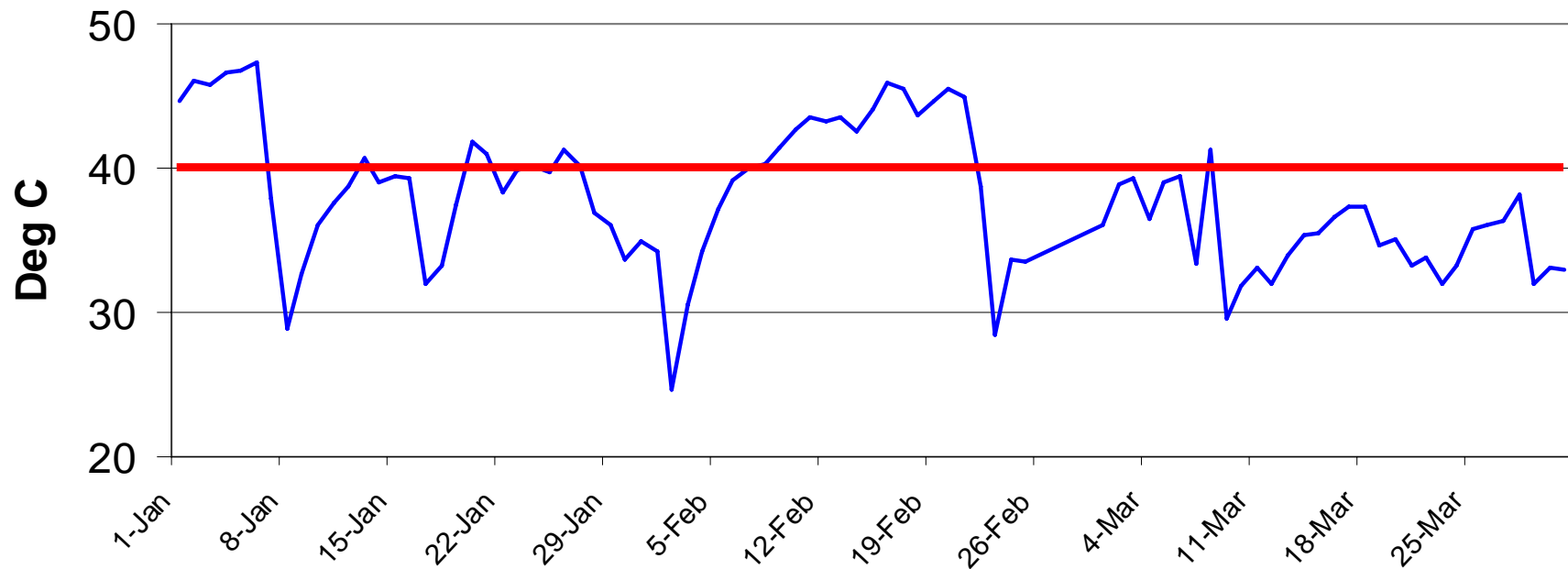


# HEAT STRESS MANAGEMENT

Drillsafe  
Tom Gouldie  
14 December 2006

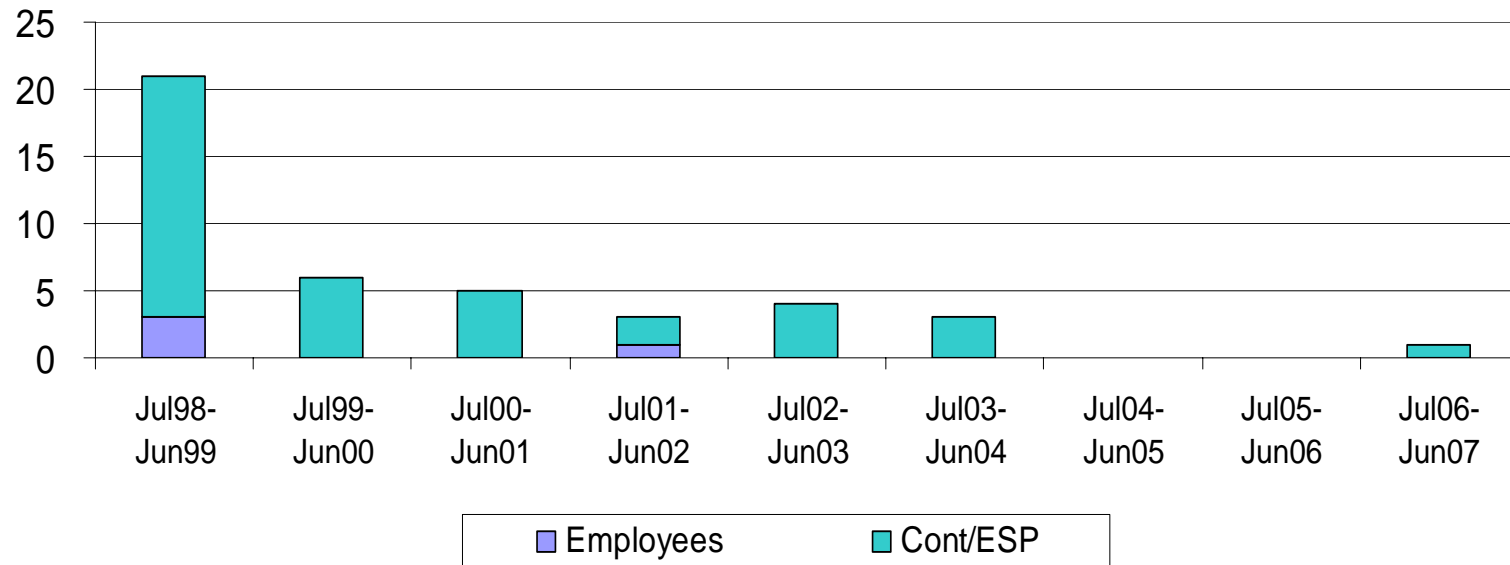
# Heat Stress: Why Bother?

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



**Santos**

# 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...

