



UNITED STATES  
ENVIRONMENTAL  
PROTECTION AGENCY  
REGION VIII  
999 18th STREET - SUITE 300

**SUBJECT: GROUND WATER SECTION GUIDANCE NO. 38**

Using temperature surveys to determine Mechanical Integrity for a Class II injection well that has tubing cemented inside casing.

FROM: Tom Pike, Chief  
UIC Direct Implementation Section

TO: All Section Staff  
Montana Operations Office

The purpose of this guidance is to provide a standard logging procedure when using temperature logs to determine MI in a Class II injection well that has tubing cemented inside casing. It may also used to verify confinement within the injection formation.

LOGGING PROCEDURE

Run the temperature survey going into the hole with the temperature sensor located as close to the bottom of the tool as possible. The tool need not be centralized.

Record temperatures at 1-5NF per inch, on a 5" per 100 ft. log scale.

Logging speed should be within 20 - 30 ft/min.

Run the log from ground level to total depth (or plug-back depth) of the well.

When using digital logging equipment, use the highest digital sampling rate possible. Filtering should be kept to a minimum so that small-scale results are obtained.

Record the first log trace while injecting at the maximum allowed injection pressure. Subsequent to the temperature survey, maximum injection pressure will be limited to the pressure used during the survey.

LOG TRACES

Record the first log trace while the well is actively injecting, recording traces for gamma ray, temperature, and differential temperature.



Shut-in (not injecting) temperature curves should be recorded at intervals depending on the length time that the injection well has been active. Preferred time intervals are shown in the following table:

ACTIVE INJECTION	RECORD SHUT-IN CURVES AT THESE TIMES (HRS)				
1 MONTH	1	3	6	12	
6 MONTHS	1	6	10-12	22-24	
1 YEAR	1	10-12	22-24	45-48	
5 YEARS	1	10-12	22-24	45-48	90-96
10 YEARS OR MORE	1	22-24	45-48	90-96	186-192

FCD:August 9, 1995:RCT/RCT/k:\guidance.38