MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP

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INTER-OFFICE CORRESPONDENCE

DATE: February 12, 1996

TO: Distribution

FROM: Jean Pier JP

SUBJECT: **QUARRY RESIDUALS GEOCHEMICAL SAMPLING OF THE SHALLOW USGS PIEZOMETERS IN THE ST. CHARLES COUNTY WELLFIELD**

Quarry Residuals plans to collect samples for geochemical analyses from the shallow USGS piezometers near the St. Charles County Pumping Wells. Locations are listed below and shown on the attached map. Analytical parameters and field measurements are listed below. Samples will be collected in February or early March, before these piezometers are abandoned.

The purpose for collecting these samples is to characterize the water migrating from the river into the adjacent shallow alluvium. The geochemical samples we have collected from the pumping wells, which sample water at the base of the alluvium, are unlikely to be representative of the water moving horizontally from the river through the shallower levels of the alluvium. Understanding the water chemistry in the shallower portion of the alluvium is needed to perform mixing calculations, which will be used to evaluate dilution effects in the well field. The data from these samples will also assess the possibility that arsenic is being transported into the alluvium from the river.

This sampling event will follow the parameter list and sampling protocols specified in the *Quarry Residuals Sampling Plan* (Ref 1).

PIEZOMETERS TO BE SAMPLED

WSQ-S9	WSQ-S13	WSQ-S14	WSQ-S15	WSQ-S16
WSQ-S18	WSQ-S19	WSQ-S20	WSQ-S21	WSQ-S22
WSQ-S23	WSQ-S24			

ANALYTICAL PARAMETERS:
Al, Alkalinity, As, Ba, Ca, Cl, Cr, F, Fe, Li, Mg, Mn, NO3, P, K, Na, Sr, SO4, and U.

FIELD MEASUREMENTS:
pH, Conductivity, Eh, and Temperature

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Form 232-A 03/92

APPROVALS

Project Manager	2-12-96 Date
ES&H Department Manager	2/13/96 Date
Data Administration Manager	2/14/96 Date
Quality Assurance Manager	02/16/96 Date
Project/Deputy Project Director	2/19/96 Date

Attachment

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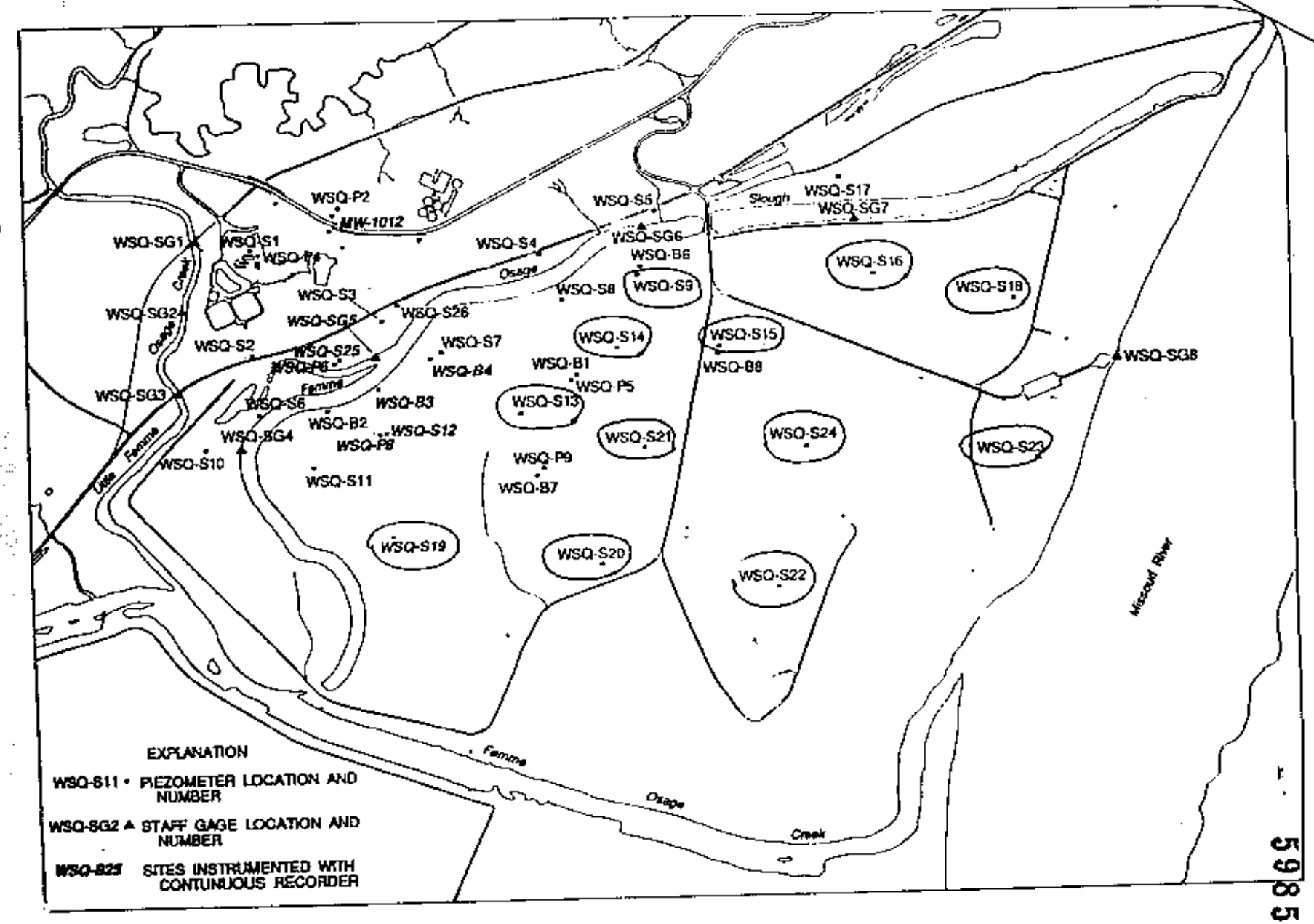

Figure 1. Locations of piezometers and staff gages.

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