

HardTrack Concrete Temperature Monitoring Solution

Key Features

The HardTrack Solution is the most advanced, state of the art solution available today, for monitoring curing concrete temperatures.

Loggers connected to the Cloud

The HardTrack Cloud Sensor devices are manufactured by internationally recognized leaders in wireless communications and IoT sensor technology. Each device comes with a 3-year manufacturer's warranty and each device is covered under the Wake's annual support plan for repair of any defects.

- Each device **comes with an on-board ambient temperature sensor**, plus one of the following configurations:

(4) sensor connections
(6) sensor connections
(8) sensor connections
(10) sensor connections
(12) sensor connections
(16) sensor connections
(18) sensor connections



- The HardTrack Cloud Sensor uses relatively low-cost sacrificial sensor probes that are replaced after each of your pours. The cable lengths for the sensor probes come in many lengths from 1-meter/3.28-feet to 100 meters/328-feet
- The devices connect directly to the Cloud and upload their data for you, without manual intervention.
- The cellular data plan is included with your initial purchase for 1 year and is included with the annual support and maintenance fees for the following years of your project.
- Data redundancy is provided at (3) points, the device level, the HardTrack Cloud Server and the HardTrack Database with daily data backups.
- Device Configuration. Need a long-life rechargeable battery to meet your project monitoring requirements? Look no further, Wake will work with you to establish your requirements and we will configure the equipment, so that battery life is not a problem.
 - o All devices come with a **second, backup battery**, that can run your device, even if the main, rechargeable battery depletes before your specified temperature monitoring period has completed.
- Rechargeable Batteries are sized and tested to meet your exact monitoring time requirements.



Technical Information on HardTrack Cloud Sensors

- Cloud based Wireless Temperature Logging Devices



ELECTRICAL

RECHARGEABLE BATTERY	Rechargeable, 12 V, Lithium Ion (size varies)
BACKUP POWER SOURCE	7.2 V, 14.5 Ah, Lithium thionyl chloride, non-rechargeable
BATTERY MONITORING	Yes
OPTIONAL A/C POWER Supply	Required for device configurations of 24 to 36 Sensor Input Ports

TEMPERATURE LOGGING

NUMBER OF SAMPLES	No Limit
LOGGING INTERVAL	User definable in intervals from 1 to 1440 min
UPLOAD INTERVAL	User definable in intervals from 1 to 228, logging intervals
METERING RANGE	- 40 °C to 100 °C (-40 °F to +212 °F) with std RTD external sensor
RESOLUTION	0.1 °C (0.2 °F),
ACCURACY	±0.5 °C (1 °F)

WWAN

2G BANDS	GSM 850, GSM 900, DCS 1800, PCS 1900
3G BANDS	FDD B1, B2, B4, B5, B8
4G BANDS	LTE
LTE CATEGORY 1	Verizon: Bands 2, 4, 13 AT&T, T-Mobile, Rogers, Bell Canada, Telus: Bands 2, 4, 5 with 3G/2G fallback, Vodafone & AT&T Global

ANALOG I/O FROM TEMPERATURE SENSORS

INPUTS	4, 6, 8, 10, 12, 16, 18 as 4/20 mA connected to sealed RTD Sensors
INPUT VOLTAGE RANGE	24 V (Analog input)
INPUT CURRENT RANGE	4-20 mA (Current loop input)

OUTPUT POWER

PORTS	4, 6, 8, 10, 14, 17, 21, 25, plus a built in ambient temp sensor
OUTPUT VOLTAGE OPTIONS	24 VDC
MAX CURRENT OUTPUT	200 mA, 10 to 30 mA is typical

ENVIRONMENTAL

OPERATING TEMPERATURES	-35° C to +70° C
STORAGE TEMPERATURE	-40° C to +85° C
RELATIVE HUMIDITY	90%
BATTERY DISCHARGE	<1%/year if stored at +30° C
WATERPROOF ENCLOSURE	HTC II: MIL-STD-810F Immersion – submerged at 1 meter for 30 mins, HTC: IP67 – Ingress Protection

PHYSICAL

HTC DIMENSIONS (L x W x H)	15.24 cm x 10.84 cm 7.46 cm – 0.264 kg/0.58 lbs.
HTC II DIMENSIONS (L x W x H)	31.75 cm x 24.89 cm x 20.32 cm/12.5" x 9.8" x 8.0" – 5.0 kg/11 Lbs.
LEDS INDICATORS	Battery, cellular, sensor
ENCLOSURE MATERIAL	Lexan

REGULATORY APPROVALS

Made in USA from imported parts.

UL60950-1, CAN/CSA C22.2 No. 60950-1-01, IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013, EN 60950-1:2006 / A11:2009 / A1:2010 / A12:2011 / A2:2013 and EN 60950-22:2006;

SAFETY

Class 1, Division II, groups A,B,C,D; ANSI/ISA 12.12.01:2015, CAN/CSA C22.2 No 213-15, 1st Ed

ATEX (pending) EN 60079-0:2012+A11:2013, EN 60079-15:2010, eII 3 G Ex nA nC IIC T6 Gc

EMISSIONS IMMUNITY

FCC part 15 Subpart B class B, EN55022: 2010/AC: 2011 class B, IEC61000-4-3: 2012 class B
EN55024:2010

HARDWARE WARRANTY

3 years, excluding battery

Temperature Sensor Probes

The temperature sensors utilized with HardTrack are manufactured in an ISO 9001 certified facility, which has its calibration equipment checked frequently by independent calibration experts. The sensors are certified by the manufacturer to provide acute temperatures and they are manufactured following these standards:

- IEC 60751 Industrial platinum resistance thermometers and platinum sensors
- IEC 60584 Thermocouples
- ASTM E 230 Standard specification and Temperature-Electromotive force (EMF) Tables for standardized Thermocouples
- ANSI MC 96.1 Temperature Measurement Thermocouples

Armor Sheathing is available as needed to meet specifications and to add further protection to the temperature sensor cables.

Specifications for armor sheath:

- PVC Coated Galvanized Steel Conduit
- Single-buckle structure, spiral design, the galvanized steel conduit is coated in PVC
- Provides liquid-tight performance and protection against corrosion
- PVC Coated Galvanized Steel Conduit has good flexibility and is smooth internally to help wires pass-through easily.
 - Refined PVC Coating
 - Water-proof, Corrosion Resistant, UV Resistant
 - Flame Retardant (UL94-V2)
 - RoHS Compliant
 - Operating range: -10°C to +80°C



Plastic bushings are inserted into each end of the armor sheath, to prevent the wire from being cut by sharp edges on the armor sheath.

Adhesive Heat Shrink tubing is utilized to seal the cable ends to the armor sheath. Unless otherwise specified, 12" of wire will protrude from the armor sheath on the temperature sensor end with the stainless-steel tip for insertion into the concrete.



PVC Coated Galvanized Steel Flexible Conduit



Showing the PVC Coated over Galvanized Steel Flexible Conduit



The HardTrack Sacrificial Temperature Sensors consist of a wire lead with a stainless-steel sensor tip containing a PT1000 RTD. The wire leads have screw on connectors to attaching the sensor to the HTC II temperature controller ports. Wake offers several temperature sensor probe cable lengths:

Item	Description
	Sacrificial Temperature Sensor Probes:
RF-iQP-002	sacrificial external temperature (sensor probe only). 2 meters long or 6.56 Feet.
RF-iQP-004	sacrificial external temperature (sensor probe only). 4 meters long or 13.12 Feet.
RF-iQP-006	sacrificial external temperature (sensor probe only). 6 meters long or 19.69 Feet.
RF-iQP-008	sacrificial external temperature (sensor probe only). 8 meters long or 26.25 Feet.
RF-iQP-011	sacrificial external temperature (sensor probe only). 11 meters long or 36.09 Feet.
RF-iQP-013	sacrificial external temperature (sensor probe only). 13 meters long or 42.65 Feet.
RF-iQP-016	sacrificial external temperature (sensor probe only). 16 meters long or 52.49 Feet.
RF-iQP-024	sacrificial external temperature (sensor probe only). 24 meters long or 78.74 Feet.
RF-iQP-031	sacrificial external temperature (sensor probe only). 31 meters long or 101.71 Feet.
RF-iQP-046	sacrificial external temperature (sensor probe only). 46 meters long or 150.92 Feet.
RF-iQP-050	sacrificial external temperature (sensor probe only). 50 meters long or 164.04 Feet.
RF-iQP-100	sacrificial external temperature (sensor probe only). 100 meter long or 328.08 Feet.

The cable leads have a double layered insulation with TPE Jacket. The TPE Jacket is a step up from PVC Jackets. TPE is highly flexible, has superior low-temperature properties, and is UV resistant which make this jacket ideal for outdoor use applications.

Easy to Deploy

New pours can be set up ahead of time.

- When the devices automatically check in every 24 hours, any commands to start logging will be picked up and logging will begin.
- Alternatively, after a start or stop logging command has been sent to a device, the user can simply swipe the device with the provided keychain magnet fob, which will wake the device up and it will retrieve any commands waiting for it online.
- Currently logging devices pickup any commands sent to the device, each time they upload new temperature data.

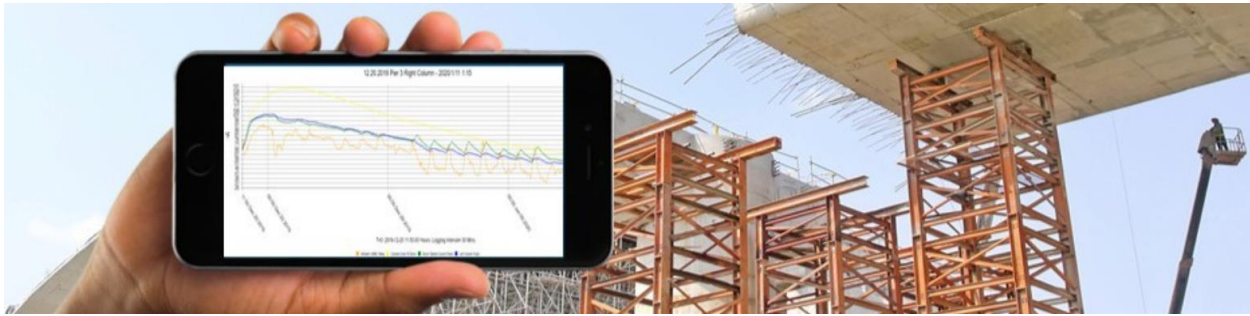


Optional Solar Panel (Trickle Charger)

Low light monocrystalline silicon solar trickle charger allows for uninterrupted monitoring of temperature data for 60, 90, 120 days, or indefinitely.

- A built-in intelligent MPPT charge controller chip is integrated into the solar panel to prevent battery overcharge, and short circuit protection. Includes
- LED indicator lights for charging status.
- Come with installation kit that includes brackets, screws and a wrench to either mount the solar panel directly to the HTC II device's carrying handle or on a wooden post within 3 meters/9.8 feet of the HTC II.
- Armor sheathing added to trickle charge cable to protect from weather and sunlight damage to cable from long-term use outdoors.





Real-time Monitoring & Reporting

Real-time monitoring is provided via the online, secure: [HardTrack Dashboard](#) and HardTrack Summary. (Please accept the license agreement to gain access to the dashboard example)

- HardTrack Dashboard provides real-time view of each pour via a color chart, with mouse hover on data points, that displays the time and temperature of any point of data in a chart.
- Summary provides detailed, spreadsheet like, display of all temperature data collected.
 - o Optional Columns can be configured to display that are important to your thermal control plan, for example Delta T(MaxT – MinT):

		Delta Temps		
Core - 03566100-70213547_cl4	Top - 03566100-70213547_cl1	ΔT (MaxT - AmbT)	ΔT Inside (MaxT - MinT)	Max T Inside
72.6	73.2	-22.2	3.1	75.7
73.2	73.3	-24.6	3.5	76.7
73.5	74.0	-24.6	3.3	76.8
74.6	74.8	-27.0	3.1	77.7

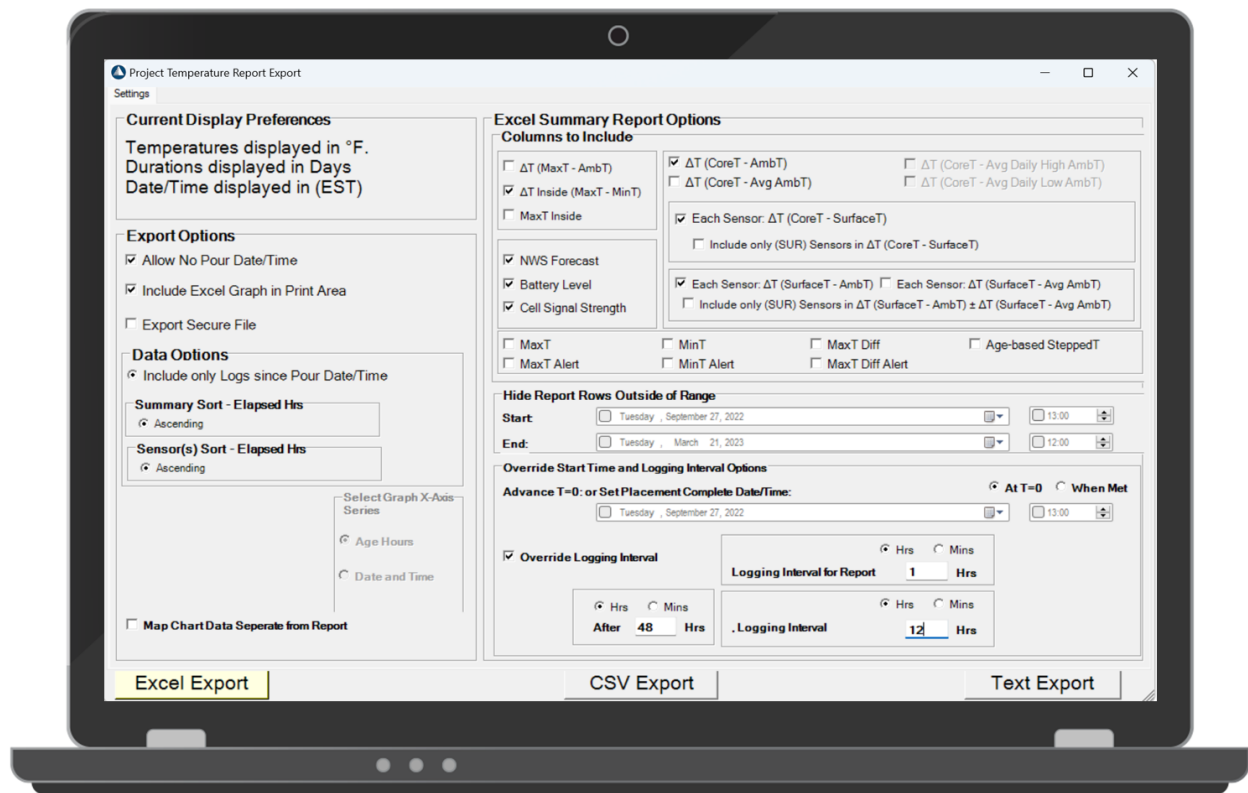
- Some users provide their Project Owner access to these online tools, reducing the need for some of the reporting requirements on a daily basis.
- View only access can be setup for users, so that projects that are in the process of being setup are only displayed to admin personal.
- You can use your iPhone or Android phone to access real-time information on your pours.
- For monitoring your pours in the office, you can **setup a large screen monitor and display real-time charts for all of your active pours** which will automatically refresh as the curing processing takes place.
- HardTrack can be setup to send you Alerts via text or email for any of your Thermal Control specifications, for example:
 - o Nearing Maximum Temperature,



- Nearing Minimum Temperature,
- Delta Temperature of Surface vs. Core/Center Nearing Out of Specification,
- Delta Temperature of Surface vs. Ambient Nearing Out of Specification,
- Thermal Shock Warning if Ambient Temperature Changes more than X degrees within X hours, etc.

HardTrack allows for generating, very detailed **Excel Workbooks for each Pour**, including a full summary worksheet, a detailed worksheet for each sensor with a chart and a summary chart of all sensors in the pour. This feature will save you hours of work creating reports from your concrete pours.

- There are many options that may be selected when generating the Excel Temperature Report (these settings can be saved, so that each time you run a report, they generate in the same manner):
-



HardTrack Pour Summary: Pier 12 CAP

A		D		E		F		H		I		J		K	
HardTrack Pour Summary: Pier 12 CAP															
Date/Time of Report: 2019-10-24 12:19															
Temp vs Time Graph		Ambient Probe (AMB)				Ambient Temp				Core					
		Sensor: 03566100-70213547_c3				03566100-70213547_temp1				03566100-70213547_c4					
		Mix Type: Class IV Mix 05-1679-01				Class IV Mix 05-1679-01				Class IV Mix 05-1679-01					
Temperature Controls:															
		Max Allowed Temp: 180°F				180°F				180°F					
Summary:															
Tbd:		Average Temperature: 82.78				84.75				144.53				131.59	
Pour		Highest Temperature: 128.1				107.2				167.7				150.1	
Date & Time		Lowest Temperature: 74.3				74.3				103.8				94.1	
2019-08-29 12:27		Diff Highest & Lowest Temp: 54.5				32.9				63.9				56	
Date		Time		Age (Days)		Elapsed (Hours)		Ambient Probe (AMB)		Ambient Temp		Core		Side	
yyyy-MM-dd H:mm								03566100-70213547_c3		70213547_temp1		03566100-70213547_c4		03566100-70213547_c5	
2019-08-29 12:27		0		0		0		128.1		85.1		103.8		94.1	
2019-08-29 18:30		0.25		6.05		0.25		90.3		90.3		143		138.1	
2019-08-30 0:30		0.5		12.05		0.5		82.1		78.8		154		145.8	
2019-08-30 6:30		0.75		18.05		0.75		80.8		79.3		160.7		147.7	
2019-08-30 12:30		1		24.05		1		80.4		87.4		164.6		149.4	
2019-08-30 18:30		1.25		30.05		1.25		81.3		80.6		167.1		149.5	
2019-08-31 0:30		1.5		36.05		1.5		83.7		79.3		166.9		149	
2019-08-31 6:30		1.75		42.05		1.75		79.8		77.9		166.2		147.5	
2019-08-31 12:30		2		48.05		2		93.6		104.5		164.2		146	
2019-08-31 18:30		2.25		54.05		2.25		82.9		82.9		163		146.2	
2019-09-01 0:30		2.5		60.05		2.5		80.6		80.6		161.2		145.9	
2019-09-01 6:30		2.75		66.05		2.75		80.5		78.4		158.9		141.6	
2019-09-01 12:30		3		72.05		3		90.3		98.6		155.5		139.9	
2019-09-01 18:30		3.25		78.05		3.25		84.5		85.6		153.7		139	
2019-09-02 0:30		3.5		84.05		3.5		79.7		78.4		151.7		136.7	
2019-09-02 6:30		3.75		90.05		3.75		80.1		79.3		149.7		134.3	
2019-09-02 12:30		4		96.05		4		87.4		101.8		146		132.4	
2019-09-02 18:30		4.25		102.05		4.25		84.8		90.1		144.6		131.8	
2019-09-03 0:30		4.5		108.05		4.5		79.3		77.5		142.4		129.5	
2019-09-03 6:30		4.75		114.05		4.75		78.5		77		140.6		127.1	
2019-09-03 12:30		5		120.05		5		78.8		83.8		138.1		125.3	
2019-09-03 18:30		5.25		126.05		5.25		81.9		83.8		136.2		124.6	
2019-09-04 0:30		5.5		132.05		5.5		80.2		79.3		134		122.5	
2019-09-04 6:30		5.75		138.05		5.75		76.3		76.1		132.3		120.8	
2019-09-04 12:30		6		144.05		6		82.5		84.7		129.5		117.8	
2019-09-04 18:30		6.25		150.05		6.25		83.8		83.8		127.5		116.6	
2019-09-05 0:30		6.5		156.05		6.5		81.7		81.5		126		115.7	
2019-09-05 6:30		6.75		162.05		6.75		78.8		78.4		123.5		114.2	
2019-09-05 12:30		7		168.05		7		89.9		99.1		121.9		112.8	
2019-09-05 18:30		7.25		174.05		7.25		92.6		94.1		119.8		113.5	
2019-09-06 0:30		7.5		180.05		7.5		82.1		80.6		118.7		112.4	

Summary

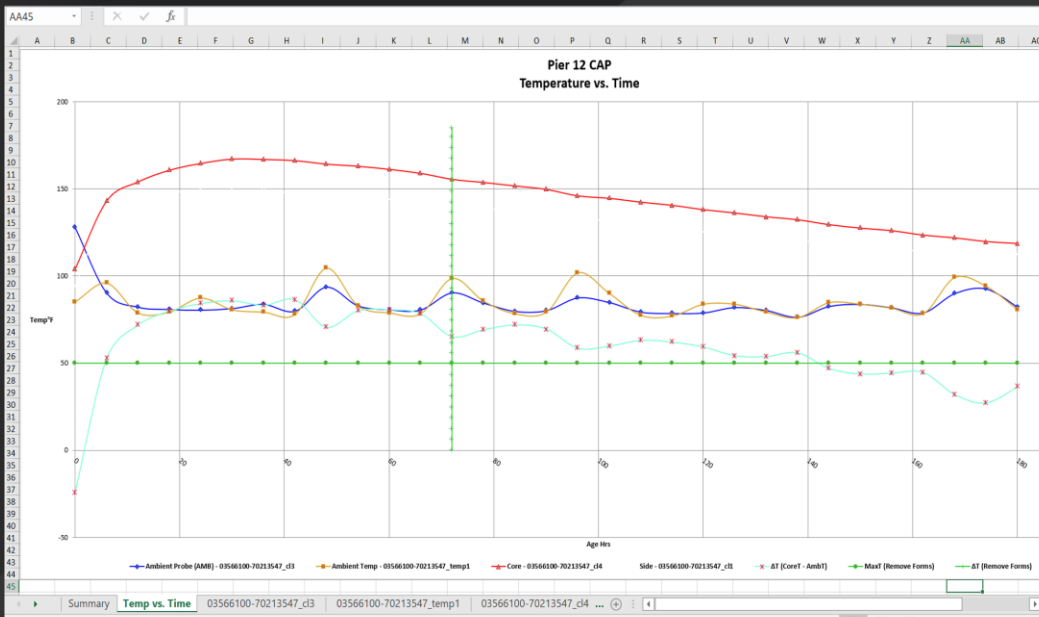
Temp vs Time

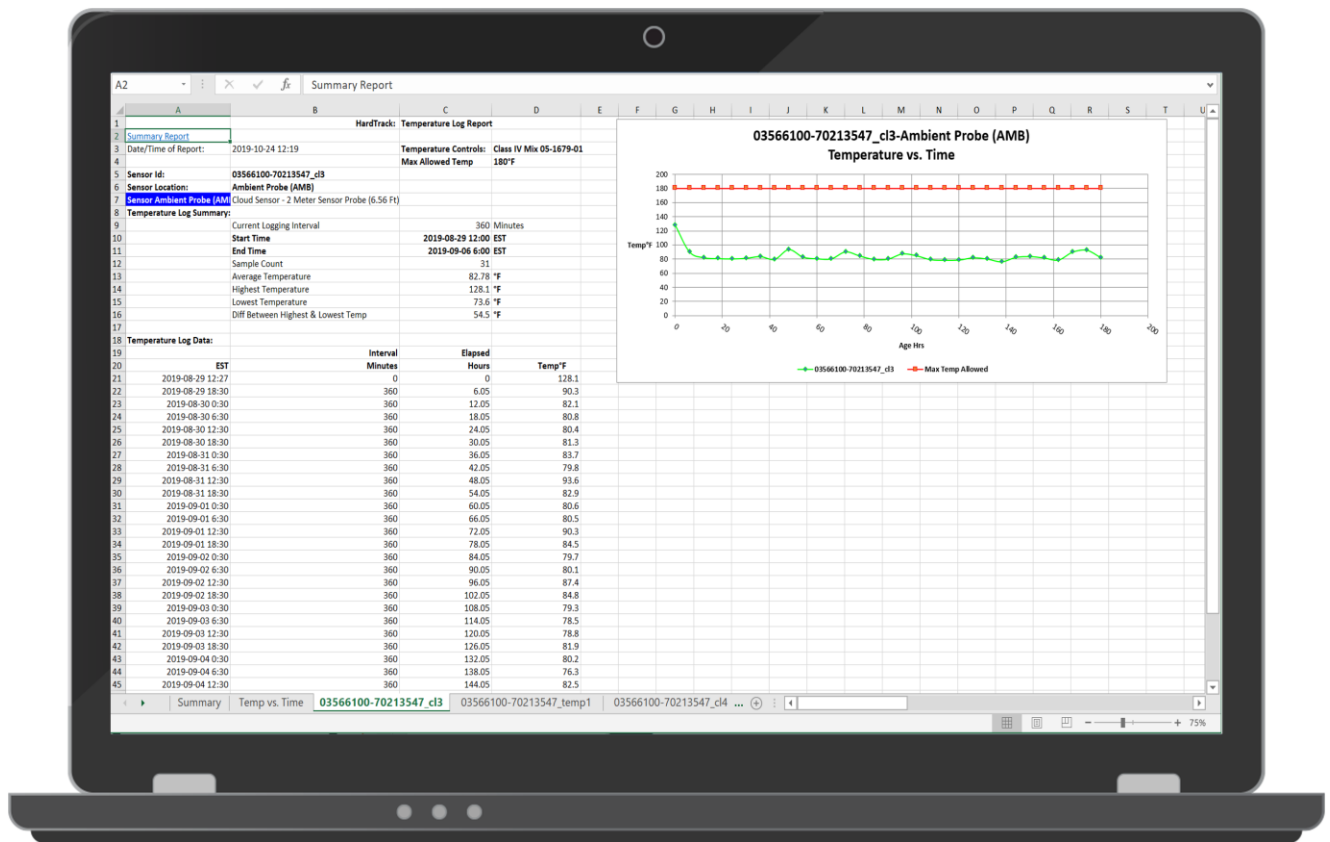
03566100-70213547_c3

03566100-70213547_temp1

03566100-70213547_c4 ...

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Wake is dedicated to your success. **If you need an additional reporting option to meet your reporting requirements, just let us know and we will add it for you at no charge!**

HardTrack Desktop

The HardTrack Solution includes the HardTrack Desktop app, which installs on your PC(s). It allows for setting up your projects, entering your concrete mixes and Alert Settings. The HardTrack Desktop app is very powerful. It will empower you to manage all of your pours from a single application, while being able to share information with your colleagues, since all of the information is stored both locally on your PC and on the HardTrack Cloud Database.

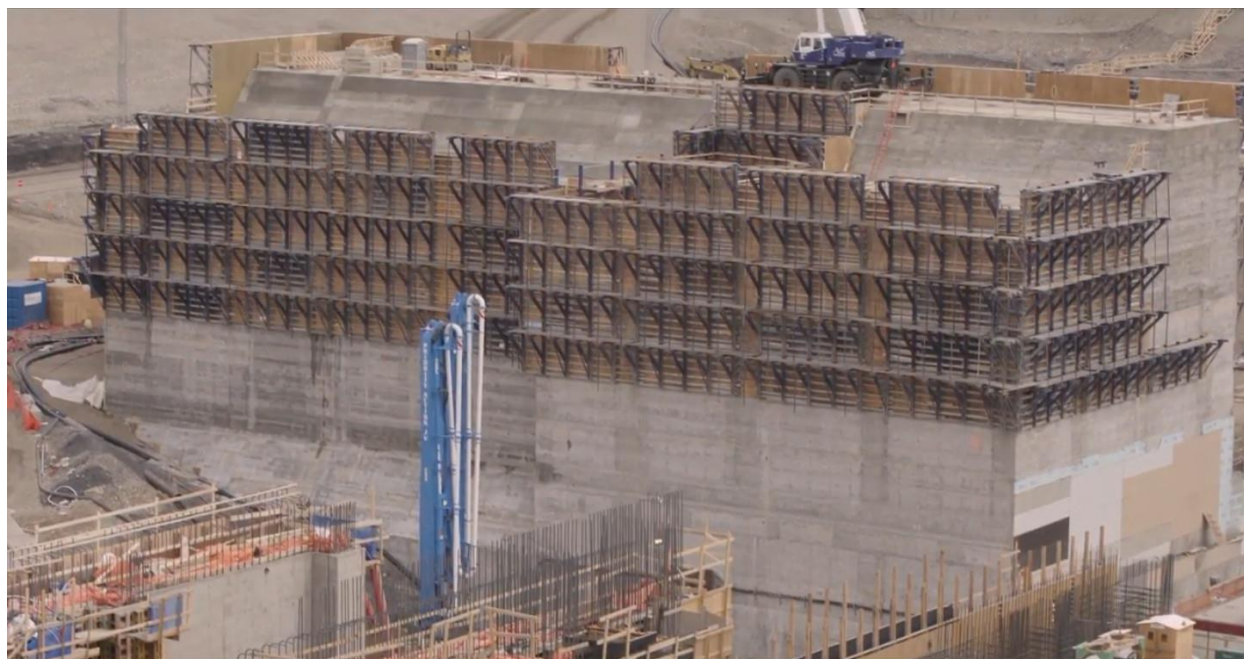
Full Concrete Maturity capability is provided within HardTrack. Sample results for each of your mixes can be entered and Maturity Targets monitored for your strength goals, so you know when post tensioning and form removal can occur and when the pour has reached full strength.

Reference Projects

<u>Project</u>	<u>Owner</u>	<u>Contractor</u>
<u>One World Trade Center</u>	Port Authority of New York & New Jersey	AECOM Tishman
<u>Pointe du Bois Spillway</u>	Manitoba Hydro	Kiewit
<u>Site C</u>	BC Hydro	AFDE GP
<u>Transbay Center</u>	Caltrans	Shimmick

Heavy Civil Infrastructure

The HardTrack Solution is uniquely positioned to support the needs of large heavy civil infrastructure projects, that include mass concrete temperature monitoring, of either a single mass pour or hundreds of sensors in multiple pours, all curing at the same time.



[Site C](#) – AFDE (Aecon, Flatiron, Dragados, EBC) GP is placing approximately 700,000 cubic meters of mass and reinforced concrete for the spillways. Approximately, (160) HardTrack Cloud Sensors, connected to (640) temperature sensors have been deployed at the project site through August 2019. Typical daily sensor monitoring at this project site is from (124) to (200) sensors on any given day.

As a result of our experience, working with the leading international construction contracting firms on projects, that include, dams, spillways, bridges, airports, tunnels, transportation centers, raised railways, ports, etc. Wake has developed and grown the HardTrack Solution to meet the unique needs of projects that require simple methods of communicating critical information to a diverse audience, such as Project Engineers, Superintendents, Government Agency Project Owners, Inspectors, etc.



For example, a project that has multiple shifts of Field Engineers, Project Engineers and even Superintendents that change daily or weekly, the web based HardTrack Dashboard allows for user type configuration, so that when Project Owner personnel view concrete pours that are currently being monitored, they will only see the pours that are active and not pours that may have been activated in preparation for upcoming concrete pours.

Project Engineers and Field Engineers can view the same information. However, they may elect to view battery life and cellular signal strength of logging devices as well as additional delta temperature statistics that are not required by the project owner. Users can choose to view **HardTrack Dashboard** information using their iPhones, Tablets, PC's or Mac's even when they are away from the job site.

The following is an example of the HardTrack Dashboard running on a large screen monitor on TV in a control room for a dam project site.

The Dashboard automatically refreshes itself every few minutes, so that a large screen can be left unattended and viewed by all personnel that need to see the progress of on-going concrete pours at your job site. Any authorized user can setup the Dashboard on one of the monitors in their office so that it works in this manner.

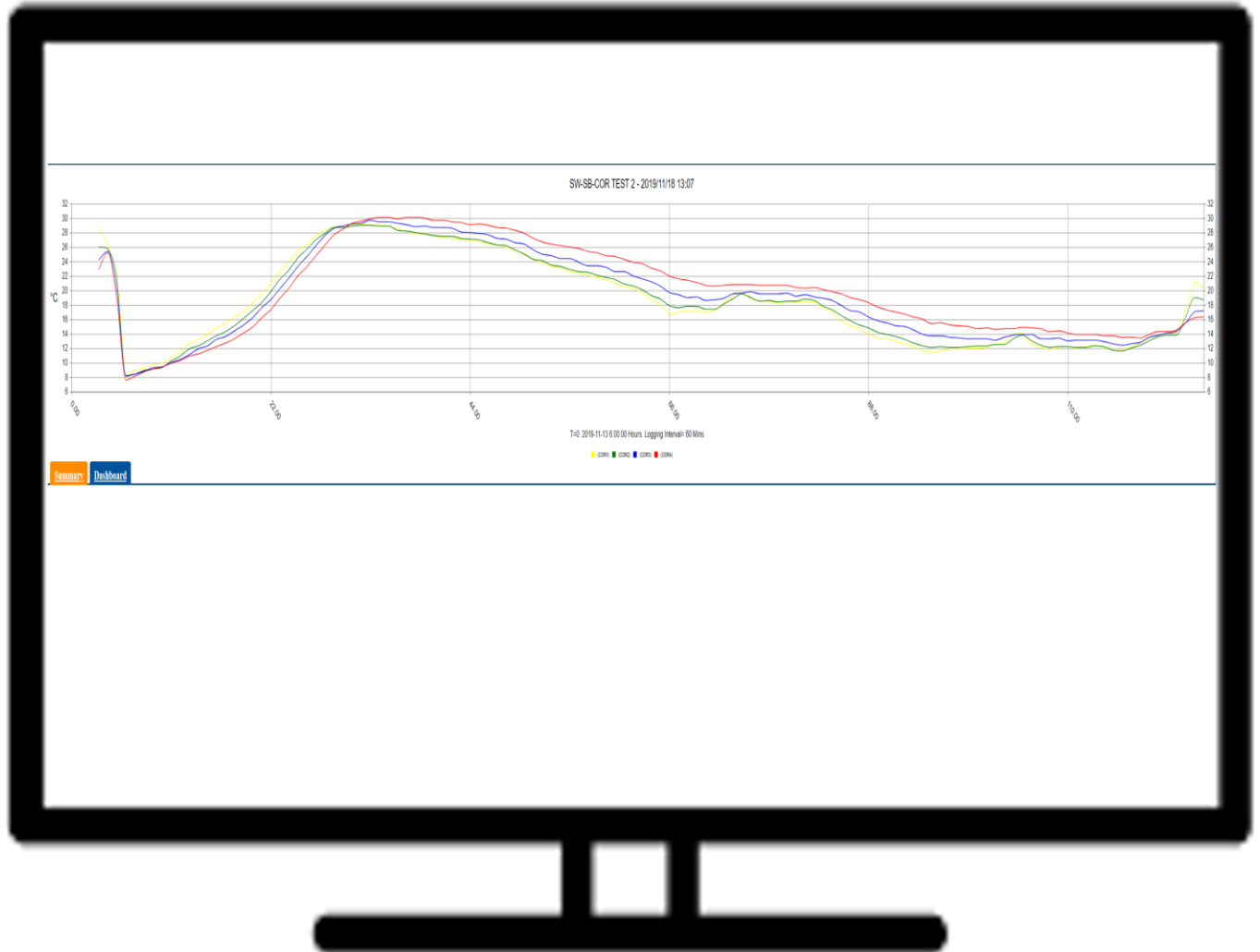
HardTrack works in both Fahrenheit and Celsius, to support the needs of users in the USA and Internationally.

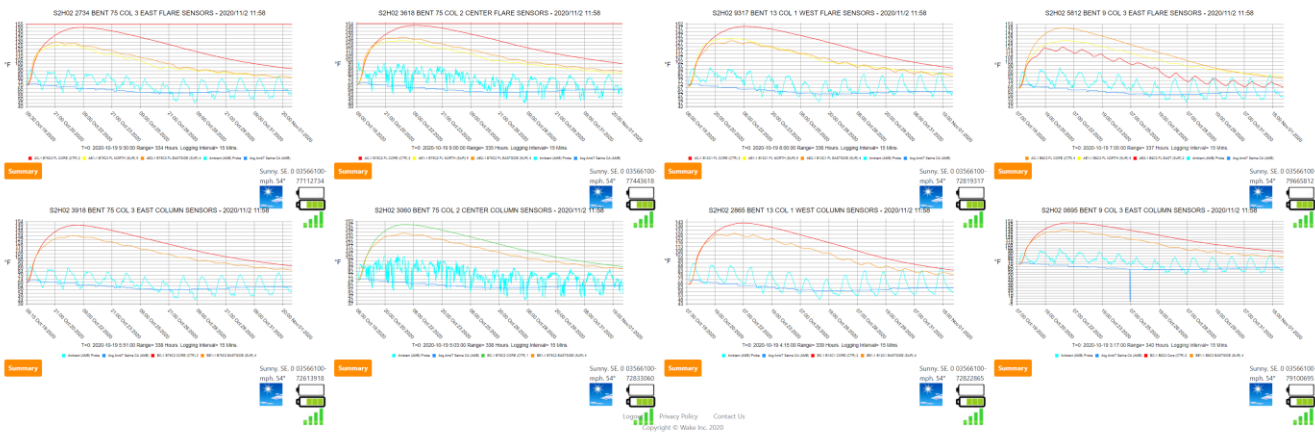


HardTrack Dashboard on Large Screen showing all curing pours concurrently:



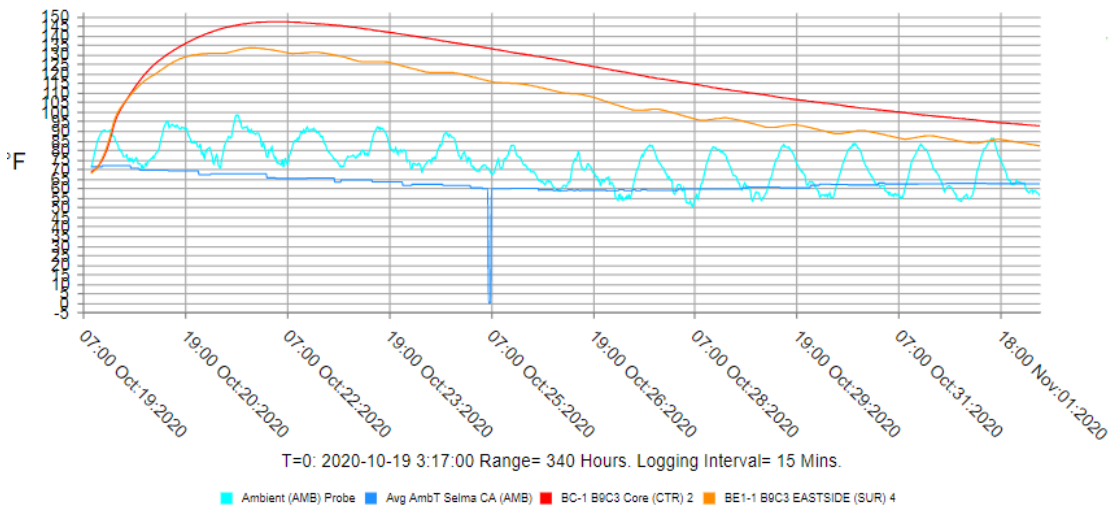
The user can click to view a pour's temperature chart individually:





Activate the HardTrack National Weather Service data stream interface and display current weather conditions at your project site in real-time with each pour. This includes the ability to use the forecast for meeting your thermal control plan specifications, such as average daily temperature.

S2H02 0695 BENT 9 COL 3 EAST COLUMN SENSORS - 2020/11/2 11:58



Summary

Sunny. SE. 0 03566100-
mph. 54° 79100695



The user can click to view all of the detailed temperature information for a given pour:



Menu

HardTrack Project Summary: SW-SB-S13-01C

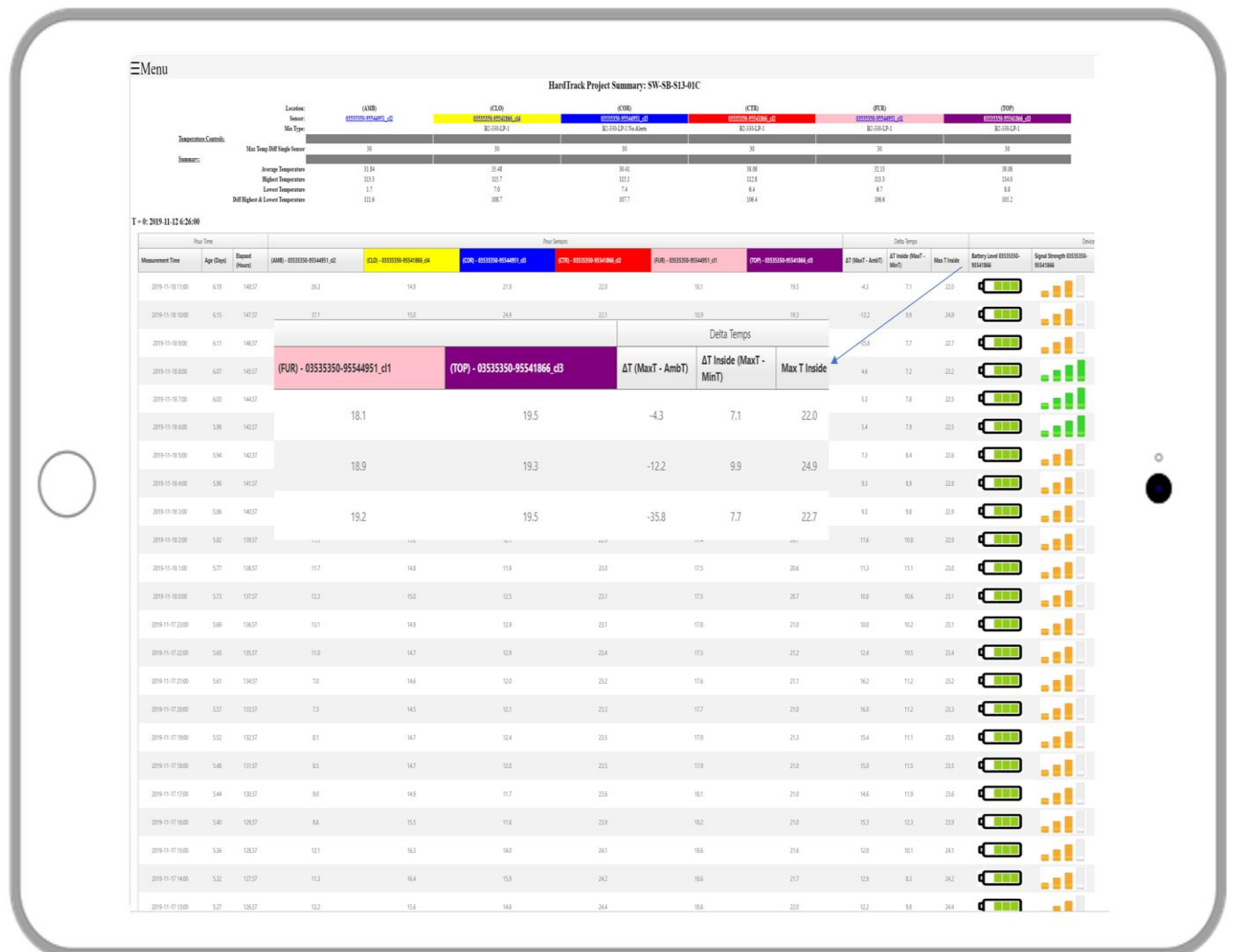
Temperature Controls	Location:					
	(AMB)	(CLO)	(COR)	(CTR)	(CTR)	(TOP)
Sensor:	035335350-95544951_c12	035335350-95541866_c14	035335350-95544951_c13	035335350-95541866_c12	035335350-95544951_c13	035335350-95541866_c12
Max Type:	BS-119-LP-1	BS-119-LP-1	BS-119-LP-1 No Alerts	BS-119-LP-1	BS-119-LP-1	BS-119-LP-1
Max Temp Diff Single Sensor	30	30	30	30	30	30
Summary:						
Average Temperature	31.04	31.46	30.40	30.08	31.13	30.80
Highest Temperature	33.3	33.7	32.2	32.5	33.3	33.0
Lowest Temperature	1.7	7.0	7.4	6.4	6.7	6.8
Diff Highest & Lowest Temperature	31.6	26.7	25.7	26.4	26.6	26.2

T = 6: 2019-11-12 6:26:00

Measurement Time	Pour Time		Pour Sensors						Data Temps		Max T Inside	Battery Level 035335350-95541866	Signal Strength 035335350-95541866	Device
	Age (Days)	Elapsed (Hours)	(AMB) - 035335350-95544951_c12	(CLO) - 035335350-95541866_c14	(COR) - 035335350-95544951_c13	(CTR) - 035335350-95541866_c12	(CTR) - 035335350-95544951_c13	(TOP) - 035335350-95541866_c12	AT (MaxT - MinT)	AT (MaxT - MinT)				
2019-11-18 11:00	6.19	148.57	26.3	14.9	21.9	22.0	19.1	19.5	-4.3	7.1	22.0			035335350-95541866
2019-11-18 10:00	6.15	147.57	37.1	15.0	24.9	22.1	19.9	19.3	-12.2	9.9	24.9			035335350-95541866
2019-11-18 9:00	6.11	146.57	38.5	15.0	22.7	22.1	19.2	19.5	-15.8	7.7	22.7			035335350-95541866
2019-11-18 8:00	6.07	145.57	17.6	15.3	15.0	22.2	17.4	20.1	4.6	7.2	22.2			035335350-95541866

T = 0: 2019-11-12 6:26:00

Pour Time			Pour Sensors			
Measurement Time	Age (Days)	Elapsed (Hours)	(AMB) - 035335350-95544951_c12	(CLO) - 035335350-95541866_c14	(COR) - 035335350-95544951_c13	(CTR) - 035335350-95541866_c12
2019-11-18 11:00	6.19	148.57	26.3	14.9	21.9	22.0
2019-11-18 10:00	6.15	147.57	37.1	15.0	24.9	22.1
2019-11-18 9:00	6.11	146.57	38.5	15.0	22.7	22.1
2019-11-18 8:00	6.07	145.57	17.6	15.3	15.0	22.2
2019-11-17 18:00	5.52	132.57	8.1	14.7	12.4	23.5
2019-11-17 18:00	5.48	131.57	8.5	14.7	12.0	23.5
2019-11-17 13:00	5.44	130.57	9.0	14.9	11.7	23.6
2019-11-17 18:00	5.40	129.57	8.6	15.5	11.6	23.9
2019-11-17 13:00	5.36	128.57	12.1	16.3	14.0	24.1
2019-11-17 14:00	5.32	127.57	11.3	16.4	15.9	24.2
2019-11-17 13:00	5.27	126.57	12.2	15.6	16.0	24.4



HardTrack Alerts help to make monitoring a large array of temperature sensors a lot less stressful, alerting key project personnel of potential out of specification conditions before the out of specification condition occurs.

Typical Alert Settings:

Maximum Temperature at time of Placement: 67°F

Maximum Temperature after placement: 160°F, Alert at 150°F

Age-based Stepped Temperature Difference Limit Core/Center to Surface to avoid thermal cracking:

30°F 0-48 hours after placement, Alert at 25°F

40°F 48-72 hours after placement, Alert at 35°F

50°F thereafter, Alert at 45°F

Completion of Thermal Control:

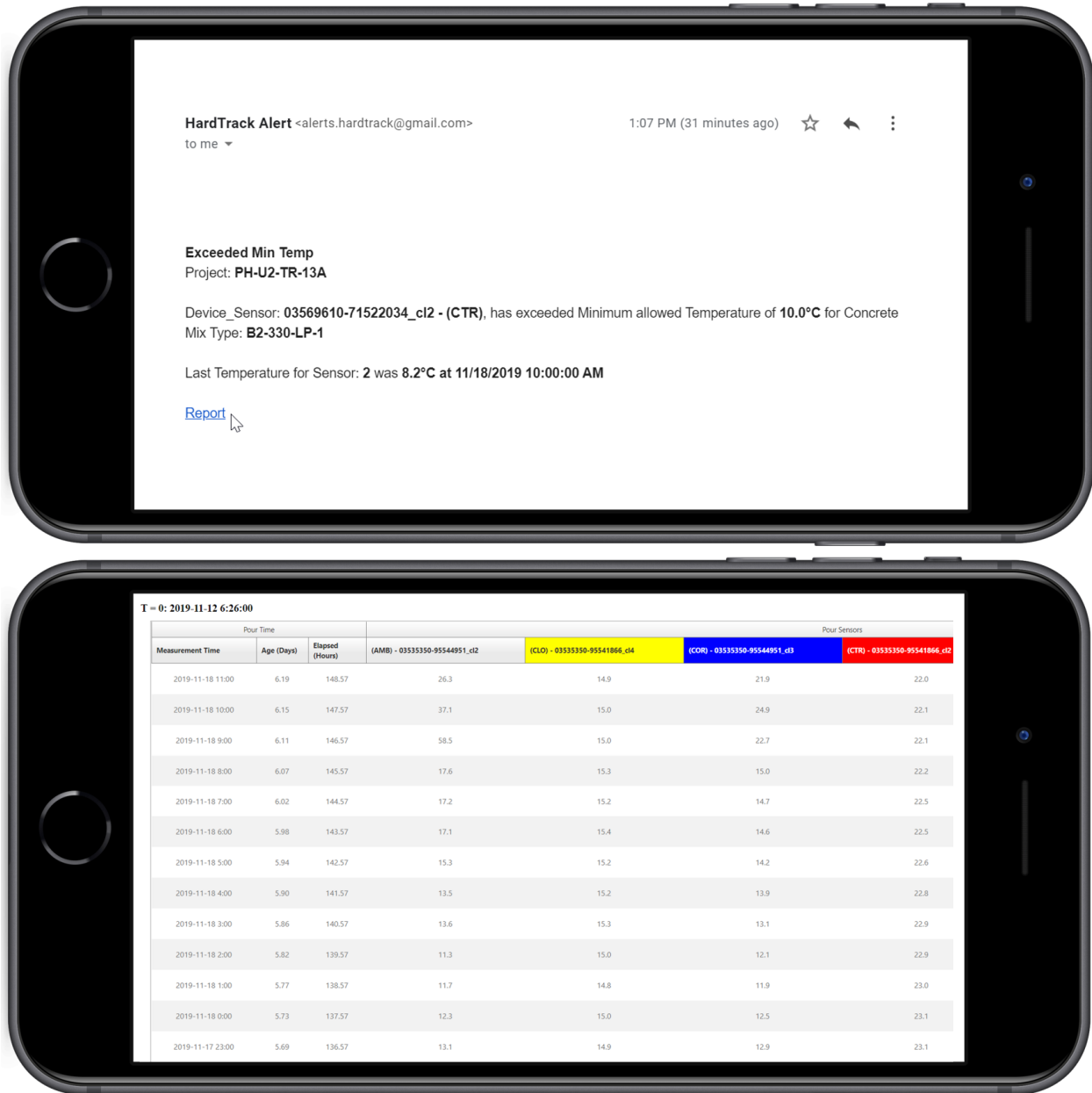
Special Config attached to each Mixture at Targets:

MaxT (Remove Forms) 50°F



Elapsed T (Remove Forms) 72

A link is provided with every Alert that will take the user directly to the detailed information regarding the particular pour.



Too much of a good thing, can be an issue when it comes to Alerts. With HardTrack, you can set how often a particular repeating alert is sent to your users, so that they do not become overwhelmed with too much granular information.



Mobile Device Management – MDM

HardTrack makes the challenging job of managing all of your temperature logging devices far less of a challenge, by notifying you of devices that have issues with a daily or weekly Device Health Report via email listing each device that is active, what project it is monitoring, the amount of remaining battery power, cellular signal strength, etc., with highlights of any devices with low battery power or weak cellular signal strength.

Device Health Report

In the text or email received from HardTrack, to see pour details, users just tap on the pour name

Project: **PH-U1-TR-18A** Device: 03569610-71867934 Name: 00400-A-(GRP):
Internal Backup Battery Powering Device, Power Remaining: 44% at 2019-12-04 19:00
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -65 dBm

Project: **PH-U2-CC-08A** Device: 03569610-71522299 Name: 09100-B-(PYB):
Internal Backup Battery Powering Device, Power Remaining: 62% at 2019-12-04 19:00
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -71 dBm

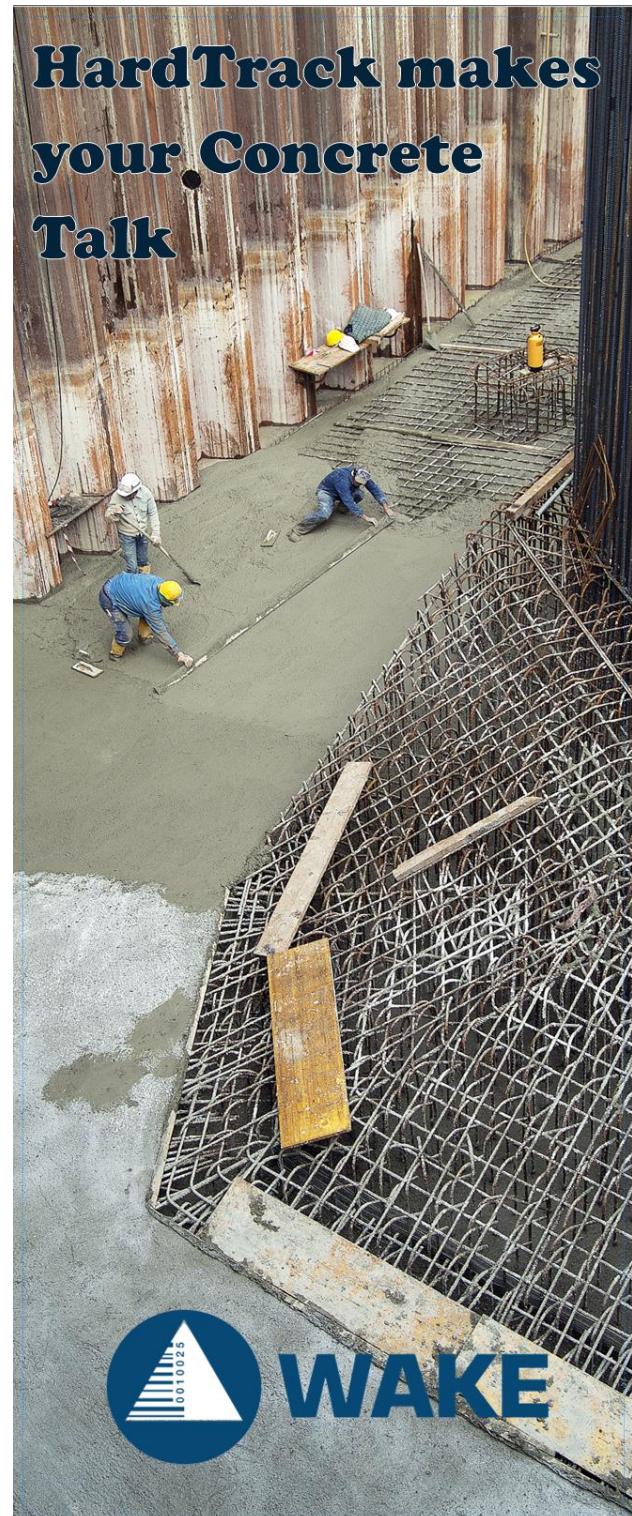
Project: **PH-U2-CC-08A** Device: 03569610-71869708 Name: 00800-A-(GRP):
Internal Backup Battery Powering Device, Power Remaining: 54% at 2019-12-04 19:00
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -73 dBm

Project: **PH-U2-GR-07ABEF** Device: 03535350-95545107 Name: 01600-B-(PYB):
Internal Backup Battery Powering Device, Power Remaining: 70% at 2019-12-04 19:00
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -85 dBm

Project: **PH-U2-GR-07ABEF** Device: 03569610-71523370 Name: 01600-A-(GRP):
Internal Backup Battery Powering Device, Power Remaining: 9% at 2019-12-03 18:01
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -77 dBm

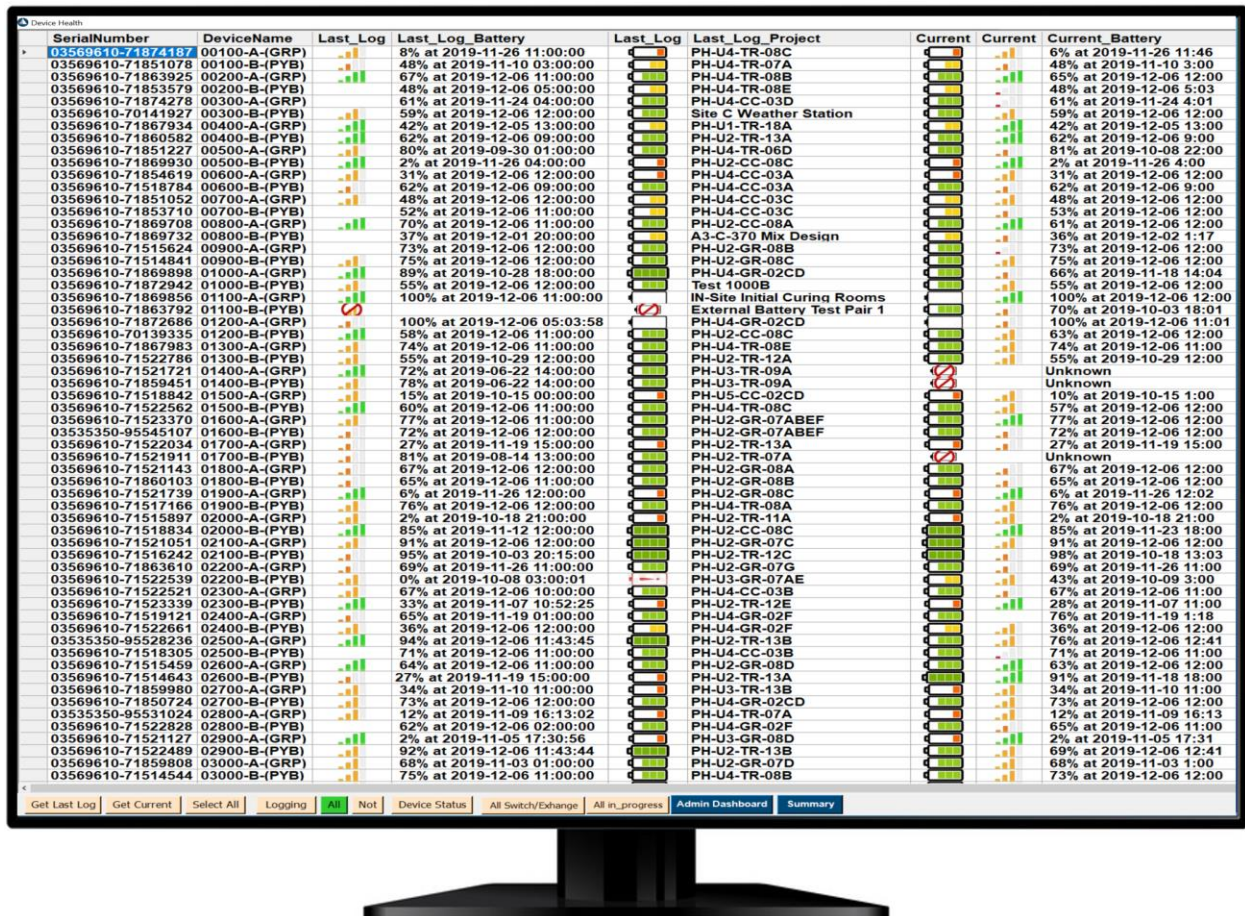
Project: **PH-U2-GR-08A** Device: 03569610-71521143 Name: 01800-A-(GRP):
Internal Backup Battery Powering Device, Power Remaining: 54% at 2019-12-04 19:00
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -89 dBm

Project: **PH-U2-GR-08B** Device: 03569610-71515624 Name: 00900-A-(GRP):
Internal Backup Battery Powering Device, Power Remaining: 53% at 2019-12-04 19:00
External Rechargeable Battery either not Connected or No Power Remaining
Cellular Signal Strength: -107 dBm





You can access this information at any time from the HardTrack software in real-time:



When you need more details, just click the device and view what is occurring right now:

SerialNumber	DeviceName	Last_Log	Last_Log_Battery	Last_Log	Last_Log_Project	Current	Cu	DeviceName	ProjectName	Action	Notes	ActionTime
03569610-71874187	01000-A-(GRP)	5% at 2019-11-26 11:00:00			PH-U4-TR-08C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 22:00:45
03569610-71851078	00100-B-(PYB)	48% at 2019-11-10 03:00:00			PH-U4-TR-07A			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 21:00:44
03569610-71863925	00200-A-(GRP)	67% at 2019-12-06 11:00:00			PH-U4-TR-08B			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 20:00:44
03569610-71853579	00200-B-(PYB)	48% at 2019-12-06 05:00:00			PH-U4-TR-08E			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 19:00:43
03569610-71874278	00300-A-(GRP)	61% at 2019-11-24 04:00:00			PH-U4-CC-03D			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 18:01:17
03569610-70141927	00300-B-(PYB)	59% at 2019-12-06 12:00:00			Site C Weather Station			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 17:00:42
03569610-71867934	00400-A-(GRP)	42% at 2019-12-06 13:00:00			PH-U2-TR-13A			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 16:01:44
03569610-71860582	00400-B-(PYB)	62% at 2019-12-06 09:00:00			PH-U4-TR-08C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 15:45:44
03569610-71851227	00500-A-(GRP)	80% at 2019-09-30 01:00:00			PH-U4-TR-08C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 15:30:43
03569610-71869930	00500-B-(PYB)	2% at 2019-11-26 04:00:00			PH-U2-CC-08C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 15:15:43
03569610-71854619	00600-A-(GRP)	31% at 2019-12-06 12:00:00			PH-U4-CC-03A			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 14:56:56
03569610-71518784	00600-B-(PYB)	62% at 2019-12-06 09:00:00			PH-U4-CC-03C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 14:45:56
03569610-71851052	00700-A-(GRP)	48% at 2019-12-06 12:00:00			PH-U4-CC-03C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 14:30:43
03569610-71853710	00700-B-(PYB)	52% at 2019-12-06 11:00:00			PH-U2-CC-08C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 14:15:44
03569610-71869708	00800-A-(GRP)	70% at 2019-12-06 11:00:00			PH-U2-CC-08A			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 14:00:43
03569610-71869732	00800-B-(PYB)	37% at 2019-12-01 20:00:00			A3-C-370 Mix Design			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:50:25
03569610-71515624	00900-A-(GRP)	73% at 2019-12-06 12:00:00			PH-U2-GR-08B			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:50:25
03569610-71514841	00900-B-(PYB)	75% at 2019-12-06 12:00:00			PH-U2-GR-08C			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:46:25
03569610-71869898	01000-A-(GRP)	89% at 2019-10-28 18:00:00			PH-U4-GR-02CD			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:46:25
03569610-71872942	01000-B-(PYB)	55% at 2019-12-06 12:00:00			Test 1000B			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:46:25
03569610-71869856	01100-A-(GRP)	100% at 2019-12-06 11:00:00			N-Site Initial Curing Rooms			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:46:25
03569610-71863792	01100-B-(PYB)	100% at 2019-12-06 05:03:58			External Battery Test Pair 1			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:46:25
03569610-71872686	01200-A-(GRP)	59% at 2019-12-06 11:00:00			PH-U4-GR-02CD			03569610-70139335	PH-U2-CC-08C	Device Connection	complete	2019-11-30 13:46:25
03569610-71867983	01200-B-(PYB)	74% at 2019-12-06 11:00:00			PH-U2-CC-08C			03569610-70139335_c1	PH-U2-CC-08C	Restart Logging	complete	2019-11-30 13:50:25
03569610-71522786	01300-A-(GRP)	55% at 2019-10-29 12:00:00			PH-U4-TR-08E			03569610-70139335_c3	PH-U2-CC-08C	Restart Logging	complete	2019-11-30 13:50:25
03569610-71521721	01400-A-(GRP)	72% at 2019-06-22 14:00:00			PH-U3-TR-12A			03569610-70139335_c1	PH-U2-CC-08C	Restart Logging	complete	2019-11-30 13:46:25
03569610-71859451	01400-B-(PYB)	70% at 2019-06-22 14:00:00			PH-U3-TR-09A							
03569610-71518842	01500-A-(GRP)	15% at 2019-10-15 00:00:00			PH-U5-CC-02CD							
03569610-71522562	01500-B-(PYB)	60% at 2019-12-06 11:00:00			PH-U4-TR-08C							
03569610-71523370	01600-A-(GRP)	77% at 2019-12-06 11:00:00			PH-U2-GR-07ABEF							
03535350-95545107	01600-B-(PYB)	72% at 2019-12-06 12:00:00			PH-U2-GR-07ABEF							
03569610-71522034	01700-A-(GRP)	27% at 2019-11-19 15:00:00			PH-U2-TR-13A							
03569610-71521911	01700-B-(PYB)	81% at 2019-08-14 13:00:00			PH-U2-TR-07A							
03569610-71521143	01800-A-(GRP)	67% at 2019-12-06 12:00:00			PH-U2-GR-08A							
03569610-71860103	01800-B-(PYB)	65% at 2019-12-06 11:00:00			PH-U2-GR-08B							
03569610-71521739	01900-A-(GRP)	6% at 2019-11-26 12:00:00			PH-U2-GR-08C							
03569610-71517166	01900-B-(PYB)	76% at 2019-12-06 12:00:00			PH-U4-TR-08A							
03569610-71515897	02000-A-(GRP)	2% at 2019-10-18 21:00:00			PH-U2-TR-11A							
03569610-71518834	02000-B-(PYB)	85% at 2019-11-12 12:00:00			PH-U2-CC-08C							
03569610-71521051	02100-A-(GRP)	91% at 2019-12-06 12:00:00			PH-U2-GR-07C							
03569610-71516242	02100-B-(PYB)	95% at 2019-10-03 20:15:00			PH-U2-TR-12C							
03569610-71863610	02200-A-(GRP)	89% at 2019-11-26 11:00:00			PH-U2-GR-07G							
03569610-71522539	02200-B-(PYB)	0% at 2019-10-08 03:00:01			PH-U3-GR-07AE							
03569610-71522521	02300-A-(GRP)	67% at 2019-12-06 10:00:00			PH-U4-CC-03B							
03569610-71523339	02300-B-(PYB)	33% at 2019-11-07 10:52:25			PH-U2-TR-12E							
03569610-71519121	02400-A-(GRP)	65% at 2019-11-19 01:00:00			PH-U4-GR-02F							
03569610-71522661	02400-B-(PYB)	36% at 2019-12-06 12:00:00			PH-U4-GR-02F							
03535350-95528236	02500-A-(GRP)	94% at 2019-12-06 11:43:45			PH-U2-TR-13B							
03569610-71518305	02500-B-(PYB)	71% at 2019-12-06 11:00:00			PH-U4-CC-03B							
03569610-71514550	02600-A-(GRP)	64% at 2019-12-06 11:00:00			PH-U2-GR-08D							
03569610-71514643	02600-B-(PYB)	27% at 2019-11-19 15:00:00			PH-U2-TR-13A							
03569610-71859980	02700-A-(GRP)	34% at 2019-11-10 11:00:00			PH-U3-TR-13B							
03569610-71850724	02700-B-(PYB)	73% at 2019-12-06 12:00:00			PH-U4-GR-02CD							
03535350-95531024	02800-A-(GRP)	12% at 2019-11-09 16:13:02			PH-U4-TR-07A							
03569610-71522828	02800-B-(PYB)	62% at 2019-12-06 02:00:00			PH-U4-GR-02F							
03569610-71521127	02900-A-(GRP)	2% at 2019-11-05 17:30:56			PH-U3-GR-08D							
03569610-71524809	02900-B-(PYB)	92% at 2019-12-06 11:43:44			PH-U2-TR-13B							
03569610-71859808	03000-A-(GRP)	68% at 2019-11-03 01:00:00			PH-U2-GR-07D							
03569610-71514544	03000-B-(PYB)	75% at 2019-12-06 11:00:00			PH-U4-TR-08B							



Project Segment Management

Segments can be created in HardTrack to support segment teams on large projects. The HardTrack Cloud Database can contain all the data for your project, with data separation by segment for managing the collection and administration of devices. Separate HardTrack online Dashboards can be generated so that segment teams only view the concrete pours within their project segment when viewing their real-time status. Alerts are separated by segment so that only team members of a segment receive alerts for issue with their concrete pours. The links provided on the electronic alerts will allow users to view the exact pour with an issue or all of the pours that are currently being monitored within their segment.

Project Segments Definition

Add		Delete
SegmentName	ProjectNameFilter	
AP - Approach Channel	AP%	
BOPO - Fishways	PUF%	
FE - Foundation Enhancement	FE%	
HW - Headworks	%HW-% *OR* HW%	
IN - Intake	IN%	
Other - Catch All	% *AND NOT* AP% *AND NOT* IN% *AND NOT* PS% *AND NOT* PH% *AND NOT* SW% *AND NOT* %-HW-% *AND NOT* HW% *AND NOT* FE% *AND NOT* PUF%	
PH - Powerhouse	PH%	
PS - Penstocks	PS%	
SW - Spillway	SW% *AND NOT* %-AS-%	
SW-AS - Auxiliary Spillway	SW-AS-%	

Daily Thermal Control Report – by Segment

To support management of large heavy civil projects with several segments, Daily Thermal Control Reports can be generated, that contain a project summary for each concrete pour being monitored, separated within an Excel Workbook with project segments in their own Worksheet:

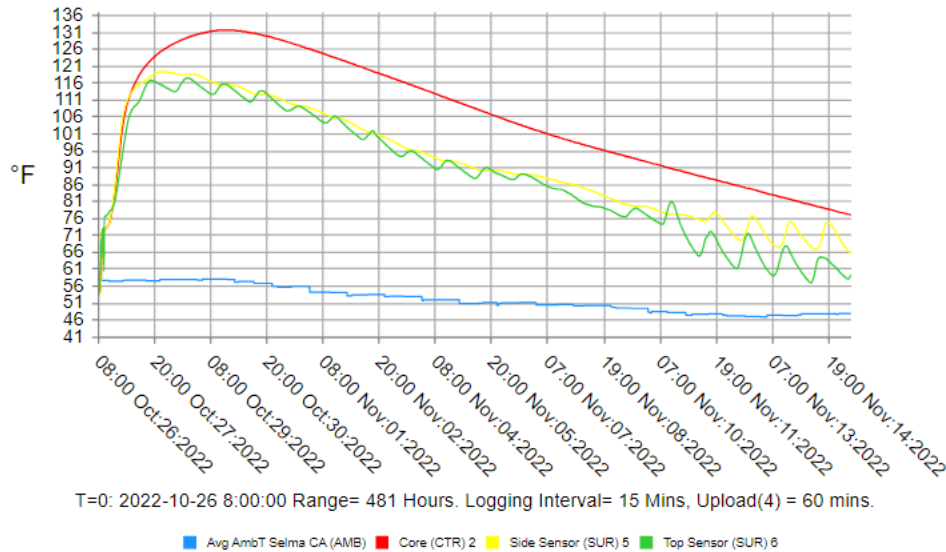
	A	B			C	D	E	F	G	H	I	J	K	L	M	N	O
	Date & Time:	November 15, 2022				7AM	SW - The										
1																	
2	Pour ID	Pour Date	Age(Days)	Required Curing days	Size (m³)	Forecasted Outside Temp¹	AMB	CLO (S)	COR (S)	CTR	FUR (S)	TOP (S)	ΔT-1² (Clause 3.10.2)	ΔT-2³ (Clause 3.10.5.2)	ΔT-3⁴ (Clause 3.10.5.1)		
3	SW-SB-TC9 - Weather Station	13-Dec	0	14	0	-2.8							0.0	2.8	2.8		
4	SW-WL-CH-07C-AMB	14-Nov	1	14	0	-2.8	114.3						0.0	2.8	2.8		
5	SW-SB-LW4-06	13-Nov	2	14	0	-2.8	5.3	3.0	5.9	5.1	5.2	3.8	2.2	8.7	8.7		
6	SW-CW-CH-13A	12-Nov	3	14	0	-2.8	10.9	34.9	19.8	43.0	32.4	23.1	19.9	37.7	45.8		
7	SW-B2-CH-08A1	12-Nov	3	14	0	-2.8	11.5	23.0	17.0	24.0	21.7	19.6	4.4	25.8	26.8		
8	SW-B1-CH-13B	12-Nov	3	14	0	-2.8	3.3	22.3	21.0	27.3	25.5	24.1	5.0	28.3	30.1		
9	SW-SB-DW1-07	11-Nov	4	14	0	-2.8	33.8	35.2	17.2	48.9	32.5	31.9	17.0	38.0	51.7		
10	SW-EL-HH-01F	11-Nov	4	14	0	-2.8	1.0	1.4		2.3		2.0	0.9	4.8	5.1		
11	SW-WL-CH-08B1	9-Nov	6	14	0	-2.8	112.6	114.7		114.9		115.5	0.8	118.3	118.3		
12	SW-SB-S3-01B2	9-Nov	6	14	0	-2.8	16.1	25.1	113.7	25.6	22.7	27.3	4.6	116.5	116.5		
13	SW-SB-S3-01A	9-Nov	6	14	0	-2.8	27.7	25.2	16.2	28.7	17.9	29.5	11.6	32.3	32.3		
14	SW-SB-LW4-06A	6-Nov	9	14	0	-2.8	6.4	19.0	18.4	22.6	18.2	17.4	5.2	21.8	25.4		
15	SW-EL-CH-08D1	6-Nov	9	14	0	-2.8	29.1	19.7	16.7	23.2	16.9	17.8	6.3	22.5	26.0		
16	SW-B3-CH-08B1	6-Nov	9	14	0	-2.8	29.3	15.5	11.6	24.5	13.5	13.4	11.1	18.3	27.3		
17	SW-SB-S3-01C	4-Nov	11	14	0	-2.8	4.5	25.6	16.1	32.4	20.0	34.1	14.1	36.9	36.9		
18	SW-B1-CH-13A	3-Nov	12	14	0	-2.8	4.7	18.9	13.5	22.5	18.4	17.6	4.9	21.7	25.3		
19	SW-B1-CH-12B	28-Oct	18	14	0	-2.8	114.6	19.9	114.0	6.9	113.0	13.9	106.1	116.8	116.8		
	SW-B2-CH-07B	25-Oct	21	14	0	-2.8	115.4	19.0		20.7	114.1	15.2	98.9	116.9	116.9		
AP TC Table		BOPO TC Table	FE TC Table	IN TC Table	Other TC Table	PH TC Table	PS TC Table	SW TC Table		SW-AS TC Table		+					
Ready  Accessibility: Unavailable																	

	A	B	C	D	E		G	H	I	J	K	L	M	N	O	P	Q	R	S	T				
3	Date & Time:		November 15, 2022				TAM		FE - Thermal Control Tracking															
7	Pour ID	Pour Date	Age(Days)	Required Curing days	Size (m²)	Forecasted Outside Temp¹	AMB	CTR	IT (S)	OT (S)	TOP (S)	PUR (S)	CLO	CON	Theoretical End Date of TCP	AT-1² (Close 3.18.2)	AT-2² (Close 3.18.5.2)	AT-3² (Close 3.18.5.1)	Actions / Notes	Possible Non-Conformance (Data, Duration, Problem, Cause)				
2	FE-U2-CAP-61A(2)	24-Oct	0	7	0	-2.8		9.8					8.0	6.7		28-Oct	0.0	12.6	12.6					
3	FE-U3-CAP-61A(2)	28-Jul	0	7	0	-2.8										1-Aug	0.0	2.8	2.8					
4	FE-U3-CAP-61A(3)	28-Jul	0	7	0	-2.8										1-Aug	0.0	2.8	2.8					
6	FE-U3-CAP-61A	28-Jul	0	7	0	-2.8										1-Aug	0.0	2.8	2.8					
7	FE-U2-CAP-61A(3)	24-Oct	22	7	0	-2.8		15.7					9.4	11.8	10.4	28-Oct	0.0	18.5	18.5					
8	FE-U2-CAP-61A (3)	24-Oct	22	7	0	-2.8	15.0				8.3	6.9	6.4	7.9	28-Oct	0.0	11.1	11.1						
9	FE-U3-F222AB-T3	22-Oct	24	7	0	-2.8	1.6	17.5	16.2	15.3	5.5				26-Oct	12.0	20.3	20.3						
10	(X) Sensor malfunction, no data recording																							
11	(R) Affected by other pours that not exposed to ambient temperatures, not used in calculation of AT-1, AT-2 and AT-3. Please refer to AFDE-CGEN-4 TR-00017.																							
12	(M) Max temp differential within the CIPC shall not exceed 20°C (Max temp differential Excludes the Corner sensor)																							
13	AT-1²: Max temp differential between surface and forecasted outside temp, 14°C or less																							
14	AT-2²: Max temp differential between forecasted outside temp and highest temp in placement, 20°C or less																							
15	AT-3²: Difference between forecasted outside temp and highest temp in placement, 20°C or less																							
16	²See Procedure (AFDE-CGEN-PRO-00016) for details.																							
17	Legend: "-" = No sensor ; "x" = Damaged sensor ; "+" = Wireless issue																							
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
AP TC TableBOPO TC TableFE TC TableIR TC TableOther TC TablePH TC TablePS TC TableSW TC TableSW-AS TC Table Accessibility (optional) 21																								

If separate databases are preferred for multiple construction projects underway, separate databases can be configured so that users only have access to information for their projects.

National Weather Service API

When viewing the status of concrete pours in HardTrack, the current weather conditions can be configured to display by the project segments GPS Coordinates providing historical weather conditions during the concrete pours' monitoring period:



Summary

03566100- Sunny. NW.

79203267 5 mph. 50°



T = 0: 2022-10-26 8:00:00													
Measurement Time	Age (Days)	Elapsed (Hours)	Avg HardTrack Value (15 MIN)	Core (CTR) 2 - 15 MIN	Side Sensor (SUR) 5 - 15 MIN	Top Sensor (SUR) 6 - 15 MIN	AT Inside (Start - Min)	Max T Inside	Avg Amb - High/Low - Rolling 24 Hrs - 5 Past Days - 5 Future Days	Delta Temp	Side Sensor (SUR) 5 - AT (Core - Surface)	Top Sensor (SUR) 6 - AT (Core - Surface)	Battery Level 03566100-79203267
2022-11-15 10:00	20.08	480.00	47.7	76.8	65.5	59.2	17.6	76.8	47.3	29.5	11.3	17.6	
2022-11-15 8:45	20.07	481.75	47.7	76.8	65.5	59.0	17.8	76.8	47.3	29.5	11.3	17.8	
2022-11-15 8:30	20.06	481.50	47.7	76.8	65.7	58.6	18.2	76.8	47.3	29.5	11.1	18.2	
2022-11-15 8:15	20.05	481.25	47.7	77.0	65.7	58.5	18.5	77.0	47.3	29.7	11.3	18.5	

If desired, the HardTrack Cloud Device's remaining battery power and cellular signal strength can also be displayed.



With a growing number of concrete specifications requiring that the monitoring period continue until the Core/Center Temperature minus Average Ambient Temperature equal a specified value, HardTrack can be configured to generate and use Average Ambient Temperature based on the specified formula using past, current and future forecasted temperature data by concrete mix type:

Targets For: Standard Mix

Name	Temperature	Verify	Temp
MaxT (Remove Forms)	0	☐ TTF°F ☐ psi ☒ Temp	☐ C ☒ F
Elapsed T (Remove Forms)	0	☐ TTF°F ☐ psi ☒ Temp	

Temperature Control Measures		Cloud Sensor Alert Contact	Cloud Sensor Alert Type	Alert	Temp
☐ psi Tolerance %	0		<-psi Tolerance		☐ C ☒ F
☒ Max Temp	160	Group: Segment 2	Alert Max Temp->	155	
☐ Min Temp	0		<-Min Temp		
☐ Max Temp Diff Single Sensor	0		<-Max Temp Diff Single Tag		
☒ Max Temp Diff All Sensors	35	Group: Segment 2	Alert Max Temp Diff All Tags->	31.5	
☒ Use PBTDL for Temp Diff All Sensors - Performance-based Temperature Difference Limit					

Avg AmbT - High/Low or All Temps	High/Low	Current Day Hrs in AVG	Past Days	Future Days	Total Days Rolling
☐ Use Average Ambient Temp	☐ All Temp	24	3 ☒ Prior to Pour DateTime	3 ☒ Use Forecast	7
☒ Use NWS Average Ambient Temp	☒ Rolling				

Avg AmbT - High or Low	High/Low	Current Day Hrs in AVG	Past Days	Future Days
☐ Use Average Ambient Temp	☐ High	24	0 ☐ Prior to Pour DateTime	0 ☐ Use Forecast
☒ Use NWS Average Ambient Temp	☐ Low			
	☒ Rolling			

Cloud Alerts On

Pioneer in Wireless Temperature Monitoring

Wake, Inc. was founded in 1991, over 30 years ago. Wake has been exclusively providing wireless temperature monitoring solutions to the construction industry for over 20 years. Wake was one of the 1st providers of this technology, going back to the late 1990's. Wake has years of experience working with technology and delivering solutions that work, the way you work.

Wake's easy to do business with approach, will make your job easy and your project owner happy with how quickly you can go from discussion to action.

Purchasing:

Purchase Orders or Contacts. The choice is yours.

Benefits to contracting with Wake.

With a commitment on quantity and on a schedule of release dates for devices built to your preferred configuration and for the sacrificial temperature sensors, Wake commits to maintaining an inventory to meet your exact needs, with easy order fulfillment.



- Fast, same day or next day shipment of orders for Sacrificial Temperature Sensors
- Priority support
- Stocking of Hot-Spare devices, that meet your preferred device configuration
- Stocking of component parts for repairs for your preferred device configuration
- Stocking of component parts for fast build and shipment of additional devices for your preferred device configuration
- We accept email orders, telephone orders or with your contact on files, Wake will setup a simple website ordering portal that contains only your pre-approved items with establishing pricing, so all you have to do is enter the quantity you need and submit your order.

Support:

Pre-purchased multi-year support and maintenance programs, provides everything from telephone and electronic support to software updates as well as your cellular data plan for your devices to connect to the cloud. All in one, simple maintenance plan.

Devices under maintenance, get preferred repair processing and low-cost component replacement, which are damaged at the project site.

When you need help, just enter a Support Ticket in our online support website. If you need help immediately, call, text or email and we will assist you right away.

Wake will be with you every step of the way!

Interfacing with 3rd Party Software

Interfacing with 3rd parties within reason is provided **free of charge**. We will completely automate the process of sending information to other online applications, such as 3D modeling software providers, so that the information that they require is either automatically sent when available or with a simple press of a button to update them. HardTrack has a built-in interface to the National Weather Service, allowing for real-time weather to be displayed with each temperature log reading. HardTrack can be configured to use the National Weather Service's local weather forecast data for ambient temperature, rolling average ambient temperature, etc.