Overview & current status WP4: "Colloid stability"

Work package number	4	Start date or starting event:					Project Month 1
Colloid stability							
Activity Type	RTD						
Participant	CIEMAT	KIT-INE	NRI-REZ	SKB	ClayTech	KTH	B-Tech
Person-months for the participant	6	7	7	1	9	28	1

- **Participation in WP 4:**
  - 7 partners total
  - 5 partners with research program, 2 partners as „observers"

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- Clay colloid stability investigations under different geochemical conditions
  - KIT-INE is performing **long time period studies** on colloids stability with **MX-80** in presence of different electrolytes, pH, tetravalent actinide element Th(IV), Fe, fulvic acid. Large set of samples. Start in 2013 till the end of project. See progress report D4.5
  - CIEMAT compared the stability of clay colloid suspensions of different bentonites (**FEBEX, Mylos, MX-80, B75, Russian bentonite**) as a function of pH (D4.2). Also the comparative study on bentonites characteristics is ongoing. CIEMAT also focused on reversibility of coagulation process (D4.4)
  - ÚJV studied the **coagulation of dilute clay dispersions** by cations, anions (see D4.7) and influence of humic substances on coagulation process (D4.6). Bentonite **B75, BaM** (CZ)

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- Rheology experiments
  - ClayTech define some recommendations for rheology measurement in D4.1
  - B+Tech input of relevant information from WP2

- Theoretical basis
  - KTH summarized in general the theoretical background for methods of statistic mechanics that have considered the ion-ion correlation effect to quantify the swelling between inter-lamellar layers and to investigate the role of divalent ions such as Ca on the structure of smectite particles (D4.3)

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- 4 deliverables in this reporting period - all submitted

WP n°	Deliverable N°	Title	Lead beneficiary	Nature	Dissemination level	Delivery date (month)
4	4	D4.4 Report on the reversibility of the coagulation process	**CIEMAT**	Report	PU	31/05/2014 (27 months)
4	5	D4.5 KIT-INE Progress report on colloid stability and DOC effect	**KIT-INE**	Report	PU	31/05/2014 (27 months)
4	6	D4.6 Status report on influence of complexing agents on clay colloid stability	**ÚJV**, KIT-INE	Report	PU	31/05/2014 (27 months)
4	7	D4.7 Status report on the effects of various anions	**ClayTech**, CIEMAT, KIT-INE, ÚJV	Report	PU	31/05/2014 (27 months)

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