AERIAL RECONNAISSANCE
SOUTHERN AREA
ALICE SPRINGS TO S.A. BORDER

On 11/3/67, Errol Cutler and myself accompanied a Works Department Engineer on an aerial reconnaissance of the area to the south of Alice Springs, as far as the South Australian border. The route flown was from Alice Springs, south to the border, following the road, then eastward along Goyder Creek to the railway line near Finke Siding, and then north along the railway line, to Alice Springs. The purpose of the flight was to inspect and map any areas of significant flooding which had occurred in any of the rivers, due to the abnormally heavy rainfall of the previous few weeks. Mapping the flooded areas proved difficult, as all floods had receded, and extent of flooding evidence could only be gleaned from information such as water laying in flood channels and on plains, which could be caused by local drainage, and from "wet" and silt lines, which can easily be confused with inherent distortions in the soil during this kind of post flood reconnaissance. However, some worthwhile photographs and notes were taken.

Flying south from Alice Springs, small areas of water were noticed in depressions along creeks in the Roe Creek area, and around the 12 Mile Bore. No other flooding was evident until the Waterhouse Range was reached where creeks on the southern and eastern sides had caused flood-outs on the lower country. Orange creek had been over its banks in places. Continuing south, Stuart Hole Creek appeared to have had a reasonable flow, but had not broken its banks to any significant extent where the road crossed it, however further 1/4 to 1/3 toward the Hugh River some backing up appeared to have occurred and the confluence had been inundated. No further flooding was noticed until Stuart Hole Creek was reached, and this creek was seen to have flooded to medium stage with only negligible channel spillover, but apparently with high velocities, judging by the damage done to the road crossing. Creeks between Stuart Hole Creek and the Hugh River had been to medium stage and all displayed evidence of high velocities.

The Hugh River at the main road crossing had flooded to only medium stage, silt lines being clearly evident on the road itself. There was no general flooding in this area as the river did not break its banks, but a few small areas of water, caused by local run-off, were seen just 1/4 to 1/3 of the road crossing, on the left bank. A large wet area in a depression on the opposite side of the road to Orange Creek Homestead was observed, but I suspect that it was caused by local drainage, and not by backing up from the river.

Continuing southwards, the next flooding observed was some small areas of water lying across and beside the road where it passed close to the North Western end of Chandlers Range. Maloney Creek at the road crossing had flooded over its banks and had been up to 200 yards wide in places. The Finke River in the vicinity of Henbury Homestead was next inspected. This river appeared to have been almost to the top of its banks, and to have broken its banks in a few low-lying areas. A line of water-holes leaving the Finke 1/4 to 1/3 of the road south of the station and rejoining the river about 4 miles east of the road crossing, suggests that a flood channel may have been in existence. There were also smaller areas of water evident on both sides of the river, in low-lying areas, in the vicinity of the road crossing.
The five (5) mile Creek area around Hanbury airstrip was also noticed to be very wet, probably caused by channel spillover from the creek itself.

The next significant flooding encountered was at the Palmer River. A small creek about 2 miles north of the Palmer River road crossing was noted to be about 100 yards wide. The Palmer River itself appeared to have flooded extensively. "Wet" discoloured areas indicated that the river was up to two miles wide in places around the road crossing. The apparent flooded area was mapped, but this should be confirmed by ground reconnaissance. From the Palmer River southward the country showed evidence of very heavy rainfall. All the claypans marked on the maps were observed to be full and 6 miles south of the Palmer a group of small claypans not marked on the map, were seen. The large claypan 12 miles south of the Palmer, on the Eastern side of the road, were full and the creeks leading into them showed signs of having flooded to widths of several hundred yards in places.

All small drainage lines in the section from the claypans south to Birdunda showed signs of having stored water, but only isolated small patches remained by the time of our reconnaissance. The chain of salt lakes and claypans that comprised Karinga Creek were all full, and a discharge of the order of 300 cusecs was observed flowing out of the lake immediately upstream of the road. Continuing south, an area of small claypans between parallel rows of sandhills was observed about four miles south of Karinga Creek, and to the east of the road. Twenty miles south another salt lake was observed to be full and the drainage was flowing west into the lake, were full of water, and covered the road for a short distance. Kalamurta Creek, at Kalamurta Bore had flooded to bank full stage. Outouanya Creek at Kulga had flooded over its banks, and appeared to have extended through the buildings at Kulga. The creek was about 300 yards wide in places. A small Creek at Mt. Cavenagh had flooded to bankfull stage, but had almost C.T.F. by the time we reached it.

From Kulga, we flew east, and followed Goyder Creek as far as Finnke siding. Goyder Creek only reached medium stage and was just trickling when we flew over it. It had not caused any flooding. The Finnke River at the Railway bridge was inspected and signs of reasonably high flooding seen. The river had flooded to about 600 yards wide, with a small flood channel running along the edge of the ridge about 1 mile inland on the R/W side. The river was over the railway bridge when visited, and had been some 6'-8' higher. Velocities were estimated at 6'-8' per second.

Flying north along the railway line, Jackawavva Creek was the first sign of flooding. It had been to bankfull stage, and was flowing at about 20 cusecs when observed. A deviation was made to fly over the Hugh river at Maryvale. This was seen to have not exceeded its banks, the peak probably being about 6' and below bankfull stage. The flow at the time of visit was estimated at 300 cusecs.

Camel Creek, in the Rodings area had flooded over its banks, and the plain between its braided channels had been inundated. Further north, in the Deep Well area creek had all flooded to bankfull stage, and damage to the Railway embankment indicated high velocities. No further flooding was encountered until Roe Creek was reached, and debris and embankment damage and scouring indicated a bankfull flood. No further flooding was evident between Roe Creek and Alice Springs.

The limited amount of flood mapping done has been entered on maps.

IAN UTTLE

Viewed at 00:02:36 on 18/02/2010
INSPECTION OF SOUTHERN AREA GAUGING STATIONS

C.P.W. Charter Flight

DISTRICT ENGINEER,

On 11/3/67 a flight was undertaken to Kulgera and Finke to inspect gauging stations and plot flow and flood patterns following the heavy rain. This report is supplementary to a report to be submitted by I. Tite, T.A., Darwin.

FINKE RIVER - South Road Crossing at Henbury.

Flowing approximately 2 feet over the road. Majoneys Creek to the north was also flowing and much of the Finke water appeared to be spilling into it.

PALMER RIVER - South Road Crossing

Flowing approximately 2 feet over the road. Much of this area is boggy swampy country and it appears that at its peak, water covered the road for a distance of about 2 miles.

MT. SUNDAY RANGE

A large lake just north of the Mt. Sunday Range was full and backed up to within ½ mile of the South road. Indications are that this is its highest known level.

KALAMERTA AND KARINGA CREEKS.

These creeks join just south of Eldundu and flow west across the south road forming a series of small lakes. These lakes have all joined up and the creek is backed up across the road.

Between Eldundu and Kulgera, there is evidence of heavy high intensity rainfall in water lying between sand ridges along the road and in the claypans etc. in the area.

This trend is continued in the area between Kulgera and Wabarra Well in the head waters of the Hamilton where flood sheet flow has occurred over very wide areas. Goyder Creek had ceased to flow at Bloodwood Bore.

FINKE RIVER - AT RICE SIDING.

Flowing at G.R. of approximately 7½" i.e. 3 feet over the ex-bridge. The flood channels had ceased flowing but the river appears to be falling very slowly.
RAILWAY LINE

Where large creeks and rivers flow adjacent to the line, adequate drainage has been provided in most cases to avoid serious damage. However, no provision has been made to drain water from where it collects between the sandhills. In most cases, it seems that small culverts would alleviate most washaways.

( E. Butler )

PHOTOGRAPHS:

1. Malneys Creek - East of South Road Crossing
2. Finke River - " " " "
3. Palmer River - South Road Crossing
4. Finke River - Finke Siding
5. Hugh River - South of Maryvale Homestead
6. Swamp - North side of Blatherskite range, West of Airport Road.
AERIAL PHOTOS OF SOUTHERN AREA, GAUGING STATIONS.

5-3-67

Ftite River Flood Channel.
South Rd.
Mariners Crt.

Firet East of South road.

Palmer River.
South road.
Aerial Photos of South area gauging site's 15-3-67.
Taken 11-3-67

Finke river
Finke Siding

Hugh River
South of Maryvale

Allee Springs
Lagoon
Hugh River +
South road Xgns.
Looking up stream.

As above.

Small dam on
Eastern side of road
5 miles 5th of
dOrange Creek.
Aerial reconnaissance. Southern Area. 11-3-67

Finke river looking down stream from road crossing.

Finke River road crossing looking upstream.

Water over road south of Hartbury. Looking from over stn. S.S.W.
Aerial Reconnaissance. Southern area. 11-3-67

Palmer River
Road crossing.

Claypans to South of
Titus Wells.
Taken from over the road.
Looking S.E.

Small creek flowing
into claypans 1/2 Miles
South of Titus Wells—
looking South claypans
on Eastside of road.
Aerial reconnaissance Southern Area. 11-3-67

Erlunda Station Lakes of Karinka Ct. on Horizon.
Looking S.S.W.

Karinya Creek, South Rd, Crossing Moving right to left.
Looking South West.

Karinya Creek W/Crossing
Q est at the Goochase S.
Looking Up Stream.
Aerial Reconnaissance. Southern Area. 11-3-67

Finke River at railway crossing remains of embankment. Built to replace flooded bridge. Looking up stream.

Lake River Railway bridge covered by flood waters looking south.

Finke River. Railway bridge Looking upstream.

Hugh River at Maryvale.
Looking upstream.
from over Pioness Well.

Hugh river at Maryvale.
Looking down stream.
from ½M. upstream.
Charlotte Well.

Roe creek.
Railway Crossing.
5M. South of
Alice Springs airport.