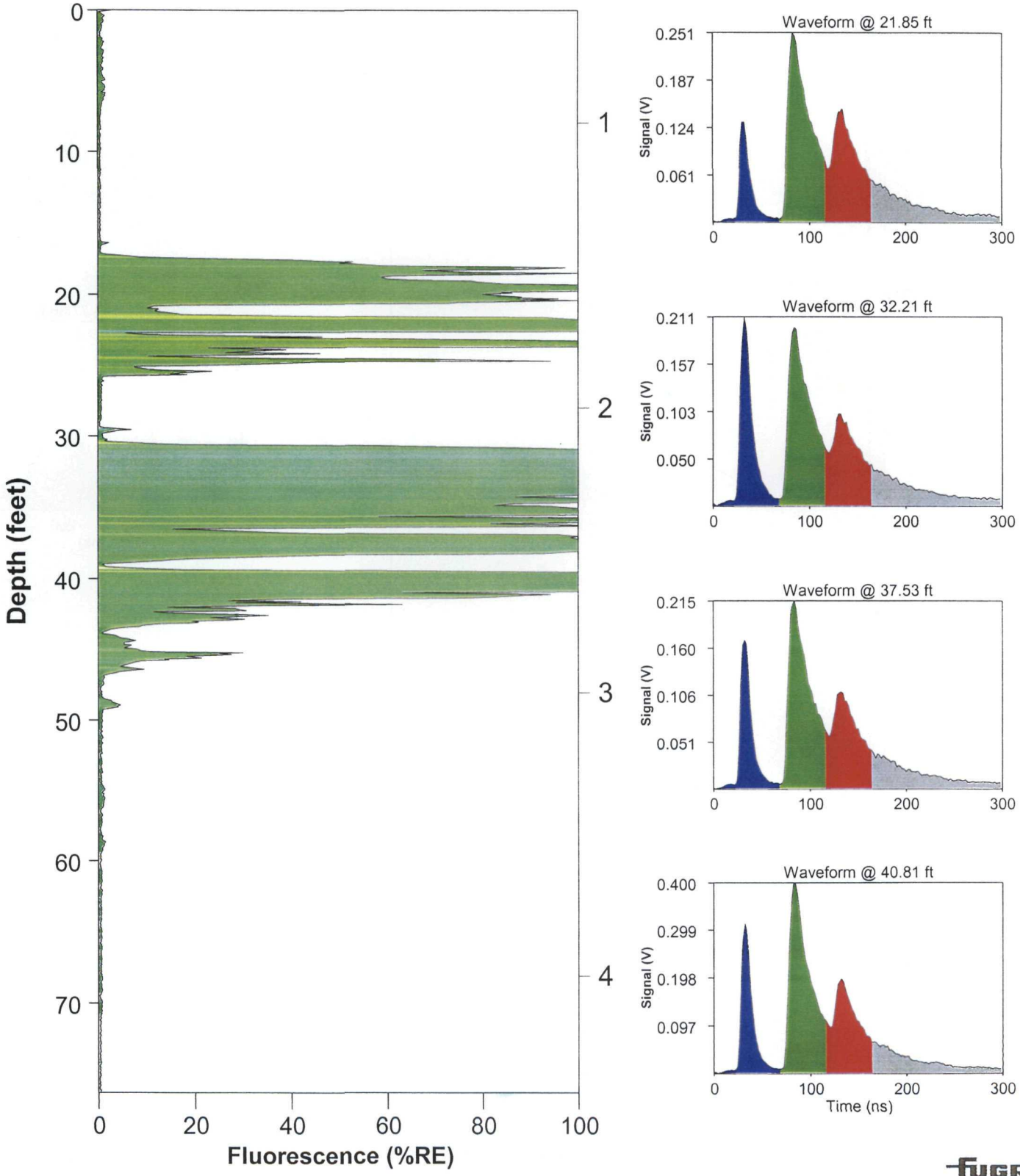
Site: HARTFORD WORKIG GROUP	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 8/30/2005 @ 8:28:19 AM	Max fluorescence: 775.84% @ 34.31 ft
ROST Unit: III	Final depth BGS: 68.04 ft



ROST Fluorescence Response Data

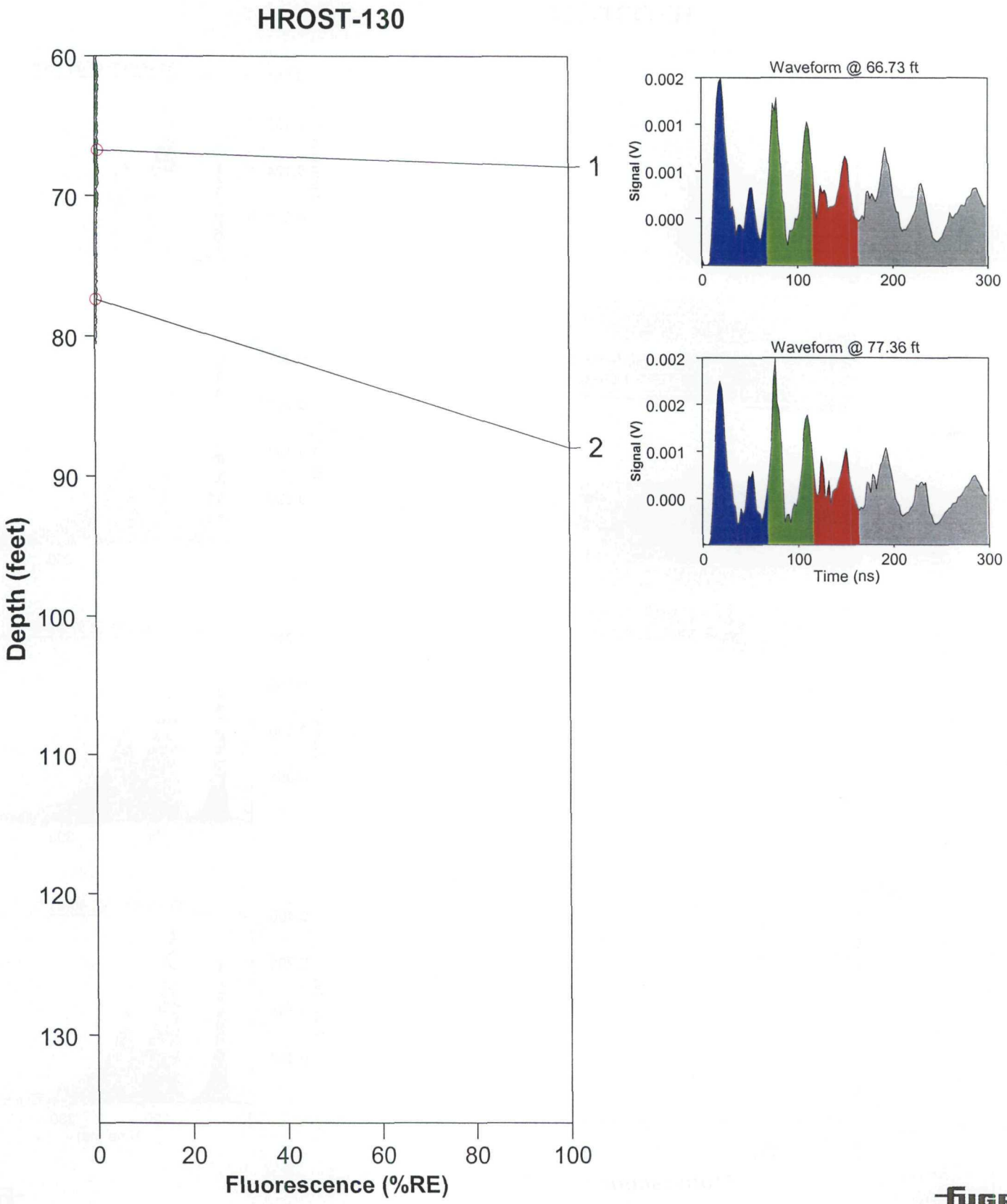
Site: HARTFORD WORKING GROUP.	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 9/16/2005 @ 10:03:04 AM	Max fluorescence: 300.85% @ 40.81 ft
ROST Unit: III	Final depth BGS: 80.57 ft

HROST-130



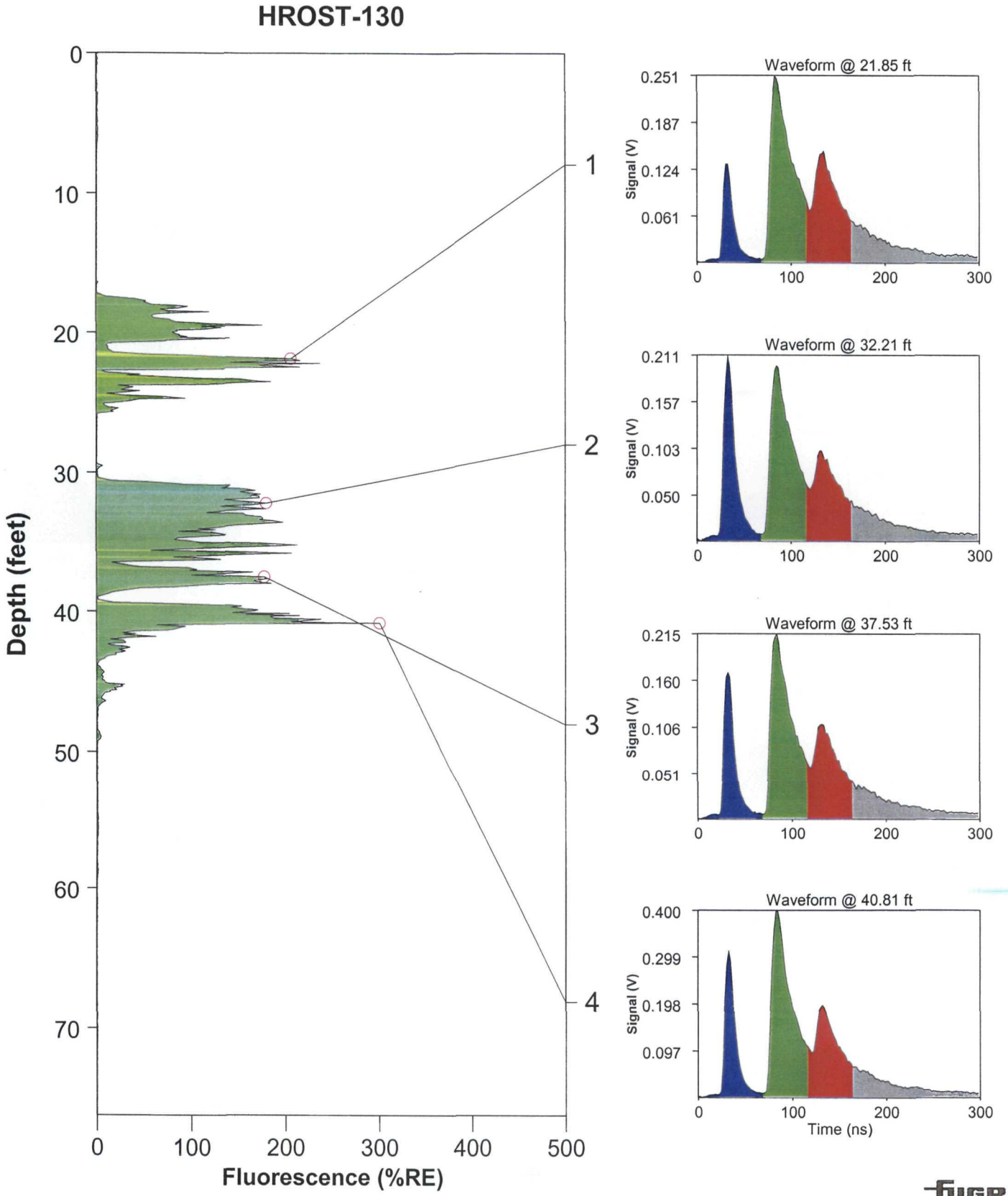
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP.	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 9/16/2005 @ 10:03:04 AM	Max fluorescence: 300.85% @ 40.81 ft
ROST Unit: III	Final depth BGS: 80.57 ft



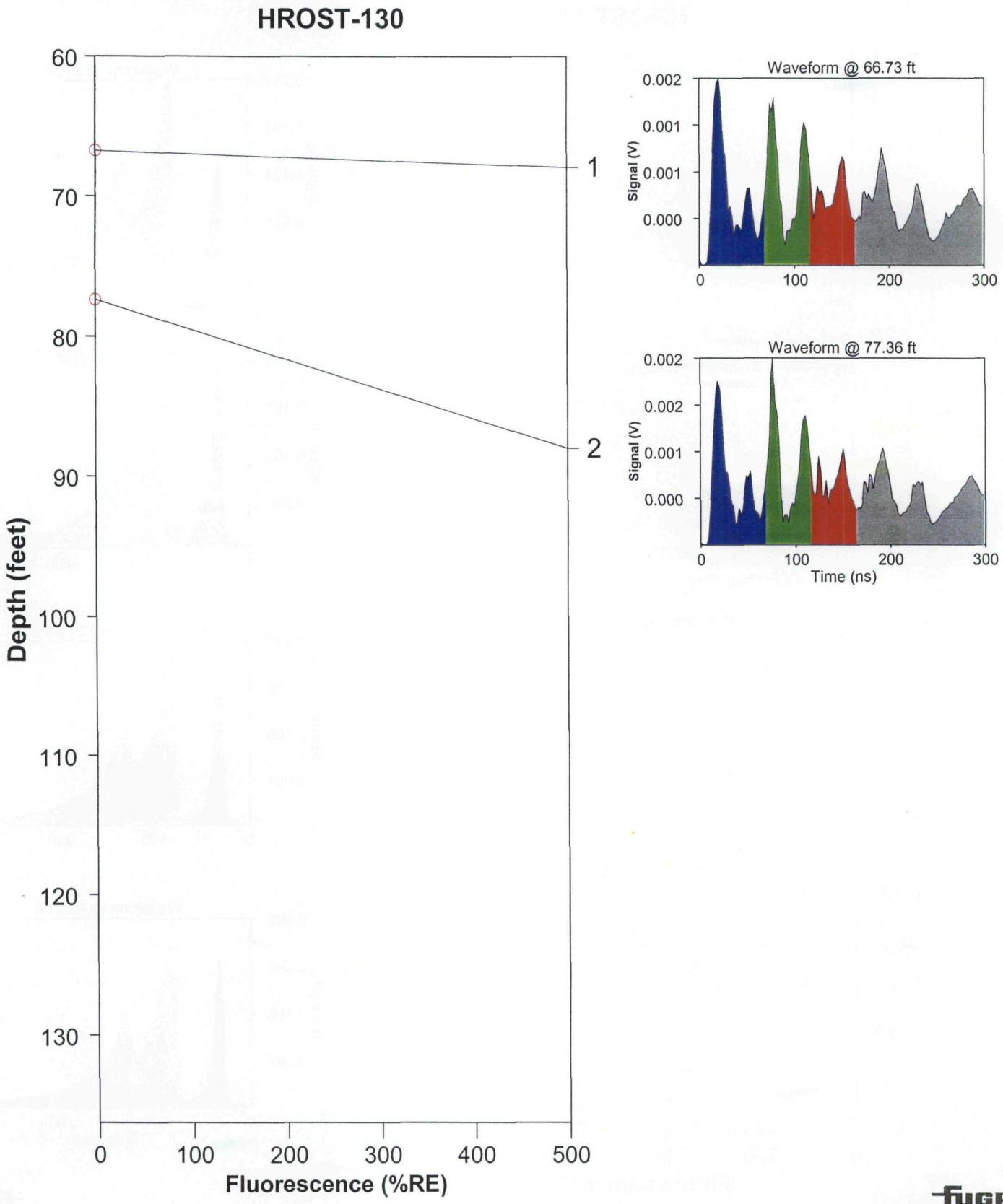
ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP.	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 9/16/2005 @ 10:03:04 AM	Max fluorescence: 300.85% @ 40.81 ft
ROST Unit: III	Final depth BGS: 80.57 ft



ROST Fluorescence Response Data

Site: HARTFORD WORKING GROUP.	Operator: Robert Biehle
Client: CLAYTON GROUP	Fugro Job #: 0305-1583
Date/Time: 9/16/2005 @ 10:03:04 AM	Max fluorescence: 300.85% @ 40.81 ft
ROST Unit: III	Final depth BGS: 80.57 ft



APPENDIX D

SUMMARY OF INDICATOR PARAMETER MEASUREMENTS

D-1 April 2005
D-2 July 2005
D-3 October 2005

BUREAU VERITAS

APPENDIX D-1

APRIL 2005

Operator Name:	Joe Campbelll
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HB-32

pH Sensor:	Installed	Target Value	0.1	[pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	10	[mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0.1	[ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0.03	[uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0.1	[NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	41 [ft]
Well Depth:	45.17 [ft]
Well Diam:	4 [in]
Screen Len:	180 [in]
Screen Depth:	30.17 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	33.85 [ft]
Pump Level (TOC):	35.83 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (183.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	300 [mL]
Actual Total Volume:	300 [mL]
Calculated Measurement Interval:	9000 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/14/2005 12:56:21
End date/time:	4/14/2005 13:15:14
Total Time:	0:18:53

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.58	0	-102.81	-0.47	3881.62	-63.09	982.75	1.35	0.72	-0.06	17.25	0.07	13:13:11
3	6.58	0	-103.2	-0.39	3824.94	-56.68	985.46	2.71	0.89	0.16	17.34	0.1	13:13:41
2	6.58	0	-103.2	0	3834.67	9.73	979.27	-6.19	1.44	0.55	17.08	-0.26	13:14:11
1	6.58	0	-103.16	0.04	3800.03	-34.64	977.54	-1.73	1.09	-0.35	16.99	-0.09	13:14:42
0	6.58	0	-103.37	-0.21	3743.84	-56.19	978.5	0.96	0.89	-0.19	17.02	0.03	13:15:12

pH Min:	6.58
pH Max:	6.58
ORP Min:	-103.37
ORP Max:	-102.81
DO Min:	3743.84
DO Max:	3881.62
Cond Min:	977.54
Cond Max:	985.46
Turb Min:	0.72
Turb Max:	1.44
Temp Min:	16.99
Temp Max:	17.34

Operator Name	Joe Campbell
Company Name	Clayton Group Services
Project Name	Hartford Working Group
Site Name	
Well ID	HB-38

pH Sensor	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type	Bladder
Tubing Type	PVC
Tubing Diam	0.17 [in]
Tubing Length	41 [ft]
Well Depth	38.5 [ft]
Well Diam	2 [in]
Screen Len	20.4 [in]
Screen Depth	21.5 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	20.12 [ft]
Pump Level (TOC)	31.12 [ft]
Final Pumping Rate	0 [ml/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (187.0 mL) pH (16 mL) ORP (16 mL) DO (14 mL) Cond (11 mL) Turb (40 mL)
Calculated Total Volume	300 [mL]
Actual Total Volume	300 [mL]
[illegible] Measurement Interval	0000 [sec]
[illegible] Measurement Interval	90 [sec]
Start Date-time	4/14/2005 [illegible]
End Date-time	4/14/2005 [illegible]
Total Time	0:14:45

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.48	0	-89.28	1.03	486.71	8.89	701.26	1.57	18.56	2.91	61.09	0.02	10:15:57
3	6.48	0	-90.18	0.9	474.2	12.51	701.66	0.39	16.38	2.18	61.06	0.03	10:16:28
2	6.48	0	-91.38	-1.2	452.82	-21.38	702.45	0.79	15.91	0.47	61.05	0.02	10:36:58
1	6.48	0	-92.36	-0.98	434.81	-18.01	702.84	0.4	15.5	-0.41	61.1	0.05	10:37:30
0	6.48	0	-93.34	0.98	416.12	-18.69	702.94	0.1	16.18	0.68	61.05	-0.05	10:38:00

pH Min	6.48
pH Max:	6.48
ORP Min:	-93.34
ORP Max:	-89.28
DO Min:	416.12
DO Max:	486.71
Cond Min:	701.26
Cond Max:	702.94
Turb Min:	15.5
Turb Max:	18.56
Temp Min:	61.05
Temp Max:	61.1

Operator Name:	Joe Campbelll
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-03

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	34.97 [ft]
Well Diam:	2 [in]
Screen Len:	56.76 [in]
Screen Depth:	29.99 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	26.83 [ft]
Pump Level (TOC):	30 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/15/2005 9:35:10
End date/time:	4/15/2005 9:44:17
Total Time:	0:09:07

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.51	0	-99.37	-1.54	166.81	-4.62	867.55	-1.07	618.48	-39.86	15.89	0.03	9:41:48
3	6.51	0	-100.66	-1.28	133.06	-33.75	868.46	0.91	680.21	61.73	15.83	-0.06	9:42:18
2	6.51	0	-101.73	-1.07	111.9	-21.16	866.33	-2.13	626.41	-53.8	15.79	-0.05	9:42:49
1	6.51	0	-102.58	-0.86	111.53	-0.37	868.46	2.13	668.13	41.72	15.83	0.05	9:43:19
0	6.51	0	-103.61	-1.03	107.49	-4.04	869.23	0.76	628.82	-39.31	15.78	-0.05	9:43:50

pH Min:	6.51
pH Max:	6.51
ORP Min:	-103.61
ORP Max:	-99.37
DO Min:	107.49
DO Max:	166.81
Cond Min:	866.33
Cond Max:	869.23
Turb Min:	618.48
Turb Max:	680.21
Temp Min:	15.78
Temp Max:	15.89

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-04

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type	PVC
Tubing Diam	0.17 [in]
Tubing Length	32 [ft]
Well Depth	26 [ft]
Well Diam	2 [in]
Screen Len	56.76 [in]
Screen Depth	21.02 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	12.19 [ft]
Pump Level (TOC)	21 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = Pump (200 mL) + Tubing (142.8 mL) + pH/ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
[illegible]	[illegible] [mL]
Actual Total Volume	[illegible] [mL]
[illegible] Measurement Interval	7795 [sec]
Actual [illegible] Measurement Interval	30 [sec]
Start date/time	4/15/2005 8:43:09
End date/time:	4/15/2005 9:00:10
Total Time	0:17:01

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.66	0	-133.79	-0.77	7149.82	-34.87	724.97	0.74	207.03	17.55	14.98	-0.02	8:57:40
3	6.66	0	-134.31	-0.51	7092.51	-57.31	725.93	0.96	203.44	-3.58	14.99	0.01	8:58:11
2	6.67	0	-134.69	-0.38	7070.05	-22.46	726.47	0.53	204.72	1.28	14.93	-0.06	8:58:41
1	6.67	0	-135.24	-0.56	7022.83	-47.22	727.11	0.64	212.47	7.75	14.92	-0.01	8:59:13
0	6.67	0	-135.84	-0.6	6952.89	-69.94	729.04	1.93	201.98	-10.49	14.95	0.03	8:59:43

pH Min:	6.67
pH Max:	6.66
ORP Min:	-135.84
ORP Max:	-133.79
DO Min:	6952.89
DO Max:	7149.82
Cond Min:	724.97
Cond Max:	729.04
Turb Min:	201.98
Turb Max:	212.47
Temp Min:	14.92
Temp Max:	14.99

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.15-005
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-25

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	38 [ft]
Well Depth:	39 [ft]
Well Diam:	2 [in]
Screen Len:	180 [in]
Screen Depth:	24 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	26.4 [ft]
Pump Level (TOC):	28.4 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (169.6 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	286.61 [mL]
Actual Total Volume:	286.61 [mL]
Calculated Measurement Interval:	8599 [sec]
Actual Measurement Interval:	8599 [sec]
Start date/time:	4/14/2005 1:02:34
End date/time:	4/14/2005 1:22:58
Total Time:	0:20:24

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.53	0.02	41	-4.79	804.4	-634.98	1110.18	-5.45	14.27	7.79	16.56	-1.93	1:07:13
3	6.57	0.04	36.08	-4.92	628.81	-175.6	1077.2	-32.99	14.52	0.25	17.11	0.55	1:12:35
2	6.56	-0.01	35.14	-0.94	642.54	13.74	1055.16	-22.04	14.52	-0.01	16.71	-0.4	1:19:00
1	6.57	0.02	34.46	-0.68	610.76	-31.78	1059.85	4.69	15.49	0.98	16.9	0.2	1:20:33
0	6.57	0	34.24	-0.21	593.12	-17.64	1056.27	-3.58	14.7	-0.79	16.94	0.03	1:22:04

pH Min:	6.53
pH Max:	6.57
ORP Min:	34.24
ORP Max:	41
DO Min:	593.12
DO Max:	804.4
Cond Min:	1055.16
Cond Max:	1110.18
Turb Min:	14.27
Turb Max:	15.49
Temp Min:	16.56
Temp Max:	17.11

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03096.15-005
Site Name	HARTFORD WORKING GROUP
Well ID:	HMW-26

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type	POLY
Tubing Diam	0.17 [in]
Tubing Length	38 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len	180 [in]
Screen Depth	25 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	23.99 [ft]
Pump Level (TOC)	25 [ft]
Final Pumping Rate	500 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (169.6 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	296.61 [mL]
Actual Total Volume	296.61 [mL]
Calculated Measurement Interval	45 [sec]
Actual Measurement Interval	45 [sec]
Start date/time	4/14/2005 3:38:05
End date/time:	4/14/2005 3:44:00
Total Time:	0:05:55

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.58	0.01	-0.64	-0.34	499.67	-48.01	1515.38	4.58	10.9	0.25	17.51	0	3:41:37
3	6.57	-0.01	-0.3	0.34	489.23	-10.44	1512.63	-2.75	10.55	-0.35	17.3	-0.21	3:42:11
2	6.58	0.01	-1.03	-0.73	491.76	2.52	1514.01	1.37	10.97	0.42	17.35	0.05	3:42:47
1	6.58	0	-1.67	-0.64	505.11	13.36	1513.09	-0.92	11.58	0.6	17.44	0.1	3:43:23
0	6.57	-0.01	-2.01	-0.34	530.28	25.17	1519.06	5.97	32.15	20.57	17.26	-0.18	3:43:58

pH Min:	6.57
pH Max:	6.58
ORP Min:	-2.01
ORP Max:	-0.3
DO Min:	489.23
DO Max:	530.28
Cond Min:	1512.63
Cond Max:	1519.06
Turb Min:	10.55
Turb Max:	32.15
Temp Min:	17.26
Temp Max:	17.51

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.15-005
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-27

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	36 [ft]
Well Depth:	40 [ft]
Well Diam:	2 [in]
Screen Len:	180 [in]
Screen Depth:	25 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29 [ft]
Pump Level (TOC):	31 [ft]
Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (160.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	277.68 [mL]
Actual Total Volume:	277.68 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]
Start date/time:	4/18/2005 20:24:52
End date/time:	4/18/2005 20:30:43
Total Time:	0:05:51

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.4	0.03	65.57	-3.63	599.7	-97.84	1239.47	-0.31	18.35	-0.62	16.91	0.04	20:28:19
3	6.41	0.01	63	-2.57	568.48	-31.22	1237.02	-2.44	18.13	-0.22	16.88	-0.03	20:28:52
2	6.41	0.01	60.95	-2.05	570.52	2.04	1233.68	-3.35	17.01	-1.12	16.81	-0.07	20:29:27
1	6.42	0.01	59.02	-1.92	571.29	0.77	1232.16	-1.52	14.72	-2.29	16.79	-0.03	20:30:02
0	6.43	0.01	57.36	-1.67	578.66	7.37	1231.56	-0.6	16.08	1.36	16.81	0.02	20:30:36

pH Min:	6.4
pH Max:	6.43
ORP Min:	57.36
ORP Max:	65.57
DO Min:	568.48
DO Max:	599.7
Cond Min:	1231.56
Cond Max:	1239.47
Turb Min:	14.72
Turb Max:	18.35
Temp Min:	16.79
Temp Max:	16.91

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.15-005
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-28

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	36.5 [ft]
Well Depth:	40 [ft]
Well Diam:	2 [in]
Screen Len:	180 [in]
Screen Depth:	25 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.55 [ft]
Pump Level (TOC):	30.55 [ft]

Final Pumping Rate:	500 [ml /min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Same - Cap (200 mL) + Tubing (162.9 mL) - pH, ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	279.92 [mL]
Actual Total Volume:	279.92 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]

Start date/time:	4/18/2005	23:11:56
End date/time:	4/18/2005	23:18:17
Total Time:	0:06:21	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.54	0	50.19	-0.64	563.07	-51.04	1054.73	-5.8	24.57	0.41	16.79	-0.16	23:15:57
3	6.55	0.01	49.17	-1.03	523	-40.07	1054.51	-0.22	31.32	6.75	16.78	-0.01	23:16:30
2	6.56	0.01	48.35	-0.81	492.84	-30.16	1057.85	3.34	35.16	3.84	16.84	0.07	23:17:06
1	6.56	0	47.67	-0.68	477.92	-14.92	1063	5.16	34.75	-0.41	16.95	0.11	23:17:40
0	6.56	0	47.11	-0.56	462.22	-15.7	1065.03	2.03	32.61	-2.14	16.94	-0.01	23:18:14

pH Min:	6.54
pH Max:	6.56
ORP Min:	47.11
ORP Max:	50.19
DO Min:	462.22
DO Max:	563.07
Cond Min:	1054.51
Cond Max:	1065.03
Turb Min:	24.57
Turb Max:	35.16
Temp Min:	16.78
Temp Max:	16.95

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.15-005
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-29

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	36.5 [ft]
Well Depth:	35.5 [ft]
Well Diam:	2 [in]
Screen Len:	180 [in]
Screen Depth:	25 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	27.44 [ft]
Pump Level (TOC):	29.44 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (162.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	279.92 [mL]
Actual Total Volume:	279.92 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]

Start date/time:	4/19/2005	1:48:36
End date/time:	4/19/2005	1:59:00
Total Time:	0:10:24	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.6	0	-0.83	-1.07	456.69	-2.66	959.14	-2.76	24.32	-6.55	17.02	-0.05	1:56:37
3	6.6	-0.01	-1.21	-0.38	445.11	-11.58	961.16	2.02	27.38	3.06	17	-0.02	1:57:11
2	6.6	0	-2.11	-0.9	476.33	31.23	963.19	2.03	25.96	-1.42	17.17	0.17	1:57:46
1	6.6	0	-3.05	-0.94	432.97	-43.36	962.45	-0.74	27.82	1.87	17.17	-0.01	1:58:20
0	6.61	0	-4.03	-0.98	414.5	-18.47	964.3	1.85	23.82	-4	17.28	0.11	1:58:54

pH Min:	6.6
pH Max:	6.61
ORP Min:	-4.03
ORP Max:	-0.83
DO Min:	414.5
DO Max:	476.33
Cond Min:	959.14
Cond Max:	964.3
Turb Min:	23.82
Turb Max:	27.82
Temp Min:	17
Temp Max:	17.28

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-38C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length	48 [ft]
Well Depth	42.2 [ft]
Well Diam	2 [in]
Screen Len	116.4 [in]
Screen Depth:	32.2 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	30.36 [ft]
Pump Level (TOC)	32.2 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (214.2 mL) - pH, ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	331.25 [mL]
Actual Total Volume	331.25 [mL]
Calculated Measurement Interval	9938 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	4/18/2005	13:00:51
End date/time:	4/18/2005	13:10:02
Total Time	0:09:11	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.51	0	-93.22	-0.82	6966.46	-69.22	1331.62	-1.51	152.93	12.66	16.46	-0.11	13:07:59
3	6.51	0	-94	-0.78	6910.43	-56.03	1328.23	-3.38	153.71	0.77	16.33	-0.12	13:08:29
2	6.52	0	-94.69	-0.69	6795.82	-114.61	1331.99	3.75	135.61	-18.1	16.42	0.09	13:09:00
1	6.52	0	-95.63	-0.95	6634.22	-161.61	1339.56	7.57	157.62	22.02	16.72	0.3	13:09:30
0	6.52	0	-96.24	-0.6	6539.09	-95.13	1341.47	1.9	129.65	-27.97	16.8	0.08	13:09:59

pH Min:	6.51
pH Max:	6.52
ORP Min:	-96.24
ORP Max:	-93.22
DO Min:	6539.09
DO Max:	6966.46
Cond Min:	1328.23
Cond Max:	1341.47
Turb Min:	129.65
Turb Max:	157.62
Temp Min:	16.33
Temp Max:	16.8

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.14-007
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-39C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	38.5 [ft]
Well Depth:	42 [ft]
Well Diam:	2 [in]
Screen Len:	120 [in]
Screen Depth:	32 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	26.36 [ft]
Pump Level (TOC):	32.5 [ft]
Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	*Volume = cup (200 mL) + tubing (171.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)*
Calculated Total Volume:	288.84 [mL]
Actual Total Volume:	288.84 [mL]
Calculated Measurement Interval:	35 [sec]
Actual Measurement Interval:	35 [sec]
Start date/time:	4/21/2005 2:13:34
End date/time:	4/21/2005 2:21:41
Total Time:	0:08:07

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.93	0	-73.79	0.09	1830.37	-64.98	1172.51	-6.95	31.7	-5.99	16.07	0.03	2:18:52
3	6.93	0	-73.83	-0.04	1803.57	-26.8	1176.39	3.88	31.05	-0.65	16.03	-0.04	2:19:27
2	6.93	0	-73.7	0.13	1774.22	-29.35	1177.22	0.83	28.24	-2.8	16.11	0.08	2:20:03
1	6.93	0	-73.66	0.04	1768.55	-5.67	1175.55	-1.67	26.91	-1.33	16.04	-0.07	2:20:38
0	6.93	0.01	-74.05	-0.39	1751.42	-17.13	1179.17	3.62	26.28	-0.63	16.16	0.11	2:21:13

pH Min:	6.93
pH Max:	6.93
ORP Min:	-74.05
ORP Max:	-73.66
DO Min:	1751.42
DO Max:	1830.37
Cond Min:	1172.51
Cond Max:	1179.17
Turb Min:	26.28
Turb Max:	31.7
Temp Min:	16.03
Temp Max:	16.16

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.14-007
Site Name:	HARTFORD WORKING GROUP
Well ID	HMW-40C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam	0.17 [in]
Tubing Length	41 [ft]
Well Depth	49 [ft]
Well Diam	2 [in]
Screen Len	180 [in]
Screen Depth	24 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	24.42 [ft]
Pump Level (TOC)	26.42 [ft]

Final Pumping Rate	500 [ml/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (183.0 ml) - pH/ORP (16 ml) - DO (14 ml) - Cond (13 ml) - Turb (40 ml)
Calculated Total Volume	900 [ml]
Actual Total Volume	900 [ml]
Calculated Measurement Interval	37 [sec]
Actual Measurement Interval	37 [sec]

Start date/time	4/20/2005	21:28:14
End date/time	4/20/2005	21:30:13
Total Time	0:07:59	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.7	0	45.12	-4.06	2253.19	-54.53	599.08	-11.17	223.33	0.64	16.15	0	21:33:12
3	6.7	0	42.17	-2.95	2139.27	-113.92	597.07	-2.01	164.95	-58.38	16.18	0.03	21:33:50
2	6.7	0	38.92	-3.25	2053.2	-86.08	598.5	1.44	154.79	-10.16	16.25	0.06	21:34:28
1	6.69	-0.01	36.36	-2.57	2012.25	-40.95	598.72	0.22	153.47	-1.32	16.26	0.01	21:35:05
0	6.69	0	33.79	-2.57	1982.42	-29.83	600.45	1.73	146.46	-7.01	16.28	0.02	21:35:42

pH Min:	6.69
pH Max:	6.7
ORP Min:	33.79
ORP Max:	45.12
DO Min:	1982.42
DO Max:	2253.19
Cond Min:	597.07
Cond Max:	600.45
Turb Min:	146.46
Turb Max:	223.33
Temp Min:	16.15
Temp Max:	16.28

Operator Name:	Joe Campbelll
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-41C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50 [ft]
Well Depth:	49 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	34 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	24.55 [ft]
Pump Level (TOC):	34 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	340.17 [mL]
Actual Total Volume:	340.17 [mL]
Calculated Measurement Interval:	10206 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/21/2005 15:01:39
End date/time:	4/21/2005 15:07:37
Total Time:	0:05:58

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.12	-0.03	-17.13	2.48	811.4	-5.18	1295.15	-1.08	266.87	-33.64	16.37	-0.09	15:05:13
3	6.1	-0.03	-14.82	2.31	2234.96	1423.56	1291.94	-3.21	247.2	-19.67	16.32	-0.05	15:05:43
2	6.1	0	-14.78	0.04	2579.86	344.9	1293.72	1.78	231.58	-15.61	16.38	0.06	15:06:13
1	6.09	-0.01	-14.27	0.51	2562.66	-17.2	1289.45	-4.27	225.73	-5.85	16.28	-0.1	15:06:45
0	6.08	-0.01	-13.5	0.77	2538.74	-23.92	1288.74	-0.71	220.76	-4.97	16.33	0.04	15:07:15

pH Min:	6.08
pH Max:	6.12
ORP Min:	-17.13
ORP Max:	-13.5
DO Min:	811.4
DO Max:	2579.86
Cond Min:	1288.74
Cond Max:	1295.15
Turb Min:	220.76
Turb Max:	266.87
Temp Min:	16.28
Temp Max:	16.38

Operator Name:	Joe Campbelli
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-42B

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type	PVC
Tubing Diam:	0.17 [in]
Tubing Length	42 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len.	170.4 [in]
Screen Depth:	25 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water	29.92 [ft]
Pump Level (TOC):	32 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (187.5 mL) pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	404.46 [mL]
Actual Total Volume	404.46 [mL]
Calculated Measurement Interval	91.34 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	4/18/2005 15:15:27
End date/time	4/18/2005 15:22:33
Total Time:	0.07.06

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.76	0	-112.99	-1.03	6625.85	-103.29	886.4	0.5	67.93	-6.67	17.48	0.03	15:20:01
3	6.76	0	-114.07	-1.07	6518.95	-106.9	889.41	3.01	72.29	4.36	17.57	0.1	15:20:32
2	6.76	0	-114.84	-0.77	6481.2	-37.74	887.23	-2.18	70.54	-1.75	17.52	-0.05	15:21:02
1	6.76	0	-115.53	-0.69	6420.93	-60.28	883.9	-3.33	73.23	2.69	17.48	-0.05	15:21:32
0	6.76	0	-116.18	-0.65	6387.23	-33.7	882.74	-1.16	65.89	-7.34	17.39	-0.09	15:22:03

pH Min:	6.76
pH Max:	6.76
ORP Min:	-116.18
ORP Max:	-112.99
DO Min:	6387.23
DO Max:	6625.85
Cond Min:	882.74
Cond Max:	889.41
Turb Min:	65.89
Turb Max:	73.23
Temp Min:	17.39
Temp Max:	17.57

Operator Name:	Joe Campbelll				
Company Name:	Clayton Group Services				
Project Name:	Hartford Working Group				
Site Name:					
Well ID:	HMW-43C				
pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]
Pump Model/Type:	Bladder				
Tubing Type:	PVC				
Tubing Diam:	0.17 [in]				
Tubing Length:	48 [ft]				
Well Depth:	41 [ft]				
Well Diam:	2 [in]				
Screen Len:	116.4 [in]				
Screen Depth:	31 [ft]				
Pump Inlet Depth:	0 [in]				
Depth to Water:	27.92 [ft]				
Pump Level (TOC):	31 [ft]				
Final Pumping Rate:	0 [mL/min]				
Stable Draw Down:	0 [in]				
Total Volume Formula:	Volume = cup (200 mL) + tubing (214.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)				
Calculated Total Volume:	331.25 [mL]				
Actual Total Volume:	331.25 [mL]				
Calculated Measurement Interval:	9938 [sec]				
Actual Measurement Interval:	30 [sec]				
Start date/time:	4/19/2005	8:37:08			
End date/time:	4/19/2005	8:50:08			
Total Time:	0:13:00				

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.71	0	-84.79	-0.47	6823.15	-27.98	935.28	3.52	139.19	-5.63	16.78	-0.01	8:47:46
3	6.71	0	-85.34	-0.56	6780.44	-42.71	940.7	5.42	147.35	8.15	16.77	-0.01	8:48:17
2	6.71	0	-85.81	-0.47	6736.96	-43.49	945.61	4.91	150.71	3.36	16.78	0.01	8:48:47
1	6.71	0	-86.37	-0.56	6688.33	-48.63	949.24	3.62	168.41	17.7	16.8	0.02	8:49:17
0	6.71	0	-86.84	-0.47	6612.51	-75.82	952.89	3.65	167.93	-0.48	16.81	0.02	8:49:49

pH Min:	6.71
pH Max:	6.71
ORP Min:	-86.84
ORP Max:	-84.79
DO Min:	6612.51
DO Max:	6823.15
Cond Min:	935.28
Cond Max:	952.89
Turb Min:	139.19
Turb Max:	168.41
Temp Min:	16.77
Temp Max:	16.81

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-43C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	53 [ft]
Well Diam:	2 [in]
Screen Len:	118.4 [in]
Screen Depth:	43 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.75 [ft]
Pump Level (TOC):	43 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH, ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	95.36 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/19/2005 10:33:42
End date/time:	4/19/2005 10:43:54
Total Time:	0:10:12

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.7	0	-105.86	-0.13	433.4	-140.9	984.7	-2.69	6.91	3.17	15.09	0.01	10:41:51
3	6.7	0	-105.99	-0.13	350.34	-83.06	982.85	-1.85	12.82	5.91	15.16	0.07	10:42:21
2	6.71	0	-106.16	-0.17	328.86	-21.48	982.85	0	11.66	-1.16	15.09	-0.07	10:42:51
1	6.71	0	-106.34	-0.17	337.06	8.2	983.67	0.82	11.87	0.2	15.13	0.04	10:43:21
0	6.71	0	-106.55	-0.21	414.04	76.99	984.7	1.03	9.76	-2.11	15.12	-0.01	10:43:52

pH Min:	6.7
pH Max:	6.71
ORP Min:	-106.55
ORP Max:	-105.86
DO Min:	328.86
DO Max:	433.4
Cond Min:	982.85
Cond Max:	984.7
Turb Min:	6.91
Turb Max:	12.82
Temp Min:	15.09
Temp Max:	15.16

Operator Name:	Joe Campbelll
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-49C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	32 [ft]
Well Depth:	39.5 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	29.9 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.52 [ft]
Pump Level (TOC):	31.5 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (142.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	259.83 [mL]
Actual Total Volume:	259.83 [mL]
Calculated Measurement Interval:	7795 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/19/2005 15:34:48
End date/time:	4/19/2005 15:46:00
Total Time:	0:11:12

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.55	0	-78.33	-0.09	221.38	-0.9	912.89	0	35.77	0.53	18.43	0.05	15:43:27
3	6.55	0	-78.59	-0.26	217.24	-4.14	912.54	-0.35	33.46	-2.3	18.44	0.01	15:43:58
2	6.55	0	-78.94	-0.34	214.17	-3.07	914.13	1.59	24.81	-8.66	18.67	0.23	15:44:28
1	6.54	-0.01	-79.54	-0.6	209.95	-4.22	921.11	6.97	22.39	-2.42	19.64	0.97	15:44:59
0	6.53	0	-80.61	-1.07	206.15	-3.8	947.81	26.7	24.38	1.99	20.85	1.21	15:45:30

pH Min:	6.53
pH Max:	6.55
ORP Min:	-80.61
ORP Max:	-78.33
DO Min:	206.15
DO Max:	221.38
Cond Min:	912.54
Cond Max:	947.81
Turb Min:	22.39
Turb Max:	35.77
Temp Min:	18.43
Temp Max:	20.85

Operator Name:	Joe Campbell
Company Name	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-49D

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length	52 [ft]
Well Depth	51 [ft]
Well Diam	2 [in]
Screen Len	115.2 [in]
Screen Depth:	41 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	30.5 [ft]
Pump Level (TOC)	41 [ft]

Final Pumping Rate:	0 [ml /min]
Stable Draw Down:	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (232.1 ml) + pH ORP (16 ml) + DO (14 ml) + Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	549.1 [ml]
Actual Total Volume	549.1 [ml]
Calculated Measurement Interval	10473 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	4/19/2005	14:22:09
End date/time:	4/19/2005	14:40:44
Total Time:	0:18:35	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.57	-0.01	-101.08	-6.12	3002.16	-496.61	1085.14	30.38	78.75	-19.27	18.14	0.7	14:38:27
3	6.57	0	-99.8	1.28	2963.54	-38.62	1059.26	-25.88	74.63	-4.12	17.62	-0.52	14:38:57
2	6.58	0.01	-100.18	-0.38	2881.88	-81.66	1058.55	-0.71	63.55	-11.08	17.41	-0.21	14:39:28
1	6.57	-0.01	-100.05	0.13	2786.42	-95.46	1072.04	13.5	57.7	-5.85	17.49	0.08	14:39:58
0	6.56	-0.01	-99.8	0.25	2742.36	-44.06	1075.96	3.92	56.84	-0.87	17.33	-0.16	14:40:28

pH Min:	6.56
pH Max:	6.58
ORP Min:	-101.08
ORP Max:	-99.8
DO Min:	2742.36
DO Max:	3002.16
Cond Min:	1058.55
Cond Max:	1085.14
Turb Min:	56.84
Turb Max:	78.75
Temp Min:	17.33
Temp Max:	18.14

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.15-005
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-50A

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	27 [ft]
Well Depth:	27 [ft]
Well Diam:	2 [in]
Screen Len:	120 [in]
Screen Depth:	17.3 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	13.71 [ft]
Pump Level (TOC):	26.5 [ft]
Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (120.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	237.51 [mL]
Actual Total Volume:	237.51 [mL]
Calculated Measurement Interval:	29 [sec]
Actual Measurement Interval:	29 [sec]
Start date/time:	4/19/2005 21:18:36
End date/time:	4/19/2005 21:25:25
Total Time:	0:06:49

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.43	-0.01	56.52	-0.98	8912.38	-280.1	1500.39	-3.76	103.73	-1.31	15.81	-0.04	21:22:59
3	6.41	-0.02	55.79	-0.73	8578.1	-334.28	1496.99	-3.4	107.05	3.33	15.96	0.15	21:23:29
2	6.4	-0.02	55.15	-0.64	8457.16	-120.94	1505.18	8.19	82.34	-24.72	15.84	-0.12	21:23:58
1	6.38	-0.01	54.59	-0.56	8316.3	-140.86	1496.99	-8.19	87.77	5.43	15.76	-0.08	21:24:27
0	6.38	-0.01	54.04	-0.56	8206.03	-110.27	1497.33	0.34	84.92	-2.85	15.77	0.01	21:24:56

pH Min:	6.38
pH Max:	6.43
ORP Min:	54.04
ORP Max:	56.52
DO Min:	8206.03
DO Max:	8912.38
Cond Min:	1496.99
Cond Max:	1505.18
Turb Min:	82.34
Turb Max:	107.05
Temp Min:	15.76
Temp Max:	15.96

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-50C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam.	0.17 [in]
Tubing Length	59 [ft]
Well Depth	55 [ft]
Well Diam	2 [in]
Screen Len	115.2 [in]
Screen Depth.	45 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	13.96 [ft]
Pump Level (TOC)	45 [ft]

Final Pumping Rate:	0 [ml/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (263.3 mL) + pH, ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	980.34 [mL]
Actual Total Volume	980.34 [mL]
Calculated Measurement Interval	11411 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	4/20/2005	9:18:22
End date/time	4/20/2005	9:27:00
Total Time.	0:08:38	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.88	0	-124.22	-0.47	5373.82	-217.16	2610.67	-10.4	30.24	-2.19	15.22	-0.11	9:24:28
3	6.88	0	-124.65	-0.43	5243.97	-129.85	2584.31	-26.36	27.91	-2.33	15.12	-0.09	9:24:59
2	6.88	0	-124.95	-0.3	5034.13	-209.84	2587.2	2.89	27.23	-0.69	15.15	0.03	9:25:29
1	6.88	0	-125.38	-0.43	4883.82	-150.32	2568.44	-18.76	22.36	-4.87	15.17	0.02	9:26:00
0	6.88	0	-125.72	-0.34	4761.46	-122.35	2565.57	-2.87	25.34	2.98	15.13	-0.05	9:26:30

pH Min:	6.88
pH Max:	6.88
ORP Min:	-125.72
ORP Max:	-124.22
DO Min:	4761.46
DO Max:	5373.82
Cond Min:	2565.57
Cond Max:	2610.67
Turb Min:	22.36
Turb Max:	30.24
Temp Min:	15.12
Temp Max:	15.22

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	HMW-51C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	46 [ft]
Well Depth:	42.5 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	27.5 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	24.7 [ft]
Pump Level (TOC):	27.5 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (205.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	322.32 [mL]
Actual Total Volume:	322.32 [mL]
Calculated Measurement Interval:	9670 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/21/2005 13:34:27
End date/time:	4/21/2005 13:46:27
Total Time:	0:12:00

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.21	-0.01	-1.78	1.19	5546.67	-146.95	1081.52	0.25	464.65	-123.5	15.5	0.02	13:44:07
3	6.22	0.01	-2.68	-0.9	5157.17	-389.5	1080.27	-1.25	404.76	-59.89	15.5	0	13:44:39
2	6.19	-0.02	-2.17	0.51	4909.87	-247.3	1078.78	-1.49	503.84	99.09	15.49	-0.01	13:45:09
1	6.18	-0.01	0.18	2.35	4759.83	-150.04	1079.52	0.74	510.08	6.24	15.58	0.09	13:45:40
0	6.18	0	-0.46	-0.64	4673.68	-86.15	1079.76	0.25	514.58	4.5	15.56	-0.02	13:46:10

pH Min:	6.18
pH Max:	6.22
ORP Min:	-2.68
ORP Max:	0.18
DO Min:	4673.68
DO Max:	5546.67
Cond Min:	1078.78
Cond Max:	1081.52
Turb Min:	404.76
Turb Max:	514.58
Temp Min:	15.49
Temp Max:	15.58

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hanford Working Group
Site Name:	
Well ID	HMW-52C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length	46 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len	175.2 [in]
Screen Depth	25 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	28.5 [ft]
Pump Level (TOC)	28.5 [ft]

Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (205.3 mL) + pH/ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	622.32 [mL]
Actual Total Volume	622.32 [mL]
Calculated Measurement Interval	9670 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	4/20/2005	14:01:09
End date/time	4/20/2005	14:17:52
Total Time	0:16:43	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.62	0	-84.3	0.04	278.35	-56.89	1217.05	3.84	381.65	-0.18	16.72	0.16	14:15:23
3	6.61	0	-83.83	0.47	260.84	-17.51	1218.34	1.28	389.8	8.16	16.76	0.04	14:16:54
2	6.61	0	-84.73	-0.9	262	1.16	1251.76	33.42	453.98	64.18	18.03	1.27	14:16:38
1	6.62	0.01	-85.46	-0.73	276.03	14.03	1233.33	-18.43	416.9	-37.08	17.31	-0.71	14:17:08
0	6.62	0	-86.07	-0.6	262.88	-13.14	1237.3	3.97	484.73	67.83	17.37	0.06	14:17:40

pH Min:	6.61
pH Max:	6.62
ORP Min:	-86.07
ORP Max:	-83.83
DO Min:	260.84
DO Max:	278.35
Cond Min:	1217.05
Cond Max:	1251.76
Turb Min:	381.65
Turb Max:	484.73
Temp Min:	16.72
Temp Max:	18.03

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-30C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50 [ft]
Well Depth:	50.07 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	34.5 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.85 [ft]
Pump Level (TOC):	34.5 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	340.17 [mL]
Actual Total Volume:	340.17 [mL]
Calculated Measurement Interval:	10208 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	4/20/2005	14:04:05
End date/time:	4/20/2005	14:10:44
Total Time:	0:06:39	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.72	0	66.37	-1.24	2.27	-0.11	1199.93	4.88	854.76	37.99	19.13	-0.22	14:08:38
3	6.71	0	65.13	-1.24	2.21	-0.06	1198.26	-1.67	759.44	-95.32	19.04	-0.09	14:09:08
2	6.71	0	64.01	-1.11	2.15	-0.06	1194.86	-3.4	754.7	-4.74	19.05	0.01	14:09:38
1	6.71	0	63.16	-0.86	2.13	-0.02	1197.66	2.79	774.37	19.67	18.98	-0.07	14:10:08
0	6.71	0	61.79	-1.37	2.13	-0.01	1195.45	-2.2	758.46	-15.91	18.94	-0.04	14:10:38

pH Min:	6.71
pH Max:	6.72
ORP Min:	61.79
ORP Max:	66.37
DO Min:	2.13
DO Max:	2.27
Cond Min:	1194.86
Cond Max:	1199.93
Turb Min:	754.7
Turb Max:	854.76
Temp Min:	18.94
Temp Max:	19.13

Operator Name	SAM PETERSON
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD IL
Well ID	MP-31C

pH Sensor	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type	BLADDER
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	38 [ft]
Well Depth	38 22 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	23 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	26 72 [ft]
Pump Level (TOC)	28 72 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (169 6 ml) - pH_ORP (16 ml) - DO (14 ml) - Cond (13 ml) - Turb (40 ml)
Calculated Total Volume	286 61 [mL]
Actual Total Volume	286 61 [mL]
[illegible]	[illegible] [sec]
Actual Measurement Interval	10 [sec]
Start date/time	4/20/2005 10 46 48
End date/time	4/20/2005 10 58 00
Total Time	0 11 12

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 74	0	56 72	-0 21	1 89	0	1136 06	-1 72	426 03	-21 11	17 41	0 03	10 55 52
3	6.74	0	56 59	-0 13	1.9	0 01	1138 44	2 37	382 23	-43 8	17 29	0 12	10 56 22
2	6.74	0	57 79	1 2	1.89	0	1138.71	0.27	381.39	-0.83	17.34	0.05	10 56 54
1	6.74	0	56 26	0.47	1 9	0 01	1137.57	-1.14	376.91	-4.48	17.32	-0.02	10.57.24
0	6.74	0	56.43	0.17	1.91	0	1136.61	-0.76	412.16	35 24	17.31	-0.01	10 57 54

pH Min:	6.74
pH Max:	6.74
ORP Min:	56.59
ORP Max:	56.43
DO Min:	1.89
DO Max:	1.91
Cond Min:	1136.06
Cond Max:	1138.71
Turb Min:	376.91
Turb Max:	426.03
Temp Min:	17.29
Temp Max:	17.41

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-32C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	48 [ft]
Well Depth:	48.27 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	33.4 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.45 [ft]
Pump Level (TOC):	33.4 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (214.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	331.25 [mL]
Actual Total Volume:	331.25 [mL]
Calculated Measurement Interval:	9938 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/20/2005 8:47:57
End date/time:	4/20/2005 8:54:15
Total Time:	0:06:18

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.6	0.01	78.01	-0.13	1.96	-0.04	1515.09	1.61	416.79	-74.77	17.01	0.01	8:51:59
3	6.6	0	77.88	-0.13	1.93	-0.03	1516.59	1.5	424.88	8.1	16.99	-0.02	8:52:29
2	6.6	0	77.92	0.04	1.91	-0.01	1518.32	1.73	477.46	52.58	16.97	-0.01	8:52:59
1	6.61	0	77.84	-0.09	1.92	0	1521.31	3	453.07	-24.39	16.93	-0.04	8:53:30
0	6.61	0	77.63	-0.21	1.91	-0.01	1523.06	1.74	456.79	3.72	16.93	0	8:54:00

pH Min:	6.6
pH Max:	6.61
ORP Min:	77.63
ORP Max:	78.01
DO Min:	1.91
DO Max:	1.96
Cond Min:	1515.09
Cond Max:	1523.06
Turb Min:	416.79
Turb Max:	477.46
Temp Min:	16.93
Temp Max:	17.01

Operator Name	SAM PETERSON
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD IL
Well ID	MP-33D

pH Sensor	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type	BLADDER
Tubing Type	PVC
Tubing Diam	0.17 [in]
Tubing Length	44.5 [ft]
Well Depth	44.4 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth	29.5 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	29.68 [ft]
Pump Level (TOC)	31.68 [ft]

Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (198.6 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	315.62 [mL]
Actual Total Volume	315.62 [mL]
[illegible] Interval	9469 [sec]
[illegible] Interval	30 [sec]

Start date/time	4/19/2005	15:58:24
End date/time	4/19/2005	16:09:42
Total Time	0:11:18	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.57	0	19.29	0.21	5.6	-0.11	1620.71	0.68	108	-9.68	18.39	0.1	16:07:29
3	6.57	0	19.46	0.17	5.58	-0.03	1621.32	0.62	92.56	-15.44	18.27	-0.12	16:07:59
2	6.57	0	19.54	0.08	5.54	-0.03	1625.38	4.06	108.72	16.16	18.13	-0.14	16:08:29
1	6.57	0	19.97	0.43	5.47	-0.07	1620.51	-4.87	108.57	-0.15	18.12	-0.01	16:08:59
0	6.57	0	20.22	0.25	5.39	-0.08	1619.34	-1.18	111.97	3.4	18.15	0.03	16:09:30

pH Min	6.57
pH Max:	6.57
ORP Min:	19.29
ORP Max:	20.22
DO Min:	5.39
DO Max:	5.6
Cond Min:	1619.34
Cond Max:	1625.38
Turb Min:	92.56
Turb Max:	111.97
Temp Min:	18.12
Temp Max:	18.39

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-40C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	49 [ft]
Well Depth:	48.86 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	34 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.43 [ft]
Pump Level (TOC):	34 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (218.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	335.71 [mL]
Actual Total Volume:	335.71 [mL]
Calculated Measurement Interval:	10072 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/19/2005 13:59:15
End date/time:	4/19/2005 14:07:43
Total Time:	0:08:28

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.62	-0.01	33.55	1.03	7.99	-0.09	1403.02	-4.78	115.71	-14.52	18.5	-0.15	14:05:18
3	6.62	0	33.98	0.43	7.85	-0.14	1404.04	1.02	106.05	-9.66	18.5	0	14:05:48
2	6.62	0	34.32	0.34	7.68	-0.17	1400.12	-3.93	96.86	-9.19	18.65	0.15	14:06:18
1	6.62	0	34.49	0.17	7.53	-0.15	1403.78	3.66	96.04	-0.82	18.8	0.15	14:06:48
0	6.62	0	34.61	0.13	7.49	-0.05	1406.88	3.1	99.86	3.82	18.73	-0.08	14:07:18

pH Min:	6.62
pH Max:	6.62
ORP Min:	33.55
ORP Max:	34.61
DO Min:	7.49
DO Max:	7.99
Cond Min:	1400.12
Cond Max:	1406.88
Turb Min:	96.04
Turb Max:	115.71
Temp Min:	18.5
Temp Max:	18.8

Operator Name	SAM PETERSON
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD IL
Well ID	MP-41C

pH Sensor	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type	BLADDER
Tubing Type:	PVC
Tubing Diam	0.17 [in]
Tubing Length	45 [ft]
Well Depth	44.66 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth	29.8 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	30.53 [ft]
Pump Level (TOC)	32.53 [ft]
Final Pumping Rate	0 [ml/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (200.9 ml) - pH_ORP (16 ml) - DO (14 mL) - Cond (13 ml) - Turb (40 mL)
Calculated Total Volume	317.85 [ml]
Actual Total Volume	317.85 [ml]
[illegible]	[illegible] [sec]
Actual Measurement Interval	30 [sec]
Start date/time	4/19/2005 10:23:27
End date/time	4/19/2005 10:33:18
Total Time	0:09:51

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.59	0	73.01	0.09	2.26	-0.02	1439.36	0.3	1252.22	33.84	17.37	-0.03	10:31:01
3	6.59	0	72.96	-0.04	2.21	-0.05	1441.29	1.93	1142.7	-100.52	17.4	0.03	10:31:31
2	6.59	0	73.18	0.21	2.23	0.02	1445.9	4.61	1080.23	-62.46	17.33	-0.06	10:32:01
1	6.59	0	73.22	0.04	2.24	0.01	1443.39	-2.51	996.37	-83.86	17.29	-0.05	10:32:33
0	6.59	0	73.22	0	2.22	-0.01	1443.54	0.15	1045.95	49.58	17.3	0.02	10:33:03

pH Min:	6.59
pH Max:	6.59
ORP Min:	72.96
ORP Max.	73.22
DO Min.	2.21
DO Max:	2.26
Cond Min:	1439.36
Cond Max:	1445.9
Turb Min:	996.37
Turb Max:	1252.22
Temp Min:	17.29
Temp Max:	17.4

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-43C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0	[%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0	[%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0	[%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0	[%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0	[%]

Pump Model/Type:	BLADDER	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	37	[ft]
Well Depth:	36.47	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	21	[ft]
Pump Inlet Depth:	0	[in]
Depth to Water:	25.81	[ft]
Pump Level (TOC):	27.81	[ft]
Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (165.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	282.15	[mL]
Actual Total Volume:	282.15	[mL]
Calculated Measurement Interval:	8465	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	4/19/2005	8:45:44
End date/time:	4/19/2005	8:52:14
Total Time:	0:06:30	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.84	0.01	36.8	0.21	2.07	-0.03	2289.2	0.5	97.85	-10.12	18.65	-0.01	8:49:46
3	6.84	0	37.01	0.21	2.03	-0.03	2286.73	-2.47	84.84	-13.02	18.68	0.03	8:50:16
2	6.84	0	37.22	0.21	2.02	-0.01	2286.69	-0.04	91.91	7.07	18.68	0	8:50:46
1	6.85	0	37.52	0.3	2.01	-0.01	2287.06	0.37	90.28	-1.63	18.65	-0.03	8:51:16
0	6.85	0	37.86	0.34	2.01	0	2288.37	1.32	86.87	-3.41	18.65	-0.01	8:51:47

pH Min:	6.84
pH Max:	6.85
ORP Min:	36.8
ORP Max:	37.86
DO Min:	2.01
DO Max:	2.07
Cond Min:	2286.69
Cond Max:	2289.2
Turb Min:	84.84
Turb Max:	97.85
Temp Min:	18.65
Temp Max:	18.68

Operator Name	SAM PETERSON
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD IL
Well ID	MP-44D

pH Sensor	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type	BLADDER
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	45 [ft]
Well Depth	44 67 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	29 8 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	29 97 [ft]
Pump Level (TOC)	31 97 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (200 9 mL) + pH_ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	317 85 [mL]
Actual Total Volume	317 85 [mL]
[illegible] Interval	[illegible] [sec]
[illegible] Measurement Interval	10 [sec]
Start Date/time	4/18/2005 4 27 01
End Date/time	4/18/2005 4 33 02
Total Time	0 06 01

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 55	0	36 44	-1 41	2 24	-0 11	1270.74	4 75	605 22	33 17	19 64	-0 01	4 30 32
3	6 55	0	35 07	-1 37	2 19	-0 05	1270 07	-0 67	565 06	-40 16	19 45	-0 18	4 31 04
2	6.56	0	34.17	-0 9	2 16	-0.03	1274 92	4 85	583 18	18 12	19.32	-0 13	4 31 34
1	6.56	0	33.4	-0.77	2 13	-0 03	1269.24	-5.68	570 42	-12.76	19.36	0.04	4 32:05
0	6.56	0	32.41	-0 98	2 13	0	1272.04	2 8	588.66	18 24	19.37	0.01	4 32:34

pH Min:	6.55
pH Max:	6.56
ORP Min:	32.41
ORP Max:	36.44
DO Min:	2.13
DO Max:	2 24
Cond Min:	1269.24
Cond Max:	1274.92
Turb Min:	565.06
Turb Max:	605.22
Temp Min:	19.32
Temp Max:	19.64

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-48C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	48.21 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	33 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.72 [ft]
Pump Level (TOC):	33 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/18/2005 2:39:33
End date/time:	4/18/2005 2:46:51
Total Time:	0:07:18

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.68	0.01	3.94	1.54	2.2	-0.01	1630.66	-0.64	61.61	2.44	16.36	-0.1	2:44:35
3	6.69	0.01	6.68	2.74	2.19	-0.01	1642.93	12.27	72.01	10.41	16.31	-0.04	2:45:06
2	6.69	0	8.17	1.5	2.19	0	1644.38	1.46	72.44	0.43	16.29	-0.03	2:45:36
1	6.7	0.01	8.64	0.47	2.19	0	1649.73	5.35	74.46	2.02	16.21	-0.08	2:46:06
0	6.7	0.01	8.55	-0.09	2.22	0.03	1648.67	-1.06	73.42	-1.04	16.25	0.04	2:46:37

pH Min:	6.68
pH Max:	6.7
ORP Min:	3.94
ORP Max:	8.64
DO Min:	2.19
DO Max:	2.22
Cond Min:	1630.66
Cond Max:	1649.73
Turb Min:	61.61
Turb Max:	74.46
Temp Min:	16.21
Temp Max:	16.36

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	MP-56B

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Not used for test.				
DO Sensor:	Not used for test.				
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Peristaltic
Tubing Type:	PVC
Tubing Diam:	0.33 [in]
Tubing Length:	32 [ft]
Well Depth:	28 [ft]
Well Diam:	1 [in]
Screen Len:	72 [in]
Screen Depth:	22 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	26.9 [ft]
Pump Level (TOC):	28 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (142.8 mL) + pH/ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume:	369.83 [mL]
Actual Total Volume:	369.83 [mL]
Calculated Measurement Interval:	77.95 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	4/22/2005	9:16:38
End date/time:	4/22/2005	9:31:34
Total Time:	0:14:56	

Reading #	pH [pH]	Variance	ORP []	Variance	DO []	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.44		0				1320.38	3.7	49	18.47	17.27	-0.02	9:29:15
3	6.44		0				1321.49	1.11	35.87	-13.12	17.38	0.11	9:29:45
2	6.45		0				1328.59	7.1	50.83	14.96	17.66	0.28	9:30:15
1	6.45		0				1330.09	1.5	66.78	15.95	17.6	-0.06	9:30:46
0	6.45		0				1331.22	1.13	86.71	19.93	17.66	0.06	9:31:16

pH Min:	6.44
pH Max:	6.45
ORP Min:	
ORP Max:	
DO Min:	
DO Max:	
Cond Min:	1320.38
Cond Max:	1331.22
Turb Min:	35.87
Turb Max:	86.71
Temp Min:	17.27
Temp Max:	17.66

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-58C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	39.22 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.5 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.75 [ft]
Pump Level (TOC):	31.75 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/14/2005 21:43:27
End date/time:	4/14/2005 21:47:05
Total Time:	0:03:38

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.83	0.02	-69.01	-2.35	10.47	-1.19	1485.61	2.71	297.81	24.72	16.47	-0.1	21:44:58
3	6.84	0.01	-70.29	-1.28	9.69	-0.78	1481.53	-4.08	333.45	35.63	16.46	-0.01	21:45:29
2	6.85	0.01	-71.02	-0.73	9.16	-0.53	1479.27	-2.26	303.49	-29.96	16.39	-0.07	21:45:59
1	6.86	0.01	-71.41	-0.38	8.81	-0.35	1475.23	-4.04	321.23	17.74	16.29	-0.1	21:46:29
0	6.87	0.01	-71.83	-0.43	8.45	-0.36	1476.57	1.34	290.37	-30.86	16.38	0.09	21:47:00

pH Min:	6.83
pH Max:	6.87
ORP Min:	-71.83
ORP Max:	-69.01
DO Min:	8.45
DO Max:	10.47
Cond Min:	1475.23
Cond Max:	1485.61
Turb Min:	290.37
Turb Max:	333.45
Temp Min:	16.29
Temp Max:	16.47

Operator Name:	Joe Campbell
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	MP-59A

pH Sensor:	Installed	Target Value	0 (pH)	Target Pecent	0 (%)
ORP Sensor:	Not used for test.				
DO Sensor:	Not used for test.				
Cond Sensor:	Installed	Target Value	0 (uS/cm)	Target Pecent	0 (%)
Turb Sensor:	Installed	Target Value	0 (NTU)	Target Pecent	0 (%)

Pump Model/Type:	Peristaltic
Tubing Type:	PVC
Tubing Diam:	0.33 (in)
Tubing Length:	12 (ft)
Well Depth:	9.5 (ft)
Well Diam:	1 (in)
Screen Len:	30 (in)
Screen Depth:	6.5 (ft)
Pump Inlet Depth:	0 (in)
Depth to Water:	7.84 (ft)
Pump Level (TOC):	0.5 (ft)
Final Pumping Rate:	0 (mL/min)
Stable Draw Down:	0 (in)
Total Volume Formula:	Volume = cup (200 mL) + tubing (53.8 mL) + pH/ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume:	170.56 (mL)
Actual Total Volume:	170.56 (mL)
Calculated Measurement Interval:	5117 (sec)
Actual Measurement Interval:	30 (sec)
Start date/time:	4/22/2005 11:05:48
End date/time:	4/22/2005 11:12:49
Total Time:	0:07:03

Reading #	pH (pH)	Variance	ORP ()	Variance	DO ()	Variance	Cond (uS/cm)	Variance	Turb (NTU)	Variance	Temp (C)	Variance	Time
4	6.3	-0.01					961.79	2.16	10.09	0.96	13.54	-0.04	11:10:20
3	6.3	0					961.79	0	13.33	3.23	13.51	-0.02	11:10:50
2	6.3	0					963.36	1.57	18.1	4.78	13.52	0.01	11:11:19
1	6.3	0					963.36	0	17.67	-0.44	13.53	0.01	11:11:51
0	6.3	0					963.16	-0.2	17.45	-0.22	13.47	-0.06	11:12:21

pH Min:	6.3
pH Max:	6.3
ORP Min:	
ORP Max:	
DO Min:	
DO Max:	
Cond Min:	961.79
Cond Max:	963.36
Turb Min:	10.09
Turb Max:	18.1
Temp Min:	13.47
Temp Max:	13.54

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-59C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	34 [ft]
Well Depth:	34.09 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	22 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.09 [ft]
Pump Level (TOC):	30.09 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (151.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	268.76 [mL]
Actual Total Volume:	268.76 [mL]
Calculated Measurement Interval:	8063 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/14/2005 22:44:50
End date/time:	4/14/2005 22:49:46
Total Time:	0:04:56

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.82	-0.01	-95.87	-2.22	10.07	-0.55	1327.83	2.2	31.64	-0.98	17.03	-0.07	22:47:21
3	6.82	0	-97.46	-1.58	9.75	-0.32	1321.01	-6.83	30.92	-0.71	16.88	-0.15	22:47:52
2	6.81	0	-97.59	-0.13	9.5	-0.25	1325.36	4.35	25.58	-5.34	16.79	-0.09	22:48:22
1	6.81	0	-98.27	-0.69	9.32	-0.18	1338.53	13.17	25.94	0.36	16.72	-0.07	22:48:52
0	6.81	-0.01	-98.19	0.08	9.14	-0.18	1325.79	-12.74	25.69	-0.25	16.71	-0.01	22:49:22

pH Min:	6.81
pH Max:	6.82
ORP Min:	-98.27
ORP Max:	-95.87
DO Min:	9.14
DO Max:	10.07
Cond Min:	1321.01
Cond Max:	1338.53
Turb Min:	25.58
Turb Max:	31.64
Temp Min:	16.71
Temp Max:	17.03

Operator Name	SAM PETERSON
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD IL
Well ID	MP-60A

pH Sensor	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor	Not used for test				
DO Sensor	Not used for test.				
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type	PERISTALTIC
Tubing Type:	PVC
Tubing Diam	0.33 [in]
Tubing Length	15 [ft]
Well Depth	9.75 [ft]
Well Diam	1 [in]
Screen Leth	48 [in]
Screen Depth	8 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	8.56 [ft]
Pump Level (TOC)	9.75 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (252.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	469.28 [mL]
Actual Total Volume	469.28 [mL]
[illegible] Interval	11079 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	4/21/2005 13:43:20
End date/time	4/21/2005 14:11:38
Total Time	0:28:18

Reading #	pH [pH]	Variance	ORP []	Variance	DO []	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.23	0					728.14	3.9	2.21	-0.66	12.9	0.02	14:09:24
3	6.23	0					730.75	2.62	3.7	1.49	12.87	-0.04	14:09:54
2	6.23	0					734.87	4.12	2.15	-1.55	12.86	-0.01	14:10:24
1	6.23	0					742.88	8	4.03	1.88	12.83	-0.03	14:10:54
0	6.23	0					747.89	5.02	2.27	-1.76	12.74	-0.09	14:11:24

pH Min:	6.23
pH Max:	6.23
ORP Min	
ORP Max:	
DO Min:	
DO Max:	
Cond Min:	728.14
Cond Max:	747.89
Turb Min:	2.15
Turb Max:	4.03
Temp Min:	12.74
Temp Max:	12.9

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-61A

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Not used for test.				
DO Sensor:	Not used for test.				
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	PERISTALTIC
Tubing Type:	PVC
Tubing Diam:	0.33 [in]
Tubing Length:	15 [ft]
Well Depth:	10.34 [ft]
Well Diam:	1 [in]
Screen Len:	48 [in]
Screen Depth:	6.5 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	9.25 [ft]
Pump Level (TOC):	10.3 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (252.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	369.28 [mL]
Actual Total Volume:	369.28 [mL]
Calculated Measurement Interval:	11079 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/21/2005 12:14:56
End date/time:	4/21/2005 12:24:11
Total Time:	0:09:15

Reading #	pH [pH]	Variance	ORP []	Variance	DO []	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.91	0.01					1632.54	-3.19	4.54	0.66	14.36	-0.1	12:21:58
3	6.91	0.01					1638.17	5.62	4	-0.54	14.23	-0.13	12:22:29
2	6.91	0					1643.61	5.45	3.58	-0.43	14.32	0.1	12:22:59
1	6.92	0.01					1652.88	9.26	3.32	-0.26	14.34	0.02	12:23:29
0	6.92	0					1658.11	5.24	3.22	-0.09	14.27	-0.07	12:23:59

pH Min:	6.91
pH Max:	6.92
ORP Min:	
ORP Max:	
DO Min:	
DO Max:	
Cond Min:	1632.54
Cond Max:	1658.11
Turb Min:	3.22
Turb Max:	4.54
Temp Min:	14.23
Temp Max:	14.36

Operator Name	Joe Campbell
Company Name:	Clayton Group Services
Project Name	Hartford Working Group
Site Name	
Well ID:	MP-61C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length	41 [ft]
Well Depth	37 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth	22 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	28.4 [ft]
Pump Level (TOC)	30.5 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (183.0 mL) - pH, ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	300 [mL]
Actual Total Volume	300 [mL]
Calculated Measurement Interval	9000 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	4/21/2005	12:09:45
End date/time	4/21/2005	12:22:18
Total Time:	0:12:33	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.13	-0.08	-35.66	6.16	357.64	-61.24	1281.27	-10.59	115.78	-30.97	16.19	-0.04	12:19:54
3	6.04	-0.08	-26.12	9.54	334.66	-22.98	1287.25	5.98	133.91	18.13	16.24	0.05	12:20:25
2	6.13	0.09	-34.42	-8.29	321.13	-13.53	1288.31	1.06	131.24	-2.67	16.26	0.02	12:20:55
1	6.18	0.04	-39.08	-4.66	317.14	-3.99	1286.9	-1.41	131.97	0.73	16.25	-0.02	12:21:27
0	6.16	-0.01	-38.35	0.73	295.39	-21.75	1286.9	0	127.15	-4.83	16.22	-0.02	12:21:57

pH Min:	6.04
pH Max:	6.18
ORP Min:	-39.08
ORP Max:	-26.12
DO Min:	295.39
DO Max:	357.64
Cond Min:	1281.27
Cond Max:	1288.31
Turb Min:	115.78
Turb Max:	133.91
Temp Min:	16.19
Temp Max:	16.26

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-62A

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Not used for test.				
DO Sensor:	Not used for test.				
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	PERISTALTIC
Tubing Type:	PVC
Tubing Diam:	0.33 [in]
Tubing Length:	16 [ft]
Well Depth:	9.67 [ft]
Well Diam:	1 [in]
Screen Len:	48 [in]
Screen Depth:	6 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	7.41 [ft]
Pump Level (TOC):	9.6 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (269.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	386.1 [mL]
Actual Total Volume:	386.1 [mL]
Calculated Measurement Interval:	11583 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/21/2005 10:17:59
End date/time:	4/21/2005 10:27:55
Total Time:	0:09:56

Reading #	pH [pH]	Variance	ORP []	Variance	DO []	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.21	0					436.99	0.17	2.81	0.85	12.41	0.08	10:25:31
3	6.2	0					438.1	1.11	1.6	-1.21	12.41	0	10:26:02
2	6.2	0					438.35	0.25	1.88	0.28	12.56	0.14	10:26:32
1	6.19	-0.01					439.8	1.45	1.94	0.06	12.54	-0.01	10:27:02
0	6.19	0					440.41	0.61	1.73	-0.2	12.57	0.02	10:27:32

pH Min:	6.19
pH Max:	6.21
ORP Min:	
ORP Max:	
DO Min:	
DO Max:	
Cond Min:	436.99
Cond Max:	440.41
Turb Min:	1.6
Turb Max:	2.81
Temp Min:	12.41
Temp Max:	12.57

Operator Name:	SAM PETERSON HARTFORD
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-62C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	39 [ft]
Well Depth:	37.18 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	22 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	27.99 [ft]
Pump Level (TOC):	20.00 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (174.1 mL) pH ORP (16 mL) DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume:	291.07 [mL]
Actual Total Volume:	291.07 [mL]
Calculated Measurement Interval:	8733 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/14/2005 3:48:14
End date/time:	4/14/2005 3:56:50
Total Time:	0:08:36

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.29	0.03	-59.47	-2.35	6.69	-0.13	540.52	1.36	2881.35	0	15.93	-0.04	3:54:47
3	6.29	0	-59.51	-0.04	6.56	-0.14	541.55	1.03	2881.35	0	15.88	-0.05	3:55:17
2	6.29	0	-59.64	-0.13	6.43	-0.13	545.26	3.71	2881.35	0	15.88	0	3:55:48
1	6.29	0.01	-59.98	-0.34	6.31	-0.12	548.28	3.02	2881.35	0	15.86	-0.02	3:56:19
0	6.31	0.02	-61.82	-1.84	6.2	-0.11	551.58	3.3	2881.35	0	15.83	-0.03	3:56:49

pH Min:	6.29
pH Max:	6.31
ORP Min:	-61.82
ORP Max:	-59.47
DO Min:	6.2
DO Max:	6.69
Cond Min:	540.52
Cond Max:	551.58
Turb Min:	2881.35
Turb Max:	2881.35
Temp Min:	15.83
Temp Max:	15.93

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-63A

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Not used for test.				
DO Sensor:	Not used for test.				
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	PERISTALTIC
Tubing Type:	PVC
Tubing Diam:	0.33 [in]
Tubing Length:	16 [ft]
Well Depth:	9.94 [ft]
Well Diam:	1 [in]
Screen Len:	48 [in]
Screen Depth:	6.5 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	8.97 [ft]
Pump Level (TOC):	9.8 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (269.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	386.1 [mL]
Actual Total Volume:	386.1 [mL]
Calculated Measurement Interval:	11583 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/21/2005 9:03:10
End date/time:	4/21/2005 9:12:27
Total Time:	0:09:17

Reading #	pH [pH]	Variance	ORP []	Variance	DO []	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.35	0.01					803.09	5.07	10.66	1.9	12.79	0.02	9:10:13
3	6.36	0.01					808.34	5.25	8.47	-2.19	12.81	0.02	9:10:43
2	6.36	0					814.79	6.45	8.09	-0.38	12.87	0.06	9:11:13
1	6.36	0					825.11	10.32	7.64	-0.45	12.96	0.09	9:11:44
0	6.37	0					827.04	1.93	7.49	-0.15	13.02	0.06	9:12:14

pH Min:	6.35
pH Max:	6.37
ORP Min:	
ORP Max:	
DO Min:	
DO Max:	
Cond Min:	803.09
Cond Max:	827.04
Turb Min:	7.49
Turb Max:	10.66
Temp Min:	12.79
Temp Max:	13.02

Operator Name:	SAM PETERSON HARTFORD
Company Name:	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID.	MP-63C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length	39 [ft]
Well Depth	36.83 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth:	22 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.51 [ft]
Pump Level (TOC)	30.51 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (174.1 mL) pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	291.07 [mL]
Actual Total Volume	291.07 [mL]
Calculated Measurement Interval	87.33 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	4/14/2005	2:28:34
End date/time.	4/14/2005	2:36:52
Total Time:	0:08:18	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.3	0	-57.21	0.17	5.65	-0.08	743.58	-1.02	73.17	13.34	16.01	-0.09	2:34:37
3	6.3	0	-57.34	-0.13	5.49	-0.16	743.47	-0.11	62.83	-10.34	16.11	0.1	2:35:07
2	6.3	0	-57.12	0.21	5.4	-0.1	741.77	-1.7	56.89	-5.94	16.07	-0.04	2:35:38
1	6.29	-0.01	-56.82	0.3	5.27	-0.12	743.14	1.36	58.79	1.9	16.13	0.06	2:36:08
0	6.29	0	-56.87	-0.04	5.22	-0.06	743.94	0.8	60.91	2.11	16.17	0.04	2:36:38

pH Min:	6.29
pH Max:	6.3
ORP Min:	-57.34
ORP Max:	-56.82
DO Min:	5.22
DO Max:	5.65
Cond Min:	741.77
Cond Max:	743.94
Turb Min:	56.89
Turb Max:	73.17
Temp Min:	16.01
Temp Max:	16.17

Operator Name:	SAM PETERSON HARTFORD
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	MP-64C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	36.8 [ft]
Well Depth:	36.78 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	22 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28 [ft]
Pump Level (TOC):	30 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (164.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	281.25 [mL]
Actual Total Volume:	281.25 [mL]
Calculated Measurement Interval:	8438 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/14/2005 9:55:49
End date/time:	4/14/2005 10:04:18
Total Time:	0:08:29

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.58	0	-20.48	-0.39	1255.46	-33.46	1027.38	4.11	50.94	3.27	61.93	0.1	10:01:53
3	6.58	0	-20.65	-0.17	1229.57	-25.89	1023.28	-4.1	41.19	-9.74	62.04	0.1	10:02:23
2	6.58	0	-21.08	-0.43	1220.15	-9.42	1025.66	2.38	50.93	9.73	61.99	-0.04	10:02:54
1	6.58	0	-20.91	0.17	1204.87	-15.27	1023.72	-1.94	48.4	-2.53	61.91	-0.08	10:03:24
0	6.58	0	-21.25	-0.34	1196.53	-8.35	1017.93	-5.79	46.99	-1.41	61.84	-0.07	10:03:54

pH Min:	6.58
pH Max:	6.58
ORP Min:	-21.25
ORP Max:	-20.48
DO Min:	1196.53
DO Max:	1255.46
Cond Min:	1017.93
Cond Max:	1027.38
Turb Min:	41.19
Turb Max:	50.94
Temp Min:	61.84
Temp Max:	62.04

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.15-005
Site Name:	HARTFORD WORKING GROUP
Well ID	MP-65C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length	42 [ft]
Well Depth:	40 [ft]
Well Diam	2 [in]
Screen Len	180 [in]
Screen Depth:	25 [ft]
Pump Inlet Depth	0 [in]
Depth to Water:	28.96 [ft]
Pump Level (TOC)	30.96 [ft]

Final Pumping Rate	500 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (187.5 mL) pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	604.46 [mL]
Actual Total Volume	604.46 [mL]
Calculated Measurement Interval:	37 [sec]
Actual Measurement Interval:	37 [sec]

Start date/time:	4/20/2005	2:29:36
End date/time:	4/20/2005	2:39:32
Total Time:	0:09:56	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.58	0	30.07	-1.63	10143.02	-216.95	1436.43	-1.88	15.27	-4.56	18.49	0.04	2:36:28
3	6.58	0	28.31	-1.75	10034.95	-108.08	1428.66	-7.77	15.54	0.27	18.33	-0.15	2:37:05
2	6.59	0	26.73	-1.58	9824.39	-210.56	1430.83	2.17	12.07	-3.47	18.42	0.08	2:37:42
1	6.58	0	25.45	-1.28	9729.46	-94.93	1427.43	-3.4	13.83	1.76	18.32	-0.1	2:38:20
0	6.58	0	24.12	-1.33	9561.58	-167.88	1428.04	0.62	13.16	-0.67	18.38	0.07	2:38:57

pH Min:	6.58
pH Max:	6.59
ORP Min:	24.12
ORP Max:	30.07
DO Min:	9561.58
DO Max:	10143.02
Cond Min:	1427.43
Cond Max:	1436.43
Turb Min:	12.07
Turb Max:	15.54
Temp Min:	18.32
Temp Max:	18.49

Operator Name:	Joe Campbelll
Company Name:	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID:	MP-66C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	41 [ft]
Well Depth:	40 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	25 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.35 [ft]
Pump Level (TOC):	30.5 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (183.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	300 [mL]
Actual Total Volume:	300 [mL]
Calculated Measurement Interval:	9000 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/21/2005 10:17:37
End date/time:	4/21/2005 10:23:18
Total Time:	0:05:41

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.61	0	33.82	-1.02	5357.43	-70.46	1174.6	-0.88	260.56	-32.61	14.68	-0.04	10:21:12
3	6.61	0	32.88	-0.94	5285.12	-72.31	1174.9	0.3	231.31	-29.25	14.7	0.02	10:21:41
2	6.61	0	31.82	-1.07	5206.58	-78.55	1176.37	1.48	232.78	1.46	14.8	0.11	10:22:12
1	6.61	0	30.92	-0.9	5113.18	-93.4	1183.2	6.83	233.1	0.33	14.91	0.11	10:22:42
0	6.61	0	30.28	-0.64	5021.79	-91.38	1183.51	0.3	204.55	-28.55	15.02	0.11	10:23:13

pH Min:	6.61
pH Max:	6.61
ORP Min:	30.28
ORP Max:	33.82
DO Min:	5021.79
DO Max:	5357.43
Cond Min:	1174.6
Cond Max:	1183.51
Turb Min:	204.55
Turb Max:	260.56
Temp Min:	14.68
Temp Max:	15.02

Operator Name:	Joe Campbell
Company Name	Clayton Group Services
Project Name:	Hartford Working Group
Site Name:	
Well ID.	MP-67C

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Pecent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Pecent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0 [%]

Pump Model/Type:	Bladder
Tubing Type:	PVC
Tubing Diam	0.17 [in]
Tubing Length:	39 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth	25 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water.	28.48 [ft]
Pump Level (TOC).	30.5 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (174.1 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	291.07 [mL]
Actual Total Volume	291.07 [mL]
Calculated Measurement Interval:	8733 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time	4/21/2005 9:12:12
End date/time.	4/21/2005 9:18:55
Total Time:	0:06:43

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.62	0	44.02	-2.61	3607.94	66.94	974.36	-0.61	37.23	-6.53	15.46	-0.03	9:16:46
3	6.62	0	41.46	-2.56	3616.07	8.13	973.96	-0.4	40.22	2.99	15.45	-0.02	9:17:17
2	6.62	0	39.36	-2.09	3601.15	-14.92	973.76	-0.2	43.68	3.46	15.43	-0.02	9:17:48
1	6.62	0	37.74	-1.62	3580.46	-20.69	972.54	-1.21	42.07	-1.61	15.41	-0.01	9:18:18
0	6.63	0	36.07	-1.67	3557.22	-23.25	970.93	-1.61	42.52	0.45	15.41	0	9:18:49

pH Min:	6.62
pH Max:	6.63
ORP Min:	36.07
ORP Max:	44.02
DO Min:	3557.22
DO Max:	3616.07
Cond Min:	970.93
Cond Max:	974.36
Turb Min:	37.23
Turb Max:	43.68
Temp Min:	15.41
Temp Max:	15.46

Operator Name:	SAM PETERSON
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD IL
Well ID:	RW-1

pH Sensor:	Installed	Target Value	0 [pH]	Target Pecent	0	[%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Pecent	0	[%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Pecent	0	[%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Pecent	0	[%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Pecent	0	[%]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	44.92 [ft]
Well Diam:	30 [in]
Screen Len:	240 [in]
Screen Depth:	24.92 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	32.67 [ft]
Pump Level (TOC):	34.67 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	4/20/2005 15:46:08
End date/time:	4/20/2005 15:50:24
Total Time:	0:04:16

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.74	0.05	57.41	-9.62	2.42	-0.23	570.98	6.08	83.64	-2.45	16.44	-0.25	15:48:10
3	6.78	0.03	49.29	-8.12	2.27	-0.15	572.34	1.36	83.49	-0.15	16.42	-0.02	15:48:40
2	6.81	0.03	42.58	-6.71	2.16	-0.1	571.24	-1.1	78.65	-4.84	16.48	0.06	15:49:10
1	6.83	0.02	37.28	-5.3	2.08	-0.08	569.34	-1.9	79.48	0.83	16.6	0.11	15:49:41
0	6.84	0.01	33.43	-3.85	2.01	-0.07	567.33	-2.01	83.75	4.27	16.69	0.1	15:50:11

pH Min:	6.74
pH Max:	6.84
ORP Min:	33.43
ORP Max:	57.41
DO Min:	2.01
DO Max:	2.42
Cond Min:	567.33
Cond Max:	572.34
Turb Min:	78.65
Turb Max:	83.75
Temp Min:	16.42
Temp Max:	16.69

APPENDIX D-1
WELL SAMPLING INDICATOR PARAMETERS - APRIL 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed (gals)	Temperature oC	pH (std. units)	Conductivity (umhos/cm)	TDS (ppm)	Turbidity (ntu)	Dissolved Oxygen (ug/L)	Visual Clarity	Comments
HMW-01	04/18/05	1100	1.5	23.0	5.90	180	NM	NM	NM	Clear	Bailer
		NM	NM	21.5	5.97	150	NM	NM	NM	Clear	
		NM	NM	20.5	5.03	160	NM	NM	NM	Clear	
		NM	NM	20.0	6.18	150	NM	NM	NM	Clear	
		1125	NM	20.2	6.37	150	NM	NM	NM	Clear	
HMW-21	04/15/05	1215	2.0	21.3	6.83	130	NM	NM	NM	Med. Cloudy	Bailer
		NM	NM	21.0	6.90	140	NM	NM	NM	Med. Cloudy	
		NM	NM	20.2	6.88	390	NM	NM	NM	Clear	
		NM	NM	19.1	6.30	460	NM	NM	NM	Clear	
		NM	NM	18.5	6.94	240	NM	NM	NM	Clear	
		NM	NM	17.4	6.93	230	NM	NM	NM	Clear	
		NM	5.0	17.5	6.97	220	NM	NM	NM	Clear	
HMW-39B	04/21/05	1120	3.0	15.2	6.24	1029	NM	NM	NM	Clear	Peristaltic Pump
		1122	3.25	14.4	6.30	981	NM	NM	NM	Clear	
		1125	3.5	14.0	6.31	987	NM	NM	NM	Clear	
		1127	3.75	13.8	6.34	975	NM	NM	NM	Clear	
		1130	4.0	13.7	6.36	980	NM	NM	NM	Clear	
HMW-41B	04/21/05	0915	2.0	16.9	5.12	1144	NM	NM	NM	Clear	Peristaltic Pump
		0920	2.75	16.4	5.38	1239	NM	NM	NM	Clear	
		0930	3.5	16.8	5.71	1243	NM	NM	NM	Clear	
		0935	3.75	16.8	5.76	1256	NM	NM	NM	Clear	
		0945	4.0	16.9	5.89	1261	NM	NM	NM	Clear	
HMW-45B	04/18/05	1545	0.50	19.1	5.99	1472	NM	NM	NM	Clear	Bailer
		NM	NM	18.2	6.10	1468	NM	NM	NM	Clear	Bailed Dry
HMW-46B	04/18/05	1500	0.50	18.4	6.79	937	NM	NM	NM	Clear	Bailer
		NM	NM	17.2	6.64	934	NM	NM	NM	Clear	
		NM	NM	16.8	6.60	934	NM	NM	NM	Clear	Bailed Dry

APPENDIX D-1
WELL SAMPLING INDICATOR PARAMETERS - APRIL 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed	Temperature	pH	Conductivity	TDS	Turbidity	Dissolved Oxygen	Visual Clarity	Comments
HMW-47B	04/18/05	1428	NM	21.3	7.03	957	NM	NM	NM	NM	Bailer
		1430	NM	17.6	7.18	857	NM	NM	NM	NM	
		1431	NM	16.3	6.90	1079	NM	NM	NM	NM	
HMW-48A	04/19/05	1515	NM	14.7	6.42	829	NM	NM	NM	NM	Peristaltic Pump
		NM	NM	13.8	6.39	790	NM	NM	NM	NM	
		NM	NM	13.7	6.36	778	NM	NM	NM	NM	Pumped dry
HMW-49B	04/20/05	1040	NM	20.3	6.23	1927	NM	NM	NM	Med. Clear	
		NM	NM	19.9	6.28	1892	NM	NM	NM	Med. Clear	Dry
HMW-50B	04/20/05	0955	0.0	19.1	8.20	1300	NM	13	6.69	NM	Peristaltic Pump
		1025	1.5	17.6	7.37	1410	NM	-4	3.05	NM	
		1033	2.5	17.2	7.22	1530	NM	-4	3.32	NM	
		1044	3.5	17.1	7.15	1700	NM	-5	3.51	NM	
		1058	4.0	16.9	7.15	1810	NM	-6	3.69	NM	
		1104	5.0	16.9	7.11	1910	NM	-7	2.77	NM	
MP-30B	04/21/05	1345	2.0	19.0	6.19	1310	NM	NM	NM	Clear	Peristaltic Pump
		1400	2.2	18.2	6.11	1289	NM	NM	NM	Clear	
		1415	2.3	18.0	6.08	1285	NM	NM	NM	Clear	
		1440	2.5	18.0	6.06	1280	NM	NM	NM	Clear	
MP-31B	04/22/05	0910	1.0	17.1	6.20	832	NM	NM	NM	NM	Bailer
		NM	NM	16.8	6.30	824	NM	NM	NM	NM	
		NM	NM	16.5	6.30	823	NM	NM	NM	NM	
		NM	NM	16.6	6.32	826	NM	NM	NM	NM	
MP-36B	04/20/05	1440	1.5	20.6	6.28	702	NM	NM	NM	NM	
		1442	1.6	18.9	6.30	687	NM	NM	NM	NM	
		1443	1.8	18.3	6.24	679	NM	NM	NM	NM	
		1445	2.0	18.0	6.19	683	NM	NM	NM	NM	
		NM	NM	18.0	6.18	684	NM	NM	NM	NM	

APPENDIX D-1
WELL SAMPLING INDICATOR PARAMETERS - APRIL 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed	Temperature	pH	Conductivity	TDS	Turbidity	Dissolved Oxygen	Visual Clarity	Comments
MP-37C	04/19/05	1105	NM	19.8	5.96	972	NM	NM	NM	Black	
		NM	NM	17.7	5.94	927	NM	NM	NM	Cloudy	
		NM	NM	17.6	6.01	923	NM	NM	NM		
		1115	NM	17.3	6.06	927	NM	NM	NM		
	04/20/05	NM	NM	NM	NM	NM	NM	NM	NM	NM	
MP-39B	04/21/05	1600	2.0	18.0	6.16	881	NM	NM	NM	Clear	
		1605	2.25	17.0	6.17	856	NM	NM	NM	Clear	
		1610	2.5	16.7	6.18	848	NM	NM	NM	Clear	
		NM	NM	NM	NM	NM	NM	NM	NM	NM	
MP-42B	04/19/05	1049	0.6	17.1	5.91	827	NM	NM	NM	NM	Peristaltic Pump
		1051	0.9	17.2	5.92	801	NM	NM	NM	NM	
		1052	0.95	17.4	5.95	830	NM	NM	NM	NM	
MP-50A	04/25/05	1325	0.1	16.0	6.43	1400	NM	224	1.63	Cloudy	Peristaltic Pump
		1330	0.2	15.7	6.50	1370	NM	590	1.55	Cloudy	Pumped dry
HB-33	04/15/05	0920	8.1	16.3	6.83	800	NM	NM	NM	Cloudy	Bailer
		NM	8.25	14.8	6.80	600	NM	NM	NM	Med. Cloudy	
		NM	8.5	14.7	6.83	800	NM	NM	NM	Med. Cloudy	
		NM	8.75	14.6	6.83	800	NM	NM	NM	Med. Cloudy	
HB-37	04/18/05	0845	2.5	18.6	7.23	400	NM	NM	NM	Med. Cloudy	Bailer
		NM	NM	18.2	7.12	900	NM	NM	NM	Med. Cloudy	
		NM	NM	17.7	7.05	700	NM	NM	NM	Med. Cloudy	
		NM	NM	17.6	7.00	700	NM	NM	NM	Med. Cloudy	
		NM	NM	17.2	6.97	600	NM	NM	NM	Med. Cloudy	
		NM	NM	17.0	6.97	700	NM	NM	NM	Med. Cloudy	

NOTES:
* = Electronic data corrupted
°C = degrees Centigrade
mV = millivolts
ntu = nephelometric turbidity units
µg/L = micrograms per liter
umhos/cm = micromhos per centimeter

BUREAU VERITAS

APPENDIX D-2

JULY 2005

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HB-31

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	40	[ft]
Well Depth:	40.76	[ft]
Well Diam:	2	[in]
Screen Len:	120	[in]
Screen Depth:	33.69	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	32.91	[ft]
Pump Level (TOC):	35.19	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	295.54	[mL]
Actual Total Volume:	295.54	[mL]
Calculated Measurement Interval:	8867	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/20/2005	8:23:31
End date/time:	7/20/2005	8:43:49
Total Time:	221:24:40	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.3	0.05	-55.46	-4.15	1387.44	11	1129.16	0.27	1294.93	-1.94	61.54	0.04	8:41:41
3	6.31	0.01	-57.6	-2.14	1408.97	21.53	1133.84	4.68	1311.95	17.02	61.63	0.09	8:42:11
2	6.3	-0.02	-57.14	0.47	1422.63	13.65	1132.18	-1.67	1274.08	-37.86	61.6	-0.03	8:42:40
1	6.26	-0.03	-55.73	1.41	1418.01	-4.62	1132.72	0.54	1254.75	-19.33	61.71	0.1	8:43:10
0	6.28	0.02	-56.41	-0.69	1413.15	-4.86	1131.06	-1.66	1160.68	-94.07	61.52	-0.19	8:43:40

pH Min:	6.26
pH Max:	6.31
ORP Min:	-57.6
ORP Max:	-55.46
DO Min:	1387.44
DO Max:	1422.63
Cond Min:	1129.16
Cond Max:	1133.84
Turb Min:	1160.68
Turb Max:	1311.95
Temp Min:	61.52
Temp Max:	61.71

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	HB-32

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	46 [ft]
Well Depth:	45.83 [ft]
Well Diam:	4 [in]
Screen Len:	180 [in]
Screen Depth	29.5 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC):	34.48 [ft]
Pump Level (TOC):	36.48 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (205.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	322.32 [mL]
Actual Total Volume:	322.32 [mL]
Calculated Measurement Interval:	9670 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/19/2005	11:35:22
End date/time:	7/19/2005	11:51:46
Total Time:	242:49:38	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.51	0	-192.05	-1.71	2596.94	1416.09	981.42	1.05	3.95	0	63.62	0.03	11:49:39
3	6.51	0	-194.36	-2.31	993.79	-1603.2	982.88	1.46	3.3	-0.65	63.74	0.13	11:50:09
2	6.5	-0.01	-195.47	-1.11	1922.44	928.65	985.16	2.28	3.22	-0.08	63.89	0.15	11:50:41
1	6.5	0	-197.4	-1.93	1519.27	-403.17	984.99	-0.18	4.41	1.19	63.89	0	11:51:11
0	6.48	-0.02	-197.57	-0.17	704.51	-814.76	984.4	-0.59	3.24	-1.17	63.79	-0.1	11:51:41

pH Min:	6.48
pH Max:	6.51
ORP Min:	-197.57
ORP Max:	-192.05
DO Min:	704.51
DO Max:	2596.94
Cond Min:	981.42
Cond Max:	985.16
Turb Min:	3.22
Turb Max:	4.41
Temp Min:	63.62
Temp Max:	63.89

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	HB-38

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	BLADDER	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	40	[ft]
Well Depth:	39.65	[ft]
Well Diam:	2	[in]
Screen Len:	204	[in]
Screen Depth:	21.65	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	29.29	[ft]
Pump Level (TOC):	31.29	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	295.54	[mL]
Actual Total Volume:	295.54	[mL]
Calculated Measurement Interval:	8867	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/19/2005	14:43:23
End date/time:	7/19/2005	15:41:04
Total Time:	239:42:35	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	5.79	0	-151.87	-1.33	1325.24	0.78	876.58	-3.57	479.98	-35	62.51	-0.12	15:38:46
3	5.81	0.02	-154.09	-2.23	1317.85	-7.38	872.39	-4.19	454.17	-25.81	62.5	-0.01	15:39:16
2	5.81	0	-155.42	-1.33	1301.85	-16.01	870	-2.39	412.28	-41.89	62.6	0.11	15:39:47
1	5.83	0.02	-157.26	-1.84	1290.36	-11.49	868.58	-1.42	405.87	-6.41	62.6	-0.01	15:40:17
0	5.84	0.02	-159.01	-1.75	1285.93	-4.43	861	-7.58	383.87	-22	62.7	0.11	15:40:48

pH Min:	5.79
pH Max:	5.84
ORP Min:	-159.01
ORP Max:	-151.87
DO Min:	1285.93
DO Max:	1325.24
Cond Min:	861
Cond Max:	876.58
Turb Min:	383.87
Turb Max:	479.98
Temp Min:	62.5
Temp Max:	62.7

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-3

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	34 [ft]
Well Depth:	34.2 [ft]
Well Diam:	2 [in]
Screen Len:	56.76 [in]
Screen Depth	29.34 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	27.25 [ft]
Pump Level (TOC):	29.25 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (151.8 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	268.76 [mL]
Actual Total Volume:	268.76 [mL]
Calculated Measurement Interval:	8063 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/18/2005	11:12:49
End date/time:	7/18/2005	11:26:29
Total Time:	266:44:55	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.15	-0.01	-53.98	1.15	225.14	-22.31	751.29	-12	384.94	-1.51	69.63	-0.63	11:24:26
3	6.13	-0.02	-52.36	1.62	211.5	-13.64	750.69	-0.61	423.29	38.36	70.14	0.51	11:24:56
2	6.13	0	-51.76	0.6	209.88	-1.62	745.67	-5.02	437.75	14.46	70.35	0.21	11:25:28
1	6.12	-0.01	-50.44	1.32	235.69	25.81	738.03	-7.64	401	-36.75	69.92	-0.44	11:25:58
0	6.11	-0.01	-49.29	1.15	224.36	-11.33	722.89	-15.14	366.27	-34.73	69.59	-0.32	11:26:28

pH Min:	6.11
pH Max:	6.15
ORP Min:	-53.98
ORP Max:	-49.29
DO Min:	209.88
DO Max:	235.69
Cond Min:	722.89
Cond Max:	751.29
Turb Min:	366.27
Turb Max:	437.75
Temp Min:	69.59
Temp Max:	70.35

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-4

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	30	[ft]
Well Depth:	25.51	[ft]
Well Diam:	2	[in]
Screen Len:	56.76	[in]
Screen Depth:	20.48	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	16.99	[ft]
Pump Level (TOC):	20.48	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (133.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	250.9	[mL]
Actual Total Volume:	250.9	[mL]
Calculated Measurement Interval:	7527	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/18/2005	8:46:23
End date/time:	7/18/2005	9:12:35
Total Time:	269:14:52	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.62	0.01	-98.59	-1.07	6379.52	1108.53	1014.33	-1.54	276.77	-0.08	62.88	0.22	9:10:07
3	6.62	0	-99.06	-0.47	7651.13	1271.62	1004.77	-9.56	255.64	-21.14	62.65	-0.23	9:10:37
2	6.62	0	-99.45	-0.38	8250.7	599.57	1001.98	-2.79	265.66	10.02	62.61	-0.04	9:11:07
1	6.62	0	-100.18	-0.73	8433.55	182.85	1003.91	1.93	260.92	-4.74	62.93	0.32	9:11:37
0	6.62	0	-100.77	-0.6	8346.66	-86.89	1001.55	-2.36	262.4	1.48	62.8	-0.13	9:12:08

pH Min:	6.62
pH Max:	6.62
ORP Min:	-100.77
ORP Max:	-98.59
DO Min:	6379.52
DO Max:	8433.55
Cond Min:	1001.55
Cond Max:	1014.33
Turb Min:	255.64
Turb Max:	276.77
Temp Min:	62.61
Temp Max:	62.93

Operator Name:	Norman Bolivar
Company Name:	Clayton Group Services
Project Name:	15-03095.15-006
Site Name:	Hartford Working Group
Well ID:	HMW-25

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Not used for test.		
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Micro Purge Pump
Tubing Type:	Polyethylene
Tubing Diam:	0.17 [in]
Tubing Length:	35 [ft]
Well Depth:	35.72 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth	23.67 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC):	26.59 [ft]
Pump Level (TOC):	28.59 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (156.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	273.22 [mL]
Actual Total Volume:	273.22 [mL]
Calculated Measurement Interval:	8197 [sec]
Actual Measurement Interval:	8197 [sec]

Start date/time:	7/12/2005	11:36:52
End date/time:	7/12/2005	11:44:42
Total Time:	409:47:12	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond []	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.45	0.01	200.93	-1.71	450.65	-37.37	0.48	-0.11	0.48	-0.11	17.8	-0.09	11:40:45
3	6.46	0.01	199.35	-1.58	424.4	-26.25	0.55	0.07	0.55	0.07	17.72	-0.07	11:41:15
2	6.48	0.02	196.56	-2.78	396.78	-27.62	0.36	-0.19	0.36	-0.19	17.51	-0.21	11:42:11
1	6.49	0.01	193.35	-3.21	371.92	-24.86	0.56	0.2	0.56	0.2	17.52	0.01	11:43:26
0	6.5	0.01	191.42	-1.93	360.68	-11.24	0.48	-0.08	0.48	-0.08	17.67	0.15	11:44:09

pH Min:	6.45
pH Max:	6.5
ORP Min:	191.42
ORP Max:	200.93
DO Min:	360.68
DO Max:	450.65
Cond Min:	
Cond Max:	
Turb Min:	0.36
Turb Max:	0.56
Temp Min:	17.51
Temp Max:	17.8

Operator Name:	Norman Bolivar
Company Name:	Clayton Group Services
Project Name:	15-03095.15-006
Site Name:	Hartford Working Group
Well ID:	HMW-26

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Micro Purge Pump	
Tubing Type:	Polyethylene	
Tubing Diam:	0.17	[in]
Tubing Length:	36	[ft]
Well Depth:	36.45	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	24.61	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	23.88	[ft]
Pump Level (TOC):	25.88	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	*Volume = cup (200 mL) + tubing (160.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)*	
Calculated Total Volume:	277.68	[mL]
Actual Total Volume:	277.68	[mL]
Calculated Measurement Interval:	8331	[sec]
Actual Measurement Interval:	8331	[sec]

Start date/time:	7/12/2005	13:56:41
End date/time:	7/12/2005	14:00:35
Total Time:	407:38:14	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.52	0	-51.61	-1.58	402.25	-49.54	1328.28	6.63	6.87	-1.14	17.77	0.07	13:56:55
3	6.53	0.01	-59.69	-8.09	251.71	-150.54	1374.52	46.23	6.91	0.04	17.47	-0.3	13:58:13
2	6.54	0.01	-62	-2.31	243.38	-8.33	1380.84	6.32	9.24	2.33	17.53	0.06	13:58:47
1	6.54	0	-63.93	-1.93	227.76	-15.62	1389.35	8.52	7.29	-1.95	17.58	0.05	13:59:25
0	6.54	0	-65.09	-1.16	212.71	-15.05	1392.35	3	7.16	-0.13	17.58	0.01	13:59:57

pH Min:	6.52
pH Max:	6.54
ORP Min:	-65.09
ORP Max:	-51.61
DO Min:	212.71
DO Max:	402.25
Cond Min:	1328.28
Cond Max:	1392.35
Turb Min:	6.87
Turb Max:	9.24
Temp Min:	17.47
Temp Max:	17.77

Operator Name:	Norman Bolivar
Company Name:	Clayton Group Services
Project Name:	15-03096.15-006
Site Name:	Hartford Working Group
Well ID:	HMW-27

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Micro Purge Pump
Tubing Type:	Polyethylene
Tubing Diam:	0.17 [in]
Tubing Length:	36 [ft]
Well Depth:	36.32 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth	24.62 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	28.88 [ft]
Pump Level (TOC)	30.88 [ft]

Final Pumping Rate:	30 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula	Volume is user calculated.
Calculated Total Volume:	277.68 [mL]
Actual Total Volume:	277.68 [mL]
Calculated Measurement Interval:	556 [sec]
Actual Measurement Interval:	556 [sec]

Start date/time	7/12/2005	15:13:36
End date/time	7/12/2005	15:21:03
Total Time	406.22.52	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.44	0.01	76.5	-7.41	407.57	-60.16	1145.64	-0.32	3.32	1.8	17.61	-0.02	15:17:54
3	6.45	0	72.86	-3.64	382.66	-24.91	1146.2	0.56	3.65	0.33	17.64	0.03	15:18:27
2	6.46	0.01	68.15	-4.71	354.93	-27.74	1145.3	-0.89	2.31	-1.33	17.6	-0.04	15:19:18
1	6.45	0	65.66	-2.48	343.26	-11.66	1142.13	-3.17	3.12	0.8	17.57	-0.03	15:19:54
0	6.46	0.01	63.05	-2.61	330.84	-12.43	1145.55	3.42	2.75	-0.37	17.58	0.01	15:20:30

pH Min:	6.44
pH Max:	6.46
ORP Min:	63.05
ORP Max:	76.5
DO Min:	330.84
DO Max:	407.57
Cond Min:	1142.13
Cond Max:	1146.2
Turb Min:	2.31
Turb Max:	3.65
Temp Min:	17.57
Temp Max:	17.64

Operator Name:	Norman Bolivar
Company Name:	*Clayton Group Services*
Project Name:	15-03095.15-006
Site Name:	Hartford Working Group
Well ID:	HMW-28

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Micro Purge Pump	
Tubing Type:	Polyethylene	
Tubing Diam:	0.17	[in]
Tubing Length:	36	[ft]
Well Depth:	36.75	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	24.67	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	29.1	[ft]
Pump Level (TOC):	31.1	[ft]

Final Pumping Rate:	30	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (160.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	277.68	[mL]
Actual Total Volume:	277.68	[mL]
Calculated Measurement Interval:	556	[sec]
Actual Measurement Interval:	556	[sec]

Start date/time:	7/12/2005	16:16:18
End date/time:	7/12/2005	16:23:31
Total Time:	405:21:11	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.57	0	116.99	0	544.32	-77.86	982.89	1.89	8.38	2.91	17	0.08	16:20:40
3	6.57	0	117.16	0.17	501.06	-43.25	981.19	-1.7	5.57	-2.8	17.06	0.05	16:21:11
2	6.57	0	117.11	-0.05	446.94	-54.12	982.44	1.25	5.69	0.12	17.05	0	16:21:47
1	6.57	0	116.98	-0.13	428.16	-18.78	984.12	1.68	6.21	0.52	17.14	0.08	16:22:27
0	6.57	0	116.89	-0.09	421.52	-6.64	988.8	4.68	5.61	-0.6	17.24	0.1	16:22:57

pH Min:	6.57
pH Max:	6.57
ORP Min:	116.89
ORP Max:	117.16
DO Min:	421.52
DO Max:	544.32
Cond Min:	981.19
Cond Max:	988.8
Turb Min:	5.57
Turb Max:	8.38
Temp Min:	17
Temp Max:	17.24

Operator Name:	Norman Bolivar
Company Name:	Clayton Group Services
Project Name	15-03095.15-006
Site Name:	Hartford Working Group
Well ID:	HMW-29

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Micro Purge Pump
Tubing Type:	Polyethylene
Tubing Diam:	0.17 [in]
Tubing Length:	35 [ft]
Well Depth:	35.48 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.86 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	27.95 [ft]
Pump Level (TOC)	29.95 [ft]

Final Pumping Rate	30 [ml /min]
Stable Draw Down:	0 [ft]
Total Volume Formula	Volume = cup (200 mL) + tubing (156.2 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	273.22 [mL]
Actual Total Volume:	273.22 [mL]
Calculated Measurement Interval	547 [sec]
Actual Measurement Interval	547 [sec]

Start date/time	7/13/2005	10:21:43
End date/time	7/13/2005	10:29:40
Total Time	387:16:48	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.41	0.03	-40.25	-3.34	8991.4	-160.06	897.18	-0.73	110.9	6.87	16.89	-0.07	10:26:05
3	6.44	0.03	-43.03	-2.79	8777.5	-213.9	895.74	-1.44	127.2	16.31	16.84	-0.05	10:26:49
2	6.47	0.03	-45.13	-2.1	8563.53	-213.98	897.49	1.75	101.07	-26.14	16.93	0.09	10:27:31
1	6.49	0.02	-47.53	-2.4	8473.47	-90.06	893.76	-3.73	98.3	-2.76	16.79	-0.14	10:28:17
0	6.51	0.02	-49.12	-1.59	8381.12	-92.35	894.45	0.69	95.59	-2.72	16.81	0.02	10:28:57

pH Min:	6.41
pH Max:	6.51
ORP Min:	-49.12
ORP Max:	-40.25
DO Min:	8381.12
DO Max:	8991.4
Cond Min:	893.76
Cond Max:	897.49
Turb Min:	95.59
Turb Max:	127.2
Temp Min:	16.79
Temp Max:	16.93

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-38C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	46 [ft]
Well Depth:	42.46 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	32 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	32.24 [ft]
Pump Level (TOC):	37 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (205.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	322.32 [mL]
Actual Total Volume:	322.32 [mL]
Calculated Measurement Interval:	~~9570 [sec]~~
Actual Measurement Interval:	30 [sec]

Start date/time:	7/18/2005	14:13:12
End date/time:	7/18/2005	14:21:14
Total Time:	263:45:37	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.2	-0.01	-60.36	1.24	694.41	-57.86	1368.43	-11.71	2987.55	87.82	64.58	-0.39	14:18:45
3	6.2	0	-59.56	0.81	628.2	-66.21	1373.21	4.78	2987.56	0.01	64.75	0.17	14:19:15
2	6.19	0	-58.88	0.68	585.11	-43.09	1369.97	-3.24	2987.57	0.01	64.53	-0.23	14:19:46
1	6.2	0	-58.63	0.25	557.35	-27.76	1371.94	1.97	2987.57	0.01	64.52	-0.01	14:20:16
0	6.21	0.02	-59.27	-0.65	532.86	-24.49	1368.71	-3.23	2987.58	0.01	64.55	0.03	14:20:46

pH Min:	6.19
pH Max:	6.21
ORP Min:	-60.36
ORP Max:	-58.63
DO Min:	532.86
DO Max:	694.41
Cond Min:	1368.43
Cond Max:	1373.21
Turb Min:	2987.55
Turb Max:	2987.58
Temp Min:	64.52
Temp Max:	64.75

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-39C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	38 [ft]
Well Depth:	38.31 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	31.73 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	27.64 [ft]
Pump Level (TOC)	31.73 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (169.6 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	286.61 [mL]
Actual Total Volume:	286.61 [mL]
Calculated Measurement Interval	35 [sec]
Actual Measurement Interval:	35 [sec]

Start Date/time	7/14/2005	10:43:20
End Date/time	7/14/2005	10:52:39
Total Time	362:56:44	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.72	0.03	96.04	-1.98	397.76	-23.71	1054.41	5.01	4.03	-0.93	17.15	0.06	10:49:48
3	6.75	0.03	-97.88	-1.85	374.28	-23.48	1062.4	7.99	4.09	0.06	17.21	0.06	10:50:23
2	6.78	0.03	-99.39	-1.5	359.01	-15.27	1050.97	-11.43	3.76	-0.33	17.3	0.09	10:50:59
1	6.79	0.02	-100.98	-1.59	350.6	-8.42	1044.5	-6.47	3.64	-0.12	17.04	-0.26	10:51:35
0	6.81	0.01	-102.31	-1.33	343.66	-6.93	1047.79	3.3	4.03	0.4	16.92	-0.12	10:52:10

pH Min:	6.72
pH Max:	6.81
ORP Min:	-102.31
ORP Max:	-96.04
DO Min:	343.66
DO Max:	397.76
Cond Min:	1044.5
Cond Max:	1062.4
Turb Min:	3.64
Turb Max:	4.09
Temp Min:	16.92
Temp Max:	17.3

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-40C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	39.11 [ft]
Well Depth:	39.11 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	23.49 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	25.71 [ft]
Pump Level (TOC):	27.71 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (174.6 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	291.57 [mL]
Actual Total Volume:	291.57 [mL]
Calculated Measurement Interval:	35 [sec]
Actual Measurement Interval:	35 [sec]

Start date/time:	7/13/2005	15:24:19
End date/time:	7/13/2005	15:35:24
Total Time:	382:16:34	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.79	0.01	3.89	-2.15	463.97	-7.76	626.6	2.14	92.8	-7.63	16.93	-0.06	15:32:33
3	6.79	0	1.83	-2.06	468.46	4.49	628.41	1.81	97.16	4.36	16.91	-0.03	15:33:08
2	6.8	0.01	-0.75	-2.58	465.38	-3.08	628.31	-0.1	86.14	-11.02	17.01	0.1	15:33:44
1	6.8	0.01	-3.41	-2.66	468.73	3.35	625.7	-2.61	85.06	-1.08	16.86	-0.15	15:34:19
0	6.81	0.01	-5.77	-2.36	463.32	-5.41	627.5	1.8	85.95	0.9	16.88	0.02	15:34:54

pH Min:	6.79
pH Max:	6.81
ORP Min:	-5.77
ORP Max:	3.89
DO Min:	463.32
DO Max:	468.73
Cond Min:	625.7
Cond Max:	628.41
Turb Min:	85.06
Turb Max:	97.16
Temp Min:	16.86
Temp Max:	17.01

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-41C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	48.1 [ft]
Well Depth:	48.1 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth	33.81 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	25.27 [ft]
Pump Level (TOC)	33.81 [ft]

Final Pumping Rate:	500 [ml /min]
Stable Draw Down:	0 [ft]
Total Volume Formula	Volume = cup (200 mL) + tubing (214.7 mL) - pH ORP (18 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	331.69 [mL]
Actual Total Volume:	331.69 [mL]
Calculated Measurement Interval:	40 [sec]
Actual Measurement Interval	40 [sec]

Start date/time	7/13/2005	17:45:18
End date/time	7/13/2005	17:53:52
Total Time	379.56.21	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.67	0.02	-94.63	-2.66	480.33	-7.59	1140.41	-4.06	201.42	10.1	17.26	-0.05	17:50:42
3	6.69	0.02	-96.69	-2.06	488.74	8.4	1138.37	-2.04	218.64	17.22	17.25	-0.01	17:51:21
2	6.71	0.02	-98.32	-1.63	483.49	-5.24	1142.63	4.26	178.83	-39.82	17.28	0.02	17:52:03
1	6.72	0.01	-99.65	-1.33	499.11	15.62	1135.74	-6.89	190.62	11.79	17.16	-0.11	17:52:43
0	6.73	0.01	-100.42	-0.78	492.36	-6.75	1141.7	5.96	186.31	-4.31	17.24	0.08	17:53:24

pH Min:	6.67
pH Max:	6.73
ORP Min:	-100.42
ORP Max:	-94.63
DO Min:	480.33
DO Max:	499.11
Cond Min:	1135.74
Cond Max:	1142.63
Turb Min:	178.83
Turb Max:	218.64
Temp Min:	17.16
Temp Max:	17.28

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-42B

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	40	[ft]
Well Depth:	39.67	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	25.66	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	30.39	[ft]
Pump Level (TOC):	32.39	[ft]
Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	295.54	[mL]
Actual Total Volume:	295.54	[mL]
Calculated Measurement Interval:	8867	[sec]
Actual Measurement Interval:	30	[sec]
Start date/time:	7/19/2005	8:11:06
End date/time:	7/19/2005	8:21:22
Total Time:	245:48:44	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.26	0.01	-52.81	0.13	348.95	-19.05	995.47	-5.87	41.38	1.06	63.7	-0.12	8:19:11
3	6.28	0.02	-53.84	-1.03	331.62	-17.33	999.37	3.9	46.88	5.5	63.79	0.09	8:19:41
2	6.29	0.01	-54.69	-0.86	321.82	-9.8	993.3	-6.07	47.34	0.47	63.54	-0.26	8:20:11
1	6.29	0	-55.08	-0.39	308.65	-13.17	987.95	-5.36	47.58	0.24	63.62	0.08	8:20:41
0	6.3	0.01	-55.98	-0.9	295.21	-13.44	985.61	-2.34	38.42	-9.16	63.74	0.12	8:21:12

pH Min:	6.26
pH Max:	*6.3*
ORP Min:	-55.98
ORP Max:	-52.81
DO Min:	295.21
DO Max:	*348.95*
Cond Min:	985.61
Cond Max:	999.37
Turb Min:	38.42
Turb Max:	47.58
Temp Min:	63.54
Temp Max:	63.79

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-43C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	41.1 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth	30.77 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	28.73 [ft]
Pump Level (TOC):	30.7 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/19/2005	10:21:57
End date/time:	7/19/2005	10:34:35
Total Time	243:38:34	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.06	0.01	21.38	-1.07	4325.55	-94.77	995.48	3.64	369.91	23.47	66.01	0.03	10:32:33
3	6.06	0	20.73	-0.65	4234.38	-91.17	996.33	0.85	354.72	-15.19	66.04	0.03	10:33:03
2	6.05	-0.01	21.41	0.68	4179.11	-55.27	999.14	2.81	323.76	-30.96	65.75	-0.28	10:33:34
1	6.08	0.03	18.97	-2.44	4107.93	-71.18	1004.82	5.68	343.23	19.47	65.56	-0.2	10:34:03
0	6.09	0	18.19	-0.77	4073.18	-34.74	1003.93	-0.89	329.68	-13.56	65.25	-0.31	10:34:34

pH Min:	6.05
pH Max:	6.09
ORP Min:	18.19
ORP Max:	21.41
DO Min:	4073.18
DO Max:	4325.55
Cond Min:	995.48
Cond Max:	1004.82
Turb Min:	323.76
Turb Max:	369.91
Temp Min:	65.25
Temp Max:	66.04

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	HMW-48D

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	BLADDER	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	55	[ft]
Well Depth:	52.34	[ft]
Well Diam:	2	[in]
Screen Len:	116.4	[in]
Screen Depth:	42.64	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	29.99	[ft]
Pump Level (TOC):	42.64	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (245.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	362.49	[mL]
Actual Total Volume:	362.49	[mL]
Calculated Measurement Interval:	10875	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/19/2005	8:44:36
End date/time:	7/19/2005	9:27:42
Total Time:	246:09:51	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.11	-0.03	-139.68	0.43	1121.81	-32.77	969.03	515.92	68.98	-1865.8	66.32	1.35	9:25:29
3	6.11	0	-139.46	0.21	1116.48	-5.33	972.21	3.18	52.72	-16.26	66.87	0.56	9:25:59
2	6.19	0.09	-141.09	-1.62	1182.78	66.29	953.2	-19.02	78.87	26.15	65.27	-1.6	9:26:30
1	6.17	-0.02	-140.4	0.68	1259.24	76.46	947.08	-6.12	72	-6.87	64.65	-0.62	9:27:00
0	6.15	-0.02	-136.25	4.15	1785.64	526.4	941.6	-5.48	96.15	24.15	64.44	-0.2	9:27:29

pH Min:	6.11
pH Max:	6.19
ORP Min:	-141.09
ORP Max:	-136.25
DO Min:	1116.48
DO Max:	1785.64
Cond Min:	941.6
Cond Max:	972.21
Turb Min:	52.72
Turb Max:	96.15
Temp Min:	64.44
Temp Max:	66.87

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-49C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	39.15 [ft]
Well Diam:	2 [in]
Screen Len:	111.6 [in]
Screen Depth	29.59 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	30.83 [ft]
Pump Level (TOC)	34.5 [ft]

Final Pumping Rate:	0 [ml /min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) + pH ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time	7/14/2005	16:47:18
End date/time	7/14/2005	17:07:29
Total Time:	357.01.49	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.02	0	-87.69	-0.51	1883.67	1.2	1001.32	-0.63	67.85	7.16	65.06	0.11	17:04:58
3	6.02	0	-88.33	-0.64	1893.2	9.53	999.65	-1.67	56.59	-11.26	64.95	-0.1	17:05:29
2	6.02	0	-88.8	-0.47	1885.74	-7.45	1005.93	6.29	52.25	-4.34	65.08	0.13	17:05:59
1	6.02	0	-89.35	-0.56	1879.46	-6.28	1005.93	0	55.2	2.95	65.32	0.24	17:06:29
0	6.03	0	-89.91	-0.56	1864.16	-15.3	1001.11	-4.83	50.61	-4.59	65.46	0.14	17:07:00

pH Min:	6.02
pH Max:	6.03
ORP Min:	-89.91
ORP Max:	-87.69
DO Min:	1864.16
DO Max:	1893.2
Cond Min:	999.65
Cond Max:	1005.93
Turb Min:	50.61
Turb Max:	67.85
Temp Min:	64.95
Temp Max:	65.46

Operator Name:	ANDREW DORN			
Company Name:	CLAYTON GROUP SERVICES			
Project Name:	15-03095.17.001			
Site Name:	Hartford Working Group			
Well ID:	HMW-49D			
pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]
Pump Model/Type:	BLADDER			
Tubing Type:	PVC			
Tubing Diam:	0.17	[in]		
Tubing Length:	55	[ft]		
Well Depth:	52.32	[ft]		
Well Diam:	2	[in]		
Screen Len:	115.2	[in]		
Screen Depth:	40.72	[ft]		
Pump Inlet Depth:	0	[in]		
Water Level (TOC):	32.27	[ft]		
Pump Level (TOC):	40.72	[ft]		
Final Pumping Rate:	0	[mL/min]		
Stable Draw Down:	0	[ft]		
Total Volume Formula:	Volume = cup (200 mL) + tubing (245.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)			
Calculated Total Volume:	362.49	[mL]		
Actual Total Volume:	362.49	[mL]		
Calculated Measurement Interval:	10875	[sec]		
Actual Measurement Interval:	30	[sec]		
Start date/time:	7/18/2005	14:02:27		
End date/time:	7/18/2005	14:16:31		
Total Time:	264:58:47			

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.55	0	-154.51	-4.49	2182.4	-43.21	935.69	17.29	85.81	2.41	66.68	-0.09	14:14:07
3	6.57	0.02	-159.55	-5.05	2129.87	-52.53	944.41	8.71	85.62	-0.19	66.62	-0.06	14:14:37
2	6.57	0.01	-163.62	-4.06	2030.87	-99	963.87	19.46	84.99	-0.63	66.56	-0.06	14:15:07
1	6.59	0.01	-166.96	-3.34	1935.76	-95.11	982.92	19.06	87.27	2.28	66.73	0.17	14:15:38
0	6.59	0.01	-170.59	-3.64	1836.73	-99.03	989.05	6.12	86.22	-1.05	66.67	-0.06	14:16:08

pH Min:	6.55
pH Max:	6.59
ORP Min:	-170.59
ORP Max:	-154.51
DO Min:	1836.73
DO Max:	2182.4
Cond Min:	935.69
Cond Max:	989.05
Turb Min:	84.99
Turb Max:	87.27
Temp Min:	66.56
Temp Max:	66.73

Operator Name	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name	15-03095 17-001
Site Name	HARTFORD WORKING GROUP
Well ID	HMW-50A

pH Sensor	Installed	Target Value	0 [pH]
ORP Sensor	Installed	Target Value	0 [mV]
DO Sensor	Installed	Target Value	0 [ug/L]
Cond Sensor	Installed	Target Value	0 [uS/cm]
Turb Sensor	Installed	Target Value	0 [NTU]

Pump Model/Type	WELL WIZARD / BLADDER PUMP
Tubing Type	POLYETHYLENE
Tubing Diam	0.17 [in]
Tubing Length	30.49 [ft]
Well Depth	29.49 [ft]
Well Diam	2 [in]
Screen Len.	111.6 [in]
Screen Depth	20.14 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	19.49 [ft]
Pump Level (TOC)	21.49 [ft]

Final Pumping Rate	500 [mL/min]
Stable Draw Down	0 [ft]
Total Volume Formula	Volume = cup (200 mL) + tubing (136.1 mL) + pH_ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	253.09 [mL]
Actual Total Volume	253.09 [mL]
Calculated Measurement Interval	31 [sec]
Actual Measurement Interval	31 [sec]

Start date/time	7/14/2005	15:12:50
End date/time	7/14/2005	15:24:11
Total Time	0:08:20:40	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.48	0.02	132.42	0.48	15945.39	842.02	1242.92	2.62	13.03	1.75	16.76	0.13	15:21:44
3	6.49	0.01	132.12	0.31	15819.06	126.33	1237.52	5.4	15.78	1.85	16.63	0.13	15:22:14
2	6.5	0.01	131.68	0.43	15607	212.06	1241.81	4.29	16.27	0.49	16.61	0.02	15:22:46
1	6.52	0.02	131.21	0.48	15312.94	294.06	1247.49	5.67	12.94	3.33	16.71	0.1	15:23:17
0	6.53	0.01	130.81	0.39	15113.96	198.98	1250.83	3.34	11.52	1.42	16.74	0.03	15:23:50

pH Min	6.48
pH Max	6.53
ORP Min.	130.81
ORP Max.	132.42
DO Min:	15113.96
DO Max:	15945.39
Cond Min:	1237.52
Cond Max:	1250.83
Turb Min:	11.52
Turb Max:	16.27
Temp Min:	16.61
Temp Max:	16.76

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-50C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	60 [ft]
Well Depth:	58.18 [ft]
Well Diam:	2 [in]
Screen Len:	115.2 [in]
Screen Depth:	47.88 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	34.73 [ft]
Pump Level (TOC):	47.88 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (267.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	384.81 [mL]
Actual Total Volume:	384.81 [mL]
Calculated Measurement Interval:	11545 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/15/2005	7:42:29
End date/time:	7/15/2005	7:53:24
Total Time:	342:08:21	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.62	-0.01	-173.8	0.3	342.95	-32.13	1871.62	5.13	13.97	-3.56	64.94	0.12	7:51:05
3	6.64	0.02	-175.09	-1.29	324.51	-18.44	1852.59	-19.03	15.69	1.72	63.26	-1.68	7:51:35
2	6.65	0.01	-176.76	-1.67	313.92	-10.59	1824.08	-28.51	14.48	-1.21	62.66	-0.6	7:52:05
1	6.62	-0.03	-174.28	2.48	313.97	0.05	1786.28	-37.8	14.51	0.03	62.64	-0.02	7:52:36
0	6.57	-0.04	-170.77	3.51	333.86	19.89	1776.23	-10.05	15.15	0.63	62.29	-0.36	7:53:06

pH Min:	6.57
pH Max:	6.65
ORP Min:	-176.76
ORP Max:	-170.77
DO Min:	313.92
DO Max:	342.95
Cond Min:	1776.23
Cond Max:	1871.62
Turb Min:	13.97
Turb Max:	15.69
Temp Min:	62.29
Temp Max:	64.94

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-51C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	40.5 [ft]
Well Depth:	41.88 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	27.23 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	25.79 [ft]
Pump Level (TOC)	27.79 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (180.8 mL) - pH ORP (18 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	297.77 [mL]
Actual Total Volume:	297.77 [mL]
Calculated Measurement Interval	36 [sec]
Actual Measurement Interval:	36 [sec]

Start date/time	7/14/2005	18:16:27
End date/time	7/14/2005	18:26:00
Total Time	155:28:08	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.05	0.03	-18.43	1.32	2957.32	92.77	987.12	-1.31	460.53	45.25	16.36	-0.22	18:23:07
3	6.07	0.02	-17.24	1.19	2974.37	17.05	987.29	0.17	461.58	1.05	16.39	0.03	18:23:44
2	6.08	0.01	-15.96	1.28	2986.58	-7.79	987.89	0.6	416.67	-44.91	16.55	0.16	18:24:20
1	6.1	0.02	-15.07	0.89	3023.72	57.14	987.64	-0.25	429.39	12.72	16.36	-0.19	18:24:57
0	6.1	0	-14.18	0.89	3037.97	14.25	987.4	-0.25	403.9	-25.49	16.25	-0.12	18:25:33

pH Min:	6.05
pH Max:	6.1
ORP Min:	-18.43
ORP Max:	-14.18
DO Min:	2957.32
DO Max:	3037.97
Cond Min:	987.12
Cond Max:	987.89
Turb Min:	403.9
Turb Max:	461.58
Temp Min:	16.25
Temp Max:	16.55

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	HMW-52C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	43	[ft]
Well Depth:	39.25	[ft]
Well Diam:	2	[in]
Screen Len:	175.2	[in]
Screen Depth:	24.62	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	27.06	[ft]
Pump Level (TOC):	33.28	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (191.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	308.93	[mL]
Actual Total Volume:	308.93	[mL]
Calculated Measurement Interval:	9268	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/14/2005	10:43:23
End date/time:	7/14/2005	10:52:51
Total Time:	363:08:23	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	5.99	0	-101.73	0.72	3246.66	-33.8	1177.67	-1.46	509.99	-1.65	63.14	-0.17	10:50:58
3	6	0	-101.9	-0.17	3242.7	-3.95	1184.35	6.67	482.43	-27.56	63.41	0.27	10:51:29
2	6.02	0.02	-102.04	-0.13	3267.15	24.44	1179.38	-4.96	503.84	21.41	63.12	-0.29	10:51:59
1	6.05	0.03	-104.09	-2.06	3258.1	-9.05	1185.78	6.4	544.33	40.49	62.93	-0.18	10:52:29
0	6.03	-0.02	-103.41	0.68	3251.65	-6.44	1182.56	-3.22	598.46	54.13	62.92	-0.01	10:52:42

pH Min:	5.99
pH Max:	6.05
ORP Min:	-104.09
ORP Max:	-101.73
DO Min:	3242.7
DO Max:	3267.15
Cond Min:	1177.67
Cond Max:	1185.78
Turb Min:	482.43
Turb Max:	598.46
Temp Min:	62.92
Temp Max:	63.41

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-30C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	60 [ft]
Well Depth:	48.91 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	34.16 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	31.64 [ft]
Pump Level (TOC):	34.16 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (267.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	384.81 [mL]
Actual Total Volume:	384.81 [mL]
Calculated Measurement Interval:	11545 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/12/2005	8:33:26
End date/time:	7/12/2005	9:24:38
Total Time:	414:22:04	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.47	-0.02	-123.63	-1.2	1267.39	-8.05	1086.04	1	96.31	9.73	63.75	0	9:22:12
3	6.47	0	-124.83	-1.2	1248.06	-19.34	1087.29	1.25	92.91	-3.4	63.84	0.09	9:22:42
2	6.48	0.01	-126.97	-2.14	1274.89	26.83	1084.8	-2.49	84.89	-8.01	63.66	-0.18	9:23:12
1	6.49	0.02	-128.98	-2.01	1302.97	28.09	1082.81	-1.99	82.2	-2.7	63.46	-0.2	9:23:43
0	6.49	-0.01	-129.83	-0.86	1261.66	-41.32	1081.57	-1.24	77.01	-5.19	63.48	0.03	9:24:13

pH Min:	6.47
pH Max:	6.49
ORP Min:	-129.83
ORP Max:	-123.63
DO Min:	1248.06
DO Max:	1302.97
Cond Min:	1081.57
Cond Max:	1087.29
Turb Min:	77.01
Turb Max:	96.31
Temp Min:	63.46
Temp Max:	63.84

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-31C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	BLADDER	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	60	[ft]
Well Depth:	37.35	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	22.65	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	27.61	[ft]
Pump Level (TOC):	29.61	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (267.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	384.81	[mL]
Actual Total Volume:	384.81	[mL]
Calculated Measurement Interval:	11545	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/12/2005	16:25:17
End date/time:	7/12/2005	16:49:58
Total Time:	406:30:56	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.65	-0.03	-200.26	-0.47	1176.78	-5.34	922.44	-0.54	121.5	-5.02	63.45	0.04	16:47:40
3	6.69	0.04	-202.57	-2.31	1176.29	-0.49	927.87	5.43	95.28	-26.22	63.46	0.01	16:48:10
2	6.73	0.03	-206.03	-3.46	1180.94	4.65	928.97	1.1	97.5	2.22	63.45	-0.02	16:48:40
1	6.71	-0.01	-206.5	-0.47	1170.04	-10.9	929.7	0.73	116.02	18.52	63.64	0.19	16:49:10
0	6.7	-0.01	-207.7	-1.2	1169.57	-0.47	929.15	-0.55	105.33	-10.69	63.54	-0.1	16:49:41

pH Min:	6.65
pH Max:	6.73
ORP Min:	-207.7
ORP Max:	-200.26
DO Min:	1169.57
DO Max:	1180.94
Cond Min:	922.44
Cond Max:	929.7
Turb Min:	95.28
Turb Max:	121.5
Temp Min:	63.45
Temp Max:	63.64

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-32C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	60 [ft]
Well Depth:	44.99 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	33.11 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	30.29 [ft]
Pump Level (TOC):	33.11 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (267.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	384.81 [mL]
Actual Total Volume:	384.81 [mL]
Calculated Measurement Interval:	11545 [sec]
Actual Measurement Interval	30 [sec]

Start date/time:	7/12/2005	14:16:51
End date/time:	7/12/2005	14:41:58
Total Time	408.40:00	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.19	-0.01	-135.72	-0.56	1210.43	4.47	1328.52	-1.12	136.09	31.88	64.19	-0.12	14:39:43
3	6.19	0	-136.02	-0.3	1199.13	-11.3	1328.15	-0.37	108.02	-28.07	64.28	0.09	14:40:12
2	6.18	-0.01	-136.49	-0.47	1200.02	0.88	1326.29	-1.86	114.16	6.13	64.26	-0.02	14:40:43
1	6.19	0.01	-137.01	-0.51	1192.75	-7.27	1323.69	-2.6	116.91	2.76	64.24	-0.02	14:41:13
0	6.22	0.03	-138.8	-1.8	1166.89	-25.86	1319.63	-4.06	79.81	-37.1	64.19	-0.05	14:41:43

pH Min:	6.18
pH Max:	6.22
ORP Min:	-138.8
ORP Max:	-135.72
DO Min:	1166.89
DO Max:	1210.43
Cond Min:	1319.63
Cond Max:	1328.52
Turb Min:	79.81
Turb Max:	136.09
Temp Min:	64.19
Temp Max:	64.28

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID.	MP 33D

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	60 [ft]
Well Depth:	43.92 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	29.22 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	30.51 [ft]
Pump Level (TOC):	32.51 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (267.8 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	384.81 [mL]
Actual Total Volume:	384.81 [mL]
Calculated Measurement Interval:	11545 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/12/2005	11:10:26
End date/time:	7/12/2005	11:28:16
Total Time:	411:47:08	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.58	0.01	-135.25	-1.15	1401.92	-7.27	1186.31	0.6	63.4	1.68	64.77	-0.01	11:26:12
3	6.58	0	-136.24	-0.98	1391.32	-10.6	1187.8	1.49	56.62	-6.78	64.84	0.07	11:26:43
2	6.57	-0.01	-136.36	-0.13	1392.43	1.11	1186.31	-1.49	56.63	0.01	64.63	-0.21	11:27:13
1	6.58	0.01	-137.52	-1.15	1376.67	-15.76	1189.6	3.28	44.76	-11.88	64.82	0.19	11:27:43
0	6.58	0	-138.5	-0.98	1368.58	-8.09	1189.6	0	54.32	9.56	64.83	0.01	11:28:14

pH Min:	6.57
pH Max:	6.58
ORP Min:	-138.5
ORP Max:	-135.25
DO Min:	1368.58
DO Max:	1401.92
Cond Min:	1186.31
Cond Max:	1189.6
Turb Min:	44.76
Turb Max:	63.4
Temp Min:	64.63
Temp Max:	64.84

Operator Name:	Lacy Smith
Company Name:	Clayton Group Services
Project Name	15-03095 17-001
Site Name:	Hartford Working Group
Well ID:	MP-40C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	48.7 [ft]
Well Depth:	48.72 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	33 7 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	31 21 [ft]
Pump Level (TOC)	33 7 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down	0 [ft]
Total Volume Formula	Volume = cup (200 mL) + tubing (217 4 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	334 37 [mL]
Actual Total Volume:	334 37 [mL]
Calculated Measurement Interval:	10032 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time	7/12/2005	15 03 26
End date/time	7/12/2005	15 17 33
Total Time	407 00 53	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6 28	0 01	30 53	-1 29	864 95	-362 63	1524 35	3 59	177 26	12 35	62 41	-0 21	15 15 03
3	6 25	-0 02	-29 42	1 11	3239 59	2374 64	1523 3	-1 05	181 86	4 6	62 79	0 38	15 15 32
2	6 24	-0 01	-28.1	1 32	4547	1307 41	1512.53	-10.77	176 96	-4.89	62 52	-0 27	15 16.03
1	6.19	-0.06	-22.16	5 94	4716.54	169 54	1497 92	-14.61	152.8	-24.16	62.71	0.18	15:16:33
0	6 24	0.05	-26 69	-4.54	4618.02	-98.52	1514.53	16.62	130.07	-22.73	62.48	-0.23	15:17:03

pH Min:	6.19
pH Max:	6.28
ORP Min:	-30.53
ORP Max:	-22.16
DO Min:	864.95
DO Max:	4716.54
Cond Min:	1497.92
Cond Max:	1524.35
Turb Min:	130.07
Turb Max:	181.86
Temp Min:	62.41
Temp Max:	62.79

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-41C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	BLADDER	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	50	[ft]
Well Depth:	*44.18*	*[ft]*
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	29.48	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	31.41	[ft]
Pump Level (TOC):	33.41	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	*0*	*[ft]*
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	340.17	[mL]
Actual Total Volume:	340.17	[mL]
Calculated Measurement Interval:	10206	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/13/2005	12:53:49
End date/time:	7/13/2005	13:19:40
Total Time:	386:04:33	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.55	0	-135.3	-0.64	2789.97	-64.63	1161.36	2.22	193.52	-21.04	63.58	0.16	13:17:35
3	6.54	0	-136.41	-1.11	2819.83	29.86	1164.15	2.79	216.95	23.42	63.5	-0.07	13:18:06
2	6.56	0.02	-138.17	-1.75	2745.29	-74.54	1165.83	1.68	202.79	-14.16	63.5	0	13:18:36
1	6.59	0.02	-140.22	-2.05	2760.29	15.01	1165.54	-0.29	193.86	-8.92	63.42	-0.08	13:19:06
0	6.58	0	-141.63	-1.41	2714.43	-45.87	1163.01	-2.53	176.73	-17.13	63.54	0.13	13:19:36

pH Min:	6.54
pH Max:	6.59
ORP Min:	-141.63
ORP Max:	-135.3
DO Min:	2714.43
DO Max:	2819.83
Cond Min:	1161.36
Cond Max:	1165.83
Turb Min:	176.73
Turb Max:	216.95
Temp Min:	63.42
Temp Max:	63.58

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-43C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50 [ft]
Well Depth:	35.1 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	20.59 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	26.78 [ft]
Pump Level (TOC):	28.78 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	340.17 [mL]
Actual Total Volume:	340.17 [mL]
Calculated Measurement Interval:	10206 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/14/2005	10:39:38
End date/time:	7/14/2005	10:58:14
Total Time:	364:19:18	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.85	0	-137.92	-1.41	2246.63	-41.22	1845.68	0.74	174.73	23.86	67.24	0.26	10:55:49
3	6.84	0	-138.99	-1.07	2230.23	-16.4	1842.87	-2.81	159.12	-15.62	67.19	-0.05	10:56:20
2	6.84	0	-140.1	-1.11	2205.27	-24.96	1839.36	-3.51	148.7	-10.41	67.26	0.07	10:56:50
1	6.85	0	-141.08	-0.98	2203.73	-1.55	1828.86	-10.5	133.12	-15.58	66.98	-0.28	10:57:21
0	6.85	0	-142.28	-1.2	2200.53	-3.2	1831.68	2.82	129.43	-3.69	66.78	-0.21	10:57:51

pH Min:	6.84
pH Max:	6.85
ORP Min:	-142.28
ORP Max:	-137.92
DO Min:	2200.53
DO Max:	2246.63
Cond Min:	1828.86
Cond Max:	1845.68
Turb Min:	129.43
Turb Max:	174.73
Temp Min:	66.78
Temp Max:	67.26

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-44D

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50 [ft]
Well Depth:	34.21 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	29.51 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	29.51 [ft]
Pump Level (TOC):	32.63 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	340.17 [mL]
Actual Total Volume:	340.17 [mL]
Calculated Measurement Interval:	10206 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/13/2005	8:44:04
End date/time:	7/13/2005	9:27:20
Total Time:	390:15:31	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.41	0.01	-81.58	-1.8	1903.81	17.09	1191.59	-3.82	943.51	33	65.57	-0.04	9:24:55
3	6.42	0.01	-83.3	-1.71	1894.74	-9.07	1190.72	-0.87	906.04	-37.47	65.59	0.03	9:25:25
2	6.4	-0.02	-83.42	-0.13	1889.5	-5.24	1191.9	1.18	995.09	89.05	65.68	0.09	9:25:55
1	6.43	0.03	-85.26	-1.84	1854.44	-35.06	1192.21	0.3	914.73	-80.36	65.65	-0.03	9:26:26
0	6.42	-0.01	-86.42	-1.16	1861.61	7.17	1191.04	-1.17	1007.69	92.97	65.72	0.07	9:26:56

pH Min:	6.4
pH Max:	6.43
ORP Min:	-86.42
ORP Max:	-81.58
DO Min:	1854.44
DO Max:	1903.81
Cond Min:	1190.72
Cond Max:	1192.21
Turb Min:	906.04
Turb Max:	1007.69
Temp Min:	65.57
Temp Max:	65.72

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-48C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50 [ft]
Well Depth:	47.39 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	32.69 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	29.7 [ft]
Pump Level (TOC):	32.69 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	340.17 [mL]
Actual Total Volume:	340.17 [mL]
Calculated Measurement Interval:	10206 [sec]
Actual Measurement Interval:	10 [sec]

Start date/time:	7/14/2005	15:02:13
End date/time:	7/14/2005	15:13:23
Total Time:	659:58:19	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.63	-0.02	-142.14	-1.07	4537.29	39.94	1556.94	-21.94	47.69	0.71	62.45	-0.9	15:10:52
3	6.63	0	-142.7	-0.56	4370	-167.29	1548.5	-8.44	46.91	1.22	62.11	-0.34	15:11:22
2	6.66	0.03	-144.88	-2.18	4210.35	-159.65	1548.6	0.11	41.84	-7.07	61.98	-0.13	15:11:53
1	6.66	0	-146.21	-1.33	4079.69	-130.66	1545.71	-2.9	39.69	-2.15	61.89	-0.09	15:12:24
0	6.66	0	-147.41	-1.2	3939.19	-140.5	1548.8	3.1	39.89	0.2	62.11	0.22	15:12:54

pH Min:	6.63
pH Max:	6.66
ORP Min:	-147.41
ORP Max:	-142.14
DO Min:	3939.19
DO Max:	4537.29
Cond Min:	1545.71
Cond Max:	1556.94
Turb Min:	39.69
Turb Max:	48.91
Temp Min:	61.89
Temp Max:	62.45

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-58C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	44	[ft]
Well Depth:	39.04	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	24.1	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	29.65	[ft]
Pump Level (TOC):	31.65	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (196.4 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	313.39	[mL]
Actual Total Volume:	313.39	[mL]
Calculated Measurement Interval:	9402	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/14/2005	12:55:35
End date/time:	7/14/2005	13:26:54
Total Time:	360:58:54	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.73	0	-189.61	-0.56	5924	262.91	1454.82	4.4	101.2	-35.42	64.72	0.36	13:24:23
3	6.69	-0.04	-188.89	0.73	5132.61	-791.39	1479.02	24.21	141.28	40.08	66.97	2.25	13:24:54
2	6.71	0.02	-190	-1.11	7342.09	2209.48	1453.5	-25.53	134.61	-6.67	65.39	-1.59	13:25:24
1	6.71	0	-189.61	0.39	8059.02	716.93	1449.11	-4.39	125.9	-8.7	65.03	-0.35	13:25:54
0	6.71	0.01	-190.17	-0.56	8102.89	43.87	1446.5	-2.62	122.7	-3.2	64.92	-0.12	13:26:25

pH Min:	6.69
pH Max:	6.73
ORP Min:	-190.17
ORP Max:	-188.89
DO Min:	5132.61
DO Max:	8102.89
Cond Min:	1446.5
Cond Max:	1479.02
Turb Min:	101.2
Turb Max:	141.28
Temp Min:	64.72
Temp Max:	66.97

Operator Name:	TJ Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-59C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	33.81 [ft]
Well Depth:	34.81 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth	21 44 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	29 [ft]
Pump Level (TOC)	31 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula	Volume = cup (200 mL) + tubing (150 9 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	267 91 [mL]
Actual Total Volume:	267 91 [mL]
Calculated Measurement Interval:	8038 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	7/13/2005 15 12 36
End date/time:	7/13/2005 15 17 56
Total Time	383 01 27

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6 74	-0 01	-111 57	-0 39	1144 81	-179 11	1211 89	-5 88	31 48	-1 48	65 1	-0 14	15 15 37
3	6 73	0	-112.04	-0 47	990.88	-153 93	1208.64	-3 25	30.93	-0.55	65.05	-0 05	15:16.08
2	6.73	0	-112.47	-0.43	821.73	-169.15	1215.43	6.79	31.16	0.24	64.85	-0.2	15:16:39
1	6.73	0	-112.99	-0.52	723.98	-97.75	1209.88	-5.54	29.66	-1.5	64.88	0.03	15:17:09
0	6.73	0	-113.42	-0.43	661.97	-62.01	1210.83	0.95	27.19	-2.47	64.8	-0.08	15:17:39

pH Min:	6.73
pH Max:	6.74
ORP Min:	-113.42
ORP Max:	-111.57
DO Min:	661.97
DO Max:	1144.81
Cond Min:	1208.64
Cond Max:	1215.43
Turb Min:	27.19
Turb Max:	31.48
Temp Min:	64.8
Temp Max:	65.1

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	MP-61C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP	
Tubing Type:	POLYETHYLENE	
Tubing Diam:	0.17	[in]
Tubing Length:	40	[ft]
Well Depth:	37.03	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	21.67	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	28.76	[ft]
Pump Level (TOC):	30.76	[ft]
Final Pumping Rate:	500	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	295.54	[mL]
Actual Total Volume:	295.54	[mL]
Calculated Measurement Interval:	36	[sec]
Actual Measurement Interval:	36	[sec]
Start date/time:	7/15/2005	8:36:27
End date/time:	7/15/2005	8:46:09
Total Time:	341:08:46	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.58	0.01	-90.58	-0.73	1516.19	-54.89	1393.86	-0.02	485.72	-31.29	17.17	-0.06	8:43:42
3	6.59	0.01	-91.05	-0.47	1446.58	-69.62	1393.83	-0.02	420.02	-65.7	17.29	0.12	8:44:19
2	6.6	0.01	-91.53	-0.47	1416.91	-29.66	1393.81	-0.03	401.31	-18.71	17.2	-0.1	8:44:55
1	6.61	0.01	-91.87	-0.34	1380.16	-36.75	1395.47	1.66	384.13	-17.18	17.24	0.04	8:45:32
0	6.62	0.01	-92.13	-0.26	1359.89	-20.27	1385.37	-10.1	325.41	-58.73	17.26	0.02	8:46:08

pH Min:	6.58
pH Max:	6.62
ORP Min:	-92.13
ORP Max:	-90.58
DO Min:	1359.89
DO Max:	1516.19
Cond Min:	1385.37
Cond Max:	1395.47
Turb Min:	325.41
Turb Max:	485.72
Temp Min:	17.17
Temp Max:	17.29

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-62C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	42.71 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	21.55 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	28.01 [ft]
Pump Level (TOC):	30.01 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/15/2005	9:02:51
End date/time:	7/15/2005	9:18:49
Total Time:	342:03:25	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.53	0.01	-187.52	-0.6	214.5	-12.48	561.43	3.1	153.91	0.43	61.06	-0.09	9:16:31
3	6.53	0	-187.99	-0.47	205.86	-8.64	564.97	3.54	177.7	23.79	61.03	-0.03	9:17:01
2	6.53	0	-188.25	-0.26	192.31	-13.55	564.03	-0.94	113.64	-64.06	61.1	0.07	9:17:31
1	6.54	0	-188.64	-0.39	184.47	-7.84	568.15	4.12	121.5	7.86	60.93	-0.17	9:18:02
0	6.55	0.01	-189.37	-0.73	179.71	-4.76	573.36	5.22	106.91	-14.6	60.98	0.04	9:18:32

pH Min:	6.53
pH Max:	6.55
ORP Min:	-189.37
ORP Max:	-187.52
DO Min:	179.71
DO Max:	214.5
Cond Min:	561.43
Cond Max:	573.36
Turb Min:	106.91
Turb Max:	177.7
Temp Min:	60.93
Temp Max:	61.1

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well !D:	MP-63C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	45	[ft]
Well Depth:	36.37	[ft]
Well Diam:	2	[in]
Screen Len:	176.4	[in]
Screen Depth:	21.67	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	28.4	[ft]
Pump Level (TOC):	30.4	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	317.85	[mL]
Actual Total Volume:	317.85	[mL]
Calculated Measurement Interval:	9536	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/15/2005	10:02:57
End date/time:	7/15/2005	10:07:58
Total Time:	340:15:08	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.27	0	-173.67	-0.43	4477.05	-114.55	707.44	-1.8	90.75	7.64	63.08	-0.05	10:05:28
3	6.27	0	-174.19	-0.52	4419.41	-57.64	704.7	-2.74	86.9	-3.85	63	-0.09	10:05:59
2	6.31	0.04	-176.63	-2.44	4261.5	-157.91	704.9	0.2	84.13	-2.77	63.02	0.02	10:06:29
1	6.3	0	-176.8	-0.18	4117.15	-144.35	703.33	-1.57	88.72	4.59	62.71	-0.31	10:07:00
0	6.3	0	-176.98	-0.18	4040.32	-76.83	700.42	-2.91	89.3	0.58	62.53	-0.18	10:07:30

pH Min:	6.27
pH Max:	6.31
ORP Min:	-176.98
ORP Max:	-173.67
DO Min:	4040.32
DO Max:	4477.05
Cond Min:	700.42
Cond Max:	707.44
Turb Min:	84.13
Turb Max:	90.75
Temp Min:	62.53
Temp Max:	63.08

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	MP-65C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	WELL WIZARD / BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	44 [ft]
Well Depth:	40.04 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth	24.71 [ft]
Pump Inlet Depth	0 [in]
Water Level (TOC)	29.91 [ft]
Pump Level (TOC)	31.91 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula	Volume = cup (200 mL) + tubing (196.4 mL) + pH_ORP (16 mL) + DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume:	313.39 [mL]
Actual Total Volume:	313.39 [mL]
Calculated Measurement Interval:	38 [sec]
Actual Measurement Interval:	38 [sec]

Start date/time	7/15/2005	10:48:22
End date/time	7/15/2005	10:56:05
Total Time	338.58.34	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.06	0.07	125.47	-0.78	1556.13	69.07	1381.21	-15.16	5.58	-0.07	18.86	-0.22	10:53:28
3	6.1	0.04	124.78	-0.69	1493.56	-62.57	1383.62	2.41	4.39	-1.19	18.74	-0.11	10:54:07
2	6.13	0.03	124	-0.78	1434.45	-59.11	1371.99	-11.63	5.78	1.39	18.66	-0.08	10:54:45
1	6.18	0.05	123.39	-0.61	1381.77	-52.69	1382.62	10.63	5.25	-0.53	18.67	0.01	10:55:24
0	6.22	0.04	122.48	-0.91	1367.25	-14.51	1368.17	-14.46	6.87	1.62	18.59	-0.09	10:56:02

pH Min:	6.06
pH Max:	6.22
ORP Min:	122.48
ORP Max:	125.47
DO Min:	1367.25
DO Max:	1556.13
Cond Min:	1368.17
Cond Max:	1383.62
Turb Min:	4.39
Turb Max:	6.87
Temp Min:	18.59
Temp Max:	18.86

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	MP-66C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	41 [ft]
Well Depth:	39.9 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.67 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	29.09 [ft]
Pump Level (TOC):	31.09 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (183.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	300 [mL]
Actual Total Volume:	300 [mL]
Calculated Measurement Interval:	36 [sec]
Actual Measurement Interval:	36 [sec]

Start date/time:	7/19/2005	12:48:05
End date/time:	7/19/2005	12:54:03
Total Time:	313:11:18	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	5.66	0.18	121.64	-2.83	1813.8	-278.8	1335.76	-26.99	105.34	17.12	16.75	-0.19	12:51:06
3	5.78	0.12	119.7	-1.94	1607.22	-206.58	1336.06	0.3	132.13	26.79	16.6	-0.15	12:51:42
2	5.88	0.1	118.62	-1.08	1443.8	-163.42	1357.66	21.6	138.69	6.56	16.59	0	12:52:18
1	5.96	0.08	117.62	-1	1362	-81.8	1335.48	-22.18	144.36	5.66	16.59	0	12:52:55
0	6.03	0.07	116.71	-0.91	1338.22	-23.78	1332.29	-3.19	161.49	17.14	16.43	-0.16	12:53:31

pH Min:	5.66
pH Max:	6.03
ORP Min:	116.71
ORP Max:	121.64
DO Min:	1338.22
DO Max:	1813.8
Cond Min:	1332.29
Cond Max:	1357.66
Turb Min:	105.34
Turb Max:	161.49
Temp Min:	16.43
Temp Max:	16.75

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	MP-67C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	37 [ft]
Well Depth:	39.83 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.65 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC)	29.28 [ft]
Pump Level (TOC)	31.28 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (165.1 mL) - pH ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	282.15 [mL]
Actual Total Volume:	282.15 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]

Start date/time	7/19/2005	15:31:57
End date/time	7/19/2005	15:37:01
Total Time	310.28.12	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	4.97	0.31	164.88	-2.79	6281.37	657.53	1358.72	0.76	34.02	6.69	18.07	-0.17	15:34:15
3	5.2	0.23	161.79	-3.09	5881.8	-399.57	1348.3	-10.41	28.94	-5.08	17.88	-0.19	15:34:49
2	5.41	0.21	158.02	-3.77	5554.6	-327.19	1345.87	-2.43	28.53	-0.41	17.8	-0.08	15:35:24
1	5.56	0.15	154.07	-3.95	5331.31	-223.29	1320.67	-25.2	27.85	-0.68	17.73	-0.07	15:35:59
0	5.67	0.11	150.3	-3.78	5194.56	-136.75	1322.12	1.44	29.82	1.97	17.51	-0.21	15:36:33

pH Min:	4.97
pH Max:	5.67
ORP Min:	150.3
ORP Max:	164.88
DO Min:	5194.56
DO Max:	6281.37
Cond Min:	1320.67
Cond Max:	1358.72
Turb Min:	27.85
Turb Max:	34.02
Temp Min:	17.51
Temp Max:	18.07

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-78D

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	35	[ft]
Well Depth:	37.84	[ft]
Well Diam:	2	[in]
Screen Len:	115.2	[in]
Screen Depth:	27.96	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	31.5	[ft]
Pump Level (TOC):	33.84	[ft]
Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (156.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	273.22	[mL]
Actual Total Volume:	273.22	[mL]
Calculated Measurement Interval:	8197	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/13/2005	9:40:58
End date/time:	7/13/2005	9:48:15
Total Time:	388:38:29	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.49	0	-93.08	-0.17	1568.96	-40.82	1482.97	6.26	104.98	-8.71	65.45	0.31	9:46:01
3	6.49	0	-93.21	-0.13	1429.5	-139.45	1489.29	6.32	99.78	-5.21	65.71	0.26	9:46:31
2	6.49	0	-93.3	-0.09	1314.43	-115.07	1494.18	4.89	102.84	3.06	65.95	0.24	9:47:01
1	6.49	0	-93.22	0.08	1194.1	-120.33	1501.59	7.41	95.21	-7.63	66.97	1.01	9:47:33
0	6.49	0	-93.05	0.17	2037.87	843.77	1512.61	11.01	110.27	15.06	66.92	-0.05	9:48:03

pH Min:	6.49
pH Max:	6.49
ORP Min:	-93.3
ORP Max:	-93.05
DO Min:	1194.1
DO Max:	2037.87
Cond Min:	1482.97
Cond Max:	1512.61
Turb Min:	95.21
Turb Max:	110.27
Temp Min:	65.45
Temp Max:	66.97

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-79D

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50.57 [ft]
Well Depth:	50.57 [ft]
Well Diam:	2 [in]
Screen Len:	115.2 [in]
Screen Depth:	40.45 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	30.38 [ft]
Pump Level (TOC):	40.45 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	*Volume = cup (200 mL) + tubing (225.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)*
Calculated Total Volume:	342.72 [mL]
Actual Total Volume:	342.72 [mL]
Calculated Measurement Interval:	10282 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/13/2005	12:55:43
End date/time:	7/13/2005	13:06:48
Total Time:	385:24:58	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.11	-0.01	-41.91	0.98	928.91	56.98	1011.78	-2.27	232.37	-3.26	62.71	-0.06	13:04:18
3	6.12	0.02	-43.06	-1.16	734.42	-194.49	1015.17	3.39	333.5	101.13	62.7	-0.01	13:04:48
2	6.11	-0.01	-42.13	0.94	635.38	-99.04	1011.76	-3.41	164.86	-168.64	62.67	-0.02	13:05:19
1	6.11	0	-41.78	0.34	559.12	-76.26	1014.02	2.26	176.55	11.69	62.71	0.03	13:05:50
0	6.12	0.01	-42.68	-0.9	496	-63.12	1016.75	2.73	202.9	26.34	62.93	0.23	13:06:20

pH Min:	6.11
pH Max:	6.12
ORP Min:	-43.06
ORP Max:	-41.78
DO Min:	496
DO Max:	928.91
Cond Min:	1011.76
Cond Max:	1016.75
Turb Min:	164.86
Turb Max:	333.5
Temp Min:	62.67
Temp Max:	62.93

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	MP-81C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	BLADDER PUMP
Tubing Type:	POLYETHYLENE
Tubing Diam:	0.17 [in]
Tubing Length:	34.5 [ft]
Well Depth:	32.3 [ft]
Well Diam:	2 [in]
Screen Len:	177.6 [in]
Screen Depth:	17.15 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	25.5 [ft]
Pump Level (TOC):	27.5 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (154.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	270.99 [mL]
Actual Total Volume:	270.99 [mL]
Calculated Measurement Interval:	33 [sec]
Actual Measurement Interval:	33 [sec]

Start date/time:	7/19/2005	17:54:13
End date/time:	7/19/2005	18:00:50
Total Time:	308:06:42	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	5.98	0.07	172.32	-0.52	1863.85	-190.18	1257.75	-3.17	121.56	13.34	16.55	-0.11	17:58:07
3	6.04	0.06	171.76	-0.56	1731.58	-132.27	1258.37	0.62	103.98	-17.58	16.58	0.04	17:58:40
2	6.09	0.06	171.24	-0.52	1661.9	-69.68	1264.19	5.82	119.45	15.47	16.53	-0.05	17:59:13
1	6.14	0.05	170.8	-0.44	1617	-44.91	1253.1	-11.09	119.01	-0.44	16.68	0.15	17:59:46
0	6.17	0.03	170.32	-0.48	1578.73	-38.26	1254.4	1.3	121.64	2.63	16.67	-0.01	18:00:20

pH Min:	5.98
pH Max:	6.17
ORP Min:	170.32
ORP Max:	172.32
DO Min:	1578.73
DO Max:	1863.85
Cond Min:	1253.1
Cond Max:	1264.19
Turb Min:	103.98
Turb Max:	121.64
Temp Min:	16.53
Temp Max:	16.68

Operator Name:	Lacy Smith
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-82C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	38.65 [ft]
Well Diam:	2 [in]
Screen Len:	174 [in]
Screen Depth:	23.57 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	30.93 [ft]
Pump Level (TOC):	33 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/12/2005	9:10:31
End date/time:	7/12/2005	9:20:33
Total Time:	413.11.04	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.79	0	-148.57	-0.39	4436.57	-104.31	1495.18	-1.5	257.32	-28.28	62.81	0.01	9:18:04
3	6.79	0	-148.91	-0.34	4355.65	-80.92	1498.16	2.98	270.76	13.44	62.67	-0.14	9:18:34
2	6.79	0	-149.25	-0.34	4243.52	-112.13	1494.17	-3.99	251.15	-19.62	62.74	0.07	9:19:04
1	6.8	0	-149.51	-0.26	4146.87	-96.65	1496.15	1.98	230.17	-20.98	62.62	-0.11	9:19:34
0	6.8	0	-149.9	-0.39	4042.94	-103.92	1498.13	1.98	255.07	24.9	62.69	0.06	9:20:04

pH Min:	6.79
pH Max:	6.8
ORP Min:	-149.9
ORP Max:	-148.57
DO Min:	4042.94
DO Max:	4436.57
Cond Min:	1494.17
Cond Max:	1498.16
Turb Min:	230.17
Turb Max:	270.76
Temp Min:	62.62
Temp Max:	62.81

Operator Name:	Lacy Smith
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-83C

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	43	[ft]
Well Depth:	42.9	[ft]
Well Diam:	2	[in]
Screen Len:	234	[in]
Screen Depth:	22	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	27.76	[ft]
Pump Level (TOC):	30	[ft]
Final Pumping Rate:	*0*	*[mL/min]*
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (191.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	308.93	[mL]
Actual Total Volume:	308.93	[mL]
Calculated Measurement Interval:	9268	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/12/2005	11:05:43
End date/time:	7/12/2005	11:24:05
Total Time:	411:16:28	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.47	-0.01	-76.27	0.98	2478.33	-44.48	1231.09	-2.36	78.84	3.38	62.75	-0.07	11:21:43
3	6.47	0	-76.36	-0.09	2422.96	-55.37	1227.06	-4.03	81.16	2.32	62.67	-0.08	11:22:14
2	6.46	-0.01	-75.89	0.47	2331.95	-91	1229.07	2.01	79.98	-1.17	62.77	0.09	11:22:44
1	6.46	0	-75.5	0.38	2276.44	-55.51	1228.74	-0.33	80.66	0.68	62.74	-0.03	11:23:15
0	6.46	0	-75.59	-0.09	2217.92	-58.52	1227.73	-1.01	80.58	-0.07	62.65	-0.1	11:23:45

pH Min:	6.46
pH Max:	6.47
ORP Min:	-76.36
ORP Max:	-75.5
DO Min:	2217.92
DO Max:	2478.33
Cond Min:	1227.06
Cond Max:	1231.09
Turb Min:	78.84
Turb Max:	81.16
Temp Min:	62.65
Temp Max:	62.77

Operator Name:	Lacy Smith
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-85C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.1 [in]
Tubing Length:	36 [ft]
Well Depth:	35.77 [ft]
Well Diam:	2 [in]
Screen Len:	70.8 [in]
Screen Depth:	29.3 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	27.74 [ft]
Pump Level (TOC):	29.3 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (55.6 mL) - pH, ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	172.6 [mL]
Actual Total Volume:	172.6 [mL]
Calculated Measurement Interval:	5178 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/11/2005	14:34:43
End date/time:	7/11/2005	14:57:46
Total Time	431 48.17	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.74	0.01	-103.14	-0.64	6341.13	-94.53	940.97	5.98	260.79	-47.32	63.7	0.17	14:55:19
3	6.76	0.02	-105.03	-1.88	6425.98	84.86	945.61	4.64	166.45	-94.34	63.75	0.05	14:55:50
2	6.78	0.02	-106.05	-1.03	6394.08	-31.9	944.05	-1.56	273.73	107.27	63.54	-0.21	14:56:20
1	6.78	0	-107.34	-1.28	6303.92	-90.16	943.91	-0.14	280.1	6.37	63.42	-0.13	14:56:50
0	6.79	0	-108.75	-1.41	6186.87	-117.05	947.16	3.25	289.46	9.36	63.43	0.01	14:57:20

pH Min:	6.74
pH Max:	6.79
ORP Min:	-108.75
ORP Max:	-103.14
DO Min:	6186.87
DO Max:	6425.98
Cond Min:	940.97
Cond Max:	947.16
Turb Min:	166.45
Turb Max:	289.46
Temp Min:	63.42
Temp Max:	63.75

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17.001
Site Name:	Hartford Working Group
Well ID:	MP-85D

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	BLADDER	
Tubing Type:	PVC	
Tubing Diam:	0.1	[in]
Tubing Length:	45	[ft]
Well Depth:	48.95	[ft]
Well Diam:	2	[in]
Screen Len:	114	[in]
Screen Depth:	39.45	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	28.07	[ft]
Pump Level (TOC):	39.45	[ft]

Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (69.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	186.5	[mL]
Actual Total Volume:	186.5	[mL]
Calculated Measurement Interval:	5595	[sec]
Actual Measurement Interval:	30	[sec]

Start date/time:	7/11/2005	14:36:25
End date/time:	7/11/2005	14:53:19
Total Time:	432:25:33	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.46	0.01	-62.94	-1.75	1301.66	-9.5	883.05	5.74	92.7	-16.18	60.63	0	14:51:00
3	6.46	0	-65.59	-2.65	1288.89	-12.76	888.86	5.81	89.36	-3.34	60.6	-0.03	14:51:30
2	6.46	0	-66.83	-1.24	1275.07	-13.82	889.38	0.52	91.18	1.82	60.72	0.11	14:52:00
1	6.47	0.01	-69.14	-2.31	1264.65	-10.42	895.63	6.24	94.11	2.93	60.75	0.03	14:52:32
0	6.49	0.01	-71.32	-2.18	1260.73	-3.92	896.68	1.05	90.81	-3.3	60.73	-0.02	14:53:02

pH Min:	6.46
pH Max:	6.49
ORP Min:	-71.32
ORP Max:	-62.94
DO Min:	1260.73
DO Max:	1301.66
Cond Min:	883.05
Cond Max:	896.68
Turb Min:	89.36
Turb Max:	94.11
Temp Min:	60.6
Temp Max:	60.75

Operator Name:	Lacy Smith
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	MP-86C

pH Sensor:	Installed	Target Value	0 [pH]
ORP Sensor:	Installed	Target Value	0 [mV]
DO Sensor:	Installed	Target Value	0 [ug/L]
Cond Sensor:	Installed	Target Value	0 [uS/cm]
Turb Sensor:	Installed	Target Value	0 [NTU]

Pump Model/Type:	Bladder Pump
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	39.44 [ft]
Well Diam:	2 [in]
Screen Len:	174 [in]
Screen Depth:	24.59 [ft]
Pump Inlet Depth:	0 [in]
Water Level (TOC):	30.66 [ft]
Pump Level (TOC):	32.6 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	7/12/2005	13:24:26
End date/time:	7/12/2005	13:36:17
Total Time:	408:59:38	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.84	0	-136.08	-0.51	1294.64	-120.06	1899.52	1.58	650.81	153.42	62.3	0	13:34:02
3	6.84	0	-136.47	-0.39	1220.6	-74.04	1893.91	-5.62	462.7	-188.11	62.31	0.01	13:34:32
2	6.84	0	-136.85	-0.39	1165.99	-54.6	1898.68	4.77	531.28	68.58	62.43	0.12	13:35:02
1	6.84	0	-137.28	-0.43	1127.98	-38.01	1888.3	-10.38	536.8	5.52	62.29	-0.13	13:35:33
0	6.84	0	-137.58	-0.3	1086.6	-41.38	1890.66	2.36	462.08	-74.72	62.25	-0.04	13:36:03

pH Min:	6.84
pH Max:	6.84
ORP Min:	-137.58
ORP Max:	-136.08
DO Min:	1086.6
DO Max:	1294.64
Cond Min:	1888.3
Cond Max:	1899.52
Turb Min:	462.08
Turb Max:	650.81
Temp Min:	62.25
Temp Max:	62.43

Operator Name:	Tj Grisel
Company Name:	Clayton Group Services
Project Name:	15-03095.17-001
Site Name:	Hartford Working Group
Well ID:	RW-01

pH Sensor:	Installed	Target Value	0	[pH]
ORP Sensor:	Installed	Target Value	0	[mV]
DO Sensor:	Installed	Target Value	0	[ug/L]
Cond Sensor:	Installed	Target Value	0	[uS/cm]
Turb Sensor:	Installed	Target Value	0	[NTU]

Pump Model/Type:	Bladder Pump	
Tubing Type:	PVC	
Tubing Diam:	0.17	[in]
Tubing Length:	40	[ft]
Well Depth:	0	[ft]
Well Diam:	2	[in]
Screen Len:	0	[in]
Screen Depth:	24.5	[ft]
Pump Inlet Depth:	0	[in]
Water Level (TOC):	33.78	[ft]
Pump Level (TOC):	35.78	[ft]
Final Pumping Rate:	0	[mL/min]
Stable Draw Down:	0	[ft]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)	
Calculated Total Volume:	295.54	[mL]
Actual Total Volume:	295.54	[mL]
Calculated Measurement Interval:	8867	[sec]
Actual Measurement Interval:	30	[sec]
Start date/time:	7/19/2005	13:33:50
End date/time:	7/19/2005	13:44:56
Total Time:	307:23:46	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.89	-0.01	-129.91	1.54	304.35	-19.06	510.88	0.85	88.07	-13.55	66.64	0.01	13:42:26
3	6.88	0	-129.11	0.81	296.77	-7.58	513.1	2.23	86.13	-1.94	66.61	-0.03	13:42:56
2	6.87	-0.01	-128.17	0.94	277.82	-18.96	512.29	-0.81	62.08	-24.05	66.6	0	13:43:26
1	6.86	-0.01	-126.81	1.36	272.35	-5.47	511.95	-0.35	62.27	0.19	66.76	0.16	13:43:57
0	6.85	-0.01	-125.61	1.19	268.37	-3.98	510.46	-1.49	63.5	1.23	66.75	-0.01	13:44:27

pH Min:	6.85
pH Max:	6.89
ORP Min:	-129.91
ORP Max:	-125.61
DO Min:	268.37
DO Max:	304.35
Cond Min:	510.46
Cond Max:	513.1
Turb Min:	62.08
Turb Max:	88.07
Temp Min:	66.6
Temp Max:	66.76

APPENDIX D-2
WELL SAMPLING INDICATOR PARAMETERS - JULY 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed (gals)	Temperature oC	pH (std. units)	Conductivity (umhos/cm)	TDS (ppm)	Turbidity (ntu)	Dissolved Oxygen (ug/L)	Visual Clarity	Comments
HMW-01	07/11/05	1122	0.50	20.0	6.69	0.806	NM	291	0.72	NM	Well Purged Dry
HMW-07	07/11/05	1635	0.50	18.4	8.88	1.24	NM	461	10.75	NM	Peristaltic Pump
		1642	1.75	17.8	8.88	1.24	NM	605	11.04	NM	
		1648	2.00	17.6	8.88	1.23	NM	668	11.08	NM	
		1653	3.50	17.4	8.88	1.23	NM	635	11.00	NM	
HMW-21	07/06/05	NM	NM	NM	NM	NM	NM	NM	NM	NM	well gauged only
HMW-38B	07/11/05	NM	NM	NM	NM	NM	NM	NM	NM	NM	Dry
HMW-39B	07/14/05	1056	3.5	20.7	7.26	1.15	NM	-10	3.53	Clear	Peristaltic Pump
		1100	3.75	18.7	7.38	1.12	NM	-10	2.44	Clear	
		1110	4	19.1	7.39	1.11	NM	10	1.95	Clear	
		1115	4.25	19.1	7.40	1.11	NM	-10	2.80	Clear	
HMW-41B	07/12/05	1110	1.00	17.4	6.13	1.63	NM	34	2.88	Cloudy	Peristaltic Pump
		1122	2.00	17.0	6.13	1.63	NM	11	1.24	Cloudy	
		1131	3.00	17.0	6.12	1.62	NM	8	0.91	Cloudy	
		1140	3.25	17.1	6.13	1.62	NM	6	2.44	Cloudy	
		1144	3.30	17.2	6.12	1.62	NM	6	2.50	Clear	
		1148	3.50	17.1	6.11	1.62	NM	6	2.52	Clear	
		1152	3.75	17.1	6.11	1.62	NM	6	2.53	Clear	
HMW-45B	07/12/05	NM	0.50	NM	NM	NM	NM	NM	NM	NM	Bailed Dry
HMW-46B	07/12/05	945	NM	NM	NM	NM	NM	NM	NM	NM	Minimal Water
HMW-47B	07/11/05	NM	1.00	NM	NM	NM	NM	NM	NM	NM	Bailer
	07/12/05	950	1.00	17.3	6.11	1.3	NM	101	10.85	NM	Bailer
HMW-48B	07/13/05	NM	1.0	13.7	6.36	778	NM	NM	NM	NM	Pumped dry
HMW-48B	07/13/05	1015	2.5	17.0	7.41	1.41	NM	10	1.28	Cloudy	Peristaltic Pump
		1032	3.25	17.2	7.37	1.41	NM	10	1.26	Cloudy	
		1043	4.5	16.7	7.35	1.4	NM	10	1.28	Cloudy	
		1051	5	16.9	7.35	1.4	NM	10	1.18	Cloudy	
		1059	5.5	17.1	7.31	1.4	NM	10	1.21	Cloudy	
		1107	6	17.3	7.33	1.4	NM	10	1.21	Cloudy	

APPENDIX D-2
WELL SAMPLING INDICATOR PARAMETERS - JULY 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed	Temperature	pH	Conductivity	TDS	Turbidity	Dissolved Oxygen	Visual Clarity	Comments
HMW-49B	07/12/05	NM	0.2	NM	NM	NM	NM	NM	NM	NM	
HMW-50B	07/14/05	1505	6.0	18.2	7.26	1.52	NM	-10	1.55	Clear	Bailer
		1510	6.3	16.9	7.27	1.61	NM	-10	1.68	Clear	
		1513	6.5	16.8	7.25	1.66	NM	-10	1.79	Clear	
		1515	7.5	16.6	7.24	1.72	NM	-10	1.72	Clear	
MP-30B	7/12/2005	1450	0.75	18.9	6.9	1.68	NM	9.99	10.33	Cloudy	Bailer
MP-36B	07/13/05	1205	2.5	18.1	6.64	0.701	NM	-10	0.38	Clear	Peristaltic Pump
		1208	2.8	17.9	6.65	0.701	NM	-10	0.38	Clear	
		1211	3.0	17.9	6.64	0.71	NM	-10	0.62	Clear	
MP-36C	07/13/05	1530	1.0	20.0	6.69	1.19	NM	-10	0.92	Clear	Peristaltic Pump
		1535	1.5	20.2	6.70	1.21	NM	-10	0.8	Clear	
		1540	2.5	19.2	6.72	1.22	NM	-10	0.21	Clear	
MP-37C	07/13/05	NM	0.5	NM	NM	NM	NM	NM	NM	NM	Well Purged Dry
MP-39B	07/15/05	825	1.55	17.1	6.75	1	NM	-10	0.86	NM	Peristaltic Pump
		828	2.0	16.8	6.79	1	NM	-10	1.01	NM	
		834	3.0	17.3	6.90	1	NM	-10	1.69	NM	
		838	3.50	16.9	6.82	1.01	NM	-10	1.61	NM	
MP-59A	07/18/05	NM	0.4	NM	NM	NM	NM	NM	NM	NM	Peristaltic Pump - Dry
MP-61A	07/14/05	1616	0.1	23.3	7.67	1.92	NM	10	10.47	Clear	Peristaltic Pump
MP-62A	07/14/05	1355	0.1	20.3	7.59	0.324	NM	10	3.83	Clear	Peristaltic Pump
		1359	0.2	20.3	7.59	0.32	NM	10	3.66	Clear	
		1404	0.3	20.6	7.59	0.322	NM	10	3.33	Clear	
		1422	0.35	22.1	7.57	0.317	NM	10	2.90	Clear	
		1426	0.4	20.2	7.59	0.32	NM	10	2.80	Clear	
MP-64A	07/14/05	1140	0.1	23.2	7.30	1.37	NM	10	0.23	Clear	Peristaltic Pump
		1143	0.2	23.9	7.26	1.39	NM	10	0.35	Clear	
		1146	0.3	24.1	7.26	1.4	NM	10	0.38	Clear	

APPENDIX D-2
WELL SAMPLING INDICATOR PARAMETERS - JULY 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed	Temperature	pH	Conductivity	TDS	Turbidity	Dissolved Oxygen	Visual Clarity	Comments
MP-79B	07/14/05	939	1	18.9	6.86	1.2	NM	999	11.39	Cloudy	Bailer
		942	1.1	18.3	6.89	1.18	NM	999	11.84	Cloudy	
		948	1.2	18.3	6.90	1.17	NM	999	11.72	Cloudy	
MP-80B	07/13/05	1608	1	19.7	7.31	0.388	NM	405	11.24	Cloudy	Bailer
		1609	1.1	18.4	7.29	0.377	NM	445	12.00	Cloudy	
		1612	1.2	18.5	7.28	0.38	NM	414	11.95	Cloudy	
		1615	1.25	18.2	7.27	0.377	NM	420	12.01	Cloudy	
MP 83A	07/13/05	1510	0.1	23.1	7.23	1.75	NM	10	9.36	Cloudy	Peristaltic Pump
		1517	0.2	20.9	7.28	1.79	NM	10	10.35	Cloudy	
		1521	0.225	21.8	7.29	1.84	NM	96	10.03	Moderately Clear	
MP 85B	07/13/05	1318	1	19.2	7.41	1.53	NM	690	10.59	Cloudy	Bailer
		1332	1.75	17.9	7.43	1.53	NM	735	11.21	Cloudy	
		1345	2	17.9	7.43	1.54	NM	750	11.28	Cloudy	
		1349	2.5	17.2	7.40	1.53	NM	785	11.21	Cloudy	
HB-33	07/11/05	940	1.00	17.1	6.82	1.03	NM	80-100	NM	Cloudy Black	Bailer
		945	1.25	16.5	6.86	0.98	NM	110	NM	Cloudy Black	
		948	1.50	16.2	6.83	0.99	NM	148	0.78	Cloudy Black	
		952	1.75	15.9	6.84	1	NM	200-210	0.74	Cloudy Black	
		955	2.00	16.1	6.80	0.98	NM	240-250	0.92	Cloudy Black	
		958	2.50	16.2	6.79	0.98	NM	260-280	0.70	Cloudy Black	

NOTES:
* = Electronic data corrupted
°C = degrees Centigrade
mV = millivolts
ntu = nephelometric turbidity units
µg/L = micrograms per liter
umhos/cm = micromhos per centimeter

BUREAU VERITAS

APPENDIX D-3

OCTOBER 2005

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-HB-31-10-14-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	HB-31

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	43.69 [ft]
Well Diam:	2 [in]
Screen Len:	120 [in]
Screen Depth:	33.69 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	34.29 [ft]
Pump Level (TOC):	39 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/14/2005	10:11:20
End date/time:	10/14/2005	10:21:30
Total Time:	0:10:10	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.2	0.03	-339.29	-1.45	1.26	-0.05	1330.64	4.83	684.66	74.59	17.21	0.05	10:18:57
3	6.22	0.02	-341.13	-1.84	1.12	-0.13	1335.46	4.82	728.14	43.49	17.25	0.04	10:19:28
2	6.23	0.02	-342.67	-1.54	0.99	-0.14	1340.72	5.25	813.2	85.06	17.22	-0.03	10:19:59
1	6.24	0.01	-343.7	-1.03	0.83	-0.16	1343.47	2.75	840.63	27.44	17.21	-0.02	10:20:28
0	6.25	0.01	-344.81	-1.11	0.73	-0.09	1342.92	-0.56	785.85	-54.79	17.23	0.03	10:20:59

pH Min:	6.2
pH Max:	6.25
ORP Min:	-344.81
ORP Max:	-339.29
DO Min:	0.73
DO Max:	1.26
Cond Min:	1330.64
Cond Max:	1343.47
Turb Min:	684.66
Turb Max:	840.63
Temp Min:	17.21
Temp Max:	17.25

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -HB-32-10-12-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	HB-32

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [mg/L TDS (est.)]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0.17 [in]
Tubing Length	47 [ft]
Well Depth	44.25 [ft]
Well Diam	2 [in]
Screen Len	180 [in]
Screen Depth	29.25 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	35.79 [ft]
Pump Level (TOC)	38 [ft]

Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (209.8 mL) pH ORP (16 mL) + DO (14 mL) Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	526.78 [mL]
Actual Total Volume	590.78 [mL]
Calc Total Measurement Interval	9804 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	10/12/2005	13:50:55
End date/time	10/12/2005	14:00:04
Total Time	0:09:09	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (est.)]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.11	-0.01	-30.07	0.68	834.54	-29.63	777.7	1.53	4.23	0.49	16.19	-0.11	13:57:34
3	6.09	-0.02	-28.83	1.24	798.75	-35.79	776.89	-0.81	4.26	0.03	16.21	0.02	13:58:04
2	6.07	-0.02	-26.95	1.88	762.43	-36.32	776.91	0.01	3.91	-0.35	16.13	-0.07	13:58:34
1	6.1	0.04	-28.31	-1.37	694.34	-68.09	778.55	1.64	4.63	0.72	16.06	-0.06	13:59:04
0	6.06	-0.04	-26.99	1.33	748.27	53.93	777.58	-0.97	4.05	-0.58	16.05	-0.03	13:59:35

pH Min:	6.06
pH Max:	6.11
ORP Min:	-30.07
ORP Max:	-26.95
DO Min:	694.34
DO Max:	834.54
Cond Min:	776.89
Cond Max:	778.55
Turb Min:	3.91
Turb Max:	4.63
Temp Min:	16.05
Temp Max:	16.21

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -HB-37-10-12-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	DANIEL STALLINGS
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	HB-37

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [mg/L TDS (est.)]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	39.42 [ft]
Well Diam:	2 [in]
Screen Len:	120 [in]
Screen Depth:	29.42 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	33.63 [ft]
Pump Level (TOC):	36 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/12/2005	10:17:17
End date/time:	10/12/2005	10:24:06
Total Time:	0:06:49	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (est.)]	Variance	Turb [NTU]	Variance	Temp [C]	Variance
4	6.48	0.01	-115.98	-0.17	488.1	-95.33	1264.14	-0.79	58.03	-11.25	17.29	-0.11
3	6.48	0	-116.2	-0.21	415.11	-72.99	1260.8	-3.34	64.17	6.14	17.24	-0.05
2	6.49	0	-116.8	-0.6	374.66	-40.45	1256.77	-4.03	82.13	17.96	17.2	-0.04
1	6.49	0	-117.14	-0.34	349.7	-24.96	1253.09	-3.68	70.22	-11.9	17.21	0.01
0	6.5	0	-117.65	-0.51	355.99	6.29	1248.87	-4.21	60.98	-9.25	17.31	0.1

pH Min:	6.48
pH Max:	6.5
ORP Min:	-117.65
ORP Max:	-115.98
DO Min:	349.7
DO Max:	488.1
Cond Min:	1248.87
Cond Max:	1264.14
Turb Min:	58.03
Turb Max:	82.13
Temp Min:	17.2
Temp Max:	17.31

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file HARTFORD WORKING GROUP-HARTFORD-HB-38-10-13-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	HB-38

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type	POLYETHYLENE TUBING
Tubing Diam	0.17 [in]
Tubing Length	41 [ft]
Well Depth	38.65 [ft]
Well Diam	2 [in]
Screen Len	204 [in]
Screen Depth	21.65 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31.07 [ft]
Pump Level (TOC)	33.07 [ft]

Final Pumping Rate	500 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (183.0 mL) pH ORP (16 mL) DO (14 mL) Cond (13 mL) Turb (40 mL)
Calculated Total Volume	900 [mL]
Actual Total Volume	900 [mL]
Calculated Measurement Interval	36 [sec]
Actual Measurement Interval	36 [sec]

Start date/time	10/13/2005	9:30:51
End date/time	10/13/2005	9:39:52
Total Time	0:09:01	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	5.82	-0.01	-25.2	2.05	621.63	-50.92	750.11	2.95	932.7	26.17	16.61	0.18	9:36:54
3	5.82	0	-24.26	0.94	597.09	-24.54	750.72	0.62	770.5	-162.2	16.68	0.07	9:37:30
2	5.83	0	-23.7	0.56	599.07	1.98	751.84	1.11	722.8	-47.7	16.76	0.07	9:38:07
1	5.82	0	-23.15	0.56	592.66	-6.4	752.96	1.12	716.1	-6.71	16.82	0.06	9:38:43
0	5.83	0	-22.76	0.39	581.78	-10.89	753.83	0.87	682.88	-33.21	16.88	0.07	9:39:20

pH Min:	5.82
pH Max:	5.83
ORP Min:	-25.2
ORP Max:	-22.76
DO Min:	581.78
DO Max:	621.63
Cond Min:	750.11
Cond Max:	753.83
Turb Min:	682.88
Turb Max:	932.7
Temp Min:	16.61
Temp Max:	16.88

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 -HARTFORD WORKING GROUP-HMW-03-10-6-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	ANDREW DORN
Company Name:	CLAYTON GROUP SERVICES
Project Name:	15-03095.17-001
Site Name:	HARTFORD WORKING GROUP
Well ID:	HMW-03

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	34.07 [ft]
Well Diam:	2 [in]
Screen Len:	56.76 [in]
Screen Depth:	29.34 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.03 [ft]
Pump Level (TOC):	31.5 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/6/2005	12:39:37
End date/time:	10/6/2005	12:49:14
Total Time:	0:09:37	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.56	0.01	-115.68	-1.5	0.23	-0.02	1013.13	-0.86	62.45	-1.51	16.03	-0.01	12:46:56
3	6.57	0	-116.87	-1.2	0.24	0	1012.8	-0.33	59.4	-3.05	16.02	0	12:47:26
2	6.57	0	-118.11	-1.24	0.22	-0.01	1013.48	0.68	60.66	1.26	16.03	0.01	12:47:56
1	6.58	0.01	-119.35	-1.24	0.22	0	1012.98	-0.49	57.4	-3.26	16	-0.03	12:48:27
0	6.58	0	-120.29	-0.94	0.19	-0.03	1013.44	0.46	56.49	-0.91	16	0	12:48:57

pH Min:	6.56
pH Max:	6.58
ORP Min:	-120.29
ORP Max:	-115.68
DO Min:	0.19
DO Max:	0.24
Cond Min:	1012.8
Cond Max:	1013.48
Turb Min:	56.49
Turb Max:	62.45
Temp Min:	16
Temp Max:	16.03

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -HMW-04-10-6-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	ANDREW DORN
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	HMW-04

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 [in]
Tubing Length	33 [ft]
Well Depth	25 21 [ft]
Well Diam	2 [in]
Screen Len	56 76 [in]
Screen Depth	20 48 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	14 56 [ft]
Pump Level (TOC)	22 5 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (147 3 ml) pH_ORP (16 ml) DO (14 ml) Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	764 29 [ml]
Actual Total Volume	764 29 [mL]
Calculated Measurement Interval	7929 [sec]
Actual Measurement Interval	30 [sec]
Start Date/time	10/6/2005 15 06 32
End date/time	10/6/2005 15 14 38
Total Time	0 08 06

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 71	-0 01	-78 05	-8.25	0.13	-0.03	1016.14	17 57	51 79	5.7	16.14	-0.05	15.12.08
3	6.7	-0.01	-84 08	-6.03	0.12	0	1031.32	15.17	47.83	-3 96	16 13	-0.01	15.12 39
2	6.68	-0.01	-87.59	-3.51	0.12	-0.01	1037.43	6.11	48.95	1.12	16.1	-0.03	15:13:10
1	6.68	0	-91.05	-3.46	0.09	-0.02	1046.77	9.34	47.87	-1.08	16 09	-0.01	15:13.41
0	6.67	-0.01	-93.1	-2.05	0.1	0	1048.62	1 86	50.44	2.57	16 08	-0.01	15:14:11

pH Min:	6.67
pH Max:	6.71
ORP Min:	-93.1
ORP Max:	-78.05
DO Min:	0.09
DO Max:	0.13
Cond Min:	1016.14
Cond Max:	1048.62
Turb Min:	47.83
Turb Max:	51.79
Temp Min:	16.08
Temp Max:	16.14

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-HMW-25-10-6-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	HMW-25

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	36 [ft]
Well Depth:	38.37 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	23.67 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.37 [ft]
Pump Level (TOC):	31.37 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (160.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	277.68 [mL]
Actual Total Volume:	277.68 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]

Start date/time:	10/6/2005	12:54:42
End date/time:	10/6/2005	13:08:28
Total Time:	0:13:46	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.79	0	64.3	-0.26	3504.01	101.2	843.73	-1.28	7.56	-17.2	15.75	-0.08	13:05:38
3	6.79	0	65.02	0.73	4045.35	541.34	853.07	9.34	7.24	-0.33	15.81	0.05	13:06:13
2	6.8	0.02	63.36	-1.67	4682.51	637.16	854.21	1.14	4.44	-2.8	15.88	0.08	13:06:47
1	6.8	-0.01	63.4	0.04	4775.97	93.46	855.2	0.98	4.19	-0.25	15.89	0.01	13:07:21
0	6.8	0	63.57	0.17	4574.49	-201.48	834.28	-20.92	2.82	-1.37	16.46	0.57	13:07:56

pH Min:	6.79
pH Max:	6.8
ORP Min:	63.36
ORP Max:	65.02
DO Min:	3504.01
DO Max:	4775.97
Cond Min:	834.28
Cond Max:	855.2
Turb Min:	2.82
Turb Max:	7.56
Temp Min:	15.75
Temp Max:	16.46

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file HARTFORD WORKING GROUP-HARTFORD-HMW-26-10-6-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD
Well ID	HMW-26

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	SAMPLE PRO / MICROPURGE PUMP
Tubing Type	POLYETHYLENE TUBING
Tubing Diam	0 17 [in]
Tubing Length	17 [ft]
Well Depth	49 11 [ft]
Well Diam	2 [in]
Screen Len	178 4 [in]
Screen Depth	24 61 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	26 71 [ft]
Pump Level (TOC)	26 71 [ft]

Final Pumping Rate	500 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (1504 2 ml) pH ORP (18 ml) DO (14 ml) Cond (13 ml) Turb (40 ml)
Calculated Total Volume	1621 18 [ml]
Actual Total Volume	1621 18 [ml]
Calculated Measurement Interval	195 [sec]
Actual Measurement Interval	195 [sec]

Start date/time	10/6/2005	16 41 05
End date/time	10/6/2005	16 48 02
Total Time	0 06 57	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 63	-0.01	-66.67	-6.43	688.1	-133.97	1412 73	-5.41	11.67	-10.93	16.62	-0.1	16.43 26
3	6.64	0.02	-74.64	-7.76	537.14	-150.96	1406.45	-6.28	5.11	-6.56	16.57	-0.06	16:44:30
2	6.65	0	-79.19	-4 55	471.96	-65.18	1417.55	11.1	3.85	-1.26	16.55	-0.02	16:45:26
1	6.65	0	-82.11	-2.93	415.86	-56 1	1422 02	4.47	2.7	-1.15	16.53	-0.01	16.46:19
0	6.64	-0.01	-84.18	-2.07	378.56	-37.3	1427.43	5.41	2.56	-0.14	16.5	-0.03	16:47.09

pH Min:	6.63
pH Max:	6.65
ORP Min:	-84.18
ORP Max:	-66.67
DO Min:	378.56
DO Max:	688.1
Cond Min:	1406.45
Cond Max:	1427.43
Turb Min:	2.56
Turb Max:	11.67
Temp Min:	16.5
Temp Max:	16.62

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-HMW-27-10-7-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	HMW-27

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	37 [ft]
Well Depth:	39.32 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.62 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	31.71 [ft]
Pump Level (TOC):	33.71 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (165.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	282.15 [mL]
Actual Total Volume:	282.15 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]

Start date/time:	10/7/2005	9:04:30
End date/time:	10/7/2005	9:08:34
Total Time:	0:04:04	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.44	0.01	134.97	-16.34	8825.6	-97.96	1258.61	3.5	4.03	-0.02	16.13	-0.34	9:06:13
3	6.44	0	125.51	-9.46	8435.12	-390.48	1256.85	-1.76	5.94	1.91	16.34	0.21	9:06:48
2	6.45	0	119.31	-6.21	8204.71	-230.41	1254.04	-2.81	3.53	-2.42	16.3	-0.05	9:07:22
1	6.45	0	114.6	-4.71	7983.98	-220.73	1249.51	-4.53	2.78	-0.75	16.28	-0.02	9:07:56
0	6.45	0	110.7	-3.9	7985.5	1.52	1247.43	-2.08	1.91	-0.87	16.02	-0.26	9:08:31

pH Min:	6.44
pH Max:	6.45
ORP Min:	110.7
ORP Max:	134.97
DO Min:	7983.98
DO Max:	8825.6
Cond Min:	1247.43
Cond Max:	1258.61
Turb Min:	1.91
Turb Max:	5.94
Temp Min:	16.02
Temp Max:	16.34

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file HARTFORD WORKING GROUP-HARTFORD-HMW-28-10-7-2005 flo. To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD
Well ID	HMW-28

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type	POLYETHYLENE TUBING
Tubing Diam	0.17 [in]
Tubing Length	17 [ft]
Well Depth	39.17 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth	24.67 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31.78 [ft]
Pump Level (TOC)	33.78 [ft]

Final Pumping Rate	500 [ml/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (165.1 ml) pH, ORP (16 ml) DO (14 ml) + Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	382.15 [ml]
Actual Total Volume	382.15 [ml]
Calculated Measurement Interval	34 [sec]
Actual Measurement Interval	34 [sec]

Start Date/time	10/7/2005	10:29:03
End Date/time	10/7/2005	10:34:39
Total Time	0:05:36	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.59	0	173.74	-0.48	1725.68	-195.76	945.44	-4.2	1.28	-1.15	15.54	-0.04	10:31:55
3	6.6	0	173.22	-0.52	1611.28	-114.4	943.05	-2.39	1.23	-0.05	15.56	0.02	10:32:29
2	6.59	0	172.99	-0.22	1504.1	-107.18	940.88	-2.18	0.67	-0.56	15.43	-0.12	10:33:04
1	6.59	0	172.56	-0.44	1438.37	-65.73	942.05	1.17	0.53	-0.13	15.58	0.14	10:33:37
0	6.6	0	172.12	-0.44	1382.85	-55.52	941.64	-0.4	-0.52	-1.05	15.59	0.02	10:34:12

pH Min:	6.59
pH Max:	6.6
ORP Min:	172.12
ORP Max:	173.74
DO Min:	1382.85
DO Max:	1725.68
Cond Min:	940.88
Cond Max:	945.44
Turb Min:	-0.52
Turb Max:	1.28
Temp Min:	15.43
Temp Max:	15.59

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-HMW-29-10-7-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	HMW-29

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	37 [ft]
Well Depth:	39.56 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.86 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.38 [ft]
Pump Level (TOC):	32.38 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (165.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	282.15 [mL]
Actual Total Volume:	282.15 [mL]
Calculated Measurement Interval:	34 [sec]
Actual Measurement Interval:	34 [sec]

Start date/time:	10/7/2005	11:38:48
End date/time:	10/7/2005	11:44:27
Total Time:	0:05:39	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.69	-0.01	7.45	-6.8	7992.84	-380.58	867.04	7.94	121.95	-22.9	15.79	0.1	11:41:39
3	6.69	0	2.91	-4.53	7705.28	-287.56	872.58	5.55	112.76	-9.19	15.93	0.13	11:42:14
2	6.69	0	0.39	-2.52	7587.54	-117.74	877.69	5.1	116.93	4.17	15.92	0	11:42:48
1	6.69	0	-2.09	-2.48	7412.09	-175.45	880.43	2.75	101.09	-15.84	16.05	0.13	11:43:22
0	6.69	0	-3.92	-1.84	7366.1	-45.99	880.95	0.52	117.73	16.64	15.97	-0.09	11:43:57

pH Min:	6.69
pH Max:	6.69
ORP Min:	-3.92
ORP Max:	7.45
DO Min:	7366.1
DO Max:	7992.84
Cond Min:	867.04
Cond Max:	880.95
Turb Min:	101.09
Turb Max:	121.95
Temp Min:	15.79
Temp Max:	16.05

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -hmw-38c-10-7-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	ANDREW DORN
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	hmw-38c

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 [in]
Tubing Length	46 [ft]
Well Depth	42 2 [ft]
Well Diam	2 [in]
Screen Len	116 4 [in]
Screen Depth	32 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	33 74 [ft]
Pump Level (TOC)	35 75 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (205 3 mL) pH_ORP (16 mL) DO (14 mL) Cond (13 mL) - Turb (40 mL)
Calculated Total Volume	622 32 [mL]
Actual Total Volume	622 32 [mL]
Calculated Measurement Interval	96 70 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/7/2005 10 47 26
End date/time	10/7/2005 10 59 58
Total Time	0 12 32

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 45	-0 01	-74 98	0.17	2 27	0 04	1284.28	-0 33	291.75	-1.37	15.78	0	10.57 34
3	6 43	-0.02	-73.86	1.11	2.31	0 04	1283.89	-0 38	236.8	-54.95	15 79	0 01	10 58.04
2	6.44	0.01	-74.04	-0.17	2.27	-0.04	1281 85	-2.05	221.4	-15.4	16.1	0.31	10.58:34
1	6.44	0	-74.34	-0.3	2.21	-0.06	1276.6	-5.25	212.87	-8.53	16.42	0 32	10.59:04
0	6.44	0	-74.81	-0.47	2.19	-0 02	1284.99	8.39	233.19	20.33	16.44	0.02	10 59:35

pH Min:	6.43
pH Max:	6.45
ORP Min:	-74.98
ORP Max:	-73.86
DO Min:	2.19
DO Max:	2.31
Cond Min:	1276.6
Cond Max:	1284.99
Turb Min:	212.87
Turb Max:	291.75
Temp Min:	15.78
Temp Max:	16.44

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-HMW-39C-10-6-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	HMW-39C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	41 [ft]
Well Depth:	42 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	31.73 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.62 [ft]
Pump Level (TOC):	32 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (183.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	300 [mL]
Actual Total Volume:	300 [mL]
Calculated Measurement Interval:	9000 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/6/2005	14:37:18
End date/time:	10/6/2005	14:48:00
Total Time:	0:10:42	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	7.19	0	-59.65	-4.49	1.99	-0.16	1063.48	10.58	568.71	25.3	17.49	-0.06	14:45:57
3	7.19	0	-63.55	-3.89	1.89	-0.1	1067.98	4.49	565.01	-3.71	17.49	0.01	14:46:26
2	7.19	0	-66.8	-3.25	1.76	-0.13	1067.69	-0.29	567.45	2.44	17.5	0	14:46:58
1	7.18	0	-69.92	-3.12	1.6	-0.16	1064.44	-3.25	565.67	-1.79	17.55	0.06	14:47:28
0	7.19	0.01	-72.71	-2.78	1.5	-0.09	1058.64	-5.8	591.49	25.83	17.6	0.05	14:47:58

pH Min:	7.18
pH Max:	7.19
ORP Min:	-72.71
ORP Max:	-59.65
DO Min:	1.5
DO Max:	1.99
Cond Min:	1058.64
Cond Max:	1067.98
Turb Min:	565.01
Turb Max:	591.49
Temp Min:	17.49
Temp Max:	17.6

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWG-HMW-40C-10-6-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095 17-001
Site Name	HWG
Well ID	HMW-40C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	
Tubing Diam	0 [in]
Tubing Length	40 [ft]
Well Depth	39 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	23 49 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	28 [ft]
Pump Level (TOC)	30 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (0 ml) + pH ORP (16 ml) + DO (14 ml) + Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	117 [ml]
Actual Total Volume	117 [ml]
Calculated Measurement Interval	510 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/6/2005 12 02 36
End date/time	10/6/2005 12 10 50
Total Time	0 08 14

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.12	0 01	58.31	-0.34	5 63	-0.14	785 91	0 57	220 24	6 63	16 13	-0.04	12 08 43
3	6.14	0.01	57.58	-0 73	5 51	-0 12	786.19	0 28	199.67	-20.57	16.1	-0 03	12 09 14
2	6.16	0.02	57.58	0	5.39	-0.12	788.16	1.97	196.96	-2.72	16 06	-0 03	12 09 44
1	6.15	-0.01	56.97	-0.6	5.26	-0.12	787 21	-0 95	197.21	0.25	16.11	0 05	12:10:15
0	6.13	-0.02	57.57	0.6	5.19	-0.08	787.64	0.43	194.64	-2.57	16.07	-0.04	12:10:45

pH Min:	6.12
pH Max:	6.16
ORP Min:	56.97
ORP Max:	58.31
DO Min:	5.19
DO Max:	5.63
Cond Min:	785.91
Cond Max:	788.16
Turb Min:	194.64
Turb Max:	220.24
Temp Min:	16.06
Temp Max:	16.13

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-HMW-41C-10-7-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	HMW-41C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	49 [ft]
Well Depth:	49 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	33.81 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	27.81 [ft]
Pump Level (TOC):	33.81 [ft]

Final Pumping Rate:	0 ~~[mL/min]~~
Stable Draw Down:	0 [in]
Total Volume Formula:	*Volume = cup (200 mL) + tubing (218.7 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)*
Calculated Total Volume:	335.71 [mL]
Actual Total Volume:	335.71 [mL]
Calculated Measurement Interval:	10072 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/7/2005	8:47:13
End date/time:	10/7/2005	8:58:19
Total Time:	0:11:06	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.4	0.03	-377.48	-4.15	0.86	-0.01	1516.78	5.68	534.57	-53.59	14.96	-0.08	8:55:52
3	6.4	0.01	-379.57	-2.1	0.85	-0.01	1528.1	11.32	487.67	-46.9	14.89	-0.07	8:56:22
2	6.39	-0.02	-380.13	-0.56	0.84	-0.01	1520.55	-7.55	473.95	-13.72	14.89	-0.01	8:56:52
1	6.38	-0.01	-381.24	-1.11	0.82	-0.01	1519.68	-0.87	475.19	1.24	14.93	0.05	8:57:23
0	6.36	-0.02	-380.98	0.26	0.81	-0.01	1511.72	-7.96	487.55	12.36	15.04	0.1	8:57:53

pH Min:	6.36
pH Max:	6.4
ORP Min:	-381.24
ORP Max:	-377.48
DO Min:	0.81
DO Max:	0.86
Cond Min:	1511.72
Cond Max:	1528.1
Turb Min:	473.95
Turb Max:	534.57
Temp Min:	14.89
Temp Max:	15.04

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWQ-HARTFORD -HMW-42b-10-11-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095 17-001 HWQ
Site Name	HARTFORD
Well ID	HMW-42b

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0.17 [in]
Tubing Length	44 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len	176.4 [in]
Screen Depth	24.68 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	32.06 [ft]
Pump Level (TOC)	34 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (196.4 ml) + pH, ORP (16 ml) DO (14 ml) + Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	113.39 [ml]
Actual Total Volume	113.39 [ml]
Calculated Measurement Interval	9402 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/11/2005 12:14:49
End date/time	10/11/2005 12:24:13
Total Time	0:09:24

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.17	0	-30.35	0.04	4405.56	-107.32	861.35	-0.63	72.74	-14.37	17.74	-0.01	12:21:57
3	6.17	0	-30.44	-0.09	4295.4	-110.16	862.62	1.27	78.42	5.68	17.76	0.02	12:22:27
2	6.16	0	-30.4	0.04	4200.45	-94.95	862.62	0	74.79	-3.63	17.76	-0.01	12:22:58
1	6.16	0	-30.48	-0.09	4107.61	-92.84	862.14	-0.48	63.48	-11.31	17.76	0	12:23:28
0	6.16	0	-30.78	-0.3	3970.91	-136.69	862.94	0.79	76.21	12.73	17.78	0.02	12:23:58

pH Min:	6.16
pH Max:	6.17
ORP Min:	-30.78
ORP Max:	-30.35
DO Min:	3970.91
DO Max:	4405.56
Cond Min:	861.35
Cond Max:	862.94
Turb Min:	63.48
Turb Max:	78.42
Temp Min:	17.74
Temp Max:	17.78

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -hmw-43c-10-7-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	ANDREW DORN
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	hmw-43c

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0	[%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0	[%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0	[%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0	[%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0	[%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	44.5 [ft]
Well Depth:	41 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	30.77 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.46 [ft]
Pump Level (TOC):	35 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (198.6 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	315.62 [mL]
Actual Total Volume:	315.62 [mL]
Calculated Measurement Interval:	9469 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	10/7/2005 9:16:07
End date/time:	10/7/2005 9:25:44
Total Time:	0:09:37

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.3	0.01	-40.14	-0.34	1.45	-0.11	1224.89	2.58	359.73	-15.32	14.87	-0.04	9:23:14
3	6.28	-0.02	-38.94	1.2	1.47	0.02	1228.86	3.97	303.56	-56.17	14.77	-0.1	9:23:44
2	6.3	0.01	-39.41	-0.47	1.35	-0.12	1228	-0.86	284.07	-19.49	14.79	0.02	9:24:15
1	6.3	0	-39.41	0	1.3	-0.05	1226.5	-1.5	295.79	11.72	14.8	0.01	9:24:45
0	6.3	0.01	-39.11	0.3	1.25	-0.05	1226.25	-0.25	295.26	-0.53	14.78	-0.02	9:25:15

pH Min:	6.28
pH Max:	6.3
ORP Min:	-40.14
ORP Max:	-38.94
DO Min:	1.25
DO Max:	1.47
Cond Min:	1224.89
Cond Max:	1228.86
Turb Min:	284.07
Turb Max:	359.73
Temp Min:	14.77
Temp Max:	14.87

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWG-HMW-44D-10-7-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095 17-001
Site Name	HWG
Well ID	HMW-44D

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0.17 [in]
Tubing Length	50 [ft]
Well Depth	50 [ft]
Well Diam	2 [in]
Screen Len	60 [in]
Screen Depth	45 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31.61 [ft]
Pump Level (TOC)	45 [ft]

Final Pumping Rate	0 [ml/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (223.2 ml) pH ORP (16 ml) DO (14 ml) Cond (13 ml) Turb (40 ml)
Calculated Total Volume	940.17 [ml]
Actual Total Volume	940.17 [ml]
Calculated Measurement Interval	10,200 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	10/7/2005	10:47:47
End date/time	10/7/2005	10:56:46
Total Time	0:09:01	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.2	0.01	-397.67	-0.9	3.48	-0.15	1100.78	7.71	47.25	1.1	17.06	-0.01	10:54:23
3	6.18	-0.01	-398.1	-0.43	3.38	-0.1	1106.58	5.8	58.31	11.05	17.04	-0.03	10:54:55
2	6.12	-0.06	-400.45	-2.35	3.05	-0.32	1095.61	-10.97	47.21	-11.1	17.03	0	10:55:26
1	6.13	0.01	-403.32	-2.87	2.87	-0.19	1101.88	6.26	51.57	4.37	16.99	-0.04	10:55:56
0	6.15	0.02	-404.9	-1.58	2.75	-0.11	1108.05	6.17	50.79	-0.78	17.07	0.08	10:56:26

pH Min:	6.12
pH Max:	6.2
ORP Min:	-404.9
ORP Max:	-397.67
DO Min:	2.75
DO Max:	3.48
Cond Min:	1095.61
Cond Max:	1108.05
Turb Min:	47.21
Turb Max:	58.31
Temp Min:	16.99
Temp Max:	17.07

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -HMW-47c-10-11-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win Situ is installed to your Excel templates directory.

Operator Name:	DANIEL STALLINGS
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	HMW-47c

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	46 [ft]
Well Depth:	44.5 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	34.3 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	33.55 [ft]
Pump Level (TOC):	36 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (205.3 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	322.32 [mL]
Actual Total Volume:	322.32 [mL]
Calculated Measurement Interval:	9670 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	10/11/2005 9:50:40
End date/time:	10/11/2005 10:00:06
Total Time:	0:09:26

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.15	0	-54	0.51	326.32	-8.76	1431.52	0.44	185.31	-28.14	15.95	-0.01	9:57:48
3	6.15	0	-53.91	0.09	317.66	-8.67	1431.51	0	180	-5.31	15.93	-0.01	9:58:18
2	6.16	0	-53.91	0	304.23	-13.43	1432.83	1.31	161.44	-18.56	15.94	0.01	9:58:49
1	6.15	0	-53.7	0.21	299.83	-4.4	1434.58	1.75	181.4	19.96	15.93	0	9:59:19
0	6.15	0	-53.27	0.43	303.64	3.81	1435.45	0.88	170.6	-10.8	15.97	0.04	9:59:49

pH Min:	6.15
pH Max:	6.16
ORP Min:	-54
ORP Max:	-53.27
DO Min:	299.83
DO Max:	326.32
Cond Min:	1431.51
Cond Max:	1435.45
Turb Min:	161.44
Turb Max:	185.31
Temp Min:	15.93
Temp Max:	15.97

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -HMW-48D-10-11-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	HMW-48D

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 [in]
Tubing Length	55 [ft]
Well Depth	53 [ft]
Well Diam	2 [in]
Screen Len	116 4 [in]
Screen Depth	42 64 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31 46 [ft]
Pump Level (TOC)	43 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (245 5 ml) + pH ORP (10 ml) DO (14 ml) + Cond (13 ml) Turb (40 ml)
Calculated Total Volume	952 49 [ml]
Actual Total Volume	952 49 [ml]
Calculated Measurement Interval	108 75 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/11/2005 17 25 32
End date/time	10/11/2005 17 33 31
Total Time	0 07 59

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 58	0	-61 87	-0 98	1173 89	-996 32	946.04	-6 53	136 47	7 55	15 54	-0 01	17 31 08
3	6 57	-0 01	-61 7	0 17	793.11	-380 79	944 9	-1 14	134.02	-2.46	15 54	0	17 31 39
2	6 56	-0.01	-61.7	0	589 47	-203.63	946.43	1.52	130.61	-3.4	15 52	-0 01	17 32 09
1	6.54	-0.02	-60 54	1 16	476.3	-113 17	952.96	6 53	114 88	-15.73	15 52	-0 01	17 32 40
0	6.55	0.01	-61.65	-1.11	458.76	-17.54	941.87	-11.09	126.11	11.23	15.49	-0.02	17.33.11

pH Min:	6.54
pH Max:	6.58
ORP Min:	-61.87
ORP Max:	-60.54
DO Min:	458.76
DO Max:	1173.89
Cond Min:	941.87
Cond Max:	952.96
Turb Min:	114.88
Turb Max:	136.47
Temp Min:	15.49
Temp Max:	15.54

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -HMW-49C-10-10-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	DANIEL STALLINGS
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	HMW-49C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	41 [ft]
Well Depth:	39.5 [ft]
Well Diam:	2 [in]
Screen Len:	111.6 [in]
Screen Depth:	29.59 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	31.52 [ft]
Pump Level (TOC):	34 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (183.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	300 [mL]
Actual Total Volume:	300 [mL]
Calculated Measurement Interval:	9000 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	10/10/2005 15:08:18
End date/time:	10/10/2005 15:20:49
Total Time:	0:12:31

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.29	0	-55.5	-1.24	751.07	30.73	865.61	0.31	168.81	-43.17	17.81	0	15:18:31
3	6.3	0.01	-57.08	-1.58	697.39	-53.68	868.53	2.92	169.68	0.87	17.8	-0.01	15:19:02
2	6.31	0.01	-58.49	-1.41	696.82	-0.57	868.53	0	193.38	23.7	17.82	0.01	15:19:32
1	6.31	0.01	-59.78	-1.28	650.94	-45.88	873.65	5.12	180.44	-12.94	17.81	-0.01	15:20:02
0	6.32	0	-60.97	-1.2	647.3	-3.64	877.26	3.6	202.53	22.09	17.8	-0.01	15:20:32

pH Min:	6.29
pH Max:	6.32
ORP Min:	-60.97
ORP Max:	-55.5
DO Min:	647.3
DO Max:	751.07
Cond Min:	865.61
Cond Max:	877.26
Turb Min:	168.81
Turb Max:	202.53
Temp Min:	17.8
Temp Max:	17.82

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -HMW-49D-10-10-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	HMW-49D

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 [in]
Tubing Length	51 [ft]
Well Depth	51 [ft]
Well Diam	2 [in]
Screen Len	115 2 [in]
Screen Depth	40 72 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	33 59 [ft]
Pump Level (TOC)	43 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (227 6 ml) + pH ORP (16 ml) + DO (14 ml) + Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	644 64 [ml]
Actual Total Volume	644 64 [ml]
Calculated Measurement Interval	10.140 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/10/2005 11 48 58
End date/time	10/10/2005 11 49 08
Total Time	0 10 10

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.34	0	-78.68	-0 21	382 36	-7 8	884 07	3 34	75 73	2 78	17.1	-0 01	13.46 36
3	6 34	0	-78.93	-0.26	376 58	-3 77	887 44	3 37	65.15	-10.59	17 09	-0.01	13.47 07
2	6.34	0	-79.1	-0.17	369.82	-6.77	888.73	1.29	61.63	-3 51	17.13	0 03	13.47 37
1	6.33	0	-79.1	0	373.67	3.85	889.38	0.65	71.58	9.95	17.13	0 01	13.48:08
0	6.34	0	-79.36	-0.26	365.51	-8.16	894.26	4.88	57.22	-14.36	17.14	0.01	13:48:38

pH Min:	6.33
pH Max.	6 34
ORP Min:	-79.36
ORP Max:	-78.68
DO Min:	365.51
DO Max:	382.36
Cond Min:	884.07
Cond Max:	894.26
Turb Min:	57.22
Turb Max:	75.73
Temp Min:	17.09
Temp Max:	17.14

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-HMW-50A-10-11-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	HMW-50A

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	27 [ft]
Well Depth:	27 [ft]
Well Diam:	2 [in]
Screen Len:	111.6 [in]
Screen Depth:	20.14 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	17.5 [ft]
Pump Level (TOC):	20.14 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (120.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	237.51 [mL]
Actual Total Volume:	237.51 [mL]
Calculated Measurement Interval:	7126 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/11/2005	15:15:29
End date/time:	10/11/2005	15:23:39
Total Time:	0:08:10	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.16	0.02	-349.89	-4.15	1.98	0.89	1386.42	10.07	86.67	-0.85	15.86	-0.03	15:21:36
3	6.17	0.01	-351.47	-1.58	2.45	0.47	1396.16	9.75	83.11	-3.56	15.84	-0.03	15:22:06
2	6.16	0	-351.05	0.43	2.59	0.14	1396.94	0.78	80.46	-2.65	15.82	-0.01	15:22:36
1	6.14	-0.02	-348.65	2.39	2.61	0.02	1391.61	-5.34	76.27	-4.19	15.82	0	15:23:07
0	6.13	-0.01	-349.81	-1.16	3.11	0.5	1396.69	5.09	57.85	-18.42	15.8	-0.02	15:23:37

pH Min:	6.13
pH Max:	6.17
ORP Min:	-351.47
ORP Max:	-348.65
DO Min:	1.98
DO Max:	3.11
Cond Min:	1386.42
Cond Max:	1396.94
Turb Min:	57.85
Turb Max:	86.67
Temp Min:	15.8
Temp Max:	15.86

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -HMW-50c-10-11-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095.17-001 HWG
Site Name	HARTFORD
Well ID	HMW-50c

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0.17 [in]
Tubing Length	56 [ft]
Well Depth	55 [ft]
Well Diam	2 [in]
Screen Len	115.2 [in]
Screen Depth	47.88 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	36.45 [ft]
Pump Level (TOC)	48 [ft]

Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = Cup (200 mL) + tubing (250.0 mL) pH ORP (16 mL) DO (14 mL) Cond (13 mL) Turb (40 mL)
Calculated Total Volume	496.95 [mL]
Actual Total Volume	496.95 [mL]
Calculated Measurement Interval	11009 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	10/11/2005	15:17:32
End date/time	10/11/2005	15:28:04
Total Time	0:10:32	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.83	-0.01	-77.68	-0.04	463.38	-32.56	2304.98	1.13	8.64	0.15	14.85	-0.02	15:25:40
3	6.82	-0.01	-77.6	0.09	439.4	-23.98	2302.72	-2.26	8.06	-0.58	14.86	0.01	15:26:11
2	6.82	0	-77.73	-0.13	415.46	-23.94	2302.72	0	9.29	1.24	14.87	0.01	15:26:40
1	6.82	0	-77.9	-0.17	396.95	-18.51	2301.59	-1.13	8.65	-0.64	14.85	-0.02	15:27:11
0	6.82	0	-78.11	-0.21	382.92	-14.04	2298.21	-3.38	8.55	-0.1	14.84	-0.01	15:27:42

pH Min:	6.82
pH Max:	6.83
ORP Min:	-78.11
ORP Max:	-77.6
DO Min:	382.92
DO Max:	463.38
Cond Min:	2298.21
Cond Max:	2304.98
Turb Min:	8.06
Turb Max:	9.29
Temp Min:	14.84
Temp Max:	14.87

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-HMW-51C-10-6-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	HMW-51C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	42 [ft]
Well Depth:	42.5 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	27.23 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	28.01 [ft]
Pump Level (TOC):	35 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (187.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	304.46 [mL]
Actual Total Volume:	304.46 [mL]
Calculated Measurement Interval:	9134 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	10/6/2005 16:29:01
End date/time:	10/6/2005 16:42:02
Total Time:	0:13:01

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.39	0.02	-12.17	-2.06	6.63	-0.11	1385.49	3.82	593.28	13.26	15.74	0.08	16:39:41
3	6.39	0	-13.15	-0.99	6.55	-0.08	1387.06	1.56	566.89	-26.39	15.83	0.09	16:40:13
2	6.42	0.02	-14.82	-1.67	6.46	-0.09	1387.08	0.02	567.42	0.53	15.93	0.11	16:40:43
1	6.44	0.02	-17.09	-2.27	6.42	-0.04	1388.67	1.6	568.55	1.14	15.98	0.05	16:41:14
0	6.45	0.01	-18.81	-1.71	6.4	-0.01	1392.08	3.41	530.74	-37.82	15.98	0	16:41:44

pH Min:	6.39
pH Max:	6.45
ORP Min:	-18.81
ORP Max:	-12.17
DO Min:	6.4
DO Max:	6.63
Cond Min:	1385.49
Cond Max:	1392.08
Turb Min:	530.74
Turb Max:	593.28
Temp Min:	15.74
Temp Max:	15.98

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -HMW-52C-10-12-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name:	HARTFORD
Well ID	HMW-52C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [mg/L TDS (est.)]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type:	POLY
Tubing Diam	0 17 [in]
Tubing Length	41 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len	175 2 [in]
Screen Depth	24 62 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	20 06 [ft]
Pump Level (TOC)	31 5 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (183.0 mL) pH ORP (18 mL) + DO (14 mL) Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	300 [mL]
Actual Total Volume	300 [mL]
Calculated Measurement Interval	9000 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/12/2005 15 40 46
End date/time	10/12/2005 15 48 22
Total Time	0 07 36

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (est.)]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	5.91	0.01	-5.32	0.04	3555.49	-161.68	894.36	-0.57	522.22	-62.6	16.36	0.07	15 45 51
3	5 93	0.02	-6.22	-0 9	3457 28	-98.21	896.98	2.62	496.91	-25 32	16.31	-0.06	15.46.22
2	5.92	-0 01	-5.53	0.68	3369.94	-87.34	897.51	0.53	349.69	-147.21	16 26	-0 05	15:46.52
1	5.92	0	-5.41	0.13	3292.7	-77 24	897.6	0 1	400.96	51.27	16.28	0.02	15 47:23
0	5.93	0.01	-5.75	-0.34	3220.55	-72.15	897.85	0.25	392.39	-8.57	16.27	-0 01	15.47:53

pH Min:	5.91
pH Max:	5.93
ORP Min:	-6.22
ORP Max:	-5.32
DO Min:	3220.55
DO Max:	3555.49
Cond Min:	894.36
Cond Max:	897.85
Turb Min:	349.69
Turb Max:	522.22
Temp Min:	16.26
Temp Max:	16.36

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -HMW-53B-10-12-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	DANIEL STALLINGS
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	HMW-53B

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [mg/L TDS (est.)]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	42 [ft]
Well Depth:	41 [ft]
Well Diam:	2 [in]
Screen Len:	180 [in]
Screen Depth:	26 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	31.21 [ft]
Pump Level (TOC):	33.5 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (187.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	304.46 [mL]
Actual Total Volume:	304.46 [mL]
Calculated Measurement Interval:	9134 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/12/2005	17:04:48
End date/time:	10/12/2005	17:11:53
Total Time:	0:07:05	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (est.)]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.1	0.01	-42.98	-0.85	4096.83	-139.48	875.07	-2.72	284.93	61.51	17.19	0.01	17:09:24
3	6.08	-0.02	-41.61	1.37	3985.8	-111.03	875.02	-0.05	269.61	-15.32	17.22	0.03	17:09:54
2	6.06	-0.01	-39.82	1.8	3857.3	-128.5	873.54	-1.49	280.42	10.81	17.34	0.12	17:10:25
1	6.06	-0.01	-38.87	0.94	3756.64	-100.66	875.6	2.07	239.84	-40.58	17.33	-0.01	17:10:55
0	6.08	0.02	-39.6	-0.73	3672.04	-84.6	876.98	1.38	276.4	36.56	17.26	-0.07	17:11:26

pH Min:	6.06
pH Max:	6.1
ORP Min:	-42.98
ORP Max:	-38.87
DO Min:	3672.04
DO Max:	4096.83
Cond Min:	873.54
Cond Max:	876.98
Turb Min:	239.84
Turb Max:	284.93
Temp Min:	17.19
Temp Max:	17.34

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWG-HMW-53C-10-10-2005 flo To Generate a report Insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095.17-001
Site Name	HWG
Well ID	HMW-53C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	47 [ft]
Well Depth	47 [ft]
Well Diam	2 [in]
Screen Len	60 [in]
Screen Depth	42 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31 16 [ft]
Pump Level (TOC)	42 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (209 8 mL) pH_ORP (16 ml) DO (14 ml) Cond (13 ml) - Turb (40 ml)
Calculated Total Volume	470 78 [mL]
Actual Total Volume	470 78 [ml]
Calculated Measurement Interval	0804 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/10/2005 11 00 05
End date/time	10/10/2005 11 14 12
Total Time	0 14 07

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 2	0	-181 75	-0 39	4 18	-2 63	1125 55	0 01	87.22	-104 37	17 84	0 08	11 11.46
3	6.21	0.01	-178 92	2.82	6 82	2 63	1126 89	1 34	145.56	58 34	17 88	0 04	11 12.16
2	6.2	-0.01	-182.26	-3.34	7 55	0.74	1124.87	-2.02	77.38	-68 17	17.89	0 02	11:12 47
1	6.18	-0.02	-192.62	-10 36	7 35	-0 2	1124.16	-0.7	79.66	2 28	17.84	-0 06	11 13:17
0	6.18	-0 01	-191.72	0.9	6.98	-0.37	1121.98	-2.18	84.75	5.09	17.75	-0.09	11:13:47

pH Min:	6.18
pH Max:	6.21
ORP Min:	-192.62
ORP Max:	-178.92
DO Min:	4.18
DO Max:	7.55
Cond Min:	1121.98
Cond Max:	1126.89
Turb Min:	77.38
Turb Max:	145.56
Temp Min:	17.75
Temp Max:	17.89

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-HMW-54C-10-10-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	HMW-54C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	50 [ft]
Well Depth:	50 [ft]
Well Diam:	2 [in]
Screen Len:	60 [in]
Screen Depth:	45 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	31.1 [ft]
Pump Level (TOC):	45 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (223.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	340.17 [mL]
Actual Total Volume:	340.17 [mL]
Calculated Measurement Interval:	10206 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	10/10/2005 13:19:18
End date/time:	10/10/2005 13:32:26
Total Time:	0:13:08

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.5	0	-175.57	-12.15	0.92	-0.03	1152.14	0.03	398.1	62.81	17.49	-0.04	13:29:58
3	6.49	-0.01	-179.72	-4.15	0.9	-0.02	1151.84	-0.3	376.4	-21.7	17.54	0.05	13:30:29
2	6.47	-0.02	-187.55	-7.83	0.88	-0.02	1149.39	-2.45	320.99	-55.42	17.47	-0.06	13:30:59
1	6.44	-0.03	-189.91	-2.35	0.85	-0.03	1150.44	1.05	312.86	-8.13	17.41	-0.07	13:31:30
0	6.29	-0.15	-159.06	30.84	0.84	-0.01	1150.83	0.39	310.06	-2.8	17.38	-0.02	13:32:00

pH Min:	6.29
pH Max:	6.5
ORP Min:	-189.91
ORP Max:	-159.06
DO Min:	0.84
DO Max:	0.92
Cond Min:	1149.39
Cond Max:	1152.14
Turb Min:	310.06
Turb Max:	398.1
Temp Min:	17.38
Temp Max:	17.54

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file HARTFORD WORKING GROUP-HARTFORD-MP-30C-10-11-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD
Well ID	MP-30C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	SAMPLE PRO / MICROPURGE PUMP
Tubing Type	POLYETHYLENE TUBING
Tubing Diam	0 17 [in]
Tubing Length	51 5 [ft]
Well Depth	49 5 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	34 16 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	33 63 [ft]
Pump Level (TOC)	35 63 [ft]

Final Pumping Rate	500 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (229 9 mL) pH_ORP (16 mL) DO (14 mL) Cond (13 mL) Turb (40 mL)
Calculated Total Volume	546 87 [mL]
Actual Total Volume	546 87 [mL]
Calculated Measurement Interval	42 [sec]
Actual Measurement Interval	42 [sec]

Start date/time	10/11/2005	14 34 27
End date/time	10/11/2005	14 41 26
Total Time	0 06 59	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 47	-0 02	-86 79	0 94	5677.62	-170.25	1070.96	1 24	256.61	67.93	16.43	-0 02	14 38 00
3	6.48	0.01	-87.05	-0.26	5518.1	-159 52	1071.7	0.74	289.45	32.84	16 42	-0.01	14 38 42
2	6.47	-0.01	-87.01	0.04	5387 37	-130.73	1071.95	0 24	302.76	13.31	16.4	-0.02	14 39.23
1	6.46	-0.01	-86.72	0.29	5275.6	-111.77	1071.94	-0.01	277.04	-25.72	16.37	-0.02	14.40:07
0	6.45	-0.01	-86.25	0.47	5153.31	-122.29	1072.43	0.49	243.91	-33.13	16.37	0	14:40:49

pH Min:	6.45
pH Max:	6.48
ORP Min:	-87.05
ORP Max:	-86.25
DO Min:	5153.31
DO Max:	5677.62
Cond Min:	1070.96
Cond Max:	1072.43
Turb Min:	243.91
Turb Max:	302.76
Temp Min:	16.37
Temp Max:	16.43

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-MP-31C-10-11-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	MP-31C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	38 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	22.65 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	29.64 [ft]
Pump Level (TOC):	31.64 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	36 [sec]
Actual Measurement Interval:	36 [sec]

Start date/time:	10/11/2005	15:46:35
End date/time:	10/11/2005	15:51:08
Total Time:	0:04:33	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.67	-0.02	-95.21	1.07	1350.95	-57.22	1012.17	-0.45	321.93	-99.07	16.85	-0.01	15:48:34
3	6.67	0	-96.02	-0.81	1306.39	-44.56	1011.94	-0.22	350.72	28.79	16.73	-0.12	15:49:10
2	6.68	0	-96.62	-0.6	1228.86	-77.53	1013.28	1.33	393.73	43.01	16.81	0.09	15:49:47
1	6.66	-0.01	-95.98	0.64	1175.79	-53.06	1012.83	-0.45	395.32	1.59	16.81	-0.01	15:50:23
0	6.69	0.02	-98.55	-2.57	1120.33	-55.47	1013.95	1.11	357.1	-38.22	16.76	-0.04	15:51:00

pH Min:	6.66
pH Max:	6.69
ORP Min:	-98.55
ORP Max:	-95.21
DO Min:	1120.33
DO Max:	1350.95
Cond Min:	1011.94
Cond Max:	1013.95
Turb Min:	321.93
Turb Max:	395.32
Temp Min:	16.73
Temp Max:	16.85

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -MP-32C-10-13-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	DANIEL STALLINGS
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	MP-32C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [mg/L TDS (est)]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 [in]
Tubing Length	50 [ft]
Well Depth	48 4 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	33 11 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	32 21 [ft]
Pump Level (TOC)	35 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (223 2 ml) pH (ORP (38 ml) DO (14 ml) + Cond (13 ml) + Turb (40 ml)
Calculated Total Volume	640 17 [ml]
Actual Total Volume	640 17 [ml]
Calculated Measurement Interval	10206 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/11/2005 14 49 51
End date/time	10/11/2005 14 55 22
Total Time	0 05 31

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (est)]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.51	0 01	-55 26	-1 37	590 51	11 17	986 34	-2.78	393 53	63.46	16 6	0 05	14 52.55
3	6.52	0.01	-56.29	-1.03	572 42	-18 1	986 06	-2.29	427 4	33 86	16 7	-0.11	14 53 26
2	6 52	0 01	-57.4	-1.11	889 73	317 31	983.04	-3.02	481.47	54 08	16.65	-0 05	14 53.55
1	6.55	0.03	-59.5	-2.09	918.5	28.77	979.42	-3.62	444.2	-37.28	16 59	-0 06	14 54 26
0	6.55	0	-60.52	-1 03	706 16	-212.34	979.55	0.13	457 01	12.82	16 59	-0.01	14 54 57

pH Min:	6 51
pH Max:	6.55
ORP Min:	-60.52
ORP Max:	-55.26
DO Min:	572.42
DO Max:	918.5
Cond Min:	979.42
Cond Max:	986.34
Turb Min:	393.53
Turb Max:	481.47
Temp Min:	16.59
Temp Max:	16.6

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -MP-36C-10-13-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	DANIEL STALLINGS
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	MP-36C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [mg/L TDS (est.)]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	44.2 [ft]
Well Diam:	2 [in]
Screen Len:	116.4 [in]
Screen Depth:	33.81 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	34.28 [ft]
Pump Level (TOC):	36.5 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/13/2005	11:31:46
End date/time:	10/13/2005	11:40:06
Total Time:	0:08:20	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (e	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.45	0	-75.1	-0.04	7177.49	-57.24	699.2	3.53	287.87	-67.01	16.22	-0.01	11:37:52
3	6.46	0.01	-75.96	-0.86	7079.51	-97.98	704.13	4.93	304.67	16.8	16.17	-0.06	11:38:23
2	6.44	-0.03	-74.93	1.03	6934.39	-145.13	703.14	-0.99	262.62	-42.06	16.14	-0.03	11:38:54
1	6.43	-0.01	-74.38	0.56	6914.4	-19.99	703.69	0.55	246.12	-16.5	16.1	-0.04	11:39:25
0	6.42	0	-73.78	0.6	6920	5.61	708.74	5.05	197.84	-48.28	16.12	0.02	11:39:55

pH Min:	6.42
pH Max:	6.46
ORP Min:	-75.96
ORP Max:	-73.78
DO Min:	6914.4
DO Max:	7177.49
Cond Min:	699.2
Cond Max:	708.74
Turb Min:	197.84
Turb Max:	304.67
Temp Min:	16.1
Temp Max:	16.22

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWG-MP-43C-10-13-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095.17-001
Site Name	HWG
Well ID	MP-43C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	36 [ft]
Well Depth	36 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	20 51 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	28 62 [ft]
Pump Level (TOC)	30 62 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	volume = cup (200 mL) + tubing (160 7 mL) pH ORP (16 mL) DO (14 mL) Cond (13 mL) Turb (40 mL)
Calculated Total Volume	277 68 [mL]
Actual Total Volume	277 68 [mL]
Calculated Measurement Interval	8331 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/13/2005 14 44 03
End date/time	10/13/2005 14 51 11
Total Time	0 07 08

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 32	0 02	-140 5	-3 34	0 69	-0.03	2159.93	4 8	357 88	-36 95	20 97	-0 11	14 49.07
3	6.34	0.02	-145 25	-4 75	0.67	-0 03	2155.08	-4.85	304 6	-53 28	20.96	-0 01	14 49.37
2	6.35	0 01	-143.54	1 71	0.65	-0.02	2155.75	0.68	314.98	10.39	20.9	-0.06	14 50.08
1	6 36	0.01	-137 38	6.16	0.63	-0.01	2155.24	-0.51	294.84	-20.15	20.89	-0.01	14 50:38
0	6 38	0.02	-134.69	2.69	0.61	-0 02	2154.16	-1 08	308.45	13.61	20.82	-0.08	14 51.08

pH Min:	6 32
pH Max:	6 38
ORP Min:	-145.25
ORP Max:	-134.69
DO Min:	0.61
DO Max:	0.69
Cond Min:	2154.16
Cond Max:	2159.93
Turb Min:	294.84
Turb Max:	357.88
Temp Min:	20.82
Temp Max:	20.97

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-MP-44D-10-12-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	MP-44D

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	44.5 [ft]
Well Depth:	45 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	29.51 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	32.7 [ft]
Pump Level (TOC):	34.7 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (198.6 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	315.62 [mL]
Actual Total Volume:	315.62 [mL]
Calculated Measurement Interval:	38 [sec]
Actual Measurement Interval:	38 [sec]

Start date/time:	10/12/2005	9:57:05
End date/time:	10/12/2005	10:05:17
Total Time:	0:08:12	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.58	0	-110.83	-0.13	1157.02	138.95	1043.87	-5.69	458.42	-79.44	17.21	-0.05	10:02:11
3	6.59	0.01	-110.84	0	1424.59	267.57	1046.82	2.95	441.69	-16.73	17.22	0.01	10:02:49
2	6.59	0	-111.18	-0.35	1610.14	185.54	1047.06	0.24	519.84	78.15	17.16	-0.06	10:03:29
1	6.59	0.01	-111.78	-0.6	1589.91	-20.23	1050.78	3.72	467.13	-52.71	17.19	0.03	10:04:07
0	6.6	0	-112	-0.22	1603.61	13.7	1050.27	-0.5	460.54	-6.6	17.13	-0.06	10:04:45

pH Min:	6.58
pH Max:	6.6
ORP Min:	-112
ORP Max:	-110.83
DO Min:	1157.02
DO Max:	1610.14
Cond Min:	1043.87
Cond Max:	1050.78
Turb Min:	441.69
Turb Max:	519.84
Temp Min:	17.13
Temp Max:	17.22

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file HARTFORD WORKING GROUP-HARTFORD-MP-58C-10-13-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD
Well ID	MP-58C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	SAMPLE PRO / MICROPURGE PUMP
Tubing Type	POLYETHYLENE TUBING
Tubing Diam	0 17 [in]
Tubing Length	41 5 [ft]
Well Depth	46 5 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	24 1 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31 75 [ft]
Pump Level (TOC)	13 75 [ft]
Final Pumping Rate	500 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (185 2 ml) pH ORP (18 ml) DO (14 ml) Cond (13 ml) Turb (40 mL)
Calculated Total Volume	502 23 [ml]
Actual Total Volume	502 23 [ml]
Calculated Measurement Interval	37 [sec]
Actual Measurement Interval	37 [sec]
Start date/time	10/13/2005 13 49 52
End date/time	10/13/2005 13 59 54
Total Time	0 10 02

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.72	0.01	-101 41	-0.82	419 95	-49 2	1228.62	-2 67	135 31	-17 92	16.99	0.03	13 67:20
3	6.73	0.01	-102 4	-0 99	415.99	-3.95	1230 6	1.98	154.35	19 04	16 96	-0 03	13.67:58
2	6.74	0	-103.6	-1.2	424.38	8.38	1231.58	0.99	133.22	-21.13	17.14	0.19	13.58:35
1	6.74	0	-103.86	-0 26	436.71	12.33	1230.25	-1.33	122.9	-10.32	16.98	-0.16	13:58:46
0	6.74	0	-105.1	-1.25	423.37	-13.34	1227.26	-2.99	128.4	5.5	16.98	-0.01	13:59:23

pH Min:	6 72
pH Max:	6.74
ORP Min:	-105.1
ORP Max:	-101.41
DO Min:	415.99
DO Max:	436.71
Cond Min:	1227.26
Cond Max:	1231.58
Turb Min:	122.9
Turb Max:	154.35
Temp Min:	16.96
Temp Max:	17.14

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-MP-59C-10-14-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	MP-59C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.18 [in]
Tubing Length:	38 [ft]
Well Depth:	37 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	21.44 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	31.33 [ft]
Pump Level (TOC):	33.33 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (14.2 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	131.24 [mL]
Actual Total Volume:	131.24 [mL]
Calculated Measurement Interval:	3938 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/14/2005	8:41:43
End date/time:	10/14/2005	8:49:19
Total Time:	0:07:36	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.76	0.01	-320.21	-2.14	459	-10.42	1235.34	-1.92	19.37	-0.56	63.77	-0.02	8:46:49
3	6.76	0	-322.99	-2.78	451.91	-7.09	1233.42	-1.92	17.83	-1.54	63.77	0	8:47:20
2	6.75	-0.01	-325.77	-2.78	448.54	-3.37	1233.11	-0.32	15.32	-2.51	63.76	-0.01	8:47:51
1	6.76	0.01	-326.41	-0.64	448.46	-0.08	1232.79	-0.32	16.26	0.94	63.77	0.01	8:48:21
0	6.76	0	-327.78	-1.37	444.85	-3.61	1232.15	-0.64	14.8	-1.46	63.77	0.01	8:48:51

pH Min:	6.75
pH Max:	6.76
ORP Min:	-327.78
ORP Max:	-320.21
DO Min:	444.85
DO Max:	459
Cond Min:	1232.15
Cond Max:	1235.34
Turb Min:	14.8
Turb Max:	19.37
Temp Min:	63.76
Temp Max:	63.77

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWQ-MP61C-10-10-2005 flo To Generate a report Insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095 17-001
Site Name.	HWQ
Well ID	MP61C

pH Sensor.	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type.	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	40 [ft]
Well Depth	37 [ft]
Well Diam	2 [in]
Screen Len	178 4 [in]
Screen Depth	21 67 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	11 21 [ft]
Pump Level (TOC)	33 21 [ft]

Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (178 5 ml) pH ORP (16 ml) DO (14 ml) Cond (11 ml) Turb (40 ml)
Calculated Total Volume	395 54 [ml]
Actual Total Volume	395 54 [ml]
Calculated Measurement Interval	8867 [sec]
Actual Measurement Interval	10 [sec]

Start date/time	10/10/2005	16 06 02
End date/time	10/10/2005	16 15 35
Total Time	0 09 33	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 05	-0.03	-48 91	2.73	0 76	0 02	2045 53	-14 68	2190 56	299.21	17 15	-0.03	16 13.09
3	6.04	-0.01	-42.32	6.58	0.77	0.01	2017.57	-27.96	2202.56	12	17.14	-0.01	16 13.40
2	6 02	-0.02	-36.09	4.23	0.78	0.01	2006.33	-11.24	2182.62	-19.94	17.08	-0 06	16 14:10
1	6.02	0	-37.8	0.3	0 78	0	1996.04	-10.29	2185.46	2.84	17.07	-0.01	16 14:41
0	6.02	0	-39.85	-2.06	0.79	0	1981.93	-14.11	2125.06	-60.4	17.07	0	16.15 10

pH Min:	6.02
pH Max:	6.05
ORP Min:	-48.91
ORP Max:	-37.8
DO Min:	0.76
DO Max:	0.79
Cond Min:	1981.93
Cond Max:	2045.53
Turb Min:	2125.06
Turb Max:	2202.56
Temp Min:	17.07
Temp Max:	17.15

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-MP-62C-10-12-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	MP-62C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	39 [ft]
Well Depth:	37 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	21.55 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.1 [ft]
Pump Level (TOC):	32.1 [ft]
Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (174.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	291.07 [mL]
Actual Total Volume:	291.07 [mL]
Calculated Measurement Interval:	35 [sec]
Actual Measurement Interval:	35 [sec]

Start date/time:	10/12/2005	17:05:56
End date/time:	10/12/2005	17:18:12
Total Time:	0:12:16	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.72	0	-98.05	-0.26	345.35	-24.12	997.24	-10.88	77.72	-5.74	16.73	0.07	17:15:21
3	6.72	0	-98.26	-0.22	342.48	-2.87	988.13	-9.11	79.72	2	16.63	-0.1	17:15:56
2	6.72	0	-98.61	-0.34	342.26	-0.22	979.83	-8.3	62.9	-16.82	16.64	0	17:16:31
1	6.72	0	-98.87	-0.26	337.8	-4.45	966.59	-13.24	58.9	-4	16.62	-0.01	17:17:07
0	6.72	0	-99	-0.13	329.81	-8	958.44	-8.15	58.55	-0.35	16.55	-0.07	17:17:42

pH Min:	6.72
pH Max:	6.72
ORP Min:	-99
ORP Max:	-98.05
DO Min:	329.81
DO Max:	345.35
Cond Min:	958.44
Cond Max:	997.24
Turb Min:	58.55
Turb Max:	79.72
Temp Min:	16.55
Temp Max:	16.73

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWO-MP-63C-10-13-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095 17-001
Site Name	HWO
Well ID	MP-63C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	59 [ft]
Well Depth	37 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	21 67 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	32 47 [ft]
Pump Level (TOC)	34 5 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (174 1 mL) pH ORP (16 mL) DO (14 mL) + Cond (13 mL) + Turb (40 mL)
Calculated Total Volume	291 07 [mL]
Actual Total Volume	291 07 [mL]
Calculated Measurement Interval	8733 [sec]
Actual Measurement Interval	40 [sec]
Start date/time	10/13/2005 11 14 43
End date/time	10/13/2005 11 34 25
Total Time	0 19 42

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 23	0	-167 45	-2 99	0 98	-0.02	806 41	-1 68	76 61	2 9	17.17	0.04	11 31:57
3	6.23	0	-167.66	-0.21	0.93	-0.05	806.22	-0.19	67.72	-8.89	17 13	-0 04	11 32 27
2	6.23	0	-170.06	-2.39	0.91	-0.02	806.32	0 09	48.12	-19.59	17.09	-0.04	11:32:58
1	6.24	0.01	-173.31	-3.25	0.88	-0.03	805.44	-0.88	47.09	-1.03	17.1	0.01	11:33:29
0	6.24	0	-176.73	-3.42	0 86	-0.02	803.83	-1.61	51.99	4.9	17.2	0.1	11:33:59

pH Min	6.23
pH Max:	6.24
ORP Min:	-176.73
ORP Max:	-167.45
DO Min:	0.86
DO Max:	0.98
Cond Min:	803.83
Cond Max:	806.41
Turb Min:	47.09
Turb Max:	76.61
Temp Min:	17.09
Temp Max:	17.2

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-MP-65C-10-11-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	MP-65C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	40 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.71 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	32.11 [ft]
Pump Level (TOC):	34.11 [ft]

Final Pumping Rate:	0 [illegible]
Stable Draw Down:	0 [illegible]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/11/2005	9:04:14
End date/time:	10/11/2005	9:12:25
Total Time:	0:08:11	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	5.58	0	-174.67	-3.12	4.06	-0.17	1287.99	-6.22	15.95	-0.05	16.53	0	9:10:22
3	5.62	0.04	-184.55	-9.88	4.06	0	1283.39	-4.6	18.6	2.65	16.51	-0.02	9:10:52
2	5.64	0.02	-186.56	-2.01	4.07	0.01	1282.58	-0.81	17.13	-1.47	16.5	-0.01	9:11:23
1	5.63	-0.01	-188.02	-1.45	4.07	0.01	1286.12	3.54	17.29	0.15	16.5	0	9:11:53
0	5.7	0.07	-203.93	-15.91	4.06	-0.01	1291.41	5.29	17.52	0.23	16.49	-0.01	9:12:23

pH Min:	5.58
pH Max:	5.7
ORP Min:	-203.93
ORP Max:	-174.67
DO Min:	4.06
DO Max:	4.07
Cond Min:	1282.58
Cond Max:	1291.41
Turb Min:	15.95
Turb Max:	18.6
Temp Min:	16.49
Temp Max:	16.53

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWG-MP-66C-10-11-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL
Company Name	CLAYTON
Project Name	15-03095 17-001
Site Name	HWG
Well ID	MP-66C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	41 [ft]
Well Depth	40 [ft]
Well Diam	2 [in]
Screen Len	176 4 [in]
Screen Depth	24 67 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31 24 [ft]
Pump Level (TOC)	33 24 [ft]
Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (183 0 ml) - pH ORP (16 ml) DO (14 ml) - Cond (13 ml) - Turb (40 ml)
Calculated Total Volume	400 [ml]
Actual Total Volume	400 [ml]
Calculated Measurement Interval	9000 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/11/2005 17 10 33
End date/time	10/11/2005 17 27 07
Total Time	0 07 34

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 75	0	-357 51	-1.11	2 44	-0 07	1340 96	1 18	172.61	-2 04	15.06	-0 01	17 24 38
3	6 74	0	-357.98	-0.47	2 38	-0 06	1342.28	1.32	163.59	-9.02	15.04	-0.01	17 25.09
2	6.74	0	-358.24	-0.26	2.36	-0 02	1343.19	0.92	170.55	6.96	15.02	-0.02	17:25 39
1	6.74	0	-358.84	-0.6	2.31	-0.04	1344.73	1.53	176.98	6.44	15.02	-0.01	17:26:09
0	6.74	0	-358.67	0.17	2.27	-0.04	1345.87	1.14	184.93	7.95	15.02	0	17.26 41

pH Min:	6.74
pH Max:	6.75
ORP Min:	-358 84
ORP Max:	-357.51
DO Min:	2.27
DO Max:	2.44
Cond Min:	1340.96
Cond Max:	1345 87
Turb Min:	163.59
Turb Max:	184.93
Temp Min:	15.02
Temp Max:	15.06

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-MP-67C-10-11-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	MP-67C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	40 [ft]
Well Diam:	2 [in]
Screen Len:	176.4 [in]
Screen Depth:	24.65 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	31.07 [ft]
Pump Level (TOC):	33.07 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/11/2005	11:32:27
End date/time:	10/11/2005	11:41:34
Total Time:	0:09:07	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.43	-0.01	-308.36	2.61	2.25	-1.56	1006.76	-1.02	67.02	6.8	16.3	0	11:39:05
3	6.43	0	-306.65	1.71	4.6	2.36	1007.58	0.82	52.67	-14.35	16.28	-0.02	11:39:35
2	6.43	0	-306.52	0.13	7.64	3.03	1007.92	0.34	57.95	5.29	16.28	-0.01	11:40:06
1	6.44	0.01	-307.64	-1.11	8.02	0.39	1007.83	-0.09	60.28	2.33	16.28	0	11:40:36
0	6.44	0	-310.93	-3.3	7.89	-0.13	1007.2	-0.63	63.16	2.88	16.27	-0.01	11:41:06

pH Min:	6.43
pH Max:	6.44
ORP Min:	-310.93
ORP Max:	-306.52
DO Min:	2.25
DO Max:	8.02
Cond Min:	1006.76
Cond Max:	1007.92
Turb Min:	52.67
Turb Max:	67.02
Temp Min:	16.27
Temp Max:	16.3

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD MP-78D-10-7-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	ANDREW DORN
Company Name	CLAYTON
Project Name	15-03095.17-001 HWG
Site Name	HARTFORD
Well ID	MP-78D

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 [in]
Tubing Length	40 [ft]
Well Depth	48 2 [ft]
Well Diam	2 [in]
Screen Len	115 2 [in]
Screen Depth	27 96 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	33 69 [ft]
Pump Level (TOC)	35 69 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (156 2 ml) pH ORP (16 ml) DO (14 ml) Cond (13 ml) Turb (40 ml)
Calculated Total Volume	273 22 [ml]
Actual Total Volume	273 22 [ml]
Calculated Measurement Interval	8197 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/7/2005 8 37 55
End date/time	10/7/2005 8 43 03
Total Time	0 05 08

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6 45	0	-107 34	-2 46	917 68	-118 45	1324 79	3.41	304.63	-25.41	60.58	0 08	8 40 59
3	6.45	0	-109.47	-2 14	830.12	-87 56	1324.41	-0 38	277.02	-27.61	60.65	0.07	8 41:29
2	6.45	0	-111 31	-1 84	743 82	-86 3	1323.65	-0.76	273.54	-3.49	60.68	0.03	8:41:59
1	6.45	0	-112.98	-1.67	683.23	-60 59	1324.41	0.76	243.47	-30.07	60.72	0.03	8.42:31
0	6.45	0	-114.43	-1.45	635.68	-47.55	1324.41	0	242.28	-1.2	60.75	0.03	8.43.01

pH Min:	6.45
pH Max.	6 45
ORP Min:	-114.43
ORP Max.	-107.34
DO Min:	635.68
DO Max:	917.68
Cond Min:	1323.65
Cond Max:	1324.79
Turb Min:	242.28
Turb Max:	304.63
Temp Min:	60.58
Temp Max:	60.75

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -MP-79D-10-7-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	ANDREW DORN
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	MP-79D

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	45 [ft]
Well Depth:	51 [ft]
Well Diam:	2 [in]
Screen Len:	115.2 [in]
Screen Depth:	40.45 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	32.6 [ft]
Pump Level (TOC):	40.45 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (200.9 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	317.85 [mL]
Actual Total Volume:	317.85 [mL]
Calculated Measurement Interval:	9536 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/7/2005	10:04:45
End date/time:	10/7/2005	10:08:43
Total Time:	0:03:58	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.6	-0.02	-93.68	-3.21	1544.16	-844.7	1061.62	3.17	592.45	-23.39	60.89	0.04	10:06:16
3	6.59	-0.01	-96.16	-2.48	1147.36	-396.8	1064.56	2.94	562.18	-30.26	60.93	0.04	10:06:47
2	6.58	-0.01	-98.46	-2.31	970.97	-176.39	1067.27	2.71	516.6	-45.58	61.01	0.08	10:07:19
1	6.57	-0.01	-100	-1.54	886	-84.97	1067.51	0.25	498.3	-18.3	61.02	0.01	10:07:49
0	6.57	-0.01	-101.41	-1.41	830.66	-55.34	1068.25	0.74	561.52	63.22	61.04	0.01	10:08:19

pH Min:	6.57
pH Max:	6.6
ORP Min:	-101.41
ORP Max:	-93.68
DO Min:	830.66
DO Max:	1544.16
Cond Min:	1061.62
Cond Max:	1068.25
Turb Min:	498.3
Turb Max:	592.45
Temp Min:	60.89
Temp Max:	61.04

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWQ-MP-81C-10-12-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ ORISEL
Company Name	CLAYTON
Project Name	15-03095 17-001
Site Name	HWQ
Well ID	MP-81C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	34 4 [ft]
Well Depth	32 8 [ft]
Well Diam	2 [in]
Screen Len	177 6 [in]
Screen Depth	17 15 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	27 27 [ft]
Pump Level (TOC)	29 27 [ft]

Final Pumping Rate	0 [ml /min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 ml) + tubing (153 5 ml) - pH ORP (16 ml) DO (14 ml) - Cond (13 ml) - Turb (40 ml)
Calculated Total Volume	270 54 [ml]
Actual Total Volume	270 54 [ml]
Calculated Measurement Interval	8117 [sec]
Actual Measurement Interval	30 [sec]

Start date/time	10/12/2005	9 25 09
End date/time	10/12/2005	9 31 45
Total Time	0 06 36	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6 44	0.01	-176 87	0 39	6 88	-0.16	1463 65	1 76	94.9	4.11	15 48	-0 05	9 29:13
3	6.46	0.01	-178.29	-1 41	6 73	-0.14	1463.96	0.32	90.71	-4.19	15.45	-0.03	9.29.44
2	6.46	0.01	-182.39	-4.11	6.62	-0.12	1466.04	2.08	84.33	-6.38	15.41	-0 04	9.30 15
1	6.47	0 01	-184 87	-2.48	6.51	-0.11	1466.33	0.29	84.7	0.37	15.39	-0 02	9.30:45
0	6.48	0.01	-183.97	0.9	6.4	-0.1	1466.31	-0.02	82.76	-1.93	15.38	-0.01	9.31:16

pH Min:	6.44
pH Max:	6.48
ORP Min:	-184.87
ORP Max:	-176.87
DO Min:	6.4
DO Max:	6.88
Cond Min:	1463.65
Cond Max:	1466.33
Turb Min:	82.76
Turb Max:	94.9
Temp Min:	15.38
Temp Max:	15.48

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:HARTFORD WORKING GROUP-HARTFORD-MP-82C-10-12-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	NORMAN BOLIVAR
Company Name:	CLAYTON GROUP SERVICES
Project Name:	HARTFORD WORKING GROUP
Site Name:	HARTFORD
Well ID:	MP-82C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	SAMPLE PRO / MICROPURGE PUMP
Tubing Type:	POLYETHYLENE TUBING
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	39 [ft]
Well Diam:	2 [in]
Screen Len:	174 [in]
Screen Depth:	23.57 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	33.23 [ft]
Pump Level (TOC):	35.23 [ft]

Final Pumping Rate:	500 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	36 [sec]
Actual Measurement Interval:	36 [sec]

Start date/time:	10/12/2005	14:50:36
End date/time:	10/12/2005	14:59:01
Total Time:	0:08:25	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.8	0	-133.09	-1.2	444.64	-51.29	1463.05	-0.49	667	-60.64	18.83	0.1	14:56:03
3	6.8	0	-133.86	-0.77	430.99	-13.65	1463.04	0	703.35	36.35	18.72	-0.11	14:56:39
2	6.8	0	-134.72	-0.86	415.01	-15.98	1462.08	-0.96	626.74	-76.61	18.71	-0.01	14:57:16
1	6.8	0	-135.32	-0.6	394.22	-20.79	1459.68	-2.4	673.75	47	18.74	0.03	14:57:53
0	6.8	0	-135.66	-0.34	378.31	-15.91	1458.72	-0.96	615.65	-58.1	18.73	-0.01	14:58:30

pH Min:	6.8
pH Max:	6.8
ORP Min:	-135.66
ORP Max:	-133.09
DO Min:	378.31
DO Max:	444.64
Cond Min:	1458.72
Cond Max:	1463.05
Turb Min:	615.65
Turb Max:	703.35
Temp Min:	18.71
Temp Max:	18.83

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file HARTFORD WORKING GROUP-HARTFORD-MP-83C-10-13-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	NORMAN BOLIVAR
Company Name	CLAYTON GROUP SERVICES
Project Name	HARTFORD WORKING GROUP
Site Name	HARTFORD
Well ID	MP-83C

pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	SAMPLE PRO / MICROPURGE PUMP
Tubing Type	POLYETHYLENE TUBING
Tubing Diam	0.17 [in]
Tubing Length	41.5 [ft]
Well Depth	42.5 [ft]
Well Diam	2 [in]
Screen Len	234 [in]
Screen Depth	22 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	29.65 [ft]
Pump Level (TOC)	31.65 [ft]

Final Pumping Rate	500 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (185.2 mL) pH ORP (18 mL) DO (14 mL) Cond (13 mL) Turb (40 mL)
Calculated Total Volume	602.23 [mL]
Actual Total Volume	602.23 [mL]
Calculated Measurement Interval	37 [sec]
Actual Measurement Interval	37 [sec]

Start date/time	10/13/2005	16:25:11
End date/time	10/13/2005	16:35:06
Total Time	0:09:55	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.64	0	-83.21	-0.9	196.75	-13.26	1272.18	-0.36	28.08	0.04	17	0.01	16:32:03
3	6.64	0	-83.85	-0.64	188.41	-8.34	1268.64	-3.54	29.02	0.94	16.95	-0.05	16:32:40
2	6.65	0	-84.58	-0.73	175.29	-13.12	1269.34	0.7	29.95	0.93	16.93	-0.02	16:33:18
1	6.65	0	-85.14	-0.56	165.72	-9.57	1267.57	-1.77	30.88	0.93	17	0.07	16:33:55
0	6.65	0	-85.87	-0.73	156.87	-8.85	1270.39	2.82	30.94	0.06	17	-0.01	16:34:33

pH Min:	6.64
pH Max:	6.65
ORP Min:	-85.87
ORP Max:	-83.21
DO Min:	156.87
DO Max:	196.75
Cond Min:	1267.57
Cond Max:	1272.18
Turb Min:	28.08
Turb Max:	30.94
Temp Min:	16.93
Temp Max:	17

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001 HWG-HARTFORD -MP-85C-10-6-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is Installed to your Excel templates directory.

Operator Name:	ANDREW DORN
Company Name:	CLAYTON
Project Name:	15-03095.17-001 HWG
Site Name:	HARTFORD
Well ID:	MP-85C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	37 [ft]
Well Depth:	36 [ft]
Well Diam:	2 [in]
Screen Len:	70.8 [in]
Screen Depth:	29.31 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.5 [ft]
Pump Level (TOC):	32.5 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (165.1 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	282.15 [mL]
Actual Total Volume:	282.15 [mL]
Calculated Measurement Interval:	8465 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/6/2005	11:45:00
End date/time:	10/6/2005	11:51:29
Total Time:	0:06:29	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [uS/cm]	Variance	Turb [NTU]	Variance	Temp [F]	Variance	Time
4	6.85	0	-125.23	-4.36	1412.59	-125.66	839.11	-4.6	22.6	-4.83	60.2	-0.08	11:49:04
3	6.85	0	-129.08	-3.85	1257.81	-154.78	837.28	-1.82	20.47	-2.13	60.2	-0.01	11:49:34
2	6.85	0	-132.67	-3.59	1204.49	-53.32	835.16	-2.12	15.47	-4.99	60.12	-0.07	11:50:04
1	6.85	0	-136.14	-3.46	1092.86	-111.63	833.96	-1.21	16.5	1.02	60.1	-0.02	11:50:34
0	6.85	0	-139.35	-3.21	984.17	-108.7	835.47	1.51	15.18	-1.32	60.12	0.02	11:51:05

pH Min:	6.85
pH Max:	6.85
ORP Min:	-139.35
ORP Max:	-125.23
DO Min:	984.17
DO Max:	1412.59
Cond Min:	833.96
Cond Max:	839.11
Turb Min:	15.18
Turb Max:	22.6
Temp Min:	60.1
Temp Max:	60.2

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -MP-85D-10-6-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	ANDREW DORN
Company Name	CLAYTON
Project Name	15-03095 17-001 HWG
Site Name	HARTFORD
Well ID	MP-85D

pH Sensor	Installed	Target Value	0 (pH)	Target Percent	0 (%)
ORP Sensor	Installed	Target Value	0 (mV)	Target Percent	0 (%)
DO Sensor	Installed	Target Value	0 (ug/L)	Target Percent	0 (%)
Cond Sensor	Installed	Target Value	0 (uS/cm)	Target Percent	0 (%)
Turb Sensor	Installed	Target Value	0 (NTU)	Target Percent	0 (%)

Pump Model/Type	QED BLADDER
Tubing Type	POLY
Tubing Diam	0 17 (in)
Tubing Length	42 (ft)
Well Depth	50 (ft)
Well Diam	2 (in)
Screen Len	114 (in)
Screen Depth	39 45 (ft)
Pump Inlet Depth	0 (in)
Depth to Water	30 45 (ft)
Pump Level (TOC)	39 45 (ft)

Final Pumping Rate	0 (ml /min)
Stable Draw Down	0 (in)
Total Volume Formula	Volume = cup (200 ml) + tubing (187 5 ml) pH ORP (16 ml) DO (14 ml) Cond (13 ml) Turb (40 ml)
Calculated Total Volume	904 46 (ml)
Actual Total Volume	904 46 (ml)
Calculated Measurement Interval	9134 (sec)
Actual Measurement Interval	30 (sec)

Start date/time	10/6/2005	14 51 40
End date/time	10/6/2005	14 58 10
Total Time	0 06 30	

Reading #	pH (pH)	Variance	ORP (mV)	Variance	DO (ug/L)	Variance	Cond (uS/cm)	Variance	Turb (NTU)	Variance	Temp (F)	Variance	Time
4	6 61	0.01	-111 17	-5 52	1042 71	-157 79	896.93	4 85	641.9	-73 8	60 65	-0.1	14 55 43
3	6.61	0	-115.11	-3.94	943 35	-99.37	895.89	-1.04	665.09	23.19	60.55	-0.09	14 56:14
2	6.61	0	-117 89	-2.78	875.61	-67.74	896 94	1.04	576.27	-88.81	60.54	-0.02	14 56.44
1	6.61	0	-120 41	-2.52	799.36	-76.25	898.33	1.4	552 15	-24 12	60 51	-0.02	14.57.15
0	6.6	0	-122.21	-1 8	765.56	-33.8	896 94	-1.39	562.95	10.8	60.5	-0.02	14:57 45

pH Min:	6.6
pH Max:	6.61
ORP Min:	-122.21
ORP Max:	-111.17
DO Min:	765.56
DO Max:	1042.71
Cond Min:	895.89
Cond Max:	898.33
Turb Min:	552.15
Turb Max:	665.09
Temp Min:	60.5
Temp Max:	60.65

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-MP-86C-10-13-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	MP-86C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	40 [ft]
Well Depth:	40 [ft]
Well Diam:	2 [in]
Screen Len:	174 [in]
Screen Depth:	24.59 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	32.95 [ft]
Pump Level (TOC):	35 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (178.5 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	295.54 [mL]
Actual Total Volume:	295.54 [mL]
Calculated Measurement Interval:	8867 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/13/2005	8:56:33
End date/time:	10/13/2005	9:09:17
Total Time:	0:12:44	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.8	0	-332.53	-0.9	0.67	0	2270	2.33	421.87	-80.65	17.14	0.01	9:06:45
3	6.8	0	-333.04	-0.51	0.67	0	2271.01	1.01	463.09	41.22	17.12	-0.02	9:07:16
2	6.8	0	-333.51	-0.47	0.68	0	2270.67	-0.34	345.34	-117.75	17.2	0.08	9:07:46
1	6.8	0	-332.82	0.69	0.68	0	2271.44	0.77	375.36	30.02	17.35	0.15	9:08:16
0	6.8	0	-333.46	-0.64	0.68	0	2275.49	4.05	351.05	-24.31	17.44	0.09	9:08:47

pH Min:	6.8
pH Max:	6.8
ORP Min:	-333.51
ORP Max:	-332.53
DO Min:	0.67
DO Max:	0.68
Cond Min:	2270
Cond Max:	2275.49
Turb Min:	345.34
Turb Max:	463.09
Temp Min:	17.12
Temp Max:	17.44

INSTRUCTIONS This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001-HWG-MP-88C-10-12-2005 flo To Generate a report insert a new sheet based on a sheet template See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help An example template, InSituLowFlow xlt, is provided by the Win-Situ Installation You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory

Operator Name	TJ GRISEL				
Company Name	CLAYTON				
Project Name	15-03095 17-001				
Site Name	HWG				
Well ID	MP-88C				
pH Sensor	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type	MICROPURGE
Tubing Type	PVC
Tubing Diam	0 17 [in]
Tubing Length	38 [ft]
Well Depth	38 [ft]
Well Diam	2 [in]
Screen Len	180 [in]
Screen Depth	23 [ft]
Pump Inlet Depth	0 [in]
Depth to Water	31 72 [ft]
Pump Level (TOC)	33 72 [ft]
Final Pumping Rate	0 [mL/min]
Stable Draw Down	0 [in]
Total Volume Formula	Volume = cup (200 mL) + tubing (169 6 mL) pH ORP (16 mL) DO (14 mL) Cond (13 mL) Turb (40 mL)
Calculated Total Volume	986 61 [mL]
Actual Total Volume	986 61 [mL]
Calculated Measurement Interval	8599 [sec]
Actual Measurement Interval	30 [sec]
Start date/time	10/12/2005 16 47 39
End date/time	10/12/2005 16 56 17
Total Time	0 08 38

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.52	0.01	-112.14	-21 57	0 77	-0 01	1241.56	0 4	167 66	-2 91	18 42	-0 04	16 53 44
3	6 53	0 01	-118.01	-5.86	0.75	-0 01	1241.99	0.43	168.95	1 26	18 44	0.02	16 54.14
2	6.55	0 02	-127 46	-9.46	0.74	-0 01	1244.95	2.96	167 48	-1.47	18.43	0	16.54:45
1	6.54	-0.01	-134.35	-6.89	0 74	-0 01	1247.53	2.58	169.56	2.08	18.4	-0.03	16.55:15
0	6.54	0	-138.29	-3.94	0.73	-0.01	1250.22	2.69	174.35	4.79	18.37	-0.04	16:55:47

pH Min:	6.52
pH Max:	6.55
ORP Min:	-138.29
ORP Max:	-112.14
DO Min:	0.73
DO Max:	0.77
Cond Min:	1241.56
Cond Max:	1250.22
Turb Min:	167.48
Turb Max:	174.35
Temp Min:	18.37
Temp Max:	18.44

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file:15-03095.17-001-HWG-MP-89C-10-12-2005.flo To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	TJ GRISEL
Company Name:	CLAYTON
Project Name:	15-03095.17-001
Site Name:	HWG
Well ID:	MP-86C

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [mg/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [uS/cm @25C]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	MICROPURGE
Tubing Type:	PVC
Tubing Diam:	0.17 [in]
Tubing Length:	41 [ft]
Well Depth:	38 [ft]
Well Diam:	2 [in]
Screen Len:	180 [in]
Screen Depth:	23 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	30.36 [ft]
Pump Level (TOC):	32.36 [ft]

Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (183.0 mL) - pH_ORP (16 mL) - DO (14 mL) - Cond (13 mL) - Turb (40 mL)
Calculated Total Volume:	300 [mL]
Actual Total Volume:	300 [mL]
Calculated Measurement Interval:	9000 [sec]
Actual Measurement Interval:	30 [sec]

Start date/time:	10/12/2005	14:09:47
End date/time:	10/12/2005	14:24:27
Total Time:	0:14:40	

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [mg/L]	Variance	Cond [uS/cm @25C]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	6.24	0.01	-122.55	-2.31	0.69	-0.01	607.62	0.3	510.78	-69.76	17.02	0.05	14:21:57
3	6.24	0	-124.56	-2.01	0.68	-0.01	610.8	3.18	508.08	-2.7	16.91	-0.11	14:22:29
2	6.24	0	-120.79	3.77	0.7	0.01	607.92	-2.88	410.59	-97.49	16.85	-0.06	14:22:59
1	6.24	0	-113.95	6.85	0.7	0	611.29	3.36	422.84	12.25	16.79	-0.06	14:23:29
0	6.24	0	-116.47	-2.52	0.68	-0.01	608.66	-2.62	397.52	-25.32	16.89	0.1	14:24:00

pH Min:	6.24
pH Max:	6.24
ORP Min:	-124.56
ORP Max:	-113.95
DO Min:	0.68
DO Max:	0.7
Cond Min:	607.62
Cond Max:	611.29
Turb Min:	397.52
Turb Max:	510.78
Temp Min:	16.79
Temp Max:	17.02

INSTRUCTIONS: This is the raw data export format from the Win-Situ Low Flow Cell data file 15-03095 17-001 HWG-HARTFORD -RW-1-10-13-2005 flo. To Generate a report insert a new sheet based on a sheet template. See 'Sheet Template' and 'Insert a new sheet that's based on a custom template' in Excel help. An example template, InSituLowFlow.xlt, is provided by the Win-Situ Installation. You may copy this template from the templates subfolder in the folder where Win-Situ is installed to your Excel templates directory.

Operator Name:	DANIEL STALLINGS
Company Name:	CLAYTON
Project Name:	15-03095 17-001 HWG
Site Name:	HARTFORD
Well ID:	RW-1

pH Sensor:	Installed	Target Value	0 [pH]	Target Percent	0 [%]
ORP Sensor:	Installed	Target Value	0 [mV]	Target Percent	0 [%]
DO Sensor:	Installed	Target Value	0 [ug/L]	Target Percent	0 [%]
Cond Sensor:	Installed	Target Value	0 [mg/L TDS (est.)]	Target Percent	0 [%]
Turb Sensor:	Installed	Target Value	0 [NTU]	Target Percent	0 [%]

Pump Model/Type:	QED BLADDER
Tubing Type:	POLY
Tubing Diam:	0.17 [in]
Tubing Length:	46 [ft]
Well Depth:	44.35 [ft]
Well Diam:	36 [in]
Screen Len:	-- [in]
Screen Depth:	24.5 [ft]
Pump Inlet Depth:	0 [in]
Depth to Water:	35.44 [ft]
Pump Level (TOC):	39 [ft]
Final Pumping Rate:	0 [mL/min]
Stable Draw Down:	0 [in]
Total Volume Formula:	Volume = cup (200 mL) + tubing (205.3 mL) + pH, ORP (16 mL) + DO (14 mL) + Cond (11 mL) + Turb (40 mL)
Calculated Total Volume:	372.32 [mL]
Actual Total Volume:	372.32 [mL]
Calculated Measurement Interval:	9670 [sec]
Actual Measurement Interval:	30 [sec]
Start date/time:	10/13/2005 9:06:22
End date/time:	10/13/2005 9:15:28
Total Time:	0:09:06

Reading #	pH [pH]	Variance	ORP [mV]	Variance	DO [ug/L]	Variance	Cond [mg/L TDS (est.)]	Variance	Turb [NTU]	Variance	Temp [C]	Variance	Time
4	7.18	0	-165.12	-0.81	1880.51	-68.06	392.94	-0.21	87.33	-0.51	18.66	-0.02	9:12:59
3	7.18	0	-165.8	-0.68	1813.85	-66.65	392.82	-0.11	86.47	-0.86	18.67	0.01	9:13:30
2	7.19	0.01	-166.79	-0.98	1753.57	-60.28	392.76	-0.07	89.3	2.82	18.69	0.02	9:14:00
1	7.19	0	-167.22	-0.43	1629.34	-124.23	392.97	0.21	88.62	-0.67	18.69	0.01	9:14:31
0	7.19	0.01	-168.16	-0.94	1573.42	-55.92	392.7	-0.27	86.67	-2.05	18.67	-0.02	9:15:01

pH Min:	7.18
pH Max:	7.19
ORP Min:	-168.16
ORP Max:	-165.12
DO Min:	1573.42
DO Max:	1880.51
Cond Min:	392.7
Cond Max:	392.97
Turb Min:	86.47
Turb Max:	89.3
Temp Min:	18.66
Temp Max:	18.69

APPENDIX D-3
WELL SAMPLING INDICATOR PARAMETERS - OCTOBER 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed (gals)	Temperature °C	pH (std. units)	Conductivity (umhos/cm)	TDS (ppm)	Turbidity (ntu)	Dissolved Oxygen (µg/L)	Visual Clarity	Comments
HB-33	10/06/05	1149	5.75	15.1	6.58	1.28	NM	430-450	0.43	Black-Cloudy	Bailer
		1152	6.0	15.0	6.67	1.27	NM	330-350	0.41	Black Cloudy	
		1155	6.25	15.0	6.67	1.26	NM	300-310	0.5	Black Cloudy	
HMW-01	10/12/05	1600	0.325	NM	NM	NM	NM	NM	NM	NM	Partial Sample Collected
HMW-07	10/11/05	NM	1.0	NM	NM	NM	NM	NM	NM	NM	Well Purged Dry
HMW-21	10/11/05	1718	1.0	16.0	6.86	1.09	NM	105	1.46	Cloudy	Peristaltic Pump
		1721	1.15	15.9	6.84	1.05	NM	42	0.95	Cloudy	
		1725	1.3	15.8	6.82	0.98	NM	13	0.9	Cloudy	
HMW-39B	10/13/05	1033	3.5	18.0	6.95	0.671	NM	725-735	0.92	Cloudy	Bailer
		1038	3.75	17.8	7.12	0.669	NM	785-795	1.32	Cloudy	
		1042	4.0	18.0	7.20	0.63	NM	685-695	2.34	Cloudy	
HMW-41B	10/13/05	1053	1.0	18.6	7.98	1.47	NM	12	9.17	Clear	Peristaltic Pump
		1100	1.25	18.3	8.12	1.44	NM	11	9.1	Clear	
		1110	1.5	18.4	8.11	1.44	NM	11	9.35	Clear	
		1131	1.75	18.7	8.15	1.49	NM	14	9.12	Clear	
		1142	2.0	18.5	8.12	1.44	NM	12	9.09	Clear	
		1155	2.25	18.4	8.11	1.44	NM	12	9.15	Clear	
HMW-45B	10/10/05	NM	0.25	NM	NM	NM	NM	NM	NM	NM	Well Purged Dry
HMW-46B	10/10/05	1530	0.50	NM	NM	NM	NM	NM	NM	NM	Well Purged Dry
HMW-47B	10/10/05	NM	1.75	NM	NM	NM	NM	NM	NM	NM	Well Purged Dry
HMW-48B	10/11/05	1145	8.0	16.8	6.60	1.38	NM	10-13	0.90	Slightly Yellow	Peristaltic Pump
		1151	8.25	16.6	6.69	1.38	NM	11-13	0.81	Slightly Yellow	
		1158	8.5	16.6	6.70	1.38	NM	2-3	0.83	Slightly Yellow	

APPENDIX D-3
WELL SAMPLING INDICATOR PARAMETERS - OCTOBER 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed	Temperature	pH	Conductivity	TDS	Turbidity	Dissolved Oxygen	Visual Clarity	Comments
HMW-50B	10/11/05	1523	4.0	15.2	7.47	1.84	NM	-10	1.43	Clear	Bailer
			4.25	15.0	7.63	1.71	NM	-10	1.96	Clear	
			4.50	15.0	7.59	1.81	NM	-10	1.5	Clear	
		1540	4.75	14.9	7.58	1.87	NM	-10	1.64	Clear	
MP-30B	10/11/05	NM	0.1	NM	NM	NM	NM	NM	NM	NM	Well Purged Dry
MP-31B	10/12/05	0950	0.75	18.9	7.52	1.03	NM	999	7.36	Cloudy	Bailer
		0955	0.9	19.2	7.41	0.97	NM	840	8.50	Cloudy	
		1000	1.1	19.3	7.36	0.74	NM	999	8.17	Cloudy	
		1004	1.3	19.2	7.36	0.74	NM	999	8.15	Cloudy	
		1007	1.5	19.1	7.30	0.74	NM	999	8.20	Cloudy	
MP-36B	10/06/05	1420	1.25	15.8	6.70	0.592	NM	-10	1.05	Clear	Peristaltic Pump
		1423	1.66	15.9	6.67	0.594	NM	-10	1.83	Clear	
		1430	2.00	15.9	6.64	0.594	NM	-10	1.17	Clear	
MP-37C	10/12/05	1635	1.75	19.0	7.86	1.05	NM	999	9.79	Cloudy	Bailer
		1642	2.00	18.0	7.80	1.04	NM	999	9.84	Cloudy	
		1647	2.25	17.1	7.79	1.01	NM	999	9.98	Cloudy	
		1650	2.40	17.8	7.80	0.99	NM	999	9.9	Cloudy	
MP-39B	10/06/05	1608	1.0	15.4	6.80	1.01	NM	-10	0.97	NM	Peristaltic Pump
		1610	1.5	15.3	6.79	1.00	NM	-10	0.86	NM	
		1613	2.0	15.2	6.77	-0.99	NM	-10	1.38	NM	
MP-49B	10/13/05	1429	0.3	21.4	8.05	1.83	NM	183	8.18	Clear	Peristaltic Pump
		1438	0.5	20.8	8.06	1.86	NM	3	8.16	Clear	
		1446	0.7	20.3	8.04	1.86	NM	3	8.03	Clear	
		1453	1.0	20.2	8.02	1.86	NM	4	8.05	Clear	
MP-50A	10/12/05	NM	0.1	NM	NM	NM	NM	NM	NM	NM	Peristaltic Pump - Dry
MP-59A	10/12/05	NM	NM	NM	NM	NM	NM	NM	NM	NM	Peristaltic Pump - Dry

APPENDIX D-3
WELL SAMPLING INDICATOR PARAMETERS - OCTOBER 2005 QUARTERLY SAMPLING
Village of Hartford

1190505040 -- Madison County -- ILR 000128249
The Hartford Working Group / Hartford, Illinois

Well Number	Date	Time	Total Volume of Water Removed	Temperature	pH	Conductivity	TDS	Turbidity	Dissolved Oxygen	Visual Clarity	Comments
MP-60A	10/12/05	1115	0.09	NM	NM	NM	NM	NM	NM	NM	Partial Sample Collected
MP-79B	10/10/05	1640	0.33	17.3	6.77	1.36	NM	NM	0.45-0.55	Cloudy	Peristaltic Pump
		1649	0.5	17.0	6.82	1.35	NM	NM	0.40	Cloudy	
		1700	0.75	17.7	6.79	1.35	NM	NM	0.54	Cloudy	
MP-80B	10/10/05	1700	0.75	16.9	6.94	0.366	NM	280-290	1.6	Clear	Bailer
		1705	0.85	16.8	6.97	0.360	NM	235-245	1.64	Clear	
		1710	1.00	16.7	6.97	0.363	NM	210-220	1.68	Clear	
MP-85B	10/12/05	1350	0.5	20.0	8.01	1.57	NM	246	9.38	Clear	Peristaltic Pump
		1356	0.75	19.9	8.12	1.59	NM	194	9.64	Clear	
		1402	1.0	19.7	8.14	1.59	NM	180	10.10	Clear	
		1408	1.25	19.6	8.13	1.58	NM	180	10.11	Clear	
		1415	1.7	19.5	8.14	1.57	NM	170	10.21	Clear	

NOTES:
gals = gallons
°C = degrees Centigrade
ntu = nephelometric turbidity units
umhos/cm = micromhos per centimeter
ppm = parts per millions
μg/L = micrograms per liter

APPENDIX E

SOP NO. 415a – LOW FLOW GROUNDWATER SAMPLING

BUREAU VERITAS

Standard Operating Procedure No. 415a

LOW FLOW GROUNDWATER SAMPLING

Taken from U.S. Environmental Protection Agency – Region I, July 30, 1996, Revision 2 and U. S. Environmental Protection Agency – Regions 5 and 10, "Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers (EPA-542-S-02-001)", May 2002

Equipment:

- Adjustable rate peristaltic pump or an adjustable rate low-flow submersible or positive displacement bladder pump (Use of a peristaltic pump is limited to wells where groundwater is within the lift capability of the pump.);
- 1/4 to 3/8-inch Teflon, PVC, polyethylene, or polypropylene tubing;
- Water level measuring device;
- Weighted steel tape;
- Flow measurement supplies (e.g., graduated cylinder and stop watch);
- Power source;
- Indicator field parameter monitoring instruments - pH, Eh, dissolved oxygen (DO), turbidity, specific conductance, and temperature. If possible use a flow-through-cell to measure all listed parameters, except turbidity;
- Standards to perform field calibration of instruments;
- Decontamination supplies;
- Logbook;
- Sample bottles;
- Sample cooler and ice;
- Sample labels and chain-of-custody forms.

1. Measure the depth to water to the nearest 0.01 foot.

2. Determine the water level position in the well, relative to the screened interval, and place pump/tubing intake as appropriate for the relative position of the water level. Refer to the attached flow chart for appropriate pump/tubing intake positioning.

3. Before starting pump, measure water level to nearest 0.01 foot.

4. Purge Well:

   Start the pump at its lowest speed setting and slowly increase the speed until discharge occurs. Check water level. Adjust pump speed until there is little or no water level drawdown. Drawdown should not exceed 0.3 feet. If drawdown exceeds 0.3 feet, lower the flow rate. During the early phase of purging, emphasis should be put on minimizing and stabilizing pumping stress, and recording those adjustments. Once stabilized, continue purging until water quality indicator field parameters stabilize (see 5. below).

   During purging, monitor and record water level and pumping rate regularly at 30-second to 5-minute intervals during purging. Record any pumping rate adjustments (both time and flow rate). Pumping rates should be reduced to the minimum capabilities of the pump (for example, 0.1 - 0.4 L/min) to ensure stabilization of indicator parameters. Adjustments are best made in the first 15 minutes of pumping in order to help minimize purging time. During pump start-up, drawdown may exceed the 0.3 feet target and then recover as pump flow adjustments are made. Purge volume calculations should utilize stabilized drawdown value, not the initial drawdown. Do not allow the water level to fall to the intake level (if the static water level is above the well screen, avoid lowering the water level into the screen). The final purge volume must be greater than the stabilized drawdown volume plus the extraction tubing volume.

   If the recharge rate of the well is lower than extraction rate capabilities of the pumps and the well is essentially dewatered during purging, then the well should be sampled no sooner than two hours after purging, and after a sufficient volume (commonly 90%) has recovered, or the water level has recovered sufficiently to collect the appropriate volume needed for all anticipated samples (ideally the intake should not be moved during this recovery period). Samples may then be collected even though the indicator field parameters have not stabilized.

5. Monitor Indicator Field Parameters:

   After a minimum of one tubing volume (include pump and flow-through cell volumes) has been purged from the well, monitor indicator field parameters every 3 to 5 minutes (during continuous purging). The indicator field parameters ideally include turbidity, temperature, specific conductance, pH, oxidation-reduction potential (ORP/Eh), dissolved oxygen (DO); and at a minimum include pH, specific conductance, turbidity or DO. All measurements, except turbidity, ideally should be obtained using a flow-through-cell.

   Purging is considered complete and sampling may begin when all indicator field parameters have stabilized. Stabilization is considered to be achieved when three consecutive readings, taken at 3 to 5 minute intervals, are within the following limits:

   turbidity (+/-10% NTUs),
   DO (+/-0.3 mg/L),

specific conductance (+/- 3% S/cm),
temperature (3%),
pH (+ or - 0.1 unit),
ORP/Eh (+/- 10 millivolts).

Use the attached form for recording field measurements.

6. Collect water samples for laboratory analyses upon stabilization of field indicator parameters as described above (see 5.). Water samples must be collected directly into the laboratory container from the tubing, before water has passed through the flow-through-cell (use a by-pass assembly or disconnect cell to obtain sample).

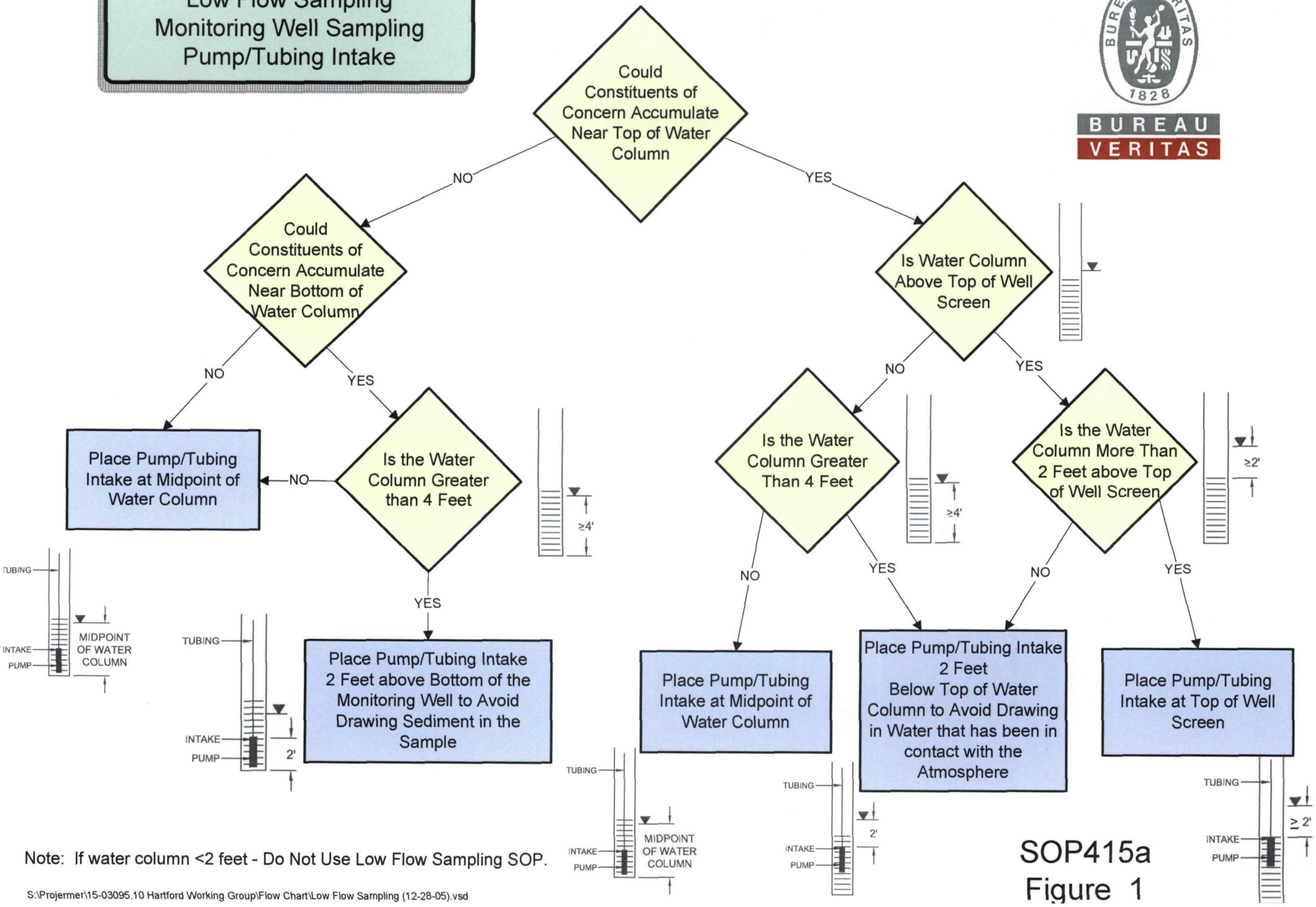
Attachments

- Flow chart for appropriate setting of pump / tubing intake
- Form for recording field measurements

BUREAU VERITAS

FLOW CHART

Low Flow Sampling Monitoring Well Sampling Pump/Tubing Intake



Note: If water column <2 feet - Do Not Use Low Flow Sampling SOP.

S:\Projermer\15-03095.10 Hartford Working Group\Flow Chart\Low Flow Sampling (12-28-05).vsd

SOP415a
Figure 1

BUREAU VERITAS

GROUNDWATER DATA FORM

Standard Operating Procedure No. 415a
00SOP / SOP_415a / 12/28/2005

GROUNDWATER DATA FORM

PROJECT INFORMATION						
EVENT		Well Development		Groundwater Sampling		Low-Flow Groundwater Sampling
Project Name					Well ID	
Project No.					Start Date	
Field Personnel					End Date	

WELL AND DEVELOPMENT / PURGE INFORMATION			
Casing ID	Stick Up	Purging Method	Tube/Pump Intake Depth
Screened Interval		Pump Make, Size, or Type	Pump Rate

DEPTH MEASUREMENTS				
	INITIAL		FINAL	
	Depth	Time	Depth	Time
Product				
Groundwater from Top of Casing				
Casing Base from Top of Casing				

VOLUME PRODUCTION INFORMATION				
Volume Type:		Borehole		Well Casing
Linear Feet of Water in Well				
Amount Equal to One Volume				
Total Volumes Produced				
Well Purged Dry?				

NOTES:

PHYSICOCHEMICAL PARAMETERS

Date	Time (24 hour)	Flow Rate (____)	No. of Vol Removed (#)	Volume Purged (gal)	Depth to Water (ft BTOC)	Drawdown (ft)	Temp (° C)	pH	Conduct. (mS/cm)	TDS (ppm)	Dissolv. Oxygen (ppm)	Eh (mV)	PID (ppm)	Turbid. (ntu)	Visual Clarity

GROUNDWATER DATA FORM

PROJECT INFORMATION						
EVENT				Groundwater Sampling		Low-Flow Groundwater Sampling
Project Name					Well ID	
Project No.					Start Date	
Field Personnel					End Date	

PHYSICOCHEMICAL PARAMETERS

Date	Time (24 hour)	Flow Rate (____)	No. of Vol. Removed (#)	Volume Purged (gal)	Depth to Water (ft BTOC)	Drawdown (ft)	Temp (°C)	pH	Conduct. (mS/cm)	TDS (ppm)	Dissolv. Oxygen (ppm)	Eh (mV)	PID (ppm)	Turbid. (ntu)	Visual Clarity

Well ID No. _____

APPENDIX F

AQUIFER HYDRAULIC TESTING GRAPHS AND DATA

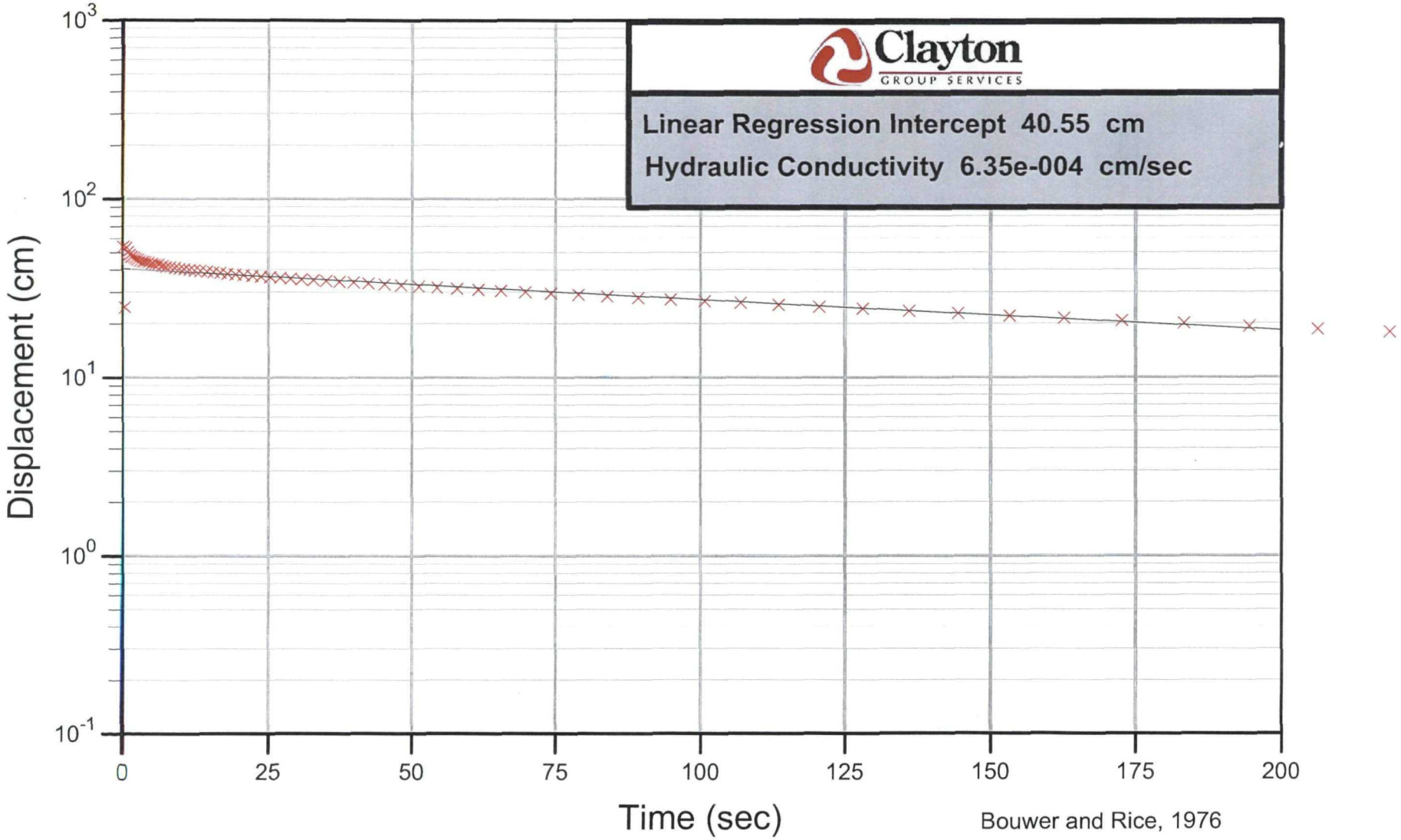
F-1 Graphs
F-2 Testing Data

BUREAU VERITAS

APPENDIX F-1

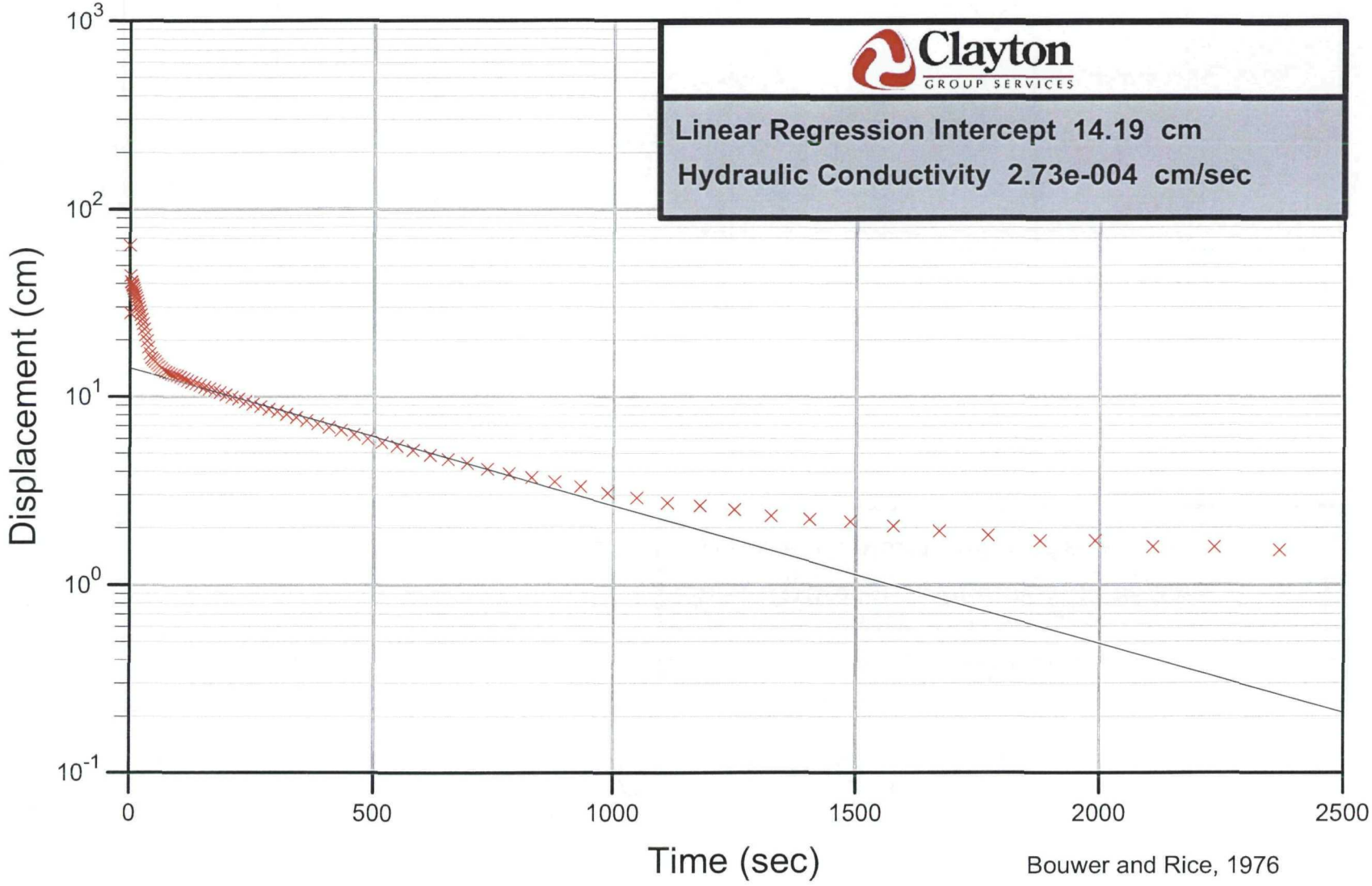
GRAPHS

HMW-04 Rising Head



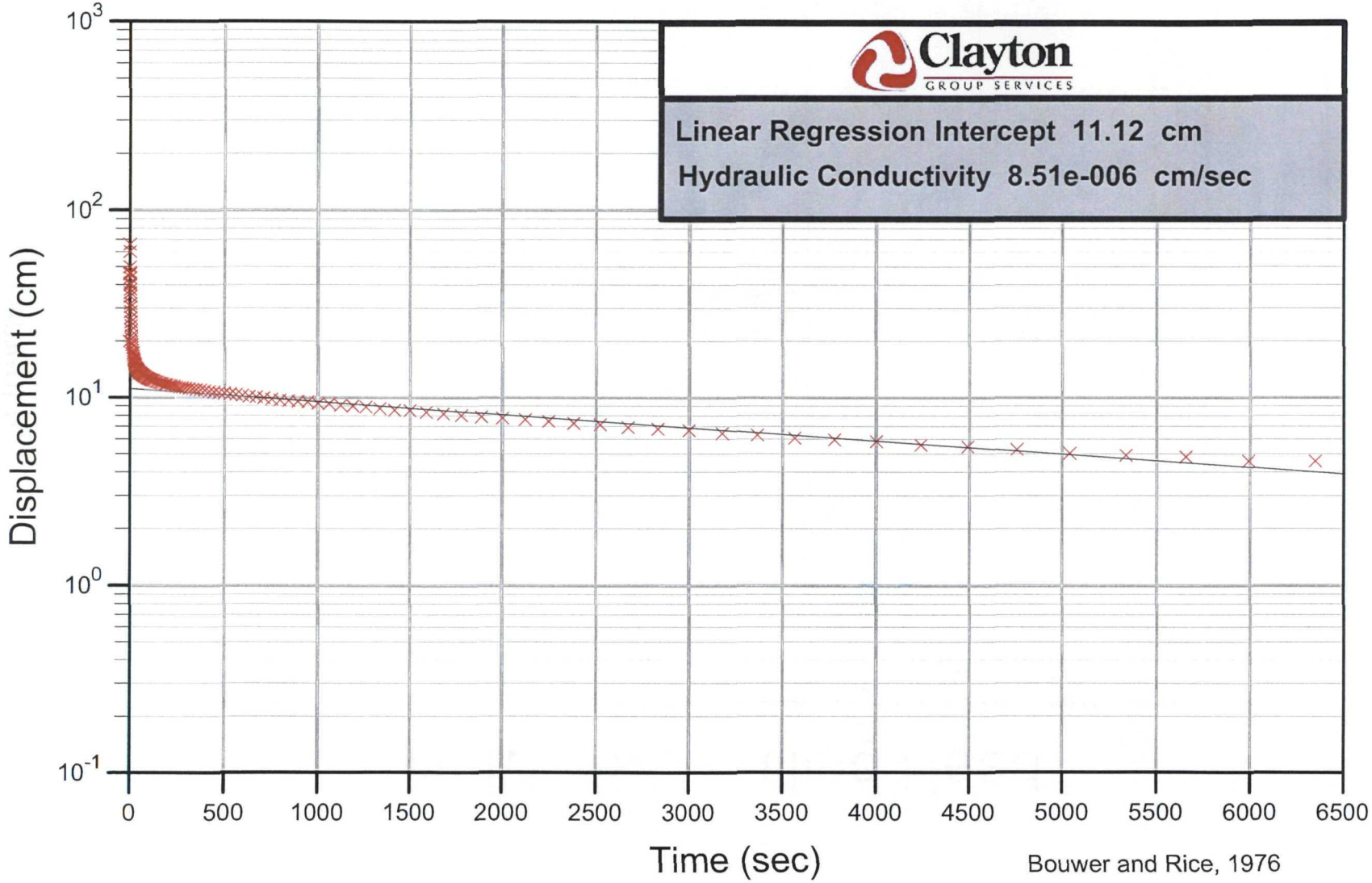
Bouwer and Rice, 1976

HMW-04 Falling Head



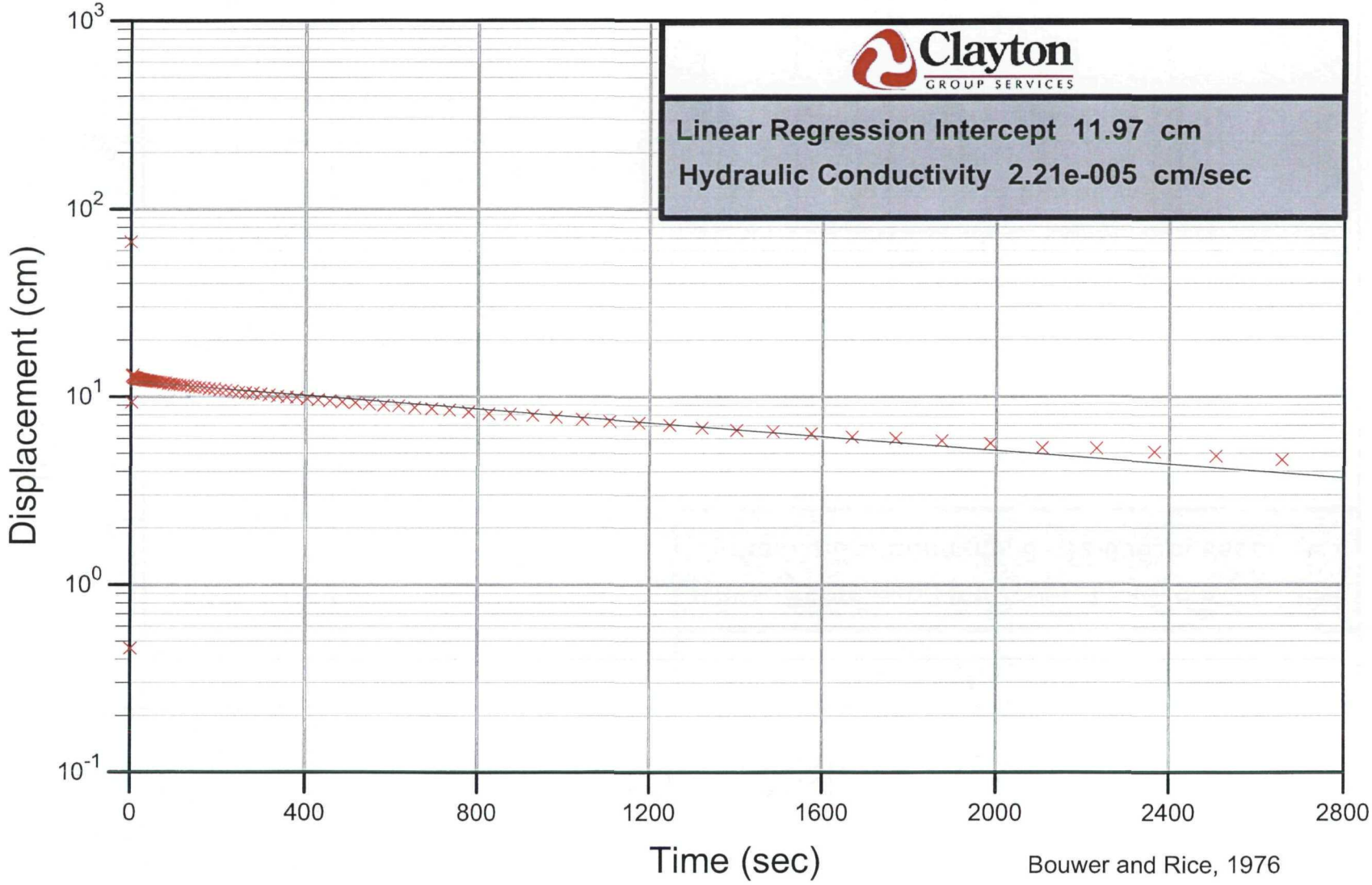
Bouwer and Rice, 1976

HMW-49C Rising Head



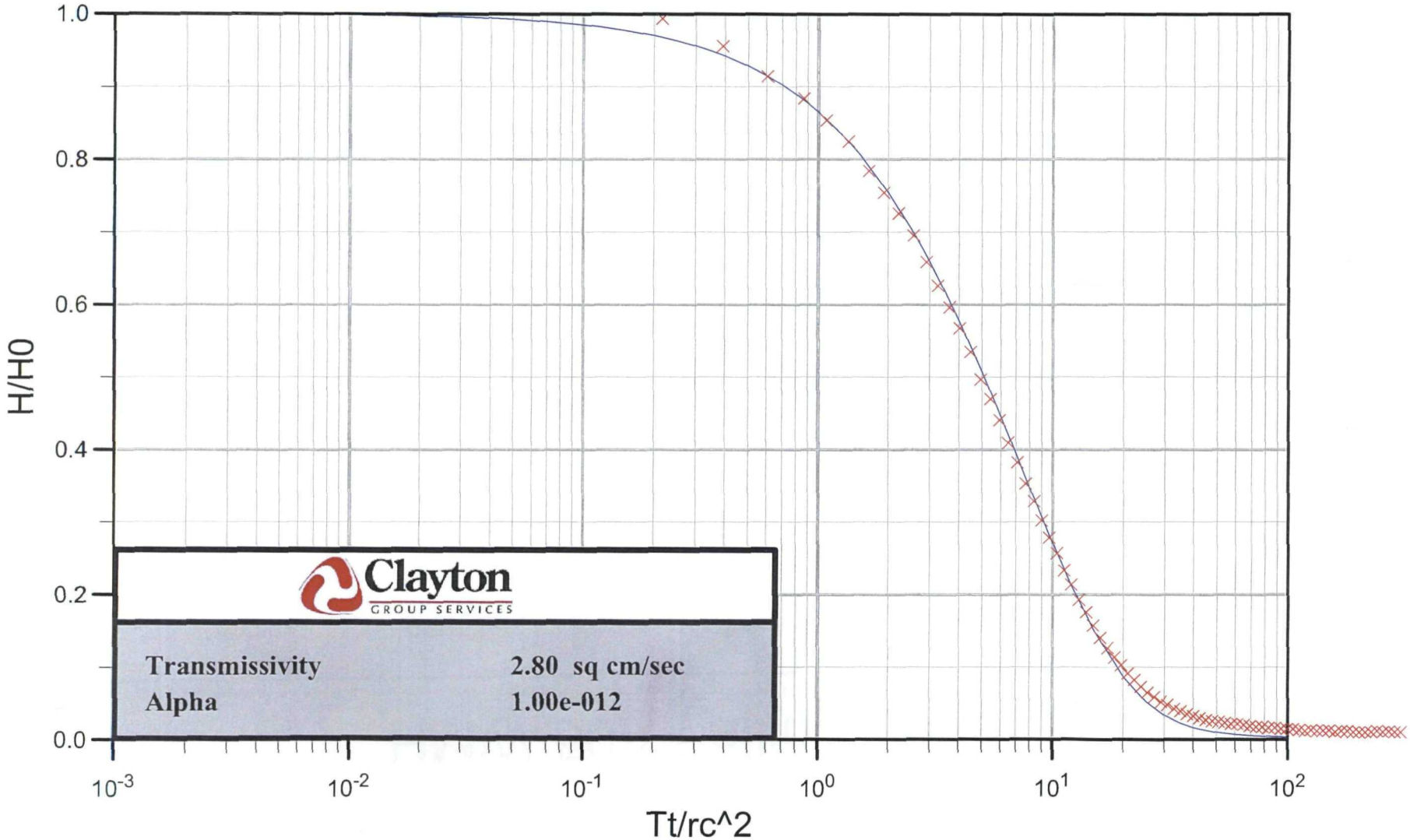
Bouwer and Rice, 1976

HMW-49C Falling Head

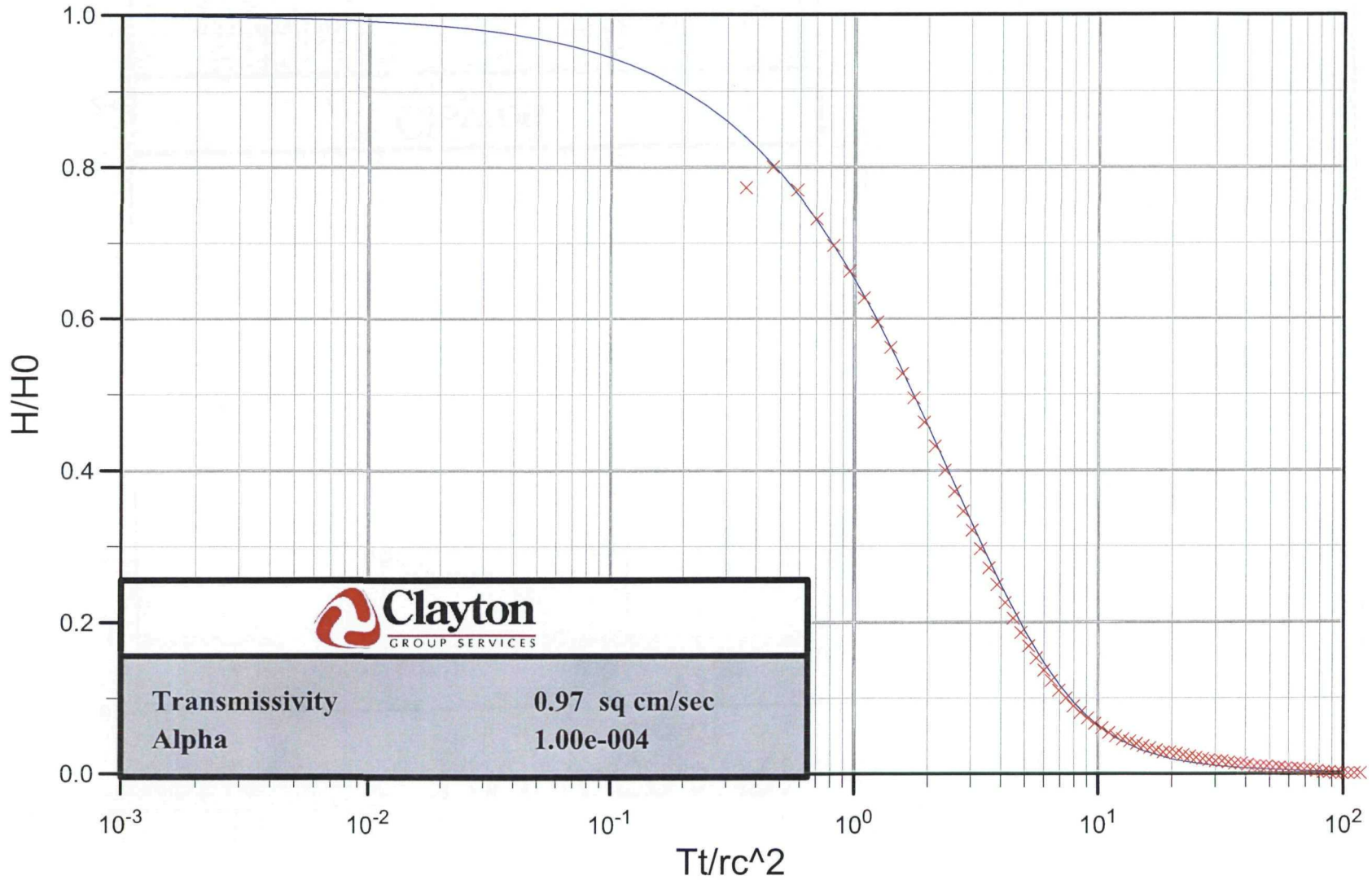


Bouwer and Rice, 1976

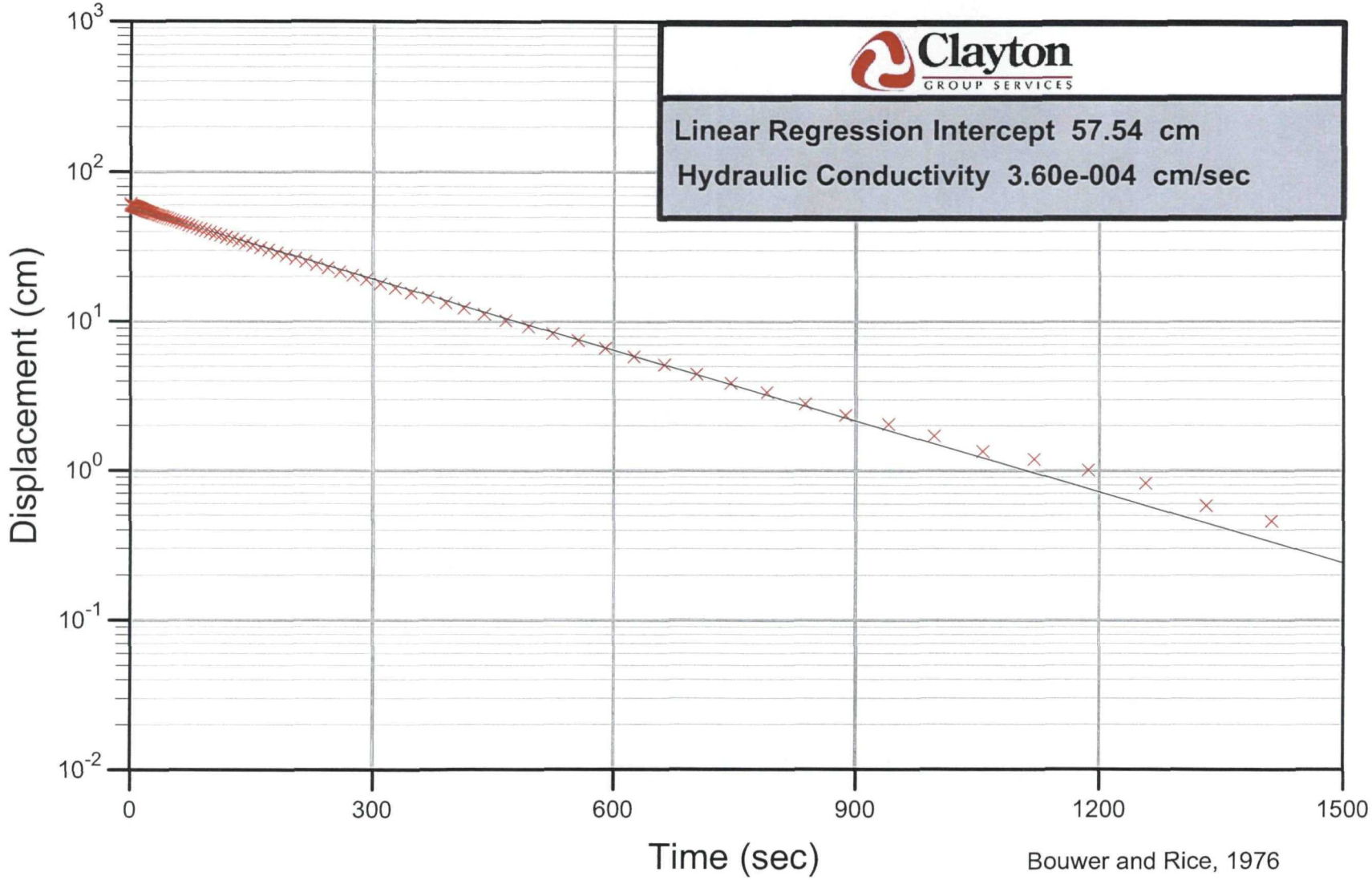
HMW-50A Rising Head



HMW-50A Falling Head

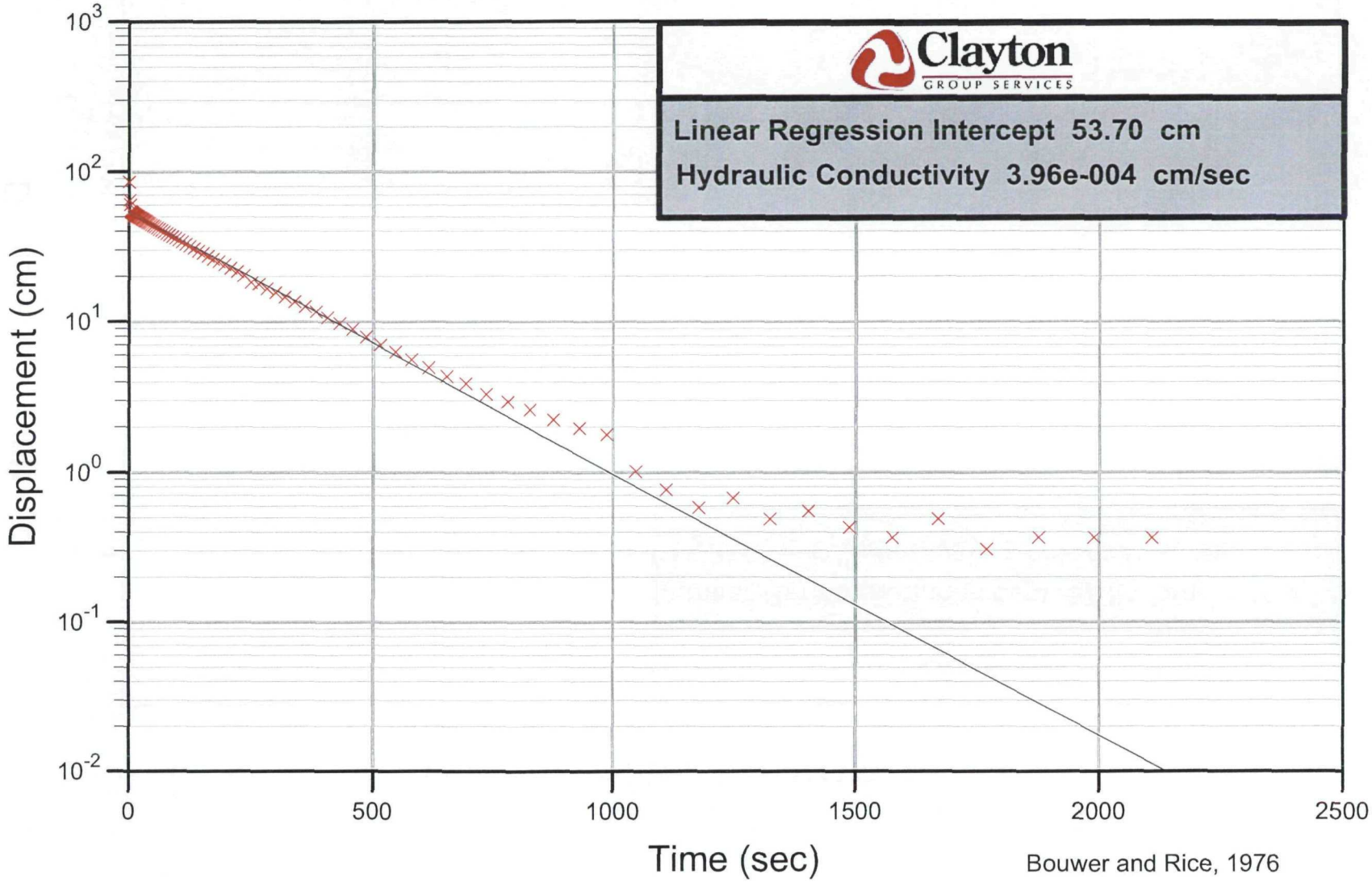


HMW-50B Rising Head



Bouwer and Rice, 1976

HMW-50B Falling Head



Bouwer and Rice, 1976

BUREAU VERITAS

APPENDIX F-2

TESTING DATA

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:37:59
Report from file: ...\SN13058 2005-07-28 171442 HMW-4RH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-4RH

Test defined on: 7/28/2005 17:08:06
Test started on: 7/28/2005 17:14:42
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600.0 Seconds.
Number of data samples: 130

TOTAL DATA SAMPLES 130

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG.
Specific gravity: 1
Mode: TOC
User-defined reference: 16.74 Feet H2O
Referenced on: test start
Pressure head at reference: 8.356 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	17:14:42	59.48	0	16.74	510.2352	-4.5	0.3048
7/28/2005	17:14:42	59.5	0.3	16.735	510.0828	-4.2	0.1524
7/28/2005	17:14:43	59.53	0.6	16.731	509.9609	-3.9	0.03048
7/28/2005	17:14:43	59.53	0.9	16.731	509.9609	-3.6	0.03048
7/28/2005	17:14:43	59.55	1.2	16.73	509.9304	-3.3	0
7/28/2005	17:14:44	59.55	1.5	16.73	509.9304	-3	0
7/28/2005	17:14:44	59.55	1.8	16.73	509.9304	-2.7	0
7/28/2005	17:14:44	59.57	2.1	16.73	509.9304	-2.4	0
7/28/2005	17:14:44	59.57	2.4	16.73	509.9304	-2.1	0
7/28/2005	17:14:45	59.57	2.7	16.73	509.9304	-1.8	0
7/28/2005	17:14:45	59.57	3	16.73	509.9304	-1.5	0
7/28/2005	17:14:45	59.57	3.3	16.73	509.9304	-1.2	0
7/28/2005	17:14:46	59.57	3.6	16.73	509.9304	-0.9	0
7/28/2005	17:14:46	59.57	3.9	16.749	510.5095	-0.6	0.57912
7/28/2005	17:14:46	59.57	4.2	17.893	545.3786	-0.3	35.44824
7/28/2005	17:14:47	59.59	4.5	18.492	563.6362	0	53.70576
7/28/2005	17:14:47	59.59	4.8	17.539	534.5887	0.3	24.65832
7/28/2005	17:14:47	59.59	5.1	18.473	563.057	0.6	53.12664
7/28/2005	17:14:47	59.59	5.4	18.376	560.1005	0.9	50.17008
7/28/2005	17:14:48	59.59	5.7	18.315	558.2412	1.2	48.3108
7/28/2005	17:14:48	59.59	6	18.278	557.1134	1.5	47.18304
7/28/2005	17:14:48	59.59	6.4	18.261	556.5953	1.9	46.66488

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	17:14:49	59.59	6.7	18.236	555.8333	2.2	45.90288
7/28/2005	17:14:49	59.59	7.1	18.222	555.4066	2.6	45.47616
7/28/2005	17:14:50	59.59	7.5	18.197	554.6446	3	44.71416
7/28/2005	17:14:50	59.59	8	18.186	554.3093	3.5	44.37888
7/28/2005	17:14:50	59.59	8.4	18.176	554.0045	3.9	44.07408
7/28/2005	17:14:51	59.59	8.9	18.167	553.7302	4.4	43.79976
7/28/2005	17:14:52	59.59	9.5	18.149	553.1815	5	43.25112
7/28/2005	17:14:52	59.59	10	18.138	552.8462	5.5	42.91584
7/28/2005	17:14:53	59.57	10.6	18.132	552.6634	6.1	42.73296
7/28/2005	17:14:53	59.57	11.3	18.107	551.9014	6.8	41.97096
7/28/2005	17:14:54	59.57	11.9	18.091	551.4137	7.4	41.48328
7/28/2005	17:14:55	59.57	12.6	18.087	551.2918	8.1	41.36136
7/28/2005	17:14:55	59.57	13.4	18.072	550.8346	8.9	40.90416
7/28/2005	17:14:56	59.55	14.2	18.06	550.4688	9.7	40.5384
7/28/2005	17:14:57	59.55	15	18.054	550.2859	10.5	40.35552
7/28/2005	17:14:58	59.55	15.9	18.041	549.8897	11.4	39.95928
7/28/2005	17:14:59	59.55	16.8	18.029	549.5239	12.3	39.59352
7/28/2005	17:15:00	59.55	17.8	18.021	549.2801	13.3	39.34968
7/28/2005	17:15:01	59.55	18.9	18.008	548.8838	14.4	38.95344
7/28/2005	17:15:02	59.55	20	18	548.64	15.5	38.7096
7/28/2005	17:15:03	59.55	21.2	17.989	548.3047	16.7	38.37432
7/28/2005	17:15:04	59.53	22.4	17.973	547.817	17.9	37.88664
7/28/2005	17:15:06	59.53	23.8	17.963	547.5122	19.3	37.58184
7/28/2005	17:15:07	59.53	25.2	17.954	547.2379	20.7	37.30752
7/28/2005	17:15:09	59.53	26.7	17.942	546.8722	22.2	36.94176
7/28/2005	17:15:10	59.53	28.2	17.931	546.5369	23.7	36.60648
7/28/2005	17:15:12	59.53	29.8	17.923	546.293	25.3	36.36264
7/28/2005	17:15:14	59.53	31.5	17.907	545.8054	27	35.87496
7/28/2005	17:15:15	59.53	33.3	17.896	545.4701	28.8	35.53968
7/28/2005	17:15:17	59.53	35.2	17.886	545.1653	30.7	35.23488
7/28/2005	17:15:19	59.53	37.3	17.879	544.9519	32.8	35.02152
7/28/2005	17:15:22	59.53	39.5	17.865	544.5252	35	34.5948
7/28/2005	17:15:24	59.53	41.8	17.854	544.1899	37.3	34.25952
7/28/2005	17:15:26	59.53	44.3	17.84	543.7632	39.8	33.8328
7/28/2005	17:15:29	59.53	46.9	17.827	543.367	42.4	33.43656
7/28/2005	17:15:32	59.53	49.7	17.815	543.0012	45.2	33.0708
7/28/2005	17:15:35	59.5	52.6	17.801	542.5745	48.1	32.64408
7/28/2005	17:15:38	59.53	55.7	17.786	542.1173	51.2	32.18688
7/28/2005	17:15:41	59.5	59	17.772	541.6906	54.5	31.76016
7/28/2005	17:15:45	59.5	62.5	17.757	541.2334	58	31.30296
7/28/2005	17:15:48	59.5	66.2	17.743	540.8066	61.7	30.87624
7/28/2005	17:15:52	59.5	70.1	17.728	540.3494	65.6	30.41904
7/28/2005	17:15:56	59.5	74.3	17.713	539.8922	69.8	29.96184
7/28/2005	17:16:01	59.5	78.7	17.693	539.2826	74.2	29.35224
7/28/2005	17:16:05	59.5	83.4	17.678	538.8254	78.9	28.89504
7/28/2005	17:16:10	59.5	88.4	17.659	538.2463	83.9	28.31592
7/28/2005	17:16:16	59.5	93.7	17.641	537.6977	89.2	27.76728
7/28/2005	17:16:21	59.5	99.3	17.622	537.1186	94.8	27.18816
7/28/2005	17:16:27	59.48	105.2	17.604	536.5699	100.7	26.63952
7/28/2005	17:16:34	59.5	111.5	17.584	535.9603	107	26.02992
7/28/2005	17:16:40	59.48	118.1	17.564	535.3507	113.6	25.42032
7/28/2005	17:16:47	59.48	125.1	17.541	534.6497	120.6	24.71928
7/28/2005	17:16:55	59.48	132.6	17.522	534.0706	128.1	24.14016
7/28/2005	17:17:03	59.48	140.5	17.499	533.3695	136	23.43912
7/28/2005	17:17:11	59.48	148.9	17.475	532.638	144.4	22.7076
7/28/2005	17:17:20	59.48	157.8	17.452	531.937	153.3	22.00656
7/28/2005	17:17:29	59.48	167.2	17.431	531.2969	162.7	21.36648
7/28/2005	17:17:39	59.48	177.2	17.408	530.5958	172.7	20.66544
7/28/2005	17:17:50	59.48	187.8	17.385	529.8948	183.3	19.9644
7/28/2005	17:18:01	59.46	199	17.36	529.1328	194.5	19.2024
7/28/2005	17:18:13	59.48	210.9	17.337	528.4318	206.4	18.50136

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	17:18:26	59.46	223.5	17.313	527.7002	219	17.76984
7/28/2005	17:18:39	59.46	236.8	17.29	526.9992	232.3	17.0688
7/28/2005	17:18:53	59.46	250.9	17.267	526.2982	246.4	16.36776
7/28/2005	17:19:08	59.46	265.8	17.242	525.5362	261.3	15.60576
7/28/2005	17:19:24	59.46	281.6	17.221	524.8961	277.1	14.96568
7/28/2005	17:19:40	59.46	298.4	17.196	524.1341	293.9	14.20368
7/28/2005	17:19:58	59.46	316.2	17.175	523.494	311.7	13.5636
7/28/2005	17:20:17	59.46	335	17.154	522.8539	330.5	12.92352
7/28/2005	17:20:37	59.46	354.9	17.13	522.1224	350.4	12.192
7/28/2005	17:20:58	59.46	376	17.109	521.4823	371.5	11.55192
7/28/2005	17:21:20	59.46	398.4	17.09	520.9032	393.9	10.9728
7/28/2005	17:21:44	59.46	422.1	17.069	520.2631	417.6	10.33272
7/28/2005	17:22:09	59.46	447.2	17.05	519.684	442.7	9.7536
7/28/2005	17:22:36	59.46	473.8	17.03	519.0744	469.3	9.144
7/28/2005	17:23:04	59.46	502	17.011	518.4953	497.5	8.56488
7/28/2005	17:23:34	59.46	531.9	16.994	517.9771	527.4	8.04672
7/28/2005	17:24:06	59.43	563.5	16.976	517.4285	559	7.49808
7/28/2005	17:24:39	59.46	597	16.961	516.9713	592.5	7.04088
7/28/2005	17:25:15	59.43	632.5	16.947	516.5446	628	6.61416
7/28/2005	17:25:52	59.43	670.1	16.93	516.0264	665.6	6.096
7/28/2005	17:26:32	59.43	709.9	16.918	515.6606	705.4	5.73024
7/28/2005	17:27:14	59.43	752.1	16.905	515.2644	747.6	5.334
7/28/2005	17:27:59	59.43	796.8	16.895	514.9596	792.3	5.0292
7/28/2005	17:28:46	59.43	844.2	16.884	514.6243	839.7	4.69392
7/28/2005	17:29:36	59.43	894.4	16.872	514.2586	889.9	4.32816
7/28/2005	17:30:30	59.43	947.5	16.863	513.9842	943	4.05384
7/28/2005	17:31:26	59.43	1003.8	16.855	513.7404	999.3	3.81
7/28/2005	17:32:25	59.43	1063.4	16.847	513.4966	1058.9	3.56616
7/28/2005	17:33:29	59.43	1126.6	16.839	513.2527	1122.1	3.32232
7/28/2005	17:34:36	59.43	1193.5	16.83	512.9784	1189	3.048
7/28/2005	17:35:46	59.41	1264.4	16.822	512.7346	1259.9	2.80416
7/28/2005	17:37:02	59.41	1339.5	16.818	512.6126	1335	2.68224
7/28/2005	17:38:21	59.41	1419	16.808	512.3078	1414.5	2.37744
7/28/2005	17:39:45	59.41	1503.3	16.804	512.1859	1498.8	2.25552
7/28/2005	17:41:15	59.41	1592.6	16.801	512.0945	1588.1	2.16408
7/28/2005	17:42:49	59.41	1687.1	16.793	511.8506	1682.6	1.92024
7/28/2005	17:44:29	59.41	1787.2	16.789	511.7287	1782.7	1.79832
7/28/2005	17:46:15	59.41	1893.3	16.787	511.6678	1888.8	1.73736
7/28/2005	17:48:08	59.41	2005.7	16.781	511.4849	2001.2	1.55448
7/28/2005	17:50:07	59.41	2124.7	16.777	511.363	2120.2	1.43256
7/28/2005	17:52:13	59.39	2250.8	16.775	511.302	2246.3	1.3716
7/28/2005	17:54:26	59.39	2384.4	16.773	511.241	2379.9	1.31064
7/28/2005	17:56:48	59.41	2525.9	16.77	511.1496	2521.4	1.2192
7/28/2005	17:59:18	59.41	2675.8	16.77	511.1496	2671.3	1.2192
7/28/2005	18:01:57	59.39	2834.6	16.767	511.0582	2830.1	1.12776
7/28/2005	18:04:45	59.39	3002.8	16.767	511.0582	2998.3	1.12776
7/28/2005	18:07:43	59.39	3180.9	16.767	511.0582	3176.4	1.12776

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:36:49
Report from file: ...\SN13058 2005-07-28 162429 HMW-4FH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-4FH

Test defined on: 7/28/2005 16:17:40
Test started on: 7/28/2005 16:24:29
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 500.0 Seconds.
Number of data samples: 125

TOTAL DATA SAMPLES 125

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG
Specific gravity: 1
Mode: TOC
User-defined reference: 16.85 Feet H2O
Referenced on: test start
Pressure head at reference: 8.295 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	16:24:29	59.69	0	16.85	513.588	-15	-0.42672
7/28/2005	16:24:29	59.71	0.3	16.843	513.3746	-14.7	-0.21336
7/28/2005	16:24:30	59.73	0.6	16.839	513.2527	-14.4	-0.09144
7/28/2005	16:24:30	59.75	0.9	16.838	513.2222	-14.1	-0.06096
7/28/2005	16:24:30	59.75	1.2	16.836	513.1613	-13.8	0
7/28/2005	16:24:31	59.78	1.5	16.836	513.1613	-13.5	0
7/28/2005	16:24:31	59.78	1.8	16.836	513.1613	-13.2	0
7/28/2005	16:24:31	59.78	2.1	16.836	513.1613	-12.9	0
7/28/2005	16:24:32	59.78	2.4	16.836	513.1613	-12.6	0
7/28/2005	16:24:32	59.78	2.7	16.836	513.1613	-12.3	0
7/28/2005	16:24:32	59.8	3	16.836	513.1613	-12	0
7/28/2005	16:24:32	59.8	3.3	16.836	513.1613	-11.7	0
7/28/2005	16:24:33	59.8	3.6	16.836	513.1613	-11.4	0
7/28/2005	16:24:33	59.8	3.9	16.836	513.1613	-11.1	0
7/28/2005	16:24:33	59.8	4.2	16.836	513.1613	-10.8	0
7/28/2005	16:24:34	59.8	4.5	16.836	513.1613	-10.5	0
7/28/2005	16:24:34	59.8	4.8	16.836	513.1613	-10.2	0
7/28/2005	16:24:34	59.8	5.1	16.836	513.1613	-9.9	0
7/28/2005	16:24:35	59.8	5.4	16.836	513.1613	-9.6	0
7/28/2005	16:24:35	59.8	5.7	16.836	513.1613	-9.3	0
7/28/2005	16:24:35	59.8	6	16.827	512.887	-9	0.27432
7/28/2005	16:24:35	59.8	6.4	16.827	512.887	-8.6	0.27432

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	16:24:36	59.82	6.7	16.839	513.2527	-8.3	-0.09144
7/28/2005	16:24:36	59.82	7.1	16.825	512.826	-7.9	0.33528
7/28/2005	16:24:37	59.82	7.5	16.827	512.887	-7.5	0.27432
7/28/2005	16:24:37	59.82	8	16.841	513.3137	-7	-0.1524
7/28/2005	16:24:38	59.82	8.4	16.833	513.0698	-6.6	0.09144
7/28/2005	16:24:38	59.82	8.9	16.835	513.1308	-6.1	0.03048
7/28/2005	16:24:39	59.82	9.5	16.829	512.9479	-5.5	0.21336
7/28/2005	16:24:39	59.8	10	16.834	513.1003	-5	0.06096
7/28/2005	16:24:40	59.8	10.6	16.836	513.1613	-4.4	0
7/28/2005	16:24:40	59.78	11.3	16.836	513.1613	-3.7	0
7/28/2005	16:24:41	59.78	11.9	16.842	513.3442	-3.1	-0.18288
7/28/2005	16:24:42	59.78	12.6	16.84	513.2832	-2.4	-0.12192
7/28/2005	16:24:42	59.78	13.4	16.187	493.3798	-1.6	19.78152
7/28/2005	16:24:43	59.78	14.2	15.737	479.6638	-0.8	33.49752
7/28/2005	16:24:44	59.78	15	14.726	448.8485	0	64.3128
7/28/2005	16:24:45	59.75	15.9	15.921	485.2721	0.9	27.8892
7/28/2005	16:24:46	59.75	16.8	15.388	469.0262	1.8	44.13504
7/28/2005	16:24:47	59.75	17.8	15.49	472.1352	2.8	41.02608
7/28/2005	16:24:48	59.75	18.9	15.503	472.5314	3.9	40.62984
7/28/2005	16:24:49	59.75	20	15.536	473.5373	5	39.624
7/28/2005	16:24:50	59.75	21.2	15.565	474.4212	6.2	38.74008
7/28/2005	16:24:52	59.75	22.4	15.598	475.427	7.4	37.73424
7/28/2005	16:24:53	59.75	23.8	15.632	476.4634	8.8	36.69792
7/28/2005	16:24:54	59.75	25.2	15.667	477.5302	10.2	35.63112
7/28/2005	16:24:56	59.75	26.7	15.704	478.6579	11.7	34.50336
7/28/2005	16:24:57	59.75	28.2	15.738	479.6942	13.2	33.46704
7/28/2005	16:24:59	59.75	29.8	15.777	480.883	14.8	32.27832
7/28/2005	16:25:01	59.75	31.5	15.817	482.1022	16.5	31.05912
7/28/2005	16:25:02	59.73	33.3	15.857	483.3214	18.3	29.83992
7/28/2005	16:25:04	59.73	35.2	15.898	484.571	20.2	28.59024
7/28/2005	16:25:06	59.73	37.3	15.942	485.9122	22.3	27.24912
7/28/2005	16:25:09	59.73	39.5	15.988	487.3142	24.5	25.84704
7/28/2005	16:25:11	59.73	41.8	16.034	488.7163	26.8	24.44496
7/28/2005	16:25:13	59.73	44.3	16.084	490.2403	29.3	22.92096
7/28/2005	16:25:16	59.73	46.9	16.135	491.7948	31.9	21.36648
7/28/2005	16:25:19	59.73	49.7	16.185	493.3188	34.7	19.84248
7/28/2005	16:25:22	59.73	52.6	16.235	494.8428	37.6	18.31848
7/28/2005	16:25:25	59.73	55.7	16.279	496.1839	40.7	16.97736
7/28/2005	16:25:28	59.71	59	16.306	497.0069	44	16.1544
7/28/2005	16:25:32	59.71	62.5	16.319	497.4031	47.5	15.75816
7/28/2005	16:25:35	59.71	66.2	16.332	497.7994	51.2	15.36192
7/28/2005	16:25:39	59.71	70.1	16.346	498.2261	55.1	14.9352
7/28/2005	16:25:43	59.71	74.3	16.357	498.5614	59.3	14.59992
7/28/2005	16:25:48	59.71	78.7	16.369	498.9271	63.7	14.23416
7/28/2005	16:25:52	59.71	83.4	16.381	499.2929	68.4	13.8684
7/28/2005	16:25:57	59.71	88.4	16.39	499.5672	73.4	13.59408
7/28/2005	16:26:03	59.71	93.7	16.396	499.7501	78.7	13.4112
7/28/2005	16:26:08	59.71	99.3	16.402	499.933	84.3	13.22832
7/28/2005	16:26:14	59.71	105.2	16.408	500.1158	90.2	13.04544
7/28/2005	16:26:21	59.69	111.5	16.411	500.2073	96.5	12.954
7/28/2005	16:26:27	59.69	118.1	16.419	500.4511	103.1	12.71016
7/28/2005	16:26:34	59.69	125.1	16.426	500.6645	110.1	12.4968
7/28/2005	16:26:42	59.69	132.6	16.436	500.9693	117.6	12.192
7/28/2005	16:26:50	59.69	140.5	16.444	501.2131	125.5	11.94816
7/28/2005	16:26:58	59.69	148.9	16.451	501.4265	133.9	11.7348
7/28/2005	16:27:07	59.69	157.8	16.459	501.6703	142.8	11.49096
7/28/2005	16:27:16	59.69	167.2	16.467	501.9142	152.2	11.24712
7/28/2005	16:27:26	59.69	177.2	16.475	502.158	162.2	11.00328
7/28/2005	16:27:37	59.69	187.8	16.482	502.3714	172.8	10.78992
7/28/2005	16:27:48	59.69	199	16.49	502.6152	184	10.54608
7/28/2005	16:28:00	59.69	210.9	16.5	502.92	195.9	10.24128

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	16:28:13	59.69	223.5	16.509	503.1943	208.5	9.96696
7/28/2005	16:28:26	59.69	236.8	16.517	503.4382	221.8	9.72312
7/28/2005	16:28:40	59.69	250.9	16.527	503.743	235.9	9.41832
7/28/2005	16:28:55	59.69	265.8	16.536	504.0173	250.8	9.144
7/28/2005	16:29:11	59.69	281.6	16.546	504.3221	266.6	8.8392
7/28/2005	16:29:27	59.69	298.4	16.555	504.5964	283.4	8.56488
7/28/2005	16:29:45	59.69	316.2	16.563	504.8402	301.2	8.32104
7/28/2005	16:30:04	59.66	335	16.572	505.1146	320	8.04672
7/28/2005	16:30:24	59.66	354.9	16.582	505.4194	339.9	7.74192
7/28/2005	16:30:45	59.66	376	16.592	505.7242	361	7.43712
7/28/2005	16:31:07	59.66	398.4	16.601	505.9985	383.4	7.1628
7/28/2005	16:31:31	59.66	422.1	16.611	506.3033	407.1	6.858
7/28/2005	16:31:56	59.66	447.2	16.619	506.5471	432.2	6.61416
7/28/2005	16:32:23	59.66	473.8	16.63	506.8824	458.8	6.27888
7/28/2005	16:32:51	59.66	502	16.64	507.1872	487	5.97408
7/28/2005	16:33:21	59.64	531.9	16.649	507.4615	516.9	5.69976
7/28/2005	16:33:53	59.66	563.5	16.657	507.7054	548.5	5.45592
7/28/2005	16:34:26	59.64	597	16.666	507.9797	582	5.1816
7/28/2005	16:35:02	59.64	632.5	16.676	508.2845	617.5	4.8768
7/28/2005	16:35:39	59.64	670.1	16.684	508.5283	655.1	4.63296
7/28/2005	16:36:19	59.64	709.9	16.691	508.7417	694.9	4.4196
7/28/2005	16:37:01	59.62	752.1	16.701	509.0465	737.1	4.1148
7/28/2005	16:37:46	59.62	796.8	16.708	509.2598	781.8	3.90144
7/28/2005	16:38:33	59.62	844.2	16.714	509.4427	829.2	3.71856
7/28/2005	16:39:23	59.62	894.4	16.72	509.6256	879.4	3.53568
7/28/2005	16:40:17	59.59	947.5	16.727	509.839	932.5	3.32232
7/28/2005	16:41:13	59.59	1003.8	16.735	510.0828	988.8	3.07848
7/28/2005	16:42:12	59.59	1063.4	16.741	510.2657	1048.4	2.8956
7/28/2005	16:43:16	59.59	1126.6	16.747	510.4486	1111.6	2.71272
7/28/2005	16:44:23	59.57	1193.5	16.75	510.54	1178.5	2.62128
7/28/2005	16:45:33	59.57	1264.4	16.754	510.6619	1249.4	2.49936
7/28/2005	16:46:49	59.57	1339.5	16.76	510.8448	1324.5	2.31648
7/28/2005	16:48:08	59.57	1419	16.763	510.9362	1404	2.22504
7/28/2005	16:49:32	59.55	1503.3	16.765	510.9972	1488.3	2.16408
7/28/2005	16:51:02	59.55	1592.6	16.769	511.1191	1577.6	2.04216
7/28/2005	16:52:36	59.55	1687.1	16.773	511.241	1672.1	1.92024
7/28/2005	16:54:16	59.53	1787.2	16.776	511.3325	1772.2	1.8288
7/28/2005	16:56:02	59.53	1893.3	16.78	511.4544	1878.3	1.70688
7/28/2005	16:57:55	59.53	2005.7	16.78	511.4544	1990.7	1.70688
7/28/2005	16:59:54	59.5	2124.7	16.784	511.5763	2109.7	1.58496
7/28/2005	17:02:00	59.5	2250.8	16.784	511.5763	2235.8	1.58496
7/28/2005	17:04:13	59.5	2384.4	16.786	511.6373	2369.4	1.524

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:36:05
Report from file: ...\SN13058 2005-07-28 123630 HMW-49CRH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-49CRH

Test defined on: 7/28/2005 12:30:20
Test started on: 7/28/2005 12:36:30
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600.0 Seconds.
Number of data samples: 142

TOTAL DATA SAMPLES 142

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG.
Specific gravity: 1
Mode: TOC
User-defined reference: 31.25 Feet H2O
Referenced on: test start
Pressure head at reference: 7.587 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	12:36:30	61.93	0	31.25	952.5	-3.6	0
7/28/2005	12:36:30	61.95	0.3	31.247	952.4086	-3.3	-0.09144
7/28/2005	12:36:31	61.97	0.6	31.243	952.2866	-3	-0.21336
7/28/2005	12:36:31	61.97	0.9	31.243	952.2866	-2.7	-0.21336
7/28/2005	12:36:31	61.99	1.2	31.241	952.2257	-2.4	-0.27432
7/28/2005	12:36:32	61.99	1.5	31.241	952.2257	-2.1	-0.27432
7/28/2005	12:36:32	61.99	1.8	31.243	952.2866	-1.8	-0.21336
7/28/2005	12:36:32	61.99	2.1	31.241	952.2257	-1.5	-0.27432
7/28/2005	12:36:32	62.02	2.4	31.242	952.2562	-1.2	-0.24384
7/28/2005	12:36:33	62.02	2.7	31.33	954.9384	-0.9	2.4384
7/28/2005	12:36:33	62.02	3	31.846	970.6661	-0.6	18.16608
7/28/2005	12:36:33	62.02	3.3	32.83	1000.658	-0.3	48.1584
7/28/2005	12:36:34	62.02	3.6	33.413	1018.428	0	65.92824
7/28/2005	12:36:34	62.02	3.9	31.904	972.4339	0.3	19.93392
7/28/2005	12:36:34	62.04	4.2	32.757	998.4334	0.6	45.93336
7/28/2005	12:36:35	62.02	4.5	33.229	1012.82	0.9	60.31992
7/28/2005	12:36:35	62.02	4.8	32.749	998.1895	1.2	45.68952
7/28/2005	12:36:35	62.04	5.1	32.888	1002.426	1.5	49.92624
7/28/2005	12:36:35	62.04	5.4	32.784	999.2563	1.8	46.75632
7/28/2005	12:36:36	62.04	5.7	32.68	996.0864	2.1	43.5864
7/28/2005	12:36:36	62.04	6	32.757	998.4334	2.4	45.93336
7/28/2005	12:36:36	62.04	6.4	32.561	992.4593	2.8	39.95928

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	12:36:37	62.04	6.7	32.592	993.4042	3.1	40.90416
7/28/2005	12:36:37	62.04	7.1	32.488	990.2342	3.5	37.73424
7/28/2005	12:36:38	62.04	7.5	32.438	988.7102	3.9	36.21024
7/28/2005	12:36:38	62.04	8	32.389	987.2167	4.4	34.71672
7/28/2005	12:36:38	62.04	8.4	32.289	984.1687	4.8	31.66872
7/28/2005	12:36:39	62.04	8.9	32.247	982.8886	5.3	30.38856
7/28/2005	12:36:39	62.04	9.5	32.191	981.1817	5.9	28.68168
7/28/2005	12:36:40	62.02	10	32.123	979.109	6.4	26.60904
7/28/2005	12:36:41	62.02	10.6	32.079	977.7679	7	25.26792
7/28/2005	12:36:41	62.02	11.3	32.043	976.6706	7.7	24.17064
7/28/2005	12:36:42	62.02	11.9	31.998	975.299	8.3	22.79904
7/28/2005	12:36:43	62.02	12.6	31.95	973.836	9	21.336
7/28/2005	12:36:43	61.99	13.4	31.925	973.074	9.8	20.574
7/28/2005	12:36:44	61.99	14.2	31.896	972.1901	10.6	19.69008
7/28/2005	12:36:45	61.99	15	31.879	971.6719	11.4	19.17192
7/28/2005	12:36:46	61.99	15.9	31.856	970.9709	12.3	18.47088
7/28/2005	12:36:47	61.99	16.8	31.834	970.3003	13.2	17.80032
7/28/2005	12:36:48	61.99	17.8	31.813	969.6602	14.2	17.16024
7/28/2005	12:36:49	61.97	18.9	31.819	969.8431	15.3	17.34312
7/28/2005	12:36:50	61.99	20	31.8	969.264	16.4	16.764
7/28/2005	12:36:51	61.97	21.2	31.786	968.8373	17.6	16.33728
7/28/2005	12:36:52	61.97	22.4	31.776	968.5325	18.8	16.03248
7/28/2005	12:36:54	61.97	23.8	31.769	968.3191	20.2	15.81912
7/28/2005	12:36:55	61.97	25.2	31.761	968.0753	21.6	15.57528
7/28/2005	12:36:57	61.97	26.7	31.753	967.8314	23.1	15.33144
7/28/2005	12:36:58	61.97	28.2	31.747	967.6486	24.6	15.14856
7/28/2005	12:37:00	61.97	29.8	31.742	967.4962	26.2	14.99616
7/28/2005	12:37:01	61.97	31.5	31.74	967.4352	27.9	14.9352
7/28/2005	12:37:03	61.97	33.3	31.732	967.1914	29.7	14.69136
7/28/2005	12:37:05	61.97	35.2	31.726	967.0085	31.6	14.50848
7/28/2005	12:37:07	61.97	37.3	31.722	966.8866	33.7	14.38656
7/28/2005	12:37:09	61.97	39.5	31.717	966.7342	35.9	14.23416
7/28/2005	12:37:12	61.97	41.8	31.713	966.6122	38.2	14.11224
7/28/2005	12:37:14	61.97	44.3	31.709	966.4903	40.7	13.99032
7/28/2005	12:37:17	61.97	46.9	31.707	966.4294	43.3	13.92936
7/28/2005	12:37:20	61.95	49.7	31.703	966.3074	46.1	13.80744
7/28/2005	12:37:23	61.95	52.6	31.697	966.1246	49	13.62456
7/28/2005	12:37:26	61.95	55.7	31.695	966.0636	52.1	13.5636
7/28/2005	12:37:29	61.95	59	31.693	966.0026	55.4	13.50264
7/28/2005	12:37:32	61.95	62.5	31.689	965.8807	58.9	13.38072
7/28/2005	12:37:36	61.95	66.2	31.687	965.8198	62.6	13.31976
7/28/2005	12:37:40	61.95	70.1	31.683	965.6978	66.5	13.19784
7/28/2005	12:37:44	61.95	74.3	31.682	965.6674	70.7	13.16736
7/28/2005	12:37:49	61.95	78.7	31.678	965.5454	75.1	13.04544
7/28/2005	12:37:53	61.95	83.4	31.676	965.4845	79.8	12.98448
7/28/2005	12:37:58	61.95	88.4	31.672	965.3626	84.8	12.86256
7/28/2005	12:38:04	61.95	93.7	31.668	965.2406	90.1	12.74064
7/28/2005	12:38:09	61.93	99.3	31.666	965.1797	95.7	12.67968
7/28/2005	12:38:15	61.95	105.2	31.664	965.1187	101.6	12.61872
7/28/2005	12:38:21	61.93	111.5	31.66	964.9968	107.9	12.4968
7/28/2005	12:38:28	61.95	118.1	31.658	964.9358	114.5	12.43584
7/28/2005	12:38:35	61.95	125.1	31.657	964.9054	121.5	12.40536
7/28/2005	12:38:43	61.93	132.6	31.654	964.8139	129	12.31392
7/28/2005	12:38:50	61.93	140.5	31.65	964.692	136.9	12.192
7/28/2005	12:38:59	61.93	148.9	31.648	964.631	145.3	12.13104
7/28/2005	12:39:08	61.93	157.8	31.645	964.5396	154.2	12.0396
7/28/2005	12:39:17	61.93	167.2	31.643	964.4786	163.6	11.97864
7/28/2005	12:39:27	61.93	177.2	31.641	964.4177	173.6	11.91768
7/28/2005	12:39:38	61.93	187.8	31.637	964.2958	184.2	11.79576
7/28/2005	12:39:49	61.93	199	31.635	964.2348	195.4	11.7348
7/28/2005	12:40:01	61.93	210.9	31.633	964.1738	207.3	11.67384

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	12:40:13	61.93	223.5	31.631	964.1129	219.9	11.61288
7/28/2005	12:40:27	61.93	236.8	31.629	964.0519	233.2	11.55192
7/28/2005	12:40:41	61.93	250.9	31.625	963.93	247.3	11.43
7/28/2005	12:40:56	61.95	265.8	31.622	963.8386	262.2	11.33856
7/28/2005	12:41:12	61.95	281.6	31.622	963.8386	278	11.33856
7/28/2005	12:41:28	61.97	298.4	31.62	963.7776	294.8	11.2776
7/28/2005	12:41:46	61.97	316.2	31.618	963.7166	312.6	11.21664
7/28/2005	12:42:05	61.97	335	31.615	963.6252	331.4	11.1252
7/28/2005	12:42:25	61.99	354.9	31.613	963.5642	351.3	11.06424
7/28/2005	12:42:46	61.99	376	31.611	963.5033	372.4	11.00328
7/28/2005	12:43:08	62.02	398.4	31.609	963.4423	394.8	10.94232
7/28/2005	12:43:32	62.02	422.1	31.604	963.2899	418.5	10.78992
7/28/2005	12:43:57	62.04	447.2	31.602	963.229	443.6	10.72896
7/28/2005	12:44:24	62.06	473.8	31.599	963.1375	470.2	10.63752
7/28/2005	12:44:52	62.06	502	31.597	963.0766	498.4	10.57656
7/28/2005	12:45:22	62.09	531.9	31.593	962.9546	528.3	10.45464
7/28/2005	12:45:53	62.13	563.5	31.59	962.8632	559.9	10.3632
7/28/2005	12:46:27	62.15	597	31.587	962.7718	593.4	10.27176
7/28/2005	12:47:02	62.15	632.5	31.583	962.6498	628.9	10.14984
7/28/2005	12:47:40	62.18	670.1	31.581	962.5889	666.5	10.08888
7/28/2005	12:48:20	62.18	709.9	31.577	962.467	706.3	9.96696
7/28/2005	12:49:02	62.18	752.1	31.572	962.3146	748.5	9.81456
7/28/2005	12:49:47	62.2	796.8	31.568	962.1926	793.2	9.69264
7/28/2005	12:50:34	62.22	844.2	31.566	962.1317	840.6	9.63168
7/28/2005	12:51:24	62.22	894.4	31.563	962.0402	890.8	9.54024
7/28/2005	12:52:17	62.24	947.5	31.561	961.9793	943.9	9.47928
7/28/2005	12:53:14	62.24	1003.8	31.555	961.7964	1000.2	9.2964
7/28/2005	12:54:13	62.27	1063.4	31.554	961.7659	1059.8	9.26592
7/28/2005	12:55:17	62.27	1126.6	31.548	961.583	1123	9.08304
7/28/2005	12:56:23	62.27	1193.5	31.546	961.5221	1189.9	9.02208
7/28/2005	12:57:34	62.27	1264.4	31.542	961.4002	1260.8	8.90016
7/28/2005	12:58:49	62.29	1339.5	31.537	961.2478	1335.9	8.74776
7/28/2005	13:00:09	62.31	1419	31.531	961.0649	1415.4	8.56488
7/28/2005	13:01:33	62.34	1503.3	31.53	961.0344	1499.7	8.5344
7/28/2005	13:03:03	62.34	1592.6	31.524	960.8515	1589	8.35152
7/28/2005	13:04:37	62.36	1687.1	31.519	960.6991	1683.5	8.19912
7/28/2005	13:06:17	62.38	1787.2	31.513	960.5162	1783.6	8.01624
7/28/2005	13:08:03	62.38	1893.3	31.509	960.3943	1889.7	7.89432
7/28/2005	13:09:56	62.38	2005.7	31.505	960.2724	2002.1	7.7724
7/28/2005	13:11:55	62.38	2124.7	31.5	960.12	2121.1	7.62
7/28/2005	13:14:01	62.36	2250.8	31.495	959.9676	2247.2	7.4676
7/28/2005	13:16:14	62.34	2384.4	31.489	959.7847	2380.8	7.28472
7/28/2005	13:18:36	62.34	2525.9	31.485	959.6628	2522.3	7.1628
7/28/2005	13:21:06	62.31	2675.8	31.477	959.419	2672.2	6.91896
7/28/2005	13:23:45	62.29	2834.6	31.473	959.297	2831	6.79704
7/28/2005	13:26:33	62.29	3002.8	31.469	959.1751	2999.2	6.67512
7/28/2005	13:29:31	62.27	3180.9	31.461	958.9313	3177.3	6.43128
7/28/2005	13:32:40	62.27	3369.6	31.457	958.8094	3366	6.30936
7/28/2005	13:35:59	62.24	3569.5	31.449	958.5655	3565.9	6.06552
7/28/2005	13:39:31	62.22	3781.2	31.445	958.4436	3777.6	5.9436
7/28/2005	13:43:15	62.2	4005.5	31.441	958.3217	4001.9	5.82168
7/28/2005	13:47:13	62.18	4243.1	31.433	958.0778	4239.5	5.57784
7/28/2005	13:51:25	62.18	4494.7	31.429	957.9559	4491.1	5.45592
7/28/2005	13:55:51	62.18	4761.3	31.423	957.773	4757.7	5.27304
7/28/2005	14:00:34	62.15	5043.7	31.415	957.5292	5040.1	5.0292
7/28/2005	14:05:33	62.15	5342.8	31.411	957.4073	5339.2	4.90728
7/28/2005	14:10:50	62.15	5659.6	31.408	957.3158	5656	4.81584
7/28/2005	14:16:25	62.13	5995.2	31.4	957.072	5991.6	4.572
7/28/2005	14:22:21	62.13	6350.7	31.4	957.072	6347.1	4.572

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12 35:28
Report from file: ...\SN13058 2005-07-28 113854 HMW-49CFH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-49CFH

Test defined on: 7/28/2005 11 33:55
Test started on: 7/28/2005 11 38:54
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600 0 Seconds.
Number of data samples: 127

TOTAL DATA SAMPLES 127

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG.
Specific gravity: 1
Mode: TOC
User-defined reference: 31.4 Feet H2O
Referenced on: test start
Pressure head at reference: 7 46 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	11:38:54	62.04	0	31.4	957.072	-18.9	-0.21336
7/28/2005	11:38:54	62.06	0.3	31.395	956.9196	-18.6	-0.06096
7/28/2005	11:38:55	62.09	0.6	31.393	956.8586	-18.3	0
7/28/2005	11:38:55	62.09	0.9	31.393	956.8586	-18	0
7/28/2005	11:38:55	62.11	1.2	31.391	956.7977	-17.7	0.06096
7/28/2005	11:38:56	62.11	1.5	31.391	956.7977	-17.4	0.06096
7/28/2005	11:38:56	62.11	1.8	31.39	956.7672	-17.1	0.09144
7/28/2005	11:38:56	62.13	2.1	31.388	956.7062	-16.8	0.1524
7/28/2005	11:38:57	62.13	2.4	31.386	956.6453	-16.5	0.21336
7/28/2005	11:38:57	62.13	2.7	31.38	956.4624	-16.2	0.39624
7/28/2005	11:38:57	62.13	3	31.39	956.7672	-15.9	0.09144
7/28/2005	11:38:57	62.13	3.3	31.388	956.7062	-15.6	0.1524
7/28/2005	11:38:58	62.13	3.6	31.388	956.7062	-15.3	0.1524
7/28/2005	11:38:58	62.13	3.9	31.394	956.8891	-15	-0.03048
7/28/2005	11:38:58	62.15	4.2	31.375	956.31	-14.7	0.54864
7/28/2005	11:38:59	62.15	4.5	31.39	956.7672	-14.4	0.09144
7/28/2005	11:38:59	62.15	4.8	31.396	956.9501	-14.1	-0.09144
7/28/2005	11:38:59	62.15	5.1	31.379	956.4319	-13.8	0.42672
7/28/2005	11:39:00	62.15	5.4	31.402	957.133	-13.5	-0.27432
7/28/2005	11:39:00	62.15	5.7	31.375	956.31	-13.2	0.54864
7/28/2005	11:39:00	62.15	6	31.369	956.1271	-12.9	0.73152
7/28/2005	11:39:00	62.15	6.4	31.4	957.072	-12.5	-0.21336

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	11:39:01	62.15	6.7	31.383	956.5538	-12.2	0.3048
7/28/2005	11:39:01	62.15	7.1	31.394	956.8891	-11.8	-0.03048
7/28/2005	11:39:02	62.15	7.5	31.379	956.4319	-11.4	0.42672
7/28/2005	11:39:02	62.15	8	31.39	956.7672	-10.9	0.09144
7/28/2005	11:39:03	62.15	8.4	31.398	957.011	-10.5	-0.1524
7/28/2005	11:39:03	62.15	8.9	31.373	956.249	-10	0.6096
7/28/2005	11:39:04	62.15	9.5	31.39	956.7672	-9.4	0.09144
7/28/2005	11:39:04	62.13	10	31.388	956.7062	-8.9	0.1524
7/28/2005	11:39:05	62.13	10.6	31.392	956.8282	-8.3	0.03048
7/28/2005	11:39:05	62.13	11.3	31.396	956.9501	-7.6	-0.09144
7/28/2005	11:39:06	62.13	11.9	31.392	956.8282	-7	0.03048
7/28/2005	11:39:07	62.13	12.6	31.398	957.011	-6.3	-0.1524
7/28/2005	11:39:07	62.13	13.4	31.403	957.1634	-5.5	-0.3048
7/28/2005	11:39:08	62.11	14.2	31.393	956.8586	-4.7	0
7/28/2005	11:39:09	62.11	15	31.388	956.7062	-3.9	0.1524
7/28/2005	11:39:10	62.11	15.9	31.393	956.8586	-3	0
7/28/2005	11:39:11	62.11	16.8	31.386	956.6453	-2.1	0.21336
7/28/2005	11:39:12	62.11	17.8	29.363	894.9842	-1.1	61.8744
7/28/2005	11:39:13	62.11	18.9	29.201	890.0465	0	66.81216
7/28/2005	11:39:14	62.11	20	31.378	956.4014	1.1	0.4572
7/28/2005	11:39:15	62.11	21.2	31.087	947.5318	2.3	9.32688
7/28/2005	11:39:17	62.09	22.4	30.97	943.9656	3.5	12.89304
7/28/2005	11:39:18	62.09	23.8	30.964	943.7827	4.9	13.07592
7/28/2005	11:39:19	62.09	25.2	30.975	944.118	6.3	12.74064
7/28/2005	11:39:21	62.09	26.7	30.979	944.2399	7.8	12.61872
7/28/2005	11:39:22	62.09	28.2	30.979	944.2399	9.3	12.61872
7/28/2005	11:39:24	62.09	29.8	30.979	944.2399	10.9	12.61872
7/28/2005	11:39:26	62.09	31.5	30.981	944.3009	12.6	12.55776
7/28/2005	11:39:27	62.09	33.3	30.981	944.3009	14.4	12.55776
7/28/2005	11:39:29	62.09	35.2	30.985	944.4228	16.3	12.43584
7/28/2005	11:39:31	62.09	37.3	30.985	944.4228	18.4	12.43584
7/28/2005	11:39:34	62.09	39.5	30.987	944.4838	20.6	12.37488
7/28/2005	11:39:36	62.09	41.8	30.987	944.4838	22.9	12.37488
7/28/2005	11:39:38	62.09	44.3	30.989	944.5447	25.4	12.31392
7/28/2005	11:39:41	62.09	46.9	30.989	944.5447	28	12.31392
7/28/2005	11:39:44	62.09	49.7	30.991	944.6057	30.8	12.25296
7/28/2005	11:39:47	62.09	52.6	30.995	944.7276	33.7	12.13104
7/28/2005	11:39:50	62.06	55.7	30.992	944.6362	36.8	12.22248
7/28/2005	11:39:53	62.06	59	30.994	944.6971	40.1	12.16152
7/28/2005	11:39:57	62.06	62.5	30.996	944.7581	43.6	12.10056
7/28/2005	11:40:00	62.06	66.2	30.996	944.7581	47.3	12.10056
7/28/2005	11:40:04	62.06	70.1	30.998	944.819	51.2	12.0396
7/28/2005	11:40:08	62.06	74.3	30.998	944.819	55.4	12.0396
7/28/2005	11:40:13	62.06	78.7	31	944.88	59.8	11.97864
7/28/2005	11:40:18	62.06	83.4	31	944.88	64.5	11.97864
7/28/2005	11:40:23	62.06	88.4	31.002	944.941	69.5	11.91768
7/28/2005	11:40:28	62.04	93.7	31.005	945.0324	74.8	11.82624
7/28/2005	11:40:33	62.04	99.3	31.003	944.9714	80.4	11.8872
7/28/2005	11:40:39	62.04	105.2	31.009	945.1543	86.3	11.70432
7/28/2005	11:40:46	62.04	111.5	31.009	945.1543	92.6	11.70432
7/28/2005	11:40:52	62.04	118.1	31.013	945.2762	99.2	11.5824
7/28/2005	11:40:59	62.04	125.1	31.013	945.2762	106.2	11.5824
7/28/2005	11:41:07	62.04	132.6	31.015	945.3372	113.7	11.52144
7/28/2005	11:41:15	62.04	140.5	31.017	945.3982	121.6	11.46048
7/28/2005	11:41:23	62.04	148.9	31.017	945.3982	130	11.46048
7/28/2005	11:41:32	62.04	157.8	31.023	945.581	138.9	11.2776
7/28/2005	11:41:41	62.04	167.2	31.025	945.642	148.3	11.21664
7/28/2005	11:41:51	62.02	177.2	31.026	945.6725	158.3	11.18616
7/28/2005	11:42:02	62.02	187.8	31.028	945.7334	168.9	11.1252
7/28/2005	11:42:13	62.04	199	31.032	945.8554	180.1	11.00328
7/28/2005	11:42:25	62.02	210.9	31.032	945.8554	192	11.00328

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/28/2005	11:42:38	62.02	223.5	31.038	946.0382	204.6	10.8204
7/28/2005	11:42:51	62.02	236.8	31.038	946.0382	217.9	10.8204
7/28/2005	11:43:05	62.02	250.9	31.042	946.1602	232	10.69848
7/28/2005	11:43:20	62.02	265.8	31.047	946.3126	246.9	10.54608
7/28/2005	11:43:36	62.02	281.6	31.049	946.3735	262.7	10.48512
7/28/2005	11:43:53	62.02	298.4	31.051	946.4345	279.5	10.42416
7/28/2005	11:44:10	62.02	316.2	31.055	946.5564	297.3	10.30224
7/28/2005	11:44:29	62.02	335	31.059	946.6783	316.1	10.18032
7/28/2005	11:44:49	62.02	354.9	31.063	946.8002	336	10.0584
7/28/2005	11:45:10	62.02	376	31.067	946.9222	357.1	9.93648
7/28/2005	11:45:33	61.99	398.4	31.068	946.9526	379.5	9.906
7/28/2005	11:45:56	62.02	422.1	31.074	947.1355	403.2	9.72312
7/28/2005	11:46:21	61.99	447.2	31.078	947.2574	428.3	9.6012
7/28/2005	11:46:48	61.99	473.8	31.082	947.3794	454.9	9.47928
7/28/2005	11:47:16	61.99	502	31.086	947.5013	483.1	9.35736
7/28/2005	11:47:46	61.99	531.9	31.089	947.5927	513	9.26592
7/28/2005	11:48:18	61.99	563.5	31.093	947.7146	544.6	9.144
7/28/2005	11:48:51	61.99	597	31.099	947.8975	578.1	8.96112
7/28/2005	11:49:27	61.99	632.5	31.101	947.9585	613.6	8.90016
7/28/2005	11:50:04	61.99	670.1	31.107	948.1414	651.2	8.71728
7/28/2005	11:50:44	61.99	709.9	31.111	948.2633	691	8.59536
7/28/2005	11:51:26	61.99	752.1	31.116	948.4157	733.2	8.44296
7/28/2005	11:52:11	61.99	796.8	31.122	948.5986	777.9	8.26008
7/28/2005	11:52:58	61.97	844.2	31.128	948.7814	825.3	8.0772
7/28/2005	11:53:49	61.97	894.4	31.129	948.8119	875.5	8.04672
7/28/2005	11:54:42	61.97	947.5	31.133	948.9338	928.6	7.9248
7/28/2005	11:55:38	61.97	1003.8	31.139	949.1167	984.9	7.74192
7/28/2005	11:56:38	61.97	1063.4	31.145	949.2996	1044.5	7.55904
7/28/2005	11:57:41	61.97	1126.6	31.151	949.4825	1107.7	7.37616
7/28/2005	11:58:48	61.97	1193.5	31.156	949.6349	1174.6	7.22376
7/28/2005	11:59:59	61.97	1264.4	31.162	949.8178	1245.5	7.04088
7/28/2005	12:01:14	61.97	1339.5	31.17	950.0616	1320.6	6.79704
7/28/2005	12:02:33	61.97	1419	31.176	950.2445	1400.1	6.61416
7/28/2005	12:03:57	61.97	1503.3	31.179	950.3359	1484.4	6.52272
7/28/2005	12:05:27	61.95	1592.6	31.185	950.5188	1573.7	6.33984
7/28/2005	12:07:01	61.95	1687.1	31.193	950.7626	1668.2	6.096
7/28/2005	12:08:41	61.95	1787.2	31.196	950.8541	1768.3	6.00456
7/28/2005	12:10:27	61.95	1893.3	31.202	951.037	1874.4	5.82168
7/28/2005	12:12:20	61.95	2005.7	31.208	951.2198	1986.8	5.6388
7/28/2005	12:14:19	61.95	2124.7	31.218	951.5246	2105.8	5.334
7/28/2005	12:16:25	61.93	2250.8	31.219	951.5551	2231.9	5.30352
7/28/2005	12:18:39	61.93	2384.4	31.227	951.799	2365.5	5.05968
7/28/2005	12:21:00	61.93	2525.9	31.235	952.0428	2507	4.81584
7/28/2005	12:23:30	61.93	2675.8	31.242	952.2562	2656.9	4.60248

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:29:30
Report from file: ...\SN13058 2005-07-27 102540 HMW-50ARH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-50ARH

Test defined on: 7/27/2005 10:24:34
Test started on: 7/27/2005 10:25:40
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600.0 Seconds.
Number of data samples: 104

TOTAL DATA SAMPLES 104

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG.
Specific gravity: 1
Mode: TOC
User-defined reference: 19.08 Feet H2O
Referenced on: test start
Pressure head at reference: 9.386 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	10:25:40	58.13	0	19.08	581.5584	-7.5	0.36576
7/27/2005	10:25:40	58.15	0.3	19.075	581.406	-7.2	0.21336
7/27/2005	10:25:40	58.18	0.6	19.071	581.2841	-6.9	0.09144
7/27/2005	10:25:41	58.18	0.9	19.071	581.2841	-6.6	0.09144
7/27/2005	10:25:41	58.2	1.2	19.07	581.2536	-6.3	0.06096
7/27/2005	10:25:41	58.2	1.5	19.07	581.2536	-6	0.06096
7/27/2005	10:25:42	58.2	1.8	19.068	581.1926	-5.7	0
7/27/2005	10:25:42	58.22	2.1	19.068	581.1926	-5.4	0
7/27/2005	10:25:42	58.22	2.4	19.07	581.2536	-5.1	0.06096
7/27/2005	10:25:43	58.22	2.7	19.068	581.1926	-4.8	0
7/27/2005	10:25:43	58.22	3	19.068	581.1926	-4.5	0
7/27/2005	10:25:43	58.22	3.3	19.076	581.4365	-4.2	0.24384
7/27/2005	10:25:43	58.22	3.6	19.234	586.2523	-3.9	5.05968
7/27/2005	10:25:44	58.22	3.9	19.334	589.3003	-3.6	8.10768
7/27/2005	10:25:44	58.22	4.2	19.314	588.6907	-3.3	7.49808
7/27/2005	10:25:44	58.25	4.5	18.86	574.8528	-3	-6.33984
7/27/2005	10:25:45	58.25	4.8	19.469	593.4151	-2.7	12.22248
7/27/2005	10:25:45	58.25	5.1	19.513	594.7562	-2.4	13.5636
7/27/2005	10:25:45	58.25	5.4	19.625	598.17	-2.1	16.97736
7/27/2005	10:25:46	58.25	5.7	19.425	592.074	-1.8	10.88136
7/27/2005	10:25:46	58.25	6	19.879	605.9119	-1.5	24.71928
7/27/2005	10:25:46	58.25	6.4	19.417	591.8302	-1.1	10.63752

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	10:25:47	58.25	6.7	19.736	601.5533	-0.8	20.36064
7/27/2005	10:25:47	58.25	7.1	20.303	618.8354	-0.4	37.6428
7/27/2005	10:25:47	58.25	7.5	20.576	627.1565	0	45.96384
7/27/2005	10:25:48	58.25	8	20.534	625.8763	0.5	44.68368
7/27/2005	10:25:48	58.25	8.4	20.478	624.1694	0.9	42.9768
7/27/2005	10:25:49	58.27	8.9	20.417	622.3102	1.4	41.11752
7/27/2005	10:25:49	58.27	9.5	20.372	620.9386	2	39.74592
7/27/2005	10:25:50	58.25	10	20.328	619.5974	2.5	38.4048
7/27/2005	10:25:50	58.22	10.6	20.285	618.2868	3.1	37.09416
7/27/2005	10:25:51	58.22	11.3	20.225	616.458	3.8	35.26536
7/27/2005	10:25:52	58.22	11.9	20.181	615.1169	4.4	33.92424
7/27/2005	10:25:52	58.22	12.6	20.139	613.8367	5.1	32.64408
7/27/2005	10:25:53	58.2	13.4	20.094	612.4651	5.9	31.27248
7/27/2005	10:25:54	58.2	14.2	20.04	610.8192	6.7	29.62656
7/27/2005	10:25:55	58.2	15	19.992	609.3562	7.5	28.16352
7/27/2005	10:25:56	58.2	15.9	19.948	608.015	8.4	26.8224
7/27/2005	10:25:57	58.2	16.8	19.905	606.7044	9.3	25.51176
7/27/2005	10:25:58	58.2	17.8	19.857	605.2414	10.3	24.04872
7/27/2005	10:25:59	58.2	18.9	19.801	603.5345	11.4	22.34184
7/27/2005	10:26:00	58.2	20	19.761	602.3153	12.5	21.12264
7/27/2005	10:26:01	58.2	21.2	19.718	601.0046	13.7	19.812
7/27/2005	10:26:02	58.2	22.4	19.672	599.6026	14.9	18.40992
7/27/2005	10:26:04	58.2	23.8	19.632	598.3834	16.3	17.19072
7/27/2005	10:26:05	58.18	25.2	19.589	597.0727	17.7	15.88008
7/27/2005	10:26:07	58.2	26.7	19.553	595.9754	19.2	14.7828
7/27/2005	10:26:08	58.2	28.2	19.514	594.7867	20.7	13.59408
7/27/2005	10:26:10	58.18	29.8	19.479	593.7199	22.3	12.52728
7/27/2005	10:26:11	58.18	31.5	19.447	592.7446	24	11.55192
7/27/2005	10:26:13	58.18	33.3	19.412	591.6778	25.8	10.48512
7/27/2005	10:26:15	58.18	35.2	19.383	590.7938	27.7	9.6012
7/27/2005	10:26:17	58.18	37.3	19.352	589.849	29.8	8.65632
7/27/2005	10:26:19	58.18	39.5	19.327	589.087	32	7.89432
7/27/2005	10:26:22	58.18	41.8	19.3	588.264	34.3	7.07136
7/27/2005	10:26:24	58.18	44.3	19.275	587.502	36.8	6.30936
7/27/2005	10:26:27	58.18	46.9	19.254	586.8619	39.4	5.66928
7/27/2005	10:26:30	58.18	49.7	19.235	586.2828	42.2	5.09016
7/27/2005	10:26:32	58.15	52.6	19.219	585.7951	45.1	4.60248
7/27/2005	10:26:36	58.18	55.7	19.202	585.277	48.2	4.08432
7/27/2005	10:26:39	58.18	59	19.189	584.8807	51.5	3.68808
7/27/2005	10:26:42	58.15	62.5	19.175	584.454	55	3.26136
7/27/2005	10:26:46	58.15	66.2	19.163	584.0882	58.7	2.8956
7/27/2005	10:26:50	58.15	70.1	19.154	583.8139	62.6	2.62128
7/27/2005	10:26:54	58.15	74.3	19.144	583.5091	66.8	2.31648
7/27/2005	10:26:59	58.15	78.7	19.138	583.3262	71.2	2.1336
7/27/2005	10:27:03	58.15	83.4	19.13	583.0824	75.9	1.88976
7/27/2005	10:27:08	58.15	88.4	19.125	582.93	80.9	1.73736
7/27/2005	10:27:14	58.15	93.7	19.119	582.7471	86.2	1.55448
7/27/2005	10:27:19	58.15	99.3	19.115	582.6252	91.8	1.43256
7/27/2005	10:27:25	58.15	105.2	19.111	582.5033	97.7	1.31064
7/27/2005	10:27:31	58.13	111.5	19.107	582.3814	104	1.18872
7/27/2005	10:27:38	58.13	118.1	19.105	582.3204	110.6	1.12776
7/27/2005	10:27:45	58.13	125.1	19.103	582.2594	117.6	1.0668
7/27/2005	10:27:52	58.13	132.6	19.101	582.1985	125.1	1.00584
7/27/2005	10:28:00	58.13	140.5	19.099	582.1375	133	0.94488
7/27/2005	10:28:09	58.13	148.9	19.099	582.1375	141.4	0.94488
7/27/2005	10:28:18	58.13	157.8	19.097	582.0766	150.3	0.88392
7/27/2005	10:28:27	58.13	167.2	19.095	582.0156	159.7	0.82296
7/27/2005	10:28:37	58.13	177.2	19.093	581.9546	169.7	0.762
7/27/2005	10:28:48	58.13	187.8	19.093	581.9546	180.3	0.762
7/27/2005	10:28:59	58.11	199	19.091	581.8937	191.5	0.70104
7/27/2005	10:29:11	58.11	210.9	19.091	581.8937	203.4	0.70104

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	10:29:23	58.11	223.5	19.089	581.8327	216	0.64008
7/27/2005	10:29:37	58.11	236.8	19.089	581.8327	229.3	0.64008
7/27/2005	10:29:51	58.11	250.9	19.089	581.8327	243.4	0.64008
7/27/2005	10:30:06	58.11	265.8	19.087	581.7718	258.3	0.57912
7/27/2005	10:30:21	58.11	281.6	19.085	581.7108	274.1	0.51816
7/27/2005	10:30:38	58.11	298.4	19.087	581.7718	290.9	0.57912
7/27/2005	10:30:56	58.11	316.2	19.085	581.7108	308.7	0.51816
7/27/2005	10:31:15	58.11	335	19.085	581.7108	327.5	0.51816
7/27/2005	10:31:35	58.13	354.9	19.086	581.7413	347.4	0.54864
7/27/2005	10:31:56	58.11	376	19.083	581.6498	368.5	0.4572
7/27/2005	10:32:18	58.11	398.4	19.085	581.7108	390.9	0.51816
7/27/2005	10:32:42	58.11	422.1	19.085	581.7108	414.6	0.51816
7/27/2005	10:33:07	58.11	447.2	19.083	581.6498	439.7	0.4572
7/27/2005	10:33:34	58.11	473.8	19.083	581.6498	466.3	0.4572
7/27/2005	10:34:02	58.11	502	19.083	581.6498	494.5	0.4572
7/27/2005	10:34:32	58.11	531.9	19.083	581.6498	524.4	0.4572
7/27/2005	10:35:03	58.11	563.5	19.085	581.7108	556	0.51816
7/27/2005	10:35:37	58.11	597	19.083	581.6498	589.5	0.4572
7/27/2005	10:36:12	58.13	632.5	19.084	581.6803	625	0.48768
7/27/2005	10:36:50	58.11	670.1	19.083	581.6498	662.6	0.4572
7/27/2005	10:37:30	58.11	709.9	19.083	581.6498	702.4	0.4572

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:25:54
Report from file: ...\SN13058 2005-07-27 094126 HMW-50AFH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-50AFH

Test defined on: 7/27/2005 9:39:40
Test started on: 7/27/2005 9:41:26
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600.0 Seconds.
Number of data samples: 106

TOTAL DATA SAMPLES 106

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG.
Specific gravity: 1
Mode: TOC
User-defined reference: 19.07 Feet H2O
Referenced on: test start
Pressure head at reference: 9.385 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	9:41:26	58.13	0	19.07	581.2536	-9.5	-0.21336
7/27/2005	9:41:26	58.18	0.3	19.063	581.0402	-9.2	0
7/27/2005	9:41:26	58.2	0.6	19.061	580.9793	-8.9	0.06096
7/27/2005	9:41:27	58.22	0.9	19.06	580.9488	-8.6	0.09144
7/27/2005	9:41:27	58.22	1.2	19.06	580.9488	-8.3	0.09144
7/27/2005	9:41:27	58.22	1.5	19.06	580.9488	-8	0.09144
7/27/2005	9:41:28	58.25	1.8	19.058	580.8878	-7.7	0.1524
7/27/2005	9:41:28	58.25	2.1	19.056	580.8269	-7.4	0.21336
7/27/2005	9:41:28	58.25	2.4	19.058	580.8878	-7.1	0.1524
7/27/2005	9:41:28	58.25	2.7	19.058	580.8878	-6.8	0.1524
7/27/2005	9:41:29	58.25	3	19.056	580.8269	-6.5	0.21336
7/27/2005	9:41:29	58.25	3.3	19.058	580.8878	-6.2	0.1524
7/27/2005	9:41:29	58.27	3.6	19.053	580.7354	-5.9	0.3048
7/27/2005	9:41:30	58.27	3.9	19.047	580.5526	-5.6	0.48768
7/27/2005	9:41:30	58.27	4.2	19.045	580.4916	-5.3	0.54864
7/27/2005	9:41:30	58.27	4.5	19.045	580.4916	-5	0.54864
7/27/2005	9:41:31	58.27	4.8	19.034	580.1563	-4.7	0.88392
7/27/2005	9:41:31	58.27	5.1	19.032	580.0954	-4.4	0.94488
7/27/2005	9:41:31	58.27	5.4	19.039	580.3087	-4.1	0.73152
7/27/2005	9:41:31	58.27	5.7	19.043	580.4306	-3.8	0.6096
7/27/2005	9:41:32	58.27	6	19.043	580.4306	-3.5	0.6096
7/27/2005	9:41:32	58.27	6.4	19.045	580.4916	-3.1	0.54864

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	9:41:32	58.29	6.7	19.044	580.4611	-2.8	0.57912
7/27/2005	9:41:33	58.27	7.1	19.053	580.7354	-2.4	0.3048
7/27/2005	9:41:33	58.29	7.5	17.043	519.4706	-2	61.5696
7/27/2005	9:41:34	58.29	8	17.794	542.3611	-1.5	38.67912
7/27/2005	9:41:34	58.29	8.4	16.77	511.1496	-1.1	69.89064
7/27/2005	9:41:35	58.29	8.9	16.739	510.2047	-0.6	70.83552
7/27/2005	9:41:35	58.29	9.5	16.497	502.8286	0	78.21168
7/27/2005	9:41:36	58.27	10	16.825	512.826	0.5	68.21424
7/27/2005	9:41:36	58.27	10.6	18.924	576.8035	1.1	4.23672
7/27/2005	9:41:37	58.25	11.3	17.616	536.9357	1.8	44.10456
7/27/2005	9:41:38	58.25	11.9	18.049	550.1335	2.4	30.90672
7/27/2005	9:41:38	58.25	12.6	18.013	549.0362	3.1	32.004
7/27/2005	9:41:39	58.25	13.4	18.053	550.2554	3.9	30.7848
7/27/2005	9:41:40	58.25	14.2	18.103	551.7794	4.7	29.2608
7/27/2005	9:41:41	58.22	15	18.149	553.1815	5.5	27.85872
7/27/2005	9:41:42	58.25	15.9	18.194	554.5531	6.4	26.48712
7/27/2005	9:41:43	58.22	16.8	18.24	555.9552	7.3	25.08504
7/27/2005	9:41:44	58.22	17.8	18.282	557.2354	8.3	23.80488
7/27/2005	9:41:45	58.22	18.9	18.326	558.5765	9.4	22.46376
7/27/2005	9:41:46	58.22	20	18.371	559.9481	10.5	21.09216
7/27/2005	9:41:47	58.22	21.2	18.413	561.2282	11.7	19.812
7/27/2005	9:41:48	58.22	22.4	18.455	562.5084	12.9	18.53184
7/27/2005	9:41:50	58.22	23.8	18.496	563.7581	14.3	17.28216
7/27/2005	9:41:51	58.22	25.2	18.538	565.0382	15.7	16.002
7/27/2005	9:41:52	58.22	26.7	18.575	566.166	17.2	14.87424
7/27/2005	9:41:54	58.22	28.2	18.609	567.2023	18.7	13.83792
7/27/2005	9:41:56	58.22	29.8	18.642	568.2082	20.3	12.83208
7/27/2005	9:41:57	58.2	31.5	18.674	569.1835	22	11.85672
7/27/2005	9:41:59	58.2	33.3	18.707	570.1894	23.8	10.85088
7/27/2005	9:42:01	58.2	35.2	18.736	571.0733	25.7	9.96696
7/27/2005	9:42:03	58.2	37.3	18.767	572.0182	27.8	9.02208
7/27/2005	9:42:05	58.2	39.5	18.794	572.8411	30	8.19912
7/27/2005	9:42:08	58.2	41.8	18.819	573.6031	32.3	7.43712
7/27/2005	9:42:10	58.2	44.3	18.842	574.3042	34.8	6.73608
7/27/2005	9:42:13	58.2	46.9	18.863	574.9442	37.4	6.096
7/27/2005	9:42:15	58.2	49.7	18.884	575.5843	40.2	5.45592
7/27/2005	9:42:18	58.2	52.6	18.902	576.133	43.1	4.90728
7/27/2005	9:42:21	58.2	55.7	18.919	576.6511	46.2	4.38912
7/27/2005	9:42:25	58.2	59	18.932	577.0474	49.5	3.99288
7/27/2005	9:42:28	58.2	62.5	18.946	577.4741	53	3.56616
7/27/2005	9:42:32	58.2	66.2	18.957	577.8094	56.7	3.23088
7/27/2005	9:42:36	58.18	70.1	18.967	578.1142	60.6	2.92608
7/27/2005	9:42:40	58.18	74.3	18.976	578.3885	64.8	2.65176
7/27/2005	9:42:44	58.18	78.7	18.984	578.6323	69.2	2.40792
7/27/2005	9:42:49	58.18	83.4	18.992	578.8762	73.9	2.16408
7/27/2005	9:42:54	58.18	88.4	18.998	579.059	78.9	1.9812
7/27/2005	9:42:59	58.18	93.7	19.003	579.2114	84.2	1.8288
7/27/2005	9:43:05	58.18	99.3	19.007	579.3334	89.8	1.70688
7/27/2005	9:43:11	58.18	105.2	19.011	579.4553	95.7	1.58496
7/27/2005	9:43:17	58.18	111.5	19.015	579.5772	102	1.46304
7/27/2005	9:43:24	58.15	118.1	19.018	579.6686	108.6	1.3716
7/27/2005	9:43:31	58.15	125.1	19.022	579.7906	115.6	1.24968
7/27/2005	9:43:38	58.15	132.6	19.026	579.9125	123.1	1.12776
7/27/2005	9:43:46	58.15	140.5	19.026	579.9125	131	1.12776
7/27/2005	9:43:55	58.13	148.9	19.028	579.9734	139.4	1.0668
7/27/2005	9:44:04	58.15	157.8	19.03	580.0344	148.3	1.00584
7/27/2005	9:44:13	58.13	167.2	19.033	580.1258	157.7	0.9144
7/27/2005	9:44:23	58.13	177.2	19.035	580.1868	167.7	0.85344
7/27/2005	9:44:34	58.13	187.8	19.037	580.2478	178.3	0.79248
7/27/2005	9:44:45	58.13	199	19.039	580.3087	189.5	0.73152
7/27/2005	9:44:57	58.13	210.9	19.041	580.3697	201.4	0.67056

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	9:45:09	58.13	223.5	19.041	580.3697	214	0.67056
7/27/2005	9:45:23	58.13	236.8	19.043	580.4306	227.3	0.6096
7/27/2005	9:45:37	58.13	250.9	19.045	580.4916	241.4	0.54864
7/27/2005	9:45:52	58.11	265.8	19.045	580.4916	256.3	0.54864
7/27/2005	9:46:07	58.11	281.6	19.047	580.5526	272.1	0.48768
7/27/2005	9:46:24	58.11	298.4	19.05	580.644	288.9	0.39624
7/27/2005	9:46:42	58.11	316.2	19.05	580.644	306.7	0.39624
7/27/2005	9:47:01	58.11	335	19.05	580.644	325.5	0.39624
7/27/2005	9:47:21	58.11	354.9	19.052	580.705	345.4	0.33528
7/27/2005	9:47:42	58.11	376	19.052	580.705	366.5	0.33528
7/27/2005	9:48:04	58.11	398.4	19.054	580.7659	388.9	0.27432
7/27/2005	9:48:28	58.11	422.1	19.054	580.7659	412.6	0.27432
7/27/2005	9:48:53	58.11	447.2	19.054	580.7659	437.7	0.27432
7/27/2005	9:49:20	58.11	473.8	19.056	580.8269	464.3	0.21336
7/27/2005	9:49:48	58.11	502	19.056	580.8269	492.5	0.21336
7/27/2005	9:50:18	58.11	531.9	19.058	580.8878	522.4	0.1524
7/27/2005	9:50:49	58.11	563.5	19.06	580.9488	554	0.09144
7/27/2005	9:51:23	58.11	597	19.06	580.9488	587.5	0.09144
7/27/2005	9:51:58	58.11	632.5	19.062	581.0098	623	0.03048
7/27/2005	9:52:36	58.13	670.1	19.062	581.0098	660.6	0.03048
7/27/2005	9:53:16	58.13	709.9	19.062	581.0098	700.4	0.03048
7/27/2005	9:53:58	58.13	752.1	19.062	581.0098	742.6	0.03048
7/27/2005	9:54:43	58.13	796.8	19.062	581.0098	787.3	0.03048

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:34:47
Report from file: ...\SN13058 2005-07-27 144422 HMW-50BRH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-50BRH

Test defined on: 7/27/2005 14:42:15
Test started on: 7/27/2005 14:44:22
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600.0 Seconds.
Number of data samples: 116

TOTAL DATA SAMPLES 116

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG.
Specific gravity: 1
Mode: TOC
User-defined reference: 32.17 Feet H2O
Referenced on: test start
Pressure head at reference: 10.305 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	14:44:22	58.36	0	32.17	980.5416	-7.1	0.36576
7/27/2005	14:44:22	58.38	0.3	32.163	980.3282	-6.8	0.1524
7/27/2005	14:44:22	58.41	0.6	32.161	980.2673	-6.5	0.09144
7/27/2005	14:44:23	58.41	0.9	32.161	980.2673	-6.2	0.09144
7/27/2005	14:44:23	58.43	1.2	32.16	980.2368	-5.9	0.06096
7/27/2005	14:44:23	58.43	1.5	32.16	980.2368	-5.6	0.06096
7/27/2005	14:44:23	58.45	1.8	32.16	980.2368	-5.3	0.06096
7/27/2005	14:44:24	58.45	2.1	32.158	980.1758	-5	0
7/27/2005	14:44:24	58.45	2.4	32.158	980.1758	-4.7	0
7/27/2005	14:44:24	58.45	2.7	32.158	980.1758	-4.4	0
7/27/2005	14:44:25	58.45	3	32.158	980.1758	-4.1	0
7/27/2005	14:44:25	58.45	3.3	32.158	980.1758	-3.8	0
7/27/2005	14:44:25	58.45	3.6	32.158	980.1758	-3.5	0
7/27/2005	14:44:26	58.45	3.9	32.158	980.1758	-3.2	0
7/27/2005	14:44:26	58.45	4.2	32.158	980.1758	-2.9	0
7/27/2005	14:44:26	58.47	4.5	32.158	980.1758	-2.6	0
7/27/2005	14:44:26	58.47	4.8	32.195	981.3036	-2.3	1.12776
7/27/2005	14:44:27	58.47	5.1	33.797	1030.133	-2	49.95672
7/27/2005	14:44:27	58.47	5.4	33.159	1010.686	-1.7	30.51048
7/27/2005	14:44:27	58.47	5.7	33.096	1008.766	-1.4	28.59024
7/27/2005	14:44:28	58.47	6	33.417	1018.55	-1.1	38.37432
7/27/2005	14:44:28	58.47	6.4	33.999	1036.29	-0.7	56.11368
7/27/2005	14:44:28	58.47	6.7	34.153	1040.983	-0.4	60.8076

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	14:44:29	58.47	7.1	34.176	1041.684	0	61.50864
7/27/2005	14:44:29	58.47	7.5	34.118	1039.917	0.4	59.7408
7/27/2005	14:44:30	58.47	8	34.122	1040.039	0.9	59.86272
7/27/2005	14:44:30	58.47	8.4	34.126	1040.16	1.3	59.98464
7/27/2005	14:44:31	58.47	8.9	34.107	1039.581	1.8	59.40552
7/27/2005	14:44:31	58.47	9.5	34.114	1039.795	2.4	59.61888
7/27/2005	14:44:32	58.45	10	34.106	1039.551	2.9	59.37504
7/27/2005	14:44:32	58.45	10.6	34.108	1039.612	3.5	59.436
7/27/2005	14:44:33	58.45	11.3	34.091	1039.094	4.2	58.91784
7/27/2005	14:44:34	58.45	11.9	34.089	1039.033	4.8	58.85688
7/27/2005	14:44:34	58.43	12.6	34.085	1038.911	5.5	58.73496
7/27/2005	14:44:35	58.43	13.4	34.081	1038.789	6.3	58.61304
7/27/2005	14:44:36	58.43	14.2	34.077	1038.667	7.1	58.49112
7/27/2005	14:44:37	58.43	15	34.064	1038.271	7.9	58.09488
7/27/2005	14:44:37	58.43	15.9	34.064	1038.271	8.8	58.09488
7/27/2005	14:44:38	58.43	16.8	34.039	1037.509	9.7	57.33288
7/27/2005	14:44:39	58.43	17.8	34.041	1037.57	10.7	57.39384
7/27/2005	14:44:40	58.43	18.9	34.033	1037.326	11.8	57.15
7/27/2005	14:44:42	58.43	20	34.017	1036.838	12.9	56.66232
7/27/2005	14:44:43	58.43	21.2	34.004	1036.442	14.1	56.26608
7/27/2005	14:44:44	58.41	22.4	33.994	1036.137	15.3	55.96128
7/27/2005	14:44:45	58.41	23.8	33.981	1035.741	16.7	55.56504
7/27/2005	14:44:47	58.41	25.2	33.967	1035.314	18.1	55.13832
7/27/2005	14:44:48	58.41	26.7	33.956	1034.979	19.6	54.80304
7/27/2005	14:44:50	58.41	28.2	33.942	1034.552	21.1	54.37632
7/27/2005	14:44:51	58.41	29.8	33.93	1034.186	22.7	54.01056
7/27/2005	14:44:53	58.41	31.5	33.915	1033.729	24.4	53.55336
7/27/2005	14:44:55	58.41	33.3	33.902	1033.333	26.2	53.15712
7/27/2005	14:44:57	58.41	35.2	33.886	1032.845	28.1	52.66944
7/27/2005	14:44:59	58.41	37.3	33.873	1032.449	30.2	52.2732
7/27/2005	14:45:01	58.41	39.5	33.857	1031.961	32.4	51.78552
7/27/2005	14:45:03	58.41	41.8	33.84	1031.443	34.7	51.26736
7/27/2005	14:45:06	58.41	44.3	33.823	1030.925	37.2	50.7492
7/27/2005	14:45:08	58.41	46.9	33.803	1030.315	39.8	50.1396
7/27/2005	14:45:11	58.41	49.7	33.784	1029.736	42.6	49.56048
7/27/2005	14:45:14	58.41	52.6	33.765	1029.157	45.5	48.98136
7/27/2005	14:45:17	58.41	55.7	33.746	1028.578	48.6	48.40224
7/27/2005	14:45:21	58.38	59	33.724	1027.908	51.9	47.73168
7/27/2005	14:45:24	58.38	62.5	33.701	1027.206	55.4	47.03064
7/27/2005	14:45:28	58.38	66.2	33.678	1026.505	59.1	46.3296
7/27/2005	14:45:32	58.38	70.1	33.655	1025.804	63	45.62856
7/27/2005	14:45:36	58.38	74.3	33.63	1025.042	67.2	44.86656
7/27/2005	14:45:40	58.38	78.7	33.603	1024.219	71.6	44.0436
7/27/2005	14:45:45	58.38	83.4	33.578	1023.457	76.3	43.2816
7/27/2005	14:45:50	58.38	88.4	33.549	1022.574	81.3	42.39768
7/27/2005	14:45:55	58.38	93.7	33.518	1021.629	86.6	41.4528
7/27/2005	14:46:01	58.38	99.3	33.489	1020.745	92.2	40.56888
7/27/2005	14:46:07	58.38	105.2	33.458	1019.8	98.1	39.624
7/27/2005	14:46:13	58.36	111.5	33.427	1018.855	104.4	38.67912
7/27/2005	14:46:20	58.36	118.1	33.394	1017.849	111	37.67328
7/27/2005	14:46:27	58.36	125.1	33.36	1016.813	118	36.63696
7/27/2005	14:46:34	58.36	132.6	33.327	1015.807	125.5	35.63112
7/27/2005	14:46:42	58.36	140.5	33.292	1014.74	133.4	34.56432
7/27/2005	14:46:50	58.36	148.9	33.256	1013.643	141.8	33.46704
7/27/2005	14:46:59	58.36	157.8	33.219	1012.515	150.7	32.33928
7/27/2005	14:47:09	58.36	167.2	33.181	1011.357	160.1	31.18104
7/27/2005	14:47:19	58.36	177.2	33.146	1010.29	170.1	30.11424
7/27/2005	14:47:29	58.36	187.8	33.106	1009.071	180.7	28.89504
7/27/2005	14:47:41	58.36	199	33.065	1007.821	191.9	27.64536
7/27/2005	14:47:52	58.36	210.9	33.027	1006.663	203.8	26.48712
7/27/2005	14:48:05	58.36	223.5	32.986	1005.413	216.4	25.23744
7/27/2005	14:48:18	58.36	236.8	32.946	1004.194	229.7	24.01824

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	14:48:32	58.36	250.9	32.907	1003.005	243.8	22.82952
7/27/2005	14:48:47	58.36	265.8	32.865	1001.725	258.7	21.54936
7/27/2005	14:49:03	58.36	281.6	32.827	1000.567	274.5	20.39112
7/27/2005	14:49:20	58.34	298.4	32.786	999.3173	291.3	19.14144
7/27/2005	14:49:38	58.36	316.2	32.744	998.0371	309.1	17.86128
7/27/2005	14:49:57	58.34	335	32.707	996.9094	327.9	16.73352
7/27/2005	14:50:16	58.36	354.9	32.669	995.7511	347.8	15.57528
7/27/2005	14:50:38	58.36	376	32.634	994.6843	368.9	14.50848
7/27/2005	14:51:00	58.34	398.4	32.595	993.4956	391.3	13.31976
7/27/2005	14:51:24	58.36	422.1	32.561	992.4593	415	12.28344
7/27/2005	14:51:49	58.36	447.2	32.526	991.3925	440.1	11.21664
7/27/2005	14:52:15	58.34	473.8	32.491	990.3257	466.7	10.14984
7/27/2005	14:52:44	58.36	502	32.461	989.4113	494.9	9.23544
7/27/2005	14:53:13	58.34	531.9	32.43	988.4664	524.8	8.29056
7/27/2005	14:53:45	58.34	563.5	32.403	987.6434	556.4	7.4676
7/27/2005	14:54:19	58.34	597	32.376	986.8205	589.9	6.64464
7/27/2005	14:54:54	58.34	632.5	32.349	985.9975	625.4	5.82168
7/27/2005	14:55:32	58.36	670.1	32.326	985.2965	663	5.12064
7/27/2005	14:56:11	58.34	709.9	32.304	984.6259	702.8	4.45008
7/27/2005	14:56:54	58.34	752.1	32.285	984.0468	745	3.87096
7/27/2005	14:57:38	58.34	796.8	32.268	983.5286	789.7	3.3528
7/27/2005	14:58:26	58.34	844.2	32.25	982.98	837.1	2.80416
7/27/2005	14:59:16	58.34	894.4	32.235	982.5228	887.3	2.34696
7/27/2005	15:00:09	58.34	947.5	32.225	982.218	940.4	2.04216
7/27/2005	15:01:05	58.34	1003.8	32.214	981.8827	996.7	1.70688
7/27/2005	15:02:05	58.34	1063.4	32.202	981.517	1056.3	1.34112
7/27/2005	15:03:08	58.34	1126.6	32.197	981.3646	1119.5	1.18872
7/27/2005	15:04:15	58.34	1193.5	32.191	981.1817	1186.4	1.00584
7/27/2005	15:05:26	58.36	1264.4	32.185	980.9988	1257.3	0.82296
7/27/2005	15:06:41	58.34	1339.5	32.177	980.755	1332.4	0.57912
7/27/2005	15:08:01	58.34	1419	32.173	980.633	1411.9	0.4572

In-Situ Inc. MiniTroll Pro

Report generated: 8/3/2005 12:34:01
Report from file: ...\SN13058 2005-07-27 140138 HMW-50BFH.bin
Win-Situ Version 4.41

Serial number: 13058
Firmware Version 3.09
Unit name: MiniTROLL

Test name: HMW-50BFH

Test defined on: 7/27/2005 13:59:15
Test started on: 7/27/2005 14:01:38
Test stopped on: N/A N/A
Test extracted on: N/A N/A

Data gathered using Logarithmic testing
Maximum time between data points: 600.0 Seconds.
Number of data samples: 123

TOTAL DATA SAMPLES 123

Channel number [1]
Measurement type: Temperature
Channel name: Temperature

Channel number [2]
Measurement type: Pressure
Channel name: Pressure
Sensor Range: 30 PSIG
Specific gravity: 1
Mode: TOC
User-defined reference: 32.18 Feet H2O
Referenced on: test start
Pressure head at reference: 10.294 Feet H2O

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	14:01:38	58.36	0	32.18	980.8464	-16.8	0
7/27/2005	14:01:39	58.38	0.3	32.173	980.633	-16.5	0.21336
7/27/2005	14:01:39	58.41	0.6	32.171	980.5721	-16.2	0.27432
7/27/2005	14:01:39	58.43	0.9	32.171	980.5721	-15.9	0.27432
7/27/2005	14:01:40	58.43	1.2	32.17	980.5416	-15.6	0.3048
7/27/2005	14:01:40	58.43	1.5	32.168	980.4806	-15.3	0.36576
7/27/2005	14:01:40	58.45	1.8	32.168	980.4806	-15	0.36576
7/27/2005	14:01:41	58.45	2.1	32.168	980.4806	-14.7	0.36576
7/27/2005	14:01:41	58.45	2.4	32.168	980.4806	-14.4	0.36576
7/27/2005	14:01:41	58.45	2.7	32.168	980.4806	-14.1	0.36576
7/27/2005	14:01:41	58.45	3	32.168	980.4806	-13.8	0.36576
7/27/2005	14:01:42	58.45	3.3	32.168	980.4806	-13.5	0.36576
7/27/2005	14:01:42	58.47	3.6	32.166	980.4197	-13.2	0.42672
7/27/2005	14:01:42	58.45	3.9	32.168	980.4806	-12.9	0.36576
7/27/2005	14:01:43	58.47	4.2	32.166	980.4197	-12.6	0.42672
7/27/2005	14:01:43	58.47	4.5	32.168	980.4806	-12.3	0.36576
7/27/2005	14:01:43	58.47	4.8	32.161	980.2673	-12	0.57912
7/27/2005	14:01:44	58.47	5.1	32.161	980.2673	-11.7	0.57912
7/27/2005	14:01:44	58.47	5.4	32.159	980.2063	-11.4	0.64008
7/27/2005	14:01:44	58.47	5.7	32.17	980.5416	-11.1	0.3048
7/27/2005	14:01:44	58.47	6	32.155	980.0844	-10.8	0.762
7/27/2005	14:01:45	58.47	6.4	32.155	980.0844	-10.4	0.762

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	14:01:45	58.47	6.7	32.159	980.2063	-10.1	0.64008
7/27/2005	14:01:46	58.47	7.1	32.157	980.1454	-9.7	0.70104
7/27/2005	14:01:46	58.47	7.5	32.172	980.6026	-9.3	0.24384
7/27/2005	14:01:46	58.47	8	32.159	980.2063	-8.8	0.64008
7/27/2005	14:01:47	58.47	8.4	32.168	980.4806	-8.4	0.36576
7/27/2005	14:01:47	58.5	8.9	32.163	980.3282	-7.9	0.51816
7/27/2005	14:01:48	58.47	9.5	32.166	980.4197	-7.3	0.42672
7/27/2005	14:01:48	58.47	10	32.168	980.4806	-6.8	0.36576
7/27/2005	14:01:49	58.45	10.6	32.168	980.4806	-6.2	0.36576
7/27/2005	14:01:50	58.45	11.3	32.162	980.2978	-5.5	0.54864
7/27/2005	14:01:50	58.45	11.9	32.168	980.4806	-4.9	0.36576
7/27/2005	14:01:51	58.45	12.6	32.181	980.8769	-4.2	-0.03048
7/27/2005	14:01:52	58.45	13.4	32.17	980.5416	-3.4	0.3048
7/27/2005	14:01:53	58.43	14.2	32.158	980.1758	-2.6	0.67056
7/27/2005	14:01:53	58.43	15	32.154	980.0539	-1.8	0.79248
7/27/2005	14:01:54	58.43	15.9	30.194	920.3131	-0.9	60.53328
7/27/2005	14:01:55	58.43	16.8	29.378	895.4414	0	85.40496
7/27/2005	14:01:56	58.43	17.8	30.065	916.3812	1	64.4652
7/27/2005	14:01:57	58.43	18.9	30.21	920.8008	2.1	60.0456
7/27/2005	14:01:58	58.43	20	30.381	926.0129	3.2	54.83352
7/27/2005	14:02:00	58.43	21.2	30.406	926.7749	4.4	54.07152
7/27/2005	14:02:01	58.43	22.4	30.423	927.293	5.6	53.55336
7/27/2005	14:02:02	58.43	23.8	30.439	927.7807	7	53.06568
7/27/2005	14:02:04	58.43	25.2	30.452	928.177	8.4	52.66944
7/27/2005	14:02:05	58.41	26.7	30.465	928.5732	9.9	52.2732
7/27/2005	14:02:07	58.41	28.2	30.479	928.9999	11.4	51.84648
7/27/2005	14:02:08	58.41	29.8	30.492	929.3962	13	51.45024
7/27/2005	14:02:10	58.41	31.5	30.506	929.8229	14.7	51.02352
7/27/2005	14:02:12	58.41	33.3	30.521	930.2801	16.5	50.56632
7/27/2005	14:02:14	58.41	35.2	30.535	930.7068	18.4	50.1396
7/27/2005	14:02:16	58.41	37.3	30.552	931.225	20.5	49.62144
7/27/2005	14:02:18	58.41	39.5	30.569	931.7431	22.7	49.10328
7/27/2005	14:02:20	58.41	41.8	30.587	932.2918	25	48.55464
7/27/2005	14:02:23	58.41	44.3	30.606	932.8709	27.5	47.97552
7/27/2005	14:02:25	58.41	46.9	30.623	933.389	30.1	47.45736
7/27/2005	14:02:28	58.41	49.7	30.644	934.0291	32.9	46.81728
7/27/2005	14:02:31	58.38	52.6	30.663	934.6082	35.8	46.23816
7/27/2005	14:02:34	58.41	55.7	30.685	935.2788	38.9	45.5676
7/27/2005	14:02:37	58.41	59	30.706	935.9189	42.2	44.92752
7/27/2005	14:02:41	58.38	62.5	30.729	936.6199	45.7	44.22648
7/27/2005	14:02:45	58.38	66.2	30.752	937.321	49.4	43.52544
7/27/2005	14:02:49	58.38	70.1	30.777	938.083	53.3	42.76344
7/27/2005	14:02:53	58.38	74.3	30.802	938.845	57.5	42.00144
7/27/2005	14:02:57	58.38	78.7	30.827	939.607	61.9	41.23944
7/27/2005	14:03:02	58.38	83.4	30.854	940.4299	66.6	40.41648
7/27/2005	14:03:07	58.38	88.4	30.883	941.3138	71.6	39.53256
7/27/2005	14:03:12	58.38	93.7	30.914	942.2587	76.9	38.58768
7/27/2005	14:03:18	58.38	99.3	30.942	943.1122	82.5	37.73424
7/27/2005	14:03:24	58.38	105.2	30.973	944.057	88.4	36.78936
7/27/2005	14:03:30	58.38	111.5	31.004	945.0019	94.7	35.84448
7/27/2005	14:03:37	58.38	118.1	31.037	946.0078	101.3	34.83864
7/27/2005	14:03:44	58.36	125.1	31.069	946.9831	108.3	33.86328
7/27/2005	14:03:51	58.36	132.6	31.104	948.0499	115.8	32.79648
7/27/2005	14:03:59	58.36	140.5	31.138	949.0862	123.7	31.76016
7/27/2005	14:04:07	58.38	148.9	31.175	950.214	132.1	30.6324
7/27/2005	14:04:16	58.36	157.8	31.214	951.4027	141	29.44368
7/27/2005	14:04:26	58.36	167.2	31.248	952.439	150.4	28.40736
7/27/2005	14:04:36	58.36	177.2	31.287	953.6278	160.4	27.21864
7/27/2005	14:04:46	58.36	187.8	31.327	954.847	171	25.99944
7/27/2005	14:04:57	58.36	199	31.362	955.9138	182.2	24.93264
7/27/2005	14:05:09	58.36	210.9	31.398	957.011	194.1	23.83536

Date	Time	Chan[1] Fahrenheit	ET (sec)	Chan[2] Feet H2O	cm H2O	Time (sec)	Max Disp (cm)
7/27/2005	14:05:22	58.36	223.5	31.439	958.2607	206.7	22.58568
7/27/2005	14:05:35	58.36	236.8	31.477	959.419	220	21.42744
7/27/2005	14:05:49	58.36	250.9	31.516	960.6077	234.1	20.23872
7/27/2005	14:06:04	58.36	265.8	31.585	962.7108	249	18.1356
7/27/2005	14:06:20	58.36	281.6	31.599	963.1375	264.8	17.70888
7/27/2005	14:06:37	58.36	298.4	31.637	964.2958	281.6	16.55064
7/27/2005	14:06:55	58.36	316.2	31.67	965.3016	299.4	15.5448
7/27/2005	14:07:13	58.36	335	31.704	966.3379	318.2	14.50848
7/27/2005	14:07:33	58.36	354.9	31.737	967.3438	338.1	13.50264
7/27/2005	14:07:54	58.36	376	31.77	968.3496	359.2	12.4968
7/27/2005	14:08:17	58.36	398.4	31.801	969.2945	381.6	11.55192
7/27/2005	14:08:41	58.36	422.1	31.833	970.2698	405.3	10.57656
7/27/2005	14:09:06	58.36	447.2	31.862	971.1538	430.4	9.69264
7/27/2005	14:09:32	58.36	473.8	31.889	971.9767	457	8.86968
7/27/2005	14:10:00	58.36	502	31.922	972.9826	485.2	7.86384
7/27/2005	14:10:30	58.36	531.9	31.951	973.8665	515.1	6.97992
7/27/2005	14:11:02	58.36	563.5	31.974	974.5675	546.7	6.27888
7/27/2005	14:11:35	58.36	597	31.997	975.2686	580.2	5.57784
7/27/2005	14:12:11	58.36	632.5	32.018	975.9086	615.7	4.93776
7/27/2005	14:12:49	58.36	670.1	32.038	976.5182	653.3	4.32816
7/27/2005	14:13:28	58.36	709.9	32.053	976.9754	693.1	3.87096
7/27/2005	14:14:11	58.36	752.1	32.072	977.5546	735.3	3.29184
7/27/2005	14:14:55	58.36	796.8	32.084	977.9203	780	2.92608
7/27/2005	14:15:43	58.36	844.2	32.095	978.2556	827.4	2.5908
7/27/2005	14:16:33	58.36	894.4	32.107	978.6214	877.6	2.22504
7/27/2005	14:17:26	58.34	947.5	32.116	978.8957	930.7	1.95072
7/27/2005	14:18:22	58.36	1003.8	32.122	979.0786	987	1.76784
7/27/2005	14:19:22	58.36	1063.4	32.147	979.8406	1046.6	1.00584
7/27/2005	14:20:25	58.36	1126.6	32.155	980.0844	1109.8	0.762
7/27/2005	14:21:32	58.36	1193.5	32.161	980.2673	1176.7	0.57912
7/27/2005	14:22:43	58.34	1264.4	32.158	980.1758	1247.6	0.67056
7/27/2005	14:23:58	58.34	1339.5	32.164	980.3587	1322.7	0.48768
7/27/2005	14:25:17	58.34	1419	32.162	980.2978	1402.2	0.54864
7/27/2005	14:26:42	58.34	1503.3	32.166	980.4197	1486.5	0.42672
7/27/2005	14:28:11	58.36	1592.6	32.168	980.4806	1575.8	0.36576
7/27/2005	14:29:46	58.34	1687.1	32.164	980.3587	1670.3	0.48768
7/27/2005	14:31:26	58.36	1787.2	32.17	980.5416	1770.4	0.3048
7/27/2005	14:33:12	58.34	1893.3	32.168	980.4806	1876.5	0.36576
7/27/2005	14:35:04	58.34	2005.7	32.168	980.4806	1988.9	0.36576
7/27/2005	14:37:03	58.36	2124.7	32.168	980.4806	2107.9	0.36576