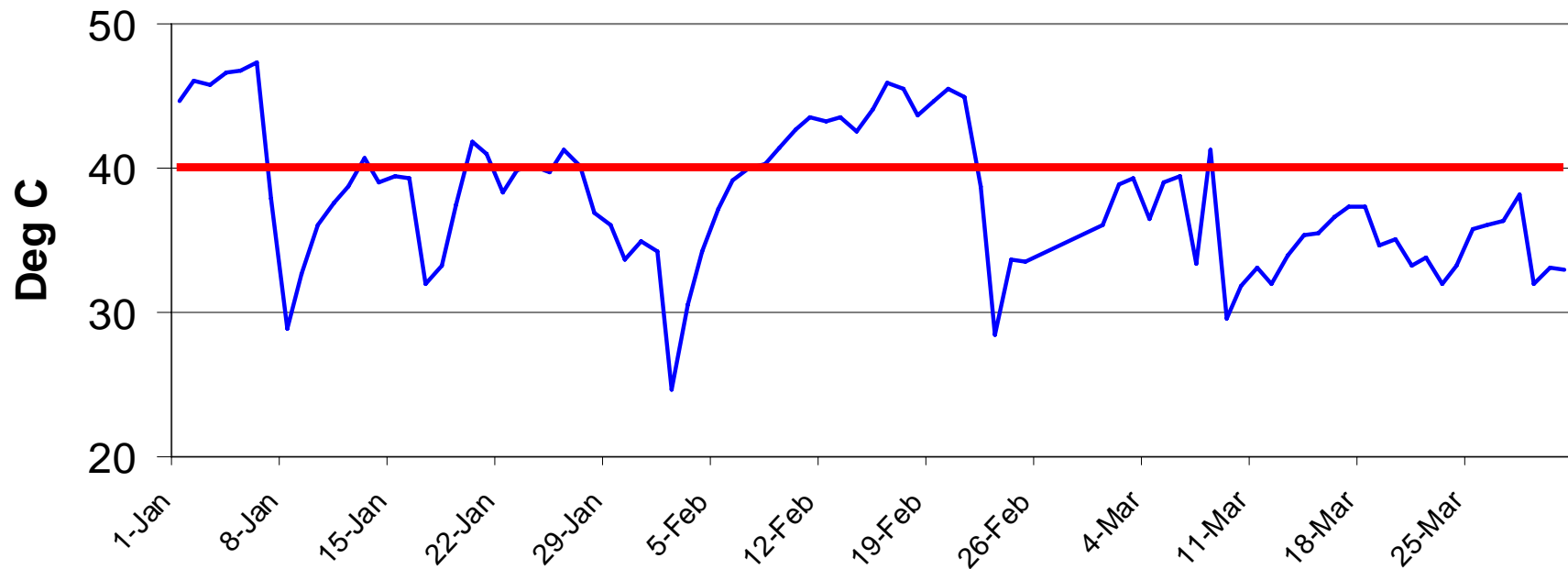


HEAT STRESS MANAGEMENT

Drillsafe
Tom Gouldie
14 December 2006

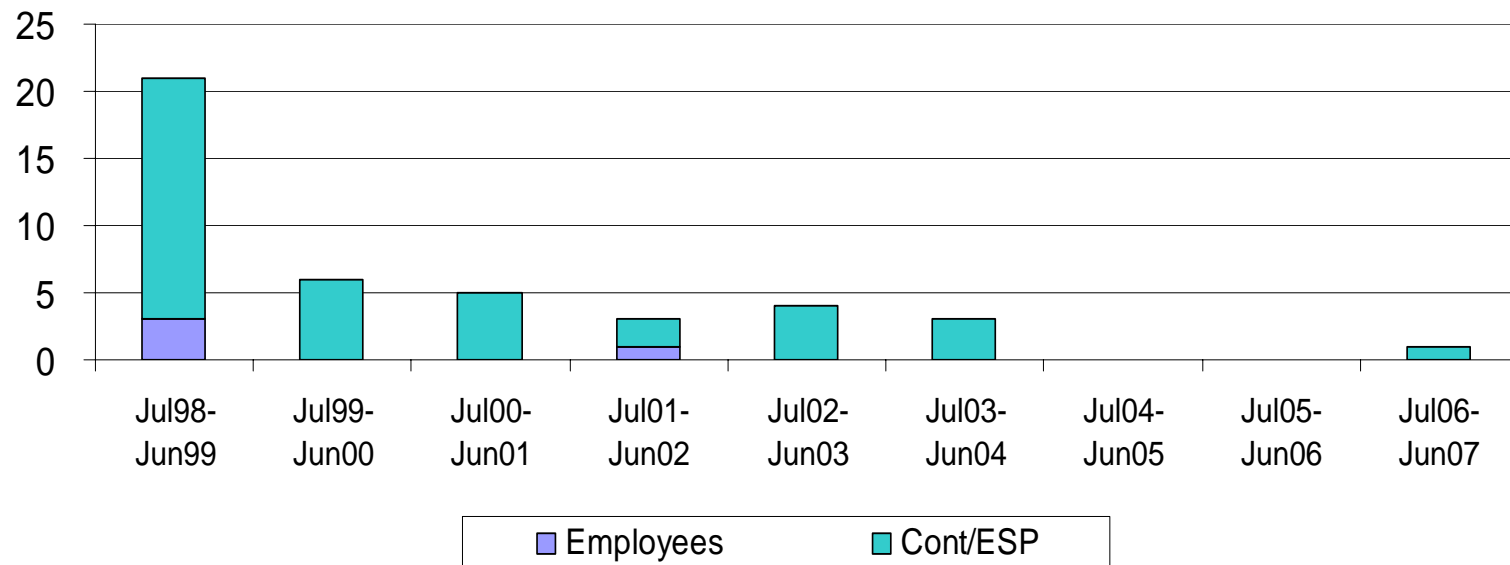
Heat Stress: Why Bother?

Moomba maximum temperature



Heat Stress: Why Bother?

Operations Serious Heat Stress Incidents Jul98 - Jun06
(Incidents requiring intravenous drip)



Heat Stress: Progressive Stages

- Heat cramps

- Common, effect of dehydration
- During day or that night
- Warning sign

- Heat exhaustion

- Severe dehydration
- Pretty serious, could require medical treatment
- Sweating, dizziness, confusion, nausea, headache, faint

- Heat stroke

- Dangerous, as serious as a heart attack
- Hot flushed skin, can't sweat, high body temperature
- Probably unconscious

Heat Stress: Management Plans

- Developed each August by each contractor to cover their activities for the next 6-7 months
- Auditable, managed within contractors other systems
- Plans to address these 5 main areas:
 - Awareness
 - Hydration
 - Protection from sun
 - Workload
 - 'Engineering for cool'

Heat Stress Management Plans

- Awareness

- Group

- Compulsory 1 hour session by RFDS
 - Many contractors have separate presentations
 - Checklists for any pre-existing illness or condition
 - Posters, stickers, meetings, "Red Alert" banners

- Individual

- Be aware of symptoms
 - Know about the risks of heat
 - Know what to do to combat the heat
 - Buddy system

"Red Alert Days"

When next day forecasted to be 40+ deg C

Santos

COOPER BASIN RED ALERT DAY

- Today is a 'Red Alert' day. The temperature is forecast to exceed **40°C !**
- Supervisors to **pre-plan** and manage employees' workload. The risk of **Heat Stress** is increased.
- Maintain your **fluid intake** and take **regular breaks** in shade or indoors.
- Keep an eye on your workmates

Use **STEPBACK**
before any task

- ✓ Stop
- ✓ Think
- ✓ Identify
- ✓ Control



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Heat Stress Management Plans

- Hydration (“water, water, water...”)
 - Group
 - System to make sure each person drinks enough
 - System to ensure enough water is available
 - Include electrolytes
 - Individual
 - Carry a water bottle
 - Drink before, during, after
 - Drink before you are thirsty
 - Urine colour monitoring, specific gravity

Heat Stress Management Plans

- Protection from the sun
 - Group
 - Shade cloth
 - Awnings
 - Refuges
 - Individual
 - Long sleeved shirts, buttoned at the wrist
 - Long pants
 - Broad brimmed rims on hats
 - Legionnaire flaps for neck protection

Movable Derrick 'Sails'



Sun Protection & a Thank You



Heat Stress Management Plans

- Workload

- Group

- Work plans
 - "12 to 12" shifts
 - Programmed rest breaks
 - Extra leasehands

- Individual

- Think draft horse, not quarter horse
 - Slow and steady
 - Acclimatise to the heat
 - Mechanical tools

Rest Periods While Working in the Heat

General guidelines for minutes of rest per hour when shade temperature is over 40 deg C

Rest Area Cooled?	Acclima-tised?	Light Workload	Moderate Workload	Heavy Workload
Cooled	Yes	15	20	35
Cooled	No	20	30	40
Not Cooled	Yes	25	35	45
Not Cooled	No	30	45	60

Heat Stress Management Plans

- 'Engineer for cool'

- Group

- Fans, mist, design for natural ventilation
 - Air conditioning, evaporative cooling, maintenance
 - Double roofs, derrick sails, portable shade
 - 'Cool' colours, dim the lights in rest areas

- Individual

- Coolscarfs, coolvests, similar
 - Light coloured, loose fitting, safe clothes

Design for Natural Ventilation



Generations of Coolscarfs



Old Style w/ 'dangly bits'



New Style w/ velcro

Stay out of the sun...

