Durmitor 2007

YUCPC Caving Expedition Report

The YUCPC, ASAK and Polish cavers.

Back Row: Peca (ASAK), ? (Pole), ? (Pole), Mika (ASAK), ? (Pole), Dave Sproson
Middle Row: ? (Pole), Debbie Flowers, Charlie Dixon, James Gregory
Front Row: ? (Pole), Andy Vick, Laura Bennett, Chuck Holder, Andy Gilmartin, Steve Gilbert, Adrian Turner.

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Introduction

In 2004, a small group of York University Cave and Pothole Club members participated in an international expedition led by the Student Speleologic and Alpinistic Club, Belgrade (ASAK) to the Durmitor region in Montenegro. This forged excellent links with ASAK and proved good potential for future expeditions. We returned to Durmitor this year, ten strong, as a YUCPC expedition in collaboration with a couple of members of ASAK and a few members of a polish caving club, to continue the work started in 2004.

Organiser	Adrian Turner
Leader	Andy Vick
Treasurer	Laura Bennett
Logistics and Transport	Adrian Turner, James Gregory
Equipment	Adrian Turner, Steve Gilbert
Food	Laura Bennett, Andy Vick

AT	Adrian Turner
AV	Andy Vick
LB	Laura Bennett
AG	Andy Gilmartin
CD	Charlie Dixon
CH	Chuck Holder
DS	Dave Sproson
DF	Debbie Flowers
JG	James Gregory
SG	Steve Gilbert

Previous Expedition

Five members of YUCPC arrived in Montenegro in 2004 to join over seventy cavers from Serbia, Bosnia, Bulgaria, Hungary, Poland, Russia, Slovenia and the UK for a fantastic three weeks of caving, prospecting and socializing with some very crazy European cavers. One of the main aims of the expedition was pushing the already discovered Jama na Vjetrenim Brdima (JVB) or 'Cave of the Windy Hills' to its limits and completing a resurvey of the system that had been started in 2002. This was surveyed to -775m with Andy Vick being one of the surveyors.

ASAK had already been to the region several times before, initial explorations were started in the 1980's but much of the data had been lost, some of it due to political rivalry in the Serbian club. The area was not visited for almost twenty years as Yugoslavia split itself into the remaining fragments until a small group ventured out again in the new millennium. Here work was started at piecing together the missing bits of the jigsaw. The 2004 expedition was a huge push on the area but the main focus was to bottom the deepest known cave.

The other main aim was to carry out prospecting in the area, and to this end the five members discovered and descended X03 (2004), officially designated YUCPC 01 and AB304. Prospecting was hugely thwarted by the weather with visibility down to almost nothing on some days, though even with this setback several promising leads were found and followed not only by YUCPC but also the Polish. Several entrances were also found, which they did not have the time to explore.

Expedition Objectives

The expedition had several objectives:

- to fully explore and survey the cave X03/04 that was found on the previous expedition.
- to descend, explore and survey, if worthwhile, the undescended entrances found on the previous expedition.
- to prospect for caves in the surrounding area to determine the potential for future YUCPC expeditions, descending any open entrances, exploring and surveying where possible.
- to look for a suitable new camp location for future expeditions.

Geology

A good overview of the karst of Montenegro is given by Vasilije Radulovic and Micko Radulovic (RADULOVIC, Vasilije; RADULOVIC, Micko (1997): Karst Crne Gore (Karst of Montenegro) In: STEVANOVIC, Zoran (Ed.) : 100 godina hidrogeologije u Jugoslaviji (100 years of hydrogeology in Yugoslavia). Belgrade, (1997): 147-185 (16 fig.) (Serbian, Engl. summ.) , see http://www.asak.org.rs/karst/montenegro/mnkarst.html).

Durmitor is a classic karst region at an average attitude of 2000m. The region is known for its impressive gorges and limestone crags hiding many possible cave entrances. The highest peak is Bobtov Kuk at 2523m. There are several previously discovered caves around the east of the camp, the deepest being Jama na Vjetrenim Brdima (JVB) at 775m. Initially information about the geology was hard to find for the 2004 expedition and we relied on the expertise of the Serbian team.

Logistics and Transport

There were ten participants, of who eight remained for the entire three-week expedition and two who left at the end of the first two weeks.

Andy Vick and Adrian Turner drove out in the Landrover (its second visit to the region!) as we needed to transport equipment and we required transport for shopping/emergencies when we were there. Driving across almost 2000 miles of Europe taking three to four days. Everybody else flew. Most of us flew directly to Dubrovnik (in Croatia) and then took many buses across Montengro to reach Zabjlak. This was not a good route and future expeditions would be advised to fly to Belgrade, as in the 2004 expedition, from where there is a direct bus to Zabjlak.

Finance

The total cost of the expedition was £4600.14, which can be broken down as shown below.

TRANSPORT	
Flights	1010.08
Buses	266.41
Landrover insurance	98.68
Breakdown insurance	208.02
Green card	17.00
Landrover misc.	52.44
Diesel	553.19
Ferries	77.60
Tolls	50.31
Border insurance	28.67
FOOD	
International supermarket (in advance)	66.37
Soya	30.60
Cosco (cash and carry)	112.19
Food bought on expedition	273.29
INSURANCE	716.00
MISC.	30.00
EQUIPMENT	854.23
ACCOMODATION	147.56
REPLACEMENT OF STOLEN EQUIPMENT	7.50

The unexpected expenses were the purchase of a new Landrover battery, replacement of some stolen gear and accommodation in a hotel due to the bus timetables.

The currency used in Montenegro was the Euro. Croatia did not use the Euro and

money was changed at the bus station in Dubrovnik. All money spent was in the form of cash or credit cards. There was an ATM in Zajblak, which was not there on the 2004 expedition, but we did not use it.

Food

Most of the food was purchased prior to the expedition and transported in the Landrover. There was a small supermarket, a bakery and a couple of small shops/stalls in Zabjlak however the choice was limited and some items were not available or expensive.

The staple diet of the expedition is shown below:

Breakfast: Mornflake + hot drinks (tea, coffee, hot chocolate)

Lunch: Bread, tinned meat, sausage, cheese (only the day after shopping), eggs (if hard boiled before returning up the mountain), chocolate bars, raisins, fruit

Dinner: TVP (tomatoed, curried or stewed) with rice, pasta, couscous or smash

Things to take more of next time:
- dried milk (this ran out very quickly and was not available)
- cous cous and smash (v. popular)

The stream used on the previous (2004) expedition has dried up due to the dry winter, however a new water source was found approximately ten minutes walk from camp. We also experimented with collecting water from a drip source close to camp and filtering this. This worked quite well and could be left to collect water over the course of the day.

Sponsorship

A £250 travel bursary from the university was applied for by Debbie Flowers, and following the application and interview, it was given, and used to buy a tent for the expedition. The only condition was that a report was written, and this has been done.

Forty-four companies were sent letters, and ten companies emailed (addresses not available). A brief outline was given of our objectives for the trip, and the companies asked if they would consider giving us any sponsorship that they could. Many replied, for example Lyon, Regatta, Petzl, saying that they would like to help us, but either have a policy of not helping anyone, or sponsoring only larger expeditions. We were successful with other companies though. Premierlight sent us two head torches, Morning foods fed us for every breakfast for three weeks, plus a few puddings! AMG offered us a heavily reduced price list, as long as we returned with photos of their products in use. And First Ascent also offered us some generous discounts. The report, letter of thanks and any relevant photos were sent back to these companies.

Equipment

Equipment taken included:

Tents:

- 1 Large Mess Tent
- 3 Force Ten Mk 3s,
- 1 Force Ten Mk 4,
- 1 Vango Tent
- 1 Quazar
- 1 Dome tent outer for expo gear storage
- 4 Gortex Bivi Bags

Stoves:

- 1 Dual hob stove (with refillable butane cylinders)
- 1 Large single burner stove
- 1 MSR Whisperlight stove
- 1 Pocket rocket
- 1 Bluet 206 stove

Caving Equipment:

- Caving rope and metal work
- Hitachi 24v Expedition Drill
- Various anchors (50 spits, 5 Petzl Long Lifes, 20 through bolts, 30 stainless steel no drill spits)
- 2 bolting kits
- Cave surveying equipment
- Various hammers, chisels and crowbars

Other:

- Large tarp to cover personal caving gear
- Stretcher
- 1 Petrol Generator
- 1 Petrol Lantern
- Various water containers

Medical

We had two main first aid kits: the main one to remain at camp and the second one for remote camps. They included dressings, bandages, plasters, steristrips, etc. The drugs included stuff for diarrhoea treatment, constipation treatment, paracetamol, ibuprofen, paracetamol and dihydrocodine, neurofen plus, asprin.

Laura Bennett compiled three emergency kits with the following contents:

- scissors
- 4 tea-lights
- 2 m of 5 mm cord
- 2 m of 3 mm cord
- 1 lighter
- 15 matches + striker
- water purification tablets
- 5 sheets of waterproof paper
- chinagraph pencil
- orange survival bag (wrapped around the box)
- contents sheet/medicines sheet
- 1 small roll of gaffa tape
- 3 pairs of gloves
- 16 pain relief tablets (paracetamol + dihydrocodeine)
- 4 ibuprofen tablets
- 1 crepe bandage (7.5 cm x 4.5 m)
- 1 small dressing (5 cm x 5 cm)
- 1 large dressing (10 cm x 10 cm)
- 4 medium plaster
- 2 large plasters
- 2 antiseptic wipes
- 1 pack of steri-strips
- 1 saline solution tube

The idea was that each team going prospecting or caving took one. Each person also had a personal first aid kit to take when prospecting/walking so that the first-aid items in the emergency kit were only used when required. The first-aid contents of the emergency kit could be restocked from the central first-aid kit kept at the main camp.

GPS Devices and Entrance Naming

The designation pre-fix, mostly, relates to the GPS device used to mark the entrance. The order recorded here relates, mostly, to the prospecting trip the entrance was found.

There were 3 GPS devices. A prospecting team would have one of these. Because multiple prospecting teams were often out at once, entrance designations were prefixed based on the GPS. (Andy Gilmartin's GPS was X (or XA), Dave Sproson's was T (or DS) and the YUCPC GPS was allocated K.) There are pros and cons with this system. (See Appendix for the GPS projection settings that were used.)

GPS Locations and Marked Entrances

Designation	North	East	Altitude	Comment
X20	N 43 07.127	E019 02.330	2048	Small shaft, goes 3 meters.
X21	N 43 07.120	E019 02.362	2053	Bottom of boulder choke. Possible way. Can see about 3m but very narrow and chocked on the N side of the choke. Very narrow entrance. Difficult to move rocks out.
X22	N 43 07.009	E019 02.313	2050	The large holds on top of steep slope facing NW. Both go nowhere.
X23	N 43 07.015	E019 02.188	2031	5m deep open hole, doesn't go anywhere. Grassy bottom.
X24	N 43 07.042	E019 02.165	2025	Gravel entrance. No go.
X25	N 43 06.995	E019 02.128	2028	3m shaft. Chokes.
X26	N 43 07.003	E019 02.101	2037	Crawling entrance. Entrance points E110 degrees. Entrance inside of steep hill facing west. Crawl at least 10m in. Shift sideways then upwards to carry on in a small, tight maybe body shaped hole.
X27	N43 07.048	E019 02.086	1991	Walk in entrance in a dip. Mini entrance that goes nowhere.
X28	N43 07.041	E019 02.101	2006	Charlie sized 8m shaft. Very tight, goes nowhere.
X29	N43 07.054	E019 02.116	1996	Big gash in side of gully. Goes down about 5/6/m, ends up with very small hole at another entrance
DS009	N 43 06.929	E019 02.280	2125	Bit of a climb down, then dead end at the left. Choked. Promising looking entrance, however it chokes after only 2-3m. There is, however, a strongish draught coming through the boulders.
DS021	N 43 06.927	E019 02.270	2130	Dig loose. Big boulder. Another dig further up the slope on the right. Goes down maybe 1.5m, but rocks blocking way.
DS014	N 43 07.025	E019 02.129	2123	Largish hole at end of large shake hole. Ice slope leading to the bottom (10m height chamber). About 20m total depth. Unlikely to go further. Another cave in shake hole close to 014, up hill. Bridge of rock. Down about a meter but choked with rocks and soil.

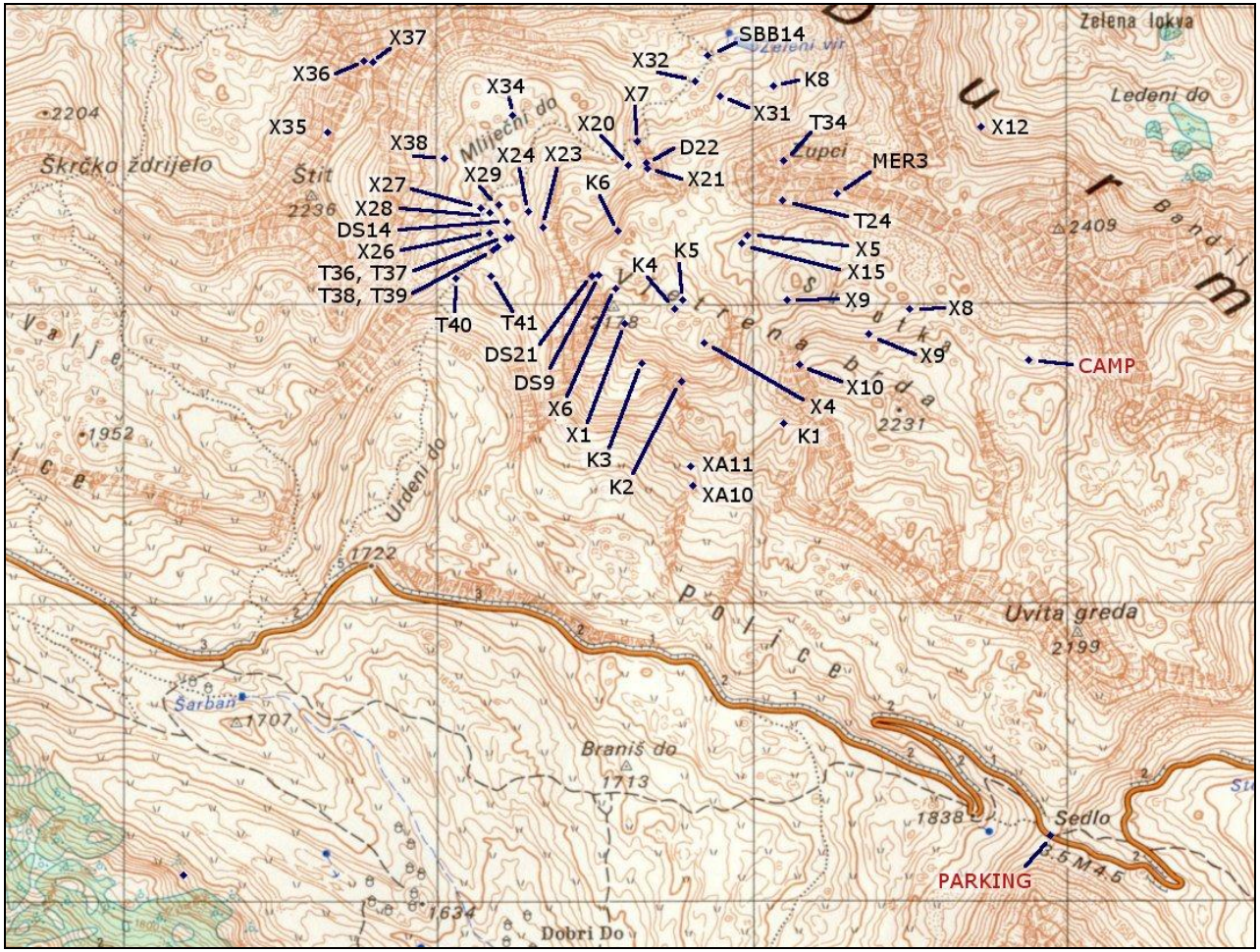
				Large hole in Limestone. I was unable to get right to the bottom as we didn't have any rope with us. It appears to choke, however there may have been a draught coming through.
D022	N43 07.130	E19 02.360	2176	High up, hole in rock face above large crack/rift. Possible climb? (Another further around the ridge, as high, but in the direction of camp. Beyond 013, small possible climb up.)
XA10	N 43 06.548	E019 02.436	2044	Sink in gulley requires digging. <<see sketch>>
XA11	N 43 06.583	E019 02.433	2057	Light breeze would be a dig if in the Yorkshire Dales.
19/8/07 LB, DS, AV				
T036	N 43 06.996	E019 02.137	2148	Large shakehole small entrance in bottom. Prob choked - possible dig.
T037	N 43 06.993	E019 02.131	2145	Next to T036, smaller shakehole. Water worn sides. BIG DIG.
T038	N 43 06.980	E019 02.114	2154	Double shakehole with bridge. Choked. Big dig.
T039	N 43 06.973	E019 02.107	2155	Crack down in rock. 4m choked. Possible dig.
T040	N 43 06.922	E019 02.044	2143	Crack down in rock. 3m depth. 30 degree angle. End=rock with a small continuation hole of 1-2m.Easier dig.
T041	N 43 06.927	E019 02.103	2146	[EAST] Bolt placed a N end at top. 23m rope needed to get to snow plug. Deep rift with snow plug at bottom. N end small climb down past ice plug into rift. Body sized continuation blocked with ice. Need to dig past ice. [WEST] Bolted to y-hang on overhang low down. Open 15m shaft landing on snow. 20/8/2007 - no continuation.
20/8/2007 DF, LB, JG				
X30	N 43 07.242	E19 02.165	2047	Unstable boulder choke with possible dig, but would require scaffolding to hold up loose rocks.
X31	N 43 07.251	E19 02.482	2039	4m hole ends in very narrow rift filled with scree.
X32	N 43 07.278	E19 02.441	2044	Boulder choke. Can see down about 2m. Tight. Unlikely dig.
X34	N 43 07.216	E19 02.139	2046	Boulder choke at bottom of shakehole. Cold draft but difficult to dig due to large amounts of scree.
X35	N 43 07.186	E19 01.833	2037	Obvious opening in cliff face. Goes up steeply but narrows down quickly. 2m upwards.
X36	N 43 07.314	E19 01.893	2037	Small opening in cliff face at top of grassy slope. 0.5m of floor. Goes for 4m. Ends.

X37	N 43 07.312	E19 01.908	2037	Large hole 1.5m above ground in cliff face. Difficult climb goes for about 8m. Ends.
X38	N 43 07.139	E19 02.025	1933	Shakehole. Choked. Can see down 1m to boulders.
25/08/2007 CD, LB, AT				
X2	N 43 06.833	E019 02.230	2180	Climb though hole in between big rocks. Chokes. Revisted 2004 entrance.
T24	N 43 07.064	E19 02.585	2157	GPS stored as T042. Labelled as T024. 6m up from top of grassy slope. Approach it from right hand side. Precarious climb along to entrance. Goes in about 6m then stops.
MER3	N 43 07.075	E019 02.674	2177	Entrance already labelled. Steep climb to obvious entrance. Walking big chamber. Hole in wall to left about 2.5m climb up. Rubble and squeeze though between big rocks (upwards, chokes). Alternatively, foreword and right (up a shelf) there is a muddy crawl in which the floor slopes up to meet the ceiling (therefore ending).
K12	N43 07.001	E19.00.255		Limestone pavement, 5m deep fault. Snow plug
K13	N43 07.008	E19 00.781		2m shakehole. Rock filled crack. Dig potential.
K14	N43 06.858	E19 00.364		4m down, perhaps hole way on. Right about 4m wide.
XA39	N43 06.884	E19 00.840		2m climb down. Small triangular entrance. Terminates in dig.
XA40	N43 06.876	E19 00.342		5m shelf. Possibley deserves revisit? Needs handline. Note: XA40 = "playground area". Many rifts nearby worth exploring.
[XA41]	N43 06.836	E19 00.467		Entrance already marked D.1. Valjevo No3. James got to squeeze, needs oversuit.
K1	N43 06.660	E019 02.587		About 20m deep. Found by SG on visit to X3. Tight entrance (required widenning) at the bottom of a small shakehole straight into a 5m pitch. Crawl though and down into a small chamber. Next pitch very tight (only small people can pass) and drops about 4m. It looks too tight to continue. It would require blasting. There is quite a strong draft!
K2 area	N43 06.736	E019 02.418		Small rocky area. Potential dig.
K3	N43 06.769	E019 02.352		Crap dig. No draft.
K4	N43 06.867	E019 02.406		Thin walking rift dropping down to a mud/stone floor (about 4m high).
K5	N43 06.884	E019 02.419		In “Marks Playground” area. Likely entrance. <<see sketch>>

				(Revisited 20/8/07. Doesn't go.)
K6	N43 06.883	E019 02.592		Crap hole. No draft.
SBB14	N43 07.324	E019 02.460		Shaft 1m across. 12m down. (AT)
K8	N43 07.269	E019 02.570		Dig potential in bottom of shake hole with draft (AT)
T34	N43 07.134	E019 02.586		This was a significant cave (see survey). The entrance is at the foot of a cliff at the top of a scree slope.
				These are entrances from the 2004 expedition.
X1	N43 06.841	E019 02.324	2113	Entrance high in cliff Marked X1/04. Entrance high in side of cliff. Square passage with loose rock base. Bend to left opens into a small chamber (standing room). Two small rifts continue, but are too small to enter. Termination after a climb up into a smaller chamber.
X2	N43 06.833	E019 02.230	2180	Marked X2/04. Entrance is a small hole in the bottom of a shake hole. Climb down through loose boulders leads to a choke after approx 10m. Some members of the Russian group also entered this cave, and believe that shifting one boulder could lead to a way on.
X3	N43 06.667	E019 02.216	2051	Very large depression with entrance pitch landing on snow at one side. <<see survey>> Marked X3/04, AB304, YUCPC 01. Large open shaft blocked with snow and ice. Entry was gained by abseiling past the ice at the North end of the main shaft. See below.
X4	N43 06.806	E019 02.455	2075	Typical English "Yorkshire Dales entrance".
X5	N43 07.000	E019 02.526	2157	
X6	N43 06.904	E019 02.309	2127	1.5m "shit hole"
X7	N43 07.169	E019 02.345	2033	Spiky shaft, goes over boulder at bottom then walls close in.
X8	N43 06.867	E019 02.795	2138	Stream sinks close to path for approx. 50m. Cave is unmarked, but it is hard to believe this has not been found before. Climb down entrance, 5m rift, then pitch/climb not descended.
X9	N43 06.822	E019 02.726	2138	Hole between rocks leads down approx. 4m. No apparent continuation or draught.
X10	N43 06.766	E019 02.612	2186	Marked with a cairn – by the Polish group we think. Climb down into small chamber. There are two entrances, though one may be a bit tight. Way on via a climb down through boulders, though we did not proceed.

X15	N43 06.986	E019 02.516	2094	Hole by path, possibly capped
X12	N43 07.195	E019 02.913	2145	Climb down 2-3m leads to a small chamber with a (loose) boulder choke. There appears to be a way on through a small hole (possibly too tight). Any continuation after this in unknown.

Locations plotted on a 1:50k map



Prospecting

During the 2007 expedition, we tried to maintain a rough sketch of the areas that we prospected. This was mostly successful.

A significant omission from this map is the “Satellite Camp” which lies south west of the Stit peak. It was on the shoulder at about the 1952m altitude marker visible on this map below. Unfortunately this area turned out not to be very promising.

Conclusion

The objectives for the expedition were in the most part fulfilled. X03/04 was pushed and surveyed; however, the other entrances from 2004 were mostly not revisited. Many new entrances were marked and the GPS coordinates recorded. Some entrances were explored further and T34 was surveyed. Many entrances were choked and would provide many potential digs, however the lack of digging equipment and scaffolding/wood to make them safe, due to the location of the camp, meant that these were left for a future expedition to explore. Higher entrances were spotted but remain unexplored due to the lack of climbing equipment. There remains potential for further prospecting of the (south west) region furthest from the camp as the lack of a water source meant that this area was not sufficiently prospected. The Serbians have continued to prospect to the east of the camp and have some very interesting leads.

What to do differently on the next expedition

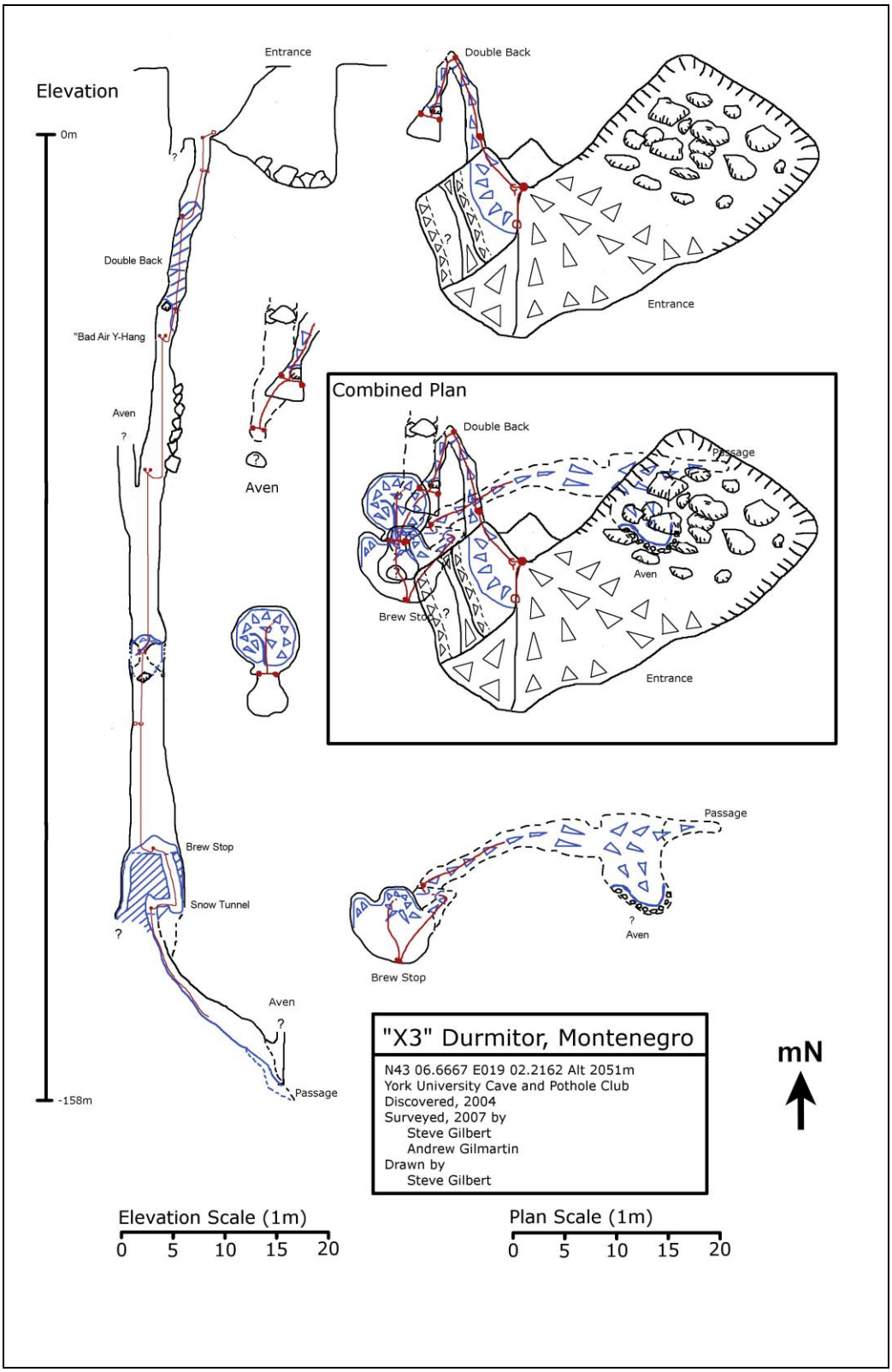
Collecting and recording cave information is difficult with so many different prospecting teams going out. The most important thing is people record as many details as possible in a central place when they return to camp.

Any GPS device needs to be set to a common grid system or the conversion well known. When data is recorded the GPS used needs to be noted.

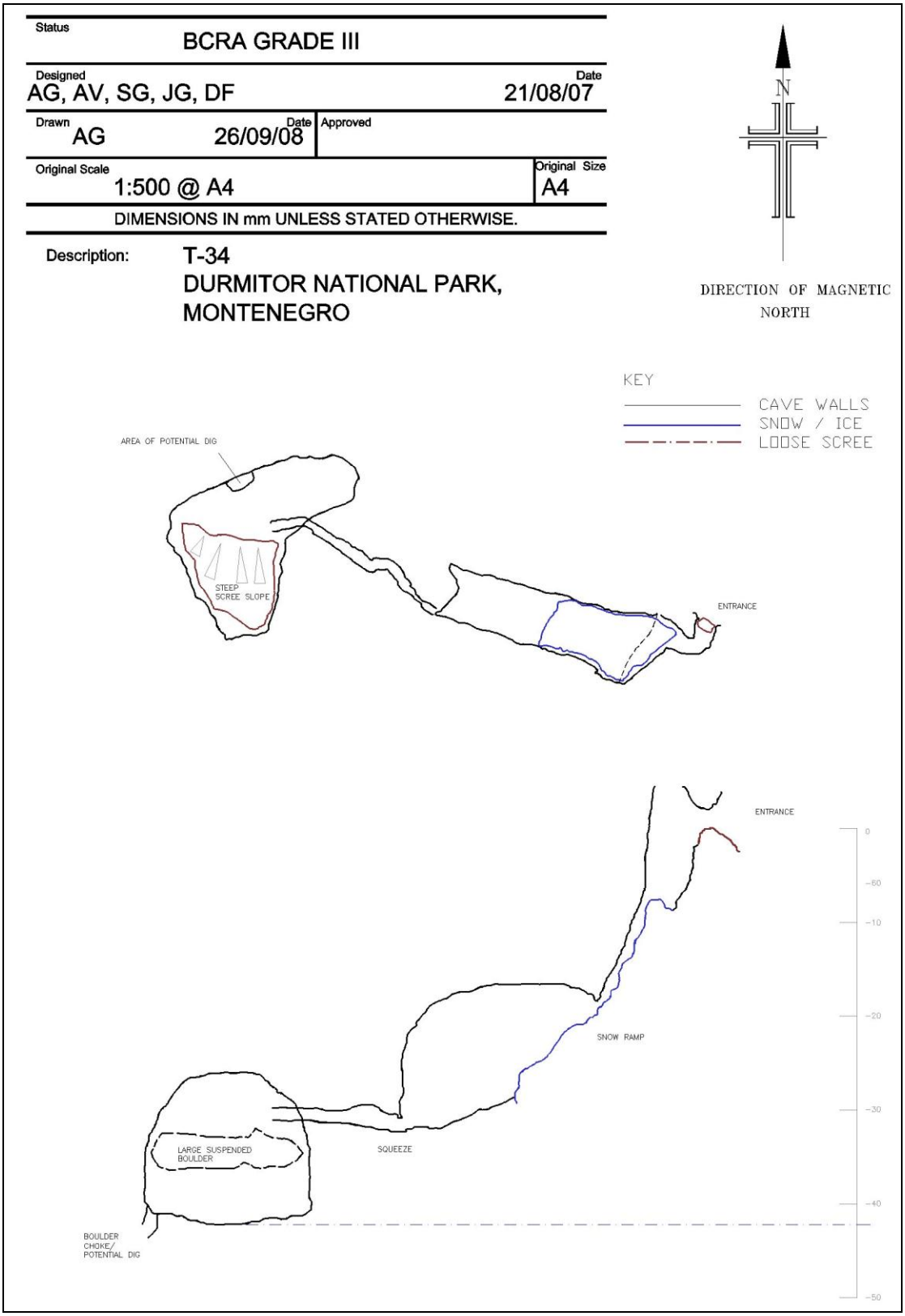
Write the report earlier.

Appendix

X3 Survey



T34 Survey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AG, AV, SG, JG, DF
Date
21/08/07
Drawn
AG
Date
26/09/08
Approved
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Original Size
A4
DIMENSIONS IN mm UNLESS STATED OTHERWISE.
Description:
T-34
DURMITOR NATIONAL PARK,
MONTENEGRO
N
DIRECTION OF MAGNETIC NORTH
KEY
CAVE WALLS
SNOW / ICE
LOOSE SCREE
AREA OF POTENTIAL DIG
STEEP SCREE SLOPE
ENTRANCE
ENTRANCE
SNOW RAMP
LARGE SUSPENDED BOULDER
SQUEEZE
BOULDER CHOKE/ POTENTIAL DIG
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GPS Settings

Garmin user grid for local maps.
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