

DAVIS²
CONSULTING EARTH SCIENTISTS
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August 6, 2001

**Preliminary Paleontological Survey
For
Placer Vineyards Specific Plan Area
Placer County, California**

EXECUTIVE SUMMARY

DAVIS² Consulting Earth Scientists was authorized to prepare a Preliminary Paleontological Resources Assessment of the Placer Vineyards Specific Plan area. The scope of work includes:

1. Compilation of brief summary reports based on scientific literature, records search, and preliminary paleontology reconnaissance.
2. Development of CEQA-level recommendations for initial preservation and mitigation for documented/potential resources.

Background research provided scientific data to assess the significance of paleontological resources within the project area.

No paleontological resources were found in the project area, however mapped deposits within the area are of Pleistocene-age and although the probability for locating fossils is considered low, potential presence cannot be ruled out.

The preliminary field reconnaissance was conducted on July 12, 2001. This consisted of examination of road cut exposures along existing roads within the project area. The better known Chico and Ione Formations, deposits containing paleomarine fossils, flora and petrified wood, are not exposed, at least surficially, present within the project site.

INTRODUCTION

A preliminary paleontological survey was conducted in western Placer County, California within the proposed boundary of Placer Vineyards Specific Plan Area (Fig. 1). This area extends westward from Roseville to about the Sutter County line, south of Base Line Road to the Sacramento-Placer County line.

This work was done at the request of Quad Knopf, which is under contract with the County of Placer to prepare an environmental impact report for the 5,012-acre portion of the specific plan area.

By direction of the County of Placer Planning Department staff, the proposed level of development constitutes an "undertaking" which could adversely affect various types of resources located within the project's Area of Potential Effect (APE). Evaluations of effects to such resources, including cultural resources, must be undertaken in conformity with the County of Placer rules and regulations, in compliance with California

Environmental Quality Act of 1970, Public Resources Code, Section 21000, et seq. (CEQA), and the California CEQA Environmental Quality Act Guidelines, California Administrative Code, Section 15000 et seq. (Guidelines, as amended October 1998), prepared by the Office of Planning and Research.

Information contained in this report is of reconnaissance-level within the proposed boundary. Geologic units reflect those found within existing reports, however the area was traversed in the field to confirm the general characterization of units contained in the literature.

ENVIRONMENTAL SETTING

The Placer Vineyards Specific Plan Area consists of Pleistocene-age alluvium, consisting of fine-grained outwash materials locally capped by fan terraces. Entrenchment by Dry Creek and other localized young distributary drainages lend evidence that cyclic climatically driven events in conjunction with regional uplift have intermittently filled pre-existing channels as downcutting to lower base levels has proceeded over the past one million years (Shlemon, 1967). All of these westward trending drains are captured by the north-to-south man-made Natomas Main Drain, which empties into the American River.

The Geologic Map of the Sacramento Quadrangle (Wagner et al, 1981) shows this area as Qtl (Turlock Lake Formation) on the east, with Qr (Riverbank Formation) covering the majority of the site on the west. Soils developed on these deposits are dominantly Fiddymont, Cometa, Kaseberg, San Joaquin and Cometa (Rogers et al, 1981).

Natural vegetation consists of annual grasses and forbs, with patchy oaks. Much of this area has a history of being dry farmed for small grains, however some fields have been leveled for rice production or other cash crops.

METHODOLOGY

A literature search was conducted for potential finds in the Riverbank and Turlock Lake Formations. The University of California Museum of Paleontology (UCMP) Invertebrate and Vertebrate Locality databases were queried, as well as references from other projects in the region.

A reconnaissance survey was conducted on July 12, 2001, when road cut exposures along Baseline and PFE Roads were examined for paleontological resources.

FINDINGS

The deposits are well exposed in road cuts along Baseline and PFE Roads. Outcrops viewed are mainly the topographic high points of undulating terrain, which show well-developed soils, *Typic* and *Abruptic Durixeralfs* of the San Joaquin and Fiddymont soil series. Included in these are isolated areas of lesser-developed soils, *Palixeralfs* of the Cometa or Romona soil series and clay-rich *Epiacquic Duirxererts* or *Haploxerts* of the Alamo series soils. The degree of soil development is consistent with the mapped

deposits of the Riverbank Formation, mainly associated with the San Joaquin series, and the Fiddymment series, mainly associated with the Turlock Lake Formation. The well-known fossil-rich Chico Formation located mainly south of Roseville was not identified in the field within the project boundary.

A search of the UCMP database turned up neither invertebrate nor vertebrate resources associated with the Turlock Lake Formation. Three "hits" came up for paleovertebrates in the Riverbank Formation in the Sacramento Area, one at the Tiechart gravel pit and two from Chicken Ranch Slough 1 & 2 in Sacramento County. There were no recorded invertebrates. There are no recorded finds for Placer County for either the Riverbank or Turlock Lake Formations.

Close inspection of deep road cut exposures along Baseline and PFE Roads turned up no identifiable vertebrate or botanical remains.

CONCLUSIONS AND RECOMMENDATIONS

It is unlikely that paleontological resources will be discovered as development proceeds within the proposed Placer Vineyards Specific Plan Area. However, it is not impossible for the potential presence of macrovertebrate fossil remains to be present at isolated localities, particularly within the Riverbank Formation. Resources recovered from the Sacramento County sites were mainly associated with fine-grained basin-type materials, which likely were paleowatering holes for large animals, now extinct, such as the American horse, camel or possibly mastodon.

Should paleontological resources be identified at a particular locale, the project manager should cease operation until a qualified professional can provide an evaluation.

Mitigation measures should be conducted as follows:

1. Identify and evaluate paleontologic resource by intense field survey where impacts are considered high;
2. Assess effects on identified sites;
3. Consult with the institutional/academic paleontologists conducting research investigations within the geological formations that are slated to be impacted;
4. Obtain comments from the researchers;
5. Proceed with the project in light of researchers comments to mitigate adverse effects.

References

Rogers, J.H., Nazar, P.G., Sketchley, H.R., Brittan, L.A. Kliever, G.F., Kennedy, G.M., Ryan, T.M., Goudy, C.B., 1981. Soil Survey of Placer County, Western Part. U.S.D.A. Soil Conservation Service.

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_____. UCMP Invertebrate Locality SQL. Search of Riverbank and Turlock Lake Formations.

Wagner, D.L., Jennings, C.W., Bedrossian, T.L., Bortugno, E.J., 1981. Geologic Map of the Sacramento Quadrangle, California, 1:250,000. California Department of Mines and Geology.

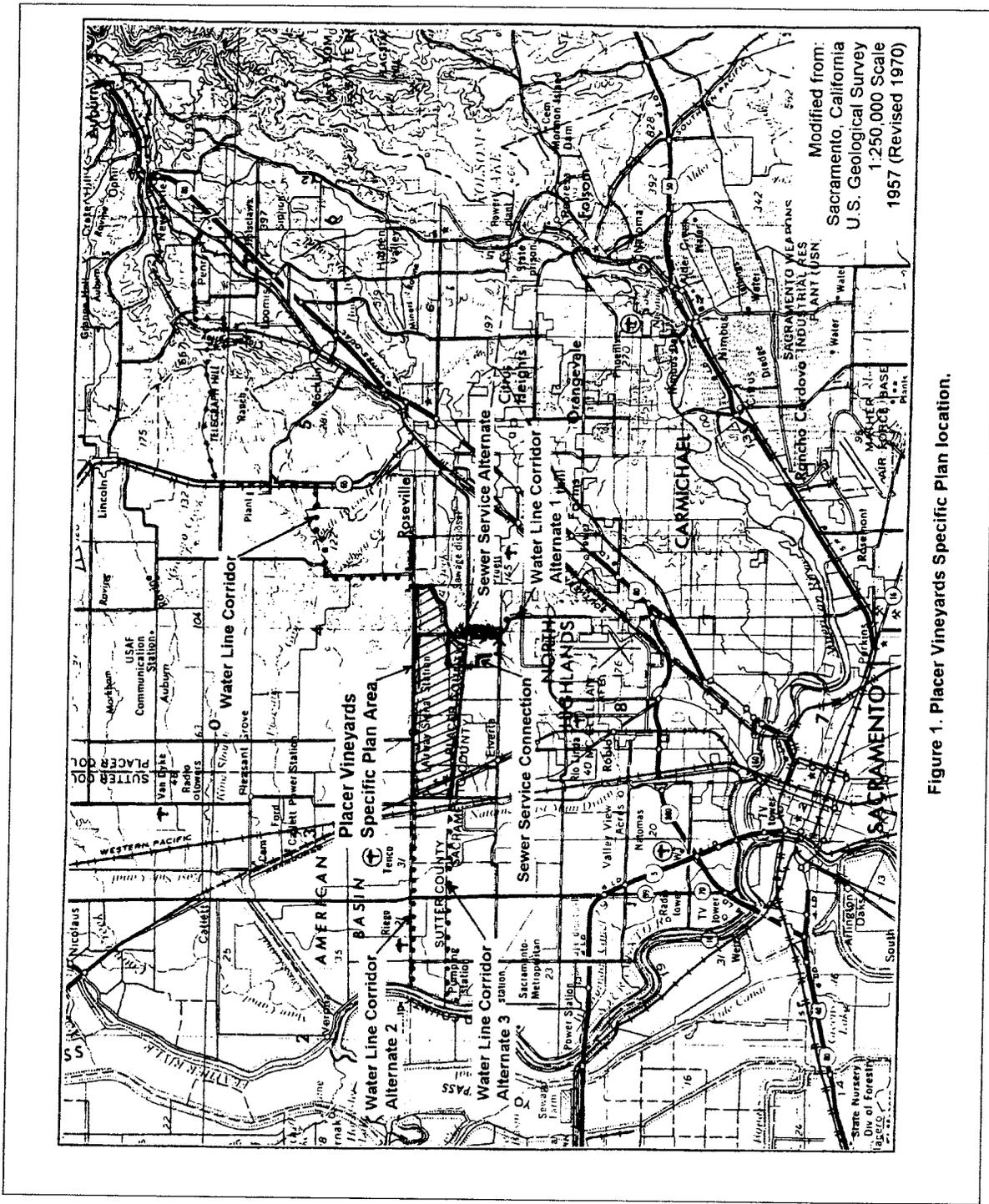


Figure 1. Placer Vineyards Specific Plan location.

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September 21, 2005

Preliminary Paleontological Survey For Placer Vineyards Specific Plan Area Placer County, California

EXECUTIVE SUMMARY

DAVIS² Consulting Earth Scientists was authorized to prepare a Preliminary Paleontological Resources Assessment of the Placer Vineyards Specific Plan area. The scope of work includes:

1. Compilation of brief summary reports based on scientific literature, records search, and preliminary paleontology reconnaissance.
2. Development of CEQA-level recommendations for initial preservation and mitigation for documented/potential resources.

Background research provided scientific data to assess the significance of paleontological resources within the project area.

No paleontological resources were found in the project area, however mapped deposits within the area are of Pleistocene-age and although the probability for locating fossils is considered moderate to low, potential presence cannot be ruled out.

The preliminary field reconnaissance was conducted on July 12, 2001 and expanded September 19, 2005 to include offsite utilities. This consisted of examination of road cut exposures along existing roads within the project area. The better known Chico and Ione Formations, deposits containing paleomarine fossils, flora and petrified wood, are not exposed, at least surficially, present within the project site.

INTRODUCTION

A preliminary paleontological survey was conducted in western Placer County, California within the proposed boundary of Placer Vineyards Specific Plan Area (Fig. 1) and offsite to include proposed utility connections. This area extends westward from Roseville to about the Sutter County line, south of Base Line Road to the Sacramento-Placer County line. Offsite utility lines extend westward to the Sacramento River (Fig. 2).

This work was done at the request of Quad Knopf, Inc., which is under contract with the County of Placer to prepare an environmental impact report for the 5,012-acre portion of the specific plan area.

By direction of the County of Placer Planning Department staff, the proposed level of development constitutes an “undertaking” which could adversely affect various types of resources located within the project’s Area of Potential Effect (APE). Evaluations of

effects to such resources, including cultural resources, must be undertaken in conformity with the County of Placer rules and regulations, in compliance with California Environmental Quality Act of 1970, Public Resources Code, Section 21000, et seq. (CEQA), and the California CEQA Environmental Quality Act Guidelines, California Administrative Code, Section 15000 et seq. (Guidelines, as amended October 1998), prepared by the Office of Planning and Research.

Information contained in this report is of reconnaissance-level within the proposed boundary. Geologic units reflect those found within existing reports, however the area was traversed in the field to confirm the general characterization of units contained in the literature.

ENVIRONMENTAL SETTING

The Placer Vineyards Specific Plan Area consists of Pleistocene-age alluvium, consisting of fine-grained outwash materials locally capped by fan terraces. Entrenchment by Dry Creek and other localized young distributary drainages lend evidence that cyclic climatically driven events in conjunction with regional uplift have intermittently filled pre-existing channels as downcutting to lower base levels has proceeded over the past one million years (Shlemon, 1967). All of these westward trending drains are captured by the north-to-south man-made Natomas Main Drain, which empties into the American River.

The *Geologic Map of the Sacramento Quadrangle* (Wagner et al, 1981) shows this area as Qtl (Turlock Lake Formation) on the east, with Qr (Riverbank Formation) covering the majority of the site on the west. Soils developed on these deposits are dominantly Fiddymont, Cometa, Kaseberg, San Joaquin and Cometa (Rogers et al, 1981).

Natural vegetation consists of annual grasses and forbs, with patchy oaks. Much of this area has a history of being dry farmed for small grains, however some fields have been leveled for rice production or other cash crops.

METHODOLOGY

A literature search was conducted for potential finds in the Riverbank and Turlock Lake Formations. The University of California Museum of Paleontology (UCMP) Invertebrate and Vertebrate Locality databases were queried. The Sierra College Natural History Collection was visited, and Mr. Richard Hilton was interviewed regarding local fossil discovery.

A reconnaissance survey was conducted on July 12, 2001, when road cut exposures along Baseline and PFE Roads were examined for paleontological resources. Additional fieldwork was completed on September 19, 2005 in the area of the proposed offsite utilities.

FINDINGS

The deposits are well exposed in road cuts along Baseline and PFE Roads. Outcrops viewed are mainly the topographic high points of undulating terrain, which show well-developed soils, *Typic* and *Abruptic Durixeralfs* of the San Joaquin and Fiddymont soil series. Included in these are isolated areas of lesser-developed soils, *Palixeralfs* of the Cometa or Romona soil series and clay-rich *Epiaquic Durixererts* or *Haploxerts* of the Alamo series soils. The degree of soil development is consistent with the mapped deposits of the Riverbank Formation, mainly associated with the San Joaquin series, and the Fiddymont series, mainly associated with the Turlock Lake Formation. The well-known fossil-rich Chico Formation located mainly south of Roseville was not identified in the field within the project boundary.

The area west of the Sacramento County line where the water trunk line extension is proposed is shown as Qb (Basin deposits). These deposits are of low potential for paleontological resources because they postdate the last glacial period. The trunk lines proposed east of the site are in the Turlock Lake Formation and have moderate to low potential for macrovertebrate fossils.

A search of the UCMP database turned up neither invertebrate nor vertebrate resources associated with the Turlock Lake Formation in Placer County. Three “hits” came up for paleovertebrates in the Riverbank Formation in the Sacramento Area, one at the Tiechart gravel pit and two from Chicken Ranch Slough 1 & 2 in Sacramento County. There were no recorded invertebrates.

Personal communication with Mr. Richard Hilton, Professor of Geology at Sierra College, confirmed that a high number of vertebrate fossils have been collected from the Arco Arena area, where ground sloth, bison, coyote, camel and mammoth bones were unearthed in the Riverbank Formation. Additionally, fossil leaf impressions are known to occur in the Turlock Lake Formation near the intersection of Old Auburn Road and Sierra College Boulevard. American horse, bison and mammoth bone have been documented in the Turlock Lake Formation along the railroad tracks north of Roseville, near Athens Road.

Close inspection of deep road cut exposures along Baseline and PFE Roads turned up no identifiable vertebrate or botanical remains.

CONCLUSIONS AND RECOMMENDATIONS

Inspection of road cuts and exposures in the proposed project area turned up nothing in the way of paleontological resources. However the potential for presence of macrovertebrate fossil remains at isolated localities within the Turlock Lake (Qt) and Riverbank Formation (Qr) is moderate to low, based on discoveries of Richard Hilton, Sierra College, at other places in Placer County, where these formations are mapped. Resources recovered from the Sacramento County sites were mainly associated with inclusions of fine-grained basin-type materials, which likely were watering holes for large animals, now extinct, such as the American horse, camel, mastodon, mammoth and

ground slough. Potential for occurrence of paleontological resources in the basin deposits (Qb) is low.

Should paleontological resources such as bone, tooth, tusk, hoof, shell or leaf casts be identified in excavation trenches at a particular locale, the project manager should contact a qualified professional that can provide an evaluation. Mitigation measures should be conducted as follows:

1. Identify and evaluate paleontologic resource by high resolution field survey where impacts are considered high;
2. Assess effects on identified sites;
3. Consult with the institutional/academic paleontologists conducting research investigations within the geological formations that are slated to be impacted;
4. Obtain comments from the researchers;
5. Proceed with the project in light of researchers comments to mitigate adverse effects.

References

Hilton, R. and D.C. Dailey (2000). *A Late Pleistocene biota from the Arco Arena site, Sacramento, California*. *PaleoBios* 20(1):7-12.

Hilton, Richard (personal communication, 2005). *Sierra College Natural History Collection*. Rocklin, CA.

Rogers, J.H., Nazar, P.G., Sketchley, H.R., Brittan, L.A. Kliewer, G.F., Kennedy, G.M., Ryan, T.M., Goudy, C.B., 1981. *Soil Survey of Placer County, Western Part*. U.S.D.A. Soil Conservation Service.

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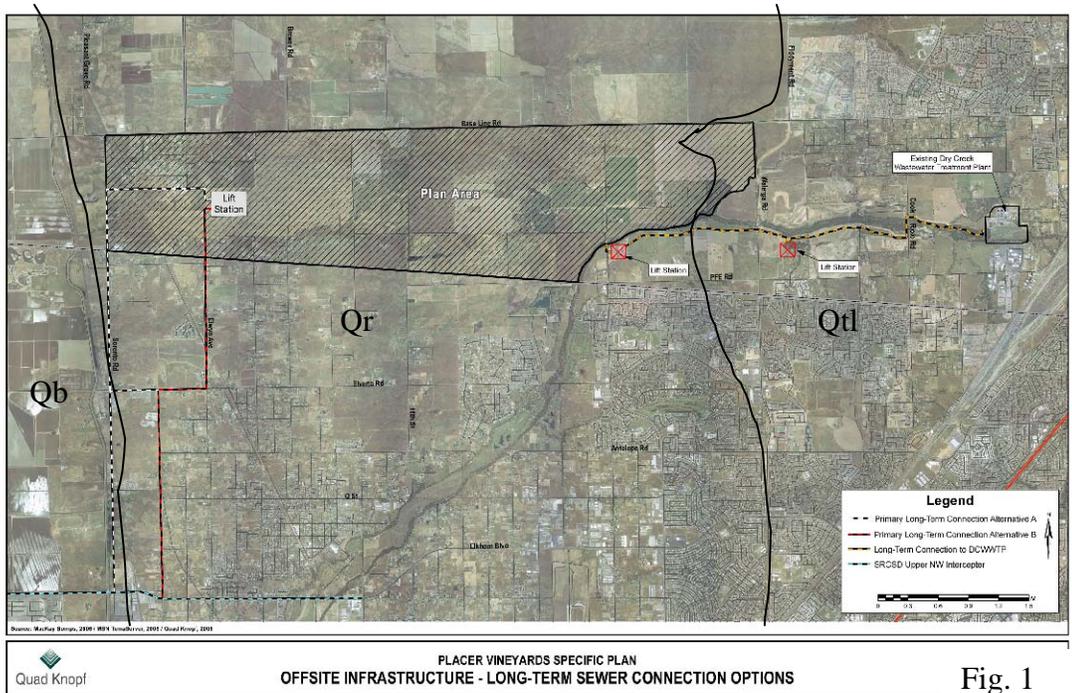


Fig. 1

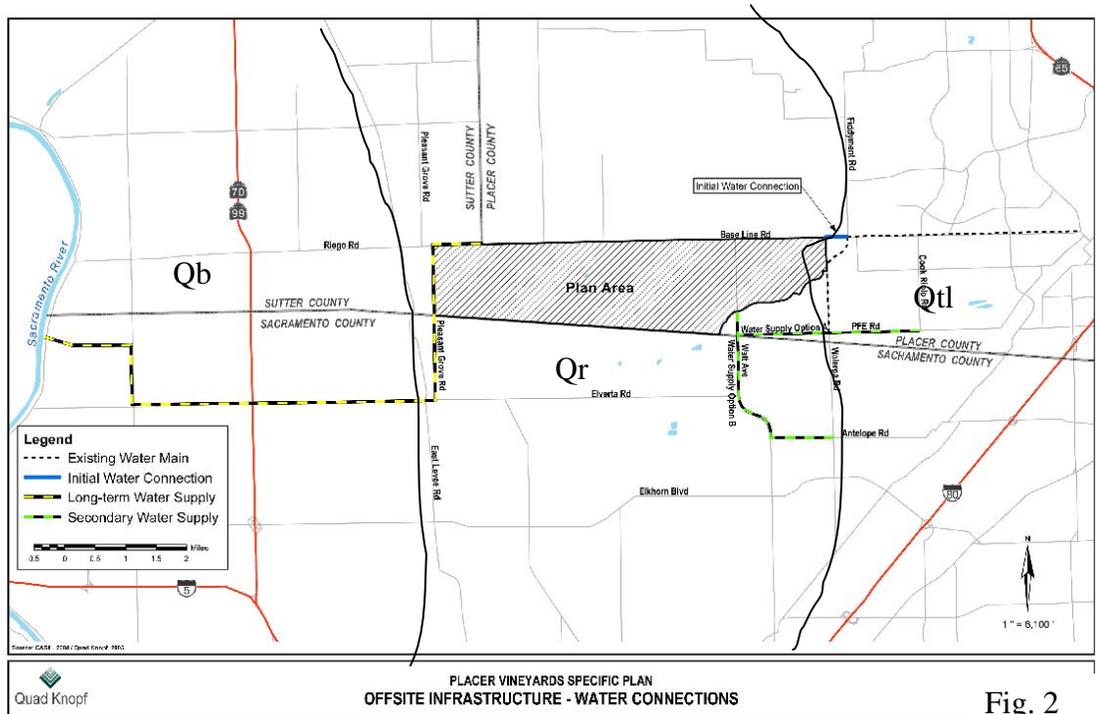


Fig. 2

Qb = basin deposits; Qr = Riverbank Formation; Qtl = Turlock Lake Formation

