

INSTRUCTORS - LUCAS

MARK

2014-03-29

08:30

SPENCER

IIP - RESCUE - SEARCH & RESCUE COURSE.

MARCEL

3 DAYS. GOOD FOR TEAM WORKS.

ADAM

AMANDA.

ROCKIES - DRYER, BETTER SKIING,
ISSUES OFTEN LAST ALL SEASON.

CLARITY - COMPRESSION

GLIDE - ENTIRE PACK MOVING TOGETHER

LARGE - LAYERS MOVING DOWNHILL AT DIFFERENT
SPEEDS. UPPER MOST MOVE QUICKEST.

TYPES OF AVALANCHES

• SLOVEN / POINT RELEASE (LOOSE)

• SLAB

FANS OUT FROM POINT. GENERALLY HARMLESS.

CAN TRIGGER SLAB.

INSTABILITY

• STABILITY VS. INSTABILITY

• STRESS VS. STRENGTH

• SHEAR STRESS VS. COMPRESSION STRESS

WHICH IS SLAB?

IS WEAK LAYER?

HOW TRIGGERABLE IS IT?

SHEAR STRESS > WEAK LAYER STRENGTH.

OVERLAYS OF SHEAR COMPARISON WITH COMPRESSION.

SIGNS OF INSTABILITY

• RECENT AVALANCHES • WHUMPS • SHEETING CRACKS

• HOLLOW SOUNDS • SNOWBALLING / PIN-WHEELING

• DIFFICULT TURN BREAKING • RAPID CLIPPING • RAPID WARMING.

• PUNCHING THROUGH

COMPONENT

• SLAB - DENSE COHESIVE

LAYER ON WEAKER LAYER

• TRIGGER

WARMING
CHANGING

DOWN LIKE

WIND SLABS
COMMON HERE
NOT NECESSARILY

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POINT RLS
SLAB
STRONG
WEAK
STRONG

WEAK
STRONG

EVOLUTION OF AVALANCH

- GLIDING 0 - 40 KM/HR AS BLOCKS
- FLOWING 40 - 200 KM/HR AS FRY POWDER
(POWDER CLOUD)

TRIGGERS

NATURAL

- NEW SNOW
- WIND DRIVEN SNOW
- TEMP CHANGES
- SUN
- RAIN 5 TEMP
2 WEIGHT
- THAWING

HUMAN

- SKI / SNOWBOARD
- SNOWMOBILE
- EXPLOSIVES

CLASS 1 - 5

EACH CLASS IS 10X VOLUME

TERRAIN - CONSTANT, KNOWN. CONTROLLABLE RISK.
START ZONE

- INCLINE, ASPECT & EXPOSURE (WIND, SUN)
- GROUND ROUGHNESS & ANCHORS
- ELEVATION

INCLINE 50 - 90° - SLEUGHS FREQ VENTZ
28 - 50° - MOST FREQ SLABS
13 - 28° - RARE (WET SNOW)

ASPECT & EXPOSURE

COMMON TRIGGER POINTS.

- CONVEXITY - TENSION



TRIGGER POINTS
CONCAVITY

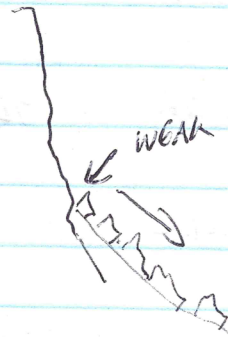


ALREADY UNDER STRESS.

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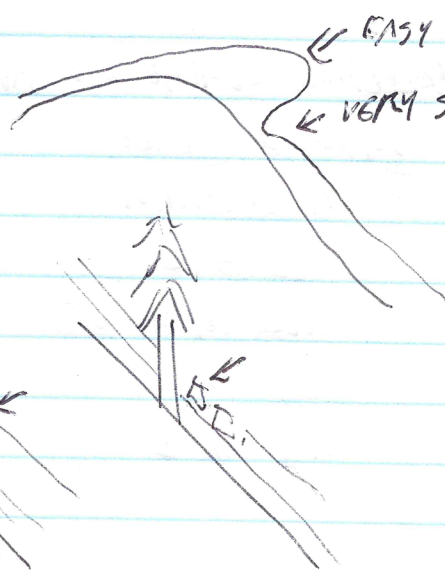
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POSSIBLE TO TRIGGER FROM BOTTOM
TOE OF ROCK FACE



WEAK LAYER VERY SHALLOW, EASY TO TRIGGER

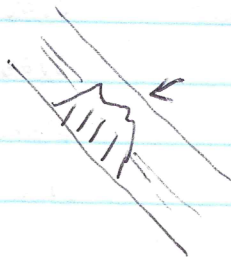
BELOW CONNICK



EASY TO BREAK AWAY

VERY SHALLOW, WEAK LAYERS SHALLOW

SHALLOW AREAS



TRACK CHARACTERISTICS

• MAX DESTRUCTIVE POTENTIAL

• WET SLAB FOLLOW FEATURE - NO POWDER CLOUD

• DRY SLAB FASTER, JUMP FEATURES

RUN OUT ^{LINE} CHARACTERISTICS

LOWER INCLINE

SMALL TERRAIN FEATURES ARE NON-OBVIOUS, THUS HIGH RISK.

XJ

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10:30

EVIDENCE OF PAST AVALANCHES.

TERRAIN TRAPS - MAJORITY CONSEQUENCES.

- BOLLIES
- ABOVE / BELOW CLIFFS.
- CRUASSES.
- ROADS? ABRUPT CHANGE IN SLOPE PICKS UP.
- LAKES.) TREES
- INCREASE DEPTH OF BURIAL
- ↑ IMPACT FORCE
- POTENTIAL FOR MECHANICAL INJURY
- NO ESCAPE.

□ ONLINE ROUTE SELECTION COURSE ON AVALANCHE-CA

AVALANCHE TERRAIN EXPOSURE SCALE

• SIMPLE	• CHALLENGING	• COMPLEX
CLASS 1	CLASS 2	CLASS 3
LOW ANGLES	WELL DEFINED PATHS	OVER LAPPING TERRAIN
TAKE FOREST	OPTIONS	STEEP
NO OVERHEAD	MIN AST 1	MINIMAL OPTIONS
LOTS OF OPTIONS		MIN AST 2.
RUN OUT ONLY.		

□ CAN GET LOCAL FORECAST FROM CMR FOR SAR
UPON REQUEST. VERY LOCAL. SYNCHING, BUT NOT
AS FAR AS MIDDLE KERNAL PASS.

□ NEED FUNDING FOR LOCAL FORECAST.

□ AFFILIATE MEMBER FOR PCSAR IN ^{CMR} AVALANCHE ^{SCENIC} SITUATION

XWATERFALL FORECAST IS MORE RELEVANT TO OUR AREA THAN
S. ROCKIES

□

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□ MARE COX OPENED NATIONAL STOCKPILE KIT.

BURN PRESSINGS FROM 1940'S UNUSABLE. WANTS TO RENATE TO MUSEUM

EVALUATION INVOLVEMENTS

25% OF ~~FATALITIES~~ IN GREEN ZONE.

RISK = PROBABILITY X CONSEQUENCE X EXPOSURE (TIME)

↑
↓
TERRAIN SNOWPACK

□ PROPLAN: PRACTICE AVAL EVALUATION, PROPAGINE BRIEFING

□ ACM & MOUNTAIN CONDITIONS REPORT. GOOGLE WEBSITE.

HUMAN FACTORS.

F AMILIARITY - FACTIES IN FAMILIAR TERRAIN MAKE RISKIER DECISIONS.
"DON'T WORRY, I WAS HERE YESTERDAY"

A CONFIDENCE - WIN APPROVAL OF COMRADES. NOT SPEAKING UP. GROUP BIAS.

C COMMITMENT - GOAL DRIVES OUT BETTER JUDGMENT. LARGE GROUP THINK.

E NOBEL HALO - DEFER TO LDR. INEXPERIENCED, UNKNOWLEDGEABLE LDR WORSE THAN

T RACKS/SCARCITY - GROUP CONSENSUS. WANTING TO BE ALONE; PRESSURE TO FIND QUALITY.

S SOCIAL FACILITATION - HERD INSTINCT -

→ IDENTITY WHEN HUMAN RISK RISING

→ USE EVALUATOR (FORMAL TOOL)

→ ACKNOWLEDGE WHEN BAD CONDITIONS EXIST

→ BE SELF AWAKE

* SAR SHOULD CONTINUE TO REEVALUATE THROUGH OUT THE DAY

□ HAVE COLLECTION OF OBLIQUE PHOTOGRAPHS FOR TERRAIN WE WILL BE DEALING WITH.

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COMPANION RESCUE

PREVENTION

ESCAPE STRATEGIES. AIR BAGS. CHOOSE TERRAIN

MINIMIZE # CAUGHT, MAXIMIZE # OF RESCUES.

WHERE TO STOP, PARK, STAND.

APPLY HUMAN FACTORS.

TRIP PLANNING.

RE-EVALUATE.

THEMES

SECONDS COUNT. ORGANIZE PACK. HAVE GOOD RECOVER SKILLS.

HEAD COUNT

CARRY RESCUE GEAR

GLOVES ON.

DIGGING = TIME & ENERGY (MOST CRITICAL)

VISUAL CLUES.

COMMUNICATIONS - WHO & WHEN.

KNOW GEAR.

MANAGE RESCUE.

FIRST AID

IF AVALANCHE

YELL "AVALANCHE!"

• WIDE STANCE

• 45° DOWN SLOPE

• AIM FOR HIGH GROUND, GRAB TREE.

• GRAB ON. ^{HAND} GROUND SURFACE

• IF TRAPPED

• GET RID OF SKIS, POLES, LARGE PACK

• DEPLOY AIR BAG

• FIGHT FOR SURFACE (SWIMMING)

• REMAIN CALM.

• HANDS UP AIR POCKET

• PUSH SNOW AWAY FROM FACE

* U

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RESCUER

- INSURE OWN SAFETY. POST GUARD. DESIGNATE SAFE AREA.
- DETERMINE WHO MISSING. DESCRIPTION.
- INTERVIEW WITNESS.
- ID LAST SEEN POINT.
- START A HASTY SEARCH. SURFACE CLUES. BOAT CONNECTOR.
- * COVER SEARCH. SPOT PROBE LIKELY SPOTS.

XCLR SHOVE PROBE 15 MIN

" " 27

" " 51

" " 60

XCLEVER

□ VERIFY MATERIALS.

* □ RECCO, TAPE

PROBE

- RIGHT ANKLES TO SURFACE
- SPIRAL (25CM SPACING).

DEEP BURIAL - LEAVE FIRST PROBE SPARKS

- ADDITIONAL PROBE TO DETERMINE ORIENTATION TO STRATEGIZE DIGGING.

SPOT PROBING

- TERRAIN TRAPS, IN FRONT OF ROCKS & TREES.

* RECCO FINDS IPHONE & DEAD XCLR, ANYTHING WITH SILICON CHIP.

HOVELLING

TRIALS - ALWAYS CIRCUMSTANTIAL.

→ DETAILS IN AVSAR COURSE

XCLR USES E.G. 10X BATTERY ON RECEIVE MODE. ? COMPUTER PSP
? AMPLIFIER.

□

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16:20

MENTAL LAB

HYPOTHALAMIA.

□ GORGETA SKEL, PANTS, GLOVES. SUNGLASSES
WET