

Appendix K
Field Recruitment Script

- You are being asked to participate in a research study performed by NIOSH. The purpose of this research is to study how heat stress affects thinking processes such as attention and memory, and whether we can predict when attention and memory begin to decline by measuring heart rate and temperature. In order to study this, we need to collect information from miners on factors related to heat stress and monitor participants' heart rates and temperatures in an environmental chamber.
- This study is completely voluntary. You do not have to participate. If you choose to participate, you can drop out at any time without any consequences to you from either NIOSH or your mine management
- We are especially looking for miners who generally work in areas of the mine that they consider warm or hot.
- What to expect: if you take part in the study, we will evaluate you for 2 days during your shift, and one day to complete brief baseline testing.
- On the first day, you will fill out a brief health questionnaire. Mine workers with chronic medical problems can participate. The only people who can't participate are miners who have medical conditions that make them unable to swallow the temperature capsules that measure internal body temperature. These medical conditions include esophageal disorders, obstructive or hypomotility disorders of the gastrointestinal tract, previous gastrointestinal surgery, disorders of the gag reflex, having a pacemaker or implantable cardioverter defibrillators, or miners who are planning to have an MRI within a couple of days of the study. Pregnant women also can't participate.
- We will measure your height and weight.
- You will be oriented to a 5-minute test that evaluates how well you're able to pay attention, and you'll practice the test and take one test so that we know what your baseline is.
- The first day will take approximately 1- 1 ½ hours.
- During the two study days, you will have a chest strap placed on you to monitor your heart rate. You will swallow a pill that measures your internal temperature and sends the information to a small recorder that is located on the chest strap. The pill is similar to medications that are large capsules.
- You will be provided with a smart phone that will read your core body temperature and alert you to take a brief assessment when your body temperature reaches a certain level.
- You will also be provided with a kestrel, and you will place it in your work area to monitor how hot the area is.
- You will do your normal shift work. NIOSH investigators will remain in the offices during your shift. We will not be doing any assessments at your work area.
- Twice during your normal shift (once when you have a normal temperature, early in your shift, and once when your temperature has reached 100.4 °F), the phone will alert you to take a brief 6-minute assessment. The assessment consists of a couple questions and a five-minute test to evaluate how well you're able to pay attention. If your temperature does not reach 100.4 °F, then you will only take one assessment during your shift.

- After your shift, you will be prompted to take a brief 10-minute survey to provide more information that is needed to interpret your test results. You will not need to take this survey during your shift. If you work underground, you can take it while waiting for the skip/hoist/elevator at the end of your day.
- We will collect all the equipment at the end of the day and collect a urine sample to test for dehydration. We will not test for anything else and will discard the urine after testing.
- During these two study days, you will spend approximately 10-15 minutes before your shift to prepare for the study (i.e. swallow pill, put on chest strap, provide urine, get phone ready), ~12 minutes total on the two assessments during your shift, and ~10 minutes after your shift for the questionnaire and providing a urine sample.
- At the end of the study we will provide you with a report of your results.