

Summary of experimental packages in the SKB LOT experiment - Johan Swahn, MKG - May 2009

LOT A0

Type: Main test

Purpose: Main test (replacement for parts of A1)

Temperature: 120<150 °C

Controlled parameter: Temperature (K+ potassium concentration, accessory minerals added, high pH from cement)

Intended test time: 1 year

Emplacement: Oct-Nov 1999

Removal: Nov 2001

Temperature on: Feb 2000

Temperature off: Oct 2001

Actual test time: ≈ 20 months

Copper content in clay: Max 0,1%: Annual report 2002, p 101

LOT A1

Type: Chemistry, Pilot test

Purpose: Mineralogical alteration, Cementation, Salt enrichment (1996), Pilot (1997)

Temperature: 120<150 °C (actual 130 °C)

Controlled parameter: Temperature (K+ potassium concentration, accessory minerals added, high pH from cement)

Intended test time: 1 year

Emplacement: Nov 1996

Removal: Mar 1998

Temperature on: Nov 1996

Temperature off: Dec 1997

Moisture: Swelling pressure 4 MPa and full water saturation in Dec 1996

Actual test time: ≈ 13 months

Copper content in clay: Max 100 ppm ≈ 0,01%, TR-00-22, p 77

LOT S1

Type: Reference, Pilot test

Purpose: Pilot test

Temperature: 90 °C (actual 90 °C)

Controlled parameter: Temperature

Intended test time: 1 year

Emplacement: Oct 1996

Removal: Feb 1998

Temperature on: Oct 1996

Temperature off: Dec 1997

Moisture: Swelling pressure 4 MPa and full water saturation in Dec 1996

Actual test time: ≈ 14 months

Copper content in clay: Max 100 ppm \approx 0,01%, TR-00-22, p 77

LOT A2

Type: Chemistry

Purpose: Mineralogical alteration, Cementation, Salt enrichment (1996)

Temperature: 120<150 °C

Controlled parameter: Temperature (K+, accessory minerals, pH)

Intended test time: 5 years

Emplacement: Oct-Nov 1999

Removal: Jan 2006

Temperature on: Feb 2000

Temperature off: Dec 2005

Actual test time: 5 years 9 months

Copper content in clay: Max 5000+ ppm \approx 0,5%, A2 Draft report p 73 + App 6
p 8

LOT S2

Type: Reference

Purpose: Long-term performance test

Temperature: 90 °C

Controlled parameter: Temperature

Intended test time: ~ 5 years

Emplacement: Oct-Nov 1999

Removal:

Temperature on: Feb 2000

Temperature off:

Present test time (May 2009): 9 years 3 months

LOT A3

Type: High temperature

Purpose: Long-term performance test - Temperature

Temperature: 120<150 °C

Controlled parameter: Temperature

Intended test time: ~ 5 years

Emplacement: Oct-Nov 1999

Removal:

Temperature on: Feb 2000

Temperature off:

Present test time (May 2009): 9 years 3 months

LOT S3

Type: Reference

Purpose: Long-term performance test

Temperature: 90 °C

Controlled parameter: Temperature

Intended test time: ~ 20 years (-1997), << 5 years (1998-)

Emplacement: Oct-Nov 1999

Removal:

Temperature on: Feb 2000

Temperature off:

Present test time (May 2009): 9 years 3 months