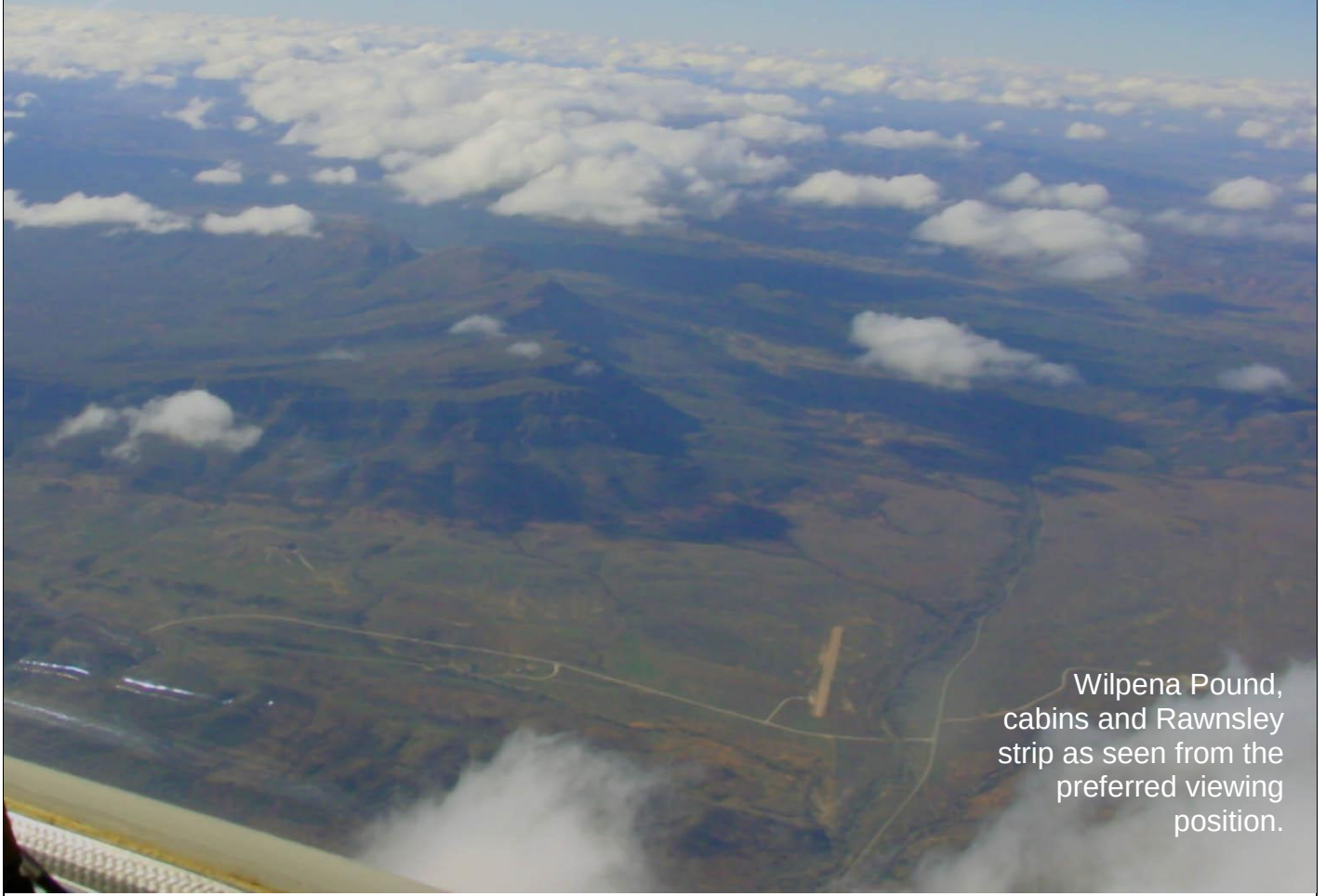


Adelaide University Gliding Club

FLINDERS RANGES CAMP PILOTS NOTES



Wilpena Pound,
cabins and Rawnsley
strip as seen from the
preferred viewing
position.

Revision History

<i>Rev</i>	<i>Date</i>	<i>Description</i>
F	7 th May 2008	Added drawing re: ridge safety, updated cabin map
G	20th May 2009	Minor updates, updated maps, reordered information. Added last light times.
H	2 nd June 2010	Updated airstrip information and first/last light times.
I	1 st June 2011	Added information on Arkapena as active strip and revised first/last light times, other minor updates.

WELCOME

Flying in the Flinders Ranges and other mountainous areas can provide some exciting flying opportunities that we don't see at Stonefield. The scenery is spectacular and the ridge and wave flying can be exhilarating.

However some special precautions are required to maintain a safe flying operation.

All pilots must read these notes carefully. There will be a mandatory club briefing prior to the camp and a briefing will be held on field prior to operations commencing.

Gliding in the Flinders area is not for inexperienced pilots. Many pilots have come to grief in the Flinders over the years, mainly due to out-landing in unsuitable terrain or getting caught on the ridges resulting in serious or extensive damage to the aircraft.

It is important that all pilots approach this sort of flying with caution and respect to ensure that we all have an enjoyable and accident-free camp.

For these reasons aero-tow conversions and ab-initio training will generally not be conducted during the camp. We will also be requiring site checks for anyone who has not flown at the Flinders recently or who is not current on aero-tow. A site check may be required for each ridge flown depending on conditions.

Pilots expecting to fly solo at the Flinders should be relatively experienced ridge pilots with an aero-tow rating. Pilots are encouraged to brush up on their aero-tow at an aero-tow club such as Gawler or Waikerie if necessary prior to the camp.

AUGC Chief Flying Instructor



BEFORE THE CAMP

Things to organise before the camp include:

- Organise with the owner of the airstrip (activities@rawnsleypark.com.au).
- Organise the tug and pilot (and his accommodation) and Avgas.
- Aircraft trailers – tyres in good order, wheel nuts tight, bearings repacked, lights working, registration is current.
- Aircraft – DI books, batteries, chargers, parachutes, GPS, cushions, tie down kits, towing gear, Volkslogger and Joey's.
- Buckets, chamois, canopy cleaner.
- Flight sheets.
- Ballast.
- VHF base set or handhelds and batteries/power supply.
- Emergency Locator Beacons (ELB's).
- Overnight tie downs for aircraft **and** trailer.
- Tow ropes.
- First Aid kits.
- Accommodation (cabins, caravan park, tent site).

A good plan is to nominate one person to be responsible for each aircraft.

BE PREPARED - The weather conditions are variable, ranging from fine and sunny to miserable and wet. Bring clothing for all occasions.

Even though it may be cool make sure you maintain your water intake and use sunscreen and wear a hat.

DISCLAIMER

The information in this document has been prepared using the best information at hand at the time of publication. Airfield conditions can and do change without notice.

E&OE.

GETTING THERE

It's a long drive to the Flinders so take it easy and swap drivers or have a rest if you are getting tired. Watch out for Kangaroos, particularly past Hawker!

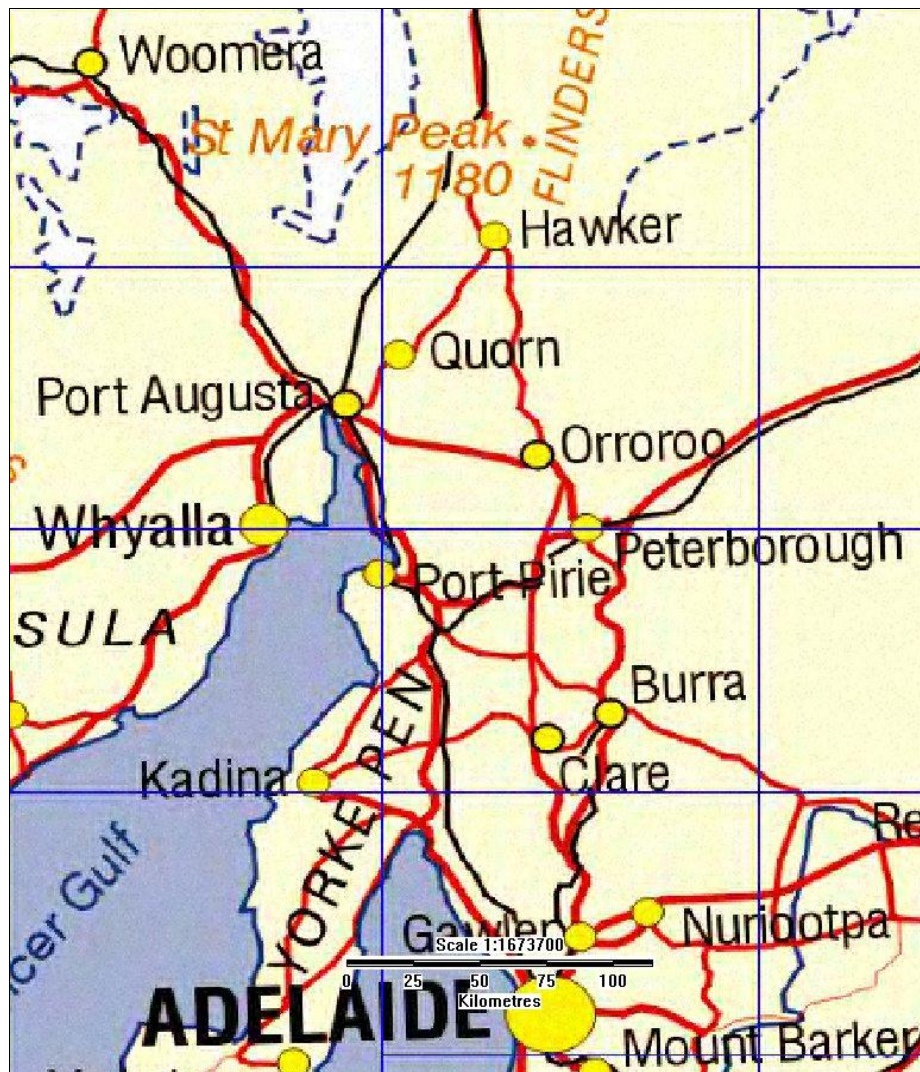


Members towing trailers should tow at a sensible speed.

Adjust your driving speed to the conditions of the road.

There is a sealed road from Hawker to Orroroo which means you can go via Clare – Jamestown – Orroroo – Hawker rather than via Port Augusta, which saves about half an hour and is easier driving.

The roads in the Flinders have numerous flood ways whose condition can change quite quickly– beware of water over the road and washouts.



FLINDERS AIRSTRIPS & AIRSPACE

There are four airstrips located around the Wilpena Pound Area: Wilpena, Hawker, Rawnsley and Arkapena.

For our operations we will use either or both of the Rawnsley or Arkapena strips depending on conditions. Information on Wilpena and Hawker is included here in case an out-landing has to be made away from the operating airstrip.

Wilpena Airstrip

Wilpena airstrip is located north of the Pound; we do not operate from here however it is available for out landing if required. Watch out for the powered aircraft.

Wilpena airstrip is inside the Flinders Ranges National Park – vehicles entering the Park must display a valid permit obtainable from the Visitor Centre or the Park Entrance.

Identification	Wilpena
Location	S31:30' 30" E138:37'24"
Field Elevation	Unknown
RWY Information	Unknown
Surface	Gravel
Slope	Unknown
Obstacles	Unknown

Hawker Airfield

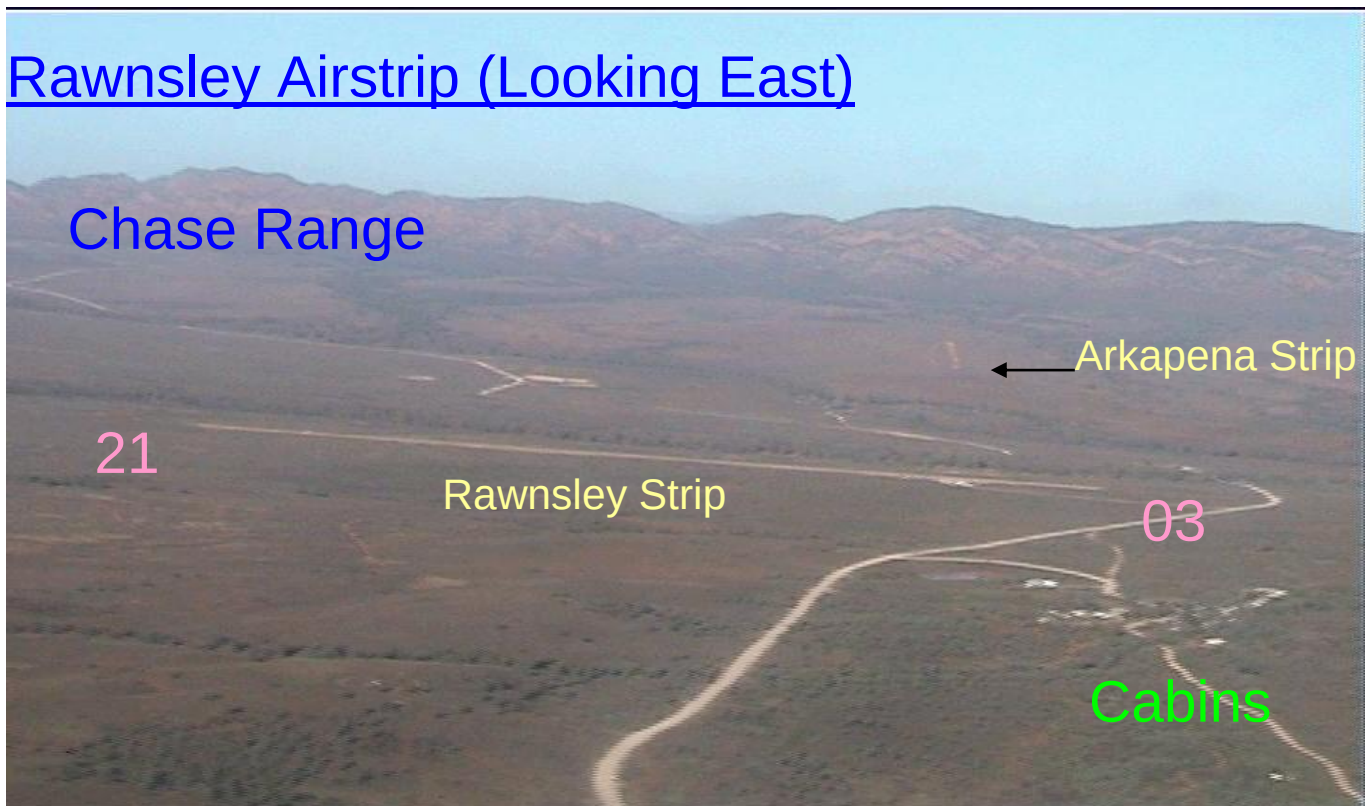
Hawker airstrip is located 17NM South of Rawnsley, adjacent the main road 3.5NM NE of Hawker. This strip is available if you are high (> 5000' depending on wind) and can't land at the local strips due to cloud closing in for example. Watch out for the powered aircraft and make all radio calls as per operations at non-towered airfields.

Identification	YHAW (Hawker)
Location	S31 51.3 E138 28.1
Field Elevation	1052 AMSL
RWY Information	18 / 36
Surface	Unknown
Slope	Unknown
Obstacles	Unknown

Rawnsley Park Airfield

Access is via a track to the right of the road leading from the highway to the cabins.
 Arkapena is 3.2 kilometres from Rawnsley. (Windsock to Windsock)

Identification	YRYK (Rawnsley Park)
Location	S 31 39'14.4 E 138 36'32.8 (Windsock)
Field Elevation	1,400' AMSL
RWY Information	03 / 21 Length 1100m Width 10m.
Surface	Gravel central strip
Slope	40' rising to the North
Obstacles	East-West SWR line 300m south of 03 Windsock and fence are close to the runway. Gable markers

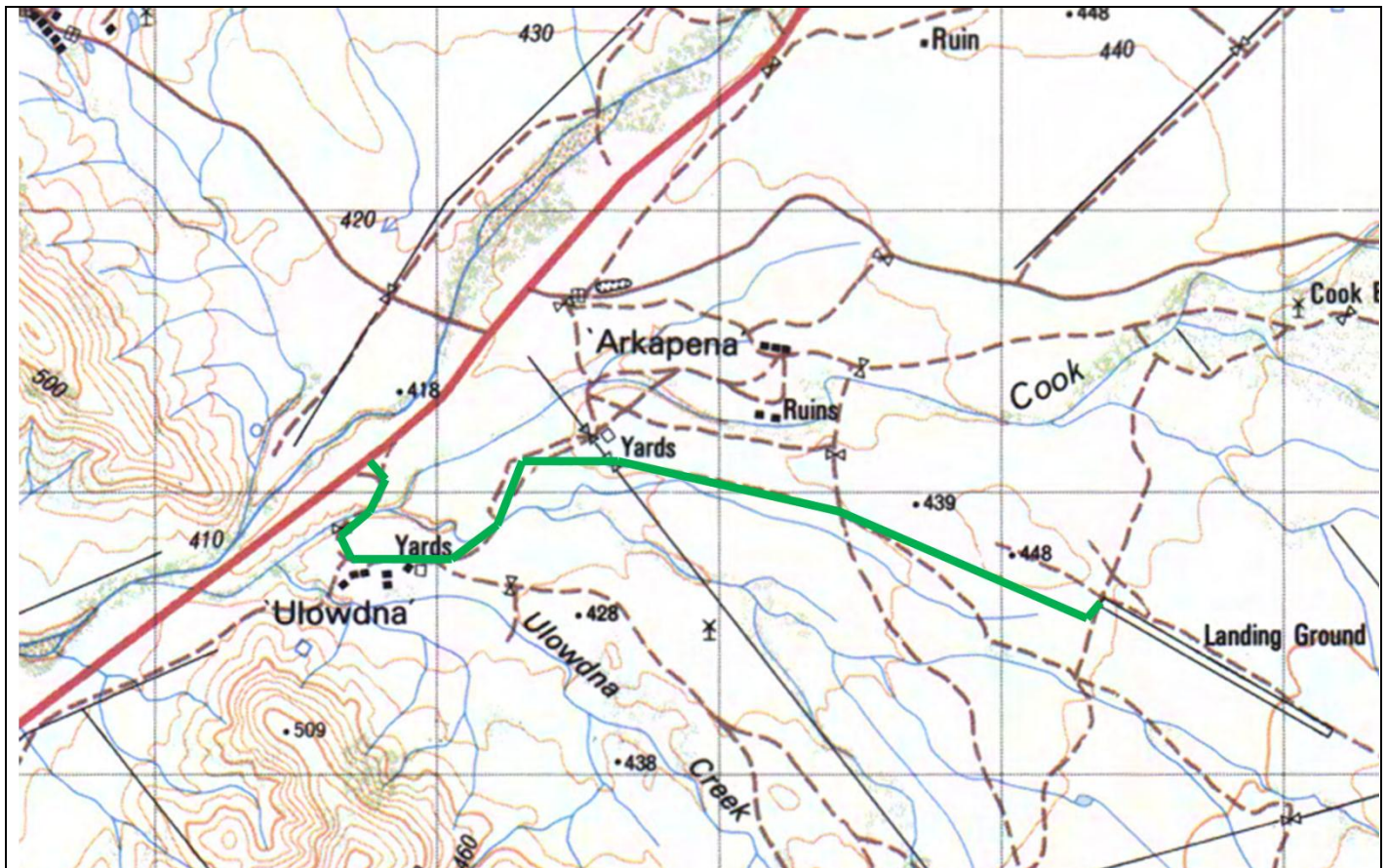


Rawnsley airstrip will be used for tug refuelling.

Arkapena Airstrip

Arkapena is the main base of operations during the camp. Glider trailers will be parked there and the camp briefing will be held there.

Access to the Arkapena has changed from previous years – access is from the main Wilpena road as per the green line on the map below. There are two creek bed crossings, the first relatively benign and the second more abrupt. BE CAREFUL when traversing these, particularly if towing glider trailers.



Please ensure you shut all gates after yourself. Camping on the Arkapena airfield or environs is NOT PERMITTED, doing so jeopardises the SAGA lease to operate from the strip.

Arkapena has a temporary windsock that needs to be erected at the start of the camp and MUST be taken down and stowed at the end of the camp.

All rubbish must be removed and the area left clean and tidy.

Identification	Arkapena
Location	31:40'16. 3" E 138:38'10. 6" (Windsock)
Field Elevation	Approx. 1,200' AMSL
RWY Information	11 / 29 Length 1000m 07 / 25 Length 600m
Surface	Natural (rolled and graded)
Slope	Slopes down to 11 and 07 ends.

Obstacles	Low shrubs surround airstrip. Hill on approach to RWY 11.
Issues	Dust on aero tow take-off. Sun glare on approach to 29 or 25 during late afternoon.

Actual surface conditions will be assessed at the start of the camp.

The dual strips at Arkapena allow for greater flexibility when landing, particularly where multiple aircraft return at the same time or when launching is still being conducted. Take offs will generally be made on 11/29.



AIRPSACE

Airspace in the area is Class G up to FL180 (18,000') and Class E above that to FL245 (24,500').

This means than normally you can fly without clearance up to FL245 providing you conform to the requirements of Class E airspace. The requirement is to maintain a good lookout. If you have a radio you must maintain a listening watch on the Class E frequency.

VHF Frequencies: Rawnsley Area	Class G (Melbourne Centre)	123.9 or 121.2
	Class E	127.05 or 135.4

VFR Flight into Class A airspace (above FL245) **is not permitted** at this time.

Don't forget when climbing through 10,000' to adjust your altimeter to 1013.2Hpa, and back to the area QNH when descending through FL110.

MAPS

Ensure you carry current maps of the area.

- The WAC chart for this area is: Broken Hill (3355).
- The 250K Survey Chart for this area is: Parachillna (SH54-13).
- The 50K Topographic Chart for this area is Wilpena (6634-4).

OPERATIONS

USE OF VHF RADIO

All circuit calls must be made on CTAF 126.7. Pilots are expected to have GFA Radio Operators Endorsements or equivalent.

Outside the circuit area gliders may use the gliding frequency 122.7 MHz. This frequency should be used for all non-circuit radio traffic (no chatter on the CTAF!)

The powered aircraft will listen out on both 123.9 (Class G – Melbourne Centre) and 122.7 MHz.

Ensure your radio calls are brief, to the point and professional. Use the correct runway designations (for example "03", not "creek end").

You should advise (on the CTAF) when leaving the ridge or the Bluff and also call when joining downwind.

For example: *"Arkapena Traffic, Glider GZM leaving the Bluff 3000 feet inbound for 03 Arkapena"*

And for circuit: *"Arkapena Traffic, Glider GZM joining right downwind, 03 Arkapena"*

The tug will give a radio call when commencing a launch like *"Arkapena Traffic, Glider Tug Cessna ABC commencing glider tow runway 03 Arkapena"*.

LAST LIGHT

It can take a while to get back on the ground, especially from height. Allow time to descend and land before it gets too dark. From 10,000' a decent rate of 500 fpm (which is about as high a rate of decent as is comfortable on the eardrums) will require *20 minutes!*

Beware a last minute rush for all the aircraft to land at last light. Pilots must plan to land in an orderly fashion so the strip doesn't become congested. Coordinate with radio and remember to conform with rules of the air.

Landing the first aircraft short allows the next aircraft to overfly. Ground crews should be standing by to clear gliders from the strip. If crew isn't available when you land, turn your glider 90 degrees to the strip and push it off to one side to make room for other gliders.

Date	First Light (UTC) YRYK	Last Light (UTC)¹ YRYK	Last Light (CST) YRYK
10 June 2011	2114	0815	1745
11 June 2011	2115	0815	1745
12 June 2011	2115	0815	1745
13 June 2011	2115	0815	1745
14 June 2011	2116	0816	1746
15 June 2011	2116	0816	1746

¹ Source Airservices Australia AIS/MET system.

MOTORFALKE - CARBURETOR ICEING

With the Motorfalke there is the real danger of carburetor icing. Be prepared and use carby heat as required.

AT THE START OF EACH DAY

- Pilots should get out to the field early and DI the aircraft and clean and polish the canopies. The wave can start very early and stop when the convection starts.
- A mandatory briefing will be held at a prearranged time on the airfield. A duty instructor and duty pilot will be nominated. At this point a decision on strip and runway usage will be made.
- Some assistance will be required to get the tug fuelled, rope checked etc. prior to operations. If you are not involved with a glider help see the tug pilot on how you can help to get the operation underway.
- Aircraft being towed/taxied at Rawnsley from the 03 end to 21 end will interrupt all launches and present a risk to landing aircraft. Ensure that all tow/taxi time is kept as short as possible and aircraft should be towed out as a group. Monitor the CTAF frequency prior to commencing any movement.

DAILY OPERATIONS

Both Rawnsley and Arkapena have limited off-runway space, aircraft must be pushed back off the strip as far as possible.

BE ALERT! Ground crews should be alert for landing aircraft and get them off the strips ASAP. Pilots will generally have to get ready in the aircraft off the strip and get pushed on when ready.

Pilots should be ready to launch as soon as the tug lands so that the turn around time is kept as short as possible.

TERRAIN: The surrounding terrain is not landable without damage to the aircraft and possibly yourself. You must ensure that you always have safe height to get back to one of the airstrips.

FACILITIES: There are NO on field facilities, therefore BYO water and food. Rawnsley has toilet facilities however Arkapena has none.

OUTLANDING: If you find that you cannot make it safely back, your best bet is a road or track. Use the VHF to let people where you are landing (but aviate first). Do not leave the aircraft without leaving a message as to your intentions.

COMMERCIAL OPERATORS fly sightseeing trips from Wilpena and Rawnsley. We must ensure we work with these operators so as to maintain safety and not to interfere with them.

LANDINGS: The width of the runways means it is not possible to land next to another aircraft. Pilots should land as short as possible to allow other pilots to land past them further down the strip. MAINTAIN SITUATIONAL AWARENESS by monitoring CTAF and knowing how many aircraft may be ahead and behind you.

In marginal conditions the Instructor in charge may limit the number of (non-sustainer) aircraft that can be aloft at any one time, please respect his/her decision.

CIRCUIT DIRECTION will generally be the same as powered aircraft (for Rawnsley) or determined at briefing (at Arkapena) however if you are coming in from the other side low do not cross the runway but do a circuit from that side.

GROUND CREW will need to look out for landing gliders and get them off the strip as quickly as possible. There is not enough room to land side by side.

CHECK FLIGHTS or site checks will be required for anyone who has not flown at the Flinders before or recently or who is not current on aero tow. A site check may be required for each ridge flown depending on conditions.

WEATHER is variable. Allow for warm or very cold and wet weather; use sunscreen and don't forget to keep hydrated. You should carry a couple of litres of water with you in the aircraft in case you get caught out.

ICING / CANOPY – The overnight temperatures can drop below zero and significant ice can accumulate on the wings and canopy. **Ice should not be cleaned off canopies.** It should be allowed to melt of its own accord before flight. This ensures the ice will not reform on the canopy as the aircraft is climbing out and severely reduce pilot visibility.

VISIBILITY can be very difficult late in the afternoon. The canopies must be as clean as possible and polished each morning and even during the day if required. Circuit direction with a base leg with the sun behind you is preferable to a base leg into the sun.

OXYGEN – as none of the Club gliders are equipped with oxygen this isn't an issue. If you do get good climbs in wave don't press your luck, 10,000' AMSL is the legal limit in Australia. You won't notice any signs of hypoxia until it's too late. If in doubt, open the airbrakes and get below 10,000' AMSL as quickly as possible.

WAVE – beware of cloud closing in below you if you do get into wave. If you do get caught and are high enough you should head for Hawker. Descents through cloud are dangerous. If you think the cloud is going to close in below you, get back under it as quickly as you can!

RIDGE – depending on the wind direction you can fly on the Chase Range (NW) or the Pound (SW through to NE). On some ridges in certain conditions you WILL NOT have glide back to the airfield if you fall off the ridge. Good Luck.

NAVIGATION – if you are flying above broken cloud, it easy to get confused as to where you are. Dirt tracks and trees all look the same through patchy cloud. GPS is very helpful in this instance. It is very easy to find yourself further downwind than you expect. Upper level winds can be over 30 knots and 50 knots is not uncommon.

GPS – Beware if you do not have visual contact with the ground and flying in windy conditions (typical in wave), if your airspeed is less than the wind speed and you are drifting backwards over the ground (which you won't realize) the GPS will give misleading indications.

For example if it is navigating to a waypoint to the North, you have a Northerly heading but are drifting to the South due to the wind, the GPS will be telling you to do

a 180. When you have done the 180, it will be telling you to do another 180. If your GPS has a compass feature ensure that it is visible.

AT THE END OF EACH DAY

- The gliders must be SECURLY TIED DOWN with the expectation of high winds and rain. Chock the controls and tape the Pitot, TE and statics. DO NOT use white tape for this – use red or other coloured tape which will not escape the DI person's eye next morning.
- Batteries should be put on charge in a common location which people can get to next morning.
- Parachutes, ballast, loggers etc. should NOT be left in someone's car boot where they may enjoy a scenic drive the next day. Ensure they all go someplace everyone knows about.

AEROTOW OPERATIONS

Generally AUGC pilots are not used to aero tow operations.

All pilots should BEWARE THE TUG and ensure no-one gets in its way. Whether you are in the air or on the ground **maintain your situational awareness** of what is happening at all times.

Ground crew must collect the tow rope if it is dropped by the tug pilot as soon as it is safe to do so.

The wing runner must CHECK THE ROPE END FOR FRAYING. Rope breaks on short strips with unlandable overshoot areas can be fatal. Do not hook on a glider if the rope is fraying: Better to delay a launch by five minutes while the rope is cut and retied than it is to clean up bits of glider after the rescue helicopter has departed.

Aero tow conversions or training will not be conducted at the Flinders.

The strips can be very dusty and you can find yourself engulfed in dust from the tug. If there is a crosswind you can offset the tug / glider with the glider on the upwind side of the strip.



You may find visibility on the early stages of launch is reduced! (Photo C. Conway).

AEROTOW FAILURE

A significant part of the aerotow will be in the non-manoeuving area. Ensure ropes are good condition, release checks are done properly and that the gliders are hooked on properly.

If you do have a launch failure, the only option available to you may be a 180-degree turn and downwind landing. As this is not usually an option when winch launching, those who do not use aero tow often will need to be conscious of this option. From tow speed (60 + knots) a 180-degree turn can be made with little loss of height. A 60 degree banked turn (2G) will be required to complete the turn with minimum height loss.

It will be prudent to check out the land-ahead terrain so you can pick out the best place to attempt a landing if required.

If you have to land with a tailwind on the strip, make sure you miss any other gliders / cars / people and keep the tail up for the inevitable ground loop.

TRAILER TIE-DOWNS

The trailers must all be secured with a star dropper at the front. Otherwise they can swing about and damage other trailers if it is windy. If serious winds are expected they should be tied down at the rear as well.

GLIDER TIE-DOWNS

The gliders should have a separate over-night tie down kit comprising star droppers. The tent pegs in the glider kits are not adequate. The aircraft should be tied down assuming the worst wind conditions. During particularly windy nights it's a good idea to visit the airfield and make sure the ropes are still tight before going to bed.

PACKING UP & DEPARTURE

- Ensure all gliders are de-rigged and secured properly in their trailers. Make sure you have not left anything behind on the runways or trailer parking area.
- Ensure all ancillary equipment (parachutes, batteries, etc.) is collected from the cabins and that someone has accepted responsibility to get it to Stonefield for the next weekend.
- Someone has to pay the owner for the use of the field.
- Ensure your accommodation is all paid up and the cabins are clean and tidy.
- Watch out for Kangaroos on the way home!

RIDGE SOARING RULES AND TIPS

Rules of the Ridge

1. Always perform 180-degree turns into wind, i.e., away from the ridge.
2. Gliders overtaking must do so between the overtaken glider and the ridge.
3. If two gliders are approaching head on at the same height, the aircraft which can turn right (away from the ridge) must give way to the other aircraft.
4. Maintain a constant lookout at all times.
5. Maintain safe airspeed when flying near the ground.
6. Do not fly around a spur or crag unless you can see around corners.
7. None of us are "current" on ridge flying anymore. Fly conservatively until you've regained ridge awareness.

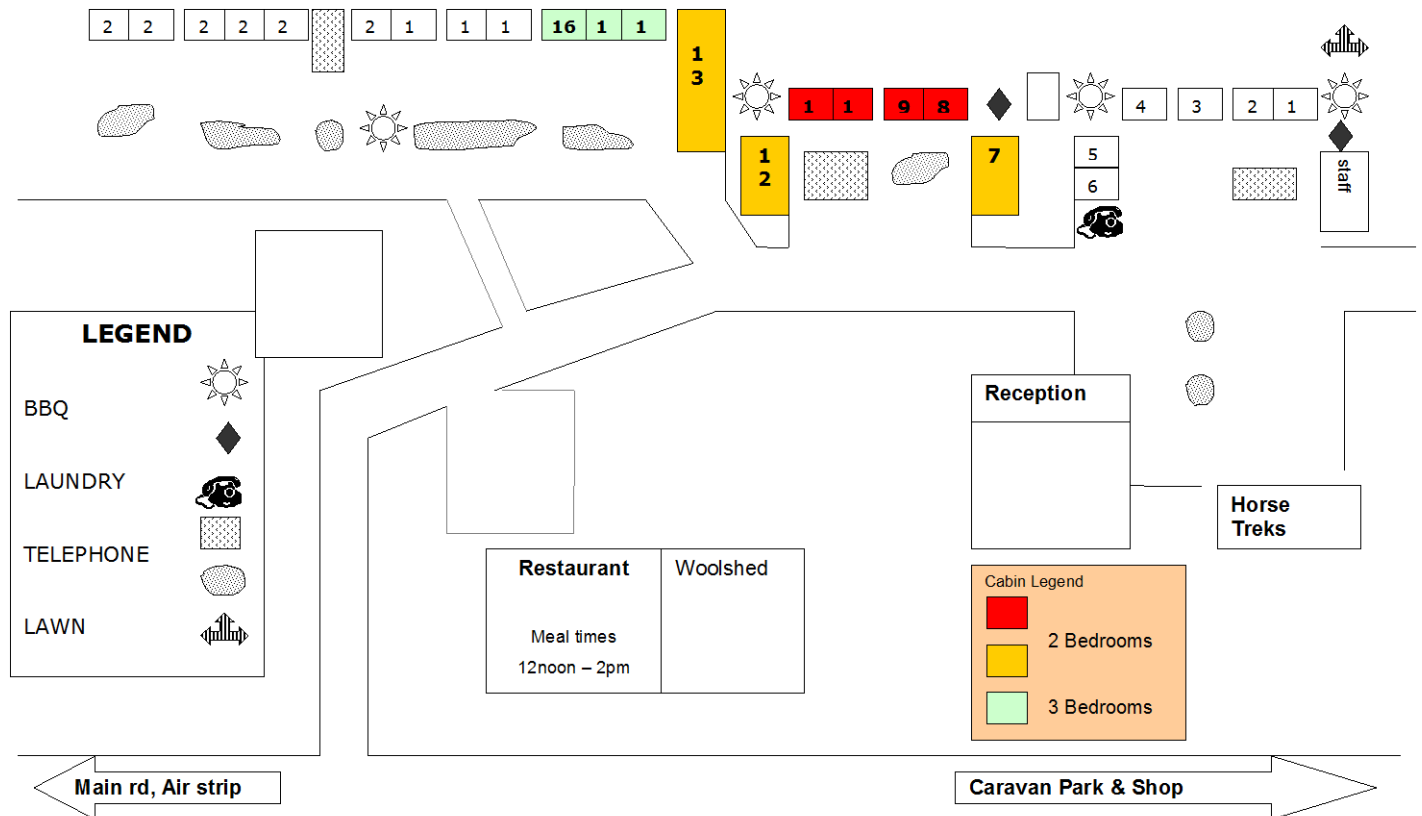
General Flying Tips

1. Always have a landable paddock within reach, and have your approach planned even if you never need it. A glider pilot who does not follow this rule is heading for disaster.
2. As a general principle, keep clear of gliders lower down on the ridge as they may be struggling to maintain height in weak ridge lift, or may suddenly pull up into a climb if travelling at high speed.
3. Never assume that because the ridge is working well in one place, it will continue to do so further along. This error has led to numerous out landings.
4. Be ever vigilant of wind strength and direction, and possible rapid changes. Watch for signs such as dust, tree branches waving, smoke drift, birds, and other gliders.
5. Never allow weak thermals to entice you over to the lee side of the ridge. Thermal strength will need to be at least twice ridge lift strength if you hope to be able to get back to the upwind side of the ridge, i.e., if ridge lift is, say, 2kts, do not work thermals less than 4kts.
6. Watch out for curl-over in the lee of the ridge. A headwind of 10kts can suddenly change to a tailwind of 10kts plus strong sink. Severe turbulence can also be encountered in the lee of the ridge.
7. Never allow your glider to drift over to the lee side of the ridge unless you have sufficient height to get back through the almost certain strong sink in the lee. Have paddocks picked out on the lee side in case you need them.
8. Always have an adequate margin of speed for the height you are at. Safe speed near the ground is essential as sudden updraughts in funnel valleys may put your angle of attack past the stall.
9. Beware of rain squalls moving through the ridge and the sudden drop in wind strength that often occurs after the squall has moved past. Regions of strong sink or changes in wind strength and direction are quite possible which may nullify the ridge lift.

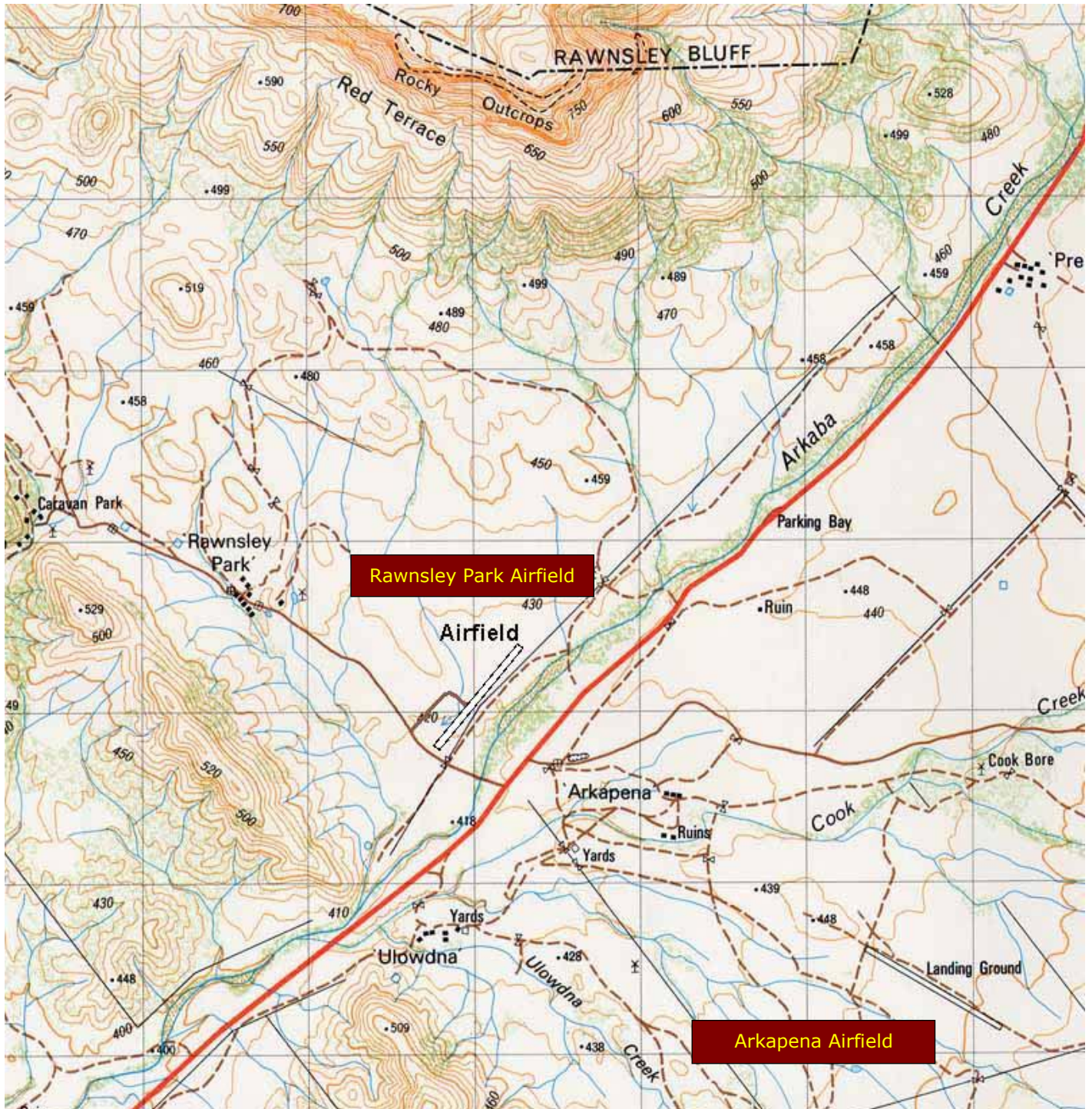
10. Watch out for low cloud moving in below you, especially in the early morning and late afternoon during winter months. You may not be able to see the ridge or the paddock you had picked out.
11. If you allow your glider to get too low and close in to the bottom of the ridge, you may not be able to climb up again, as this is usually an area of very weak or zero lift.
12. Do not allow yourself to be lured into a marginal position by following the leader - for although they may be experienced, they may be heading for an out landing. If unfamiliar with the ridge area, ask someone who knows the geography for advice.
13. Make sure you know your aircraft placarded maximum speeds. Know your own limitations with regards to fitness, experience, etc. In other words, flying within your known performance limitations, and return to base if you are tired or upset.
14. As a matter of courtesy, and to avoid unnecessary anxiety of those back at base, return at appointed times, if only for recognition.
15. Never let yourself get caught low down in a narrow valley or gulley. Often there is nothing but sink there, especially late in the afternoon.
16. Always **keep a good lookout**. More often than not, you will have other aircraft in very close proximity, and even power aircraft have been seen ridge soaring with power off on several occasions.
17. Be familiar with the rules of the ridge regarding overtaking, head-on approaches, turning, etc.
18. When away on a ridge soaring safari, we should foster the "fun" aspect of flying, but not overdo it to the extent of compromising safety, e.g., with regards to staying up too late the night before, etc.

OTHER INFORMATION

RAWNSLEY PARK CABINS MAP

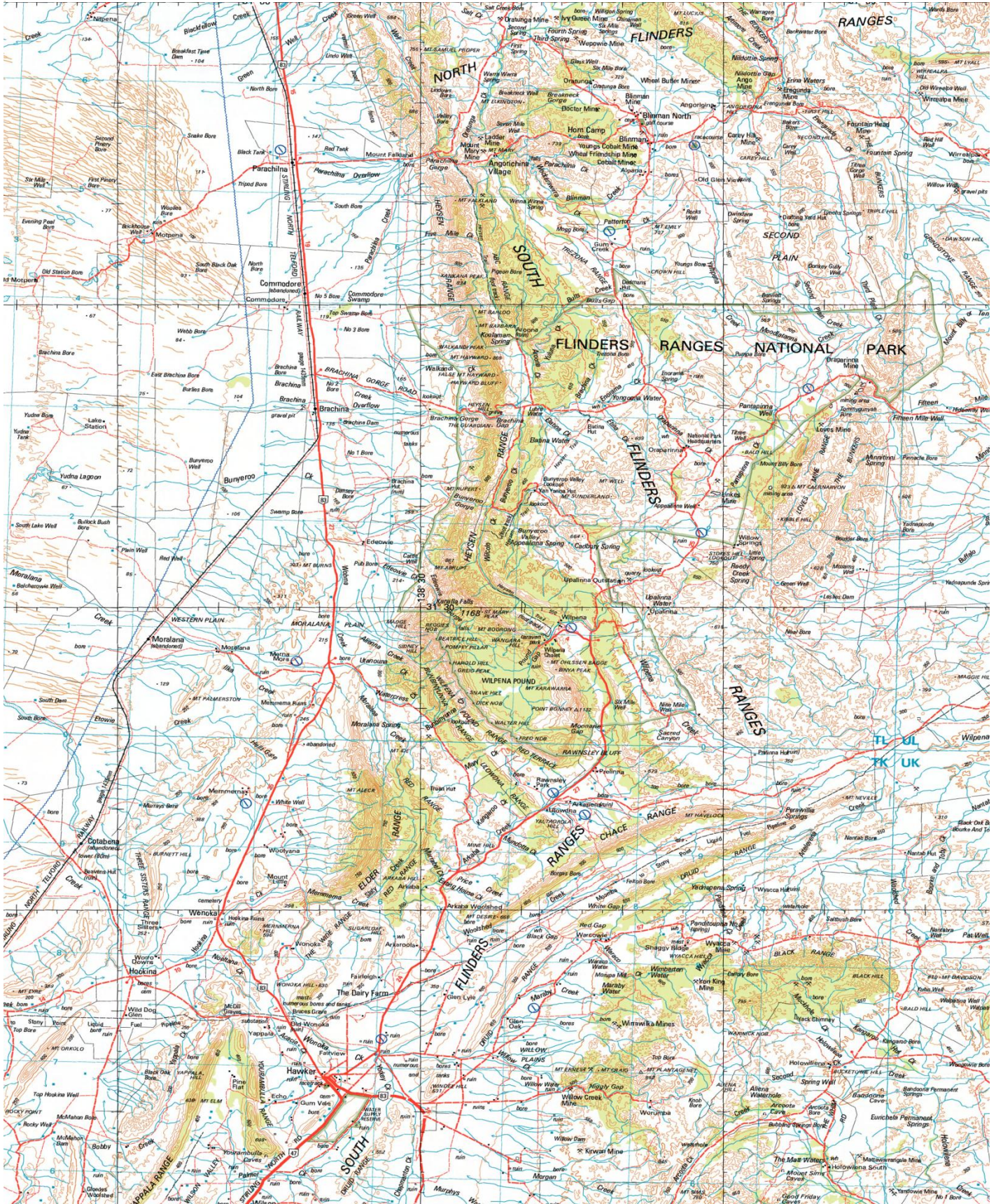


RAWSLEY PARK AREA MAP



Note: Arkapeena Airfield may not be suitable for operations after heavy rain.

PARACHILNA AREA MAP



ADDITIONAL PILOT NOTES

A series of horizontal dotted lines for writing.