

# Agencies clarify roles in radiation monitoring

The only abnormal radiation levels discovered in the Lakeview area by an early spring helicopter surveillance team are at two spots along the Southern-Pacific Railroad tracks, according to Michael Pollock of the Oregon Department of Energy.

Pollock, speaking at a Lakeview radiation monitoring public meeting May 20, said the two spots are small, and possibly came from spillage of uranium ore materials processed at the former Lakeview Mining Company plant north of town. The two areas will be cleaned up in the near future, Pollock said.

The meeting was sponsored by the Radiation Education Council of Lakeview, and came after a day-long workshop with various governmental agencies, which attempted to clarify the responsibilities of the agencies for monitoring of activities with radioactive substances.

One of the results of the workshop will be annual meetings of representatives of

the various agencies, to review the previous year's monitoring activities, and plan strategies for future monitoring, according to Mike Lohrey, who coordinated the workshop on behalf of the Forest Service.

The agencies involved include the Forest Service, Oregon Health Division, Department of Geology and Mineral Industries, state and federal departments of energy, Department of Environmental Quality and U.S. Environmental Protection Agency.

The bulk of discussion at the workshop centered around responsibility for the former uranium mill site, and for the currently shut-down uranium mining claims near Lakeview.

As for the mill site, the responsibility lies with the U.S. Department of Energy, according to Pollock, and Mark Matthews of that department. Under an on-going federal-state program, priorities are being set for clean-up of this and

several other similar sites around the west.

The U.S. Department of Energy has contracted to have an environmental assessment study done at the site starting this July, which is scheduled to be finished in May 1982, Matthews said. If an environmental impact statement is necessary—which will be determined by the study this summer—this will be done. By 1985, the design for containing or removing the tailings dump near the mill will be completed, and the “remedial action” at the site will be finished by 1986 or 1987.

It was determined that the mine site of the White King, where some dumps of “overburden” exist, is under the jurisdiction of county or state nuisance ordinances. Lohrey said past monitoring of the site has not shown excessive radiation activity, so the site does not fall under any federal laws.

Chris Platt of the Radiation Education Council said the council has investigated the mine area, and found some hazards existing, such as uncapped exploratory holes and unfenced pits. The council

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# Radiation workshop

(Continued from Page 1)

requested that the water in streams near the mines be tested regularly for radiation content.

Lohrey said the streams have been monitored in the past and will continue to be. No undue radiation has been found in the water, but some relatively high concentrations of other heavy metals such as zinc have been found at certain times, he said.

About 35 persons attended the evening meeting, at which results of the workshop were discussed and the programs of the various agencies were explained to the public.

Representatives of both the federal department of energy and Western Nuclear, which holds leases on mine sites in the area, said no activity in uranium mining is foreseen in the near future in the area.

It was stressed by the Health Division and both departments of energy that the Precision Pine mill, which occupies the former uranium processing plant, contains no radiation hazards above those present elsewhere in Lake County.

A compilation of notes taken during the workshop will be published by the Forest Service and made available to the public.

LAKE CO EXAMINER  
9-2-82



## Lakeview one of sites chosen for uranium tailings cleanup

Lakeview is one of 24 sites chosen nationwide to have remedial action done under the Uranium Mill Tailings Remedial Actions (UMTRA) Project, it was announced by the U.S. Department of Energy.

The department has selected a Boise, Idaho engineering firm for negotiations leading to a contract to perform the "remedial actions."

Remedial action means cleanup and stabilization of uranium mill tailing sites.

Also included in the project is the cleanup of residential and commercial structures in the vicinity of the pro-

cessing sites.

The Lakeview site is located north of the city limits near the present Precision Pine mill.

The project is to be completed within seven years from the date the EPA standards are published in final form.

Lakeview is the only location in Oregon to be selected for the project.



# 200,000 years unfold on a

By RICHARD READ  
of The Oregonian staff

**S**UMMER LAKE — The world is a giant sandbox to Rob Negrini and Jonathan Davis.

Digging recently through ash beds along the Ana River, about 75 miles northwest of Lakeview, the two scientists shared the exuberance of two boys in a mound of dirt.

But Negrini, a University of California at Davis doctoral candidate in geology, and Davis, an associate research professor at the University of Nevada's Desert Research Institute's Social Science Center, had a purpose.

By the time they were done, more than 200,000 years of Oregon's geologic history — including deposition from at least 44 eruptions — were laid bare for a composite photograph (right) taken from across the river.

"Look here," Davis exclaimed, exposing layers with a swing of his shovel. "Two white ones and a big, thick black one."

"That's a beauty," Negrini said, dropping his pickaxe and clambering across the steep bank, sending a shower of dirt bouncing toward the river about 80 feet below.

Davis, 35, an energetic man whose conversation drifts easily from rocks to politics and back again, wears a flannel shirt, jeans and hiking boots patched with fiberglass when working in the field. He pilots gliders when away from the laboratory. Many of the 140,000 miles on his 1964 Volkswagen bus have been accumulated on geologic trips across the West.

Negrini, 26, bearded and tan from recent travels through Baja California, furrowed his brow and drew diagrams in the earth to explain complex

geophysical concepts. Always ready with a smile, he shoveled with strength and precision acquired during summers working for his father's firm, Negrini Plumbing and Heating Co., in West Stockbridge, Mass.

Like detectives taking fingerprints at a crime scene, the two scientists are able to identify the sources of volcanic ash layers by comparing their contents to those of layers deposited around culprit summits.

Their work is funded by a National Science Foundation grant proposed by Kenneth L. Verosub, a University of California geology professor.

At the top of the photograph, Davis' dog, Tanya — named for Tanya Atwater, a geologist who developed a hypothesis that explained Western geology in one fell swoop — looks on as her master points with his shovel at a thin layer of ash he discovered.

The Wono Bed is about 24,800 years old, and Davis believes it came from an eruption of either Mount Mazama or Mount Shasta, leaving ash up to 8 inches thick in some places in Nevada.

The 5-inch-thick, white layer by Davis' knee is believed to be from an eruption of Mount St. Helens 34,000 years ago that was from 10 to 100 times as powerful as the volcano's 1980 eruption. No ash from the blast two years ago reached the Summer Lake area, and the eruption left only 1 centimeter of ash at equivalent distances.

All of the ash beds in the area formed when ash spewed out of volcanoes and drifted down through ancient Lake Chewaucan. The ash settled on the lake floor and, later, after the lake dried up, was exposed by erosion caused by the Ana River.

Radiometric dating and chemical analysis allow



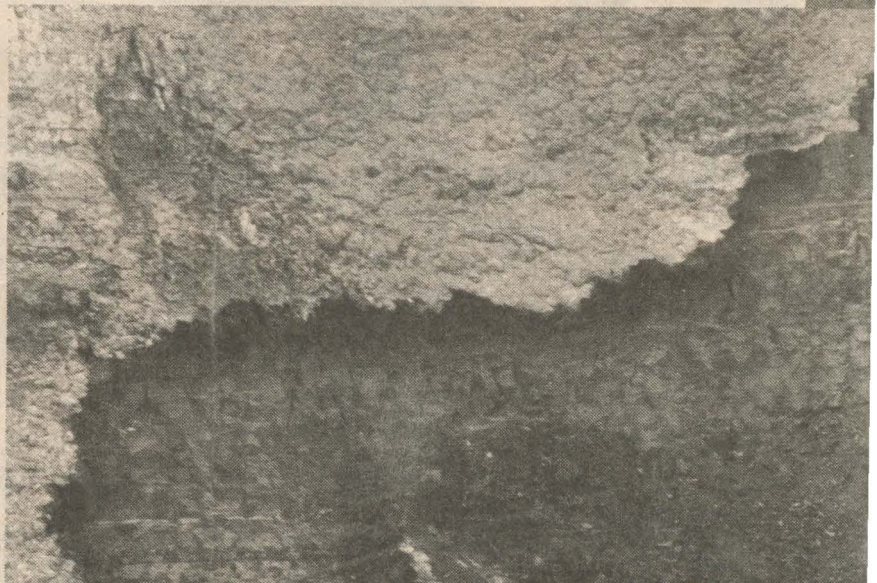
DAVIS



NEGRINI

## History in layers

Geologists Jonathan Davis (right) and Rob Negrini (bottom of incline) bare about 80 feet of sediment along the steep bank of the Ana River northwest of Lakeview to reveal ash layers deposited by at least 44 volcanic eruptions over more than 200,000 years. The ash beds shown in the three-photo composite accumulated in an ancient lake downwind of the Cascades.



"II Ash Bed," 160,000 years ago,  
from unknown: Cascade volcano. →



# riverbank near Lakeview



- ← Mount Mazama ash, deposited by eruption that formed Crater Lake, 6,800 years ago.
- ← Human beings thought to have appeared in North America, 10,000-12,000 years ago.
- ← Trego Hot Springs bed, 23,400 years ago, from a Cascade volcano.
- ← Wono bed, 24,800 years ago, from Mount Mazama or Mount Shasta.
- ← Marble Bluff bed, 34,000 years ago, from Mount St. Helens.
- ← Human beings spread through Asia, earliest known artistic engravings, 37,000 years ago.
- ← Pumice Castle beds, 60,000 years ago, Mount Mazama.
- ← "Bed No. 2," named by Ira S. Allison.
- ← Sangamon interglacial stage ends; Wisconsin glacial stage begins.
- ← Bison arrive from Asia. Elephants, horses, camels, large cats and birds present during entire era.
- ← Layer of crustaceans that died when Lake Chewaucan became shallow.
- ← Neanderthal humans appear, 100,000 years ago.
- ← "AA Ash Bed," 137,000 years ago, origin unknown, named by J. Davis.
- ← Clay beds deposited when Lake Chewaucan was deep.



Illinoian glacial stage begins. →

Salt and Pepper Bed, 210,000 years ago, origin unknown, but perhaps from two simultaneous blasts. →



tion; dating becomes more speculative further down.

At the bottom of the photographs, Negrini is cleaning off the river bank to reveal the Salt and Pepper Bed, a puzzling layer about 210,000 years old that contains both basalt and coarse, white grains.

The varied composition of the bed could mean two volcanoes erupted simultaneously, or else one volcano belched more than one kind of material.

Scientists can learn more about the area's ancient history by analyzing the pollen, magnetism, fossils and shells found in the sediment.

Weathering has destroyed more recent layers once present where Tanya the dog sits, but the Trego Hot Springs Bed attributed to the eruption of Mount Mazama, which formed Crater Lake, may still be seen.

About 6 feet below it is the thick layer that geologist Ira S. Allison mistook for that eruption when he first discovered the site. The Pumice Castle Beds have since been identified by newer dating

60,000 years ago.

"What we need is to dig this out," David and breathing hard with time to admire the landscape before breaking into silence betrayed a sometimes a part of a

The chill, April air Negrini sat in the bushes, cake, fruit and beer. Temperatures had the two slept in their long memories of other through frozen sediments

"We'd rather spend more time in the field than hotel rooms, this is devotion to science like running around in the is that most of it is real the people who are spending public, get some fun out of it."

Staff photos by BOB ELLIS



# Dirt samples clue scientists in to meander

By RICHARD READ  
of The Oregonian staff

**SUMMER LAKE** — Santa Claus might hire a moving truck if he knew what Rob Negrini was up to in the central Oregon high country.

With a shovel, a compass and small plastic specimen boxes, Negrini is uncovering evidence of a remarkable phenomenon: The magnetic North Pole has flipflopped with the South Pole hundreds of times throughout the Earth's history.

"Who knows, if it happened again, (American) kids might start getting pinatas for Christmas," the University of California geology doctoral candidate joked as he sunk his spade into sediment beds along the banks of the Ana River recently.

"A common thing the North Pole does when it reverses is it decreases its magnetic pull to about 10 percent of normal strength," Negrini said as he carved a vertical wall that exposed chalk-colored layers of volcanic ash. "Also, often it goes part of the way back to the South Pole, pops back and then goes the whole way."

In addition to this elusive movement, "every once in a while, in the last 700,000 years, the Earth's magnetic field has gone beserk," he said, scraping the dirt smooth with a trowel. "The magnetic pole wanders around and then goes back to north, and one possibility is that these excursions are attempted reversals."

Two geologists exploring lake sedi-

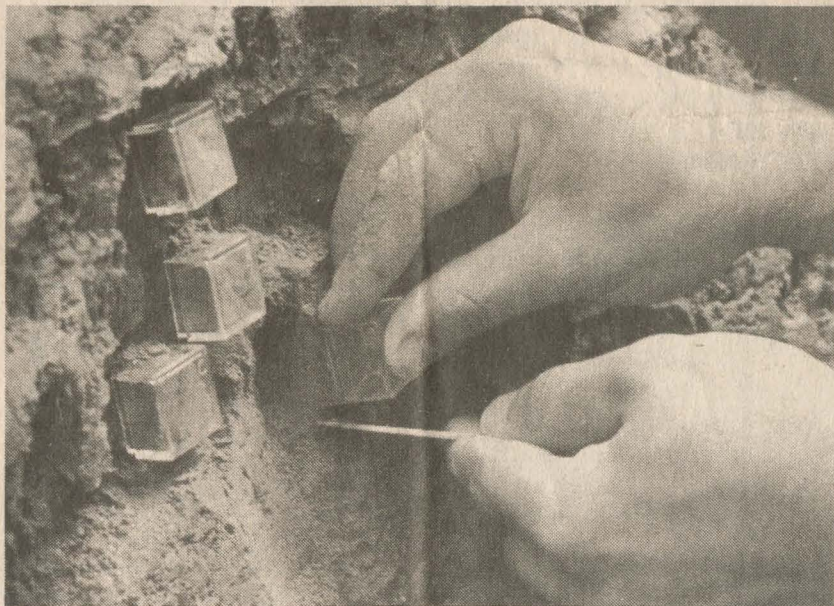
ments near Mono Lake in California in the early 1970s uncovered evidence of such magnetic meandering, and a geologist in Nevada has expanded on their work. Negrini hoped to investigate the so-called "Mono Lake Excursion" using subtle indicators embedded in his ditch.

The excursion, which lasted approximately 1,000 years, would have caused a compass needle to swing west 90 degrees and then back to the east.

Because the movement is thought to have occurred from 25,000 to 30,000 years ago, Negrini concentrated on the sediment between the Wono ash bed, deposited probably by Mount Mazama 24,800 years ago, and the Marble Bluff Bed, deposited by Mount St. Helens 34,000 years ago. Both ash layers fell on the former Lake Chewaucan and settled on the lake bed, later to be revealed by erosion caused by the Ana River.

"In this dirt there are little pieces of iron oxide that are magnetic," Negrini said, removing clear plastic boxes from a bag and labeling them with a scribe. "They align themselves to point toward the pole as they drift down through the water. When the sediment becomes consolidated, then that position may be locked in. Then I come along with my little boxes and I measure them hopefully in the same orientation as they were laid down."

Negrini held an open box against 300 years of sediment, carved its outline with a jackknife and pressed it into the wall. The laborious process yielded a vertical colony of clear boxes that



**TRACKING THE NORTH POLE** — Geologist Rob Negrini presses specimen boxes against a section of Central Oregon riverbank. After Negrini records the exact orientation of the boxes, a magnetometer determines the magnetic alignment of iron oxide in the 300 years of sediment each contains. Shifting alignments indicate wanderings of the magnetic North Pole.

looked something like a miniature community of Pueblo cliff dwellers gone condominium.

The geologist then measured the orientation of the boxes relative to the present magnetic North Pole. He would use these measurements later, along with any tilt recorded in the sedimentary layers of the area, to reveal the mag-

netic alignment of the samples once each was analyzed by a magnetometer.

"What I have in each box is the direction a compass needle would have pointed at the time of the deposition of its contents," Negrini said. Every container was to become a tracking station embedded in time, an indicator of the roamings of the nomadic pole.



# ings of North Pole

"One of the biggest breakthroughs in geology arose in part through the study of magnetic reversals," Negrini said. Plate tectonics, a unifying model of world geology, revolutionized the scientific discipline in the early 1960s, when researchers began to reject the notion of a rigid Earth with fixed continents and ocean basins.

Instead, geologists now believe the surface of the Earth is composed of rigid plates that move throughout history atop a semi-stationary mantle. This theory of continental drift explains, for instance, the curious resemblance of the South American and African coasts, which seem to fit together like pieces of the same jigsaw puzzle.

Crucial to buttressing the plate tectonics theory was use of the same kind of magnetic measurement techniques that Negrini has been using in Oregon. Oceanographers using highly-sensitive magnetometers developed during World War II to detect submarines found long bands of magnetic rock in the ocean floor. Once scientists determined their varied magnetic orientations, they realized the stripes were arranged in such a way that the rock must have been squeezed upward through a crack in the ocean floor.

Working on the Juan de Fuca ridge off the Oregon and Washington coasts in 1965, Fred Vine and J. Tuzo Wilson became the first geologists to combine the observations about the rock stripes with the theory of plate tectonics.

Other kinds of plate boundaries are faults — like the San Andreas fault — and "subduction zones," in which two plates collide and one rides over the other, often resulting in mountains like the Cascade range.

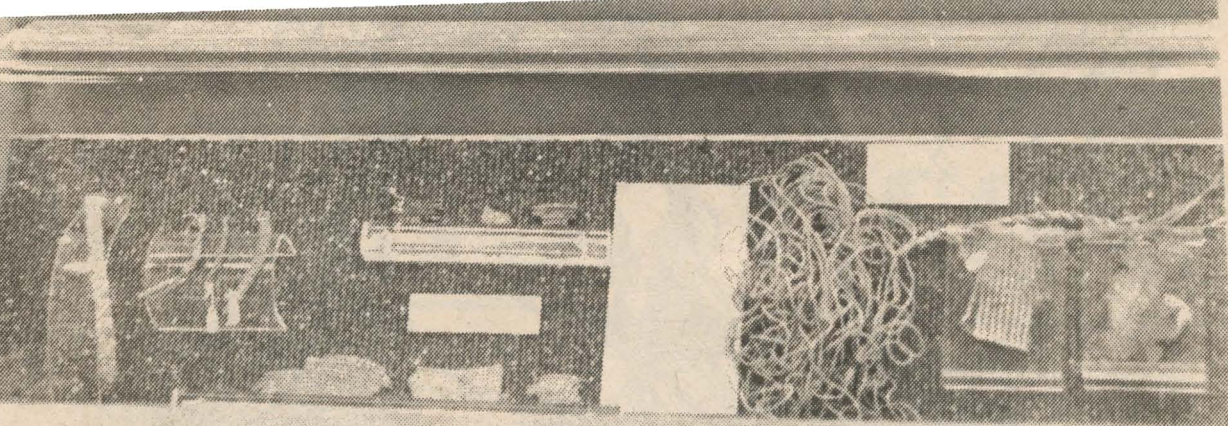
Negrini hopes to use the data he obtains in Oregon in addition to information unearthed from sites in Nevada and California to show that the movement of the magnetic North Pole that he is studying was recorded at the same time in widely separated areas. He intends to determine in his thesis study whether the event was caused by a disturbance in the Earth's outer core, a area 1,800 miles below the Earth's surface that scientists believe generates the planet's magnetic field.

"One of the most important applications of complete reversals is using them for date markers, just like the ash layers, since they are recorded all over the world at the same time," Negrini said.

So what's the chance the magnetic North Pole might take a trip in the near future, disorienting hikers and spinning ships' compasses?

"Over the last few million years they have occurred every 200,000 years on the average," Negrini said. "The last one was 700,000 years ago, so you might say we're overdue. But it would take a few hundred years to screw up compass needles, and it would be slow enough so you could correct your compass every 50 years or so."





**ANCIENT EXHIBIT—**  
Photos show portions of the "Sandal and the Cave" exhibit located at U.S. National Bank in Lakeview. On tour from the University of Oregon Museum of Natural History, the exhibit shows items used by primitive man thousands of years ago in this area; drawings of what their lifestyle was like; and photos of the archaeological history of the finds. The public is encouraged to view the exhibit any time the bank is open. Lower photo shows close-up of "Fort Rock Sandals," similar to the artifacts which gave the exhibit its name, and helped change theories about prehistory in this area. (Examiner photos)



# Mine Monitor

## Request Ready

State Health Department officials will be asked Wednesday to establish a monitoring and surveillance program for two abandoned mines in Lake County, and to correct a contamination problem connected to the two mines.

This was reported by Ada Sanchez, a steering committee member with the National Committee For Radiation Victims, who was in Klamath Falls Monday night to participate in one of a series of meetings being held in Oregon during the first three weeks of May on the nuclear dangers.

The meeting in Klamath Falls was presented by the Oregon Chapter of Fellowship of Reconciliation, which is an international non-profit organization.

A meeting at 7:30 p.m. Wednesday in the Lake County Community Center in Lakeview on the subject of the two abandoned mines will be presented by the Lakeview Radiation Education Council. State, federal and county officials will attend. It will be open to the public.

"There are two abandoned uranium mines in Lake County that have left behind 130,000 tons of radio-active mill tailings," Miss Sanchez said.

"From the mill tailings and the mines not being closed up, Lake County has the highest percentages of pancreatic and breast cancer in the state and the highest infant mortality rate. It also has the second

highest rate of congenital deformities," she said, attributing her information to the State Health Department.

"At the Wednesday night meeting, State Health Department officials will be asked to establish a monitoring and surveillance program for the mines and the mill tailings to measure how much of a danger they represent," she reported.

"Government officials also will be asked to correct the situation, with the mines being closed," she added.

Throughout the day Wednesday, state, federal and county officials are scheduled to participate in a radiation monitoring workshop at Fremont National Forest headquarters in Lakeview. The workshop will be closed to the general public.

At the Monday night meeting in Klamath County Library in Klamath Falls, a slide presentation on "The Medical Consequences of Nuclear War" was presented. It traced the short-term and long-term affects of nuclear war and emphasized the local and national economic and health problems posed by the development of nuclear weapons.

Guest speakers were Miss Sanchez; Nora Hallett, director of the Oregon Chapter of Fellowship of Reconciliation; Dr. John Hurd, a Klamath Falls chiropractor; and Philip Young, a member of the board of directors of the Oregon Chapter of Fellowship of Reconciliation.



H&N 6-28-81



1932 Photo — Luther Cressman, left, and then-graduate student Howard Stafford posed for this

photograph in 1932 before setting off into the desert of Eastern Oregon to do archaeological field work.

## Artifacts Form Exhibit

**LAKEVIEW** — Fifty years ago, Luther Cressman, a University of Oregon professor emeritus of anthropology, set off into the rugged country of Eastern Oregon to do archaeological field work.

What he found in the caves of the Great Basin challenged the whole theory of Western prehistory. Cressman believed the prehistoric people developed a culture independent of Southwest cultures long before what most archaeologists believed. He also felt the people were not at all impoverished.

"In spite of hard conditions, they were remarkable in that they took time to make beautiful things," Cressman said. Even household items were far more than functional.

Now, some of the original artifacts that Cressman used

The exhibit will be shown at the U.S. National Bank in Lakeview from July 1 to Oct. 29.

When he began digging in 1935, Cressman found pieces of basketry that were well-preserved and unique in quality and archaeological significance.

"These people had a great deal of technical skill and placed a high value on excellence of workmanship, what I should like to call aesthetic expression."

Also discovered were sandals made of tule and sagebrush bark, commonly worn by the Great Basin people, and an atlatl, a Stone Age spear-thrower whose deadly efficiency was proved on Spanish conquistador Hernan De Soto's men during the 1600's.

ing times of about 200 kinds of plants known to them. Life was quite peaceful, Cressman said.

Because little excavating was being done in the Great Basin at that time, archeological dating problems arose, for implements found were not similar to Northwest or Southwest native materials.

The question became, Cressman reported, how to place these artifacts both in relation to the total cultural picture of Native American archaeology and within a time sequence.

To date material, Cressman said they had to have one of two things: either an artifact with a known date, or else some outside event to which events in the cave could be tied.

by the scientific community. At that time, a sandal was dated back 9,000 years.

After that, the weight of dogmatic archaeological opinion against Cressman's theory collapsed. Then, in 1967, hearth site implements from Fort Rock Cave were dated back 13,000 years.

Today, Cressman's conclusions about the dating, the separate development of Great Basin culture and the richly artistic and productive life of these prehistoric Oregonians are generally accepted.

"This work of ours out there turned out to change the whole theory of Western prehistory," Cressman said. "We didn't start out to do that. That's just what happened."



to date human occupation as early as 13,000 years ago are being sent out on the University of Oregon Museum of Natural History's first traveling exhibit.

In one cave, Cressman found the broken pieces of a highly crafted bow. "I can imagine what the owner must have felt when that thing broke in his hands and he smashed the rest of it and threw it in the fire along with some worn-out moccasins."

Cressman found that the Great Basin had supported a very long-continued population that had developed, contrary to scholarly opinion in the 1930s, without much influence from the Southwest.

The people, he said, "made a marvelously successful exploitation" of the dry environment without destroying it.

Most human energy was devoted to day-to-day survival, keeping track of harvest-

When the eruption of Mount Mazama was dated to be between 4,000 and 10,000 years ago, its ashfall could be used to pin down an approximate date.

But there was heated controversy over Cressman's new dating because it contradicted other archaeologists' theories. It bothered some people, he said, because they thought the culture shouldn't be dated that old.

"We get fixed ideas about how things should be, and then we fight any new discovery that comes that changes it."

Not until 1949, when the new technique of radiocarbon dating was developed, were Cressman's theories accepted



# DOE seeks uranium clean-up

*Lake Co Exam. 3/4/82*

The Department of Energy (federal) is seeking companies interested in contracting for work under the Uranium Mill Tailings Remedial Action program.

The work entails measures to stabilize and control uranium mill tailings sites so that hazards from the tailings do not exceed standards to be established by the U.S. Environmental Protection Agency.

One such site exists in Lakeview.

The Albuquerque Operations Office of the department is managing the effort in cooperation with the affected states.

The proposed contract will include provisions for design, engineering, construction and other remedial action services for the 24 inactive uranium mill tailings sites, of which Lakeview's is one.

Anticipated contract period is seven years. The contract is expected to be awarded by October 29.

The tailings will be either stabilized at the sites or moved to some site which has not yet been designated.

The other 24 sites are in Arizona, Colorado, Idaho, New Mexico, North Dakota, Pennsylvania, Texas, Utah and Wyoming.

For more information, contact Charles A. Dann, Jr., Contracts and Procurement Division, Albuquerque Operations Office, DOE, P.O. Box 5400, Albuquerque, NM 87115.



# Alcohol fuel plant is prospect

If all goes as planned, Lake County could by some time next year be the location of a plant producing up to one million gallons of ethanol, grain alcohol, for use in the increasingly popular "gasohol."

Two local men, Chuck Kelley and Don Liddycoat, have formed Crystal Clear Energy, Inc., with the express purpose of developing a process and starting a local plant to make alcohol for fuel from grain.

"We're interested in taking local crops, mostly small grains but in the future maybe lumber by-products, and by an ancient process of cooking and fermenting them, producing ethanol for use in gasohol," said Kelley.

Liddycoat, president of the company, said there is a major explosion of interest in such developments across the country now, and he wants to get in "on the ground floor."

The company tentatively plans, and has proposed to the government, to install its plant in unused space in the

grain storage and shipping facility adjacent to the railroad tracks, between 2nd and 3rd streets North in Lakeview. They would lease the facilities from the Ag Center, Inc., of which Kelley is owner.

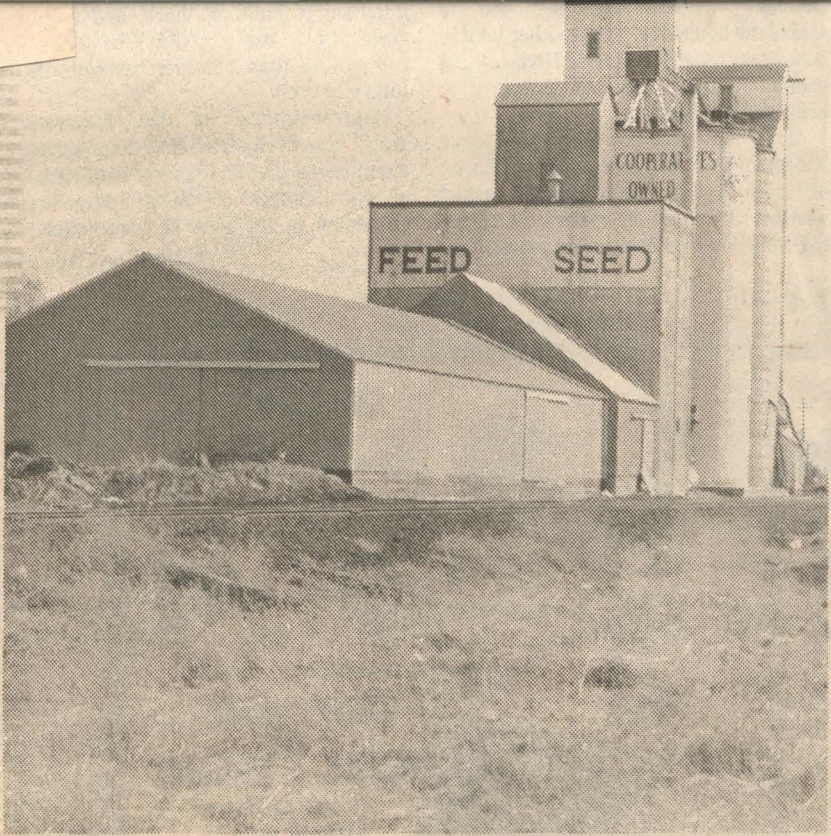
The presence of a ready-made facility, as it were, is a major blessing for the project, they said. This drastically cuts the capital outlay involved in starting up such a plant.

The company has worked out the details for a different kind of distillation process, one that is less costly and more energy efficient. They hope to build a demonstration project this summer, and after proving out the process, to have the real thing in operation sometime next year.

The new process involves a continuous distillation, as opposed to a single-batch process. In traditional distilling, such as that used for liquors, one batch of grain, for example, is cooked to turn the starches into sugars, fermented to turn

(Continued on Page 5)





**GRAIN ELEVATOR** in Lakeview may become the site of an alcohol distillery, for production of gasohol, if plans of a new Lakeview company pan out. The building is currently something of a white elephant most of the year. (Examiner photo)

(Continued from Page 1)

the sugar into alcohol, then distilled to remove the alcohol from the water. Then another batch is dumped into the vat, and the process starts over, each time with tremendous loss of heat.

Crystal Clear Energy has plans for a method of distilling which will be continuous, with the grain going in one end and the finished product coming out the other, with no shutting off of the heat and re-heating each time. This not only saves energy, but it speeds up the process somewhat.

"The cost of producing a gallon of alcohol by regular means is prohibitive, because of the energy you have to put in," said Liddycoat. "It's like getting momentum on a bicycle; once you are up to speed, you only have to overcome friction, you're not stopping and starting all the time," he explained.

Another of several members of the corporation is Dennis Clifton, a pharmacy student from Lakeview currently studying at Oregon State University, who is lending expertise in the organic chemistry field.

The end product, they hope, will be anhydrous alcohol. In common terms, that means 200 proof, or pure alcohol, with no water at all remaining.

"We're looking at a new process," Liddycoat said. "It's only been done in a lab before this. The real problem in producing alcohol has always been to remove that last five-percent of water. This new way should be more efficient and less expensive."

One of the major benefits to the area of such a plant would be simply the creation of a new industry, one which would actually export a product and import dollars. And one which would not be dependent on a flexible market such as housing, but rather tied into transportation and the creation of domestic energy.

Kelley said the creation of such small plants in diverse locations will probably become a trend in the next few years. He and Liddycoat have come to believe that decentralized production of alcohol is more feasible than production at large, centralized plants.

"We anticipate that all smaller communities like ours will have a modest plant in a few years, rather than shipping grain to a plant elsewhere," Kelley said.

The reasoning behind that is that alcohol is cheaper to ship than is grain or any other raw material for the production of alcohol. It ends up being cheaper to use local grains at a local plant to produce the fuel, instead of shipping out the heavier raw materials.

That is another major advantage for the area which the company sees as accruing from the building of such a plant. It would utilize local grains. Farmers could sell their grains (including lower-quality or damaged grain) to the local plant, receive a market price without subtracting shipping costs.

Such a development could improve the local grain market, for one thing, and could also produce a by-product suitable for feeding cattle at a lower price than standard protein supplements.

"We could increase the production of this valley quite a bit with irrigation and a market," Kelley said. Barley is an excellent grain for use in the process, as is the soft white wheat produced locally, he said. In other words, it could create a local market for some of the few products that grow excellently here.

Kelley said the company would, in fact, like to buy most of its grain under contract with local farmers. This would obviously add some stability to local farming conditions.

"We need a broader base than cattle around here for agriculture," he said.

The two are confident that the project



# ned here

ill work for the local area, if they have enough of the right kind of support.

"It appears to be a feasible project, provided the people in the community work together with us, and money doesn't get too expensive," Kelley said. Some of the necessary elements include willingness to contract grain with growers, and a local market for the by-product, which is about 30 percent protein.

The local utilization of geothermal energy is also a key, Kelley said. If that were available as an energy source, it could cut down on energy costs. Wood chips could also be used as fuel, he said. If people would be worried about odors from the plant, they can rest easy, Liddycoat said. Have them go to the Olitz Brewery in downtown Portland and see if they can smell anything, he said. That comparison with the brewery is the only comparison there is, Kelley pointed out. You can't drink the stuff. "If people are thinking they are going to be able to drink this stuff, they're not," Kelley said.

It would probably kill them," Liddycoat said.

Even so, the company has to have a permit from the Bureau of Alcohol, Tobacco and Firearms in order to start up the plant. They first have to have an experimental permit, which allows them to produce 2,400 gallons of alcohol. After that, they have to apply for a commercial permit.

One of the catches with the permit process is that one has to have a plant already constructed and ready to operate before the bureau will inspect it for issuance of a permit, Liddycoat said. It can be a risky business.

But there is such an explosion of interest in the production of alcohol for fuel that the government is beginning to examine its strict oversight of such operations, and much of the red tape governing the making of alcohol fuels may be legislatively removed in the near future.

The market is definitely available. The new company already has an offer to buy all it can produce. That production is

hoped to be up to one million gallons, from some 10,000 tons of grain a year.

If all the material that could be used for production of alcohol were right now to be turned into alcohol, Liddycoat said, that would only satisfy something like seven to eight percent of the demand.

"A lot of plants could come on line right now, and it still wouldn't dent the market," Liddycoat said.

Kelley said the so-called gasohol, 10 percent alcohol, is really the way to go right now, which means that supplies are stretch even farther. The gasohol mixture is usable in any automobile without modification, and actually increases the octane level of the fuel, and therefore the performance of the car.

"If we can get this thing going, I can't see anything but good," Kelley said. "It would help the community and increase the local agricultural strength." It would also provide some employment, and add an industry that was bringing money into the community.

And it would be using a now largely unused building.

"That facility we have is a burden to us now," Kelley said. "This would make a useful asset out of it."



# Tomatoes on vine again at Oregon Desert Farms

Oregon Desert Farms, Lakeview's geothermal greenhouse operation, announced recently it is going back into the business of raising "Desert Gems," the tomatoes for which it is famous.

Andy Parker, greenhouse manager, made the announcement, saying the decision was mainly an economic one.

"There was such a favorable response to them, and so much of a response when we stopped growing them," they felt the

time was right to grow them again, he said.

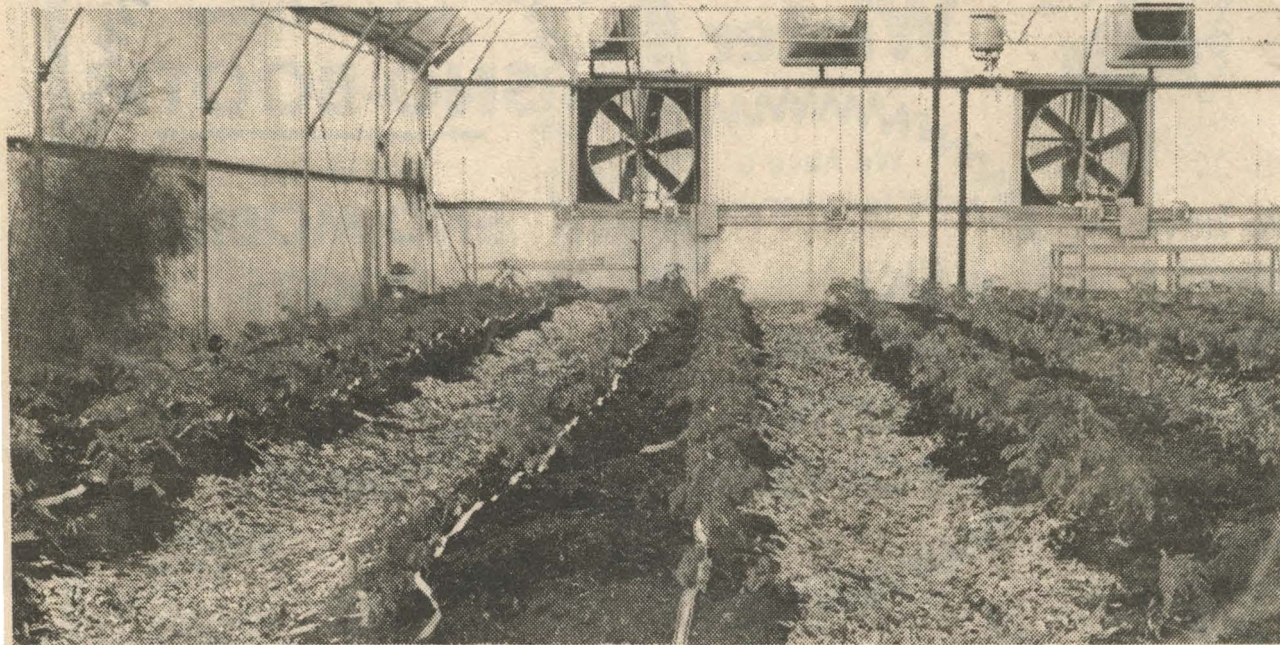
The last tomatoes marketed by the firm, which has its greenhouse about two miles north of Lakeview in the Hunter's Hot Springs area, were sold about a year ago, when Oregon Desert Farms dropped the line in favor of evergreen seedlings for various forestry concerns. At the time, there was apparently more money in the growing of

nursery stock for the forest than in tomatoes, especially since the vine-ripened fruit is more expensive than that which is picked and shipped green, and sold in supermarkets.

"We came back to tomatoes because we know them," Parker said.

Another part of the explanation is that, unstable as the tomato business may be, raising seedlings is no more sure a

(Continued on page 3)



**TOMATOES UNDER GLASS--**or plastic, as the case may be. Rows of young tomato plants are once again growing at Oregon Desert Farms'

greenhouse north of Lakeview, after about a year's absence. Fruit should be ready around Christmas, said proprietor Andy Parker.



# Tomatoes

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(Continued from Page 1)

proposition. Whether a firm can raise the trees depends on whether it can successfully bid for the job. Tomatoes, Parker intimated, are always there and can always be sold.

He said the Desert Gems will be marketed in Lakeview and at outlets in Klamath Falls and elsewhere, with the first tomatoes ready by Christmas. He said the crop should continue at least through June of next year. He said buyers could expect the same quality as experienced previously.

As to whether Oregon Desert Farms will continue to raise tomatoes, Parker

was unwilling to commit himself.

"When the opportunities present themselves, we will grow them," he said. "You never know, because the fresh produce business is totally a supply-demand situation."

He also said an attempt will be made to price the fruit reasonably, though overhead has increased drastically. He said his insurance costs have increased by 300 percent in the last year alone.

All else aside, vine-ripened tomato lovers have cause to rejoice, as the Christmas should bring them their hearts' desires, as Oregon Desert Farms resumes the growing of "Gems."



# Power Line Relocation Will Affect Lake County

12-12-77

LAKEVIEW—Relocation of Pacific Power & Light Co.'s 500 KV powerline is expected to have some significant effects on Lake County, but no one is sure what the specific impacts will be.

The alternate route PP&L officials now plan to develop will pass through about 75 miles of Lake County in the extreme north end. The PP&L preferred route, which drew criticism because it conflicted with waterfowl routes in Klamath County, would have covered 89 miles in Lake County and passed through the Warner Valley and Lakeview.

It had been believed that Lakeview would be a major

staging area for construction crews if the preferred PP&L route were followed. The new route, which is preferred by Secretary of the Interior Cecil Andrus, runs close to Burns and is far from Lakeview.

"Everybody's asking that question at the particular moment," admitted Bob Dahl, a Lakeview PP&L spokesman, of effects on Lake County's economy from the new route. According to Dahl and PP&L Lake District Manager Dave Cavaya, Lake County PP&L personnel were surprised at the announcement about the alternate route.

"It's kind of hit us out of the blue," said Cavaya. "Right now I don't think the guys working on the project have gathered their thoughts. It's still too early to give any facts and figures."

George Carlon, Lake County Commissioners chairman, noted county officials are also unsure what effects of the alternate route will be.

"Some people are happy and others think it's crazy that a few people can move the route," noted Carlon.

According to Carlon, if the alternate route is developed many taxing districts in Lake County will be significantly impacted, although until additional information is gathered it is not known what specific changes will occur. Taxes in some districts will be increased, but the alternate route will probably mean others, such as the Town of Lakeview and Lake County School District No. 7, will not get expected tax money.

"We don't make the de-

termination who is going to get the taxes or how much," noted Bob French, PP&L public relations representative, Medford.

French and others indicated attempts will be made to determine what changes will result because of the switch from the PP&L-preferred to the Andrus-preferred route.

Although supplies of non-perishable items, such as conductors, insulators, wires and small items, have been stored at PP&L warehouses in Lakeview, PP&L spokesmen noted they can be saved for various uses or reshipped to a new locale.



Lake Co. Examiner 12-8-77

# Power line re-route cuts 14 Lake County miles

The proposed alternate route for Pacific Power and Light's high voltage transmission line would reduce the number of miles the line travels through Lake County by 14 miles, according to John Cheek, Project Coordinator.

The original proposal, in which the line would pass through Warner Valley and the Lakeview area, would have covered 89 miles of Lake County land. The alternate route would pass through 75 miles.

PP&L announced Friday, December 2 it will file an application for the alternate route, preferred by the U.S. Department of Interior. It has been waiting for permission to build the line since 1974.

Secretary of Interior Cecil Andrus informed PP&L last week of his depart-

ment's preference for the alternate route.

The fact that the alternate route would offer less hazard for migratory waterfowl was cited by Andrus as one of the reasons for the preference.

The alternate route would require an additional 60 to 70 miles of line and may cause further delay of the line, PP&L says. The utility estimates these changes may cost the company an additional \$60 million.

Bob Moench, PP&L vice president, says the company still favors the original route, and will not withdraw the original application.

Moench says PP&L is preceeding with the alternate route because it has "little choice" in the matter.



H+H 12-9-77

# Wildlife Official Pleased With Power Line Change

By LAYNE CREASON  
H&N Staff Writer

Bob Fields, manager of the Klamath Basin National Wildlife Refuges, said Thursday he was "pleased" that Pacific Power & Light Co. has decided to seek an alternative route to the one it originally proposed for its high voltage power line through the Klamath Basin.

The U.S. Fish and Wildlife

Service had contended PP&L's original route for the proposed 500 kilovolt power transmission line would have posed a significant threat to large concentrations of waterfowl in the Basin. The original route for the Midpoint, Idaho, to Medford power line would have run through the Klamath Basin about a mile north of the Lower Klamath National Wildlife Refuge.

PP&L last week announced

it had agreed to an alternate route for the line which is preferred by Interior Secretary Cecil Andrus. That route, which would take a more northerly route from Midpoint to Malin than the one proposed by PP&L, would avoid the dense concentrations of waterfowl in the Klamath Basin.

Fields noted that the alternate route is simply a recommendation by Andrus and that the final decision would have to be made by the Oregon Public Utility Commissioner which will hold a hearing on the route later.

He said there are still some flights of birds along the alternate route preferred by Andrus. Ross' geese use one area along the route during the spring, he said.

"But the route would have less impact by far than the prime route (PP&L's proposal)." Fields commented.

Fields said the alternate route preferred by Andrus was not the one recommended in a study done in the Klamath Basin by a team of waterfowl experts to determine the line's potential impact on birds. The study recommended a route which would minimize impact

on waterfowl. The study was ordered by the Public Utility Commissioner.

The refuge manager added that he realized it would not be possible to put a large power line through the area and avoid all impact to birds.

However, he said, considering the high cost PP&L said will result from rerouting, perhaps undergrounding the line through the Klamath Basin would be more feasible than it was once thought to be. There would be no impact to wildlife if the line were put underground through the Basin, he said.

Fields said there will be problems with routing the line anywhere and the ultimate decision on the route may involve trade-offs.

The route recommended by Andrus through the Basin would go north of the Lower Klamath National Wildlife Refuge to the Miller Island Road area where it would cross Highway 97 and proceed north near Weyerhaeuser Co. then turn west to Medford.

PP&L has said that the route preferred by Andrus has not been specifically determined because necessary rights of way have not yet been obtained.



# PP&L Agrees To Change In Line Route

4470  
12-2-7

Pacific Power & Light Co. has agreed to an alternate route for its proposed 500-kilovolt power line from Midpoint, Idaho, to Medford which the Interior Department says will minimize environmental impacts on possible wilderness areas and waterfowl.

The utility announced today that in the interests of shortening the delay in gaining federal approval of its proposed high voltage power line it will file an application for the alternate route.

Bob Moench, PP&L vice president, Portland, said the utility had "little choice" but to file for the alternate route after Secretary of the Interior Cecil Andrus informed it last week of the department's preference.

In a letter to Don C. Frisbee, chairman of the board of PP&L, Andrus said on construction of the line along the route proposed by PP&L through the Klamath Basin that "undergrounding appears to be the only certain method of mitigation for the critical waterfowl habitat...."

However, according to Bill Scholtes, PP&L manager in Klamath Falls, Andrus would apparently approve of another route through the Basin which would run south of the city but skirt the dense waterfowl area near the Lower Klamath National Wildlife Refuge.

That route would apparently run near Spring Lake and then go north and cross Highway 97 near Miller Island Road. Then, according to Scholtes, it would go north

across Highway 66 running near the Weyerhaeuser Co. mill turning west to Medford.

## Northerly Route Preferred

Andrus has told PP&L that over the major portion of the route from Midpoint to Malin a more northerly route is preferable. The route would take the line just south of Boise, Idaho, across to Burns and along existing powerline corridors to Malin and Klamath Falls.

PP&L's original application to the Bureau of Land Management proposed a much straighter route to the Klamath Basin and then to Medford. Andrus cited a number of reasons for the preferred alternate including it utilized the most miles of existing or planned utility corridors and avoids conflict with waterfowl in the Warner Valley.

Andrus also said the alternate route would not conflict with management proposals for the Owyhee Mountains, have less impact on "undeveloped and pristine areas" and run by less areas that need to be studied for wilderness.

Moench said that although the preference "does not appear to be a formal disapproval of our original route it's like seeing the handwriting on the wall."

He said the decision to file for an alternate route was made with considerable disappointment. It will mean a three-year delay in completing the line from Midpoint to Malin and an increased cost of \$60 million.

(Continued On Page 2)



# \*PP&L Agrees To Line Change

(Continued From Page 1)

"The route preferred by the Interior Department is not preferred by PP&L," Moench said, "but at this point we're willing to go along with it if it will expedite the project."

## Start "Crucial"

Moench said it was crucial that the line get under way. The need for more "highways" to get power to Southern Oregon and the Northwest is great because of the long delays the utility has experienced.

Scholtes said today he was not sure how many homes in the Klamath Basin would be affected by the alternate route, but there would be "some." Many persons who live south of Klamath Falls signed a petition against an alternate route suggested in a waterfowl study which would have placed the line near their property.

Andrus has told PP&L that if it applies for the preferred route from Midpoint to Malin then he will instruct Murl Storms, Oregon State Director of the Bureau of Land Management, to concentrate the wilderness evaluation effort now under way on the route.

"We believe that by concentrating our efforts on Route 1 (the alternate), we will be able to expedite a final decision along that general route much earlier than if we con-

tinue to inventory and analyze routes II and IV in addition to Route I," Andrus said.

Andrus said the wilderness evaluation of roadless areas is estimated for completion by mid-January. He said that following a 45-day public input review period public comments will be reviewed and the department would work with the company to determine a specific route to avoid areas with wilderness characteristics that would require further study.

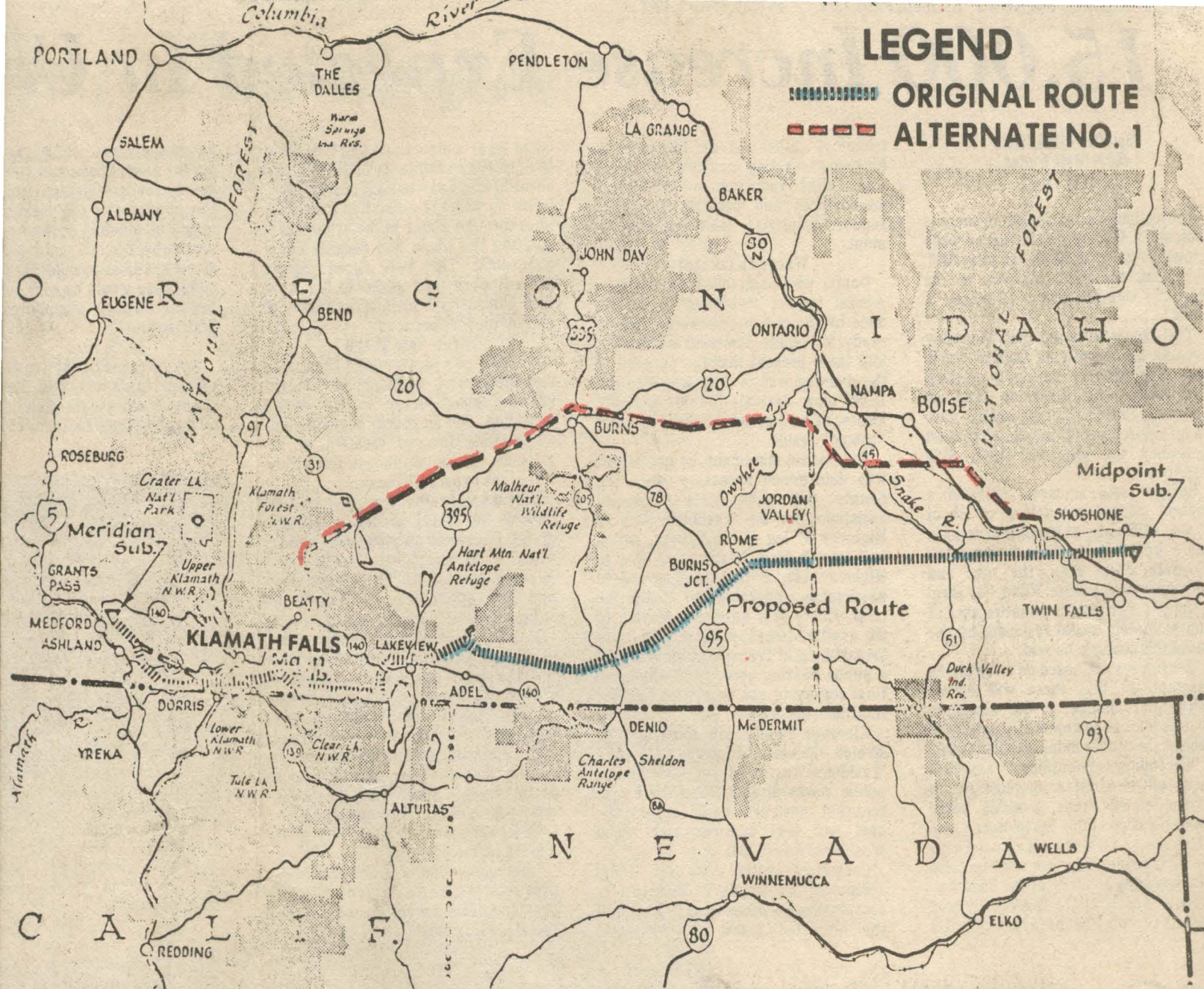
"Following the determination of route modifications, we should be able to issue a final decision, assuming no additional statutory compliance problems," Andrus said.

Scholtes said today PP&L would still have to obtain all the necessary private right of way. He said the company had spent a great deal of time and effort trying to create the route which would have the least impact on people.

He said the company had spent \$43 million and taken 2½ years to do the study for its proposed route and that now is lost.

Moench said PP&L needs full approval of the Oregon Public Utility Commissioner for the new routing and to determine additional costs before it will proceed very far with pre-construction activities.







# Ancient Bigho

FOSSIL BIGHORN SHEEP FROM LAKE COUNTY, OREGON

Richard E. Thoms\* and Harold Cramer Smith\*\*

In the first week of October, 1972, Roy Collier, a bulldozer operator for the MC ranch at Adel, Oregon, bulldozed up a skull from the gravels near the mouth of Twentymile Creek. The locality is in the South Warner Valley Lake County, Oregon, in the NW $\frac{1}{4}$ , sec. 19, T. 40 S., R. 24 E., W. B. & M. Subsequent examination of the skull indicated that it represents a specimen of Ovis catclawensis Hibbard and Wright, an extinct Pleistocene species of bighorn sheep known only from the Great Basin. A "battered cobble" of basalt, possibly representing human occupation of the stream bank or its vicinity, was found in association with the skull.

## Previous Studies on Fossil and Living Bighorn Sheep From North America

For a thorough treatment of the various studies which have been made on the descriptions, distributional patterns, and evolution of fossil and recent bighorn sheep in North America, the reader is referred to the paper by Stokes and Condie (1961). The following section, a review of the historical record of bighorn sheep in the Oregon country, is offered for the reader to better understand the rugged and limited conditions under which the modern analog of Ovis catclawensis now survives in a portion of the Great Basin.

## Historical Record of Bighorn Sheep (Ovis canadensis) in the Oregon Country

The story of the decline of bighorn sheep in Oregon parallels the decline of other wilderness species that could not compete with the coming of the white man and his "civilization."

The bighorn is strictly a wilderness animal, intolerant of heavy hunting and competition with domestic livestock, elk, and deer. At one time much more numerous than today, bighorn sheep were widespread over the West wherever rugged terrain provided desired habitat. As the white man turned livestock onto accessible ranges and extensively hunted the bighorns, they retreated to the most inaccessible, wildest, and highest peaks of the Rockies and to the deserts of the Southwest. All this happened quickly in the last half of the 1800's.

## Distribution in North America

Two distinct species of wild mountain sheep evolved in North America since Pleistocene times, according to Cowan (1940). They are the thinhorn sheep (Ovis dalli) with three races or subspecies, and the bighorn sheep (Ovis canadensis) with five races.

## Distribution in Oregon

Two types of bighorns were originally native to Oregon: the California bighorn (also called the rimrock or lava beds bighorn), and the Rocky Mountain bighorn. Bighorns generally have more massive, close, heavier horns than do the northern thinhorns, with usually blunt, broomed tips as compared to the sharper, wider spread point of the Dall and Stone sheep. The Rocky Mountain bighorn, "Emah-ki-kini" of the Blackfeet Indians, held to the relatively small area of the northeast corner of the state, includ-



ing the Willows and part of the Blue Mountains. Old timers reported the Rocky Mountain bighorn as far south as the Strawberry Mountains in Grant County and over to the high breaks along the Snake River Canyon. U. S. Forest Service reports indicate a remnant of these sheep as late as 1933 in the high Willows.

The California bighorn ("Tsnoon" of the Warm Springs Indians, and "Quoipa" of the Piutes) ranged from the Cascades east through central and southeastern Oregon. Early explorers such as Peter Skene Ogden gave accounts of the lava beds sheep near the Deschutes River in the area south of The Dalles, which is still known as the "Mutton Mountains." From locales such as this, the sheep ranged eastward through Hart Mountain and the Steens Mountains to Idaho and Nevada. One authentic report places these sheep as far southwest as the Siskiyou Mountains along the California-Oregon border.

### Survival

Several theories are advanced as to the cause of the extinction of this species in Oregon. Schnabel in 1916 wrote that disease in the winter of 1884-1885 killed most of the sheep in the desert country. However, parasites from domestic sheep appear to be the greatest decimating factor. Huge flocks of domestic sheep covering much of the high desert range near and after the turn of the century contaminated nearly all parts of both summer and winter range. The scab mite supposedly caused loss of hair and undercoat so that the wild sheep perished from exposure during the winter. This theory is questioned by some authorities. In 1914, a Mr. Tillford of Fort Klamath stated that close grazing of bighorn winter range by domestic flocks resulted in heavy winter die-off in the winter of 1879-1880. Other eastern Oregon rangers corroborated the starvation theory.

In Oregon, the Steens and Hart Mountains appeared to be the last stronghold of the California bighorns. The last records of wild sheep in these areas was an account, by Goldman, of one or two rams seen on Hart Mountain in 1912. By 1916 the California bighorn had disappeared from the state.

In 1939, a group of Lakeview sportsmen, with the aid of the U. S. Biological Survey, released 23 Rocky Mountain bighorns on Hart Mountain. This transplant was unsuccessful.

In 1954, the Oregon Game Commission, in cooperation with the British Columbia Game Department, trapped 20 sheep in British Columbia and released them in Oregon. Again the Hart Mountain area was chosen as a good site. They were released into a 34-acre pen and held there while a 600-acre holding pen was constructed on the west face of Hart Mountain. The large pen was started in March, 1955, and completed in July of that year. It consisted of over 4½ miles of fence constructed under adverse conditions and on very difficult terrain.

The sheep quickly adapted to life in the 600-acre pen. The first release from the pen was made in June, 1957, when 18 sheep were allowed to escape from the pen at the west face of the mountain. Since that time a few sheep have liberated themselves by breaking through the fence. An attempt has been made each year to tally as many sheep as possible both inside and outside of the pen. By 1960, the known population was over 64 animals, including animals both in and out of the enclosure. In 1960 four sheep were caught and moved to Steens Mountain, a distance of about 70 airline miles, and in 1961 an additional seven sheep were moved to that site.

In November of 1965, 17 sheep were transplanted from the Hart Mountain

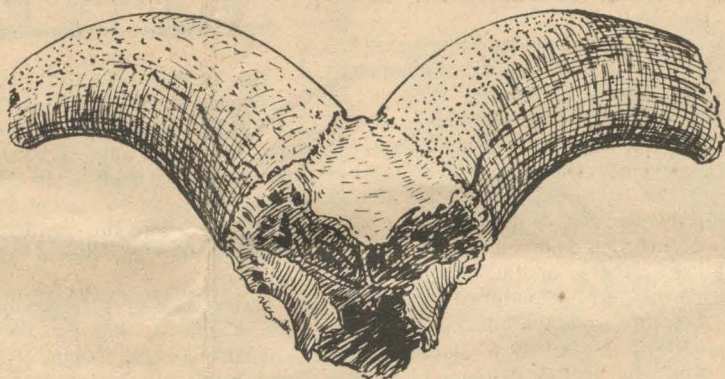
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\*Chairman and Associate Professor of Geology, Department of Earth Sciences, Portland State University

\*\*Wildlife artist, Information and Education Department, State of Oregon Game Commission



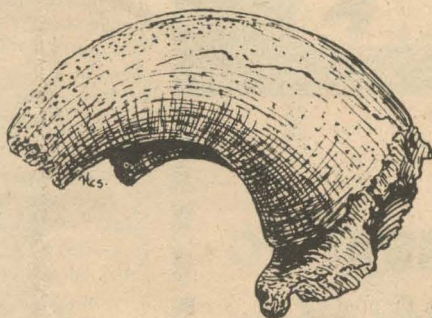
# rn Sheep Fossil



Front View



Rear View



Side View

Three views of partial skull and attached horns of Ovis catclawensis from Adel, Oregon.

tain herd to the Owyhee Canyon country. In 1971, 21 Hart Mountain sheep were released in the Strawberry Mountains area south and east of John Day and Prairie City. Also in 1971, 40 sheep from Jasper National Park were released on two different sites in the Snake River country, 20 head below Hells Canyon Dam, and 20 head on the lower Lostine River. To date, some of the transplants have been sufficiently successful to allow limited permit hunting.

## Stratigraphy

The skull and "battered cobble" were found about 5 feet apart on the south side of the creek bed, lying on the hardpan layer beneath the oldest



sand and gravel was previously about 8 to 10 feet thick, but was partially cleared away about 10 years ago. The bed of Twentymile Creek is artificially altered by continual construction of revetments and digging in the channel for agricultural purposes. Thus, the specimens were covered by only about 4 feet of the deposit. They were obviously associated with the sand and gravel and not with the hardpan. A layer of peat, about 1 foot thick, overlies the sand and gravel, and this in turn is covered by about 4 feet of mixed soil and gravel.

Across the channel on the north side, about 5 to 10 yards from the bank, is a promontory where the wind has blown away the soil in places, exposing numerous artifacts. This may represent an old campsite, and thus a human origin for the "battered cobble" is made more probable.

### Description and Comparison of the Adel Specimen

The accompanying table summarizes the measurements which could be made on the specimen, a partial skull with attached horn cores. These measurements compare favorably with those made by Stokes and Condie (1961) on fourteen specimens of Ovis catclawensis from several localities in the Great Basin. However, the partial nature of the Adel specimen permitted only one of Stokes and Condie's "most significant measurements" -- the maximum core circumference -- to be compared. Comparison of illustrations from Stokes and Condie with the specimen shows many similar features. In addition, comparison of the Adel specimen with specimens and measurements of the modern Ovis canadensis canadensis and Ovis canadensis californiana do not warrant inclusion in either of these subspecies. The Adel specimen possesses the robust features of a mature male, with the fused condition of cranial sutures characteristic of an individual of 10 years or more in age.

#### Horn core and skull measurements of the Adel specimen

Maximum diameter at base of horn cores: left 116 mm  
right 115 mm

Minimum length of horn cores: left 179 mm  
right 179 mm

Circumference of horn cores at base: left 336 mm  
right 337 mm

Minimum angle between horn cores: 90°

### Conclusions

The discovery of the Adel specimen extends the known range of Ovis catclawensis into the northwestern-most part of the Great Basin. Although a precise date for the locality has not yet been established, all heretofore known occurrences of this species are Pleistocene, and the majority of these are from the Alpine Formation of the Bonneville Lake basin. The association of skull and "battered cobble" in proximity to a living site suggests that Ovis catclawensis was contemporaneous with early man in at least part of its stratigraphic range. This association, as well as the geographic distance of the find from those of the Bonneville basin, should spur interest in this fascinating part of Oregon's Pleistocene record.

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# *Streams, Lakes, Forests and Ma*

Anyone who's been to the semi-desert Fort Rock area of eastern Oregon might not be able to imagine it as a region of myriad streams and lakes, forests and marshes. But that's what it was for the people who lived and roamed there 13,000 years ago.

The story of the Fort Rock area's distant past is told in a book being published this month by University of Oregon Books, "Fort Rock Basin: Prehistory and Environment."

The volume is the result of UO doctoral research by Stephen F. Bedwell.

Bedwell, then an assistant professor of anthropology at the University of Wisconsin, Oshkosh, was killed nearly two years ago while testing a motor and boat for his summer field party.

He had conducted extensive archaeo-

logical investigations of the Fort Rock area when a graduate student at the U of O in the 1960's.

Luther S. Cressman, UO archaeologist who became famous for his own discoveries at Fort Rock in the late 1930's, explains that the manuscript for the Fort Rock book was in an early stage of preparation for setting in type at the time of Bedwell's death in May, 1972.

"As one closely connected with his work and his closest associate, I offered to assume responsibility for seeing the manuscript through to publication, explains Cressman. The offer met with agreement from Paul M. Lewis, the editor of UO Books, and Carol Bedwell, the author's widow.

The several pages of artifact drawings in the book were done by Carol Bedwell

while she was teaching German full-time at the U of O.

Cressman points out that "indispensable help" was given the researchers by R.A. (Reub) Long, on whose property Fort Rock Cave is located. Long co-authored with the late E.R. Jackman, the book "The Oregon Desert."

"Reub had lived as a cowboy, trapper, and horse rancher in the Fort Rock basin for approximately 60 years and there was little, indeed, that he did not know about it... He put at our disposal ungrudgingly, really proudly, all his information," says Cressman.

Long guided the UO archaeologists on surveys of the basin and gave many useful leads.

He also gave his entire collection of artifacts, collected during his many years



# rshes ...

# at Fort Rock?

of riding in the basin, to the UO Museum of Natural History for its permanent use. "The collection was invaluable in the conduct of this study," points out Cressman.

Fort Rock is an important area in the archaeology of the American continent. It was there, in 1938, that Dr. Cressman discovered 75 Indian sandals, later dated at around 9,000 years, which remain the oldest directly dated artifacts in the New World.

The evidence uncovered at Fort Rock in 1938 by Cressman and his students provided the first real knowledge about the prehistory of the Northern Great Basin and laid the foundation for all subsequent work in the region.

Cressman and several UO students, including Bedwell, returned to the area in

the mid-60's with the help of grants from the National Science Foundation.

Bedwell's book describes how plentiful the plant and animal life was in the Fort Rock Basin 13,000 years ago and how as the area gradually became warmer it reached an "apparently optimum level" for game, attracting large hunting populations over a period that lasted for several millenia.

But later on the Basin "became a parched and almost barren land" where only "a few scattered groups remained, their lives tied closely to the infrequent springs" in Bedwell's words.

He concluded that climate was the most important factor controlling the population pattern.

"The natural data we have show an increase in temperatures, and a decrease

in population. At the time when temperature and aridity seem to be greatest, occupation of the caves appears to be at its lowest," he wrote.

He suggested also that cave occupation declined "simply because there was no water near the caves. In the earlier period the people who inhabited the various cave sites were never far from water in the lakes and marshes nearby."

"Fort Rock Basin" is the final publication of the UO Books program, which has been suspended for budgetary reasons and is now under study.

The cloth-bound book is \$10 per copy. Orders may be made from University of Oregon Books, Eugene, Oregon 97403.



# Lake County Memories

3-6-15

**75** years ago this week, March 8, 1900. J.B. Hammersley reports by way of letter that the Philippine Islands are a paradise. "Were this country settled by Americans," he reports, "I would not care to leave it -- for it is a paradise."

Upon invitation of a committee at New Pine Creek the Lakeview Dramatic Company will go to the Cottonwood M.E. church, two miles below New Pine Creek and present "Breaking His Bonds", a four act play, Saturday evening March 10th. Several members of the Lakeview orchestra will furnish music for the occasion and Miss Mae Miller, the well known vocalist of Lakeview, will be heard for the first time below the state line.

L.E.C. Jordan and Tom A. Smith, two rustling representatives of the firm of Baker and Hamilton, have been guests at the Commercial hotel for a week. Bicycles and firearms are their speciality.

A full-fledged gold rush is on today at Paisley, according to a telephone report received from there this morning. The rush follows the discovery of some good prospects in the foothills east of the town and to the north of the White House ranch building of the ZX company.

The discovery was made by two strangers whose names could not be learned who have done considerable prospecting in the territory. Recent assays of ore show some very interesting values, according to the report. The two men have just returned from Sacramento and when news of the find had been learned a good part of the population of the town turned out to stake claims.

**50** years ago this week, March, 1925. The thrill of the rush to the gold discovery in the hills east of Paisley still grips the city of the Chewaucan and miner's picks and pans are commanding high premiums. The hills in the vicinity of the strike are dotted with stakes in all directions to a distance of three or four miles from the discovery, and prospecting operations are on in earnest.

E.W. Court left this morning for Bend to receive a new Oldsmobile coach for the Auto Livery who are agents for the Oldsmobile car. The car will be used as a demonstrator by the agents.

The well being drilled in Bullard Canyon by E.R. Hughes for the Lakeview Water Company has now reached a depth of about 325 feet. A good supply of water has not yet been reached.

The S.P. Dicks sheep are being tagged this week at the Dicks ranch in Crooked Creek valley. Jim Harper of Paisley is doing the work.

Many geese have been seen flying north during the past few days. Blackbirds and robins may be seen in numbers.

**25** years ago this week, March 2, 1950. WIDE OPEN SPACE - Chris Langslet hasn't been opposed for county assessor in 12 years. Imagine his surprise, then, when he read in the paper last week that Glen Tyler has filed for that office. Many others were surprised, too. Tyler was just as surprised as anyone. He thought that he had filed for surveyor.

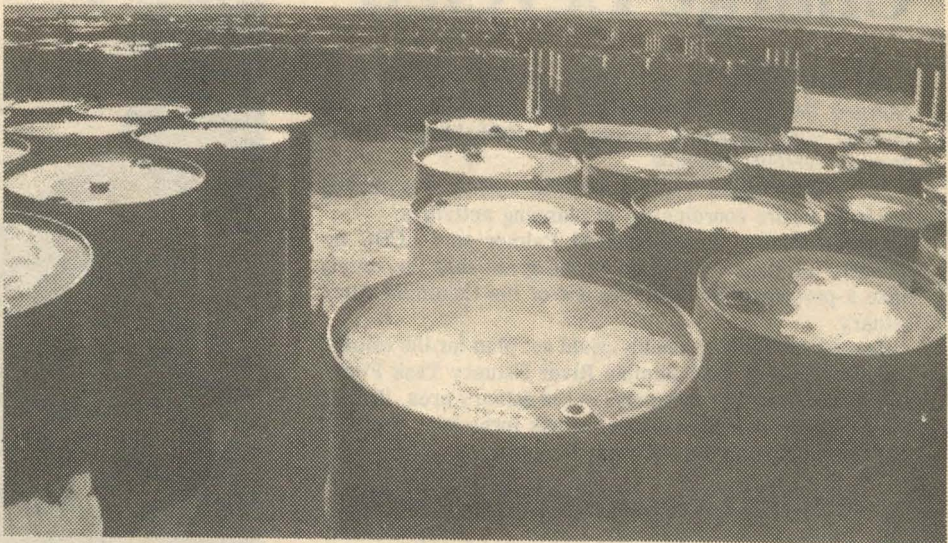
Wives of the Lakeview volunteer firemen formed an organization Tuesday night in a special meeting at the town fire hall. They chose the name "Firettes".

Mrs. Joe Elliott was elected president, with Mrs. Berneice Hewitt as vice-president, Mrs. Eva McDonald as secretary and Mrs. Verna Noble as treasurer.

The Chamber of Commerce has moved temporarily into Room 203 on the second floor of the Heryford building. The office has been for about a year on the third floor of that building.

The chamber is planning to move shortly to a ground-floor location. The present move was made as a temporary step to make the office more available to the public than in the past. The office into which the chamber has moved was formerly occupied by Dr. Joycelin Robertson and Dr. Lewis Robertson who recently moved to the Marshall-Wells store building.





Barrels of herbicide waste at Alkali Lake in Lake County.

# Gigler Urges Governor To Halt Alkali Burial

A Klamath Falls businessman has urged Gov. Bob Straub to halt the burial of 25,000 barrels of herbicide waste at Alkali Lake in northeastern Lake County.

Andrew Gigler, a critic of "careless handling of chemicals which can poison our environment," made the plea to the governor in the wake of the state's awarding of a bid to rid itself of the barrels.

They have been in storage, on pallets, at the lake site for some time.

Earlier this month the Oregon Emergency Board approved a contract for crushing the barrels and burying them in trenches at the fenced site.

The board's action was the final state step in awarding a bid to Chem-Nuclear Systems Inc. for the work. The firm's bid was \$84,200.

Gigler called awarding the contract "a very unwise decision. The whole thing is madness," he said, noting that Chem-Nuclear Systems and other bidders advanced different ideas on how the wastes should be disposed of, revealing "a groping to find a proper way."

Gigler said Lawrence P. Wilkinson, Salem, a chemical consulting engineer for Northwest VIP Corp., one of the unsuccessful bidders, thought site burial of the wastes would be "an irreversible and irretrievable commitment of local water resources" involving the lake.

John R. Donaldson, director of the State Department of Fish and Wildlife, called disposal of the waste "a poorly-considered operation from the start," an example of "the out-of-sight, out-of-mind philosophy," according to Gigler.

Gigler said George D. Ward, representing Land Use Research Institute, Portland, another unsuccessful bidder, urged that funds not be allowed for the disposal at Alkali Lake, at least until all federal guidelines are met.

He said Ward criticized the state, in its original call for bids on the disposal, for allowing "unusually short time" for the "preparation of our design and corresponding estimate."

Gigler said the burial plan selected was one of six alternatives considered by a subcommittee reporting to the director, State Department of Environmental Quality (DEQ), Loren Kramer. He said he has been informed "by a good source" that DEQ administrators and directors have never visited the Alkali Lake site.

Gigler attempted to bolster further his call for action against the contract being fulfilled.

He said A. K. Majors, one of three Lakeview District BLM area managers, in commenting about the area's wild horse problem, called water "the key to survival" on Oregon's desert.

"And here the state is going forward, apparently in confusion and very real doubt, with

a project that will jeopardize the Alkali Lake area, one of the region's very valuable watering places," Gigler said.

Gigler and a fellow environmentalist, Lloyd Baker, Box 12, Harriman Route, Klamath Falls, have gone on record in favor of having the chemical industry develop a feasible method of "burning away" the chemical wastes and unwanted residues in a properly designed and safe kiln with a controlled exhaust.



# What's In Those Barrels?

What's in those barrels?

That's the question that local environmentalists Andrew Gigler and Lloyd Baker are asking themselves about the more than 25,000 barrels of hazardous chemical wastes stored on the dry surface of Alkali Lake in Lake County.

The State Department of Environmental Quality has contracted to bury the herbicide wastes in shallow trenches.

They say that the barrels contain the residues from the production of herbicides 24-D and MCPA. Residue from another herbicide, 245-T, which some say has been stored at the site, is not present, according to DEQ.

However, Howard Hunt, president of the company which first began hauling wastes to the site says there are 245-T residues there.

Gigler and Baker don't know who to believe; however, they concur on one point. They don't think DEQ knows precisely what is in the barrels.

"The DEQ doesn't know what is in them," said Baker adding that the barrels are not labeled and have never been labeled.

Baker said the herbicides stored at the site contain chlorinated phenols, of which there are many varieties. They are about five times stronger than DDT in creating hormone disfunctions, he said.

Baker said that Dr. Robert W. Risebrough

of the Institute of Marine Resources at the University of California as early as 1968 alerted the scientific community to the dangers of phenol compounds in the environment.

"Now, only eight years later, we are witnessing the closing of fisheries in the eastern United States, and pollution of the Virginia Aquafer. Terrible skin lesions and morbid metabolic problems are reported in Japan and recently in Italy a Swiss herbicide factory exploded ruining a wide area and the people in it. All these were caused by chlorinated phenols," Baker said.

"There is no place in the world where there are 16,000 barrels of chlorinated phenols and another 10,000 of God knows what," Baker said, referring to the Alkali Lake site.

Baker also said another contaminant in herbicides is tetrachlorobenzodioxin, one of the most powerful compounds ever examined by the Food and Drug Administration.

He said it is estimated that the compound is about a million times stronger than thalidomide in producing birth deformities.

"Even though we are wide awake to the hazards and disasters related to chlorinated phenols, we are about to sweep a great quantity of it under the rug at Alkali Lake. We just do not know what we are doing or what we are dealing with," Baker contended.





**Chemical Wastes** — More than 25,000 barrels of hazardous wastes occupy a 10 acre area on the dry surface of Alkali Lake 60 miles north

of Lakeview in Lake County. The State Department of Environmental Quality has contracted with a company which is to dispose

of the wastes by burying them in 2½ foot trenches dug between the rows. The plan has run into opposition. (Photo by Lloyd Baker)



# Town questions quarry location

*Lake County Examiner - 12-23-76*

In a letter to the county commissioners from the town planning commission, the question was raised as to the further disposition of the rock quarry south of the Town of Lakeview. The content of that letter is as follows:

"Dear Sirs:

"The Town Planning Commission of Lakeview wishes to express its concern about the rock quarry that is being excavated south and outside of the town limits. It has been noted by several people in the community, that a new and higher activity is beginning to take place on the surrounding hillside 100 feet above the existing quarry. The new activity appears destined to alter even further the mountain's naturalistic appearance and massing. Our specific concern is:

Will the new activity represent a phase out or is the rock quarry going to actually grow larger in size?

"Geographically the western toe of the Warner Mountain Range provides a sharp and dramatic contrast to the flat and horizontally spread valley floor. It is possible to enjoy the mountain ranges surrounding Goose Lake Valley while traveling from many directions across the valley floor and for long durations of time. The light patterns from sun rise to sunset provide a changing panorama that is enjoyed by residents of the area and by the many visitors and tourists that come to see hi-desert country.

"It is our hope that the quality of life we all now enjoy in Goose Lake Valley will not be taken for granted, but instead will be preserved for future generations. It is our goal to search for solutions and to control any impact that threatens to subtract from that quality of life."

In talking with Lake County Administrative Assistant Jerald Steward, it was found that the county does have a plan for the site and that the plan has been in effect since 1975 and was required by the State Department of Geology and Mineral Industries.

The plan in effect states that when they are through with the quarry the soil layer taken from the quarry area will be replaced and that the slope of the mountain be left at the ratio of two to one or better. The plan states that when the county is through with the land it will be suitable for animal grazing.

The county will use what is called a multiple bench operation or a stair stepping effect sloped for about 10-12 feet between each step. When the land is reclaimed the county will plant the ground with wheat grass, fescue and blue grass mixed at 40 pounds per acre. It also has provisions for small trees and brush to be placed in the area.

In order to work this stair stepping effect according to Steward, the county must go to the top of the area and work down. One of the questions brought up by the town planning commission is why the county is going up the mountain and how they plan to cover the area now damaged. The plan as outlined by the county seems to cover those problems in the opinion of Steward.

Steward went on to say "rock is where you find it. We have several rock quarries throughout the county but we have to look at it from an economic point of view also. We couldn't haul rock from Adel and put it down here and justify it economically." He went on to say that the county would rather not have to use the mountain since it sits in plain view of the town and valley but that is where the rock is.

The State Department of Geology and Mineral Industries makes an annual on site inspection of the quarry, and with the plan of 1975 in effect seems satisfied with the program as it now runs.

The county does admit it may be years before they are through with the quarry and the people of the Goose Lake Valley are going to have to look at the scar for that period of time. As one person put it, "when we come from Klamath Falls we can always tell where Lakeview is as we come into the valley, just look for the rock quarry."





# 'Old Perpetual' Geyser Nears Fifty Years

*by Leslie Shaw*

One of Lake County's most striking landmarks, the "Old Perpetual" geyser at Hunter's Lodge, has now been around long enough for old-timers to grant it pioneer status. The geyser has been geysing since the fall of 1923, fifty years ago. There has been no let-up in its geysing nor its attraction to visitors

23, 1923 Examiner:-

"The Hunter Hot Springs, one and one-half miles north of Lakeview, will be developed into a health resort which will be the means of attracting a great many people to Lakeview, according to an announcement given out today by Dr. H. E. Kelly and the Favell-Utley Realty

became Lake County judge after the death of then judge Dr. E.H. Smith.)

The first mention of well drill operations to develop a source of hot water for the resort's heating system came in October 4, 1923, Examiner when the first geyser was announced. Banks of headlines in varying sizes of type, as well as popular in newspapers of that day proclaimed the geyser:

"GEYSER STRUCK HERE SPOUTING BOILING WATER 40 FEET IN HEIGHT"  
"WELL DRILLERS FORCED TO QUIT WORK"

"SHOOTS HOT WATER EVERY SEVEN MINUTES"

And other heads, before the story started.

"A geyser was struck last Friday afternoon (that would have been September 28) at Hunter Hot Springs by Favell Williams & Sons, well drillers, which sent a column of water into the air 40 feet high. Hundreds of cars last Saturday and Sunday and all this week have carried Lake County people out to see this natural phenomena (sic). About every six minutes the geyser sends its column of boiling water into the air.

"A well was being drilled for the purpose of obtaining an artesian flow of hot water which would rise high enough to flow by gravity into a heating system which would heat the Hunter Chlorine Hot Springs Sanitarium.

"About five o'clock Friday night the tools of the well drillers became so hot that it was difficult to handle them. A few minutes later, hot water shot out into the air much to the surprise of the drillers and forcing them to stop their work.

"The flow was struck at a depth of 55 feet in a black sandstone formation. So unique is the geyser that E.G. Favell, representing the sanitarium company, ordered the drill to be moved and the geyser left alone. Another well is now being drilled to supply the hot water.

"So far as is known, this is the only geyser in the State of Oregon and will doubt attract many naturalists and geologists to this section."

The story also informed that the "sanitarium" foundation was now being laid, 100 by 120 feet in size, in a "U" shape.

The next news report in the Examiner was two weeks later, on October 18, 1923, but it had nothing to say about geysers at the health resort. It told only about the discovery in the second well to be drilled.

"It may be that tons of boiling, bubbling clay at the bottom of the 160-foot well at Hunter Hot Springs recently completely complete worth thousands of dollars."

The story stated that during the process of drilling, the drill penetrated a considerable thickness of boiling mud of very sticky texture, thought to be similar to mud from Wales which was marketed in drug stores as a complexion treatment. It stated that E.G. Favell was having the mud analyzed

*a geyser field*

"THREE GEYSERS NOW SPOUTING HOT WATER NEAR LAKEVIEW" the top banner line on Page 1 of the October 25, 1923 Examiner. Under



Three separate geysers resulted that fall from well-drilling operations at the hot springs, and there is but one possibility of determining today which of the three is the one still active, judging alone by the news accounts which appeared in the Lake County Examiner at the time. That one chance indicates the present geyser is one which began its eruptions from a shallow drill hole that afternoon of Saturday, October 20, 1923, the third and last of the geysers brought in.

The geysers resulted from accident, you might say, for the drillers were not seeking geysers but a source of hot water to provide heat for a health resort then being built at the hot spring site. The heat source was achieved, but not from any of the geyser holes.

It all started with announcement of plans to build a health resort at the hot springs site, which appeared in the August

"Mr. Hunter, who purchased these springs several years ago, has had great faith in their possibilities but has deferred their development on account of the general depressed condition of the country. He has had the water analyzed which has proven equal to some of our great national health spas."

The story stated that a company was being formed with \$25,000 capital, of which most was being put up by Hunter and the remainder by a few local men. They planned to build a 22-room stucco structure with "an outside swimming tank for the public and an inside tank and private baths for those taking treatment." The story said Hunter owned 180 acres at the site and the development would include a golf course "to attract wealthy tourists" plus a herd of Holsteins to furnish milk, a flock of chickens to provide eggs, and a greenhouse to provide vegetables.

(H.A. Hunter was a Kansas City land speculator who owned much property throughout the West; Dr. Kelly was a local physician who, the following spring,

was a "two-column multiple-line head." "Latest Phenomenon Shoots Every 15 Seconds to Height of 60 to 70 Feet But Later Changed Habit, Now Sends Steady Stream of Water to Height of 50 Feet." The story read:

"A third geyser was struck last Saturday (which would have been October 20) at Hunter Hot Springs.

"The first geyser developed three weeks ago, as wonderful as it seemed, was nothing in comparison to this mammoth gusher of boiling water.

"At a depth of about 12 feet in a hole drilled in the center of the upper boxed spring the first heavy flow of water was struck forcing the drillers to stop their work Saturday afternoon. This first flow, which later developed into a powerful geyser, spouted into the air about 10 or 12 feet high, varying only slightly in its constant flow. On Monday when the wind had changed so the drillers could again work without being scalded by the hot spray, the casing in this well was extended to a depth of 20 feet. In a few minutes after the drills had been removed from the well, the geyser shot for the first time.

"Every 12 to 15 seconds it shot in the same manner and for nearly two days sent its great volume of water from 50 to 75 feet into the air.

"But now it has changed its habits and is sending a constant flow into the air about 50 feet high. The volume of water which this new geyser throws is probably 30 times greater than that thrown by the first well.

"The second geyser was developed about a week ago when a well 190 feet deep was completed. This geyser shoots but 3 or 4 times a day and between spouts flows only a small stream of mineral water.

"The first geyser developed has been gradually weakening, owing to the fact, it is thought, that a leak has developed. This well was only cased to a depth of 20 feet and the drillers, under instructions of E.G. Favell, are endeavoring to restore it by extending the casing to a greater depth.

"One of the unique features of this latest developed gusher is that frequently rather light, porous rocks are blown high into the air, some of them as much as six inches in diameter.

"Another peculiar feature of this latest gusher of boiling water is that it can be made to change its habits and instead of sending up a steady flow it will shoot periodically, according to E.G. Favell. This is done by backing up the water around the pipe from which the geyser emerges. This water cools the pipe and causes it to shoot. The development company plans on putting in a headgate whereby they can back up the water, causing the geyser to either shoot periodically or send up a steady flow."

*few in the world*

On November 1, the Examiner carried no story about the geysers or the resort, but did have a brief editorial which stated in part: "It may be that Lakeview supplies the fourth geyser area of the world and this is no small distinction. People travel many hundreds of miles to see similar eruptive volcanic springs in Yellowstone National Park, the White River Valley of Iceland, and in New Zealand."

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*Fetsch's*





HUNTER'S LODGE GEYSER IN BUSINESS NEARLY FIFTY YEARS.

---Examiner Photo by Dave Trussell



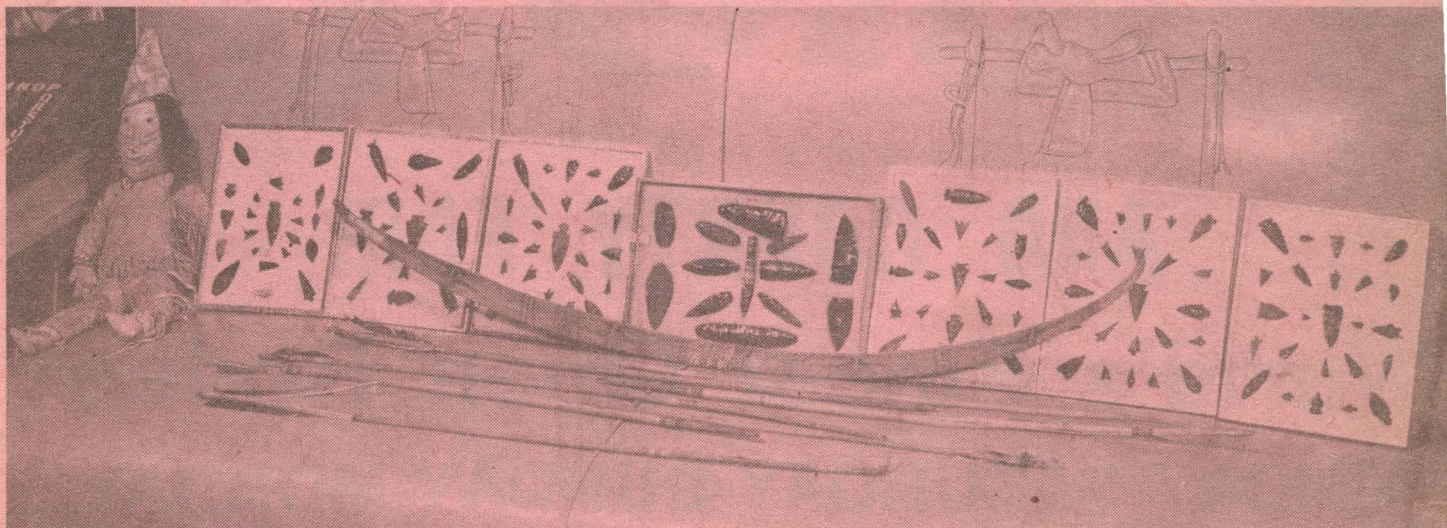
# Lake County Examiner

82nd Year, Number 40

Price 10¢

Lakeview, Oregon

Thursday, August 23, 1962





facts acquired recently by Robert L. Ogle in the purchase of the Rev. Joseph L. Beatty collection. The upper photo shows the ancient bow and some arrows, plus a doll and mounted arrow and spear points. The lower picture is a portion of the more than 200

group, collected by the missionary during his years with the Klamath tribes. Ogle's problem, which grows as his Indian collection grows, is that of having no further space to display the items for the public. (Examiner Photos).

## No Space for Display

# Beatty Items Added to Ogle Indian Collection

The Indian artifacts collection of Robert L. Ogle is one of the most important in the whole land . . . in fact, he has long since passed the point where the wall space in his Indian Village restaurant and Wawatsee Lounge is even near adequate to put his Indian lore on display.

This fact does not dim Bob Ogle's pride in his most recent acquisition, his pleasure in buying the famed Beatty collection which includes upwards of 200 baskets of all sizes, an ancient bow, trading beads, rare books and other important items gathered during his lifetime by the late Rev. Joseph L. Beatty, Methodist missionary to the Klamath tribes from 1902.

If it would seem that books are an oddity among a collection of Indian artifacts, be it known that these are an exception. There are two books relating to the Klamath language and legends, and they were published in the late 1880's by the U. S. government. The Klamaths were one of the few Indian nations to have their language and legends recorded in this fashion.

The Rev. Joseph L. Beatty was born August 28, 1852, at Trenton, N. J., and in 1902 he came to the Williamson River area as a missionary to the Klamath Indians. He felt that by showing an interest in the Indians' arts and crafts, he could get closer to the people themselves so he started collecting baskets, moccasins and other items with the result that he had a large assortment when he died July 16, 1948 at the age of 96 years at the Masonic Home. He is buried at Cottage Grove. Ogle bought the collection from the Rev. Beatty's daughter, Mrs. Fances Beatty Racknor, of Klamath Falls, and brought it to his home here, most of it packed in an ancient trunk, a museum piece itself.

The 200-plus baskets are the major part of the assortment, ranging from the size

of a walnut to half a bushel capacity or more, with a wide variety of shapes, designs, and uses. Most were marked by the Rev. Beatty with the name of the maker or original owner.

Most of the baskets are aged prior to the arrival of Beatty among the Klamaths. Some are unfinished, preserved that way by the missionary to show the weaving methods used. Designs are worked in various ways . . . darker designs are tule roots, and black designs are tule roots burned in fire. Some decorations are made with porcupine quills, some of which were dyed yellow by use of the green lichens from trees, some dyed red by being boiled with red trading blankets.

A rare oddity of this collection is a small bottle of "medicine cone" used by the Indians to heal soreness. Called "sick-luc-luc" by the Indians, the small cones were placed on the sore place and set afire. Composition of the cones is not known, nor how they cured . . . but presumably a soreness would disappear in the new soreness of the fresh burn.

There are fishing hooks fashioned by the Indians for snagging suckers at Williamson River falls near Chiloquin.

There are dozens of woven mats, all with distinctive designs and ranging through a variety of sizes. Many of these were made in sets, and some match the designs in baskets.

One sewing basket is full of bone needles and deer sinew, used for making moccasins and deer hide clothing.

There are gaming sticks of

wood and other materials, and one set is made of carved bone. Wampum, beadwork, and hats are among the collection, and an oddity is a peace pipe of which the bowl is inlaid with lead.

From the Williamson River burning grounds where the Klamaths cremated their dead and prisoners, there is an assortment of beads, soldier uniform buttons, bracelets. Special rarities in this group are two "phoenix buttons" which are surrounded by mystery. These are made of brass with the phoenix design. They were never a part of the Hudson's Bay Company trading goods, and it may be they were issued by Napoleon to his soldiers, but how they got to the Williamson River no one can guess.

An item of special importance to Ogle is a picture of Crater Lake, painted by Besie Chiloquin whose family owned the Chiloquin townsite. Another is an ancient hunting bow, twisted and cracked by weather, and possibly over 100 years old.

As a boy, Bob Ogle had several active hobbies. When he was about 6 years of age he started collecting Indian arrowheads, spear points and other artifacts, and through the years his own collection became important. When he remodeled the old Hotel Lakeview and decorated the walls of his new restaurant and lounge with many frames of artifacts, about half were of his own collecting and half were from various purchases. Today, his artifact collection has doubled through buying and through a number of gifts.

His office at the Indian Village is bulging with items for which there is no more display space. Clothing racks are filled with headdresses, buckskin suits and dresses, and other articles of Indian apparel; the office walls and even the desk are covered with items of beadwork, bas-

ketry, bowls, framed arrowheads, and so forth.

High in the list of importance among these acquisitions is the headdress of Chief Showaway (pronounced Shy-away) of the Umatilla tribe at Pendleton. This full-length piece is over 110 years old, the head-piece is covered with ermine, and among the adornments are two scalps.

Recently, on a three-weeks vacation trip through the Dakotas, Montana, and Canada in company with his young son, Bobby, Ogle added extensively to his collection, both by purchase and by receiving a number of gifts. One item is the buffalo bone ceremonial necklace, with adornments of brass beads which date from the days of Cortez, formerly owned by Susana Red Cloud, daughter of the Ogallala Sioux chief, Red Cloud. Another is the Crow Indian headdress of Charlie Tin Bear who was General Custer's scout . . . and the items collected by Ogle on that trip would make a lengthy story in themselves.

The fame of Bob Ogle's collection has spread far, mostly by word of mouth carried by those who have visited his restaurant. Several visitors from Texas have mentioned being sent this way by a man whom Ogle has never met.

To date, Ogle's problem of getting the remainder of his large collection on display has not been solved. He has thought of, and is considering, different methods; but he admits that so far he does not have the answer. He believes, though, that if the community had an adequate public museum, he would be willing to put part of the collection, at least, on display there.



# Humble Oil to Begin Drilling Operations

Humble Oil & Refining Company has announced plans for the drilling of an exploratory wildcat well to be located in Lake County, approximately 22 miles northwest of Lakeview. This well is designed to explore for oil and gas accumulations beneath the volcanic rocks in that area, and is projected to the

proposed depth of 12,000 feet.

State drilling permit No. 42 was issued to Humble Wednesday afternoon, July 6, at the office of the Oregon Department of Geology and Mineral Industries, Portland. It is known as the Thomas Creek Area Wildcat and the site is south of the Dairy Creek Guard Station.

Humble Oil & Refining Company commenced leasing actively in this general area in the spring of 1959, and has acquired a large block of acreage, part of which will be explored by this wildcat well.

Drilling will be conducted by means of a contract rig, and it is anticipated that operation will commence as soon as the equipment can be moved in and rigged up.

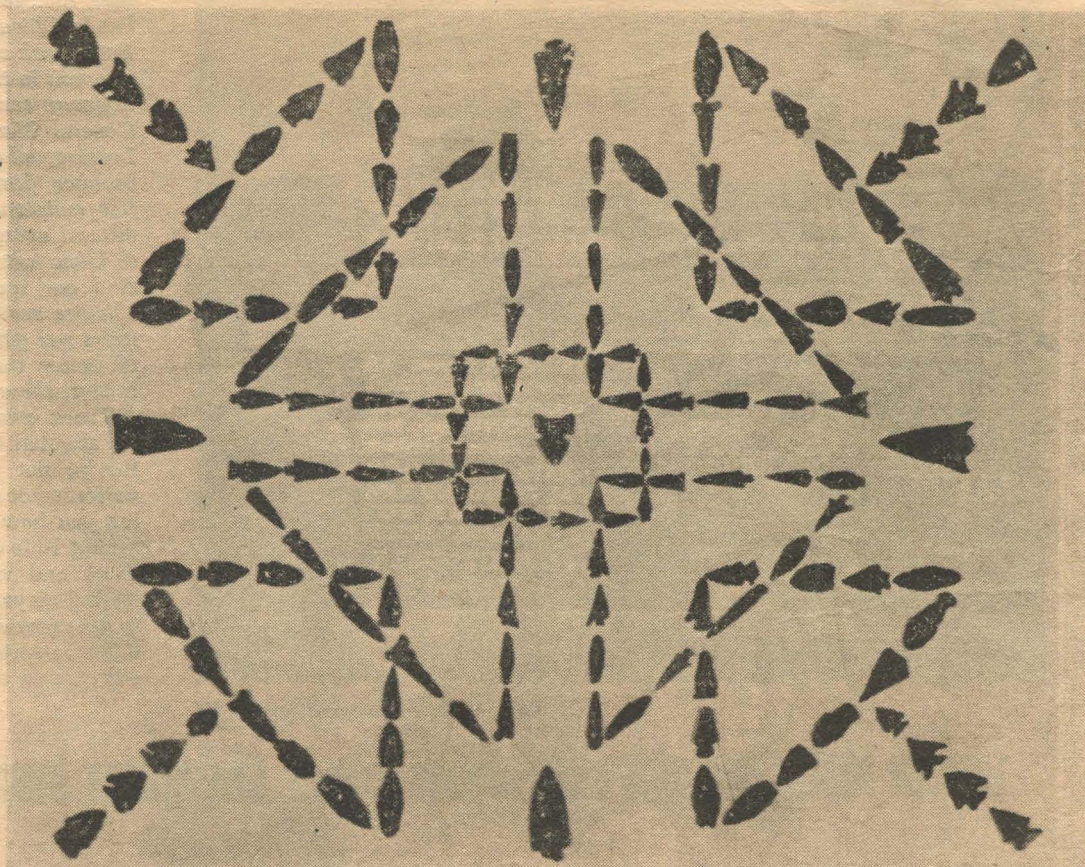
This portion of Oregon is extremely remote from proven oil and gas production, the nearest being located at Ocean City, Wash., approximately 560 miles to the northwest; in the north end of the Sacramento Valley of Northern California about 250 miles to the south, and in the Railroad Valley area of Nevada about 500 miles to the southeast. The nearest recent exploratory drilling for oil was approximately 130 miles to the north.

Humble's exploratory drilling undertaking in this new area has been aided by the cooperation of local land owners and by the Oregon Department of Geology and Mineral Industries under the direction of Dr. Hollis M. Dole.



Bob Ogle is to be commended for his collection of arrowheads which have been mounted on white velvet. Falling Tepee design is made from authentic Indian beadwork.

Visitors to his grand opening Saturday should make it a point to see the many collections displayed throughout the building.



JONES STUDIO PHOTO

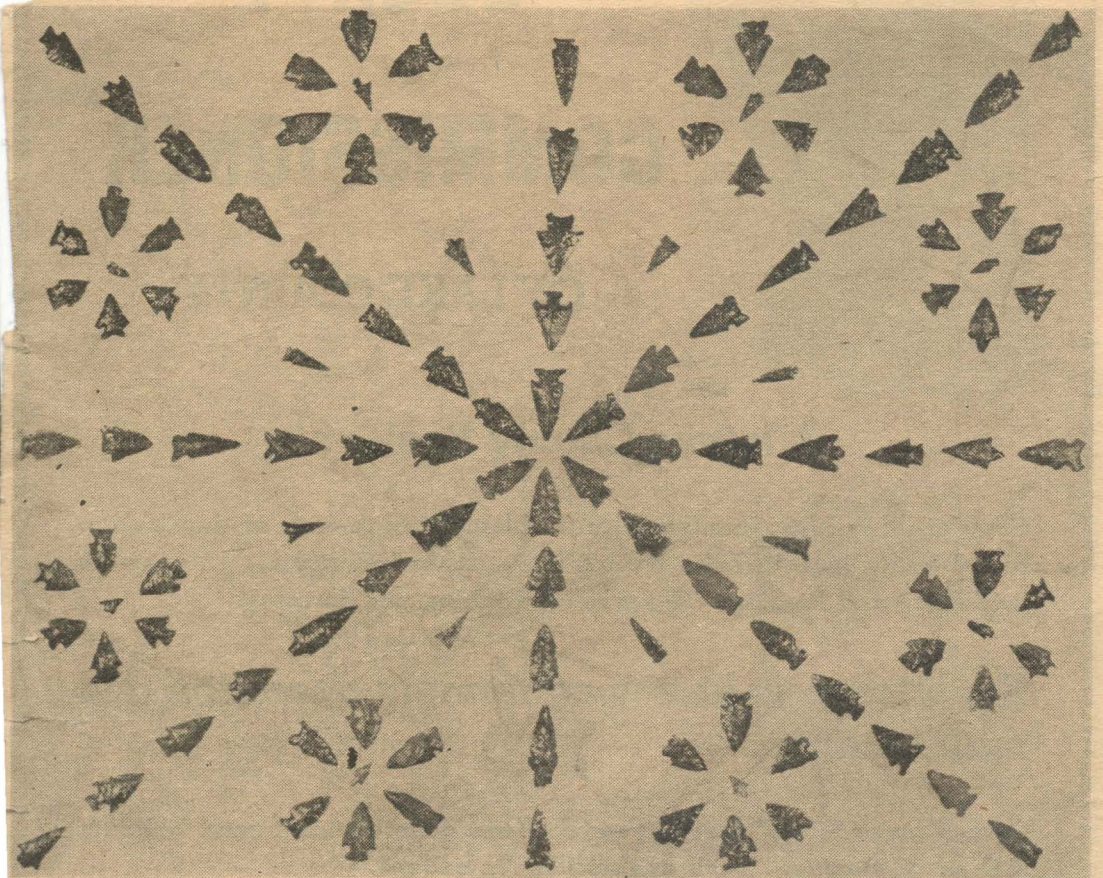
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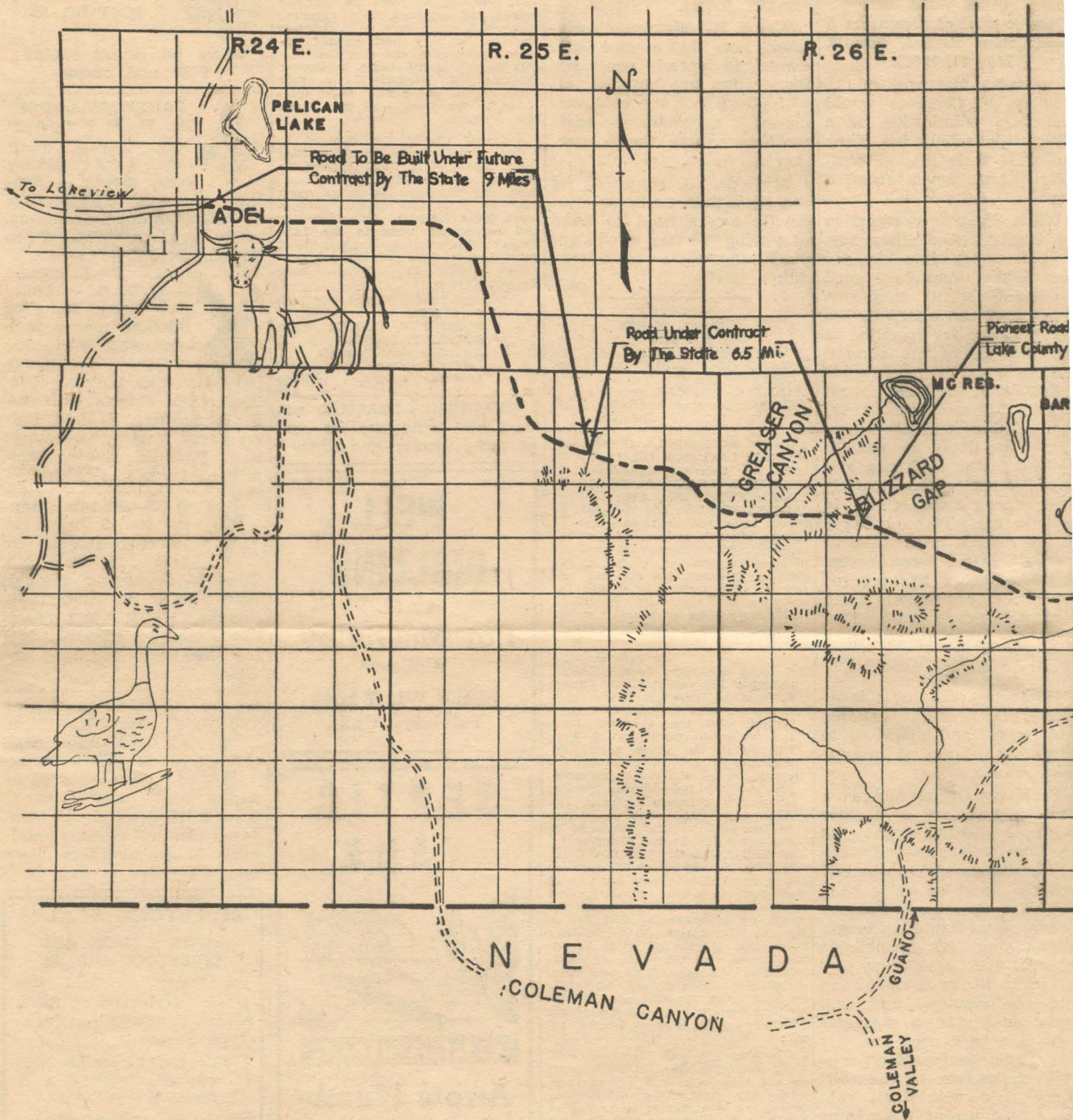


JONES STUDIO PHOTO

The above collection of arrowheads and scrapers are of black obsidian and are mounted on a white felt background. The design is the Snowflake and is of authentic origin.

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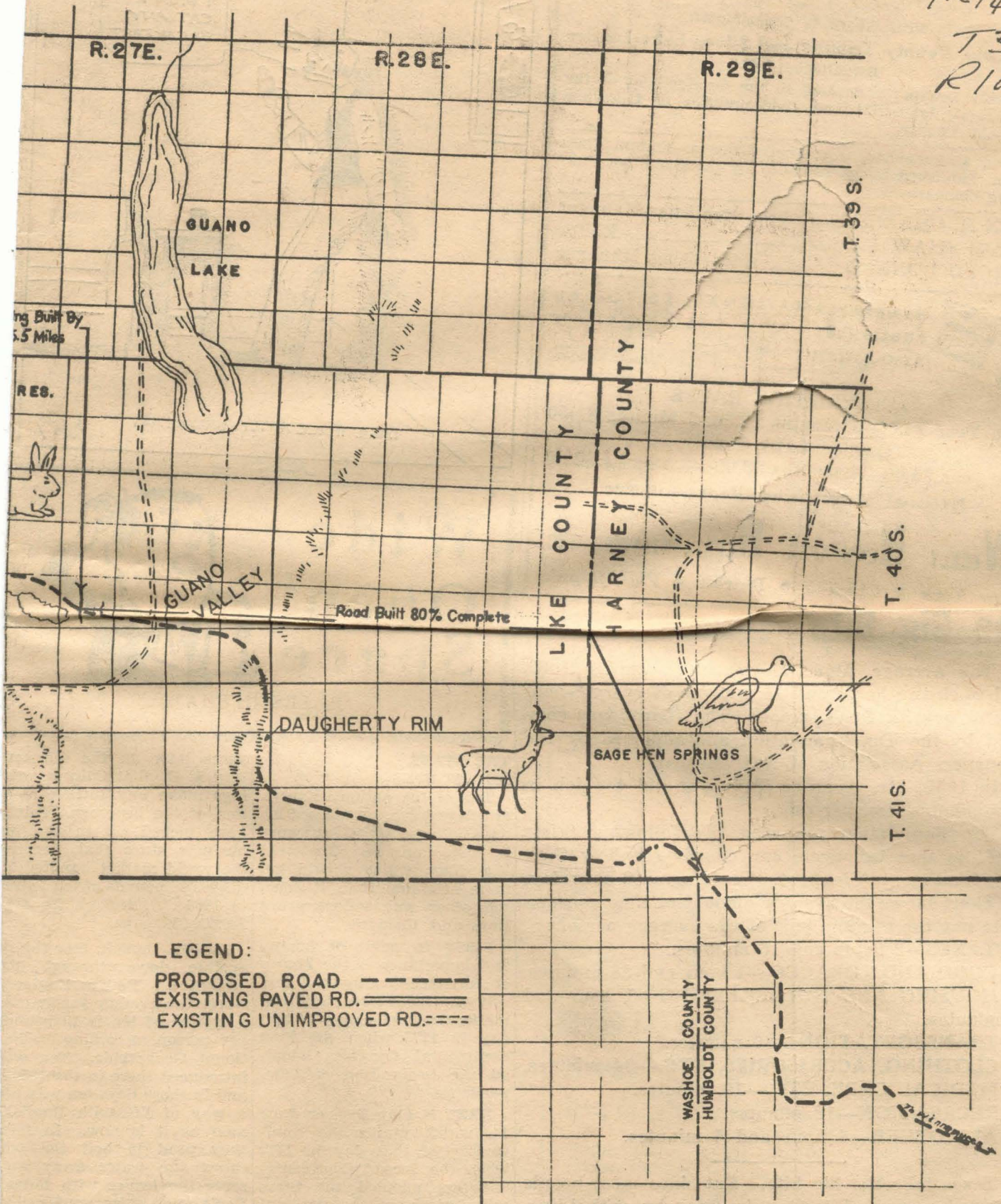




WINNEMUCCA TO THE SEA HWY.  
LAKE COUNTY SECTION



NE 1/4 A  
T36  
R18E



THIS MAP from the office of County Judge C. H. Langslet shows the Lake County route of the Winnemucca-Adel road, under construction since 1958. Notations and arrows placed on the map by the State Highway Department office in Lakeview show the various sections of road and their present status: From the state line to Guano Valley, 17 miles, built to about 80% of grade by Lake County in 1958 and 1959 (a county crew is now widening portions of the Dougherty Slide section); next is 6.5 miles from Guano Valley to the top of Blizzard Gap where the county crew is now pioneering a road after which (probably next year) the State Highway Department will call for construction bids; next is the 6.5 mile stretch through Blizzard Gap to the bottom of Greaser

Canyon where Miller & Hutchins, of Roseburg, is building the grade with a contract financed by state, county and federal funds; the last 9.2 miles into Adel, across Warner Valley, will have a bid call this summer by the State Highway Department, to be financed by state and federal funds. Exclusive of the work being done this year by Lake County on this road, the county has spent so far \$269,226.03 which includes \$143,101.45 of county expense for the work it did on the road during 1958-59, and this county's share (\$126,124.58) in the Miller & Hutchins contract. The notation on the map which reads "Road built 80% complete by Lake County 17 miles" should say instead that this section was built to "about 80% of grade."



## Old Perpetual

In the fall of 1923, Dr. H.A. Kelty and associates under took the construction of a sanitorium at the site of Hunter's Hot Springs north of Lakeview. This start led to the "Old Perpetual geyser" that is still active.

Their intention was to use the therapeutic waters of the hot springs in the treatment of patients. They planned a 22-room stucco structure "with an outside swimming tank for the public and an inside tank and private baths for those taking treatments." The 180-acre tract owned by land speculator H.A. Hunter of Kansas City, also would include a golf course "to attract wealthy tourists," a herd of Holsteins, a flock of chickens and a greenhouse.

The start of construction on a "U" shaped 100 by 200 foot building was accompanied by the start of well drilling by R.H. Williams and Sons. Dr. Kelty had announced the formation of a company capitalized at \$25,000, most of which was put up by Hunter and a few local men.

On Friday, Sept. 28, 1923, a geyser was struck at a depth of 55 feet in black sandstone. Hot water shot to a height of 40 feet, and E.G. Favell, representing the Hunter interests and the sanitorium, ordered the drill removed to preserve the unique phenomonon. It eventually stopped.

A second well drilled to 90 feet, was also a geyser but it spouted only three or four

times a day. It also stopped later.

On Oct. 20, 1923, a third geyser was struck "at a depth of about 12 feet in the upper boxed spring." On Oct. 22, when the wind changed so the drillers could work, casing was extended to 20 feet and the rig removed. This geyser then began spouting

50-75 feet and has never let up at all; this is the geyser still active today.

A quarter of a mile northeast, on the slope of the hill, another well was begun and completed to furnish hot mineral water needed...and still used...at Hunter's Lodge today.



**OLD PERPETUAL RISES AGAIN** at Hunters Lodge. This geyser shoots into the air about every 30 seconds and is one of the land marks of Lake County.



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# Studies to Continue

BY LESLIE SHAW

By a show of hands, most of the more than 100 persons attending the water hearing at Memorial Hall Tuesday night, July 24, signaled their wish that the office of the Oregon State Engineer proceed with the next phase of a study aimed toward construction of dams at Cox Creek, Cox Flat on Thomas Creek and at Bauers Creek for flood control, irrigation and other purposes.

Darrell Learn, chief of the watershed planning party from the State Engineer's office, told the group that the following were feasible:

A dam at Cox Creek, 57 feet high, impounding a reservoir that would cover 560 acres; a dam at Cox Flat on Thomas Creek, 54 feet high, with a reservoir covering 500 acres; a diversion dam on Bauers Creek to increase the irrigation water

supply for up to 6400 acres.

## CONSTRUCTION COST

Learn estimated the cost of those structures, for flood control and irrigation only, would be \$2,100,000. That estimate did not include water storage for recreation or municipal water supply, nor for construction of irrigation canals or drainage system.

The engineer said the federal government, under Public Law 566 of 1954, would pay all of the cost of water storage for flood control. This would leave \$851,000 to be paid by irrigators, and for this purpose the Lakeview-Thomas Creek Water Control District could borrow from the Farmers Home Administration, at 4 percent for fifty years, at a cost to the irrigators of \$7.80 per acre per year.

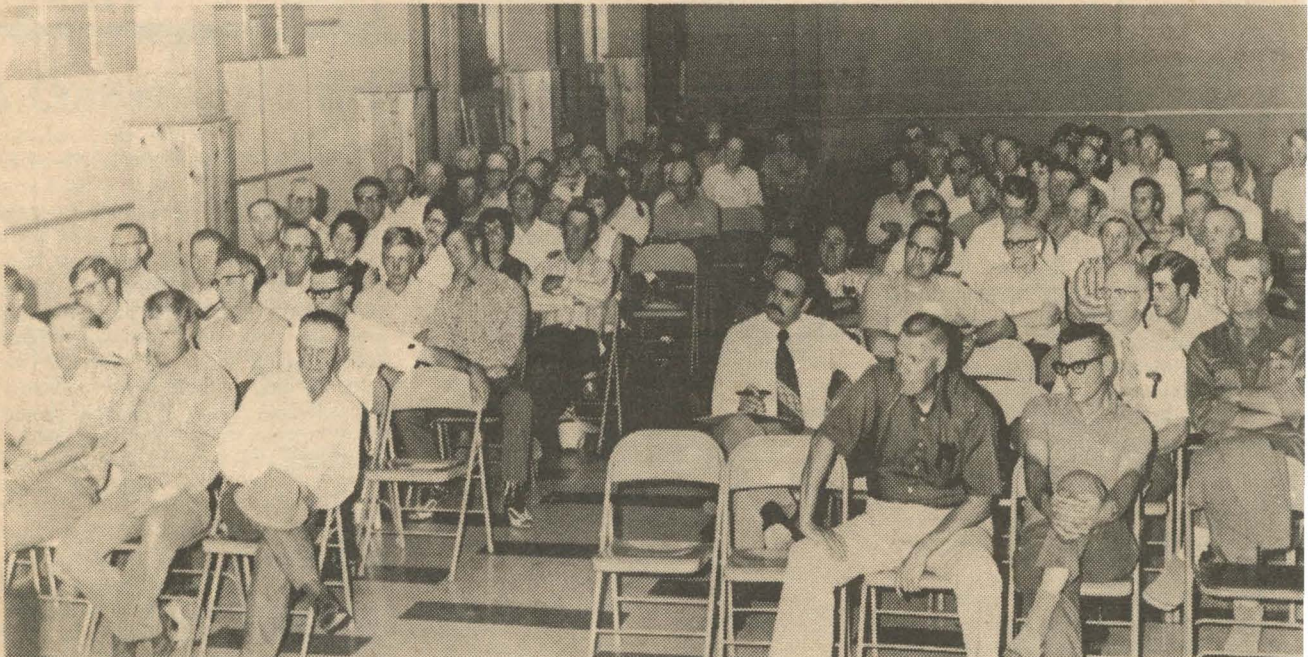
If recreational was the structures, half of the federal government (tax levy to repay the municipal water storage cost would be borne but Learn pointed out municipal water storage to the town at present provide for the town come. Since the Cox dams, as discussed and irrigation, would feet of water, the in the town water would construction. The to build its own pipeline the water to Lakeview its own filtration a

# Lake County Examiner

94th YEAR, NUMBER 44

PRICE 15c

LAKEVIEW, OREGON 97630



A LARGE CROWD OF INTERESTED men and women attended the water district meeting at Memorial Hall Tuesday

night, July 21, and gave the State Engineer's office the signal to continue with the feasibility studies for three dams. (Examiner Photo)



# e on Dam Proposals

water storage were added to  
of this cost would be borne by  
ent and half by the district  
bonds or an FHA loan). If  
orage would be added, this  
by the Town of Lakeview,  
t that 300 to 400 acre feet of  
rage should be adequate for  
and 1,000 acre feet would  
s needs for some years to  
Flat and Cox Creek storage  
by Learn for flood control  
d hold a total of 21,700 acre  
crease in size to provide for  
ld add little to the cost of  
wn, however, would have to  
e (at gravity flow) to deliver  
w, and it would have to build  
nd treatment plant. The

four-percent FHA money could be borrowed for  
that, and repaid over a long period.

## WATER QUALITY

As to whether the stored water will be suitable  
for a municipal drinking supply, Learn said that  
studies of water quality and soil conditions will  
have to be made.

The meeting had been called by the Lakeview-  
Thomas Creek Water Control District to hear  
Learn's report and to determine whether people  
of the area support the idea of constructing the  
dams for flood control, irrigation and other uses.  
Without that indication of support, the State  
Engineer's office did not feel it should continue  
expending tax money on additional study.

The additional study, which may be completed

in about one year, will update the estimates and  
projections contained in a 1971 report filed by  
Soil Conservation Service, which estimated  
annual benefits (flood control, irrigation, rec-  
reation and municipal water) would total  
\$146,610, while annual costs of operation and  
maintenance were estimated at \$71,860 for a  
benefit-to-cost ratio of 2-1. Since the plan  
discussed July 24 will include also a diversion  
dam on Bauers Creek, and since more irrigation  
is being considered than in 1971 (6400 acres now,  
3225 acres in 1971) and since construction costs  
have increased in two years, new benefit-to-cost  
ratio studies will be made.

(Continued on Page 2)



# Dam Studies

(Continued from Page 1)

## ENVIRONMENTAL IMPACT

The study that will now be undertaken by the State Engineer's office also will include an environmental impact statement (EIS) which is required by federal law of all development programs that involve expenditure of federal funds. Learn pointed out that while taxpayers, irrigators and other users within the water control district eventually will decide whether to build and to ask for the federal planning and construction assistance, everyone in the nation will have a chance to comment on or criticize the environmental impact statement. (This fact has held up the Alaskan pipeline for five years. Editor)

Updating the 1971 preliminary study and writing the impact statement could take about one year. Local desire to continue the program will again be ascertained, and the preliminary study will be sent to the Soil Conservation Service (SCS) with a request for aid in making the detailed work plan. When the work plan is completed, Congress will be asked for construction funding. These steps may take three to five years.

## HISTORY FROM 1956

Orla Shullanberger, chairman of the Lakeview-Thomas Creek Water Control District, introduced Learn and also Jim Lynch, secretary of the district board; directors Bob Utley, Russell Scholer, Bob Weir, Elmo Angele, Don Mautz, Frosty Abramson and Boyd Taylor; and budget committee member Walter Leehmann. Director L. W. "Bud" Garrett was not present. Also introduced was Bud Bartels, hydrologist with the State Engineer's office.

Shullanberger traced briefly the history of the project, from 1956 when the first move was made to study and make recommendations regarding the economic control and use of the waters of the Thomas Creek watershed. A nine member committee headed by Jim Snider in getting a resolution for study sponsored by the county court, Town of Lakeview, the Lakeview Soil Conservation District, the Eastside, Westside and Thomas Creek Granges, and the Lake County Farm Bureau.

Duane Crane, conservationist with the Lakeview SCD, said in 1964 the SCS presented a set of preliminary studies pertaining to projected dams at Cox Flat on Thomas Creek, the old mill site on Thomas Creek, Bauers Creek, Cox Creek, Augur Creek, Bullard Canyon and Deadman Canyon. In 1971, the SCS made new preliminary analyses in regard to the Cox Flat, Cox Creek, Bauers Creek and Bullard sites.

## TAX WAS LEVIED

A year ago, the water control district levied a tax and raised \$16,000 to have the Cox Flat site core drilled, and this work was completed early on the day of the July 24 public meeting, enabling Learn to report the site was feasible for dam construction. Core drilling data on the Cox Creek site already was available as that site had been studied in 1947, 48 and 49 by the U.S. Bureau of Reclamation.

Before Learn asked for a show of hands regarding the public's support for continued study, he gave the following preliminary estimates:--

A 57-foot high dam at Cox Creek would create a 560 acre reservoir to hold a total of 13,100 acre feet of water, including 355 acre feet for the sediment pool, 917 acre feet for single purpose irrigation, 6,574 acre feet for joint irrigation and flood control, and 5,254 acre feet for single purpose flood control; and

A 54 foot high dam at Cox Flat would create a 500 acre reservoir to hold a total of 8,600 acre feet of water including 180 acre feet of water for the sediment pool, 766 acre feet for single purpose irrigation, 4,957 acre feet for joint irrigation and flood control, and 2,697 acre feet for single purpose flood control.

## ADDING OTHER USES

He explained that the study to that point had considered only irrigation and flood control, and if other uses are added (recreation, fish and wildlife conservation, municipal water) the structures, reservoirs and costs would increase accordingly.

Learn told the group that the \$2,100,000 cost estimate he had given them included a 25 percent contingency fund to offset possible future increases in construction costs; and also in arriving at that figure he had estimated the cost of land acquisition for the dam and reservoir sites at \$200 per acre. He added that all of the estimates can, and probably will, change by the time construction reaches the contract stage. He stated that construction costs have increased during the past five years by 44 percent, but he hoped the spiral was nearing a leveling off point.

## HIGHER ACREAGE

Learn recounted that about two months ago he had asked Shullanberger to canvass the land owners as to whether they would be interested in irrigation water at \$10 per acre foot, saying his office needed this public showing in order to continue the effort and cost of the local study. He said estimates of cost appeared to be high, and might require as much as 5,000 acres to be paid at \$10 per acre for irrigation. The canvass quickly showed owners of 6,400

acres would meet that cost figure. He added that water available for irrigation from the Cox Creek and Cox Flat sites would not be adequate for 6,400 acres, so the Bauers Creek diversion was suggested to provide sufficient water, and new estimates indicated the irrigation fee to be \$7.80 per acre instead of \$10.

None of the figures given at the hearing are firm, but are preliminary estimates, and all will be updated in future studies and plans.



## Lake County Days Gone

60 Years Ago -

July 31, 1913: -

The Lakeview Creamery was started last Friday and Manager Troest manufactured 350 pounds of butter at the first churning. This starter was very encouraging to the management as he did not expect to receive so much cream at the beginning. He stated that it was one of the choicest lots of cream he ever handled, the quality of the product fully attesting to this fact.

The first product was placed on sale Monday morning in the various local stores. The creamery is paying the farmers 30 cents per pound for the butterfat, and the stores are retailing the product at 65 cents per two-pound roll.

New Pine Creek is to have a permanent pleasure ground on the shores of Goose Lake, situated at a point just north of the state line at the Amick place.

This will be the finest location available for picnics, as there is an abundance of the best shade trees that are to be found at any point on the beach.

A pier is provided where motorboats and other boats may land, and a motor boat service will be at the disposal of the public, as well as several row boats.

40 Years Ago -

August 3, 1933:--

Increased payrolls in the lumber industry are calling for housing accommodations and as a result during the past 30 days much building activity has become apparent, with the prospects for even greater activity as soon as working codes have been arranged and the industry stabilized.





# Lake Abert

by HENRY MASTIN  
Fishery Biologist, Lakeview District

---Reprinted from the  
Oregon State Game  
Commission Bulletin  
for June, 1972.

As one drives north from Lakeview on Highway 395 it is virtually impossible to overlook the huge scarp called Abert Rim. As it thrusts some 2,000 feet into the sky about 25 miles north of this southeastern Oregon community, it makes a landmark visible for many miles.

Nestled at the foot of the imposing uprising is one of Oregon's larger lakes carrying the same name as the nearby mountain of rock. Both were named in 1843 when Captain John Fremont traveled through the area and honored Colonel J. J. Abert of the U.S. Topographical Engineers.

Fed by the small outflow of Crooked Creek and the Chewaucan Marsh, Lake Abert has a surface covering over 60 square miles. Actually the lakebed extends along the highway some 16 miles and is as much as 6 miles wide in some places.

solved in the water. Though it varies considerably depending on the amount of water present, the lake has about twice as much material dissolved in it as does ocean water. In a given sample of water from Abert Lake from 1/12 to 1/10 of the sample is dissolved solid materials.

The materials that are in solution in the lake are much the same as those in the ocean; however, the proportions are considerably different. The following table shows the comparison.

	Percentage of Total Solids	
	Abert	Ocean
Calcium (Ca) .....	0.01	1.2
Magnesium (Mg) .....	0.01	3.7
Sodium (Na) .....	40.0	31.0
Potassium (K) .....	1.3	1.1
Carbonate plus bicarbonate (as Ca Co <sub>3</sub> ) .....	22.0	0.4
Sulfate (SO <sub>4</sub> ) .....	1.8	7.7
Chloride (Cl) .....	35.0	55.0

Since this is one of the largest

been conditioned to tolerate water of very high salinity, they just couldn't take the Lake Abert water.

The search continued for a fish species that might be able to survive in the adverse environment at Abert Lake. To this end the Game Commission and the Bureau of Land Management agreed to determine if any fish species from the Salton Sea in California could survive. The California Department of Fish and Game agreed to test Salton Sea fish to determine if they could be acclimated to Abert Lake water and BLM transported 200 gallons of the water to the California laboratory at Chino, California.

Five species were tested at the laboratory. Three of these species had a high tolerance to saline conditions. The fish were tested in various concentrations of Salton Sea and Abert Lake water. As the fish be-



thrusters some 2,000 feet into the sky about 25 miles north of this south-eastern Oregon community, it makes a landmark visible for many miles.

Nestled at the foot of the imposing uprising is one of Oregon's larger lakes carrying the same name as the nearby mountain of rock. Both were named in 1843 when Captain John Fremont traveled through the area and honored Colonel J. J. Abert of the U.S. Topographical Engineers.

Fed by the small outflow of Crooked Creek and the Chewaucan Marsh, Lake Abert has a surface covering over 60 square miles. Actually the lakebed extends along the highway some 16 miles and is as much as 6 miles wide in some areas. Though it is reported to have gone dry in 1924, there are no other recent reports indicating total lack of water. Generally the average depth is less than 10 feet with a maximum of 15 feet.

Geologists tell us the lake was once part of a much greater lake. Along with Summer Lake, it is a remnant of a former body of water some 350 feet deep called Lake Chewaucan by the studiers of the past. Geologically the large lake was a rather recent thing, having been in existence sometime within the past million years.

But back to our present body of water. Despite its size and easy availability from a main highway, the activity on Abert is virtually nonexistent. Occasionally a letter is received from out-of-staters perusing maps, wanting to know what kind of fish are found in this huge lake in south-central Oregon. The reply to such a letter is easy—no fish are found in this great expanse of water.

For a number of years the Game Commission, U.S. Geological Survey, and U.S. Bureau of Land Management have carried on various studies concerning the lake and its possible productivity.

Chemically, the lake is highly saturated with carbohydrates that limit fish production. As might be suspected, the lake is very alkaline with a pH rating from 9.6 to 10. On the pH scale a rating of 7 is considered neutral with lower readings indicating acid conditions and higher readings up to 14 indicating base or alkaline situations.

Another indication of its content is the amount of solids that are dis-

dissolved in it as does ocean water. In a given sample of water from Abert Lake from 1/12 to 1/10 of the sample is dissolved solid materials.

The materials that are in solution in the lake are much the same as those in the ocean; however, the proportions are considerably different. The following table shows the comparison.

Percentage of Total Solids		
	Abert	Ocean
Calcium (Ca) .....	0.01	1.2
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Carbonate plus bicarbonate (as Ca Co <sub>3</sub> ) .....	22.0	0.4
Sulfate (SO <sub>4</sub> ) .....	1.8	7.7
Chloride (Cl) .....	35.0	55.0

Since this is one of the largest bodies of water in the Northwest, the question immediately arises, "What kind of fish can be supported by it?" Natural life in the lake consists of brine shrimp and brine flies with some plankton. There are a few chubs found in the peripheral freshwater springs mainly along the north edge but it is not known if these fish ever enter the lake proper.

Tests mainly have been run to determine if any saltwater forms might be able to adapt to the rather "thick" waters of Abert Lake. Chinook and coho salmon fingerling were proposed as the first trial fish. At Lint Slough on the coast, coho salmon were being raised in near marine conditions. The chinook that were used started life in a freshwater hatchery but were acclimatized to a saltwater life prior to their introduction in the lake.

The program was to place groups of these fish in live-boxes at various locations in the lake. Several sites were utilized since the salinity of the lake varies considerably from near the freshwater stream entrances out to the middle of the lake.

First fish were placed in an area with the lowest salinity. Prior to their introduction into the lake, the fish were conditioned to the 70 degree water temperature they would have to survive in. All preparations were futile, however. As soon as they entered the water, the fish showed signs of distress and died almost immediately. The remaining salmon were released into the Chewaucan River and, though the water there was at 75 degrees, they did not show any immediate distress. Though these fish had

species that might be able to survive in the adverse environment at Abert Lake. To this end the Game Commission and the Bureau of Land Management agreed to determine if any fish species from the Salton Sea in California could survive. The California Department of Fish and Game agreed to test Salton Sea fish to determine if they could be acclimated to Abert Lake water and BLM transported 200 gallons of the water to the California laboratory at Chino, California.

Five species were tested at the laboratory. Three of these species had a high tolerance to saline conditions. The fish were tested in various concentrations of Salton Sea and Abert Lake water. As the fish became acclimated to a lower dilution over a 48-hour period, they were transferred to the next higher concentration.

Two species died after a 44-hour exposure to 75-per cent Salton Sea and 25-per cent Abert Lake water. One of the species showed distress in any concentration above the 75-per cent Salton Sea and 25-per cent Abert Lake water. Two other species were able to acclimatize at the 75-per cent Salton Sea and 25-per cent Abert Lake water. One of the species was able to survive for 23 hours in a concentration of 50-per cent Salton Sea and 50-per cent Abert Lake water.

The desert pupfish appeared to be the species most likely to adapt to Abert Lake water. Some pupfish were able to become acclimated to a concentration of 50-per cent Salton Sea and 50-per cent Abert Lake water. One even survived for 18 hours in 25-per cent Salton Sea and 75-per cent Abert Lake water. In 100-per cent Abert Lake water they all showed immediate distress.

And so the tests continue. None of the five species of fish from the Salton Sea could tolerate a 100-per cent dose of the potent waters of Lake Abert. It has been speculated that the high carbonate content of the water is the factor that makes survival impossible for the fish thus far tested. More thorough analysis of the water may reveal a lethal factor in the water or it may reveal that the tremendous amounts of dissolved solids are just too much for fish life.

In the meantime, one of Oregon's largest bodies of water continues to lie silent beneath Abert Rim. Of geological interest, it appears likely the lake may never join the ranks of Oregon's fish producers.



# SCS Reports on Feasibility Of Future Dams in the Area

The Soil Conservation Service produced a preliminary report on several area water projects to a full house Tuesday evening in the county court room in Lakeview.

Among the projects discussed was the improvement of the 32-mile north canal system, and building dams on the old mill site and the campground site of upper Thomas Creek, dams on Bullard and Deadman Canyons, and a dam in the Bauers-Cox Creek area seven miles north of Lakeview.

Making the presentation was Dick Verboort, an engineer with the Portland branch of the SCS, and Keith Cromwell, an SCS

economist, also from Portland.

The preliminary study on the dam sites on Thomas Creek at the old mill location and the campground indicated that projects in that area were not feasible for irrigation and flood control at this time because of the costs involved compared to the benefits received.

The SCS representatives also nixed flood control dams in the Bullard Canyon and Deadman Canyon, located on the eastern outskirts of Lakeview because of the same situation.

They reported that the Deadman dam was out of the question because of storage limitations. The annual cost of the Bullard dam would run about \$9,850. The average flood damage cost to Lakeview annually is about half of that figure so that this project, too, was not recommended.

Water projects in the area didn't completely strike out. The report indicated that a great deal of use could be derived from a dam located in the Bauers-Cox Creek area.


The representatives said that several sites were being considered and that the primary one would have a dam 56 feet high and would store 11,414 acre feet of water.

Flood control potential in this area is excellent and if local irrigators don't back off from a \$10 per acre foot charge on irrigation, up to 7,294 acre feet of water could be used by ranchers in the area annually.

It was also pointed out that the dam, if located on Cox Creek, could have a canal connecting Bauers Creek and possibly enlarging the storage capacity.

Representatives from three area water organizations and the town of Lakeview all expressed a desire to further study the project and letters are being drawn up to be submitted to the SCS requesting for planning authorization.

Several methods of financing the project was discussed during the meeting, including federal grants and loans.





Lakeview  
Examines

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THURSDAY, MAY 31, 1973

## Further Studies Made for Dam Site Proposal

Further local research was done last week in regard to the feasibility of constructing a dam at Cox Flat or on Cox Creek for flood control, irrigation and recreation. Darrell Learn, chief, and Sam Allison, geologist, with the watershed planning party for the State Engineer's office were here for that purpose, said Duane Crane, conservationist with the Lakeview Soil and Water Conservation District.

The two Salem men made further studies of the flood plain areas and also potential irrigable lands that could benefit from dam construction at either site.

Dam construction is a proposed project of the Lakeview-Thomas Creek Water Control District under Public Law 566. The district board of directors voted on May 2 to contract for core drilling at the Cox Flat site. Core drilling records on the Cox Creek site already are available. The Cox Flat drilling probably will be done in late June or in July.



# Behind the Sagebrush Curtain

By Leslie Shaw



AN INDIAN RING on the shore of Abert Lake has been torn up by artifact hunters, some of the ancient rocks having been moved out of the circle. Standing inside the ring is Norman Peterson, Grants Pass, geologist with the State Department of Geology and Mineral Industries. (Examiner Photo)

## CAN NOTHING BE DONE TO PRESERVE ANCIENT THINGS?

Carbon 14 dating of sagebrush sandals found in 1938 in the Fort Rock Cave (it was then Cow Cave) proves that Indians inhabited the Lake County country for at least 13,000 years. One day, science might prove the habitation goes back for half a million years, or maybe even two to five million years.

BUT EVEN if the mark is only 13,000 years, that is a lot of time span. In those years the Indians left many signs of their having been here. In many parts of the county there are Indian writings on the rocks, which no one today can read or translate...but they are among the most interesting of all ancient artifacts.

SOMETIMES latter-day inhabitants take hammers and chisels, and even machines to break up these rocks and take home samples of the Indian writings. They will have done so for

Abert Rim in that fashion; somebody, for some reason that was good at the time, put the rocks in those formations.

NEAR A COUPLE of sets of those rings, Norm and I found Indian mortars that had been hollowed out into huge lava boulders. These apparently had been used for grinding food for a lot of years, plus a lot more.

BUT MOST of the rings had been dug in; dirt piled up; rocks moved out of the circle. The Indian Rings themselves, certainly, would be more valuable to the history of man than any arrow points that might have been salvaged from the dirt.

WHAT CAN the public do about preserving things like this? For true, there are both federal and state antiquities laws which prevent (supposedly) the removal of artifacts, but this is another of those laws that gets little heed. It is possible that Indian arrowheads, stone axes and like that are far more valuable to posterity if they are found and added



AN INDIAN RING on the shore of Abert Lake has been torn up by artifact hunters, some of the ancient rocks having been moved out of the circle. Standing inside the ring is Norman Peterson, Grants Pass, geologist with the State Department of Geology and Mineral Industries. (Examiner Photo)

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SOMETIMES latter-day inhabitants take hammers and chisels, and even machines to break up these rocks and take home samples of the Indian writing. There will be a day when no Indian writings are left to intrigue the people.

AND THERE are the Indian Rings along the shore of Abert Lake...probably these interesting structures are found in many parts of the county: me no know. Only last week I saw the first Indian Ring I had ever seen...hadn't even known before that they existed.

TO TELL YOU the simple, honest truth, I was appalled and disgruntled at what I saw. People had been digging in the rings, even moving the big rocks out of place, utterly destroying forever these ancient signs of man's long ago habitation. They were searching, of course, for arrowheads and other artifacts left by the Indians, and in doing so they were destroying the major artifacts themselves...the Indian Rings.

THE RINGS I was are located between the highway and the Abert Lake shore, some of them not fifty feet from the road. They were shown to me by Norman Peterson of Grants Pass, a geologist with the State Department of Geology and Mineral Industries. Norm did not pretend to know what the rings were built for, but he offered a logical guess...the foundation for Indian homes, skin tents, perhaps. Very likely the Indians did not live there the year around, but probably some Indian family or another pitched its tent on the rings for a part of every year through dozens or scores of centuries.

ONE RING was about 20 feet across, formed of heavy rocks that had been embedded into the ground in an almost perfect circle. Adjacent to this was another ring about eight feet across and not far away was another about 15 feet in diameter.

MAYBE THAT TENT business is all wet; maybe the rings were built in some kind of worship requirement. Who can answer? But for sure they did not just happen because rocks fell off

Abert Rim in that fashion; somebody, for some reason that was good at the time, put the rocks in those formations.

NEAR A COUPLE of sets of those rings, Norm and I found Indian mortars that had been hollowed out into huge lava boulders. These apparently had been used for grinding food for a lot of years, plus a lot more.

BUT MOST of the rings had been dug in; dirt piled up; rocks moved out of the circle. The Indian Rings themselves, certainly, would be more valuable to the history of man than any arrow points that might have been salvaged from the dirt.

WHAT CAN the public do about preserving things like this? For true, there are both federal and state antiquities laws which prevent (supposedly) the removal of artifacts, but this is another of those laws that gets little heed. It is possible that Indian arrowheads, stone axes and like that are far more valuable to posterity if they are found and added to public and private collections, than to remain lost in dry lakebeds.

BUT WHY destroy an Indian Rings? Why tear up a burial mound? Why break up a boulder that contains ancient writing? I can understand picking up and preserving an arrowhead which otherwise would lay unknown in the dust of an old hunting ground...but I don't see the destruction of an Indian Ring.

NORM ALSO showed me several white-colored rocks, each with an opening at its base, which once was the outlet of a hot spring. The whiteness was caused by layers of tufa, the encrusted salts or alkaline chemicals in the water. For many centuries before the ken of man, those hot springs had boiled there: why not now? The presence of those hot springs, however, may have been the reason for building the Indian Rings where they are.



# BLM Eyes Abert Rim Withdrawal

The Bureau of Land Management, Department of the Interior, has filed an application, Serial Number OR 12177, for the withdrawal of public land from all forms of appropriation under public land laws, including the mining laws (30 U.S.C., Ch.2), but not from leasing under the mineral leasing laws.

The application desires to have the area withdrawn for the purpose of establishing a scenic corridor along the length of Abert Rim.

All persons who wish to submit comments, suggestions, or objections in connection with the proposed withdrawal may present their views in writing no later than June 11, 1974, to the Bureau of Land Management, Department of the Interior, (729 N.E. Oregon St.), P.O. Box 2965, Portland, Oregon 97208.

The authorized officer of the Bureau of Land Management will undertake such investigations as necessary to determine the existing potential demand for the land and its resources.

After receipt of comments from interested parties, he will prepare a report for consideration by the Secretary of the Interior who will determine whether the

land will be withdrawn as requested by the Bureau of Land Management.

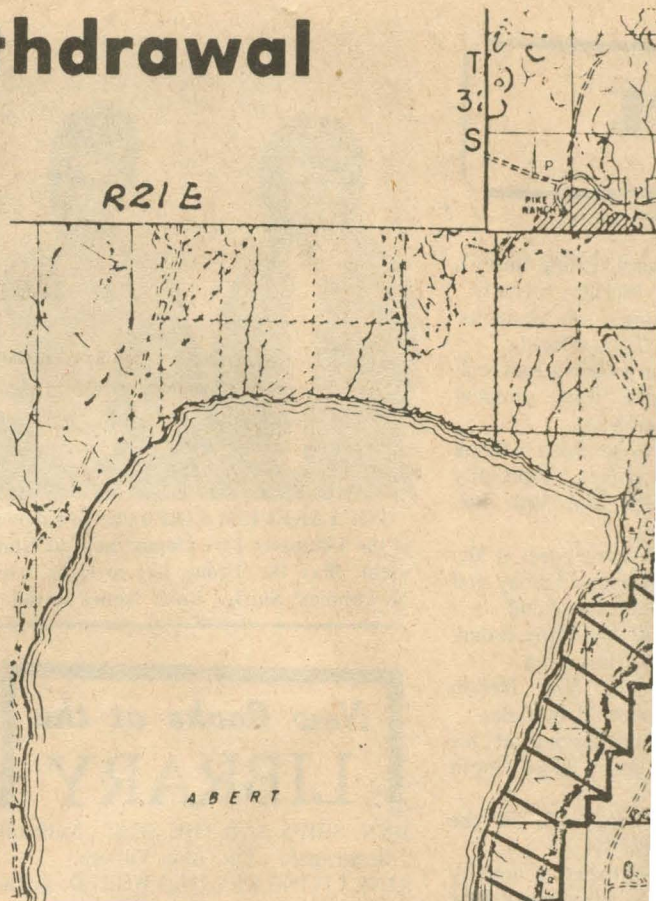
The determination of the Secretary on the application will be published in the Federal Register. A separate notice will be sent to each interested party of record.

If circumstances warrant it, a public hearing will be held at a convenient time and place which will be announced.

A major portion of Abert Rim, North of Valley Falls, Oregon, along Highway 395, is being considered for withdrawal from all forms of appropriation under public land laws, except mineral leasing, by the Bureau of Land Management. The purpose of the BLM's withdrawal application is to establish a 23 mile scenic corridor along the eastern edge of Lake Abert in Lake County.

All public comments will be considered in the BLM report to the Secretary of the Interior, who will determine whether or not the land will be withdrawn for the scenic corridor.

Additional information about the withdrawal procedures or withdrawal area may be obtained from the BLM, 357 North L Street, Lakeview, Oregon, phone 947-2177.





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SHOULDER  
CAMP



Seals.

The Breathmobile will be located on  
*aka Co. Examiner*

*5/10/73*

## Cox Flat Dam

## Site Drilling

## Slated this Year

The Lakeview-Thomas Creek Water Control District directors met on Wednesday, May 2, to consider contracting for core drilling of the proposed Cox Flat dam site, under the Thomas-Cottonwood Watershed Project (Public Law 566).

Darrell Learn, chief, and Sam Allison, geologist, Oregon State Engineers' watershed planning party, outlined the amount of work needed to determine geological feasibility of the Cox Flat site, and also reviewed the core drilling records already available on the Cox Creek site.

Two dam sites were inspected by the group prior to the meeting. It was felt that core drilling was necessary to determine feasibility of the site before further planning can be done. Cost of this work was estimated at \$4,000 to \$5,000.

The 1973-74 budget for the district was discussed and approved by the directors in the amount of \$15,000.

Target date for the core drilling is late June or early July of this year.



Lake County Examiner  
Thurs. November 5, 1970.



DR. DAVID WEIDE, left, and his wife, Dr. Margaret Weide, make an archeological point with Jim Lynch, right, president of the Lake County Chamber of Commerce, after the Weides talked to the Chamber members Monday, December 7, at the Indian Village about geology, archeology and prehistory of Warner Valley and Hart Mountain. (Examiner Photo)



# Warner and Hart Prehistory Outlined

Violent geologic activity covering some 18 million years resulted in shaping the present Warner Valley and Hart Mountain, two scientists told an interested group at the Lake County Chamber of Commerce forum luncheon Monday, December 7, 1970, at the Indian Village. Their story included the last few thousand years in which the area has seen Indian habitation.

The speakers were Dr. David Weide, curator of the geology museum at the University of California, Los Angeles, who is on leave for his present study in the Warner country, and his wife, Dr. Margaret L. Weide, assistant professor of anthropology at California State College, Long Beach, also on leave for the Warner study.

Residing at Plush through the summer and fall, the Weides are in their third season of the detailed study. Mrs. Weide is documenting the prehistory of the valley and mountain with special reference to the natives who lived there, and Weide, a geomorphologist, is studying the changing environment that was background to the prehistoric occupation.

The two are working in cooperation with the Museum of Natural History at the University of Oregon, under permits from both the state and federal governments.

Weide explained that his study area is much different today than it was 18 million years ago. The area had trees, rivers and lakes as it does today, but north to John Day and west to Klamath Falls the surface was much lower than now.

A major change occurred near the end of the Miocene age, about 12 to 6 million years ago, when tremendous cracks opened in the ground and vast flows of lava poured out, covering the land in huge sheets. That the flows did not stop for long periods of time, said Weide, is shown by the fact that whole forests have been found buried between sheets of lava. And the size of some sheets is vast...the lava of Abert Rim, Hart Mountain and the Steens is the same, a distance of 85 airline miles. The cracks, themselves, from which the lava flowed,

long since gone, buried.

Next came pressures from underneath which caused other surface changes such as the strings of lakes that are seen in northeast and southwest alignments from northern Nevada to Christmas Valley.

After the cracks and the lava flows, there were tremendous earthquakes such as never experienced today, resulting in the faulting and the rise of huge fault blocks such as Abert and Hart. The great lava rims, Weide noted, also follow the general northeast to southwest alignment.

He added that Hart Mountain is still growing...at about 10 inches to a foot in height each 1000 years.

Weide said it is often asked if the Columbia River ever flowed through here to the Los Angeles area, and he testified that it did...some 14,000,000 years ago. Evidence has been found in patches of riverbed gravels found hundreds of feet above present land levels.

Another change occurred about 2,000,000 years ago when weather turned colder and glaciers formed, plus heavy snowpacks and streamflows unimagined today. This change formed a lake in the Warner Valley that was completely dry. At that time, winds blew out hollows, piled the dirt on the north edges in great sand dunes. The hollows have now filled with the present Crump, Flagstaff and other Warner Lakes and the dunes are still present on the northern shores of these.

There is some mineralization in the Warner area, as found in the Coyote Hills during the early part of this century, but he doubted that metals will be found there in economic quantity. Weide said the main economic feature of the valley is the water, if good wells can be located...and he testified to being one geologist who uses a forked stick to locate water.

Dr. Weide's slides showed some of the landscape features on which his studies have been based...the Hart scarp, the ancient lines of a huge lake high up the side of the mountain, the dunes at the north ends of the lakes.

Mrs. Weide's research concerns more recent times, seeking habitation sites and other archeological testimony to human occupancy of Warner Valley and Hart Mountain. This is comparatively recent, the oldest date so far recorded being something around 13,800 years (from the Carbon 14 testing of sagebrush sandals found by Dr. Luther Cressman at Fort Rock Cave (Cow Cave) in 1938). Her

work to date has been finding and documenting habitation sites, but she has done no excavation because this must come later when adequate funding may become available...and she does not now want to give away the locations she has found because amateurs would loot the sites and destroy valuable archeological evidence.

She told of an important bill before the last Congress which would require archeological exploration on federal lands before development (such as springs) could take place. The bill has not passed, and she said it will be re-introduced in the next Congress, and it can result in important archeological research. A secondary result, said the professor, would be the building up of fund of prehistoric information to attract visitors. She added that the Bureau of Land Management has a "beautiful program" of archeological research on paper, but it is not funded.

Federal agencies, she said, are recognizing the public interest in Indian history, and all this points to development of archeological resources in the next ten to 15 years, adding that the University of Oregon's archeological studies may be beamed in the future to Eastern Oregon, having been bound in the past to the river basins.

Her work began from her interest in the Paiute Indians, and she wanted to study the habitats of these people in a valley with lakes. But before digging starts, she wanted first to study the whole area in order to understand the total environment surrounding Indian habitation.

Realizing that human habitation in Warner probably extends back 12,000 or 14,000 years, Mrs. Weide has noted a change in tools, arrow points, and other artifacts which indicate the Paiutes may have arrived in the valley about 500 A.D. She said the evidence shows the Paiutes were settled in their valley habitats until they got horses, at which time they began raiding.

She spoke of the Indian writings found on rocks of the region (explaining that archeologists use "petroglyph" for the markings carved into the rock, "pictographs" for those marked or painted on the rock surface). She said these are not writing, as such, but are symbols, perhaps religious, perhaps tribal; she explained the writings are not to be understood in the realm of writing, but rather in the realm of art...as a person today might look at a surrealist painting and wonder what the artist had in mind.

Mrs. Weide also showed colored slides, of house ring, a hunting blind, Indian writings, and a cave. Speaking of the latter, she said these are often excellent sites for archeological study, because layers of dirt and artifacts provide the scientist with important chronological data. Many, however, have already been found, looted and destroyed by amateurs interested only in arrowheads...the archeologist getting no chance to study and record the testimony of the succeeding layers.



# Behind The Sagebrush Curtain

By Leslie Shaw

## Preserving the Artifacts

(A recent statement regarding Indian artifacts seemed to the editor of sufficient importance to warrant additional statements and clarification of local positions. The initial letter is presented first, followed by comments from the editor and the Chamber of Commerce.)

### TO THE EDITOR:

Leslie Shaw's "Can Nothing Be Done to Preserve Ancient Things" (Behind the Sagebrush Curtain, September 17) was an eloquent plea. Is he a voice in the sagebrush wilderness? For I read further in that edition of the Examiner, to page 11, and saw "61 Reasons to Visit Lake County." Here was the undoing of what Leslie Shaw was trying to say. The Lake County Chamber of Commerce encourages artifact collectors to come to Lake County. "Arrowheads, spearheads, mortars, pestles and a wide variety of other artifacts are found at many places in Lake County, testifying to thousands of years of Indian habitation and hunting. Examples of Indian weaving and other arts are found, too, in caves that once were Indian habitations." This is an open invitation to loot the prehistoric resources of the county, supported by a map on the next page marking promising artifact bearing places.

The record of those thousands of years of Indian habitation is a fragile one. Old-timers in the area have seen it diminish. Tipi rings are disrupted, caves emptied and habitations riddled with holes as the search for arrowheads goes on. To encourage this disruption of the only record of Lake County's prehistoric past is shortsightedness on the part of the county and its Chamber of Commerce. Lake County is blessed with a plentiful record of its Indian history too readily revealed in the thin vegetation and shifting soils, but when it is obliterated, it will be gone, once and finally. Prehistoric remains are a non-renewable resource. Unlike the deer, the waterfowl, the upland game birds which with proper management can reproduce and return their numbers year in and year out, the lifeway that produced those Indian remains has been extinguished forever.

What about a program to preserve, protect, develop and interpret Lake County's prehistoric past? Sites with rock paintings or tipi rings are of great interest to travelers and tourists as well as to local residents. Properly protected and then developed, they could form the core of a system of county parks or picnic sites.

They could be related by a self-guiding auto tour of Lake County's prehistoric past and would be a credit and an attraction to the county.

about preserving the ancient things, which Mrs. Weide liked, but I also wrote the Chamber of Commerce words in those 61 reasons.

IF YOU'VE ever been in the bight of the line, maybe you can understand how it can happen to any well-meaning guy in spite of years of practice in avoiding such happenstances.

THE HONEST truth is that, in writing about "weaving and other arts found in caves," I did not feel I was inviting people in to tear these ancient habitats apart, but was only pointing out they were there. I also wrote, in those 61 reasons, about the tall trees, sparkling streams, bighorn sheep and antelope...but was that an invitation for people to flood in and chop down the trees, pollute the streams, shoot the big game?

MRS. WEIDE makes excellent points all through her letter because she is a very sincere person with a keen interest in her chosen vocation. She is an archaeologist working with the Museum of Natural History, University of Oregon, documenting the pre-history of the Warner Valley-Hart Mountain country. Her husband is another kind of ologist...a geomorphologist, who is studying the changing environment that backgrounded the ancient occupation. They find the area rich in resource materials for their investigations, but they are saddened every time they find an ancient habitation sundered by amateurs who search only for trinkets and, in caring nothing for the story which might be revealed in a careful scientific study of the layers of dirt in a cave dwelling, they destroy forever the knowledge buried there.

AN AMATEUR tearing up the floor of a cave, just to find an arrowhead or a bone knife, is a lot different from an amateur raking a dry lake bed in search of similar artifacts. Those arrowheads in the lake bed or scattered across the desert, lost by Indians trying to shoot waterfowl or an antelope, are lost forever unless they are recovered by these same amateurs.

BUT THE CAVE FLOORS or the annual camping places are something else again. These can tell a story to the trained professional who will use careful and systematic excavation plans. Such people are interested not only in finding the arrowhead or atlatl, but studying the layer of dirt in which it was found, comparing and analyzing each layer deposited and

board had asked him to keep his eye out for such a thing, at which the highway department might construct a rest stop, with maybe a water tap, a bit of shade and a picnic table or two. But of course the rings Norm found that day would not serve...they had been destroyed by amateur digging.

I THOUGHT Mrs. Weide's letter important enough that we should get the Chamber of Commerce' slant and print it right along herewith. So the following statement was prepared by the Chamber president, Jim Lynch:

### TO THE EDITOR:

As president of the Lake County Chamber of Commerce, I welcome this opportunity to set forth the view of the board to directors of the Chamber of Commerce as far as the future development of Lake County is concerned. The reason for the letter at this time is not only the letter from Mrs. Weide, published in this week's edition of the paper, but also various comments that other members of the board and I have heard recently.

The Chamber of Commerce is committed to the development of Lake County in such a manner that those who live here will be able to continue to enjoy the advantages of Lake County, as well as have a sound and solid economic basis upon which to grow. I would point out to Mrs. Weide that her idea of a chain of county parks is a highly desirable project, but in order to bring it successfully to completion, it would be necessary to have adequate financing. This financing would have to come, of necessity, from the residents of Lake County. The residents of Lake County could not afford to pay for this sort of financing unless the economy of Lake County is such that they would be able to pay the necessary taxes. In order to make the economy sound, we must not only maintain the industries we presently have, but must diversify so that we have year-round industry, albeit, industry which will not make Lake County an undesirable place to live.

As many already know, your Chamber of Commerce recently sent to three California fairs a fact sheet setting forth 61 reasons why tourists should visit Lake County. This was done in the belief that the tourist dollar is a highly desirable dollar to add to the Lake County economy. I would point out that tourism does not require tax support as do other industries which bring with them problems of a permanent population. The permanent residents of the area--and this includes far more than merely motel owners, gas station operators,



a system of county parks  
sites.  
could be related by a self-  
auto tour of Lake County's  
past and would be a  
and an attraction to the county.  
ter of the system could well be  
am in Lakeview, with exhibits  
g the Indian lifeways, showing  
s of the many tool forms that  
evidence of past lifeways, and  
scientific archaeology and the  
ues for studying the past.  
development of such a system  
be a long-term project, but it  
be a suitable development of  
Lake County's major resources.  
er, the beginning must be Les-  
w's plea of preservation.  
Margaret L. Weide  
Plush, Ore.

#### INTERESTED TO SEE HER I CAN COME OUT OF ONE WITH A WHOLE HIDE

country type editor enjoys a  
glow when he reads compli-  
mentary words about his efforts, such  
as Margaret L. Weide used in her opening and  
closing remarks. But the warmth I  
felt in reading those words was some-  
what cooled by her comments on the  
Chamber of Commerce publication.  
See, I not only wrote that piece

careful and systematic excavation  
plans. Such people are interested not  
only in finding the arrowhead or  
atlatl, but studying the layer of dirt  
in which it was found, comparing and  
analyzing each layer deposited and  
lived upon through scores of centu-  
ries. What these professionals find  
they can interpret, record, analyze  
and put together into an understanding  
account of ancient life. The amateur  
digging in the same cave floor can only  
show an arrowhead to his friends...and  
destroy forever the story of when that  
arrowhead was made, by whom and  
from whence whom came.

NO, THE CHAMBER of Commerce  
(nor I) was not inviting people to  
visit Lake County to dig up ancient  
Indian homesites; nor does the Cham-  
ber (nor I) relish the idea that local  
people do this thing. Let these people  
search the lake beds, the desert stretch-  
es, the hillsides for the arrowheads lost  
centuries ago by hungry Indians; but  
let them leave to the professionals the  
study of cave floors, tipi rings and vil-  
lage sites.

MRS. WEIDE has a good thought  
about preserving certain accessible  
sites at which to create roadside rest  
stops to attract tourists. Such a site  
was exactly what Norm Peterson was  
looking for the day he showed me the  
Indian rings beside Abert Lake. A  
member of the state highway advisory

industries which bring with them prob-  
lems of a permanent population. The  
permanent residents of the area--and  
this includes far more than merely  
motel owners, gas station operators,  
and merchants--are, therefore, better  
able to provide the necessary facilities  
if Lake County is to remain a viable  
county.

If there is any real threat in Lake  
County being gobbled up by a neigh-  
boring county, such as Klamath, it is  
when Lake County has decreased to  
such a size that it no longer can justi-  
fy the existence of a separate county  
government and, therefore, separate  
county entity. Recently a new hospi-  
tal was built at Lakeview; a new

water and sewer system was construct-  
ed at Paisley, and a new T-bar facility  
is being installed at Warner Canyon.  
These, and other developments like  
them, cannot go forward unless there  
is a sufficient economic base at the  
local level to support them.

In the ten years between 1960 and  
1970, preliminary figures indicate  
that Lake County decreased from  
7,158 to 6,155 population, a loss of  
over 1,000. It is not, therefore, a  
case of merely trying to promote  
growth in Lake County, but rather  
also an attempt to maintain the county  
at its present population.

Those who say they do not want  
Lake County spoiled should answer  
some hard questions. Do you want to  
see Lake County's population drop  
more? Do you want to see Lakeview  
drop to a population of under 2,000?  
Do you want to see the recreation  
facilities and retail establishments cur-  
tailed in accordance with such drop in  
population? These are not theoretical  
questions. This is what is actually tak-  
ing place at the present time because  
of the population loss sustained in the  
last decade.

The decision to spend money to  
look for additional tourist dollars was  
not made helter-skelter without due  
consideration. Many long discussions  
were held probing the pros and cons  
of this move, but ultimately the de-

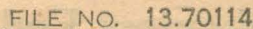
mous agreement that it was essential  
if Lake County were to continue to  
be able to provide a good way of life  
for its permanent residents.

Certainly nobody wants to see  
artifacts or historically important  
areas desecrated. Any inference  
from the fact sheet to the contrary  
is in error and we will be more than  
glad to change any future editions  
of this fact sheet to avoid this impres-  
sion. Incidentally, the accompany-  
ing map only pointed out promising  
sites for finding rocks and arrowheads,  
digging sites.

In closing, I would point out that  
the permanent improvements made  
possible by a sound local economy  
whether they be roads, restaurant  
facilities, retail shops, hospitals, sci-  
entific county parks or picnic sites, will be  
used primarily by and for the benefit  
of the permanent residents of Lake  
County.

Jim Lynch, President  
Lake County Chamber of





line, and the California Goose Lake Compact Commission representing the southern portion. Intent of the compact, when approved by the Oregon and California legislatures and by Congress, would be to prevent water being transported from the basin without approval of both legislatures. The compact was the subject of a meeting here Monday night, October 8.