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COGEAR: COupled seismogenic GEohazards in Alpine Regions

# COGEAR

# **MODULE 3:**

# **Overview of existing data in the Visp area** Del. No.: 3a.2.1.1 (3°.2.1.2)

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### COGEAR REPORT 3a.2.1.1

## **IGT** contribution

### Overview of existing data in the Visp area

#### 1. INTRODUCTION

The main goal of this task is to collect available information on the ground conditions in the area of Visp and to incorporate this data into the COGEAR database. This report will represent the state of this progress at the time written. Naturally data collection is an ongoing process and can be challenging, when existing data is owned by several different institutions and persons. Often legal handling of the data is an issue and can cause delays. Thus the actual state is given here, while later updating and adding additional information will be most likely.

#### 2. AVAILABLE DATA

Most of the data incorporated into the data base up to now originated from the N9 motorway project. Additional data was available from a previous research project "ShakeVal" and other projects with involvement of IGT. An overview of the geotechnical data positions is given in Figure 1. The soil conditions at 156 locations is now available in the data base.



Figure 1: Overview of the existing data in the Visp area incorporated into the COGEAR Data Base.

#### 3. DATA PREPARATION

Geotechnical Logs from Borehole data vary significantly depending on the geologist or engineer who is responsible for the logging on site. Often very detailed information is given, which has to be summarized for practical purposes and use. This has been done for all the information available and borehole logs as given in Figures 3 have been prepared. Additional information is available from the former construction site of the train station in Visp. Layers of fine silty sands can be identified in addition to more coarse material. In general, the geotechnical conditions in the Visp area consist of layers of sand and gravel, partially covered by manmade materials as well as with farmland. There is a high local variation of the distribution of the layers and in some areas sand is almost inexistent.



Figure 2: Soil profile taken from a slope at the train station of Visp.

In addition to the borehole log, which visualizes the results easily, meta data for each borehole is available. An example for this meta data is given in Figure 4, while attention should be given to the quality of the data, which is also included.





<u>▽ -12.00 m</u>

A9 motorway SRCE-Routes Nationales Av. de France 1950 SION 12.00m

eature /	Value	Feature	$\Delta$	Value
∃⊣gid	3	⊡gid		18
(Derived)	74	Derive	d)	
X	634127.43	X		634940
Ŷ	128014.8	Y		127910
ALTI_WATER		ALTI_W		1.7
ARCHIVING	4.P6.40.31.70	ARCHIV		Rapp. EPFL juill. 73 + SRN 22.01.7
BORELENGTH		BORELE		
	Bohrung mit einem Piezometer			Bohrung mit einem Piezometer
	forage avec un piézomètre	BORETY		
		BORE_I		90
BORE_INCLI		- CODE_		636
CODE_VS	12	CODE_\		
CODE_VS_TX		COMME	NT	NULL
COMMENT	Pas de granulométries.	DATA	123220	1
DATA	0	DATE_B		04/14/71
DATE_BORE	11/24/92			04/14/71
DATE_MEASR		DESCRI		Rec tracé Gampel - Brigue
DESCRIP	N9 Nordumfahrung Visp	GOAL_E		geotechnisch und hydrogeologisch
GOAL_D	geotechnisch und hydrogeologisch	GOAL_F		géotechnique et hydrogéologique
GOAL_F	géotechnique et hydrogéologique	ID_BOR		2
ID_BORETYP	2	ID_GOA		3
- ID_GOAL	3	ID_PER		2
ID_PERFOR	2	ID_QUA		2
- ID_QUALITY	1	ID_ZQU		1
ID_ZQUALIT	1	NAME_C		
NAME_COMM	LALDEN	NR_CO		
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OTHER_NAME	L PASSA DAVIS	PRB_IN		
PRB_INCOMP		QUALIT		nicht genau
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TYPE_PER_D		TYPE_P		carotté
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-X	634127	Y		127910
Ŷ	128015	Z		647.7
z		ZQUALI		
	645.95	ZQUALI	1Y_F	
ZQUALITY_D	-1	i gid		18
ZQUALITY_F	précis			
i gid	3			

Figure 4: Examples of meta data for the bore holes in the data base.

### 4. SUMMARY AND OUTLOOK

Existing data has been summarized and incorporated in the COGEAR data base (Deliverable 3a.2.1.2). It is intended to increase the available data by using further information from different projects, site investigations conducted by local companies and the results of the planned borings conducted in the frame of this project.