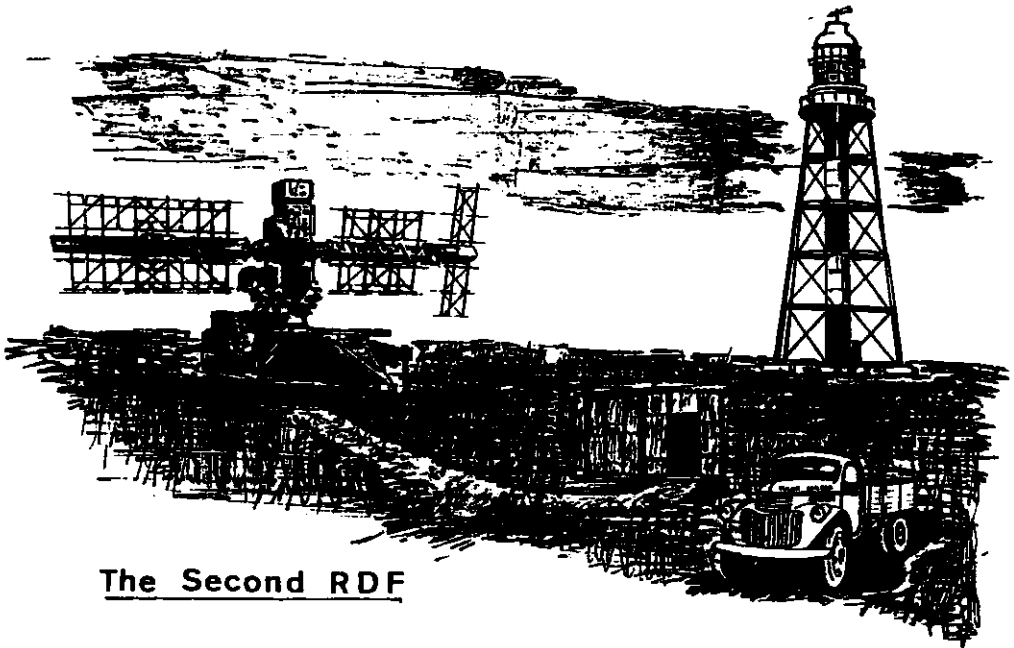


K. 11/5/10<sup>00</sup>

# The 105 'Mobile RDF' Station at Charles Point. ( 1942-43 )

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The Second RDF

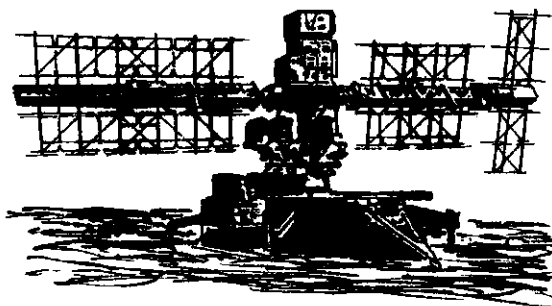
at Darwin.

*Edited by* **MORRIE FENTON**

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**The 105' Mobile R D F' Station  
at Charles Point.  
( 1942-43 )**



The Second RDF

at Darwin.

*Edited by* MORRIE FENTON

The 105 'Mobile RDF' Station  
at Charles Point.  
(1942 - 43 )

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The Second RDF at Darwin.

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ISBN 0-9585243-4-3

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Edited by

Morrie Fenton

© 2000

Published by

M.E.Fenton,

27 Lasscock Ave.,

LOCKLEYS 5032.

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Other Radar Station histories presently available:

344 Radar Montalivet.

60 Radar Melville Is.

Wedge Island Sketchbook and 7 Radar Story

327 Radar Broome.

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## CONTENTS.

Page		
4	Acknowledgements.	
5	FOREWORD.	Ed Simmonds
6	Introduction.	M.Fenton
7	A Little Legend and Local History.	"
8	Charles Point Lighthouse.	"From Dusk to Dawn."
9	Charles Point Light, 12°20' Lat., 130°35' Long.	Ron Coat
10 / 50	The MAWD.	Ed Simmonds....."Echoes over the Pacific"
12	From the Station Diary.	M.Fenton
22	A Few Spitfire Incidents at Charles Point.	"Lion and Swans"
24	105 RS - More from the Diary - Plots A-Plenty!	M.Fenton
25-26	Personnel.	
28	The Watch Continues - 31 RS Arrives.	"
30	"It's On Again!"	Hal Porter
33	An Extract from Hal's Letter, Feb. 2000.	"
34	"On Guard!" - at 105.	Bob Meredith
36	105's Outstanding Work at Point Charles.	Gordon Clarke
38	My First Posting - 105.	S.Gambling
40	"We Were The First"	Geoff Felton
41	105 Starts up at Point Charles.	Bob Meredith
42	Posted to an SGU Course.	"
43	Entertainment at Radar Stations.	M.Fenton
44	Memories of 105.	Don Hibbins
46	Map 1....The Area	From Geoff Felton
47	Map 2.... The Camp, 1943.	Don Hibbins
48	Map 3....Charles Point, 1999	John Beasy
49	"The Old Bark Hut."	M.Fenton
51	Conclusion.	
	Geoff Felton's Collection of 8 Historic Photos are spread throughout the Booklet, and are self-explanatory.	
	See pages 11, 15, 19, 23, 27, 35, 37, 39 and 49	

\*\*\*\*\*

It has proved quite a challenge to produce a story giving sufficient credit to 105, despite the station's historical importance in coming on air soon after station 31 at Dripstone. There appears to be only a few present-day surviving pioneers of the station, though there were a couple of letters lodged some time ago with Ed Simmonds - and there were a couple of helpers who spent some time at Charles Point.

So progress has been slow...in fact, very slow. But suddenly there was movement. Some good photos arrived, and some relevant stories - which has all proved most rewarding.

The end result is now presented as the best possible story of 105.

---

#### ACKNOWLEDGEMENTS.

I acknowledge with thanks the help given by:-

Don Hibbins	C.O. June 1943.
Geoff Felton	An original operator.
Syd Gambling	An original mechanic - his letter to Ed Simmonds.
Gordon Clarke	An original operator. - his letter to Ed Simmonds
Bob Meredith	An original guard. Bob has tried his best to help with any query or request.
Hal Porter	An early radar C.O. who served out at Charles Point and on 109, the other MAWD station.
Ron Coat	A lighthouse Technical Officer.
Ed Simmonds	Our radar historian and adviser.
RAAF Historical Section	for supplying archival material.

The photo credits are.....Geoff Felton (105 historical)  
Ron Coat (The lighthouse)  
John Beasy (Charles Point '99)  
Roy Cruickshank (The crashed Spitfire)

The books containing reference material are

A Saga of Achievement	E.R.Hall. 1978
Echoes over the Pacific	Ed Simmonds and Norm Smith, 1995.
From Dusk to Dawn	Gordon Reid, 1988.
Adventures in Radar	Hal Porter.
Lion and Swans (54 Sqn RAF)	Fred Woodgate.

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## FOREWORD

For many years people, particularly oldies like us, have been exhorted to record their experiences 'before they slip off the edge of the planet.' Morrie Fenton has heeded those requests and gone even further. He has collected written statements as well as oral histories. Then he has edited them into one document, such as this, that tells the story of 105 Radar Station at Point Charles in the Northern Territory.

One difficulty, from which non professional historians sometimes suffer, is to decide how many and which story has been coloured with the passage of time. Morrie has, I believe, developed a sixth sense in sorting out stories and in so doing has come as close to the truth as is possible 50 odd years after the events.

Recently it was said that ground radar is the best documented of any of the RAAF squadrons or sections which served in World War II. There is no doubt whatsoever that Morrie Fenton has been the most prominent person supplying information to achieve that result. According to my counting he has written some 25 booklets of which about 18 were stories of individual radar stations. Once again he has uncovered information which has not been recorded elsewhere.

Historically many authors have stressed the importance of 31RS at Dripstone Caves in the defence of Darwin. A review of circumstances leads me to the opinion that 31RS was really only important from 22 March until the end of April 1942 when 105RS became operational. 105RS was a MAWD (Modified Air Warning Device), a Radiophysics modification of an SCR268, and it was an outstanding innovation. Being located 15 miles closer to the enemy, with a longer range than the AW, and capable of giving accurate height estimates at a range of 25 miles (40 miles from Darwin) it was more effective than 31RS which, at that stage, had not been calibrated.

However, the station lost a lot of its significance when 38RS on Bathurst Island became functional.

The MAWD was probably the worst set for any operator. Being exposed to the elements at all times and having to turn by hand an asymmetrical aerial in the wind was no joke. MAWD operators deserved more recognition than they received.

Finally I am certain that all radar veterans will say once again,  
Congratulations Morrie.

Ed Simmonds  
West Haven  
April 2000

## Introduction .

.....From "A SAGA OF ACHIEVEMENT," (E.R.Hall 1978,)

The most spectacular performance with the SCR268 equipment was the move of one of these units by air to Darwin. In March the RAAF in Darwin called for more RDF cover and it was decided that an SCR268 radar (the USA used the term 'radar') which had been modified for air warning should be flown to Darwin for installation at Point Charles. Known as Mobile RDF, this unit had been located at Richmond, Amberley and Archerfield. The equipment was carried in two trailers and the total weight was about twenty tons. The equipment was dismantled on 24th. March and the essential portions all arrived at Batchelor by the 6th. April. Assembly was completed next day and the unit was moved over the 100 miles of bush track to Point Charles. The station started operating two days after it arrived on 20th. April, 1942. Warnings of the approach of enemy aircraft were passed by W/T circuits to No. 5 Fighter Sector. These links were known as telling circuits. The station was named No. 105 RDF station on 1st. June, 1942.

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.....From "ECHOES OVER THE PACIFIC." (Ed Simmonds and Norm Smith, 1995.)

TYPE MAWD	Made in USA
Modified Air Warning Device	- Modified SCR268
Type of Array	Stacked dipole arrays, one Tx and two for Rx - one for azimuth and one for elevation.
Frequency Mc/s	204-206
Pulse Recurrence Frequency	1366
Pulse Width, Micro seconds	5-9
Pulse Power, kW	50-80
Display	two A Type tubes
Maximum Normal Range	100 miles.
Remarks	RPL modified some SCR268s for air warning for use on mainland Australia in early 1942.

---



## A LITTLE LEGEND AND LOCAL HISTORY.

The story of exploration and settlement along the 'Top End' coastline of Australia is the story of the early French, Dutch and English explorers - and a mix of names for the coastal features preserves the association with all three. Strangely, it was not until 1839 that one - the English - explored what is now the Darwin area after four earlier settlements along the northern coastline had been attempted and abandoned. Port Darwin was named by John Stokes from the BEAGLE to honour his friend Charles Darwin, and it was hoped that its tiny settlement, Palmerston, would grow and develop in future years.

Palmerston did eventually become important as the first landfall and terminal for the overseas cable link which, in 1872, connected Palmerston - and Australia - to the old world, and then by Overland Telegraph to the rest of Australia via Adelaide, which was responsible for the administration of Northern Territory affairs. In 1911, the Federal Government assumed control of the Northern Territory, and Palmerston then became known as 'Darwin.'

It is believed that in 1839 Stokes also named Charles Point after Charles Darwin, that place being the northern-most point of the Cox Peninsula on the western side of the Darwin Harbour.

During World War 2, the peninsula became home to the Larrakia and Wagait people (and others too) who were displaced by the Army camps around Darwin. The land was known to the Aborigines as 'Mudgaleba' - and Charles Point was Dabilopepa-gwa....but during the war they gathered at a Government station known as Delissaville.

This took its name from Lieut. De Lissa who had attempted to establish a sugar cane plantation on the peninsula in the late 1800's. At the time, the South Australian Government was encouraging development on very favourable terms - but all, including De Lissa's plantation, failed, though his efforts continued on in the name of the Government station, the Superintendent during the war being Jack Murray. He and his groups of Aborigines became quite well known for watching, searching and seeking out crashed planes and crews on Cox Peninsula, both Allied and enemy.

A delightful part of the story is that Jack Murray and his Aboriginal groups became known as 'The Black Watch.'

The settlement evidently was moved to Katherine in 1943, but groups of Aborigines remained on the peninsula and some frequented or called at the radar camp. The radar personnel in the NWA seemed to always enjoy a friendly relationship with the local people, and appreciated their help, their local knowledge and their skills.

A note about the name...."Charles Point" is the name recognized today as the correct name - but during WW2 the name "Point Charles" was often used and is often used in the stories and accounts given by contributors.

#####

## CHARLES POINT LIGHTHOUSE.

In its early years, the Northern Territory was administered - and developed - by the Government of South Australia, which perhaps understandably, was not over-anxious to spend money outside its own boundaries. So Palmerston, (as Darwin was known until 1911) was slow to progress and develop after its settlement had first begun about 1870 when the Overland Telegraph first neared completion. However, the harbour and its approaches were subject to big tidal variations, shallow waters and swift currents. Many of the danger spots were uncharted, and the local mariners and adventurers particularly were anxious to have a guiding light at the harbour approaches and entrance. This development was eventually approved, and in 1892 the construction of the first lighthouse in the Northern Territory was commenced at Charles Point at the northern tip of the Cox Peninsula which also formed the western approach to the harbour.

The light tower was of heavy wrought iron construction, with a central hollow pillar, and everything strongly braced. A spiral stair in the pillar gave access to the lantern room which had a revolving lens with a light fuelled by vaporised kerosene. The light could be seen for twenty miles and was clearly visible in Palmerston itself, some fifteen miles distant.

The tower was a South Australian product designed in the Engineer-in-Chief's department, and constructed in prefabricated form by G.E.Fulton and Co, an engineering firm at Kilkenny near Port Adelaide. The erection of the tower and the keepers' cottages and store-sheds was carried out by J.G.Thompson. The cottages were built of material easy to transport - mainly galvanised iron, with cooling verandahs, and the breezes were admitted via doors on all sides.

The soil at the Point was quite fertile, and good gardens were possible, watered from a good well close by.

The light began operating in 1893. In 1932 the conversion of the light to automatic operation was approved which would have resulted in the deployment of the keepers and the removal of the cottages.

Later lighthouses in the N.T. were built of stone and concrete, as the iron construction, whilst being easily transported and erected, was subject to intense internal heat which was damaging to the equipment and to the men maintaining and servicing the equipment.



\*\*\*\*\*

**CHARLES POINT LIGHTHOUSE, LAT 12°20" LONG 130°35"**

Ron Coat.

(Ron was a senior Radar Mech and served at 10RS and 301RS - also 109MFCU and ADHQ Madang. He afterwards became a Senior Technical Officer with the Commonwealth Marine Services and several lighthouses he serviced were at old radar sites.)

The Charles Point Lighthouse was sometimes referred to as Cox Peninsula, and was established before 1900 with a 63 foot high tower and a 6 foot centre tube containing the staircase, similar to South Neptune Is tower now at Port Adelaide but without the housing at the base. The Lantern Room was 12 foot in diameter, with height of glazings 10 ft., fitted with an optic lens rotating on a mercury filled bath to reduce friction. The lens was rotated by governed clockwork mechanism which was hand wound.

The original light source was vapourised kerosene, which fed to a 55mm burning mantle. The station was first manned by three lighthouse keepers and their families. Their cottages were located on the landward side of the tower, and the foundations of the three houses are still visible, with a well or bore still having water available at the rear of the yards.

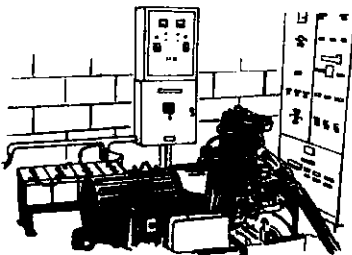
From seaward, a vertical cliff face is on the approach to the lighthouse, and all materials and stores were lifted by hand winch from the rocky beach.

There is no record of when the station was demanned, but from then the station used an acetylene powered light for many years until it was transferred to a radio mast location. In 1972, an electric flashing light within a lantern was established on top of a radio mast of Radio Australia, so obtaining a greater height to assist shipping into Darwin. The Charles Point light was discontinued at the same time.

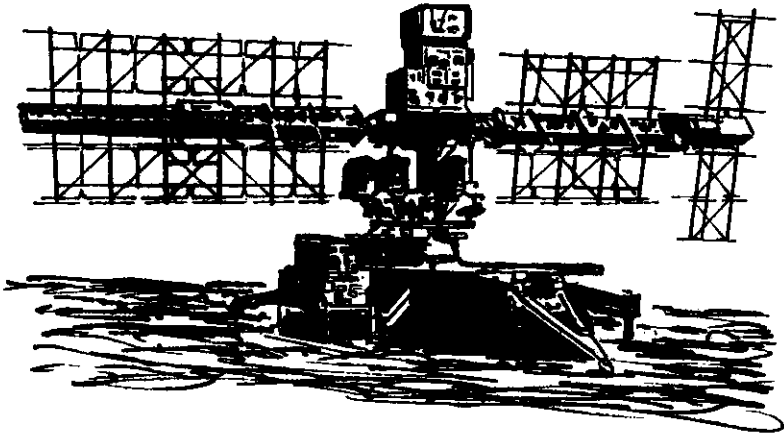
In December 1974 the radio mast supporting the light collapsed during Cyclone Tracy, and the light was re-established back on the Charles Point L/H tower. The equipment installed was an electrical FA251 rotating lens lantern, with power supplied from a line run from the Radio Australia station power house about 4 km away.

About 1980, the radio station was downgraded, and a separate power room was built at Charles Point with a diesel plant of 5kva capacity. The light equipment was upgraded giving greater range, using a 500 watt tungsten halogen lamp. Eventually a power line was run from Darwin to the various outposts on Cox Peninsula and the station supply became a backup for emergency use.

Referring to 105...it would be interesting to know if the effects of lightning caused any failures, as the location is bad for lightning. When the light-house equipment was re-installed at Charles Point in 1974/5, the controlling equipment was all solid state with transistors and integrated circuits, and was continually failing with burnt out components from lightning in the 'wet.' This was eventually overcome with special lightning arrestors and an effective earth of 8 bore holes with conductors down to 60 ft. deep around the tower to get a good earth point. Perhaps the early radio valves could bypass the strikes better than solid state.



(At Left) The separate power room built at the Charles Point lighthouse about 1980. The power unit was of 5kva capacity.



**THE "MAWD."** (With extracts from 'Echoes over the Pacific,' page 49.)

In February 1942, American forces arrived in Australia bringing with them both SCR 270 and SCR 268 equipment. The latter were gunnery sets but without predictors, and the Australian Army could not use them. So the RAAF acquired them, and with modifications devised by Radio Physics, their range was increased to 100 miles...and so the MAWD (Modified Air Warning Device) came to be.

The MAWDS were first known as 'Mobile Radio' sets, and they filled an urgent need in Australia, even though they were a bit tough on the operators who sat out in the open, completely exposed to all the elements while operating and hand-turning the heavy aerial.

There appear to have been eight MAWDS set up in Australia which were numbered 101-105 and 107-109; and of these 105 and 109 became operational in the NWA. 105 was cut into sections for transport by air to Batchelor, from where it was transported overland through the rough bush country to Point Charles, where a lighthouse at the western approach to Darwin harbour was located. Here it notched up a very creditable service. Its record was probably all the more impressive because of its service in the most critical time of Australia's defence, and was second only to 31 Radar at Dripstone in the story of RAAF radar in NWA. At that stage, there was no RIMU - no Radar Wing - and Fighter Sector was still probably of the tent variety.

At Point Charles, life for the men was obviously very basic...primitive almost. Food supplies were of the tinned variety...and very little variety at that. There were few facilities other than those the men set up themselves, and recreation and entertainment also depended on what the men could think up. Swimming, fishing and walking were the obvious recreations, though there was a deserted banana farm not far from the camp which also provided a variation to the tinned food.

The station closed in 1943 after other stations, easier to operate and far easier on the operators, took over the watch over Darwin. Meanwhile 109, the other MAWD in the NWA, had been set up and was operating at Nightcliff, next to 31 at Dripstone. That station closed in September 1943 with its crew manning the new station 59 at Lee Point.

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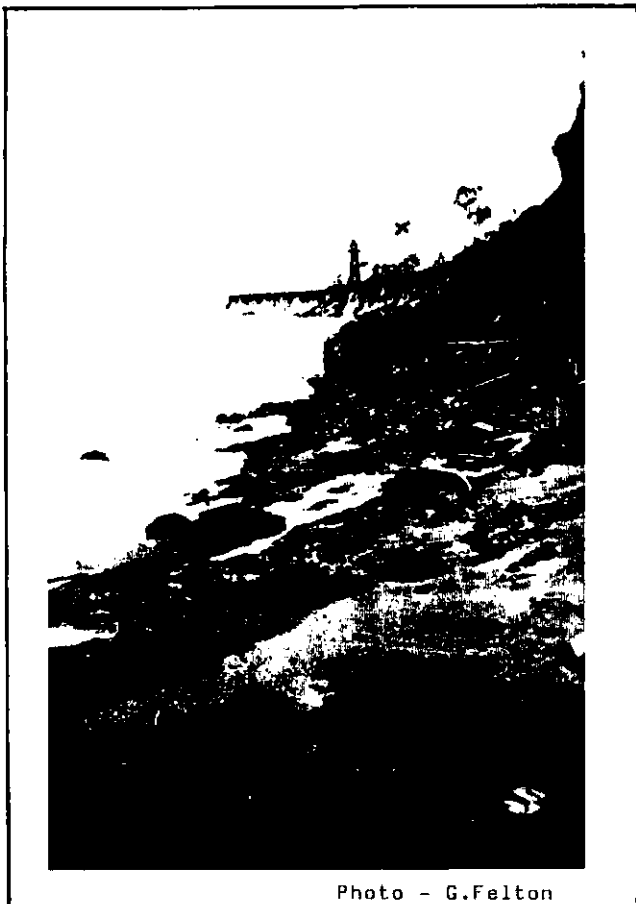


Photo - G.Felton

CHARLES POINT.

This photo, looking towards the MAWD Dover and the light tower, shows the steep cliffs and their rather bare nature in the vicinity of the Charles Point lighthouse.

The men of 105 used a rope to assist them up and down the cliff; but more difficult was the arrival of heavy supplies by boat - fuel particularly - which initially was floated ashore then hauled up the cliff by radar power off-duty.

---

March 1942

# OPERATIONS RECORD BOOK

R/

of (Unit or Formation) Mobile R.D.F. (later 105 Radio) No. of  
Sta

Summary of Events

Place	Date	Summary of Events
Chenod	28/3/42	Following personnel posted to Station Headquarters B. P/O P.E. Evans A3655, Radio Officer Auth: P2.537
	28/3/42	<del>Asst Sgt</del> 45845 ASI Evans L.W.; 61390 ASI Sambling 43919 ASI Page L.W.; 42938 ASI Teunent S.D. Radio call 45144 ASI Parry N.S. 45664 ASI Litch J.B. Radio operators to 2 R.D. Auth TD 901 26/3
	28/3/42	All above personnel left for Amberley
Amberley	28/3/42	S.C.R.-26E being dismantled at Amberley by personnel. Staff Sgt Bird Asst Military Forces (2 60206 ASI Dunstan W.L.; 43070 ASI Pelton; 15644 ASI Par 60726 ASI 43913 ASI Ross Lt.W.); 60206 ASI Ashton B.R.; 15644 ASI Powers Auth a shipment of equipment flown from Amberley Bathelton
Amberleyfield	31/3/42	

P. E. Evans

OFF 'POST HASTE' TO DARWIN. (From the Station Diary)

March and April, 1942.

Although the date recorded on which 105 was allotted its station number was as late as 25th. May '42, its formation and its operations first commenced on 28th. March at Richmond when P/O Evans, 4 Radio Mechanics and 2 Operators were posted to Darwin to man a 'new' Mobile RDF station. This was only 6 days after 31 RDF came 'on air' at Dripstone.

On that same day, the new C.O. and his 6 men left for Amberley where a further 6 men - Operators probably - were dismantling an SCR268 (American G/L gear) which had been allotted to the station as Air Warning gear. An Army Staff Sergeant was supervising this work - and three days later the first consignment of equipment left Archerfield by air for Batchelor, watched over by AC1's Ashton and Power.

At some time in the next 8 days, P/O Evans arrived at Batchelor where he met up with the remaining personnel and the equipment....and despite a hold-up or two because of the late arrival of some of the gear, by 20th. April the new station was being set up at Charles Point after a long, slow haul overland. The site was next to the historic lighthouse, and no time was lost - the power unit was fired up and communication with 5 Fighter Sector was attempted.

By the 25th. April, the SCR268 had been modified and was now known as MAWD - (Modified Air Warning Device) and its range had been extended to 100 miles. Also new W/T gear and an Operator had arrived, while an Army surveyor had 'fixed' the station site to enable accurate plotting positions to be transmitted to Fighter Sector.

Meanwhile, the unit experienced its first Darwin raid, and a bomber was seen to crash into the sea.

Operations at the new station commenced at 1600 hours on 26th. April, though immediately some problems - teething troubles - were experienced with the new gear. Nevertheless, the station was able to plot raiding bombers out to 78 miles at 1243 hours.

By the end of the month an operations hut had been built - a very real necessity as the Operators manning the gear did so out in the open weather and sunlight. And so the operational life of the station began only 5 weeks after the pioneer station 31 RDF at Dripstone came 'on air,' in the very early days of the raids on Darwin when the town desperately needed early warning stations.

May and June 1942.

105 Mobile Radio Station, Charles Point.

During May '42 the new MAWD set was operated to assess and probably improve its performance - its first range of 52 miles was extended after 3 weeks to 88 miles and a regular maintenance period was approved by 5 FS from 0730 to 0830 hours. Elevation tests (for height estimation probably) were carried out - and more importantly for the health of the men, a Medical Orderly was posted to the station to set up a First Aid tent at the isolated camp.

On 25th. May '42, the station became 105 Radio Station - and a Salvo officer (probably from the Army outpost at West Point) was the first Welfare Officer to visit the new station. Trust the Salvos to be 'on the job!'

Perhaps as an indicator of operations in the future, the phenomena of the refraction of transmissions was observed on the 29th. The area between Darwin and the Tiwi Islands was to become well known for refraction and Temperature Inversion in the months to come.

On June 3rd., 105 commenced a 24 hour watch, and a new code for the transmission of plots was introduced soon afterwards. Then P/O Porter arrived to act as Commanding Officer while P/O Evans was away for a short time. A 4 day series of raids on Darwin commenced on the 13th., and for a new station, 105 excelled with plots on unidentified aircraft - many obviously enemy aircraft - which were detected at 66, 133, 130 and 141 miles. At this early stage in the air war, there was no IFF (Identification Friend or Foe), and unless aircraft could be visually identified, all plots and tracks were 'unidentified' unless Fighter Sector was able to advise whether plots had already been identified as 'hostile' or 'friendly.' Over this 4 day period, 11 enemy planes were destroyed and there were 3 probables.

By the 17th. June, 109 RS personnel now assembled at the station had commenced their allotted 2 weeks of training on MAWD - and they left the station to meet up with their own gear at the end of the month. And on the 23rd. a Naval Lieutenant arrived to inspect and check the Charles Point lighthouse to ensure all was in O.K. condition. The month ended with both 105 and 109 personnel lining up to receive injections and boosters.

### July 1942.

July proved to be a noteworthy month at 105, for most importantly the MAWD gear was now proven and considered 100% reliable, though ranges could still be improved. The work for the month commenced with the arrival of the Navy, when 51 drums of petrol were dropped overboard, then to be brought in by the men of the station....then on the 4th. the men of 109 RS left Charles Point to collect their equipment at Winnellie, then to follow orders in setting up their own station.

Unidentified aircraft were detected at 81 miles, and their bearing of 326° indicated they were 'hostiles,' but they turned back without crossing the coastline.

Then there was a visit from a Dental Officer, and the Area RDF Officer, F/Lt. Hannam inspected the station from the air as there was little attempt at camouflage, which made 105 and its gear very vulnerable. On the 20th. and 21st., 105 tracked two flights of Hudsons as they practised bombing attacks and approaches over Bathurst Island - then Allied bombers were tracked out on a mission, then picked up again as they returned.

A strange incident occurred on the 22nd. when 'phantom' echoes were detected at 19 miles. These appeared to be approaching at 35 miles per hour, but there was no apparent explanation or reason.

But 105 really proved itself by detecting 'hostiles' on 25th., 26th., 27th., 28th., 29th., and 30th. - all bearings indicated that the raids originated from Timor or close by, and the station was able to estimate the approximate height of several of these incoming raids. These estimates were found to be very accurate when taken at ranges of 20 miles or less.

On the 30th., the West Point Army Medical Officer, Captain Hodge, visited the station, probably to ensure all was well with camp hygiene and the like. During the month's raids, 3 bombers and 6 fighters were destroyed.

### August 1942.

Another month of intense enemy activity - from 20th. onward particularly. 105 plotted 'hostiles' on 23rd., 24th., 25th., 27th., 28th., 30th., and the 31st. Heavy explosions were heard on several occasions, and successive waves of enemy aircraft were plotted too...also when the enemy aircraft set course to return to their base. Allied Kittyhawk fighters attempted to intercept during some of these raids, and 105 estimated altitude whenever possible to assist the fighters - 32000 feet being one estimation. Most





Photo - G.Felton

#### THE MEN OF 105.

This Group photo - a most important historical record of 105 - gives some idea of the all too informal dress adopted at Charles Point - probably for coolness or ease of laundering perhaps - but a definite health hazard nevertheless.

Ulcerated ankles and legs became a common ailment requiring careful attention from a Medical Officer or Medical Orderly...and at the beginning there was no Orderly at 105!

And the photo shows not a single man wearing a hat! Also it's interesting to conjecture on the reason for the 'fingers' salute...a sign of derision surely... but for what?

Geoff Felton is the 6th. man from left, rear row.

ranges were at about 70 to 80 miles, the best being at 107 miles. Additionally on most days throughout the month, there was considerable Allied air activity, with bombers and strike aircraft heading out from Darwin and returning - also there were P40 (Kittyhawk) fighter patrols which were plotted out on bearings close to where the 'hostiles' usually appeared.

On the 15th. a Le Roi engine and generator was transferred over to a trailer which had arrived from Amberley, and Captain Cosgrove, a Catholic Army Padre, spent a day on the unit.

During this period of activity, 6 enemy bombers were destroyed with 3 probables, and 8 fighters.

#### September 1942.

This proved another month of intense air activity, with the early movements mainly of Allied bombers and fighters which were identified as 'friendly' by Fighter Sector. There were two unidentified plots on the 4th. and the 8th. - quite possibly these were fast enemy recces.

The enemy bombing raids came over on the 25th., 26th., and 27th., and 105 passed plots on all of these, also giving estimates of height. Explosions from the target areas were heard on all three days. The best long range was 90 miles, and the altitude of the bombers was usually well in excess of 20000 feet.

Little appeared in the Diary notes of camp activities, though an entry records that a Guard was accidentally wounded while on duty early in the month.

F/Lt. Hannam, the Area Radio Officer was back on the unit on the 26th. with a camouflage expert, and on the same day a Radio Telephony channel was opened with 5 FS which would have vastly improved communications. On the 28th. the pattern of plots over a 2 hour period indicated a sea search was being carried out, and then plots were detected indicating that a surface vessel was now also involved.

No losses were recorded during this period.

#### October 1942.

This month again proved to be a mix of air activity, with Allied aircraft being tracked at first, then a number of enemy plots towards the end of October. This was the period when Australian Liberators were becoming active, so increasing Allied missions.

Local activity was noticed particularly on the 2nd. with night flying and searchlight practice, and 105 was kept busy most other days with outgoing Allied planes, then anxiously watching for their return. The range on these was usually fairly short, probably because their altitude was not high. Some fighter activity was plotted on the 18th. and an aircraft first detected at only 16 miles proved to be an Avro Anson - not noted for a good echo at any time.

Unidentified aircraft at greater range first appeared on the 24th., and these were followed by 2 further waves. Three series of explosions were heard...definitely 'hostiles.'

There were 3 similar raids over Darwin during the following two days, and a further 2 raids on the 27th. - also a recce. A concentrated enemy attack.

On the 31st. besides Allied aircraft, 105 plotted 2 surface vessels. During the month there had been defence training which was supervised by F/O's Knight and Higgins, and a F/O Sutherland from 5 FS also called to observe plotting and reporting procedures.

## November 1942.

On the 2nd. November, the Grid Reference method of reporting plot locations first came into operation...this was followed by several days of Allied aircraft activity which continued steadily until the 7th. when shipping was also plotted, also a period of night fighter practice (possibly testing out the recently arrived GCI at 132 RDF)

On the 8th. a Wirraway on coastal patrol was tracked, and on the 10th. there was searchlight practice. Then air activity was all local until the 18th. when a severe electrical storm was noted, probably causing much interference on the screen.

On the 20th. 105 was advised of a test flight by an aircraft fitted with IFF, but this did not affect performance in any way at 105....possibly a BL4 had not yet been installed.

Enemy raids commenced again on the 22nd. - these were detected at about 100 miles, at a height of 25000' plus, and IFF was observed on a fighter aircraft being tracked nearby, probably as echo magnification.

From the 25th. to the 27th. there were 5 more raids, and many explosions were heard at Charles Point. These raids were followed by a single recce on the 27th., then came three more raids on the 28th. and 29th., with a bit of drama on the 29th. when an aircraft was heard overhead, diving then climbing, eventually crashing into the sea only 10 miles from the station. 105 was 'off the air' for 5 hours on the 30th. because of a transmitter fault, but was back on the job again by 1300 hours when local air traffic and Allied missions or returning aircraft were plotted again.

Few aircraft losses were recorded over this 2 month period.

## December 1942.

For the first time, an indication of the unit personnel numbers is given - this was 52 at the beginning of this month.

The MAWD gear was checked by means of a calibration flight on the 5th., and an enemy recce was detected on the 7th. There were also a couple of calibration flights on the same day, and 5 Fighter Sector advised 105 of a revised operational vocabulary to be used when detailing operations. The first IFF signal to be seen at 105 was picked up on the 10th., and orders and instructions for the defence of the station in the event of any enemy action were received from NWA HQ.

The station was also advised of its search arc - the bearings between which a concentrated watch was to be kept - and on the 14th. there was also a special test flight, probably to test the accuracy resulting from the recent calibration flights.

There was a change of Commanding Officers on the 22nd. when F/O Bennett replaced the first C.O., F/O Evans. Unfortunately there is no reference to Christmas Day or any special arrangements which was the usual practice at radar stations for the one day of the year.

"During the month the weather was consistently stormy and wet, making communications by road with Darwin extremely difficult to maintain.

The camp buildings were re-arranged to suit a new camouflage scheme."

## January, 1943.

Further orders were received on the 4th. relating to the defence of the station, and HQ also sent instructions for the demolition of the RDF equipment if such was ever necessary...then on the 14th. a signal was received for 'Phoenix Exercises' when personnel formed into squads and flights with each group having a specific task to carry out in the defence of the station.

More detailed orders and instructions for "Phoenix Exercises" were received from Headquarters on the 27th., - evidently the AOC had become very conscious of the necessity to brighten up defence preparations, perhaps at Charles Point in particular, but probably at other RAAF stations in the NWA, including the many isolated radar stations.

There were two enemy raids during the month - on the 20th. and 21st. - and 105 tracked both, detecting each at about 70 miles.

At the end of the month there were 49 men at 105, and the station was now known as 105 RDF (Radio Direction Finding) station.

### February 1943.

Diary entries for February are not as numerous as other months, but a few 'hostiles' were located and tracked. A 'recce' was tracked over Darwin on the 1st, and another 'hostile' was picked up and tracked on the 5th. Two unidentified aircraft were tracked within an hour on the 9th.; and on the 28th. the unit strength was recorded as 57.

Evidently there was heavy monsoonal rains this month, but communication with the Army camp at West Point was maintained every day with the worst patches in the road filled and timbered.

### March to May 1943....the records are missing.

It is known that on May 2nd, the day when many Spitfires came down because of lack of fuel, the Spitfire piloted by F/Lt. Makin of 452 Squadron came down near Charles Point.... also F/O. Wall of 54 Squadron was rescued by an air/sea rescue launch close by when he was forced to ditch. The plots of 105 would have been particularly important on May 2nd.

### June 1943.

The visits and inspections began in deadly earnest this month! On the 3rd. came the Principal Medical Officer and his Deputy - his 2I/C - also the Area Messing and Canteen Officer. Next to visit on the 8th. was Padre Cornish, the C of E Chaplain who conducted services....then on the 9th. came the Area RDF Officer and F/O Moody, the Area Intelligence Officer who delivered a lecture on Security to all personnel.

The Commanding Officer of 44 RDF Wing was at the unit on the 11th., no doubt to see all was OK, while F/O Page, a Works Officer, surveyed a suitable site and prepared plans for a new Mess. Big improvements for 105 were indeed afoot!

On the 13th., P/O Don Hibbins, who had arrived on the 10th., took over as C.O. and F/O Bennett proceeded to Wing for further duties. Then on the 18th. all respirators were checked and repaired by Sgt. Gliddon from the Mobile Ground Instructional Unit - perhaps respirators had already earned a reputation as being home to termites, ants and similar invaders. All this was probably part of the AOC's brush up on security and defence. Another enemy raid was tracked in from 88 miles on the 20th., and F/Lt. Napthine arrived to temporarily command the station.

A portable gramophone and thirty records were gladly received from Welfare on the 21st...then came anti-gas and small arms instruction...while on the 25th. F/O R.R.Williams of 452 Squadron was rescued by personnel....he had 'belly-landed not far from 105.

Padre Cornish was back again on the 26th., and NCO's also received a lecture and instructions from the Temporary C.O. This obviously led on to the introduction of an Orderly NCO, and with the preparation of Duty and Camp Fatigue Rosters.

The Big Event of the Month was on the 27th. --- a Concert Party show, with



Photo- G.Felton.

#### THE 'GUNYAH.'

When 105 first arrived at Charles Point, Army tents were the standard accommodation for sleeping and eating - in fact they were used for all station activities other than the Cook's endeavours with stove and copper.

But in true radar fashion, the boys soon got to work, and a large bark hut was the result - first known as the 'Gunyah,', afterwards perhaps as the 'Woolshed,' - where 6 - 8 men lived.

Water was scarce, and a tank appeared (a Darwin souvenir perhaps?) and evidently a popular nightly game of Monopoly was instituted.

Again, in typical radar fashion, a new Kitchen, Mess and Rec. hut were officially opened just before the station closed.

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P/O Harry Dearth as the No. 1 man. ( he took his show to several radar stations.) There were enemy raids on the 28th. and the 30th. - the first was picked up at 117 miles - the second at 70 miles - and the construction of a new Orderly Room and Store commenced on the 29th.. 105 was emerging as a more respectable and developed RAAF establishment!

And from the Diary....."During the month several cricket matches were played against Army teams from the West Point Area.  
A concert and numerous Sing-Songs were held during the month.  
Many meals were supplied from fish caught by personnel in their leisure hours"

#### July 1943.

A new air raid siren has been added to the station equipment...consisting of two motor horns. This was installed at the beginning of the month and P/O Don Hibbins resumed command of 105. F/Lt Napthine departed on the 12th. to command 58 OBU at Truscott, in Kimberley country. There was another big improvement on the 12th. - a kerosene Fridge for the Canteen arrived (cold drinks and beer in future) and on the 13th. Lt.Col. Cannon, the Defence Officer for the Area and F/Lt McDonald, C.O. of the Security Guards Unit visited the station. On the following day the detachment of 22 Security Guards was changed over. Yet another improvement for 105 on the 16th....when will it all end?.... the Salvos presented a radio to the station - a wonderful gift for an isolated station, and the visiting Salvo also entertained with a 16mm picture programme. On the 17th. the Army entertained with another picture show and their representative also gave a lecture on the war and its progress in all theatres. There were 3 test flights on the 22nd. and 23rd. and then a works party from 3 MWS commenced construction of a new Mess and Kitchen - and new arrangements were made for the delivery of rations and canteen supplies. There was yet another Salvo picture show on the 28th., and on the 29th. F/Lt Papet from 3 MWS inspected progress on the new Mess and Kitchen. July was indeed a month of improvements on the station....105 was at last considered a deserving case apparently.

#### August 1943.

The new kitchen, Mess and Rec. Hut were completed on the 5th., and the 8th. proved to be a Red Letter Day, not only for 105 RDF, but for RDF history really, for the station at Charles Point could now display the Vice-Regal emblem and could claim to be Under Vice-Regal Patronage, for His Excellency, the Governor General, Lord Gowrie, his Aide de Camp, also Lt. General Allen, GOC and the AOC NWA visited the station.

There was an enemy recce on the 11th., and a night raid on the 13th, then on the 14th. was the big occasion for the opening of the new Mess and Rec Hut, followed by the formation of a Welfare Committee on the 16th. Two recces were detected on the 17th., and on the 19th. F/Lt Kewish, the M.O. of 52 OBU attended to examine the eyes of mechs and ops - and he attended again on the 27th. to take the Sick Parade. A range of 76 miles was logged on the 20th. when a night raid was picked up. Finally, on the 28th. August, F/O Flux took over as Commanding Officer from P/O Hibbins, with a now very comfortable camp and with 2 Officers and 51 men on the unit.

September 1943.

There was an indicator of 'things to come' on the 2nd., when F/O Jordan and P/O Howes visited 105 "in connection with a site for a new array" - this refers to the impending closure of the MAWD station and the intended setting up of 31 RS at Charles Point. (31 RS had to move from Dripstone because the cliff on which it was sited had begun to subside. And also MAWD stations were about to be phased out.)

An escorted recce was located at 54 miles on the 7th., and on the 13th. F/O Hibbins left on posting for 44 Radar Wing, as it was now known. September marked the introduction of the term 'Radar' to replace 'RDF.'

P/O Evans from 61 Works Wing came to inspect the station's access roads on the 15th., and on the 20th. S/Ldr Egan of 3 Mobile Dental Unit and his party arrived at 105.

In typical Air Force fashion, and with the station about to close, a cricket pitch and badminton court were opened on the 25th., (the new facilities would have to be in use every minute of the day for the men to enjoy the results of their hard work) - and on the 27th. F/lt Kewish, M.O., F/Lt. Williams, Paymaster, and F/O Wendt, C.O of the Security Guards Unit visited. Then on the 30th. F/O Radclyffe and convoy arrived with the aerial for 31 Radar.

October 1943.

On the 1st. and 3rd. 105 Radar commenced purchasing from the RAAF Canteen Services - there was even physical training and rifle drill, and a camouflage expert arrived to look at the job of camouflaging 31. But of more importance to the men was that the Operators had won the Inter Section Cricket Match. F/O Radclyffe, having safely delivered the 31 RS aerial, departed for Wing, and work then commenced in earnest on the 31 RS tower.

105 RS ceased operating at 1600 hours on 15th. October after some 17 months of fine service, and the power units were dismantled the next day. The 105 canteen accounts were closed on the 17th. (purchasing had commenced on 1st!) The power units were despatched on the 18th., and dismantling the MAWD array and the unit commenced the same day.

On the 19th. and 20th. quite a group of Officers was on hand among whom was the C.O. and 2 I/C of Wing while 105 was officially disbanded with 2 Officers and 32 OR's on strength. Almost like a Wake!.

Many of the men of the closed 105 unit were detailed for duty at the new 60 Radar out on Melville Island where operating conditions, not to mention the equipment, would have been so much better than those on the old MAWD.

FINAL NOTE.

*Understandably, there must have been considerable confusion and inaccurate reports concerning the air raids on Darwin, and the damage caused. There are two reports referring to Charles Point...or its nearest neighbour, the Army post at West Point. One report in a book by a well known and recognized Darwin historian, tells that the lighthouse was bombed at dawn on 31st. August 1942. 105 Radar was located alongside the lighthouse, and there is no mention of a local raid in 105's history, the closest enemy plane being diarized as 7 miles away at 0437 hours, and another 8 miles away at 0528 hours.*

*The same historian mentions West Point on Cox Peninsula as a target on November 27th. 1942, but another credible Darwin war history gives West Point no mention on that date...nor does the 105 Diary.*

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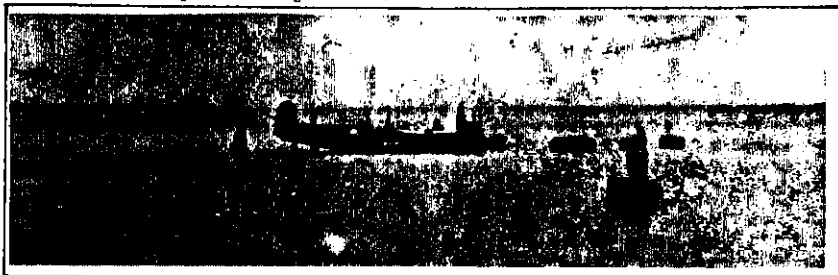
## A FEW SPITFIRE INCIDENTS AT CHARLES POINT.

2nd. May 1943.

F/O Wall (54 Squadron) came down in the sea off Point Charles. He tried to set his aircraft down on the beach or reef, but just failed to make it. His aircraft sank in about fifteen feet of water, and after struggling free from his harness, was able to reach the surface and was eventually picked up by a Naval launch.

2nd. May 1943.

By this time F/Lt Makin's petrol gauge (452 Squadron) indicated 22 gallons. He proceeded to Darwin, losing height down to 10000 feet, and when his gauge showed 10 gallons he reduced revs to 1600. Within six minutes his engine cut out, and looking for a suitable position to force-land, he landed a quarter of a mile South West of Point Charles to simplify salvaging operations, because another aircraft had already been beached there. He attempted to salvage accessories with a threepenny piece and a nail file as tools. He eventually gave up owing to the incoming tide which was a considerable way up the aircraft fuselage, and swam ashore. He passed the night at the Radio Direction Finder station and returned to base on the afternoon of the 3rd.



This Spitfire, piloted by F/Lt Paul Makins, of 452 Squadron, belly-landed at Point Charles, 2/5/43. The plane was A58-26, and was salvaged.

23rd. June 1943.

Six aircraft (452 Squadron) were scrambled to investigate an incoming RDF plot. Liberators were responsible for the investigation. Just out to sea over Point Charles, F/O Williams' aircraft developed Glycol trouble. He turned back and baled out 2 miles east of Point Margaret and 1 mile inland from the south of Tapa Bay. A search party from the RDF station left, but as there was less than an hour of daylight, they failed to find F/O Williams. The latter was observed to have landed safely on the ground, smoking a cigarette, with his parachute hanging on a dead tree.

25th. June 1943.

F/O Williams returned from his sojourn on the Cox Peninsula.



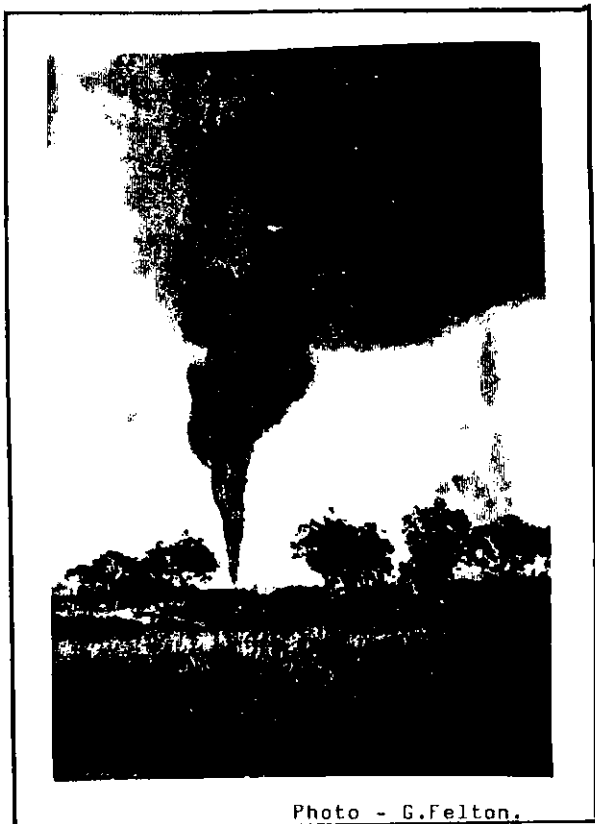


Photo - G.Felton.

AIR RAID.

105 RDF at Charles Point was located approximately 15 miles from Darwin, as the crow flies - and enemy activity over the town was often observed and heard. Aerial combats involving the defending P40 Kitty's of '42 could be seen on the radar screens - and often explosions from the town were heard as bombs were dropped, resulting in fires and heavy plumes of smoke.

This smoke column was photographed from the top of the lighthouse when oil tanks were hit.

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105 RADAR...MORE FROM THE STATION DIARY-- PLOTS A-PLenty!

Operations commenced 26/4/42 at 1600 hours....the Diary at times reads more like a Log Book...the first contact being on the 27th. when a Hostile was tracked out after Darwin had been raided to a range of 78 miles , bearing 312°.

The following notes are from a selected section of the Diary.

27/7 U/d 112m 317°...tracked out 88m, 319°

28/7 U/d 69m 321° ,...tracked out 52m 289° height/elevation report.

29/7 U/d 62m 292° elevation report.

2nd. wave 85m 305° elevation report. tracked out 92m 303°

30/7 U/d 65m 298° elevation report tracked out 45m 265°

2nd. wave 125m 288° 76m 290° height report.

17/8 81m 282°

2nd. U/d 69m 319°

23/8 U/d 70m 296° only 3 plots.

U/d 73m 262° explosions. aircraft in combat.

H tracked out 73m 323°

24/8 U/d 66m 316° Split in two north of Darwin.

Tracked out 78m 301°

2nd. raid 107m 315°

27/8 U/d 61m 290° tracked out 55m 238° over Pt. Blaze. Height report.

U/d 64m 325° Bombs dropped off-shore and on Darwin.

Tracked out 73m 292°

28/8 U/d 78m 300° explosions. height report.

30/8 aircraft...55m 305° explosions.

divided into 2 flights both tracked out to 76m and 70m.

31/8 aircraft 55m 305° tracked out 50m 300° height report.

4/9 U/d 71m 274° large number....2 waves.

8/9 U/d 78m 283°

25/9 U/d 50m 325° height report...explosions.

U/d 60m 325° height report...explosions.

26/9 U/d 90m 306° explosions.

27/9 U/d 70m 302° height report...explosions.

2nd. raid 70m 325° explosions.

24/10 U/d 73m 312°

U/d 48m 320° 2nd. U/d 52m 313° explosions. Tracked out 78m 292°

25/10 U/d 64m 299°

26/10 U/d 90m 304° explosions. tracked out 86m 278°

U/d 34m 258°

27/10 U/d 58m 311°

2nd. U/d 59m 314° explosions in Darwin. Tracked out 32m 266°

Rece 38m 346°

22/11 H 53m 304° Confirmed Hostile.

23/11 H 112m 330° height report-explosions - 6 flights various ranges.

26/11 H 85m 344° explosions. U/d 29m 288°

27/11 U/d 67m 350° Confirmed Hostile. H. 37m 356° recee.

28/11 U/d 55m 255° Confirmed Hostile

29/11 H 54m 310° U/d crashed.

An interesting note....26th. June, range obtained was 141 miles, which evidently was the best range on enemy aircraft to that date.

105 tracked U/d's, Hostiles, recces and second waves on more than 80 occasions.

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## PERSONNEL.

### Commanding Officers.

P/O P.E. Evans	28/3/42,	P/O Ryan and P/O Porter both served as
F/O E. Bennett	- 1/2/42.	Temp. C.O.'s for a few days in June '42.
P/O D.H. Hibbins	13/6/43.	F/Lt C.M. Naphthine became Temp. C.O.
F/O W.G. Flux	28/3/44	on 21st. June '43.

The list of Personnel that follows is very much open to correction, for when 105 formed and moved to Darwin, P.O.R.'s (Personnel Occurrence Reports) were at best somewhat haphazard, definitely subject to correction, perhaps just non-existent.

The names of the 'Originals' have been taken from the first A50, or Station Diary, and certainly must be correct, though others may have joined them before the unit arrived at Charles Point.

### The Originals (From the first page of the Station Diary.)

#### Radar Mechanics.

L.W. Evans.  
G.S. Gambling.  
L.N. Page.  
S.I. Zeunert.

#### Radar Operators.

B.R. Ashton.  
G.S. Clarke  
W.L. Dunstan.  
R.G. Felton.  
A.H. Power.  
A.W. Ross.  
N.C. Davey.  
J.H. Nice.

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Later postings to 105.....

#### Radar Mechanics.

L.G. Chapman.  
A. Roberts.  
B.R. McDougall.  
R.H. Harrison.  
A.C. Wallbridge.  
D.H. Davis.  
Sgt. Yeomans.

#### Radar Operators.

S.C. Archer. W.A. Ebeling.  
S.S. Lynch. N.F. Amy.  
H.R. Taylor. J.L. Buckland.  
C.D. McIntyre. K.H. Cripps.  
J.N. Carter. V.A. Dickman.  
D.R. Fullager. B.A. Crossley.  
P.D. Kelly. R. Hanley.  
V.P. Reddan. K.A. Lucas.  
W.J. Thompson. J.K. McDonald.  
F.J. Starr. G.R. Hare.  
A.G. Dwyer.

R.W. Phillipson.	W.T. Op.	W. Christian.	Clerk Stores.
G. Reinhard.	"	A.M. O'Malley.	Cook.
E.G. Fry.	Fitter.	D.O'Reilly.	W.T. Op.
H.L. Laity.	"	M.B. Quinlan.	Steward.
L.G. Rowe.	Phone Op.	S. Barnes.	General H.
M.J. Goddard.	Fitter DMT.	M.A. Rawson.	Messman.
H.G. Rabin.	"	G.C. Thorn.	Clerk. Gen.
K.B. Jolley.	DMT.	L.N. Cottle.	W.T. Op.
I.M. Scott.	"	S.G. Stafford.	W.O.M.
W.J. Butler.	Cook.	P.L. Rohan.	General H.
W.O'Brien.	Messman.	L. Chegwidan.	W.O.M.
R.R. Boundy.	Med. Ord.	J.C. Pulford.	"

PERSONNEL (Continued.)

W.R.Wise.	W.O.M.	H.May.	Fitter DMT.
C.F.Brown.	DMT.	S.A.Pole.	Steward.
L.Filmingham.	Cook.	S.Stuart.	General Hand.
L.W.Briggs.	Fitter DMT.	C.Wenzel.	Messman.
W.C.Niel.	"	A.L.Freund.	"
A.Crouch.	Steward.	J.T.....ton	Phone Op.
D.R.Tamke.	Messman.	G.H.Hart.	DMT.
E.W.Umwin.	DMT.	E.Downes.	Cook.
C.J.Wenzel.	Messman.	E.W.Smith.	Phone Op.
J.J.Harris.	W.T.Op.	T.Bird.	W.T.Op.
A.S.Hart.	General Hand.	C.J.Breare.	"
C.C.Harris.	Phone Op.	W.Swanbury.	Clerk.
W.McIntosh.	Med. Ord.	R.H.Parnell.	W.O.M.
A.Hanks.	Fitter.	J.J.Pywell.	"
A.Spalding.	"	M.J.McLeod.	"
C.Woodman.	"	R.E.Walker.	Fitter.
R.P.Robson.	Cook.	R.Gardiner.	Clerk.
		G.J.Brissett.	W.O.M.

SECURITY GUARDS.

R.M.Sullivan.  
J.J.Taylor.  
R.C.Armstrong.  
A.J.Corcoran.  
S.M.O'Keefe.  
W.Mitchell.  
J.Robertson.  
K.W.Southwell.  
C.J.Hughes.  
N.Browne.  
R.J.Roberts.  
C.L.Richardson.

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Sergeant Bob Meredith, who was attached to 31 RDF which at the time was the principal RDF centre prior to the formation of 44 Wing and 105 FCU, was for several months attached to 105 Mobile Radio station during its early months, and assisted in transporting the gear overland to Charles Point.

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Photo - G.Felton

#### MEETING THE NEIGHBOURS.

This fine body of men includes four of the local Aborigines, obviously out hunting, but making a polite call for refreshments perhaps.

Most radar men enjoyed a good relationship with the local people. This was due in part because of their local bush skills - and craft skills.

A healthy bartering system often built up with benefits to vendor and receiver alike. And often the local folk were employed at the camp, if they so wished - and they were always welcome at the camp activities.

More importantly at times, a bandicoot stew made a very welcome change from a monotonous bully-beef diet!

## THE RADAR WATCH CONTINUES AT CHARLES POINT.....

### 31 RADAR ARRIVES.

The Dripstone Caves, on the Casuarina Beach near Nightcliff, was the site chosen for Australia's first radar station to be set up and become operational in a combat zone. The station came on air on 22nd. March 1942, giving immediate warning of an impending air raid, and as 31 RDF Dripstone, it gave sterling service to the defenders of Darwin.

In February 1943, the crew on duty were alarmed to hear a 'crunching' noise, and they found that part of the cliff face had subsided into the sea, and it was then necessary to watch for and select a suitable new station site. Not long before, new stations had come on air at Cape Fourcroy and Port Keats, so relieving the pressure on 105 at Charles Point: the decision was made that the two MAWD stations, 105 and 109, could be phased out. In September, the foundations were prepared for setting up 31 RS at Charles Point in preparation for the new Doover. At the same time, radar coverage along the Casuarina Beach was taken over by the new station at Lee Point, 59 Radar.

The installation of gear and equipment at Charles Point began on the 1st October, 1943, and F/Lt Flux, previously the Commanding Officer of 105, now became C.O. of 31 RS. The station became operational on 15th. October: on the 20th. F/O Freeman took over as C.O. and at the end of October the station complement was recorded as 1 officer and 28 OR's.

### November 1943.

The regular station routine began for 31 RS again in November - there were the usual inspections by Wing Officers, and the Zone Accounting Officer also attended with a Pay Clerk which was undoubtedly of more interest to the men.

It was 'on again' on the 11th. October - 'hostiles' were detected, one lot at 67 miles and a second lot at 80 miles. These were tracked as they approached Darwin, and it was observed that the enemy planes were intercepted before they flew out south of the station, probably over Point Blaze. There were more inspections on the 19th. and 24th. - and an enemy recce was tracked as it flew in from 70 miles, then out to 90 miles.

Towards the end of the month the gear was calibrated, and the installation of a Mk.III BL4 was begun.

There were now 49 men on the station.

### December 1943.

This month proved to be the month of inspections and visitors....first there was a Salvo with a picture show, then a Catholic padre. Various Wing officers were next, then came a F/Sgt. Instructor whose job was 'to brush up the Guard Personnel.

Next arrival was the Area Radar Officer and the Area Camouflage Officer - also the Accounting Officer on a return visit, and a Dental Officer. Finally the Zone Accounts Officer arrived.

So unfortunately the 31 Diary is a Visitor's Book only for December, with no mention of station activities, or even of Christmas Day and Christmas Lunch which was always 'better than average' at radar stations.

At the end of the year there were 45 men on the station.

January 1944.

The first month of the new year commenced in similar fashion to most other months...but suddenly on the 14th. January the station closed down, despite all the work in bringing it on air - and F/O Jordan arrived on a short visit to give instructions for the dismantling of the Doover and the equipment.

He returned the following day to supervise the work, and a later visitor was the Area Messing Officer who apparently was concerned to see to the disposal of stores and rations, no doubt wishing to send them on to some other unfortunate radar station.

On the 31st. January, the demolition of the camp site was completed, and the unit moved out to return to 44 Radar Wing at Coomalie.

February 1944.

At Wing, F/O Freeman relinquished command of 31 RS on 5th. February, and F/O Williams took over. The station equipment and all available personnel moved to a new site at Fenton near 319 Radar where 31 RS was to be set up yet again. The month ended with good progress being made on the work, and at this stage there were 12 men on the unit.

*On 30th. March, 319 Radar moved away from Fenton to be air lifted to Drysdale, leaving 31 RS only at Fenton. Some months later, 31 RS exchanged station numbers with the station at Exmouth in Western Australia...31 RS became 310 RS with LW/AW equipment ready to move to the islands north of Australia, while the Exmouth station became 31 RS as it was equipped with AW gear.*

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The 31 RS Diary at Point Charles mentions seven names of men promoted to Corporal; They are.....

J.C.Gardiner	R.J.Deuble
N.A.McCarroll	T.H.Watt
F.C.Carriss	S.J.Davy
J.R.Manthorpe	

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**"IT'S ON AGAIN!" - AT 105.**

(An Extract from the book "Adventures in Radar" by H.F.(Hal) Porter.

.....After a fortnight at No 31 I was moved to command at No 105 Radar, Pt Charles and Ray returned to No 31.

No 105's electrical equipment was an American gun laying unit designed on a cost plus basis - the set has some hundred and fifty valves of which seventy or so are really necessary. The unfortunate operator sits in the tropical sun absolutely unsheltered unless an improvised canopy is arranged. Being a G/L set extensive modification was made by P/O Phil Evans and LAC Page and the station started operating soon after No 31.

No 105 had a very rough time in the early days. Although only across the Darwin Harbour the lads were comparatively isolated, with very poor tinned food and no amenities at all.

Nearly half the station was suffering from tropical ulcers, four being in hospital including Stan Zennet, one of the mechanics. It was very difficult to find enough fit men to man the gear, and LAC's Page, Sid Gambling and Evans had more than enough to do keeping the set going. This state of health was mainly due to walking in sandals and barefooted. When boots and gaiters were available, and worn, the ulcers quickly disappeared. The ankle is particularly susceptible to infection as it is exposed to dirt, and sharp grass which abounds in the area. With the poor washing facilities trouble easily starts.

Phil Evans and his crew fresh from Radar School achieved a gallant victory over shortage of supplies, and inhospitable wilderness, poor food, technical worries and illness. Left entirely to their own resources, the task was immeasurably harder.

In June 1942 an excited operator raced around the camp yelling "It's on!" This expression once caused a serious accident. A newcomer to the territory, sickened by the frequent bully beef turned to his neighbour at dinner and said "It's on again." His neighbour immediately departed via the window and broke his collar bone.

Following the operator's warning the word soon goes out and the vehicles leave the camp like rockets. Friend Jolly, the transport driver, was a racing car driver in civilian life and dispersed the transport quickly, covering the station in dust. Operators are whirling the array back and forth searching for more formations and tracking the raiders in. The radio operator rushes through message after message scarcely waiting for the acknowledging letter "R". The constant morse clicks and the steady voice of the operator are the only sounds. There is hurry but no flurry. No targets are missed and ten miles away the track is being drawn in detail on the operations board at Berrimah Fighter Sector.

With a roar the scrambled Kittyhawks climb overhead, gradually growing smaller as they fight for altitude to get above the Zero escort, engines "through the gate."

The radio telephone is active as Sector instructs pilots "Angels 23." "Roger" comes the acknowledgement. The raiders are now only twenty miles away. MAWD (the RAAF name for the converted set) has given 170 miles warning. Not bad for a Modified Air Warning Device.

Soon the beating of their engines in formation can be heard. The screen shows our waiting fighters, which to the approval of all concerned are a few thousand feet above the path of the raiders. The operator on stand-by is searching the sky overhead for the tell-tale flashes of sunlight - and there they are, mere specks in the sky like tiny pieces of white paper, too far away to perceive their shape. Above and below as they approach, the small escorting fighters are encircling their bombers like moths around a light. The Bettys are in perfect formation, each bomber as close to its



neighbour as possible, the twenty seven forming a shallow V. The drone grows louder and more and more escorts appear. There are over two hundred planes including ours in the air and the operators are plotting four to six groups each minute. LAC Power is one of the operators and it is a pleasure to watch the speedy yet unhurried manipulation of the set. LAC Felton and LAC Power both show an uncanny skill with MAWD which is harder to operate than the AW at 31.

Overhead now; if the bombs have been dropped, they should land on us. Still the array stops and starts as each formation is plotted. An operator yells a warning. A huge cigar shaped object is falling towards us, rolling over and over and roaring as if foretelling an impending disaster. False alarm - it's the first belly tank being released that we have seen, a terrifying spectacle but a comparatively harmless missile.

Over the radio telephone an American pilot excitedly calls "Tally ho!" The enemy has been sighted. Fighter Sector has done its job, the fighters are in attacking positions. Formal radio telephone procedure goes with the wind.

"There's the son of a bitch."

"Can't see a bloody thing."

"Jim watch the bugger on your tail."

A dull rumble shakes the earth, growing louder, and vibration fills the air and the ground seems to rock. The Japs have unloaded all their bombs on the instruction of the one bomb aimer in the wing formation. Well, anyhow, there won't be any more!

A screaming high pitched whine rends the air as the fighter's engine protests in vain at its pilot's demand for speed.

The Americans dive through the escort and on to the slow Bettys. It's too far to see the whole fight but occasionally a flash of flame or a cloud of smoke arouses predictions on the results.

Owing to their inferior climbing power the Kittys have only one chance. The fighters have made their pass and the hunt is handed over to the ack-ack which roars with approval. Little clouds of smoke and a few flashes around the invaders, raise the hopes of all the groundsmen.

And still MAWD is at work. No one has taken cover and the operators did not know that their mates at Sector were working lying on the floor because of the unpleasant shaking of the building.

The bombers are moving out but what's this - a friendly plot on the screen? Tally-ho again as the leader strikes at the Nips.

Soon the Kittys roar overhead in victory rolls. Everyone is eagerly awaiting the score.

Next morning it was learnt that seven planes had been shot down - for the loss of one. Our pilot was safe, thanks to our black brothers in loin cloths.

Midday approached once more and the operator coming on shift was fearful that the raiders would be early as he would miss his chance. The operator who picks up the raid nearly always does the whole job.

At this early chapter in RAAF Fighter Sector work, we used a simple coding instrument to make the plots difficult for the enemy to understand. Later we used code words and saved time.

One minute to twelve and a little break appeared in the trace at 165 miles. "It's on again!"

The radio crackled in F/O Reg Thoroughgood's signal room at Fighter Sector - enemy planes 165 miles away, estimated strength large, height over twenty thousand feet.

Down at the strip the standby crew draw on warm flying clothes over sweating bodies. They rush the planes in the inserts and test the running engines as they settle into the cockpit. Four Kittys race down the runway one

behind the other in what seems a supreme effort to catch up the leader. As soon as the last plane has left the ground four start from the other end. Split second timing alone prevents accidents. Within four minutes forty eight fighters are climbing under protesting engines. Next day again at midday the raiders appeared. This was getting monotonous. The Japanese hate to vary their tactics. Still the twenty seven bombers and escort came over. Tomorrow would probably be the same. The rumble of bombs could be heard. Standing on the lighthouse platform, watchers not on duty detected a wisp of black smoke. The wisp grew into a cloud and the latter swelled and swelled in defiance of the firefighters, a giant genie awakened from the earth. The bombers left and all that spoilt the peaceful scene was the evergrowing black spectre over Darwin - the oil tanks were ablaze.

But what's all this, not another short range plot on the screen? With screeching wings a Zero roars overhead. Is this attack personal? A very welcome Kitty appears and the late intruder departs hurriedly. Apparently the pilot had lost the other raiders, and did not realise that the action was over.

Evening came with that peace peculiar to the tropics, only broken by the whine of the mosquitoes.

In the operation shack these nuisance raiders were disrupting a discussion on the last few days. Would the Japanese come over that night and torment the raging inferno, which was casting a red glow in the sky like some ghostly sunset? An airman brought in a kerosene tin of smoking gum leaves. Smoke filled the room and we all departed accompanied by the mosquitoes. While the mossies enjoyed their meal in fresh air the smoke gradually dispersed and all members returned to the operations room, with the mosquitoes.

That night passed undisturbed. Next morning I was burning rubbish when a gleeful hiss warned all and sundry that the fire wanted living space. The dry grass, unmoistened for three months and parched by the powerful sun added fuel to this demand. Only after a great deal of effort did the fire yield to democracy. On the other hand that black cloud was still over Darwin.

12.15 pm came around again, the Japanese did not come. Their routine was so planned that advantage was not taken to bomb further and add to the destruction, as much of the town, and some of the oil tanks, had been burnt out. Perhaps their heavy losses deterred them from taking advantage of the situation.

It was a strange fact that the Americans, in spite of planes inferior to the Zero, lost more pilots in accidents than through enemy action. Possibly they lack the dash of the Australian, but no one can deny their ability and courage. Before Colonel Wortsmith's 49th Pursuit Group left for New Guinea, nearly half of all enemy raiders were failing to return to their bases. This combination of the RAAF and US Army Air Corps was a triumph over officialdom, inexperience, and lack of equipment. Unfortunately those further south prevented such co-operation continuing until the end of the war.

When the Americans first arrived, it was necessary to provide an RAAF navigator to the Flying Fortress which conducted tours over the area, for the fighters, like the old woman who lived in the shoe, didn't know what to do - or where they were.

RAAF signals personnel supplied all communications, and throughout the war maintained the highest standard in the Allied services.

Our radar people at times lost patience with the Americans' continual requests for information beyond the scope of our radar sets. After a particularly trying series of unanswerable questions re various plots, Mac lost his

temper. The American telephonist queried, "Say, that plot at ninety miles, do you boys think it's a Hudson?" "Yes," says Mac, "coming in on one engine." Unfortunately the plane had come in on one engine, and we never quite convinced our Allies that we could not give such service all the time. It was war and no matter how careful or how efficient the organisation was, there had to be losses. Strauss and Livingstone airstrips are permanent memorials to gallant American airmen. The organisation grew. A signal from RAAF Headquarters announced the formation of No 109 Radar Station, another MAWD.....

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AN EXTRACT FROM HAL'S LETTER, 2nd. February 2000.

Hal Porter.

Now for 105. Of course you can draw on 'Adventures in Radar' but it is a rather limited resource in this area. I was only the Relieving C.O. for a short time whilst Phil Evans was in hospital with tropical ulcers. This affliction was widespread there and I was partly right in attributing the infections to salt water bathing rather than fresh which I insisted on with good effect. Also the tendency to go 'native' in the tropics left feet and legs unprotected. Gaiters and boots justified the discomfort. In recent years I have read that some of these tropical waters are notorious for their wogs causing serious problems to campers, adventurers, and even Aborigines, invading minor abrasions and injuries from spear grasses.

The decision to start forming 109 at 105 was hard to understand. Certainly 105 had technical and operational experience with MAWD, but its extreme isolation and acute shortage of supplies made setting up a new station almost impossible, and the move to 31 was welcome and inevitable. Chapter 6 of my book covers most of this.

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*105 Radar in its comparatively short length of service, was known by all the names adopted for the new detection system:  
The station was known as a "Mobile" RDF Station, 23/3/42 to 31/5/42,  
Then as 105 Radio Station, 1/6/42 to 31/12/42,  
105 RDF Station, 1/1/43 to 31/8/43.  
(during which time 44 RDF Wing was formed, February '43.)  
Finally, 105 Radar Station from 1/9/43 to 15/10/43  
when the station closed.*

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Security at 105 RDF in the early days of '42 was not at the top of the station Priority List....the main problem while settling in at Charles Point was to get the unit in position and 'on air.' The Guards (there were only a few of us) were busy working with all other ranks to make camp and to become operational, although sentries were posted at night near the Doover. Later on as we settled down we installed a twin Vickers machine gun post for anti-aircraft defence which was manned by the crew only when the unit picked up an 'unidentified.' This post was situated on top of the cliffs north of the Doover and lighthouse. 105 itself was completely isolated with the sea basically all around it except for the totally virgin scrubland south of the camp on the peninsula, so we relied on the security of isolation and camouflage.

At night we always observed a strict black-out, so after dark, any movement was restricted only to what was necessary, like changing shifts for the Guard on duty at the Doover and generators. I do remember an incident on guard duty one night....Leo Merritt (ex Collingwood footballer) and I were sitting on a box back to back, as was the practice; we had Tommy Guns on our knees with safety catch off which was also the practice. Leo spoke to say his leg had gone to sleep, and he'd have to stand up, which he did. The gun fell off his knees with his finger still in the trigger guard, and the weight of the gun on his finger was enough to fire the gun. Leo received two bullets to his left leg - one below the knee - the other just above the ankle, and his leg was badly injured by the .45 calibre bullets. He was very lucky, as I learned later that his leg was saved. Of course he was sent south for treatment.

Guard Duty was always a bit scary, but we always went on duty in pairs which helped a lot - there were all sorts of queer sounds heard on a still night, also there were animal eyes and their movements. It was always reassuring to say "It's only an animal or bird " which helped each other. Also at this time the area was under constant attack from the air, and air raid warnings, real and false, were coming all the time. During the day-time hours, all sorts of duties were performed, and by all musterings may I add. The most disappointing aspect of 105's life at this early stage was the very, very poor food, mostly out of tins, and mainly Gold-fish, Bully Beef, rice, dog biscuits and sometimes that horrible tinned butter (more like running oil) though there was bread now and then. Of course, this did not help our health problems, and things were bad with tropical ulcers, prickly heat, dermo, stomach upsets, and with Dengue Fever everywhere.

The mosquitoes and sand-flies were murderous, and of course the living conditions were not the best. We were under canvas and on dirt floors with only low cyclone stretchers - not much protection from the elements. We mostly washed our bodies in the sea as we were always in swimming - when we could of course. Our only transport at the time was by boat as it was the only way out then. Our personnel really struggled to keep working, and we often stood in for each other just to keep the unit functioning. However, conditions at 105 gradually improved as time passed.





Photo - G.Felton

CHARLES POINT SOUVENIR.

105 had hardly arrived at Point Charles when an enemy bomber was seen to crash into the sea in Beagle Bay... and a Betty bomber also crashed inland not far from the camp where it was located by a group of searchers. No doubt this  $\frac{1}{2}$  propeller displayed by Bill Dunstan and Geoff Felton came from one or the other.

Many aircraft - enemy and Allied - came down on Cox Peninsula, and the 'Black Watch,' a group of Aborigines led by Jack Walker, a Government Officer from the Government station at Delissaville, regularly patrolled the area seeking downed aircraft.

It would be interesting to know where this souvenir is today.

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105's OUTSTANDING WORK AT POINT CHARLES.

(Sgt. G. Clarke.)

Some time ago, I was pleased to receive a copy of "Echoes over the Pacific" from an old Beaufighter mate. It proved a great radar book, and the article on MAWDs, page 49, was of real interest to me, for back in the bad, uncertain days of 1942 when Australia was just beginning its radar programme, I was trained as an operator. Then I was posted to 105 Mobile Radio as the station came to be known, and I stayed with it from the day we pulled it down and transported it by air to Batchelor from Amberley, via Archerfield, Charleville and Cloncurry.

From there the 20 ton monster was slowly and carefully transported overland through the dust and bush of the Cox Peninsula to Point Charles. That journey of many days was a nightmare, and would make another epic story. Our station strength to transport, assemble and set up 105 was 25 men.... the Commanding Officer was P/O. Evans, 4 mechanics, 8 operators, 2 drivers, 1 cook, 2 messmen and 7 guards. Later came a W/T operator, a medical orderly and a clerk to make up the full station complement.

The notes that follow are from a Diary I kept from 22rd. March 1942 to 17th. December 1942 when eventually I was posted from Point Charles to 31 RDF at Dripstone.

The MAWD at 105 (we called the monster 'MAUDE') proved to be outstanding when picking up enemy planes approaching at long range.

The station was close-by the Point Charles lighthouse and could be seen for miles - it was on the edge of a cliff with no camouflage at all, and was fully exposed to sun, wind and weather. We were only 15 miles from Darwin itself as the crow flies, but approximately 130 miles by land through the bush and down around the harbour. There were no tracks or roads, only our own.

The set took a few days to tune and settle down, but was working well from 28th. April onward. Some of my Diary entries show just how well, and give some idea of the excellent results:-

24th. to 28th. April. Set operating, but not good until 28th. April.

14th. May. 82 miles. We assist the return of shot up 2 Sqn. and lost Americans.

13th. June. Picked up Japs at 130 miles.

14th. June. " 134 miles.

15th. June. " 130 miles.

16th. June. " 141 miles.

We were informed this was the best radar range so far.

17th. June. No Japs. Darwin still burning. We could see this from the lighthouse.

27th. June. Our accurate plots save the crew of a Hudson bomber.

25th. to 30th. July. First night raid (Nine in all) We gave good warning to Darwin - up to 120 miles. Some bombs dropped.

Tilting our aerials, we estimate height about 20000 ft.

30th. July. Day raid. 129 miles. Tons of bombs dropped with little damage as bombs dropped mainly same spots as before.

23rd. August. Day raid heads inland. They got a hell of a shock as we gave our boys ample warning and time to intercept. We heard 17 were shot down.

24th. to 31st. August. Series of night raids with little damage.

1st. to 19th. September. No raids this period.

24th. to 30th. September. The wet season commences. Several night raids.

Have now worked 7 raids on Azimuth (height)

The set behaves well. Recce's about.



Photo - G.Felton

**THE BARK HUT....FIVE STAR ACCOMMODATION!**

With most of the Operators installed in the Bark Gunyah, the roster system of shifts was made much easier. Particularly so when going on shift at night, perhaps on the Dog Watch when the new shift tried to get a couple of hours sleep after tea before being roused by the Guard to go on watch.

105 was put on 24 hour watch soon after becoming operational at Charles Point - and even though a short maintenance period was permitted each morning, the radar personnel were given no respite with all men expected to work on the gear or around the Doover. Gordon Clarke, --Davies (W.A.) "Cherokee," and Geoff Felton are at the rear, with Bill Ross and Bill Dunstan in front.

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24th. to 31st. October. More raids and we get good ranges. W/Cdr. Pither is expected to arrive. Recce planes around again. One shot down.

1st. to 17th. December. With 3 other operators, I was posted to 31 RDF at Dripstone, which we found easy to operate after 105. Stay at Point Charles was almost 8 months. The Diary ends...the last entry reads."Xmas cake from Olive. (now my wife.)"

Back in September when, other than the Commanding Officer, we were all LAC's, a few of us got to become Acting Corporals, much to the disgust of other personnel. All of them, and especially the mechanics who were wonderful, deserved some recognition of their service out at 105.

After various 'southern' postings around NSW and Queensland, I was posted back to Darwin - the southern postings I considered to be a holiday and of little real use after the outstanding 1942 work and the results achieved at 105 at Point Charles. We were only the second station to go 'on air' while Darwin was enduring the heaviest of the air attacks. Strangely, at first our radar was 'hidden' in the name 'radio'.... and when I was discharged, I was still classed as a 'wireless operator.'

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#### MY FIRST POSTING - 105.

Syd Gambling - an old-time  
Radar Type.

My first posting, after Radar School, was to station 105 Darwin, not geographically located at the time, but for use as a back-up for the lone Radar station in the area, 31 on the perimeter of Darwin at Dripstone. It was still the property of Radio Physics at the time of the first raid.

I arrived early in March 1942, and as our U.S. equipment had not arrived from Brisbane, I was sent to 31 at Dripstone. At the time it was commanded by F/O Hull and P/O Bruce Glassop - both radar men. When our new unit came together later in March, our group was commanded by F/O Evans, a real good radar type. We were sent to Point Charles, a pleasant coastal spot 15 miles west of Darwin by sea, and 50 miles by road. Anyway, we got excellent ranging, especially in times of 'Temperature Inversions.'

We lasted there about 8 months and then a second American MAWD was brought up by road and rail, and placed about 400 yards from 31, after a time further south.

Contrary to various opinions, there was no strobe line interference although the two station frequencies were close to 200 Mc. After a month there, another Mech. and myself were posted to Mascot where a temporary squadron of 3 stations was forming - 311, 312, 313. All good locally built gear, and easily de-mountable, thanks to H.M.V. and the Railways of N.S.W.

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Photo - G.Felton

"NO LONGER NEEDED."

The enemy fighter plane escorts usually extended their range with belly tanks or wing tanks which were dropped as they approached the target area - and possible Allied fighter opposition. 105 was close to the flight path in towards Darwin, and dropped belly tanks sometimes floated in to shore close to Charles Point, where Australian ingenuity found them very useful as canoes for relaxation close to shore.

The photo shows Geoff Felton with his latest find.... slightly used and a little dented perhaps, but very welcome as an addition to the local sea sports.

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"WE WERE THE FIRST....."

Geoff Felton.

We were the first 'Official' Radio Operator course in Australia, and we were stationed at Richmond. A number of us on that course were from a W.O.M.S Course at Ultimo. I know others were before us, but I believe they were not officially named as No. 1 Course.

The equipment for our station was taken from North or South Head, Sydney, where it had been installed as Gun Laying Equipment. It was American gear. It was dismantled and then taken to Archerfield Air Base in Queensland where it was loaded into a DC3 together with us Operators and flown to Batchelor Field, South of Darwin.

From there it was taken to West Point Army by road, on the Western side of Darwin Harbour. I believe the men transporting the gear had to make their own road to Charles Point.

We were told the gear had a maximum range of 30 miles or less. Four mechanics, led by a man called ....Page, modified the gear, whereby we had a range of 200 miles on the second trace. None of us had ever seen a Cathode Ray Tube before, let alone a trace. Some American 'Boffins' later visited us...shook their heads, and returned to the United States.

The Salvos were the first to visit us, then it was 6 months at least before other religious Padres arrived,....imagine his surprise at seeing a top piano on the ground inside our bark 'Gunyah.' We borrowed it from the Darwin Town Hall...so we were told.

We Operators worked so many hours on, then so many hours off, but I don't remember having a day off in over 12 months. The tube on the 'Doover' had no sun or weather cover at all. We sat on a plough seat wearing our 'lap laps' and no other clothes. Naturally, being blonde, I still suffer from many, many skin cancers.

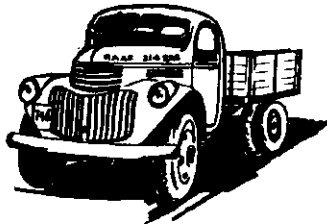
We swam twice a day, after climbing down and up the cliff face using a single rope. The local Aborigines refused to go into the sea....cross!

I enclose some really good photos of the personnel other than the C.O., P/O Evans. and there is one of the Bark Hut...the 'Gunyah.' About 6 men lived in there, the others lived in tents. We had 8 Operators, 4 Mechanics, 1 Wireless Operator, Guards, a Cook?, a Transport Driver and of course P/O Evans the Commanding Officer. And there is a photo of 'Zero' belly tanks, which when discarded and dropped, floated to shore, to be used by us as cut down canoes. Also one photo shows some local aborigines.

I also enclose a copy of an Army map, obtained from the local library, and shows the 105 and 109 locations. We were a few hundred yards from the lighthouse. Our fresh water for all that time came from a small well very close to the sea, and the map even shows the well.

Well, Morrie, I could go on, but I've answered your request. It's been a shame no one was interested in 105.

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## 105 STARTS UP AT POINT CHARLES.

Sgt. Bob Meredith.

Commanding Officer, P/O P.E.Evans.

Early assistance and relief by P/O Ray Ryan and P/O Hal Porter.

Early in April, 1942, I left 31 RDF station at Dripstone to join with the Point Charles crew, and to pick up the equipment from Batchelor. From there we departed for Point Charles on the western side of Darwin Harbour from where the Darwin lighthouse looked out over the open sea. Our route was approximately 100 miles through very rough country. There were no roads, and we had only a rough map and a compass. There were two eight wheel American Army trucks on loan, with each carrying around ten tons and a RAAF tender with about three tons, all with our gear, tucker, stores etc. I cannot remember the number of personnel....perhaps there were eight or ten men.

The trip took two weeks, and at times it was so slow we had to walk beside the big trucks, wielding axes to cut away trees and branches to clear the way. We had load shifts, tyre blow-outs; we had to ford streams, ditches and gullies, and of course we were bogged many times by one vehicle or another. We then had to use both front winches on the trucks to pull the other out, and sometimes we would be held up for hours, even at times with the hold-up extending overnight.

It was at one of these bogging hold-ups that we had a frightening experience. The bogged truck had its cable attached to a tree and the other truck its cable attached to the bogged truck when the strain became so great the steel cable sang like a violin string. Suddenly the cable attached to the tree snapped. It snaked and whipped all around the place - even cutting down small trees - luckily without striking any personnel, although we were spread all over the place. We were indeed very fortunate! It was a very good lesson.

At night we just stopped where we were, ate hard rations, and slept on our groundsheets - then off again at first light. I remember having to hang a blanket from the tail-shaft under a truck, and use it as a hammock to get off the ground because of heavy rain. The water just flowed through and under my hammock.

At last, after arriving at the site, our first priority was to unload the American trucks so they could return - then we began to set up the unit. It was 'on air' within a day or so, but our camp was a shambles. Actually I remember it was a week or more before we got our tents up and began to settle in. The Navy delivered our fuel by dropping 44 gallon drums overboard, and we had to swim out to retrieve them, with a sentry always placed close by to watch for sharks and crocs. We walked the drums in to the beach, where they were manhandled up the cliffs with ropes to be stored. The Navy boys made it quite clear they were not hanging around - they got out in one hell of a hurry....they liked plenty of sea around them!

Our food was bad, and mosquitoes and sandflies drove us mad! The first few weeks were very hard on all of us; but I believe the job was well done with all of us including our C.O. doing anything and everything to keep the unit performing and it did perform well!

Medically and physically we all suffered. We had an up hill battle with the food rations and dysentery - then there were troubles with ulcers, sand-fly poisoning, mosquito bites and dengue fever. I had dengue twice: the first time I kept going, but the second time I landed in hospital at Berrimah. They told me later I was taken out by boat.

A few kilometres north of us along the beach was a deserted banana farm. We used to walk up there and bring back a stick of bananas and hang them from

the ridge pole of the tent until the lower bananas became ripe, then we really enjoyed them.

A Jap Naval Air Force bomber - a Betty - was shot down near us and crashed in the bush a few kilometres inland from our camp. I was in the party sent out to bury the dead, retrieve their dog tags and identify sex, as intelligence reports suggested that the Japs were using female aircrew as radio operators. There were no women in this crew, and we buried seven bodies.

On the beach below the unit, we were able to swim and paddle about in cut-out Jap belly-tanks, and go hunting for turtle eggs. They were hard to find for they were usually buried very deeply.

What stuck in my mind was the practice we had of cutting a small hole in the cliff wall and placing our mugs there to catch fresh, clean and cool drinking water. It amazed me being so close to the sea.

One point I would like to make in closing this article was that at the beginning of this unit, which was second only to 31 RDF at Dripstone, we never knew its name or number until much later. History tells us now it became 105 Point Charles in June 1942, but we didn't know that until after we left the unit. As a matter of fact my personal papers from the RAAF doesn't even mention 105, so in theory I was never there!

#### POSTED TO AN SGU COURSE.

Sgt. Bob Meredith.

About the end of November 1942, I was posted to an SGU advanced course, designed to train personnel - Guards mainly - for the security of AOB's (Advanced Operational Bases). The Security Guard Unit was first formed about September or October 1942, and was located just south of the RAAF Base Darwin, at the end of the north-south runway, and opposite "Hell-fire Corner" Winnellie. Sgt. Wood (still a friend of mine) was one of the first instructors. Three or four courses were completed, then the unit moved to the 31 mile where it became known as the 31 mile SGU, under the command of S/Ldr. McKennon.

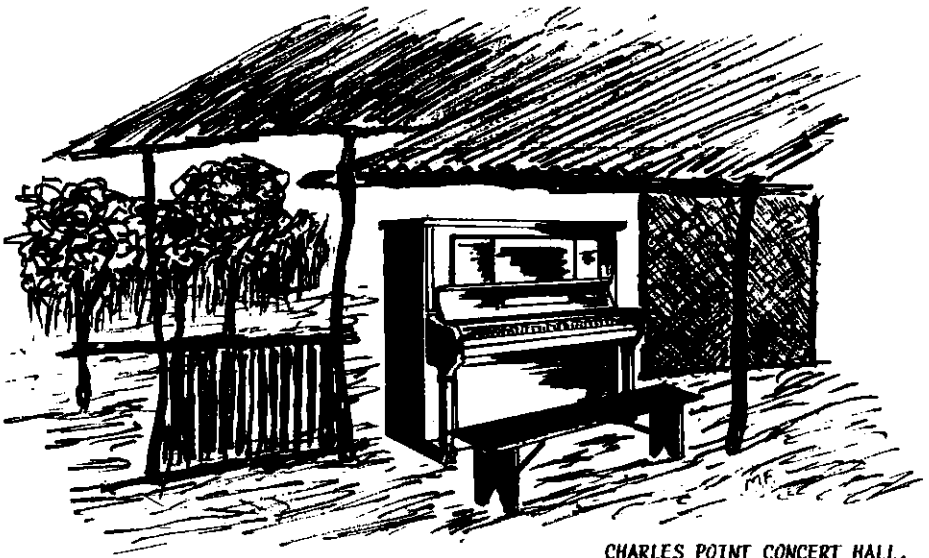
The unit grew into a very large training establishment with not only RAAF personnel, but also Army Infantry and Navy men. There were up to 2000 men training at any one time.

The course was very tough - mainly spread over 24 hours each day, and we could be called out of bed during the early hours in full battle kit, then route marched and navigated through the bush, even in the rain. The course also comprised weapon training in Vickers, Bren, Sten, English Browning, American Browning, 20 mm cannon, anti-tank gun, grenades, field of fire, Thompson machine gun, mortars, hand grenades, explosives, mines, gas, aircraft recognition, ship identification, (sloop, destroyer, cruiser etc) and of course we were well instructed in rifle and bayonet drill.

To my knowledge, after passing out, personnel were posted back to their units or to similar units in AOB's or similar. In my case, it was to another RDF unit. I was posted from 105 at Point Charles to 39 RDF at Port Keats, then under the command of P/O Radclyffe. I was in charge of all AA guns and their installation, explosives, blasting out gun pits, fields of fire, the training of crews, testing, maintenance, storing ammunition, camouflage, trip and barbed wire defences, and security in general which included the Doover up on Mount Goodwin.

We were housed and fed together, housed in tents and bark huts (no nails) and ate in the common Mess. But as Sergeant Guard, I was always responsible to the C.O.....he gave the orders.

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CHARLES POINT CONCERT HALL.

#### ENTERTAINMENT AT RADAR STATIONS.

*In the later months of the war, most radar stations in NWA boasted an elected Welfare Committee which arranged various social functions, from card evenings and concerts to full blown sports and athletic days at which all participated, especially the local Aboriginal families anxious to show their skills.*

*But the musical efforts and entertainments at some stations proved surprising - almost amazing at times.*

*Of course a few lucky ones had gramophones plus a few records of Bing and Vera Lynn and Co, and reports indicate those few records were usually played until they expired. But small instruments were often carried in packs - flutes for instance and similar instruments broke in two - and one well known chap was known as the 'Pied Piper of Wallal,' and his efforts on his clarinet even charmed the scorpions and centipedes of the place.*

*Another chap, a beginner no doubt, was regularly banished to the sandhills to practise.*

*Unbelievably, one well known station boasted a 5 piece band, with piano - accordion - guitar - bottle top pole and washboard - drums (tins with pigskin and sand to mellow the tone) and bells, and this band, or orchestra, presented regular performances and musical evenings for the local units.*

*And high on the list for resourcefulness must be the station that borrowed the treasured harmonium from the local Mission Station to present the local corps de ballet complete with tu-tus.*

*But few could beat the improbable story of the top class piano of 105, kept in the old bark 'Gunyah.' The 105 lads had endeavoured to preserve it from damage and further raids by moving it out to Charles Point for safety. History did not record its performances out there, or whether the succeeding generations of white ants and termites inherited a musical inclination.*

*See the letter from Geoff Felton, and Don Hibbins' Sketch.*

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## MEMORIES OF 105.

Don Hibbins,  
(C.O. 105, June 1943.)

It's nearly 57 years since I was at Point Charles, and while I can remember some incidents quite clearly, much is now very hazy. I can remember some names and faces, but most of them are shadowy, and I tend to confuse them with others I met at 319 RS at Fenton, or at 44 Wing.

But here goes!

I can well recall that following a daylight raid on Darwin harbour, a Spitfire ran out of fuel and had to make an emergency landing on a small beach only about 100 yards or so from the 105 camp-site. Fortunately the tide was low at the time which helped the pilot make a perfect belly landing. He was unhurt, and the plane was not badly damaged. We passed a message by W/T to Filter Sector in Darwin and an Air Sea Rescue boat responded quickly to take the pilot back to Darwin. Unfortunately the tide was rising, and as night descended, the plane was submerged and a salvage team could not recover it until next morning.

On another occasion, after a daylight raid, we observed for a very short time an enemy bomber on fire and heading west to Timor. At the same time a Spitfire was also in trouble and on fire, while in a steep crash-dive several miles to the west.

We saw what we thought was a parachute, but it was too far away to be sure. We sent a W/T message to Darwin reporting the incident, and an hour or so later a rescue launch arrived at our camp. A couple of others and myself went aboard to help with the search for a possible survivor. The coast in the area was mostly thickly covered with mangroves, and it was like looking for a needle in a haystack.

After searching the coast for probably several hours which involved many small inlets, we were rewarded by seeing some moving flashes which proved to be reflections of the sun from the pilot's mirror. Fortunately he was unhurt and had managed to make his way to the water's edge before darkness descended.

In August 1943, the Governor General, Lord Gowrie visited Darwin on an inspection tour, and the 'powers-that-be' apparently decided that it would be nice if he could visit a 'typical radar station.' 105 was chosen. We had a few days' notice of his visit and the assistance of an Administration Officer to carry out and make the most of the detailed arrangements. In due course, the Governor General arrived by special launch, and a couple of our strongest men were chosen to carry His Excellency to dry land at Charles Point.

After having a good look around the station, he was entertained at lunch in the Officers'/NCO's Mess. Try as I may, I cannot recall anything more of the G.G.'s visit. I'm sure that Wally Flux, the Admin Officer would have arranged for the necessary protocol to be observed, but my mind is blank as to details. Although I was nominally the C.O., Wally looked after everything pertaining to the Governor General's visit.

We were fortunate indeed to have a visit from a Concert Party led by Harry Dearth of radio fame, and they stayed with us for a couple of days. I had met Harry previously on our Officers' Training course in Sydney, and it was good to renew his acquaintanceship. He was one of the few concert party leaders who took the trouble to visit radar stations.

The Station Diary mentions test flights. This came about because the array

had been modified, so necessitating re-calibration. The modifications were carried out by myself and my very capable senior mechanic, Sgt. Yeomans. It was a case of putting into practice some of the theory learned at the Bailey Boys'course at Sydney University. I considered that the existing array was inefficient because it produced a very large back lobe. I requested permission to make the modifications and to my surprise it was approved. The initial test results were encouraging, but I was posted to 319 RS before they were completed and I never learned of the eventual outcome.

Transport to and from Darwin for Personnel and light supplies, also the mail, was by boat from West Point on the harbour. Heavy equipment such as fuel and construction supplies came by "road"...a journey of 100 miles or more down Cox Peninsula and then south of the harbour. The pick-up from West Point was on about a weekly basis, and occasionally we even got fresh meat. I didn't ever make the trip by road to Darwin but from all reports it was something to be avoided if possible, and was even impossible in the wet season.

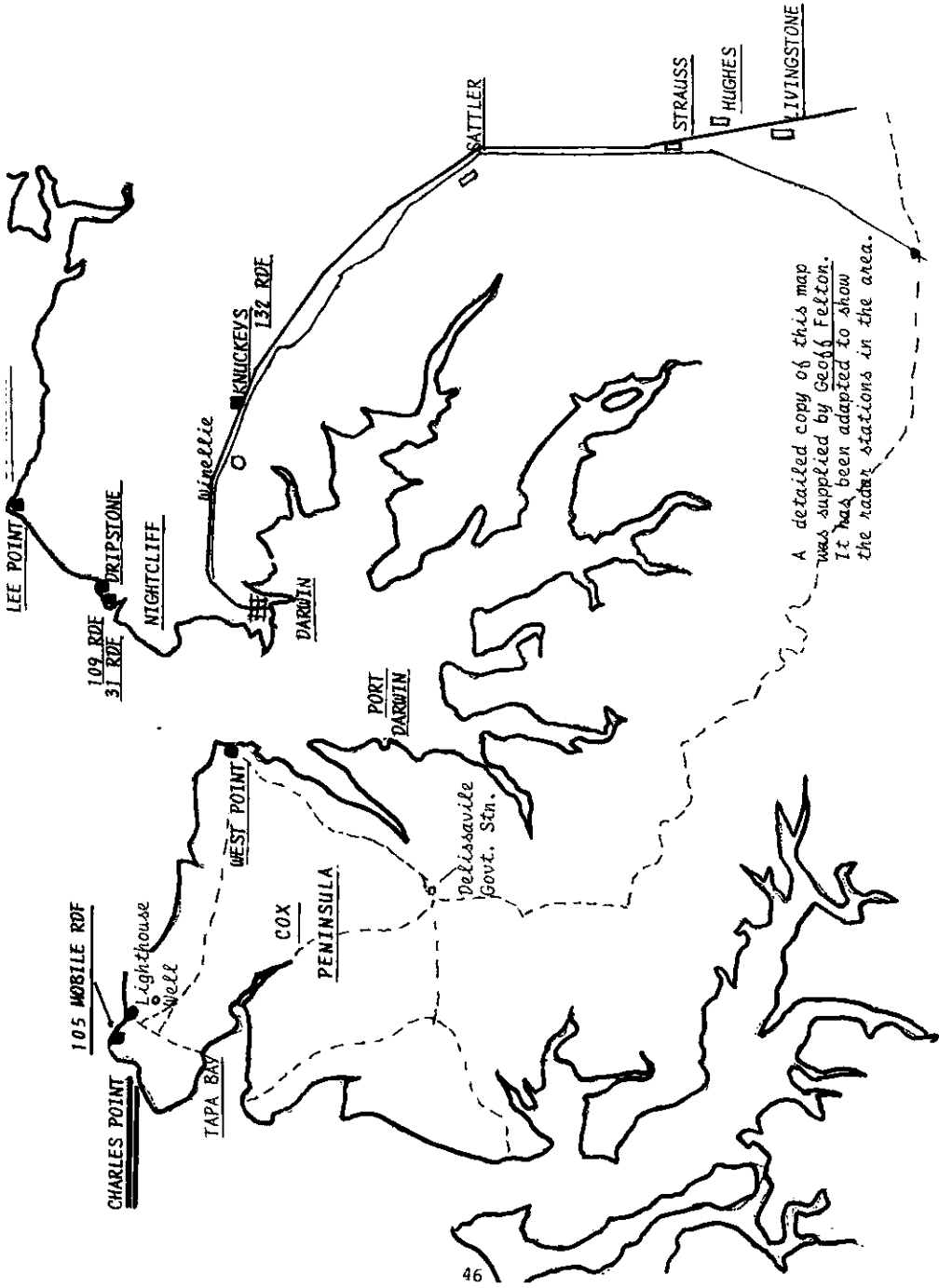
During my stay at 105, morale was never a problem - as on most radar stations, we were really a large, happy family and I greatly enjoyed the time I spent there. I still recall many of the Personnel with affection. Many of them were older than myself - I was 21 - but they all treated me very well. There was no organised recreation as such. As I mentioned previously, Monopoly was very popular each evening and always concluded with a friendly 'cuppa' with cake or biscuits. There were several poker schools - there was swimming at the beach, table tennis, letter writing and reading. A little primitive game of cricket was played despite the inadequate facilities during my time there. The ASD Diary records that this must have been improved later...or perhaps matches were played at West Point. Another pastime which occupied quite a few men was the manufacture of various souvenir type items - 'foreigners' - from local sea shells. The food was good although perhaps a little monotonous, but the Cook did a good job with what was available. When I arrived about June, the fish trap was out of action probably due to tidal damage, but we repaired it with material ordered from Darwin. All types and sizes of fish were then caught and provided a much needed variation in our diet. Unfortunately I left the station soon afterwards! Each day there was a muster for Roll Call, the promulgation of orders and notices. Then followed a daily inspection of the latrines, the kitchen and a visit to the Airmens' Mess at mealtime.

In regard to the Spitfire incident...my recollection of the size of the beach is that it was smaller than shown in the photograph of F/Lt Makin's aircraft. I recall that salvage began promptly and that the plane was submerged for only one tide. However, I cannot recall the method of salvage. The shoreline consisted mostly of cliffs, and to the best of my memory, the beach did not have vehicle access.

The Guards were a good bunch. We had a daily password, and I usually made a patrol on my own each evening after dark along the shoreline track in the Operations Area. The Guards obviously delighted in challenging with fixed bayonet and a "Who Goes There!!" - and they often scared the wits out of me.

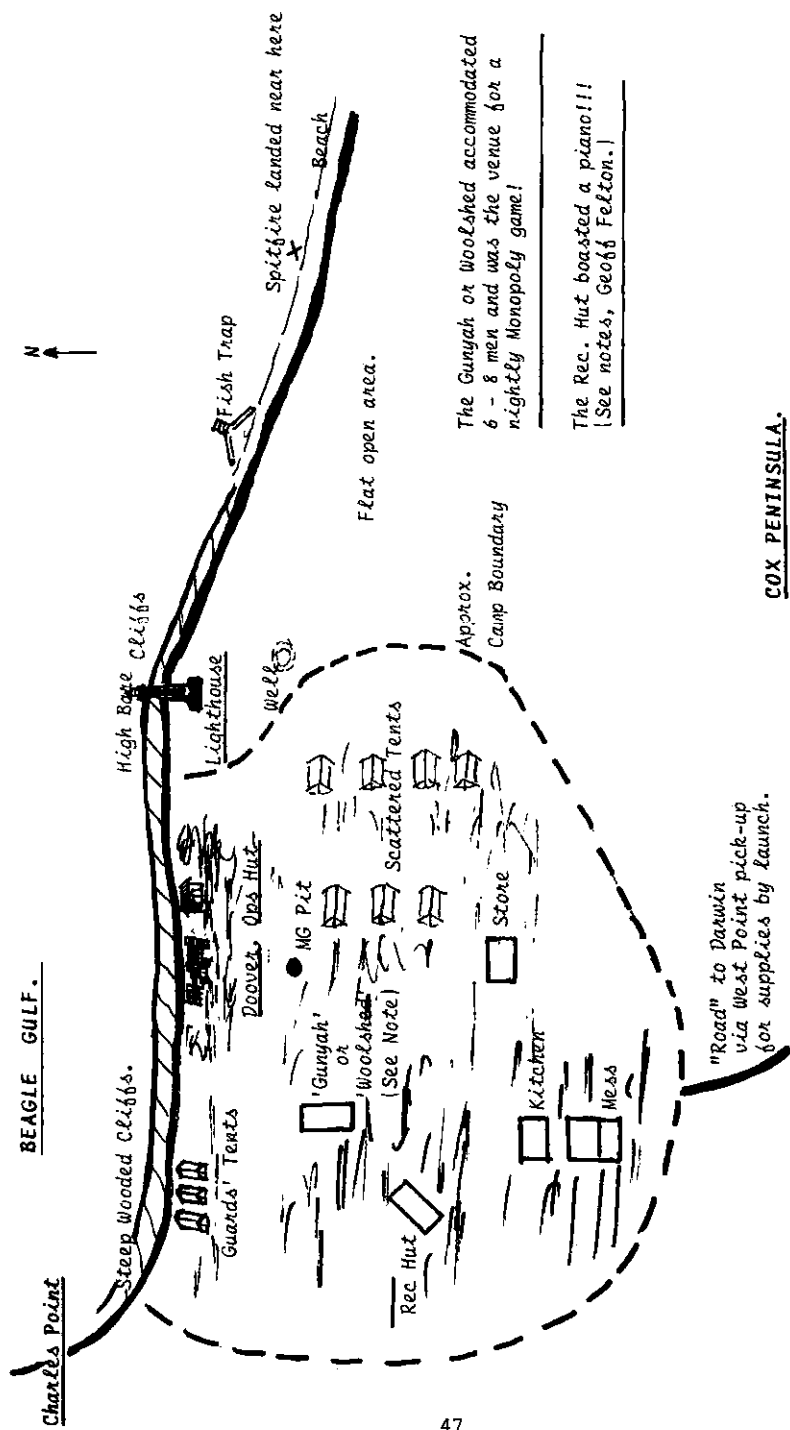
Well, Morrie, my writing is steadily getting worse. I apologise, and I'm sorry my story is probably of little interest. I wish I could have remembered more. Good luck in your quest!.

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A detailed copy of this map was supplied by Geoff Felton. It has been adapted to show the radar stations in the area.





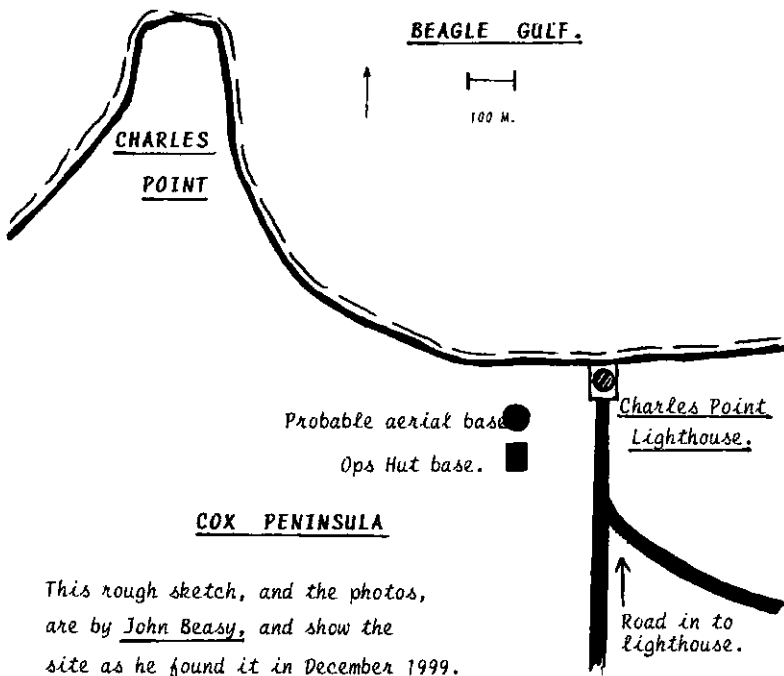
The Gundayah or Woolshed accommodated 6 - 8 men and was the venue for a nightly Monopoly game!

The Rec. Hut boasted a piano!!!  
 (See notes, Geoff Felton.)

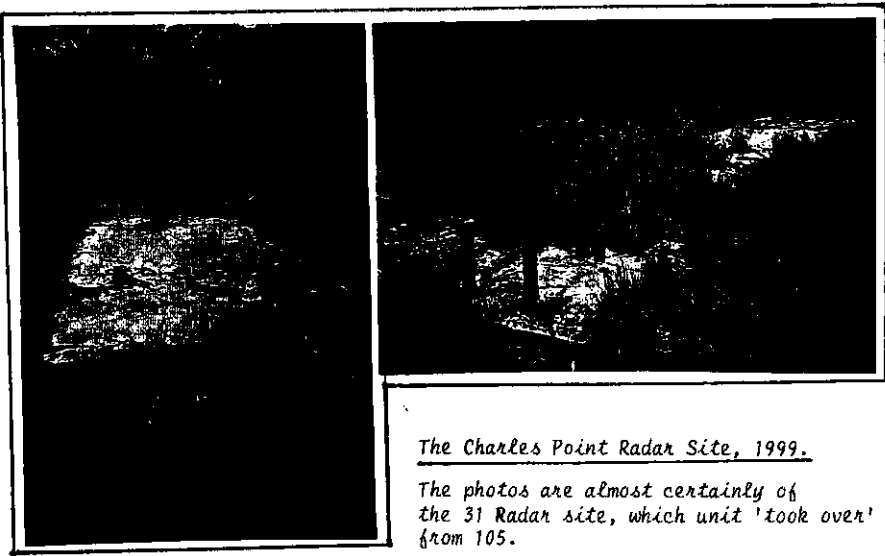
COX PENINSULA.

"Road" to Darwin via West Point pick-up for supplies by launch.

105 CAMP.....This rough camp sketch by Don Hibbins would be as he remembers it in mid 1943.



This rough sketch, and the photos, are by John Beasy, and show the site as he found it in December 1999.



The Charles Point Radar Site, 1999.  
 The photos are almost certainly of the 31 Radar site, which unit 'took over' from 105.  
 The photo above shows the aerial base, and at left is the Ops hut floor.

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Photo-G. Felton.

'THE OLD BARK HUT.'

The 'Gunyah,' or 'Woolshed,' or whatever-it-was-called at 105 Radar at Charles Point amply demonstrates the ability of the pioneer radar men - like Australian pioneers of old - to use whatever local resources and material readily at hand to live as comfortably as possible out in the bush or on a lonely island.

A radar set and generator - a W/T set - a few tents - a ton or two of tinned supplies - then it was "Off you go to your allotted site and get on air as soon as possible" .....and if it was not possible....then "Why Not!" Excuses were hardly tolerated in those desperate early days.

Native pine made good posts - ant-hill material made good floors and set like rock - paper bark sheets made wonderful walls and was waterproof -(well, almost waterproof.)

And with the luxury of furniture made from packing cases - who could ask for more?

Most Air Force musterings were posted to larger stations with at least some hut accommodation - a kitchen and Mess - maybe barracks and showers even with water piped in. But not many isolated radars enjoyed comforts of any sort. "Build your own" seemed to be the understanding - and that's what the early radar men did - and cheerfully too.

And the 'Gunyah' - the 'Old bark hut' at 105 was a good example. A monument to the resourcefulness and determination of radar men in '42 and '43 too, though things certainly improved once Radar Wing was on the job.

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For the benefit and information of the more technically-minded, Ed Simmonds has recently forwarded this more complete description of MAWD equipment.

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***(iv) A Summary of the Technical Points of the MAWDs***

Rumour had it that the unit was built on a cost plus basis and that is why more valves and components were used than were really necessary. This made it easy as there was rarely a shortage of spare parts since some particular valves or components could be removed from the set and it would still work.

**Antennae** - Three separate arrays with reflectors

Transmitter: 4 wide by 4 high  
Azimuth receiver: 6 wide by 4 high  
Elevation receiver: 2 wide by 8 high  
Gain: 100  
Beam width, azimuth 12°, elevation 9°  
Accuracy with lobe switching  $\pm 1.1^\circ$  on azimuth and elevation

**Transmitter**

Frequency: 195 to 215 Mc/s  
Valves: 16 only type 100 TH (the manual shows 100TSs)  
PRF: around 1000 for MAWD -- 4098 in the SCR268.  
Peak Power: 50 to 75 kW  
Average Power: 1.0 or 2.6 kW  
Pulse length: 5 to 9  $\mu$ s

**Receiver**

2RF stages and 4 IF stages  
Valve types: RF stages and local oscillator 955, mixer 954 acorns  
IF frequency 20 Mc/s  
Bandwidth 1.5 Mc/s

**Display**

Three Sinch A scopes.

**Range.**

This was given on range dial. The slant range was officially around 100 miles but the second trace started around 112 miles so ranges of around 200 miles were achievable according to Geoff Felton, an operator at 105RS.

In the SCR268 matching of 'pips' on the CRTs were used to determine azimuth and elevation - all information sent by selsyns to gun director or the plotter.

**Power Supply**

A Le Roi petrol driven alternator, producing 13.2KVA at 120 volts and 60c/s, supplied power for the all models of the SCR268. It had been developed for other purposes but was put into service because it was readily available even though the power output was much more than was needed.

**Weights**

Radar trailer 12,150 lbs  
Power trailer 16,700 lbs

### CONCLUSION.

105 Radar indeed proved a worthy 'second' to 31 RS which historically was the first Australian station to operate in a war zone. 105 was set up in a hurry to increase the effectiveness of 31 RS, and to back up the one lone station in Darwin. It was equipped with modified Gun Laying gear to do a big job, at a lonely, isolated camp at Charles Point where life at first must have been mighty basic...just tents and hard rations.

Its results were astonishing.

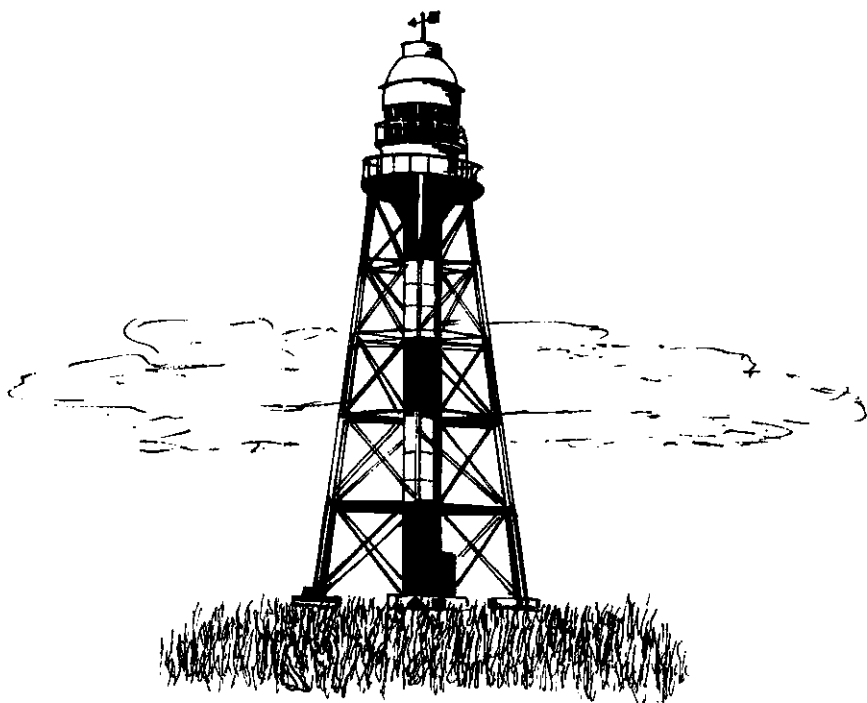
At its advanced westward site, its range was anything from 50 to 140 miles, besides giving a reasonably accurate height reading on closer plots. From April 1942 until it closed 17 months later, 105 plotted enemy planes on more than 80 occasions. This may seem impossible considering there were in all 64 Darwin raids...but there were plots in and then out....recces.....2nd. waves and 3rd. waves...and 105 plotted them all with remarkable success, possibly because the station was located close to the usual track in to the target area.

In August 1942, 38 Radar and 39 Radar at Cape Fourcroy and Port Keats came on air and relieved the critical urgency and pressure somewhat, but 105's good work continued until the station closed in October 1943 with a record second to none really.

It was indeed a record to be proud of, and 105 and its men deserve more credit and recognition than they have received.

Perhaps this small history will help.

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THE CHARLES POINT LIGHTHOUSE, built 1892.