

MEMORANDUM

August 19, 1969

To: N. V. Peterson  
From: V. C. Newton  
Subject: Some Ideas for Test Drilling of Diatomite at Klamath Lake

Shallow water (3'-6')

1. May use wet suit to assist in hole re-entry for continuous coring.
2. A riser pipe could be used as a guide for hand augering from a boat. The Department has a 4' and a 6' piece of  $3\frac{1}{2}$ " casing on hand. It could be driven a short distance into the lake bottom for stability.
3. Two small boats lashed together by planks would provide a fairly stable platform from which to drill. A small raft with center-well would make a good platform when securely anchored.

Deep water (more than 6')

1. A retractable plug sampler could be used to take punch cores of the bottom. Depth of sampling depends on the induration of lake sediments.
2. A heavy bar plate with wire guides could be used and attached to the auger pipe. This arrangement would allow re-entry and continuous coring.



VCN:lk



DEPARTMENT OF  
GEOLOGY AND MINERAL INDUSTRIES

ADMINISTRATIVE OFFICE

1069 STATE OFFICE BLDG. • PORTLAND, OREGON • 97201 • Ph. (503) 226-2161 Ext. 488

TOM McCALL  
GOVERNOR

January 7, 1970

TO: Staff  
FROM: Raymond E. Corcoran

The annual staff meeting is only a week off and I thought that I would send out a memo outlining some of the things I would like to have discussed at this meeting.

Although I think everyone will be interested in what each of us has been doing the past year, I would like your presentations to be kept brief so we will have an opportunity to discuss some other matters I want to bring before the group. Listed below are some of the topics I want you to think about so that we can hopefully arrive at some consensus when the meeting is over.

(1) Waste management and disposal

*Alkali Lake - Dry Valley -  
(Air Photos)  
Deep Well Disposal -*

As I am sure all of you are aware by now, our Department is becoming increasingly involved in the problems of waste management and disposal and I see no end in sight. Up to the present time, Vern Newton and Ralph Mason are the ones most involved in this area but I would like to include the people in the field offices in this program, particularly those working in eastern Oregon, because I think this is where the action is going to be in future years.

(2) Department assay service

As you know, we have been making free assays for more than 30 years and I think we should give some thought to the type of service we are providing and the general policy pertaining to this service. There have been suggestions that we change the rules regarding the kind of samples we will accept and how they are to be treated. I am attaching for your information an excerpt from the Alaska Division of Mines and Geology Bulletin which shows how they handle their assay service. It seems to me that we should be utilizing the laboratory to a greater extent than we have in the past and perhaps do more follow-up work on those assays that appear to show good quality ore.



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TOM McCALL  
GOVERNOR

January 20, 1970

TO: Staff

FROM: Raymond E. Corcoran

I would like to thank all of you for your excellent summaries of Departmental projects during the past year and for your contributions to the various discussions during the 2-day staff meeting.

While it is still fresh in everyone's mind, I think it would be a good idea to review the subjects that were discussed and the general consensus of the group.

(1) Waste management and disposal

Everyone agrees that our Department is becoming more involved in the various aspects of waste management and disposal, and rightly so, because many of these problems have a geologic aspect. For this reason I am asking the people involved in this field to meet with the county planning commissions in their various areas - first, to let them know who we are and what we are doing, and second, to try to obtain support for further studies. As was suggested at the meeting, we should also try to meet as many of the legislators as possible as it is certainly true that these people are particularly interested in their own counties' welfare. It may be that the various county planning commissions will be able to get their legislators to support our Department at the next legislative session when they see the service we can perform, particularly in the area of environmental geology.

(2) Department assay service

There seemed to be general agreement that the regulations governing the State's free assay service are in need of some modification and the policy statement of the Alaska Division of Mines gives some valuable guidelines. The feeling is that we should be a little more discriminating in the samples we accept for analysis and that there should be follow-up letters or calls to anyone who has submitted material of ore grade or potential economic interest. I also think the assayer should attempt to place a higher priority on material submitted by staff personnel as it is my conviction that results of

these samples are certainly more valid than those submitted by the average prospector. I don't mean to downgrade the prospector or even the recreationist who picks up samples for assay because we need all the help we can get in exploring for mineral deposits in the State, but it seems to me that in past years too much time and effort have been placed on these kinds of samples. I have asked Bill Kahn to be the one primarily responsible for rewriting our assay service requirements and to work in close cooperation with Ralph Mason and the other geologists in the Department. I would like to have something to present to the Governing Board at the next meeting which will take place the first week in April.

(3) Service to industry

I think the general consensus of the group is that we are doing a fairly good job in calling the attention of the mining industry to Oregon's mineral resources, particularly with respect to our metalliferous deposits. The so-called "industrial minerals" are more difficult to exploit because of the many problems involved in making an economic enterprise out of these materials. I still feel that we should give more attention to the future possibilities of our nonmetallics as it seems to me this is an area in which there is considerable potential. I would welcome any further suggestions the staff may want to make as to how we should carry on future programs having particularly to do with the nonmetallic mineral resources of Oregon.

(4) County reports

I was pleased to see that most of the group would consider our publishing county-wide reports in Oregon which would include descriptions of the geology, geography, ground water, and mineral resources. In the coming months I would like all of you to give this matter your serious consideration so that we can obtain a preliminary list of those counties you think would most benefit from publications of this type. Here again we would want to involve the local county planning commissions, not only because we need their financial help but also because we would presumably receive support from the local legislators at the time of the next session.

(5) Mining laws

Your comments concerning possible revision of the State mining laws showed that all of you have given a considerable amount of thought to this area over the last few years. It also helped me set things clear in my own mind as to what things we could do to amend our present act and what is not possible because it is in direct conflict with the existing federal law. I am therefore asking Wag to be responsible for establishing some proposed changes in our present act so that we would have something concrete to present to our Legislature at the next session. Wag is the most familiar with the proposed changes in the federal mining laws as put forth by the Public Land Law Review Commission and he is therefore the one most qualified now

to amend the existing State statutes. I would like Wag also to involve Irving Rand in this project as he could lend his legal expertise to the report. I assume that Harold Banta also will want to review any suggested changes.

If there are other comments or suggestions concerning the staff meeting by other members of the Department, I would very much appreciate hearing from you so these can be circulated in as short a time as possible.

REC:jr

*P. E. Caravan*



OREGON STATE UNIVERSITY

ENVIRONMENTAL HEALTH SCIENCES CENTER

CORVALLIS, OREGON 97331

19 August, 1969

Mr. Norman V. Peterson  
Dept. of Geology and Mineral Ind.  
Grants Pass Field Office  
P.O. Box 417  
Grants Pass, Oregon 97526

Dear Mr. Peterson:

Thank you for your letter of August 13, regarding the possibility of helping us develop theologic information on the Alkali Lake Waste Management Site. I would very much like the opportunity of getting together with you on the site at your convenience during the middle of next month. My plans at the moment are a bit indefinite for this period other than that I expect to spend a good deal of time on the Alkali site and also on a proposed management site in Klamath County during the second and third weeks of September. Perhaps the best thing to do would be for you to suggest a time when you could spend a day or so with us on the site during this interval or later in September.

We are very appreciative of the fine co-operation we are receiving from the Dept. of Geology and Mineral Industries in helping us develop our program and I'll be looking forward to hearing from you and getting out into the field to look over the site with you.

Very truly yours,

A handwritten signature in blue ink that reads "R.L. Goulding".

R.L. Goulding,  
Research Co-ordinator

RLG: sh

cc: R.E. Corcoran  
Howard Hunt



GOVERNING BOARD

FRANK C. MCCOLLOCH, CHAIRMAN, PORTLAND  
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FAYETTE I. BRISTOL, ROGUE RIVER



FIELD OFFICES:  
2033 FIRST STREET  
BAKER 97814

521 NORTHEAST "E" STREET  
GRANTS PASS 97526

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 STATE OFFICE BUILDING  
PORTLAND, OREGON 97201

*Proposal for an  
experimental site*

July 22, 1968

*Alkali Lake -*

*Chemical Waste, ~~Storage~~ <sup>Inc.</sup> Management*

*Howard J. Hunt, Pres. Corp.*

Mr. Norman V. Peterson  
Silver Saddle Motel  
Lakeview, Oregon

Dear Norm:

Kess Cannon, Executive Secretary of Governor McCall's Natural Resources Committee, called me today to read a letter from the Lake County Court. They informed the Governor that "large acreages in Lake County have been leased by chemical companies for the disposal of chemical waste" and they called on the Governor's office to "do something about this".

We don't know the companies, the materials to be disposed of, the areas, the methods, or anything else about it. In any event, they have asked the Governor to send a group of State representatives to meet with the court in Lakeview at 1 p.m. on August 8.

Do you suppose you could find out something about this for me and also make arrangements for attending this meeting? I think it quite unlikely that I can attend as I have a Board meeting on the 9th and I have to be in Newport on the 10th. If possible, Kess, the State Engineer, State Sanitarian, and I will fly down Thursday morning and return that evening, but I am not certain that we will be able to do so.

How are things going?

Regards.

*enfoot*

Sincerely yours,

Hollis M. Dole  
State Geologist

HMD:jr  
cc Norm - Grants Pass office

*6000 barrel 300,000 gallons*

*Pesticides + Herbicides*

*Portland, Oregon Chemical Company*

22 December, 1969

Mr. Norman Peterson  
Box 417  
Grants Pass, Oregon

Dear Mr. Peterson:

At the suggestion of Mr. Ray Corcoran, State Geologist, I am sending you herewith one print each of airphotos O.S.U.-GB 69 116-1-3 and 116-1-4 of Alkali Lake, Oregon for assistance in analyzing the geologic and groundwater characteristics at this possible pesticide waste disposal site. Scale of the photos is 1 inch = 1 mile.

We would be pleased to furnish any additional information which you may require to carry out the purposes of your investigation.

Very truly yours,

*Warren S. Staton*

Warren S. Staton, P.E.  
Principal Investigator,  
Environmental Health Sciences Center

WSS:sh

cc: R.L. Goulding

Enclosures: 2 airphotos





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GEOLOGY AND MINERAL INDUSTRIES**

**ADMINISTRATIVE OFFICE**

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**TOM McCALL**  
GOVERNOR

STATE GEOLOGIST  
**RAYMOND E. CORCORAN**

GOVERNING BOARD  
**FAYETTE I. BRISTOL**  
Chairman  
Rogue River

**HAROLD BANTA**  
Baker

**R. W. deWEESE**  
Portland

July 10, 1970

**V. S. Peterson**  
Department of Geology and Mineral Industries  
Grants Pass Office  
521 N.E. "E" St.  
Grants Pass, Oregon 97526

Dear Norm:

I have lost the original of the sample descriptions of auger hole #4 from Alkali Lake. Did I give you a copy and if so, would you mail us a copy? We have drilled 6 more 50 foot holes around the playas to locate the limits of the brine pool. In doing so, we located another area of brine west of the Lake. We hope to put together a story by the end of the summer, and will send a draft of the report for your review.

Also, we would like to borrow your aerial photos of Alkali Lake for a few weeks (I thought I remembered seeing you with some). We have some negatives of them and Steve is going to make contours from them.

Sincerely,

Vernon C. Newton, Jr.  
Petroleum Engineer

VCN:rl



# DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

## ADMINISTRATIVE OFFICE

1069 STATE OFFICE BLDG. • PORTLAND, OREGON • 97201 • Ph. (503) 229-5580  
Ph. (503) 226-2161 Ext. 488

October 16, 1970

TOM McCALL  
GOVERNOR  
STATE GEOLOGIST  
RAYMOND E. CORCORAN

GOVERNING BOARD  
FAYETTE I. BRISTOL  
Chairman  
Rogue River

HAROLD BANTA  
Baker

R. W. deWEESE  
Portland

Mr. N. V. Peterson  
State Dept. of Geology  
and Mineral Industries  
P.O. Box 417  
Grants Pass, Oregon 97526

Dear Norm:

Enclosed is a revised geologic sketch map of the Klamath Hills after making my last field investigation there two weeks ago. The pyroclastic breccia and tuff evidently overlie diatomaceous and tuffaceous lake sediments. I did not establish the contacts exactly but it does appear that the lake sediments had some relief before the tuff was deposited.

Let me know what you think of this interpretation and if possible maybe you will be able to check it against what the SPRR geologist has.

Sincerely,

Vern

VCN:lk  
Encl.





# DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

## ADMINISTRATIVE OFFICE

1069 STATE OFFICE BLDG. • PORTLAND, OREGON • 97201 • Ph. (503) 226-2161 Ext. 488

TOM McCALL  
GOVERNOR

October 1, 1969

STATE GEOLOGIST  
RAYMOND E. CORCORAN

GOVERNING BOARD  
FAYETTE I. BRISTOL  
Chairman  
Rogue River

HAROLD BANTA  
Baker

R. W. deWEESE  
Portland

Mr. N. V. Peterson  
State Dept. of Geology and Mineral Industries  
P.O. Box 417  
Grants Pass, Oregon

Dear Norm:

Enclosed are descriptions of the Klamath Lake auger drilling. The Merrill samples have been included also since they contain diatomite. The best samples apparently were at Merrill, Lower Klamath Lake, and Lake Miller. We did not get back with a sample of the black sand from the Fort Klamath area so were unable to describe the mineral constituents.

We expect the extra drill rod to be in by next week or the following week. We will be able to take 7/8" cores (1 1/2" hole) to 66 feet. We can drill to 51 feet with 3" auger. In the near future we will find out what Oceanography has for shallow water sampling.

Regards,

Vern

VCN:lk  
Encl.

2

M E M O R A N D U M

August 7, 1969

To: R. E. Corcoran  
From: V. C. Newton  
Subject: Alkali Lake Auger Drilling

Curt Hickman and I drove to Alkali Lake on Tuesday, August 5, 1969, to meet Bob Goulding and Warren Staton of the OSU Environmental Health Center. We discussed the preliminary drilling and sampling objectives of the Alkali Lake project at Chemical Waste, Inc.'s, trailer office at Alkali Lake.

Water samples from deep wells and several of the proposed auger holes were to be collected for analysis by the State Health Laboratory at Raleigh Hills near Portland. A large fresh water spring on the west side of Alkali Lake was also to be sampled.

Auger test holes were to be put down near Test Site #1 and Test Site #2 to explore the sediments underlying both test areas. Water levels were to be checked in the auger holes and water samples collected for analysis.

Water Samples Collected

Abert Lake - Sample from the south end of the lake  
Water well - South end of Alkali Lake  
Water well - North end of Alkali Lake  
Spring - West side of Alkali Lake  
Water well - Airstrip, north end of Alkali Lake  
Auger Hole A - 15' hole near office trailer  
Auger Hole #3 - 36' hole at Test Site #1  
Auger Hole #4 - 36' hole at Test Site #2  
Water well - BLM, MP 60.4, Highway 395

Auger Holes Drilled

- Hole #1 Near south end of Alkali Lake not far from the edge of the present lake bed. Hit hardpan 13-15 feet, drilled to 36 feet. Water level at  $5\frac{1}{2}$  feet.
- Hole #2 Approximately 150 feet south of the first hole and farther from the lake bed. Hardpan approximately 25-26 feet. Water level not checked.
- Hole #3 Approximately 100 feet south of Hole #2. This hole was originally hand augered to 15 feet where it bottomed in hardpan. The hole was deepened to 36 feet with a power auger, hardpan 15-16 feet. Water level at 20 feet.
- Hole #4 At the northwest end of Alkali Lake on a flat rolling surface approximately 75 yards from the present lake bed. Sand and silt to 3 feet, saturated quicksand to 36 feet. Water level at 6 feet.

Work Planned

The above auger samples will be described and the water samples submitted to the State Health Laboratory for analysis of mineral content. Records of deep wells in the Alkali Lake area will be collected and copies sent to Dr. Goulding at OSU. Existing water analyses made on wells, lakes, and springs in the area will also be sent to Dr. Goulding.

Studies of the area are desirable in order to establish the controlling geologic factors, which include drainage, groundwater, and surface erosion. It may be helpful to run seismic profiles across the lake if drilling and projections of the nearby geology do not yield data on the rock which underlies the lake beds.

Further auger drilling and coring will probably be needed to establish fluid transmissibilities of near surface sediments in the proposed disposal area.

VCN:lk  
cc: R. L. Goulding  
N. V. Peterson

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland, Oregon 97201

August 21, 1969

To: Norm Peterson

From: Vern Newton

We have started a file on Alkali Lake which includes auger hole data, water well logs, and water analyses. We also have a report on Alkali Lake by Walter J. Stott, University of Portland, 1952, and a thesis on Alkali Lake by N. L. Mundorff, 1947.

Regards,



VCN:lk