

Field Trips



**Hardground at Al -Ukair Lagoon complex, southern
Arabian Gulf.**

29/11/2001



A spit at the southern shore of the Arabian Gulf.

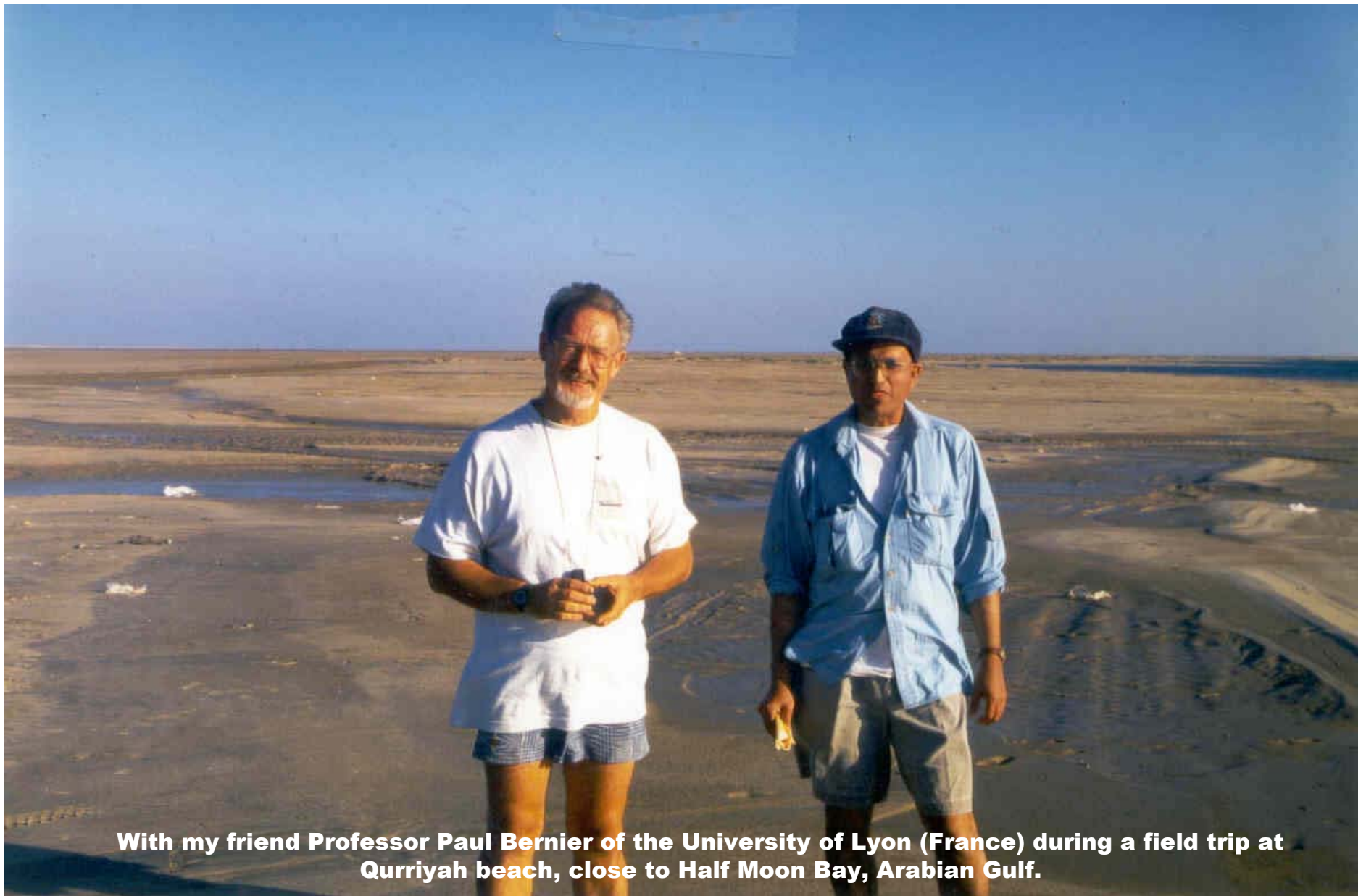
29/11/2001



**Checking modern halite deposit close to Half Moon Bay,
southern Arabian Gulf, with Professor John Warren.**



My field buddies Fadhel (KFUPM) and Emmanuel (Schlumberger Dhahran Carbonate Research) during a field trip to the south shore of the Arabian Gulf, close to the Bahran Cuaseway. (1997)



With my friend Professor Paul Bernier of the University of Lyon (France) during a field trip at Qurriyah beach, close to Half Moon Bay, Arabian Gulf.



We organized a day-long field trip to the southern shore of the Arabian Gulf close to Jubail during Professor John Warren's March 2004 visit to our campus. Here is John with some of my KFUPM colleagues and Aramco friends. L-R: Abdallah Dhbeeb(Saudi Aramco), Dr. Adley Saafin (KFUPM), Rami Kamal (Saudi Aramco), me, Dr. Abdul Wahab Abokhodair (KFUPM), Prof. John Warren (University of Brunei), Cecilia McDonald (Saudi Aramco), Dr. Osaman Abdullatif (KFUPM), and Nasser Al-Naji (Saudi Aramco).



Investigating Holocene hardground on the beach of the Al Ukair Lagoon. Onlookers are Prof. John Warren, Dr. Osman Abdullatif, Emanuel Bize (Schlumberger), Khalid Ramadan, and Fdhel Al-Khalifa.



Three generations (John – my supervisor; me – Emmanuel's supervisor) during a field trip in a salt mine close to Half-Moon Bay, Qurriayah, northeastern Saudi Arabia.



Open-pit salt mining in Qurraiyah area, southern Arabian Gulf. These are high evaporation areas cut-off by spit progradation along the irregular shorelines

29/11/2001



Spectacular example of Quaternary eolianite from the Arabian Gulf Shoreline, Dammam, northeastern Saudi Arabia. Note well-developed cross-bedding showing a foreset angle of around 30 degrees. 2/12/2001



Another view of the eolianite. We are currently working on a manuscript documenting characteristics and evolution of this eolianite deposit.

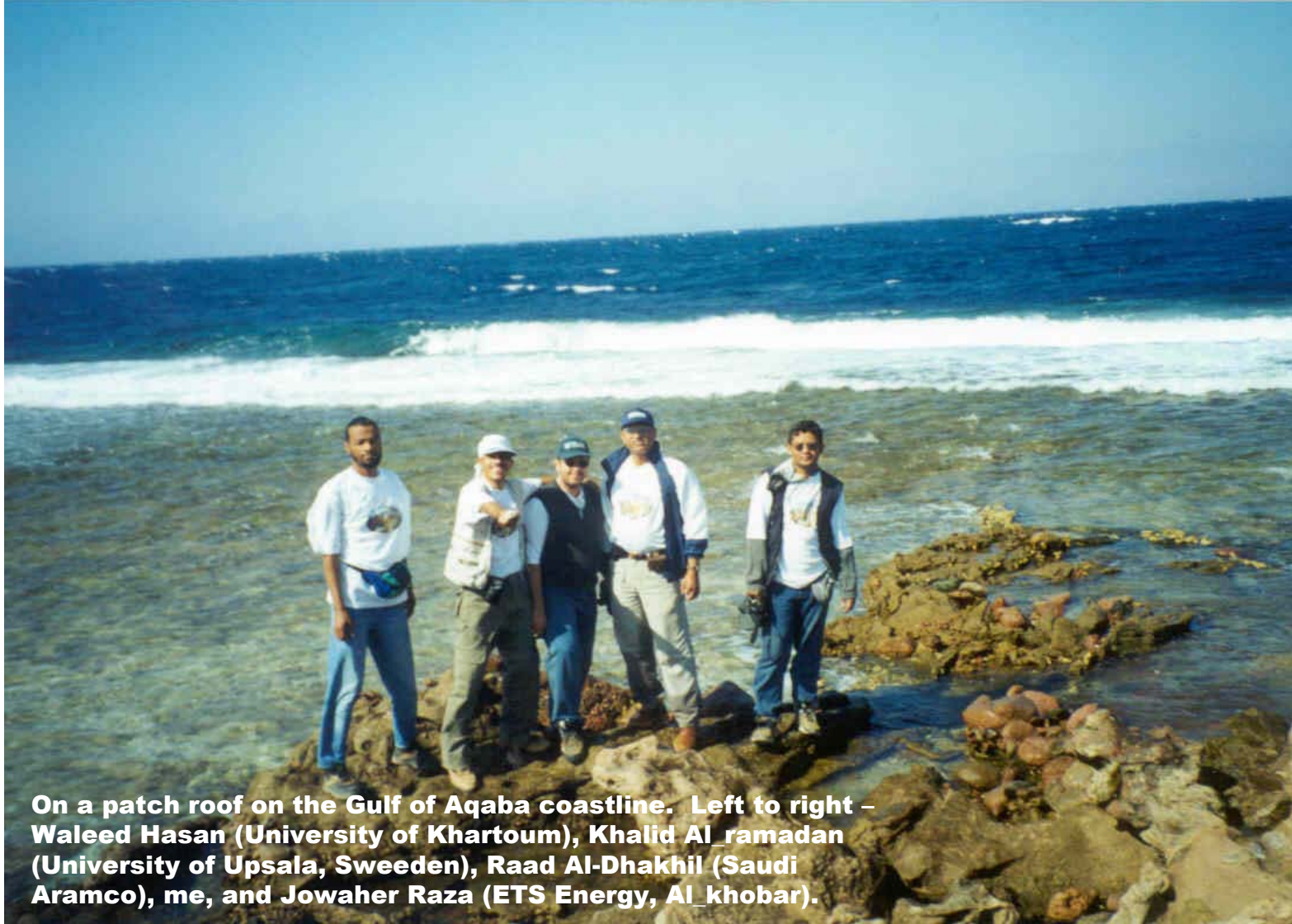
27/11/2001



Beach deposits along the shorelines of the Gulf of Aqaba, northwestern Saudi Arabia



Ripple marks and modern shoreline processes on the beach of the Gulf of Aqaba, northwestern Saudi Arabia



On a patch roof on the Gulf of Aqaba coastline. Left to right – Waleed Hasan (University of Khartoum), Khalid Al_ramadan (University of Upsala, Sweeden), Raad Al-Dhakhil (Saudi Aramco), me, and Jowaher Raza (ETS Energy, Al_khobar).



Collecting corals and large shells along the beach of the Gulf of Aqaba with graduate students Hatem and Emad.



Recumbent fold in Tertiary Menshya evaporite close to Sheikh Mohammad, Gulf of Aqaba, northwestern Saudi Arabia

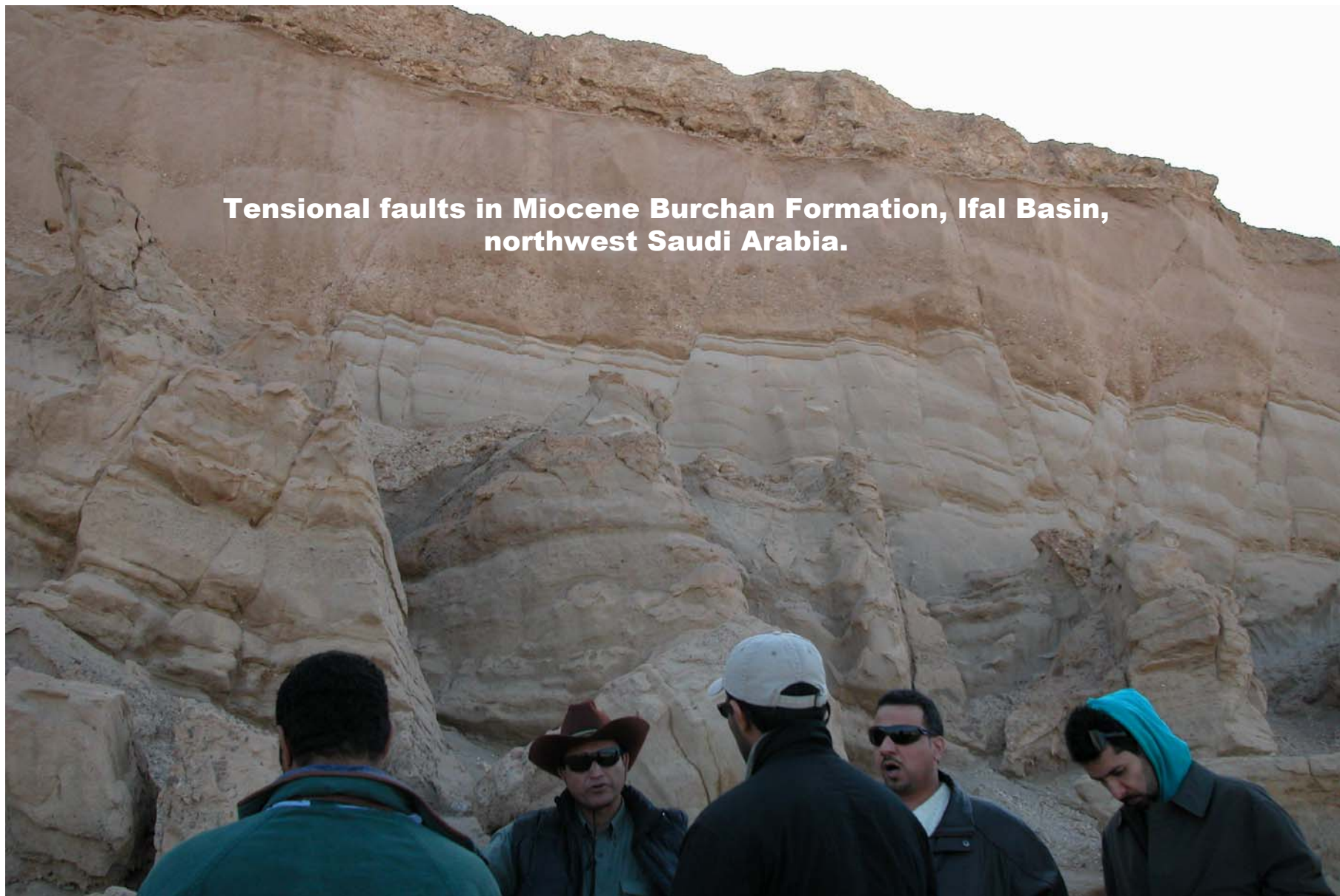


Recumbent fold in Tertiary Menshya evaporite close to Sheikh Mohammad, Gulf of Aqaba, northwestern Saudi Arabia.

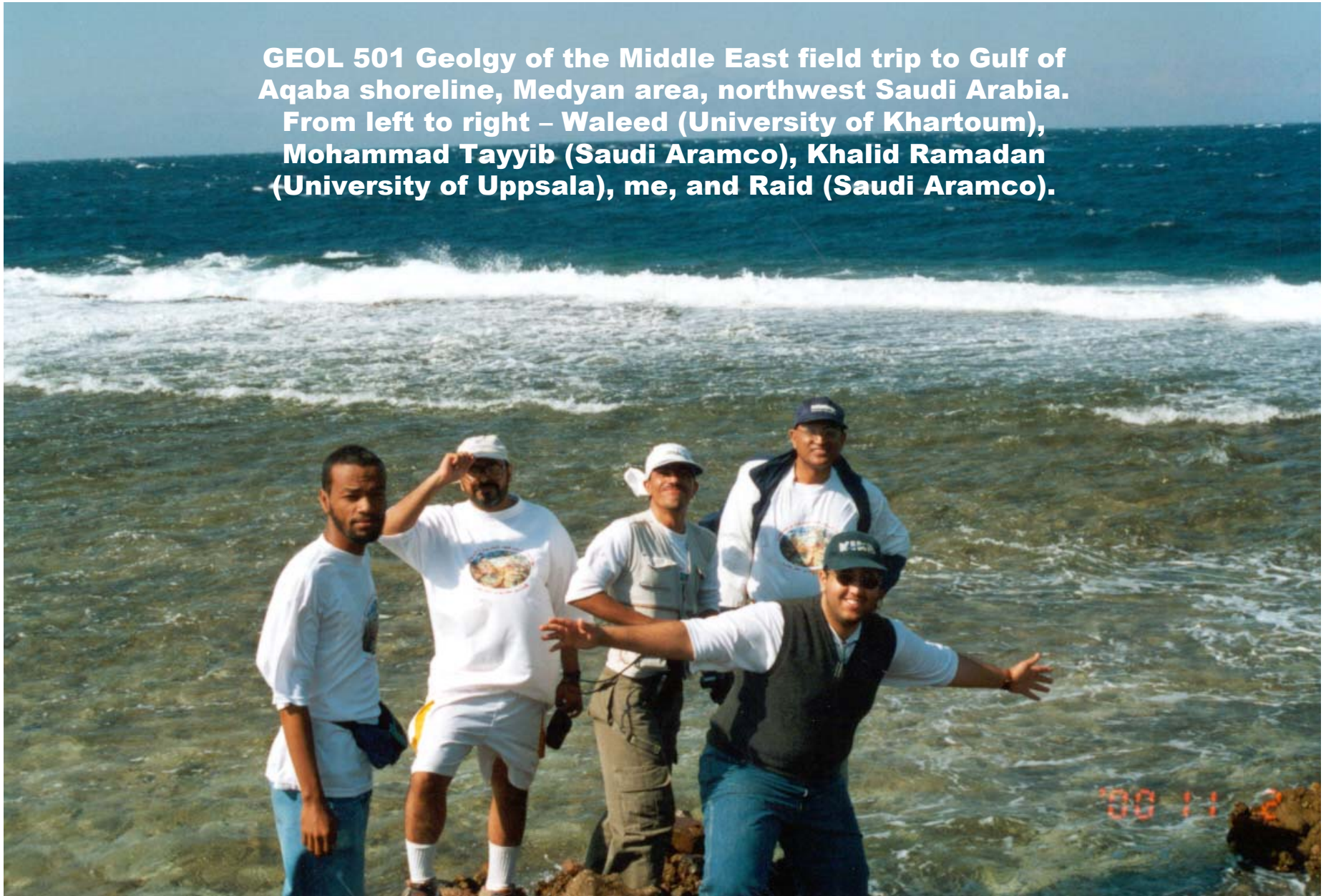


Modern reefs along the shorelines of the Gulf of Aqaba.

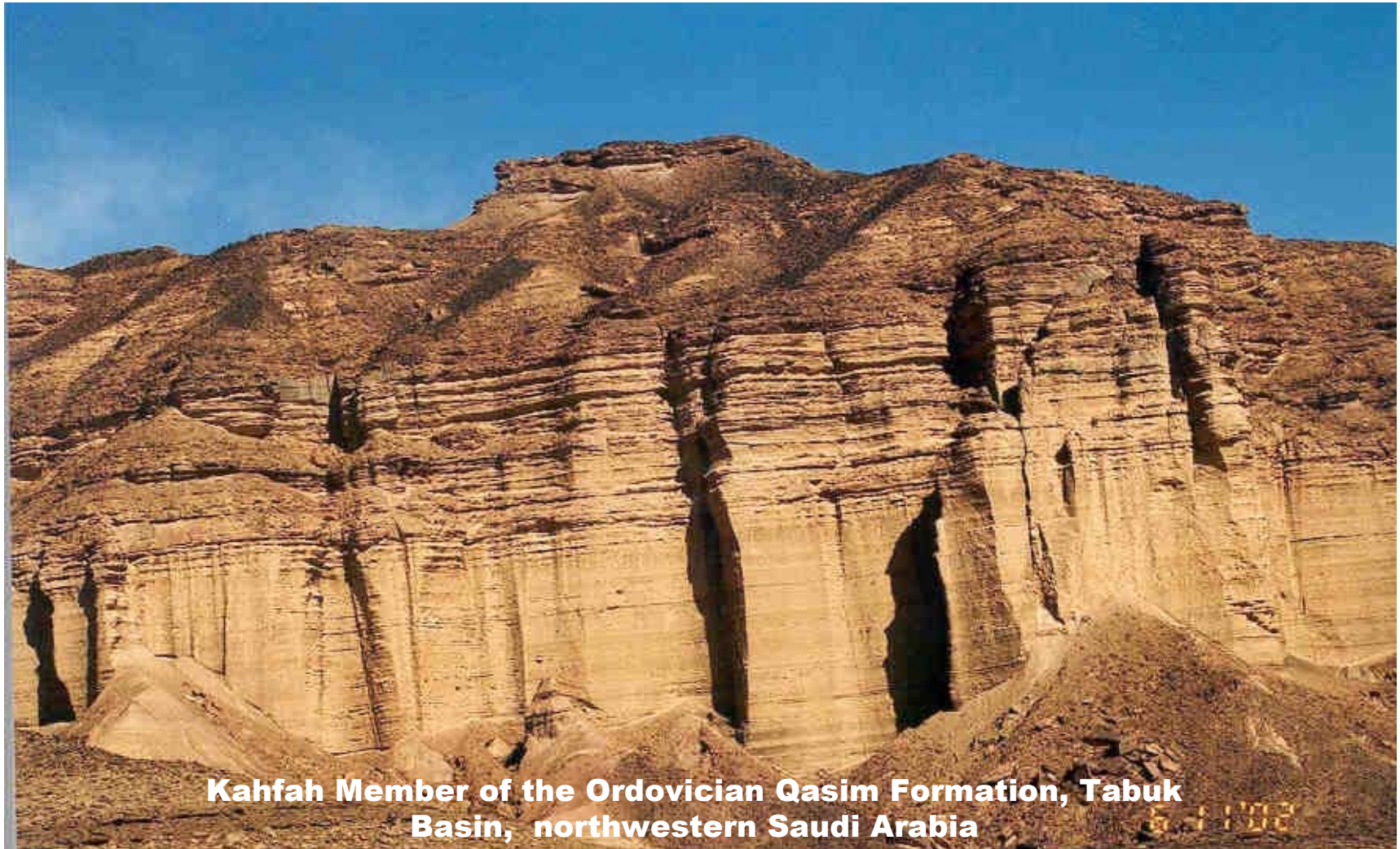
**Tensional faults in Miocene Burchan Formation, Ifal Basin,
northwest Saudi Arabia.**



GEOL 501 Geolgy of the Middle East field trip to Gulf of Aqaba shoreline, Medyan area, northwest Saudi Arabia. From left to right – Waleed (University of Khartoum), Mohammad Tayyib (Saudi Aramco), Khalid Ramadan (University of Uppsala), me, and Raid (Saudi Aramco).







**Kahfah Member of the Ordovician Qasim Formation, Tabuk
Basin, northwestern Saudi Arabia**

5-1102

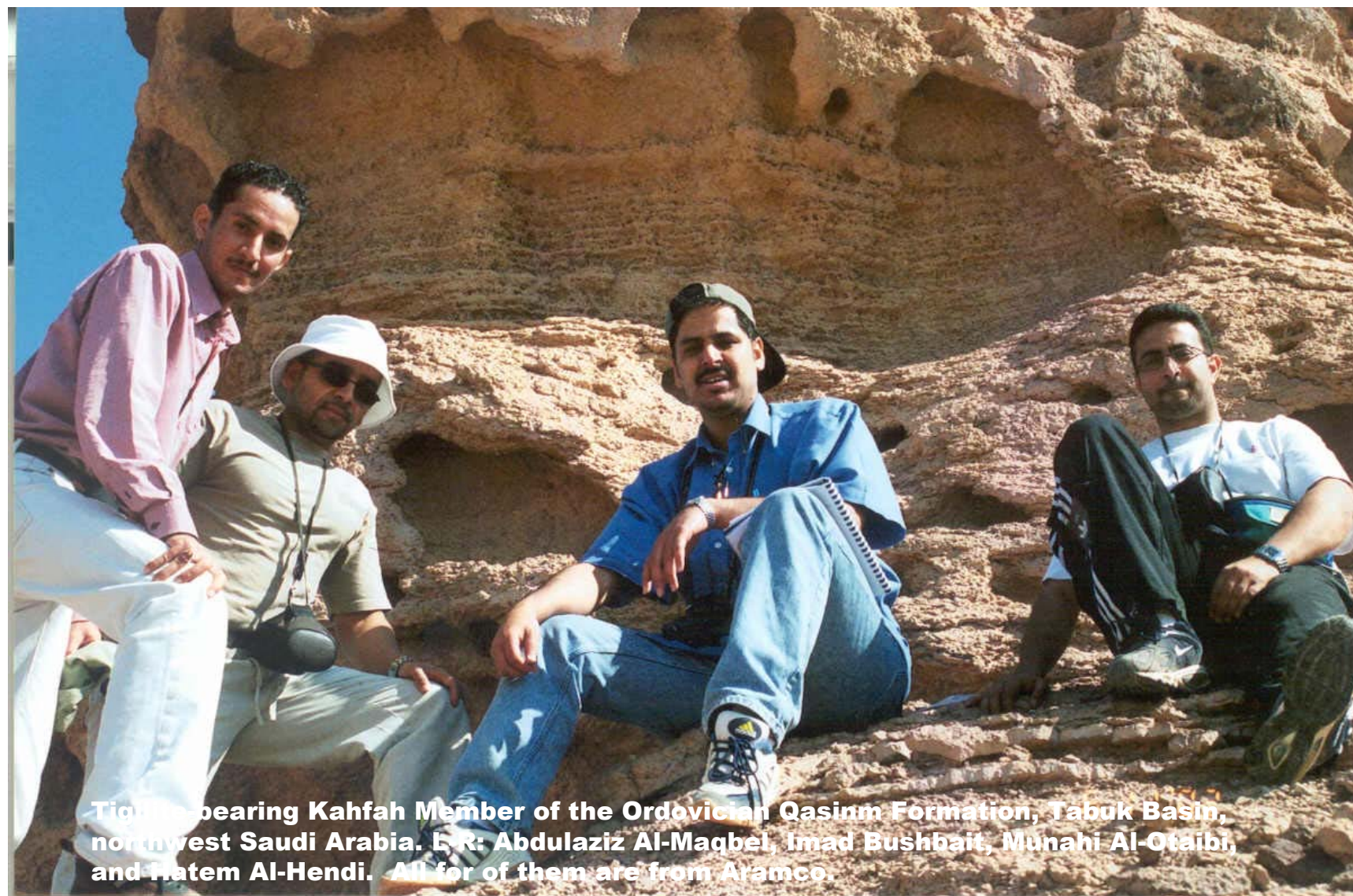
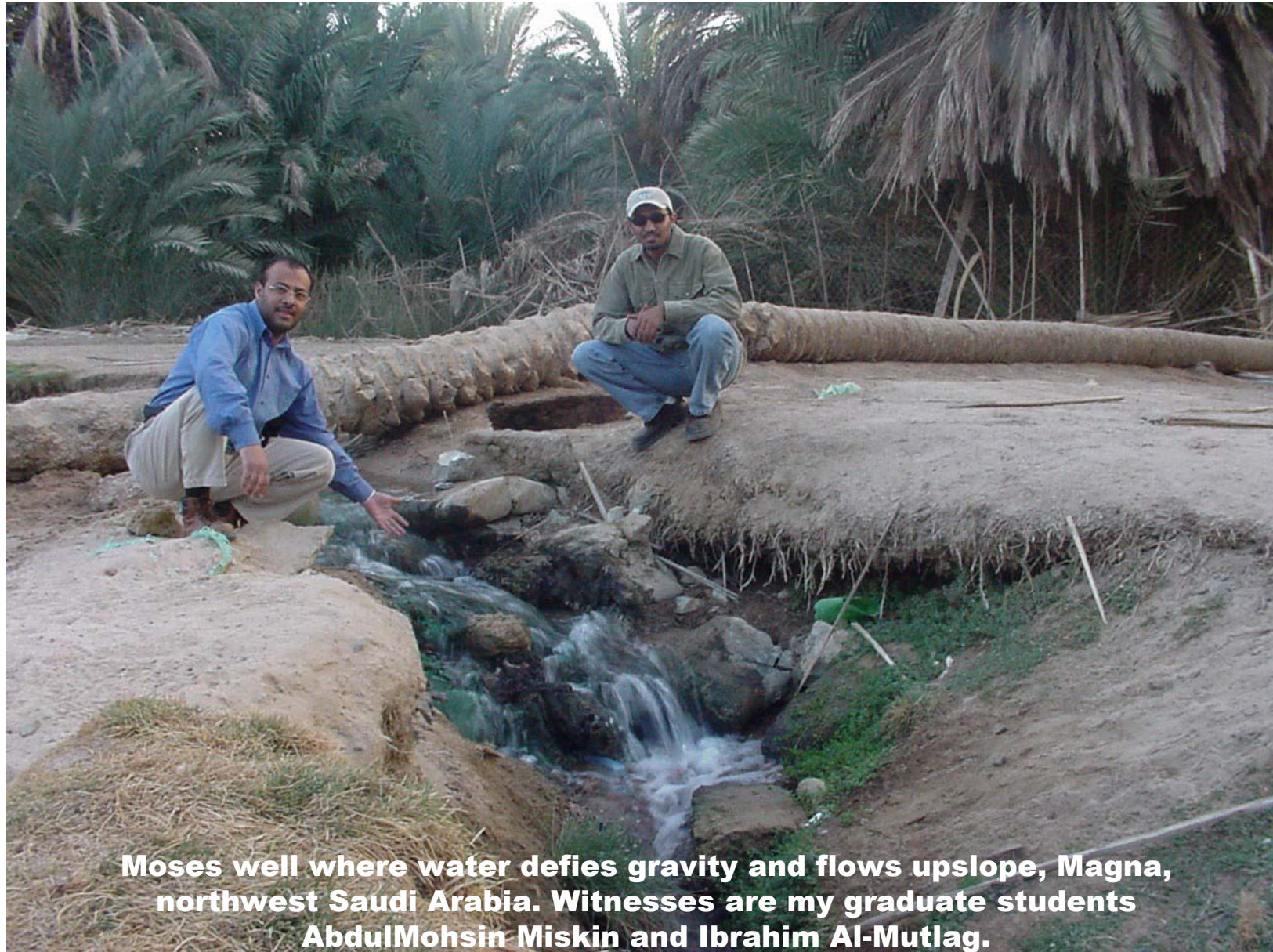


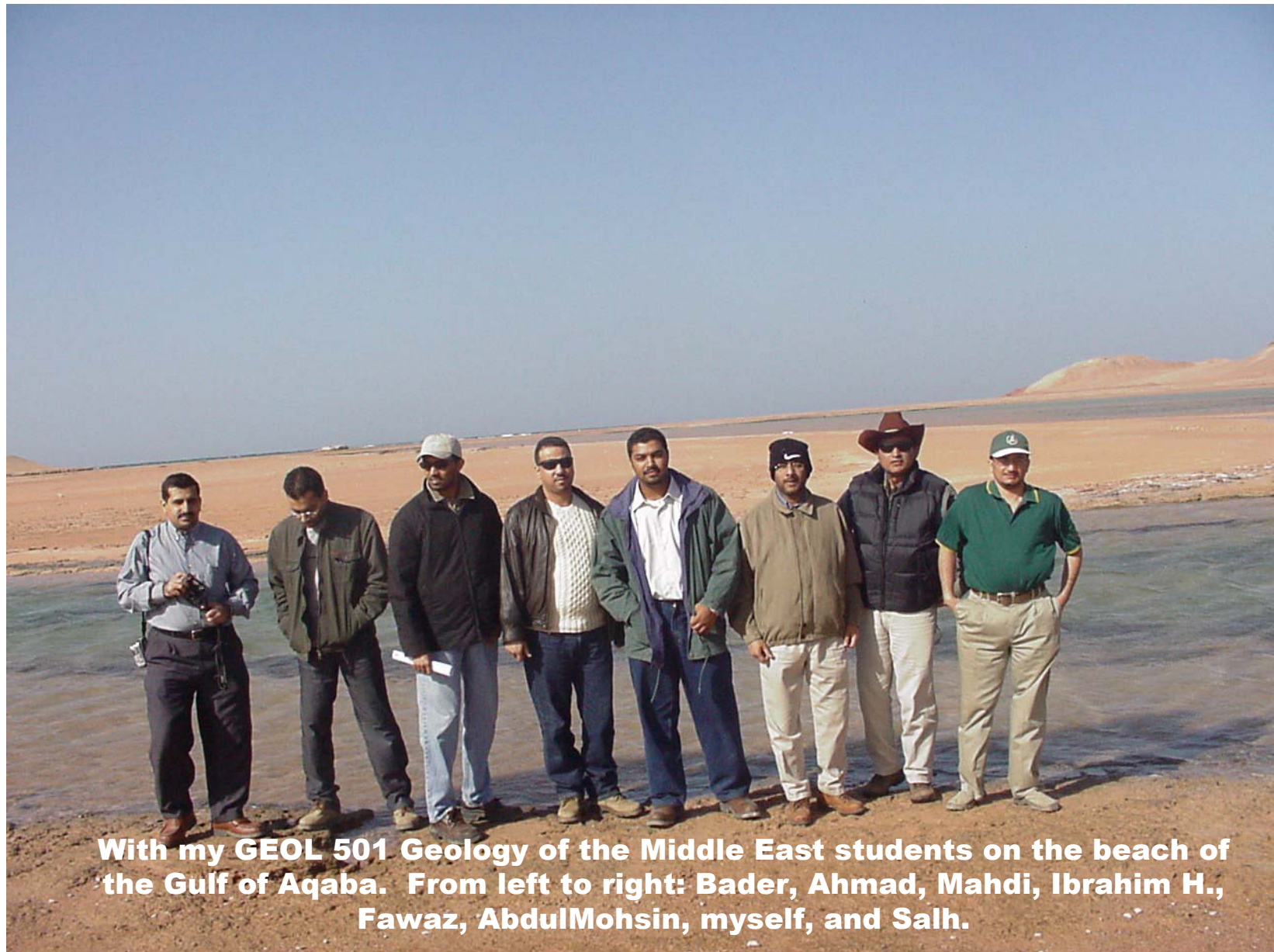
Figure-bearing Kahfah Member of the Ordovician Qasim Formation, Tabuk Basin, northwest Saudi Arabia. L-R: Abdulaziz Al-Maqbel, Imad Bushbait, Munahi Al-Otaibi, and Hatem Al-Hendi. All four of them are from Aramco.



Moses well where water defies gravity and flows upslope, Magna, northwest Saudi Arabia. Witnesses are my graduate students AbdulMohsin Miskin and Ibrahim Al-Mutlag.



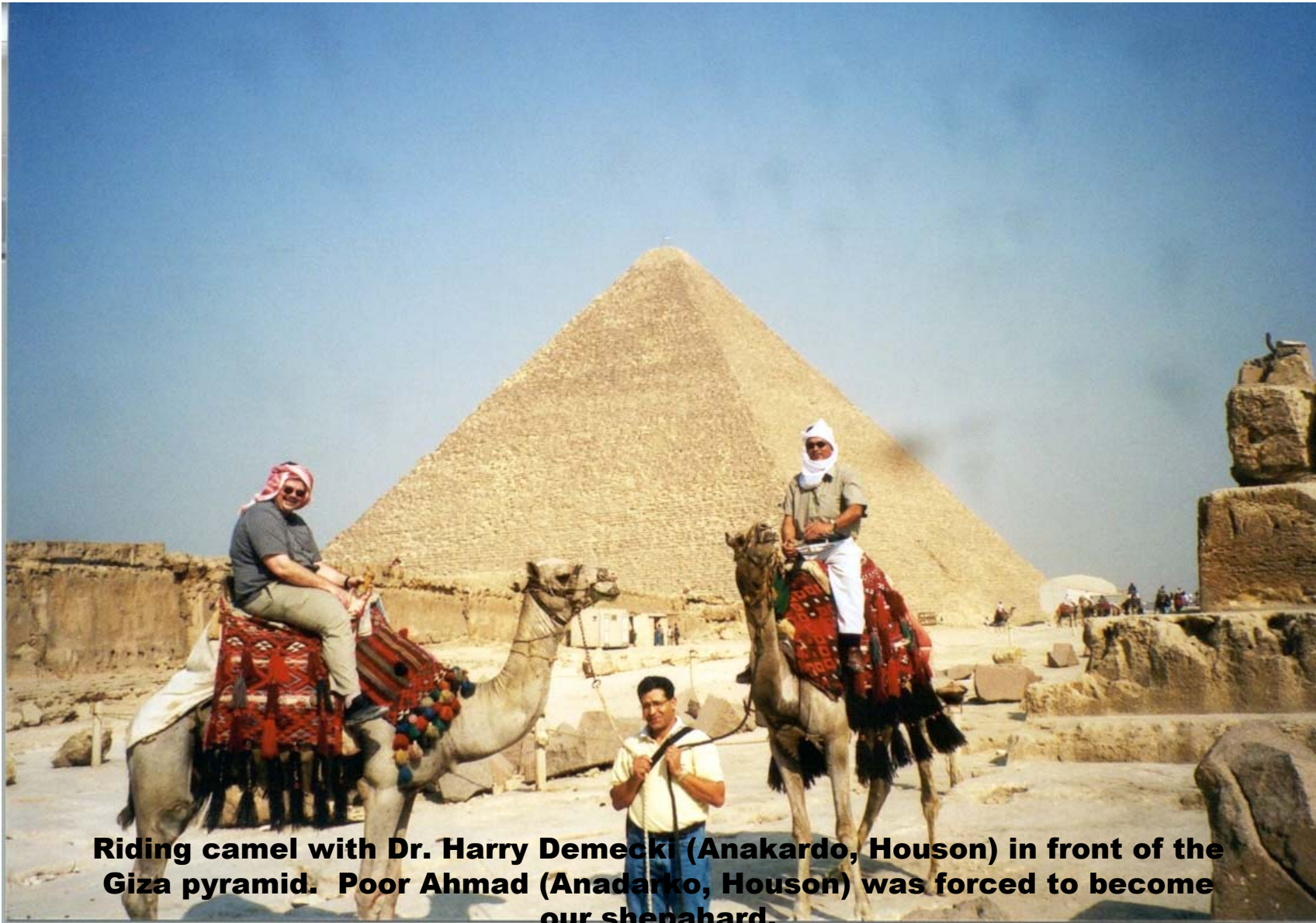
**Coral and algal-bearing Miocene age Wadi Waqab Limestone Ifal Basin,
Gulf of Aqaba, northwestern Saudi Arabia**



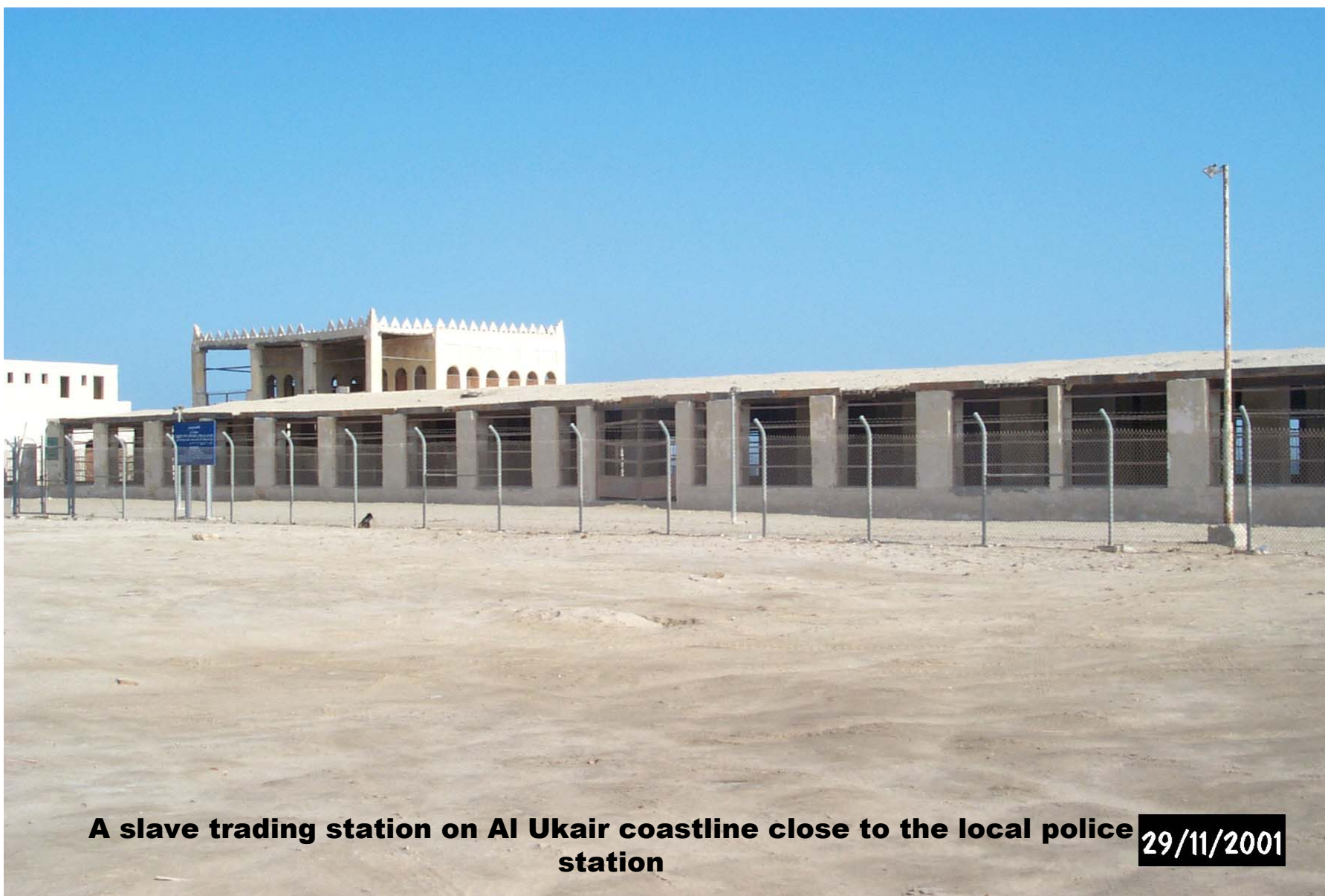
With my GEOL 501 Geology of the Middle East students on the beach of the Gulf of Aqaba. From left to right: Bader, Ahmad, Mahdi, Ibrahim H., Fawaz, AbdulMohsin, myself, and Salh.



With my GEOL 501 Geology of the Middle East students in front of the famous Fahfah outcrop, northwest of Tabuk town.

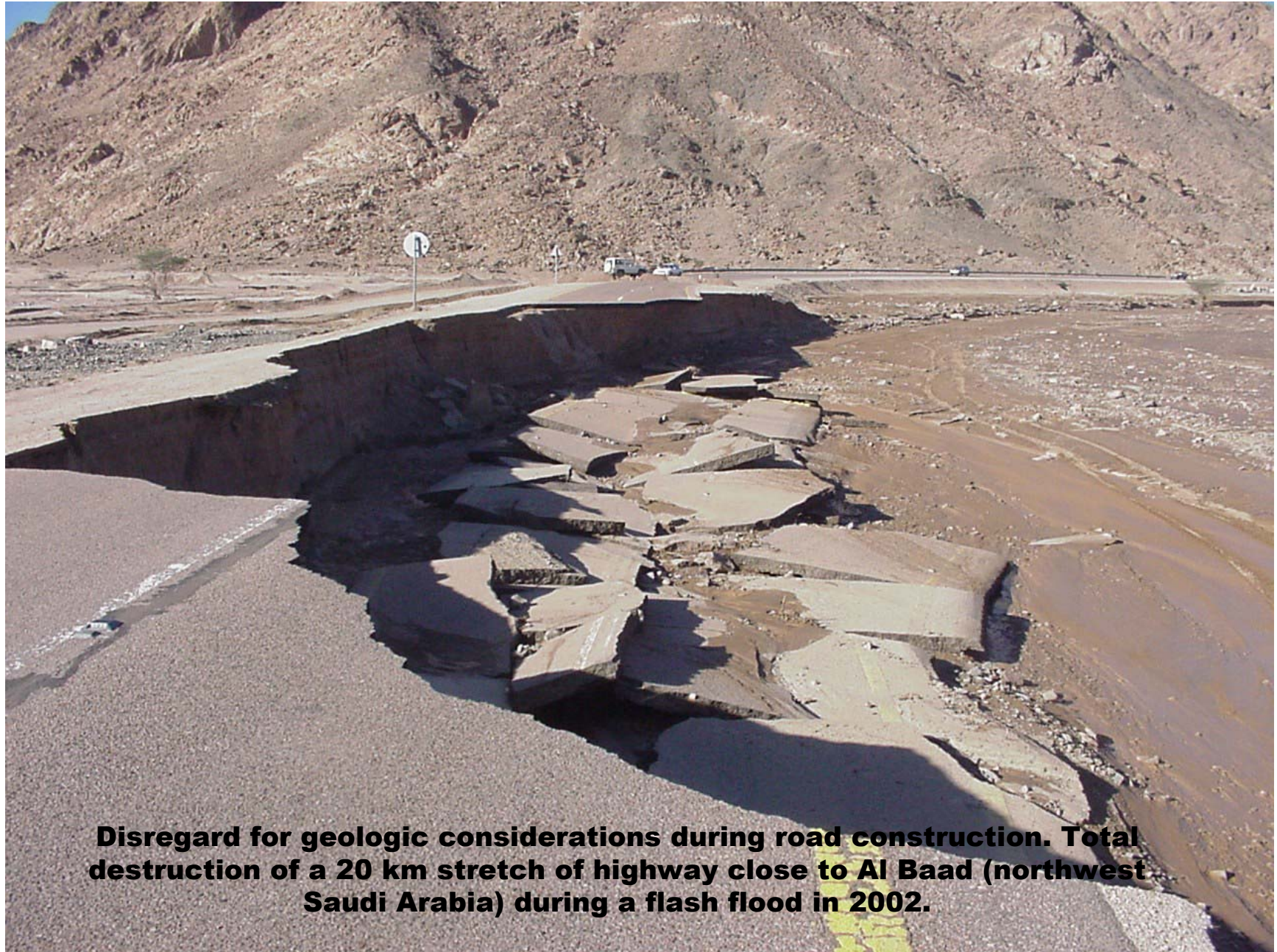


Riding camel with Dr. Harry Demecki (Anakardo, Houson) in front of the Giza pyramid. Poor Ahmad (Anadarko, Houson) was forced to become our shepahard.

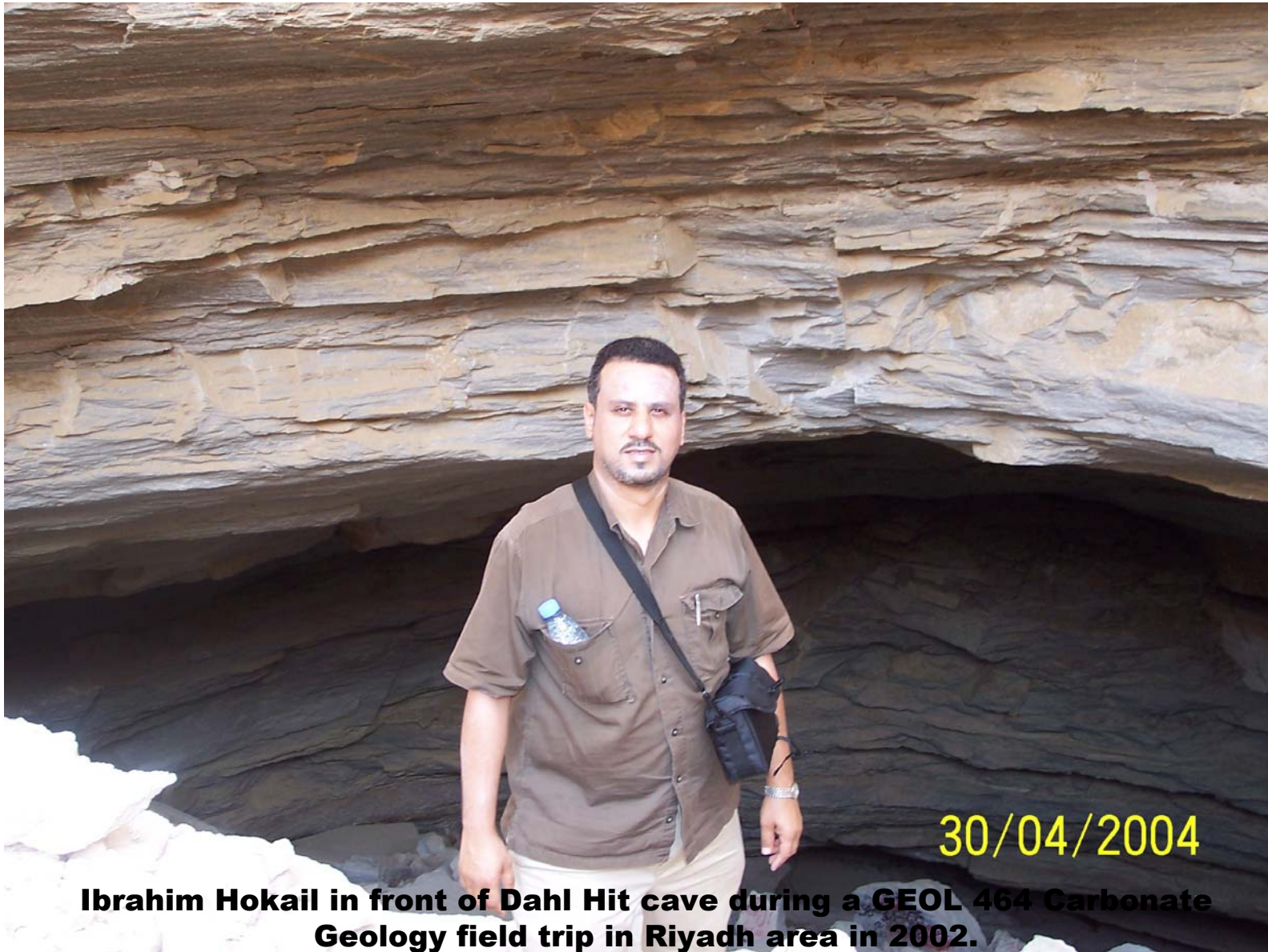


A slave trading station on Al Ukair coastline close to the local police station

29/11/2001

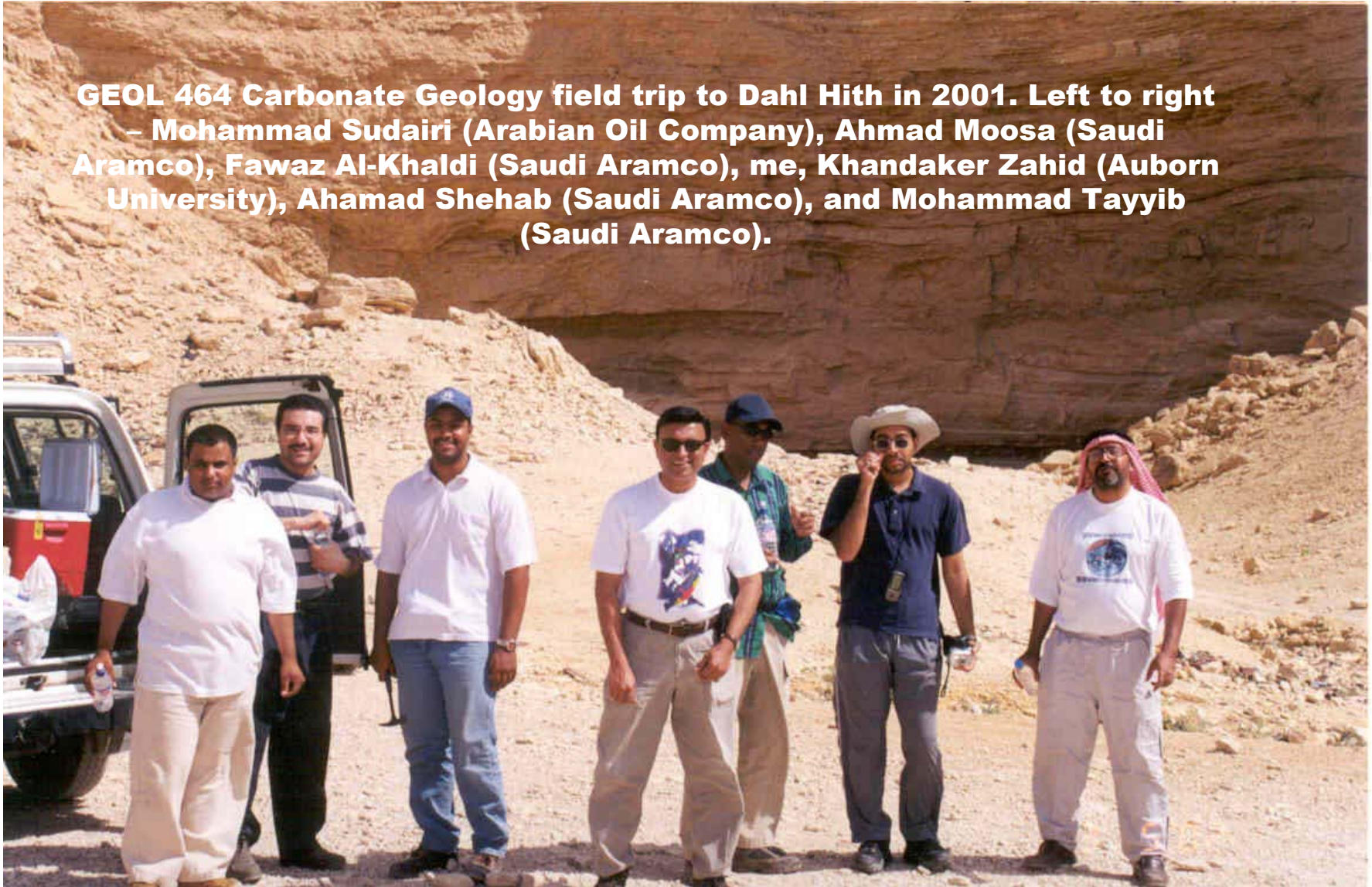


Disregard for geologic considerations during road construction. Total destruction of a 20 km stretch of highway close to Al Baad (northwest Saudi Arabia) during a flash flood in 2002.



Ibrahim Hokail in front of Dahl Hit cave during a GEOL 464 Carbonate Geology field trip in Riyadh area in 2002.

GEOL 464 Carbonate Geology field trip to Dahl Hith in 2001. Left to right – Mohammad Sudairi (Arabian Oil Company), Ahmad Moosa (Saudi Aramco), Fawaz Al-Khaldi (Saudi Aramco), me, Khandaker Zahid (Auborn University), Ahamad Shehab (Saudi Aramco), and Mohammad Tayyib (Saudi Aramco).

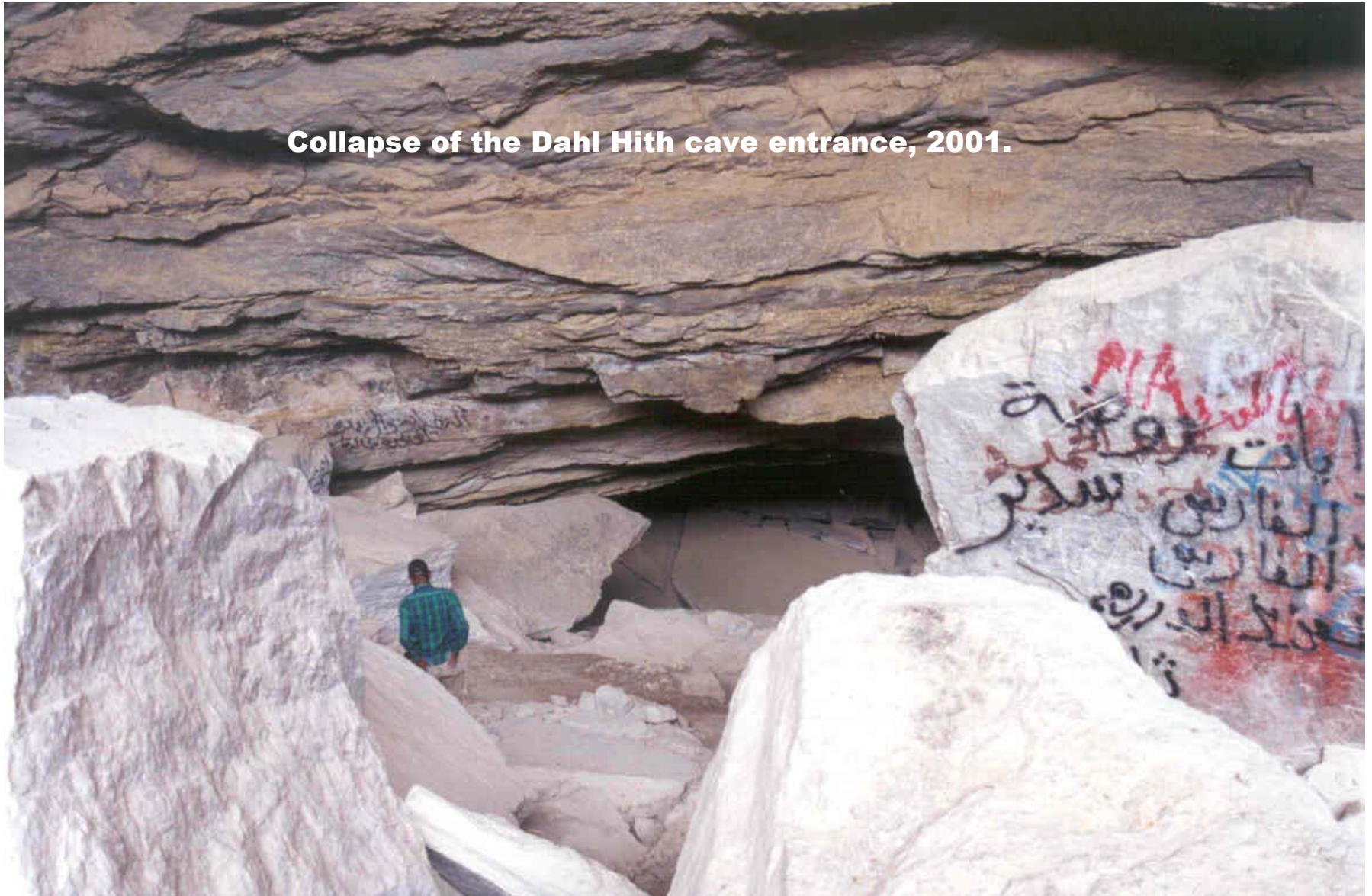




30/04/2004

**Collapse of the Sulai (Cretaceous) hills due to dissolution of the
underlying Hith evaporites.**

Collapse of the Dahl Hith cave entrance, 2001.



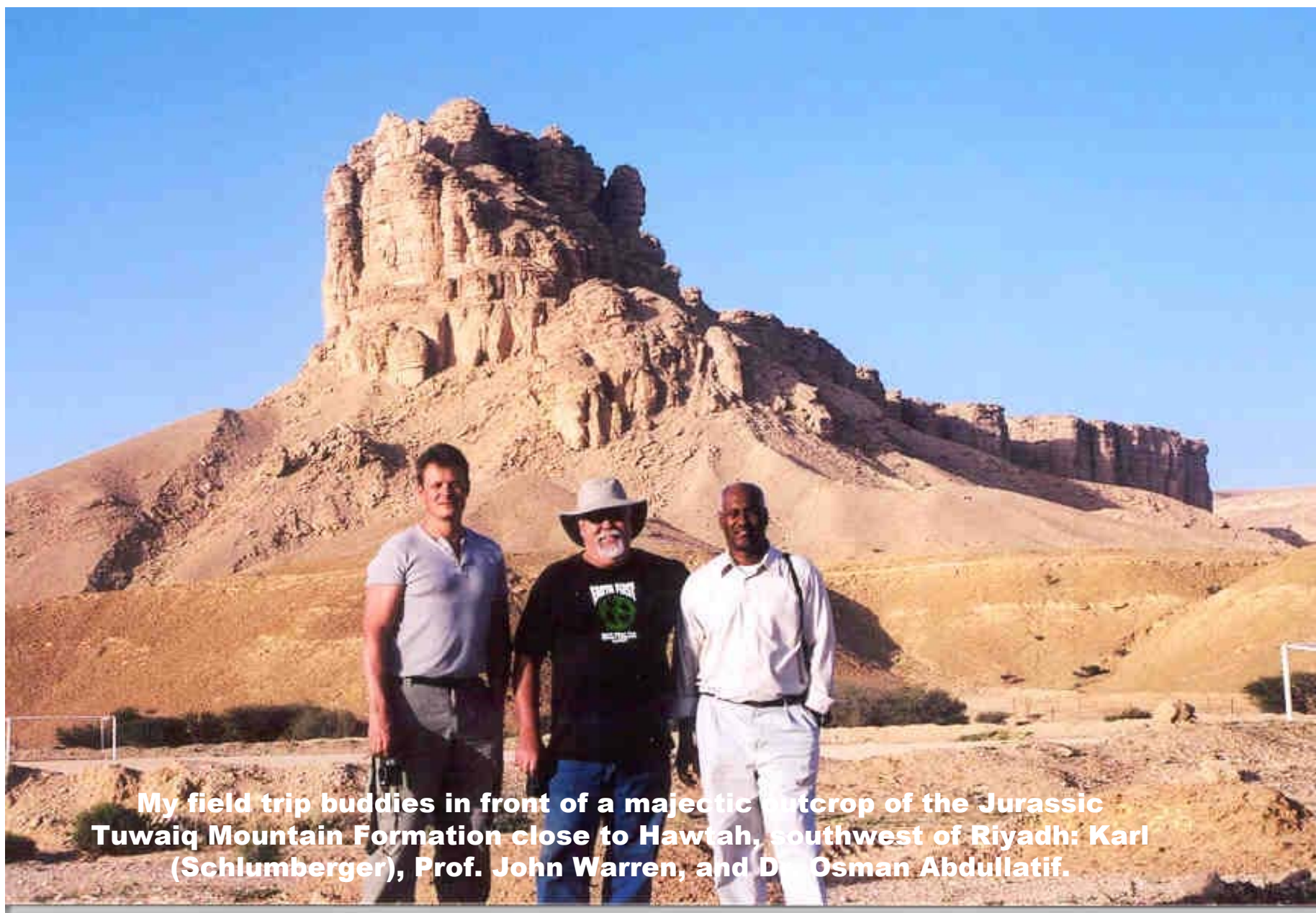


**With a group
Advanced Petroleum
Geology students in
front of a Hanifa
Formation (Jurassic)
close to Wadi
Abykan northwest of
Riyadh.**



29/04/2004

An archaeological site close to Jubaila town, northwest of Riyadh.



My field trip buddies in front of a majestic outcrop of the Jurassic Tuwaiq Mountain Formation close to Hawtah, southwest of Riyadh: Karl (Schlumberger), Prof. John Warren, and Dr. Osman Abdullatif.



Bioherm in Jurassic Hanifa Formation, Wadi Abaykan, northwest of Riyadh.



**With a group of GEOL 318 Regional Geology students in Miocene Dam
Formation in Jabal Midara Al Janoub, close to Aramco.**

07/04/2004



With a group of GEOL 415 Petroleum Geology students at a Hanifa Formation (Jurassic) exposure at Jabal Abaykan, northwest of Riyadh. December 9, 2004)



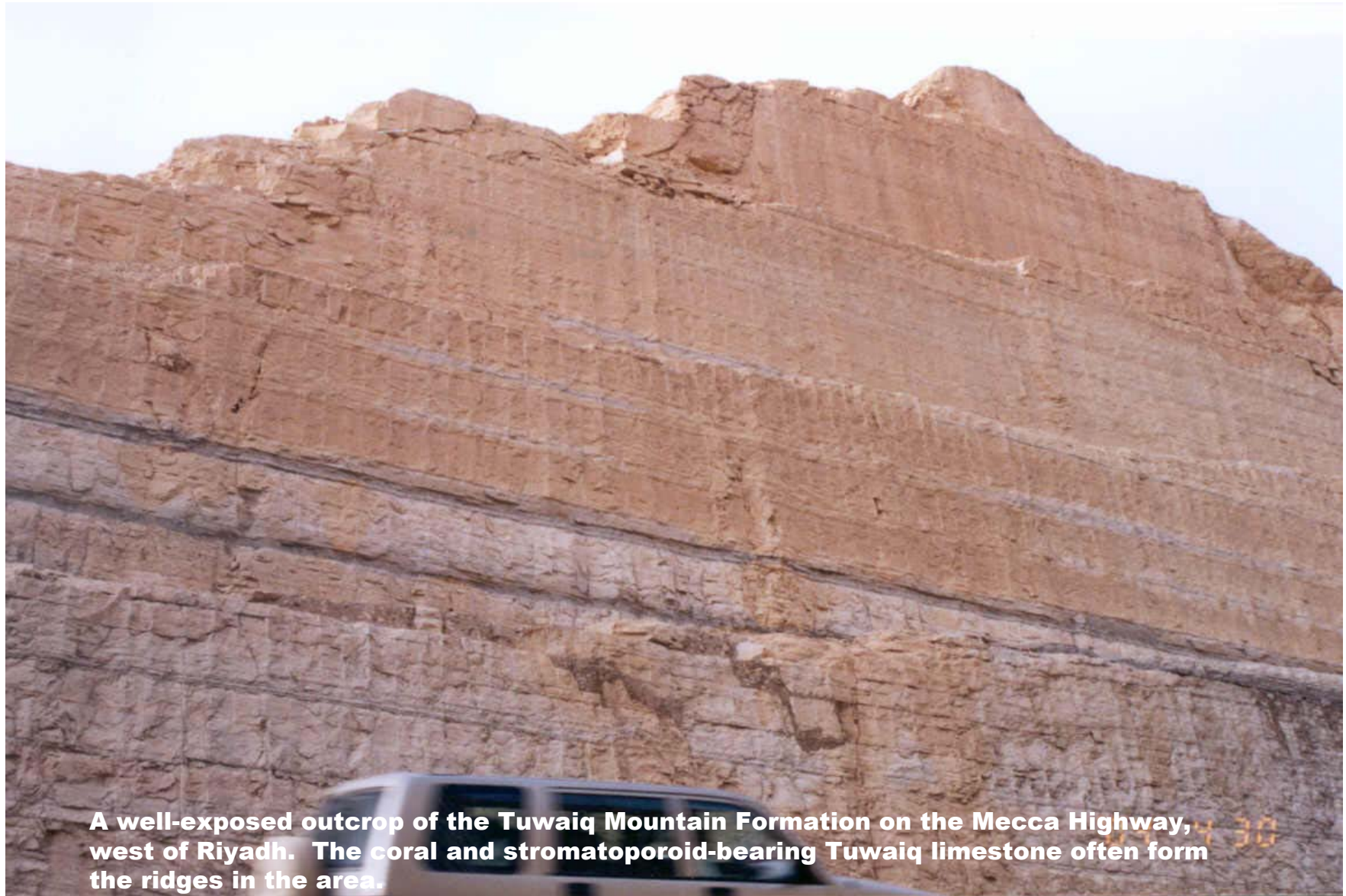
Maximum Flooding Surface (MFS) deposits – Jurassic Hanifa Formation, Jabal Abaykan, northwest of Riyadh.

09/12/2004



**Majestic outcrops of coral-bearing, resistant Tuwaiq
Mountain carbonates, Tuwaiw Escarpment, Mecca Highway,
west of Riyadh.**

09/12/2004

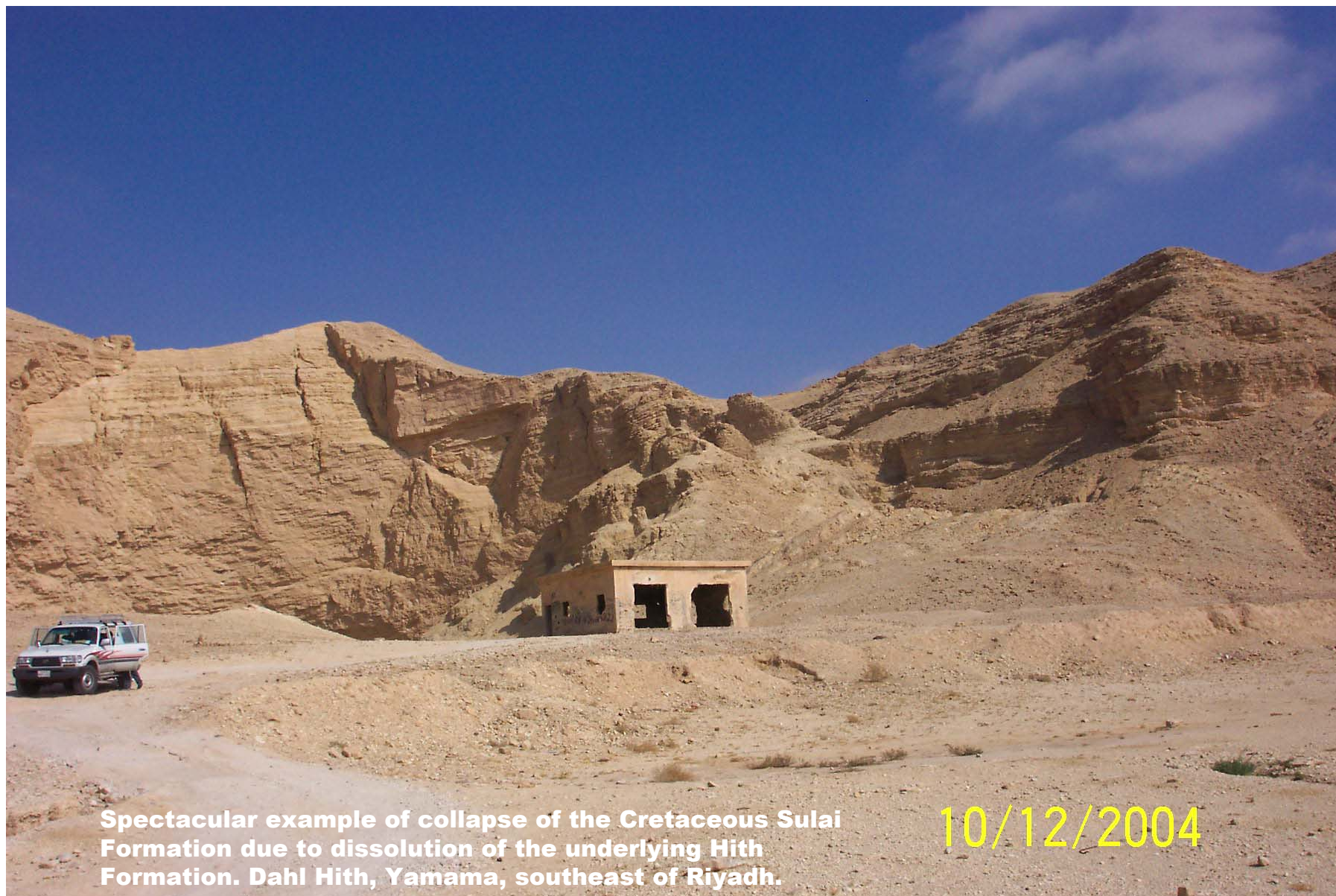


A well-exposed outcrop of the Tuwaiq Mountain Formation on the Mecca Highway, west of Riyadh. The coral and stromatoporoid-bearing Tuwaiq limestone often form the ridges in the area.



Collapse of the Cretaceous Sulai Formation hill due to dissolution of the underlying Hith evaporites.

10/12/2004



Spectacular example of collapse of the Cretaceous Sulai Formation due to dissolution of the underlying Hith Formation. Dahl Hith, Yamama, southeast of Riyadh.

10/12/2004



Subsidence of the farmland due to excessive ground water withdrawal. Yamama, southeast of Riyadh.

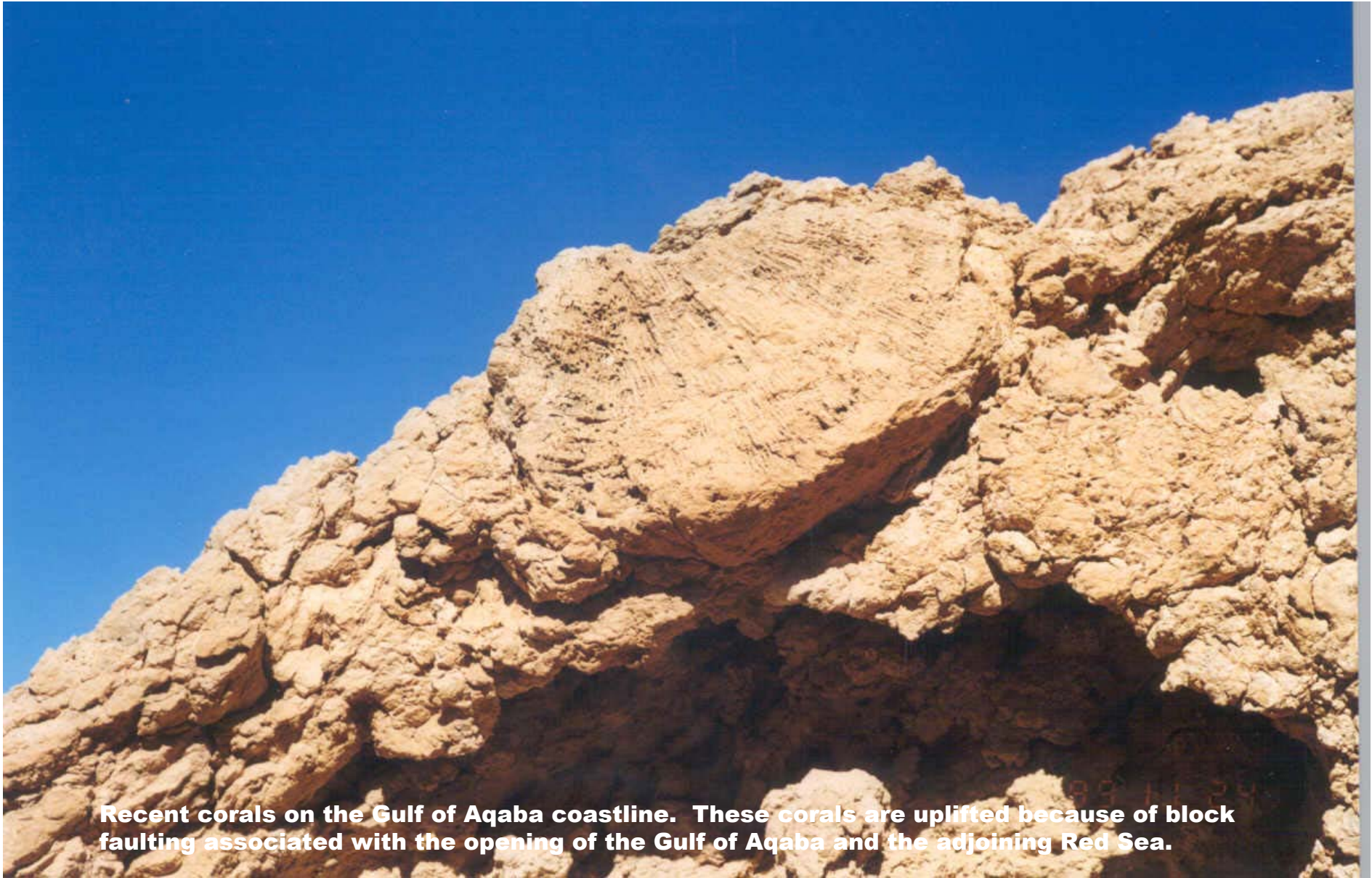
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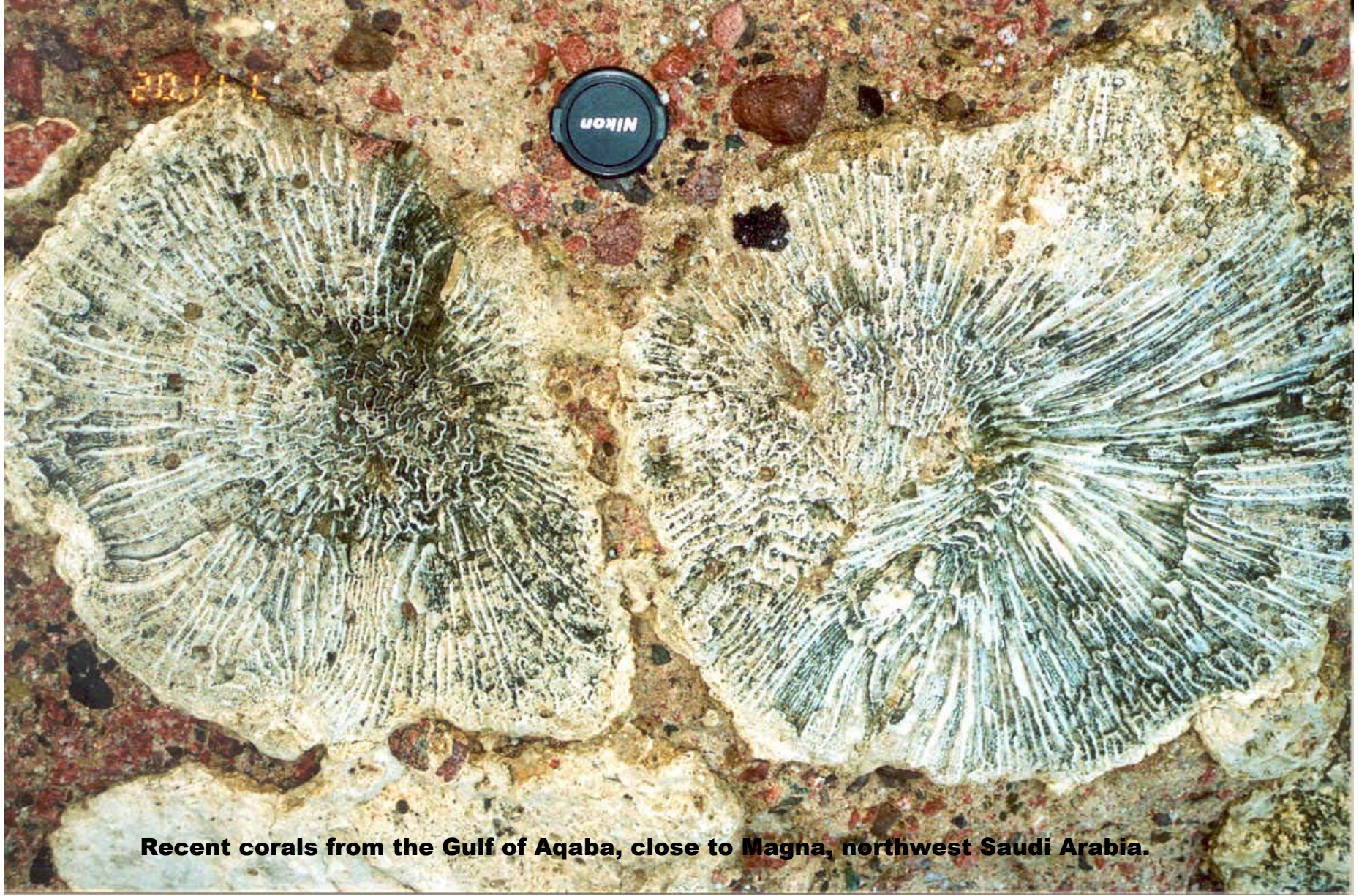
A foot-ball size chert nodule in the Tuwaiq Mountain Formation, Mecca Highway, west of Riyadh.



Decorative Cruziana! *Cruziana* is a very common trace fossil in the Cambrian Saq Formation in the Tabuk Basin. Because of beautiful texture of the *Cruziana*, the locals often use Saq Sandstone as a building stone.



Recent corals on the Gulf of Aqaba coastline. These corals are uplifted because of block faulting associated with the opening of the Gulf of Aqaba and the adjoining Red Sea.



Recent corals from the Gulf of Aqaba, close to Magna, northwest Saudi Arabia.

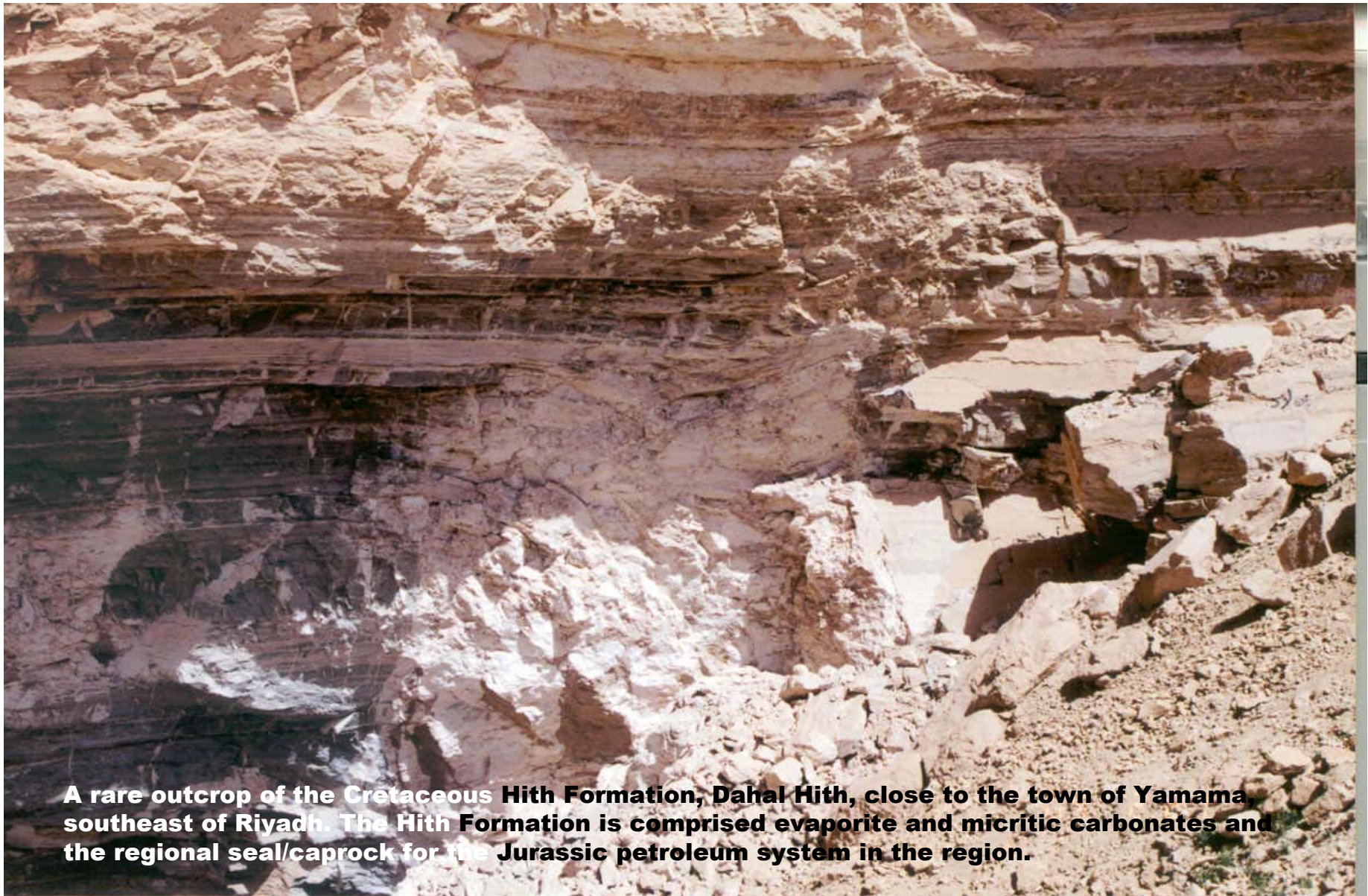


Debris flow deposits in the Pliocene Wajh Formation, Ifal Basin, northwest Saudi Arabia.



Collapsed Sulai Formation due to dissolution and leaching of the underlying Hith evaporites, Yamama, south east of Riyadh.





A rare outcrop of the Cretaceous Hith Formation, Dahal Hith, close to the town of Yamama southeast of Riyadh. The Hith Formation is comprised evaporite and micritic carbonates and the regional seal/caprock for the Jurassic petroleum system in the region.



Nodular chert in the Tuwaiq Mountain Formation on the Mecca Highway, west of Riyadh. Dissolution of the silica-bearing skeletal allochems like sponges, radiolaria and diatoms are considered the main source of the silica for nodule formation and chertification of this limestone.



Chertification of limestone. Chert nodule in the Tuwaiq Mountain Formation, Mecca Highway, west of Riyadh.

09/12/2004



**Dahl Hith – the famous cave in Cretaceous Hith Formation,
Yamama town, close to Al Kharj, southeast of Riyadh.**



Chertification of limestone. Chert nodule in the Tuwaiq Mountain Formation, Mecca Highway, west of Riyadh.

09/12/2004



With a group of Geology and Petroleum Engineering students in front of the Tuwaiq Mountain Formation outcrop on the Mecca Highway, west of Riyadh. The details of this section is included in Hughes et al. (2004; GeoArabia, v. 8).

09/12/2004





Latest fun in Abha! Stabilizing cars on concrete debris.

10/08/2004



Stuck? No, it is latest fun in Al Habalah park in Abha.

10/08/2004



**Spectacular example of mechanical weathering in arid region, Hofuf
Formation, Al Ayn, Hofuf.**

27/08/2004



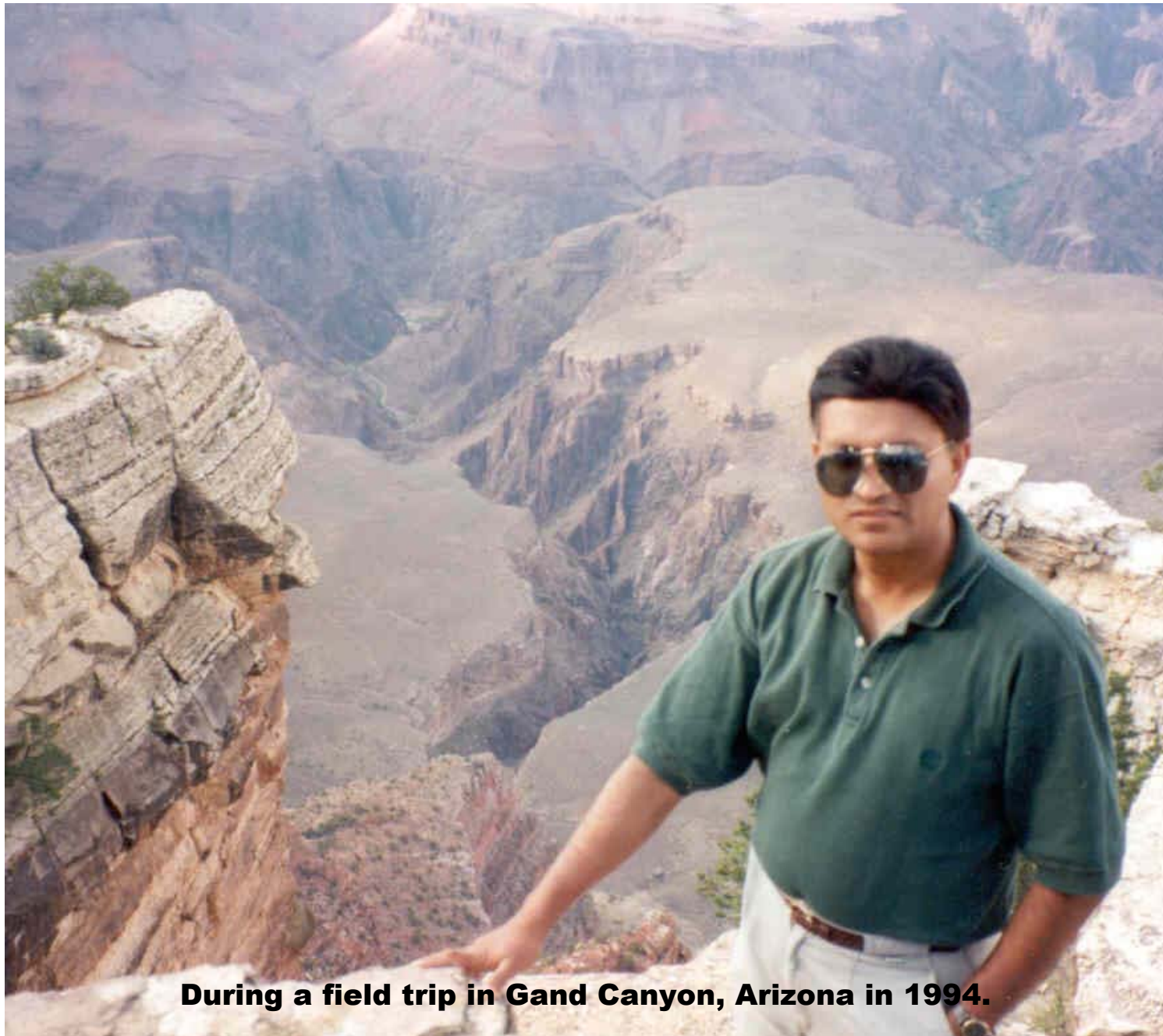
This used to be my office when I was a graduate student at Acadia in 1980's.



John Klim, my environmental buddy during sampling trip to a UST monitoring site in West Texas.



Rady Yousef, my driver and constant companion during my frequent field trips to Abha, southwest of Saudi Arabia.



During a field trip in Gand Canyon, Arizona in 1994.



During a field trip in Gand Canyon, Arizona in 1994.



On the Red Sea escarpment during Summer field camp in 2004.