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FIRST PHASE ARCHAEOLOGICAL AND HERITAGE ASSESSMENT OF THE PROPOSED ASRIVIER HYDRO-ELECTRICITY POWER INSTALLATIONS BETWEEN BETHLEHEM & CLARENS, FREE STATE

EXECUTIVE SUMMARY

Hydro-electric plants at the Sol Plaatjie Dam and on the farm Marino 1487 along the Asrivier, respectively, have already been completed. The instillation at the Sol Plaatje Dam is now in production and the latter plant will go into operation soon.

Kruisvallei Hydro (Pty) Ltd, is planning the installation of two hydro-electric power plants on the Asrivier. These installations are planned at the farm Kruisvallei 190, between Bethlehem and Clarens, Free State.

The proposed new generators will be built higher up along the Asrivier and above the existing plant at Merino 1487. The developer is also planning an alternative venue for white water rafting.

The land was examined for the occurrence of archaeological, historical and other cultural material.

The proposed sites are located on a flood plain on the banks of the Asrivier, with plough lands on one side. No cultural and historical materials were found along the river. The development of two hydro-electric power plants and white water rafting facilities will have no effect on the cultural and historical environment of the area.

Further planning of the proposed project may continue, and no mitigation measures are required.

This report must be imposed on contractor

INTRODUCTION AND DESCRIPTION

Scope and Limitations

The investigation provided an opportunity to examine the different sites proposed for the hydro-electrical plants and white water rafting facilities. The area contains a dense grass cover, but no serious limitations were experienced during site visit.

Methodology

1. The different sites were inspected.
2. GPS points were taken and the surroundings and features were recorded on camera.

INVESTIGATION

Hydro-electric plants at the Sol Plaatjie Dam and on the farm Marino 1487 (Figs.1-4) along the Asrivier (Map 1), respectively, have previously been completed. The instillation at the Sol Plaatje Dam is now in production and the latter plant will go into operation soon (Burger 2009).

Kruisvallei Hydro (Pty) Ltd, is planning the installation of two hydro-electric power plants along the Asrivier on the farm Kruisvallei 190 along the R711 (Map 3&4) between Bethlehem and Clarens, Free State (Map 2). Kruisvallei Hydro, the applicant, is also planning a National Adventure Centre at the Middle Kruisvallei power generation site (Map 5). This feature will provide an alternative venue for white water rafting. The layout plan is shown on Map 6.

A site visit took place on 4 February 2010 in the company of representatives from Enviroworks Environmental Consultants, Bloemfontein, as well as officials.

The area was examined for possible archaeological and historical material and to establish the potential impact on any cultural material that might be found. The Heritage Impact Assessment (HIA) is done in terms of the National Heritage Resources Act (NHRA), (25 of 1999) and under the Environmental Conservation Act, (73 of 1989).

The study aims to locate and evaluate the significance of cultural heritage sites, archaeological material, manmade structures older than 60 years, and sites associated with oral histories and graves that might be affected by the proposed development.

Geological and palaeontological deposits are not included as subject to this report.

LOCALITY

The farm Kruisvallei 190 borders on the Asrivier along the R711 between Bethlehem and Clarens, Free State (Map 2).

The two designated sites are named as Lower Kruisvallei and Middle Kruisvallei, respectively (Maps 3&4).

The National Adventure Centre and white water rafting facility will be located at the Middle Kruisvallei power generation site (Map 5).

The following GPS coordinates were taken (Cape scale).

MERINO 1487	Newly erected hydro-elect plant	(Figs.1-4).
LOWER KRUISVALLEI	28°22'43"S 028°21'57"E	Alt. 1692m (Fig.5-7).
MIDDLE KRUISVALLEI	28°24'17"S 028°21'58"E	Alt. 1700m (Fig.8-11).
Hydro-elect plant	28°24'11"S 028°21'50"E	Alt 1701m (Fig.12).

FINDS

During an earlier investigation at the Sol Plaatjie Dam near Bethlehem and at the farm Merino 1487, rock paintings were found in cliff overhangs (Groenewald 2003).

The present sites designated for two hydro-electric power plants and a white water rafting facility are located on a flood plain on the banks of the Asrivier (Fig.11). There are maize fields on one side very close to the weir (Fig.12).

The sites produced no archaeological, cultural or historical material.

ASSESSMENT OF IMPACT

The development of two hydro-electric power plants and white water rafting facilities will have no effect on the cultural and historical environment of the area.

MITIGATION

No mitigation measures will be required during the development of two hydro-electric power plants and a white water rafting facility at Kruisvallei.

RECOMMENDATIONS

Further planning of the proposed project may continue and no mitigation measures are required.

ACKNOWLEDGEMENTS

I thank Elbi Bredenkamp, Christine Fouché and Gerhard Botha from Enviroworks Environmental Consultants, Bloemfontein, and Johan van Niekerk for taking us to the site.

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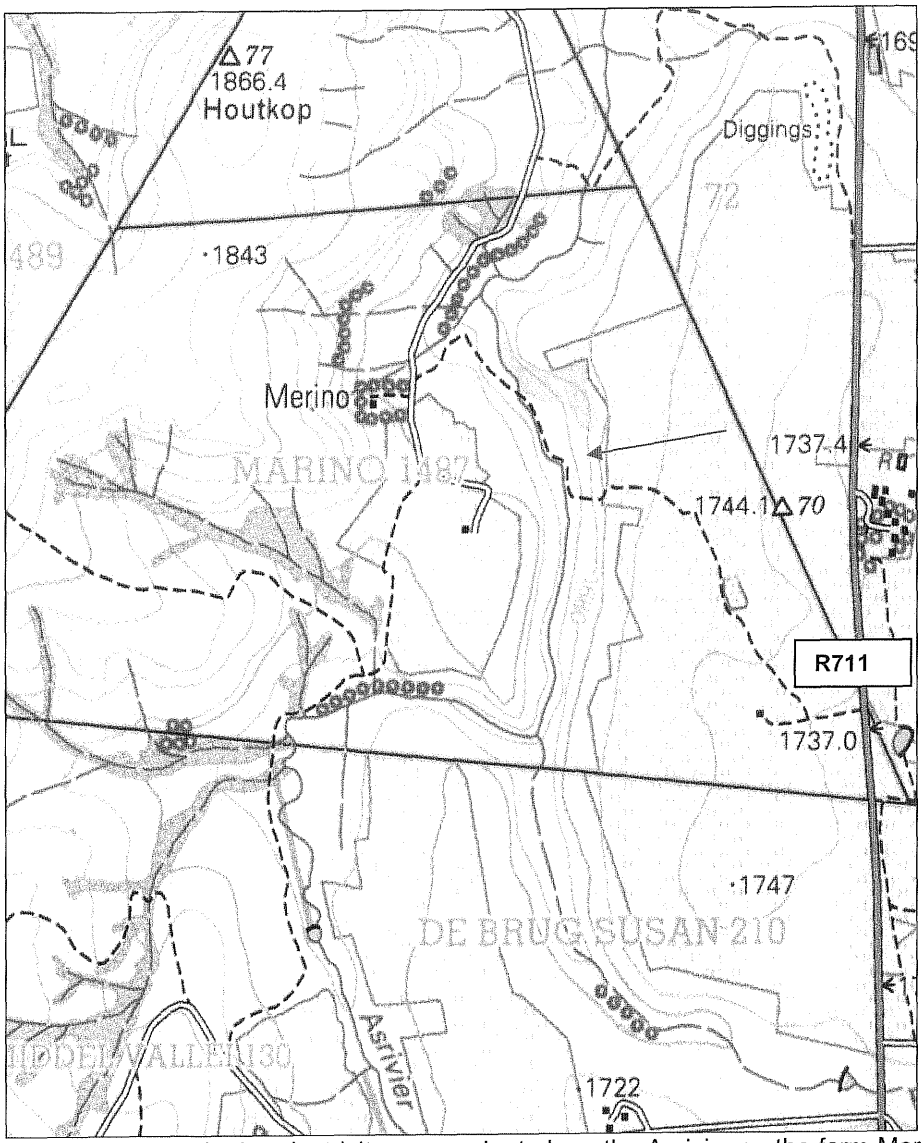
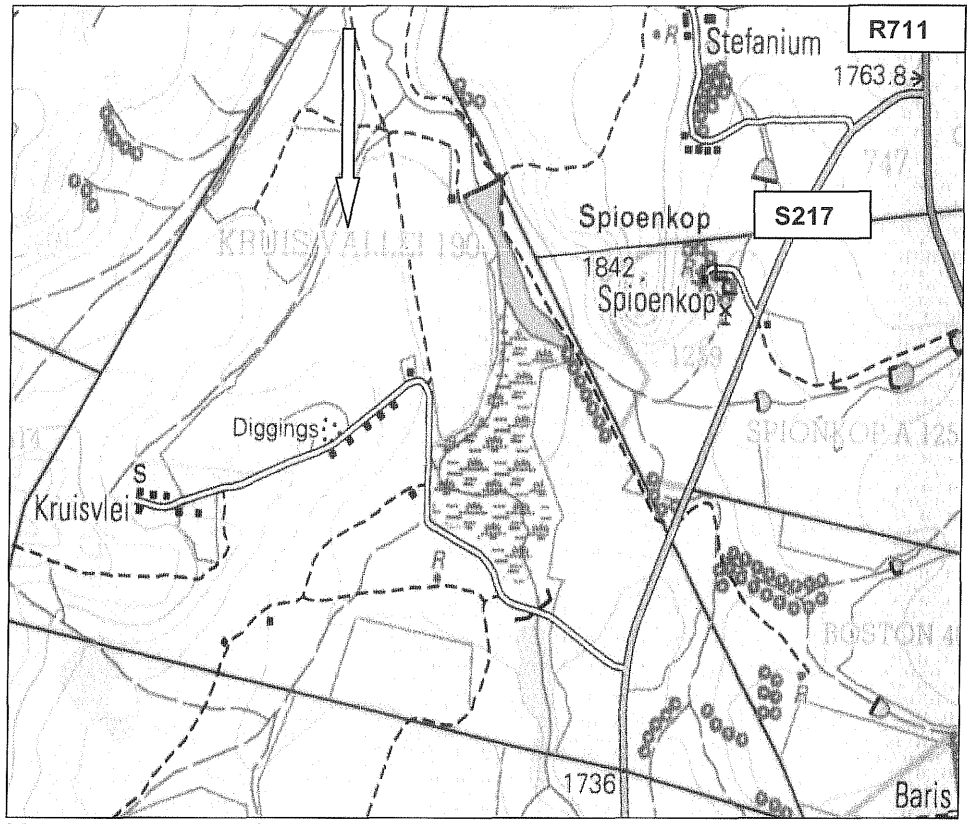
LIST OF ILLUSTRATIONS



Map 1 The new hydro-electricity power plant along the Asrivier on the farm Marino 1487 along the R711 road between Bethlehem and Clarens (2828AD).



Map 2 Kruisvallei 190 on the S217 along the R711 from Bethlehem to Clarens (2828AD).

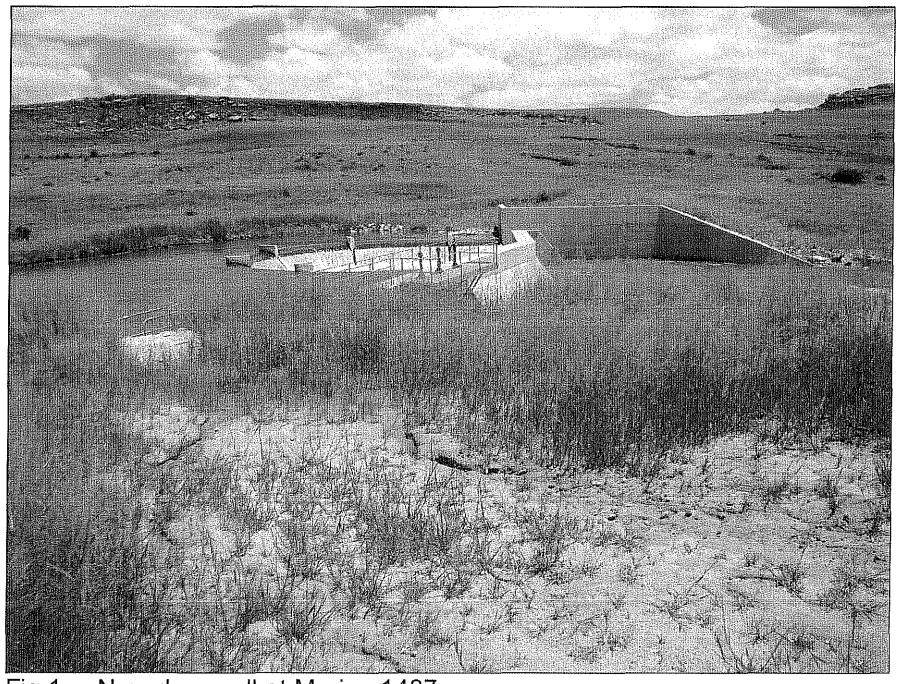
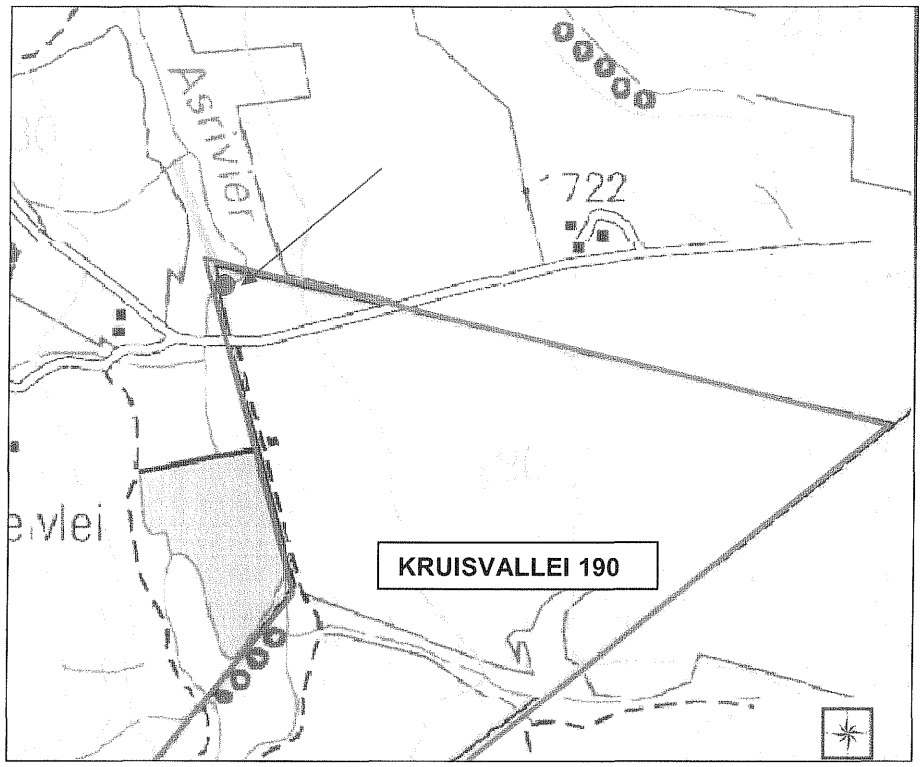
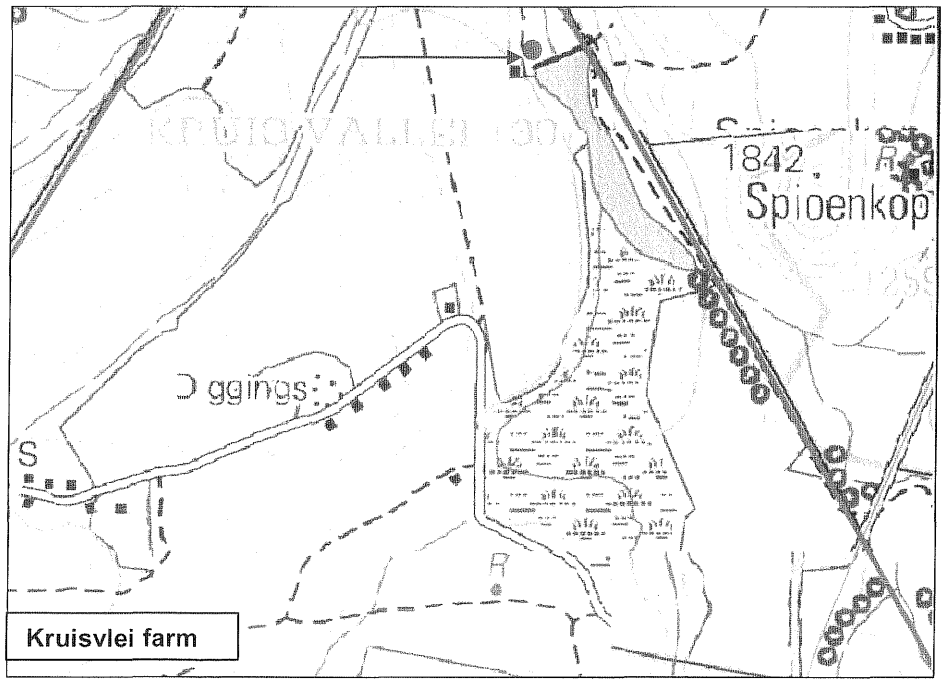


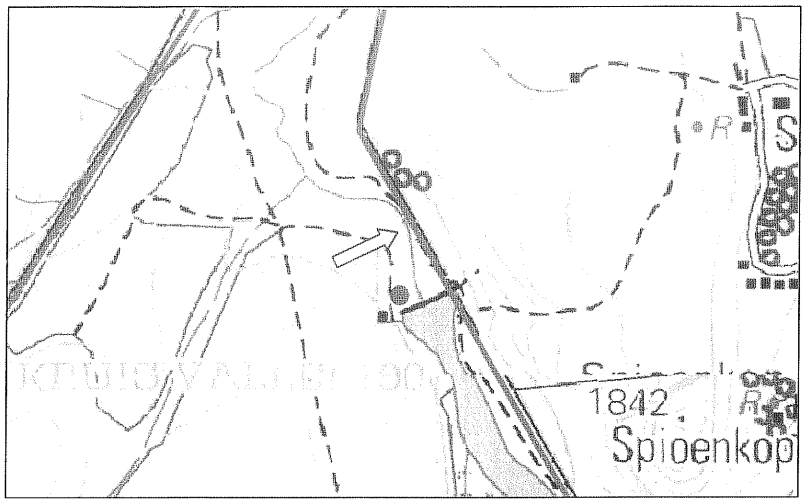
Fig.1 New dam wall at Marino 1487.



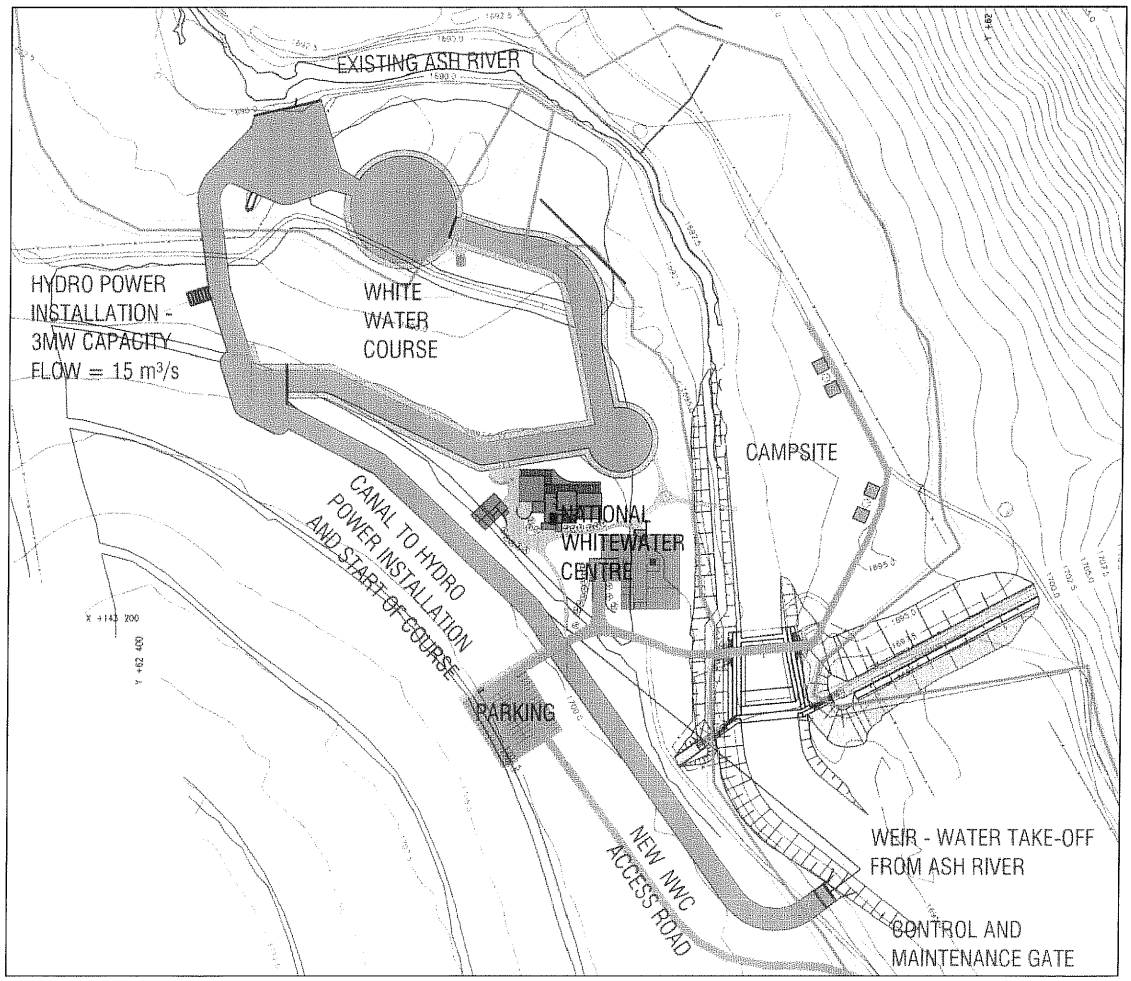
Map 3 Locality of the Lower Kruisvallei Hydro-Electric Power Station (2828AD).



Map 4 Locality of the Middle Kruisvallei Hydro-Electric Power Station (2828AD).



Map 5 Placing of the White Water Centre below the weir at Middle Kruisvallei (2828AD).



Map 6 Layout plan of the proposed white water rafting facility.

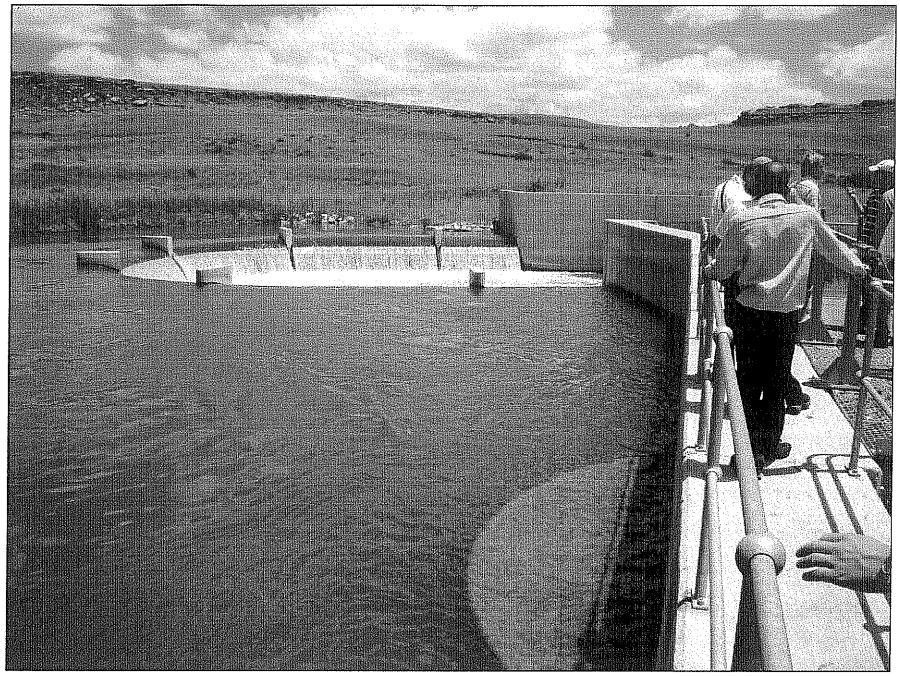


Fig.2 Water extracting wall at Marino 1487.

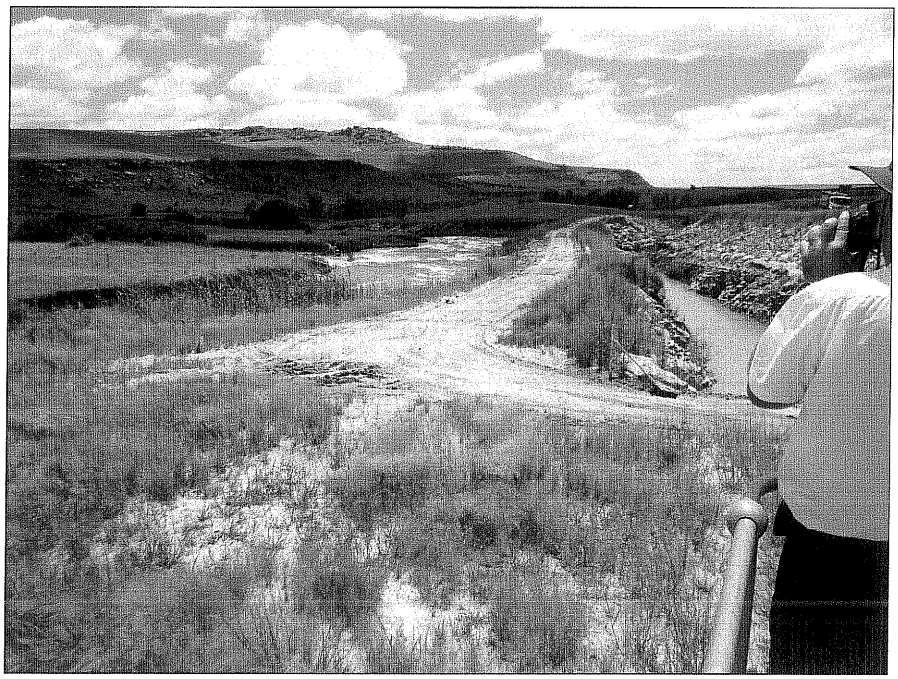


Fig.3 Water extraction channel (right) and the original flow of the Asrivier (left).

Fig.4 Hydro-electric plant at Marino 1487.

Fig.5 Proposed hydro-electric power plant site at Lower Kruisvallei 190.

Fig.6 The Kruisvallei farm stead across the Asrivier.

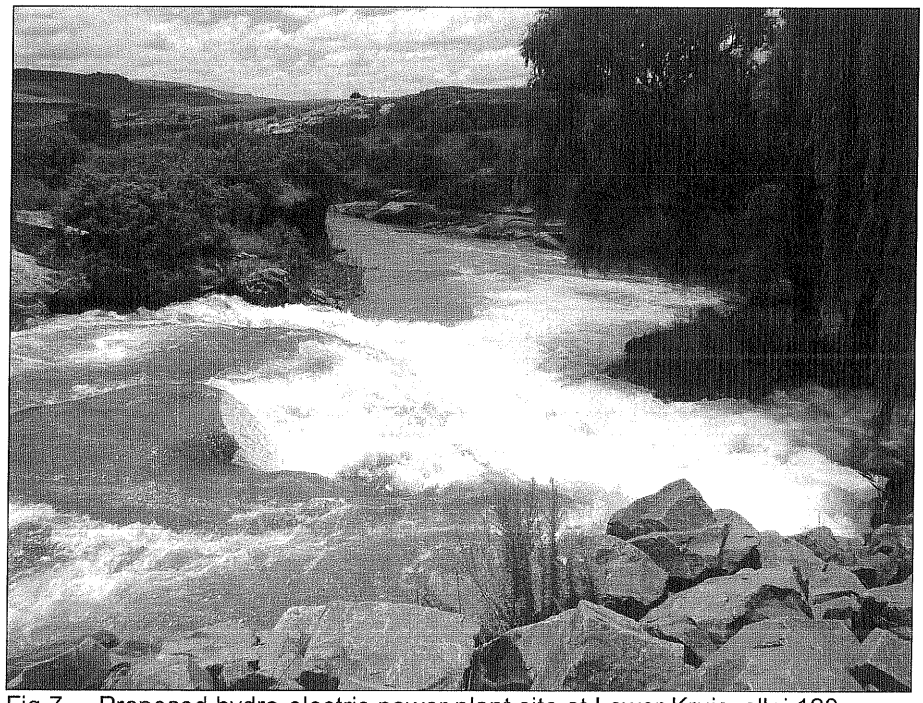


Fig.7 Proposed hydro-electric power plant site at Lower Kruisvallei 190.

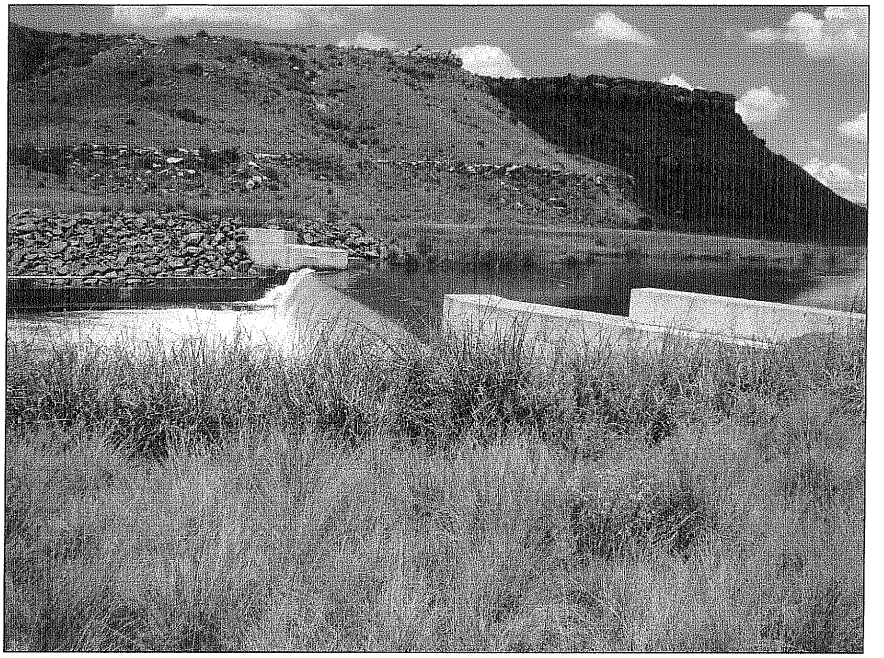


Fig.8 Existing dam wall at the hydro-electric power plant site at Middle Kruisvallei 190.

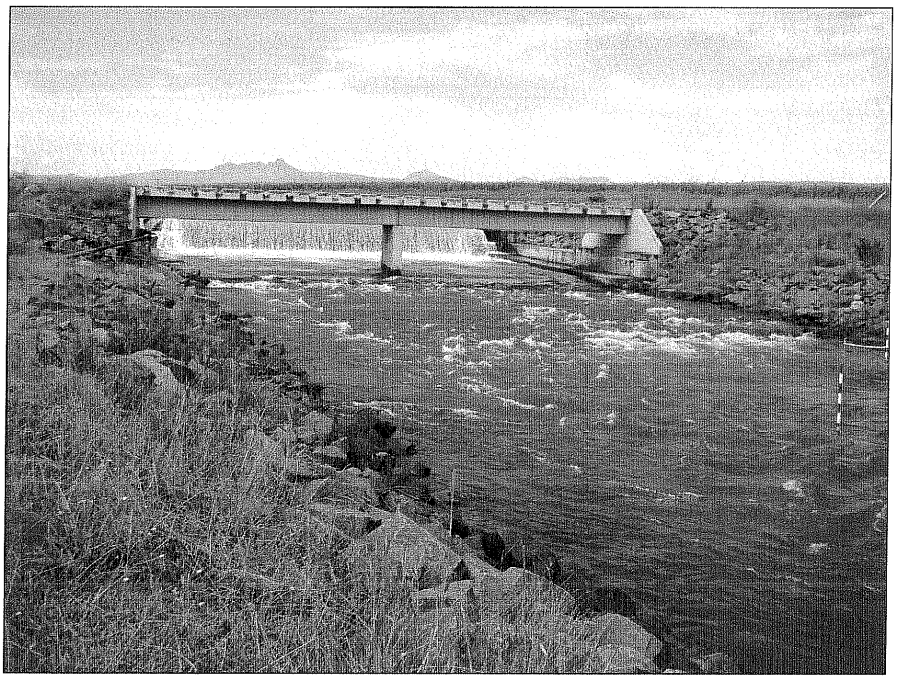


Fig.9 Dam wall and bridge at the hydro-electric power plant site at Middle Kruisvallei 190.

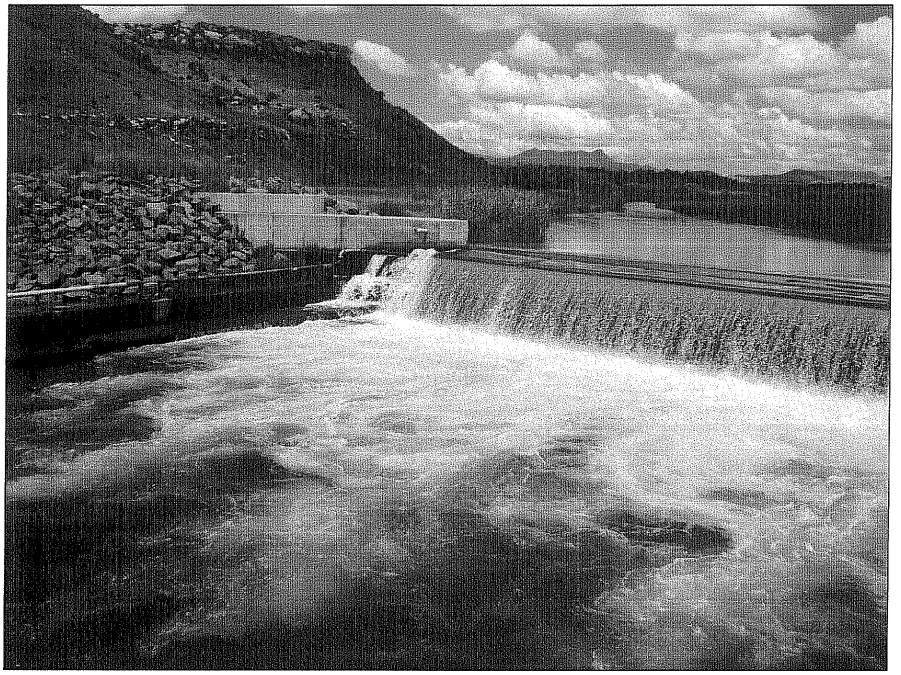


Fig.10 Water extraction weir at hydro-electric power plant at Middle Kruisvallei 190.

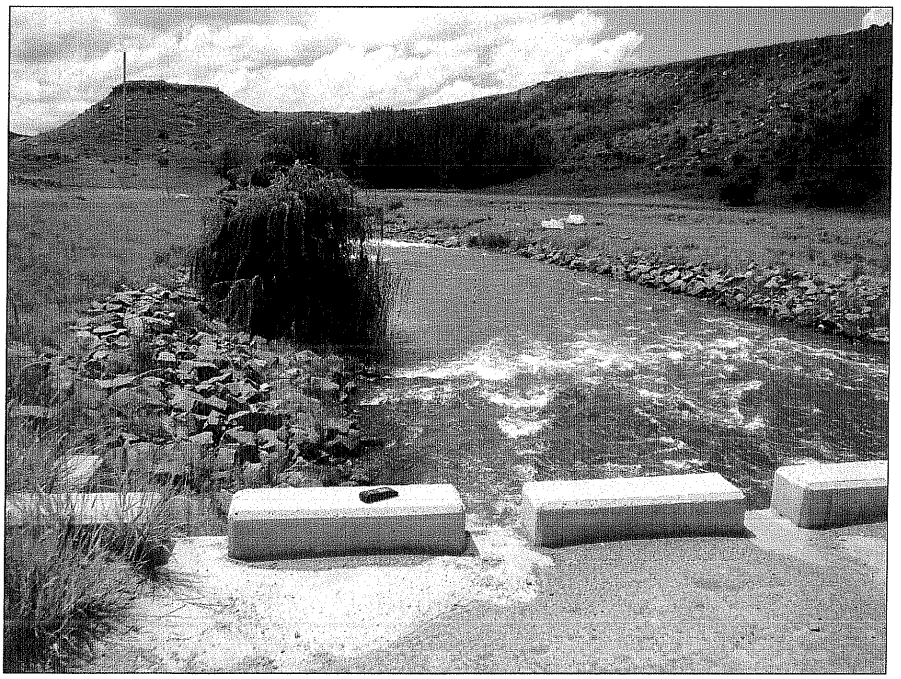


Fig.11 Facing down stream from the extraction weir at Middle Kruisvallei 190. White water rafting facility will be placed on the site at left.

Fig.12 Position of the hydro-electric power plant at Middle Kruisvallei 190.

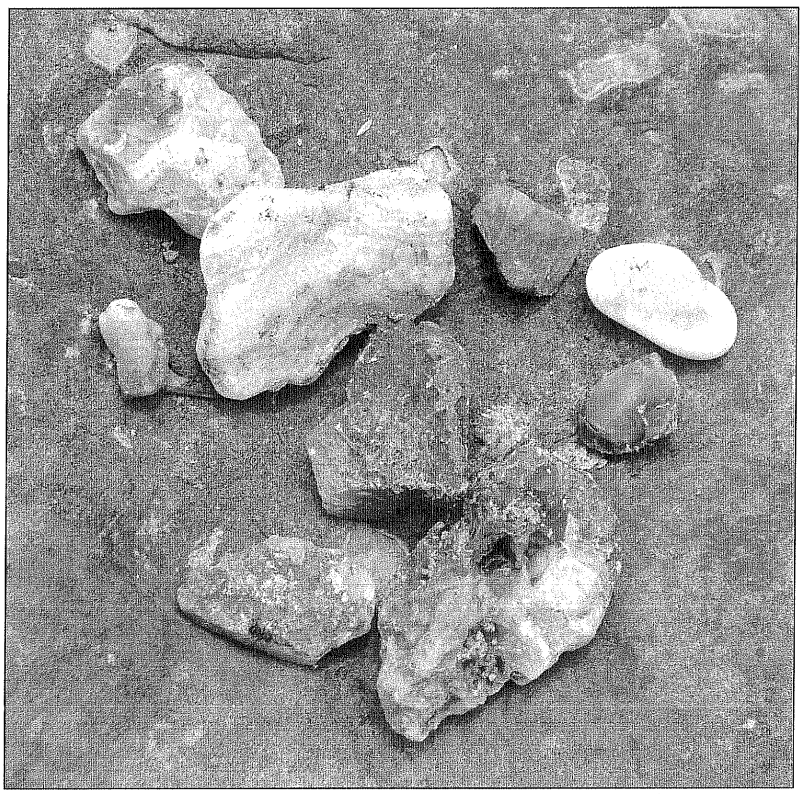


Fig.13 Water washed pebbles of chalcedony and agate found on the river bank.