

PGK-NKAM Source-to-Sink Field Trip (22-30 September 2012)

Preliminary Program



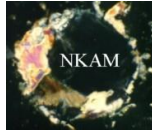
NKAM part (22-25 September 2012): “From mantle to sediment sources” - Hans de Bresser

Day 1 (Saturday 22 September 2012): “Panorama Pyrenees”

- 12h00 Arrival in Barcelona by plane (flights to be booked by participants themselves)
- 14h00 Travel to Pas de la Casa, Andorra
- 18h00 STOP (optional, if time allows): Canillo or Ransol (metamorphic grades, Merens fault)
STOP : Pas de la Casa (*welcome*, panorama Pyrenees, border Andorra-France, Merens fault, metamorphic grades)
- 18h30 Travel to Tarascon-sur-Ariège
- 20h00 Arrival Tarascon-sur-Ariège (Hotel Confort)
- 21h00 Dinner Tarascon-sur-Ariège

Day 2 (Sunday 23 September 2012): “Mantle rocks & North Pyrenean Fault Zone”

- 09h00 Travel to Étang de Lers
- 10h00 STOP 1: Etang de Lers overview Iherzolite



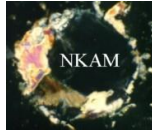
- 10h45 STOP 2: Lherzolite textures & geohistory
- 11h30 STOP 3: Pyroxene & garnet occurrences
- 12h15 STOP 4: Lherzolite-marble contact
- 13h00 lunch
- 14h00 Travel to Portet d'Aspet
- 16h00 STOP 5 : Monument Cassartelli (Carrara Marble)
- 16h30 Travel to St Beat
- 17h30 STOP (optional, if time allows): St Lary (North-Pyrenean fault zone)
- STOP 6: St Beat (North-Pyrenean fault zone, marbles deformation structure, oofite)
- 18h30 Arrival hotel St. Béat (Hotel Château Serre Barbier)

Day 3 (Monday 24 September 2012): "Variscan Pyrenees & metamorphism"

- 09h00 STOP 1: Fos (S_0/S_1 relation in folded Cambro-Ordovician sedimentary sequence)
- 10h00 STOP 2: Pont du Roi (remnants sedimentary layering, increase metamorphic grade)
- 11h00 STOP 3: Les (orientation sedimentary layering, andalusite/cordierite prophyroblasts, further increase metamorphic grade)
- 12h00 STOP 4: Bosost (sillimanite schists, pegmatite veins, Bosost half dome + Alpine fault, PT conditions)
- 13h00 lunch + STOP 5: Arres/Minas Victoria ("kippenhok van Zwart", andalusite/cordierite/ biotite prophyroblast-foliation relations in schists of Cambro-Ordovician age)
- 15h00 STOP 5: S. of Vielha Tunnel (texture, structure, contacts, chloritisation of Maladeta granite)
- 16h00 STOP 6: Bono (contact metamorphism of Bono granite, Bono thrust)
- 17h00 STOP 7: Aneto (panorama granite + Alpine thrusts + Paleozoic rocks)
- 18h00 Travel to El Pont de Suert
- 18h30 Arrival hotel El Pont de Suert (Hotel Mestre)

Day 4 (Tuesday 25 September 2012): "Alpine Pyrenees & sediment sources"

- 09h00 Travel to rio Flamisell
- 10h00 STOP 1: Rio Flamisell (Congost shelf limestones to deeper marls, sediment sources controlled by Alpine tectonics)



- 10h30 STOP 2: Las Salas (panorama San Corneli anticline, Boixols thrust, sediment sources controlled by Alpine tectonics)
- 11h30 travel to Camarasa
- 12h30 Lunch Camarasa
- 13h30 STOPS 3: Camarasa (Alpine thrusts, walk around steep limestone layers, gypsum valley)
- 16h00 Travel to Barcelona
- 18h30 Arrival hotel in Barcelona

Wednesday 26 September 2012: Day of travelling or relaxing (Barcelona)

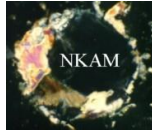
PGK part (27-30 September 2012): “Sediment sinks & Pyrenean basin infill”- Poppe de Boer

Day 1 (Thursday 27 September 2012)

- 09h00 Travel from Barcelona to Tremp
- 12h00 1.1 Fontllonga; Arèn Fm (U. Cretaceous) Fluvial system draining from Iberia towards the sea in the North (at location of the present-day Pyrenees); pointbar deposits with giant oncoids in abandoned channel.
- 1.2 Ager Fm in Ager basin (Palaeocene-Eocene); panorama view of (ebb-tidal) delta deposits & coffee
- 1.3 Montsec Thrust
- Tremp Basin:
- 1.4 Tremp and Ager Fm Castell de Mur: panorama view of Ager Fm in carbonate facies (cf. stop 1.2)
- 1.5 Castel de Llord: panorama view of the delta of the Arèn fluvial system seen at stop 1.1
- 1.6 Isona: detailed look of the Arèn delta sequence and the transition to the overlying Tremp Fm (Garumnian; U. Cretaceous – Palaeocene; muddy floodplain red beds, fresh water carbonates, coal, renewed Arèn influx)
- 19h00 Hotel Segle XX, Tremp

Day 2 (Friday 28 September 2012)

Tremp Basin; road Tremp – Figols – Puente de Montañana



2.1 Tremp Fm: muddy floodplain red beds and first coarse-grained sediments resulting from early uplift of Pyrenees; increased coarse-clastic input at PETM (Palaeocene-Eocene Thermal Maximum)

2.2 Sabkha deposits at transition Tremp Fm – Ager Fm

2.3 Ager Fm – L Montañana Fm: Increased subsidence of the Tertiary foreland basin, transition flysch to molasse (cf. stops 1.2 and 1.4)

Solitary corals around level of presumed greatest water depth during basin fill

Hummocky cross stratification

Tidal channels and oyster biostrome

Shallow marine to terrestrial transition

2.4 Panorama view of western part the basin fill along the Ribagorzana River

If time allows (or late afternoon on way back to Tremp or next day):

2.5 Castissent Fm (in between L and U Montañana Fms); sandy braided system

Lunch in Puente de Montañana

Ribagorzana valley

2.6 Arèn Village: panorama view of lower part of the Tremp-Graus Basin fill; Arèn Fm – Tremp Fm – Ager Fm – Lower Montañana Fm; progressive unconformity

2.7 North-south transect alluvial fan – braided river – meandering river – shallow marine tidalites (L. Montañana Fm) (3 stops)

2.8 if time allows: Tide-influenced pointbar

19h00 Hotel Segle XX, Tremp

Day 3 (Saturday 29 September 2012)

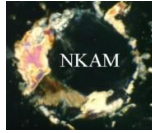
Transect westwards Tremp – Puente de Montañana – Isabena Valley - Esera Valley

3.1 Isabena Valley: Ager Fm: Roda Sandstone Fan Delta (cf. stops 1.2, 1.4 and 2.3)

Esera valley: *influence of synsedimentary deformation on basin fill*

3.2 Castillo de Fantova: 60 m nearly vertical (E-W) facies boundary between fluvial and shallow marine deposits above gentle synsedimentary anticline as the result of gentle synsedimentary folding of the palaeosurface in response to deep-seated thrusting during thrust-sheet motion

Lunch in Las Ventas de Santa Lucia (or after stop 3.5)



3.3 Murillo de Llena: panorama view of Ager Fm – Fan-delta/alluvial-fan deposits of U Montañana Fm; decrease of thickness of fan deposits from ~500 m along the Esera River to ~0 m some few kilometres to the west

3.4 Besians: palaeo-canyon fill along the axis of a gentle synsedimentary syncline

3.5 Perarrúa: panorama view of carbonate build-up above gentle synsedimentary anticline

3.6 Pano: barrier system along the lateral ramp between the Tremp-Graus Basin and the Ainsa turbidite basin; barrier and back-barrier deposits

3.7 Formigales: slope deposits along the lateral ramp between the Tremp-Graus Basin and the Ainsa Basin; slump scar

Ainsa turbidite basin:

3.8 Old road Campo – Ainsa: turbidite deposits, tool marks

3.9 Panorama view of stop 4.1

19h00 Hotel Sanchez, Ainsa

Day 4 (Sunday 30 September 2012)

4.1 quarry in turbidite channel fill

ETA Barcelona 13h00

Flight Barcelona-Amsterdam