Group 3 Slides

by Kip Panter

LYNN – I thought you might be interested!

How selenium in the soil helped spoil Custer's day

By Marie Hammock
OF THE EXAMINER STAFF

WHY DIDN'T CUSTER'S relief troops arrive at the Little Big Horn in time to save the day? Because their horses were sick, having eaten plants that were selenium "collectors." I kid you not. That's not just wild speculation, but a legitimate hypothesis we ran across in a new publication of UC Division of Agriculture and Natural Resources.

It seems that Custer's cavalry relief had been traveling through country where soils have a high selinium content. And records from 1860 suggest that selenium toxicity

little history of California geology. First, let's go back 185 million years, when there was a long, gentle marine slope from the Sierra Nevada westward. For the next 125 million years, quantities of sediment collected on the slope, which became a shallow-water marine basin, a depository for sandstones, shales and conglomerates. Then, some 60 million years ago, the coastal ranges were forces upward, and the San Joaquin Valley emerged as the trough between the Sierra Nevada and the coast ranges.

The difference in geological time is important to understanding why it's the west side of the valley, rather than the Sierra slope, that has such a drainage problem. The

ter from the coast ranges is
alkaline, but also contain
cant" quantities of soluble
salts and trace elements
selinium, chromium, arse
ron, lead, mercury, cadmi
per and zinc.

That's quite a load, th
the selenium that we've be
ing about recently. So wa
the coast range tends to c
the west side of the valley.
matters worse, the San Joa
ley is not perfectly even, t
certainly seems flat as a pa
drivers on Interstate 5. Th
imperceptable peak in the
so the southern half tilts
toward the southwestern
making it a sinkhole of tox

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Selenium poisons meat, produce

Suspect arrested in park slaying

By ROBERT EKEY
Gazette Bozeman Bureau

YELLOWSTONE NATIONAL PARK -- A 19-year-old Livingston man was charged Monday in the beating death of Randy Dean Reddog, whose body was found Friday near the Old Faithful Geyser.

Michael Lane Nickelson has been charged with murder in a complaint filed in U.S. District Court in Cheyene, Wyo., according to William Fallin, special agent in charge of the investigation for the FBI.

Nickelson was arrested Monday and is being held without bond, according to the FBI. He is to appear before the Yellowstone National Park magistrate Tuesday. A preliminary hearing has been scheduled in Cheyene Sept. 16.

An autopsy report showed Reddog, 22, had multiple skull

Above, loyalist Thai soldiers and civilians perch atop tanks abandoned by rebel troops in front of the

High levels found in state, paper says

SACRAMENTO, Calif. (AP) — Cattle, horses, she and swine in Montana, Wyoming and at least three oth Western states are sick or dead from selenium poisoni The Sacramento Bee reported Monday.

Farm families in some selenium "hot spots" who e home-grown food might also be suffering serious hea effects, the newspaper said.

The story was the result of the newspaper's fo month probe triggered by the selenium contaminati that has caused the closing of Kesterson National Wildl Refuge in California's San Joaquin Valley.

The Bee said that livestock in North and South D kota, Wyoming, Montana and northwest Nebraska ha been stricken after drinking selenium-contaminat water or eating plants that naturally accumulate dea levels of the trace element from the soil.

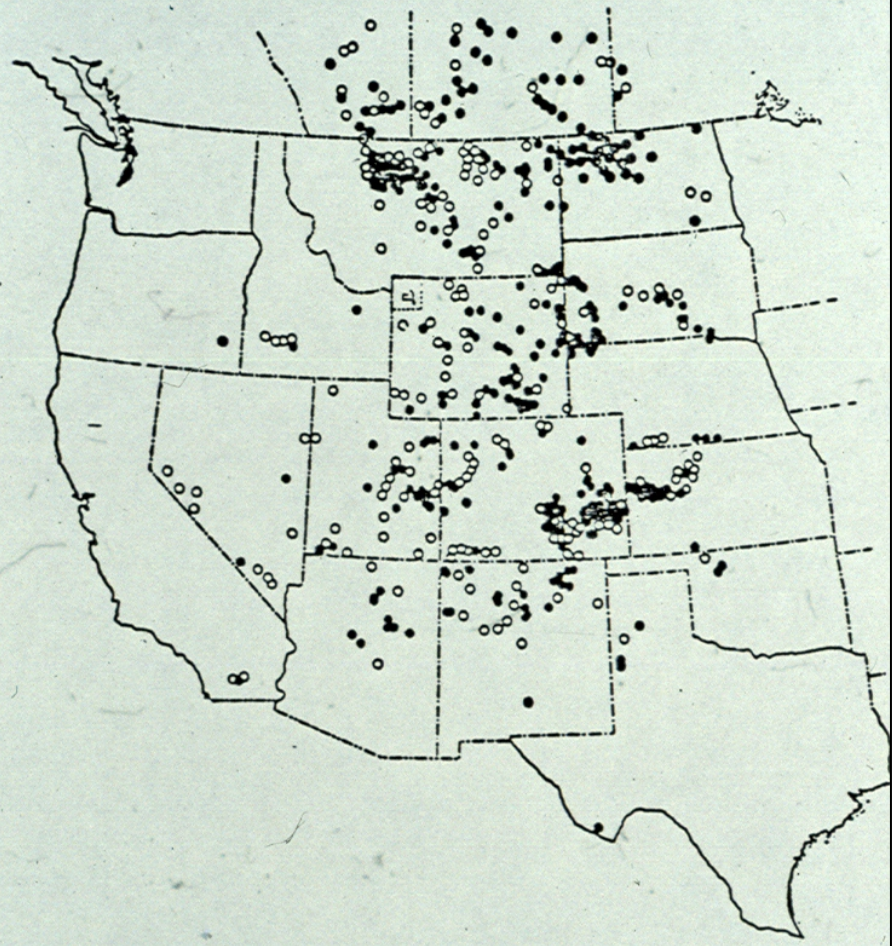
The ingredients for the poisoning are plentiful in t arid West: outcroppings of rock containing selenium, l rainfall and intensive irrigation made possible by ma sive federal water projects.

Sun, wind and rain break up the selenium-containi rock and transport it down into valleys and plains, whe the selenium dissolves in and is transported by water. E tensive irrigation accelerates the natural process, putti more water through the selenium-laden soil in a we than would normally fall in a year.

The newspaper said Monday that it also found:

- The government has known about selenium dang for decades, but has done little or nothing to warn or ed cate ranchers about the danger.
- Animals suffering from selenium poisoning a routinely sold by ranchers for slaughter and no gover ment inspections are made to detect the dangerous su stance before it reaches consumers.
- Veterinarians know little about the toxic natu and effects of selenium poisoning.

The Bee said its reporters found piles of dead a mals in pastures, ditches and stock watering ponds whe



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