A field inspection was carried out on Kurundi Station in June 1967. The purpose of the visit was to inspect and evaluate possible water storages for stock and irrigation. There is a proposal for up to 1,000 acres of irrigation subject to suitable storage, irrigation area and advice from agronomist.

Two potential Dam Sites, Opal Creek and Whistleduck Creek, one from type Dam site and an excavated bank site were inspected, the location of each is marked on Plan No. 2-4/31 attached.

1. **Opal Creek Dam Site**

   The site is located 4 miles north west of Kurundi Homestead on Opal Creek where it passes through a ridge. Outcrops of rock in the bed are massive and of volcanic origin with loose jointed sandstones overlying to the top of the ridge. The area appears suitable for a Dam up to 30' high subject to Geological investigation of the site. During the visit there were several waterholes with capacities up to 15,000 gallons. A feasibility survey indicated the following:

   - **Wall height, Capacity Ratios**
     - Height  | Length  | Capacity
     - 10'     | 225'    | 114 acre ft.
     - 30'     | 318'    | 2300 *
     - 50'     | 395'    | 9300 *

   The basin area is sandy loam 4" to 16" deep over Gibber gravels. Inspection and soil analysis indicate high percentage of sand with high incidence of scouring and moving sands in the vicinity of the creek and water courses where flash flooding has occurred.

   An Auto Set Bristol recorder has been established with the highest recorded creek height since visit of 11.2 feet above Cease to Flow level. There have been various small flows in the order of 3' during the intervening period.

2. **Proposed Irrigation Area**

   Downstream of Opal Creek Dam Site

   Visual indications are that the soil types and slopes are similar to those in the basin area of the Dam Site. Due to the sandy nature of the soil surface irrigation would seem inadvisable.

   Due to the necessary location of supply line from Dam to area via the existing creek the reticulation of water would be very expensive and the capital costs involved in relation to water available and returns from pasture or crop offer an economic problem.

   **Groundwater in Gravels**

   The possibility of obtaining water from flood-out gravels

   cont.******
was investigated. The depth of gravel and sand to the quartzite underlying is between 6" and 9". No evidence of seepage or water was found in June 1967.

Bore

The nearest bore is the Station bore at the Homestead 4 miles away. This has a depth of 90' and provides a good yield of water with a T.D.S. of 1000 and a ph. 8.2 which may not be suitable for some pastures and/or crops.

3. Whistleduck Creek Dam Site

The site, situated at the entrance of a narrow gorge on Whistleduck Creek 15 miles S.S.E. from the homestead, provides an ideal site for a domestic water supply. Storage in an existing pool, 20' deep is estimated at 400,000 gallons, ph.6.8. This storage could be increased by a wall 30' long to approx. 20' high. The basin area would be 300' long narrow and deep.

Possibility of using this site for irrigation was considered and rejected for the following reasons:

(a) While the rock on the walls up to 20' is tight jointed and massive quartzite, those above are weathered sandstones with open joints which would require excessive grouting.

(b) Very high wall involved for a large flat basin area and the availability of sufficient run off to provide sufficient depth.

(c) The cost of reticulating the water to the nearest suitable area for irrigation.

4. Farm Type Dam

A farm type dam with breached wall exists adjacent to the Frew River road 12 miles E.S.E. of Kurundi Homestead. The site is between two spurs. The dam had an excessive catchment with insufficient provision to bypass excess flows. However, the site is suitable for a properly constructed farm type dam with adequate bypass facilities. Material for construction is adjacent to the site. A suitable bypass spillway could be constructed on the west side when removing material for wall construction.

5. Excavated Tank Site

There is a depression approx 3 miles north of Farm Dam and adjacent to the road considered suitable for an excavated tank. Ponding of water in this depression continues for long periods after rain. The size and depth would be governed by test holes to establish sub-surface material and storage requirements.

[Signature]
Senior Technical Officer Manning