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SIGHTS ON PUBLIC FACILITY SITES

by
Bruce N. Kaliser

Editor's Note: This is the first in an intended series of articles on UGMS's role in the site selection process for all types of public facilities throughout the state. Its purpose is to provide some insights into the factors of importance in the case of each facility type.

SCHOOL SITES

Schools represent high occupancy public structures and, therefore, quite high risk facilities in event of earthquake. They also represent considerable capital investment.

Frequently, several years prior to construction, a site is purchased by the school district. With such preplanning, there is every opportunity to examine prospective sites well in advance of construction. Therefore, it is possible that a site that has problems identified at this early a stage may be corrected during this time interval prior to construction. Should a property have high water table problems, for example, it would be possible for the school district to attempt to influence irrigation practices upslope. Potential intermittent flood problems may be avoided by changing the land use in the area or by protective structures for diversion or impoundment. Highly compressible foundation soils may be treated with a load surcharge for several years. Thought may even be given to

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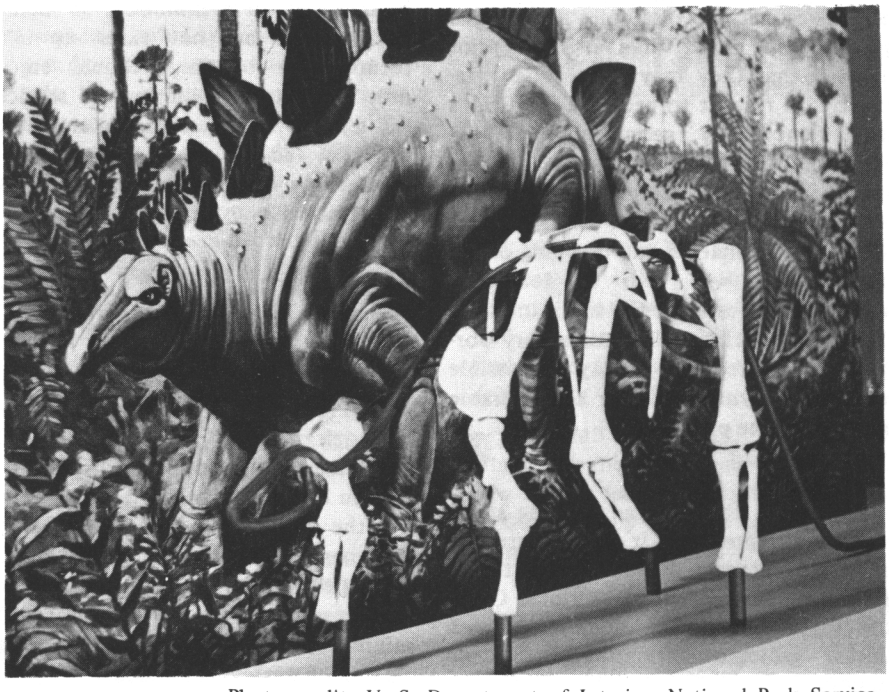

Photo credit: U. S. Department of Interior, National Park Service.

RARE BABY STEGOSAURUS GOES ON DISPLAY

The long-awaited exhibit featuring the infant Stegosaurus, one of the rarest fossil finds in the world, was unveiled at the Quarry Visitor Center at Dinosaur National Monument.

"In over 160 years of world-wide fossil collecting, only two infant Stegosaurus have ever been found. The one found here in the quarry is the smallest and most complete," said Dinosaur Superintendent Joe Kennedy as he unveiled the new exhibit.

An adult Stegosaurus was 24 feet long, 10.5 feet high at the hips, and weighed 4,000 lbs. Because of the incomplete nature of the juvenile specimen, exact length and height is difficult to estimate, but as can be seen from the mount, it was about the size of an adult collie dog. Estimated weight is 75-100 lbs.

The exhibit features plastic replica bones that are articulated with the bones in a standing position. The specimen is held together with threaded rods attached

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SCHOOL SITES

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draining perched groundwater with subsurface drainage wells to allow the water to be drawn off by gravity to a lower unsaturated soil zone. The point is that prior knowledge of constraints may be invaluable in salvaging a less than satisfactory site.

In the reconnaissance of a school site, UGMS normally requests that a backhoe be available at the time of the field investigation. Test holes are spotted in the field rather than at some prior time so that they may be optimally located with respect to geologic conditions as evidenced by geomorphologic expression. Linear features, such as earthquake faults, may require that trenches be dug across a portion of all of the site. Detailed examination and mapping of the trench walls will help to determine whether some or all of the site is unbuildable and to delimit the satisfactory portions of the property. It may be possible to utilize playing fields for less desirable portions of the property.

Should there be an existing structure on the property, it will be carefully inspected for signs of damage due to the affects of adverse site conditions. Other structures in the neighborhood with similar geologic settings may also be examined.

The terrain surrounding the site, particularly upslope, will be examined for clues as to what its affect may have upon the property in question. A change of land use may mean that surface or subsurface drainage may change or slope stability may be affected. Erosion may be aggravated or the existence of an old farm retention pond may pose a threat, should it fail, though located a considerable distance away in a tributary drainage.

The contribution that is made in the reconnaissance site survey by UGMS is not only confined to the hazardous conditions. Solid rock, large boulders, high groundwater and other conditions may strongly affect the cost of the school, requiring expenditure of money that could be used for a better building. Choice of a better site, therefore, will mean less cost for site preparation, structural design and construction and may allow for appurtenances that could not otherwise be afforded.

What we are trying to achieve is a safe school that will survive an earthquake leaving all lives intact - not earthquake proof (the impossible) but certainly earthquake resistant to the extent possible. Repair of the facility should be reduced to a minimum so that tax expenditures are not eaten up in the future. The buildings should enjoy a normal or greater lifetime of service to the district taxpayers and, in an emergency, the facility may be utilized for emergency shelter whether from flood or earthquake.

BLM REGULATIONS PROPOSED FOR HARDROCK MINING ON PUBLIC LANDS

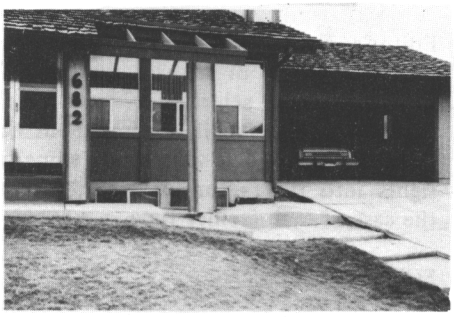
Proposed regulations to govern hardrock mining activities on public lands have been published by the U. S. Bureau of Land Management. Also issued by the BLM is a draft environment statement analyzing the impacts of these regulations on prospecting, exploration and development on about 1.5 million mining claims, occupying approximately 20 million acres of public land.

Only gold, silver, lead, zinc, and other minerals considered "locatable" under the General Mining Law of 1872, as amended, will be affected. Leasable minerals, as oil, gas, coal and phosphate, and "common" minerals, such as sand and gravel, will not be affected. A plan of operations must be filed for any hardrock mining operations which involve: construction of roads and of structures to be on the land for more than 30 days; destruction of trees and use of vehicles except on open use access trails; use of tracked vehicles, bulldozers or backhoes; use of explosives, or changes of water courses.

Interim final regulations have also been published to govern hardrock mining activities on public land still subject to wilderness review. These regulations are nearly identical to the proposed regulations, but two changes have been made as a result of public comment. The "grandfather" clause has been liberalized so that grazing and mineral uses that existed on October 21, 1976, may continue and development will now be allowed on mining claims on which a valid discovery was made on or before October 21, 1976. Under the proposed regulations, which when final would affect all public lands, these exceptions will be eliminated.

Copies of the draft environmental statements are available at BLM State Office, University Club Building, 136 East South Temple, Salt Lake City, Utah 84111, or any of the BLM district offices.

from BLM News Release 3-5-80



WHO'S STUCK?
(For The Money)

Stuck doors, jammed windows, cracked ceilings, deformed structures – the result of earth movement beneath new single family dwellings in Price, Utah. UGMS engineering geologists B. Kaliser and W. Lund were consulted in the field by Federal Housing Administration personnel to assist in determining the cause of the seriously distressed homes.

Ultimately, someone will be stuck for the significant costs incurred in abandonment or repairs. At this time it's uncertain whether these costs will be borne by the homeowner, insurance or the federal government. UGMS strives to have zoning and planning authorities recognize the hazards of building on unstable substrata.

BABY STEGOSAURUS

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to a steel "backbone". The Stegosaurus mount stands in front of a dramatic, back-lit scene which depicts the dinosaur's environment as it might have appeared 140 million years ago.

"This exhibit is the result of over two year's work and involved most of the Quarry Staff", said Denny Davies who is overall supervisor of the Quarry work. "Jim Adams was responsible for the removal of the bones from the cliff face and for making the molds from which the plastic replicas were cast." The mounting of the speciman involved Jim, Tobe Wilkins, Denny Davies, Dan Chure and Linda West. "We also received considerable help and advice from Jim Madsen who is from Salt Lake City and is the Utah State Paleontologist.

Park Paleontologist Dan Chure explained that plastic parts were used instead of the original fossils simply because the original bones are too fragile. "It would be unthinkable to drill holes into anything as rare as these Stegosaurus "bones" for mounting purposes," said Chure.

Chure went on to explain that because the bones of young animals are soft and decay rapidly, it is extremely rare to find the young of any animal preserved in the fossil record. "It's for this reason that "Baby Stego" is such a special find and makes it a magnificent exhibit".

Superintendent Kennedy concluded the formal presentation when he said "In these days when we are bombarded by superlatives, we sometimes fail to realize the treasures in our own backyard, this baby Stegosaurus exhibit is certainly one of those".

The new exhibit will be on display every day and can be seen in the lower, west section of the Quarry Visitor Center gallary. The park is open 8:00 a.m. to 5:00 p.m. daily. There is no fee to visit the monument.

GEOTHERMAL ENERGY
You can't cool Mother Nature

IS UTAH LAKE POLLUTED?

Contrary to popular belief, Utah Lake is not polluted according to U. S. government studies. Public consensus would likely classify Utah Lake as badly polluted, but scientific investigations show this is not true if we define pollution as degradation resulting from man's activities.

Most people judge the lake by its appearance, which is not clear like a deep-water lake. Utah Lake's average depth is only 9.4 feet. During much of the ice-free season, Utah Lake is turbid, exhibiting a milky, gray appearance during calm periods, to a gray-brown appearance during windy periods. This turbidity is a natural feature of the lake. Small mineral deposits and particles are agitated and kept in suspension by natural wave and water-current motions. This makes the lake appear polluted, but you must realize that all shallow lakes have the same appearance. Another aesthetic problem Utah Lake has is the over-population of algae. Many people think that this algae is pollution, which it is not. All lakes have algae. Utah Lake, because of a large content of phosphorus, happens to have more than the average.

Because of sewage treatment plants, the bacteria contamination of Utah Lake has dropped. For example, the accepted State bacteria limit for water activities is 1,000 total coliform M.P.N. (most probable number) per 100 ml. Frequent government counts at Utah Lake seldom exceed 100 M.P.N. per 100 ml. and were usually lower. The Utah State Department of Health claims that Utah Lake is safe for water activities.

Utah Lake has a much greater potential for water recreation and fishing than is currently being realized. Recognition of this potential rests more on public acceptance of this lake. Findings indicate that Utah Lake water is of good quality with the aesthetic problem consisting largely of natural turbidity and algae.

Utah Lake will always remain a shallow, dirty lake. There is nothing man can do to change this, but the recreation opportunities do exist for you on Utah's largest fresh-water lake.

Utah Division of Parks & Recreation

UTAH EXEMPT?

Utah is the only state in the U. S. that has never had a major disaster of sufficient magnitude requiring Federal assistance.

from Deseret News

GOLD AND SILVER IN UTAH

From 1865 through 1977 Utah has produced 21,557,600 ounces of gold worth $777,131,000 at prevailing prices, 889,915,500 ounces of silver worth $785,002,000 at prevailing prices.

54% of the gold and 13% of the silver has come from Bingham Canyon.

GOLD FEVER

The recent spectacular rise in gold and silver prices has brought a flood of inquiries to UGMS from would-be prospectors. Most want to know where to find the best gold deposits and how to find rich claims that have been abandoned.

UGMS Circular 47, "Gold Placers in Utah" has been in demand recently. A new supply has been printed and sells for $1.00 per copy over the counter or $1.75 by mail.

Utah ranks second in gold production, but may be surpassed by Nevada in the near future as old Nevada mines are reopened and new ones come into production. Utah's gold production in 1979 amounted to 238,000 ounces, most of which was a by-product from copper ores of the Bingham Canyon Mine.

MINING CLAIMS

Under recently enacted legislation, all mining claims must be registered both in the County Recorder's office and at the U. S. Bureau of Land Management. Inquiries concerning claims should be made at the county office or the U. S. Bureau of Land Management, 136 E. South Temple, Salt Lake City. For information about mineral leases on state lands, inquiries should be directed to Division of State Lands, 235 E. Fourth South, Salt Lake City. Topographic maps can be purchased from U. S. Geological Survey, 125 S. State Street, Salt Lake City, Utah.

DIGGIN'S

DOE ISSUES REPORT ON DEVELOPMENT OF WESTERN COAL RESERVES

The Department of Energy has reported that the number of mines producing 200,000 tons of coal in western states will grow from the present level of 117 to 207 in 1985 and 216 by the end of the decade.

In a newly released report on coal mining capacity in the West, DOE also said productive capacity would increase from the 1980 level of 286 million tons to 547 by 1985. The report also found that contracts existed for 64 percent of the planned 1985 capacity and 52 percent of the planned 710-million-ton capacity in 1990.

However, DOE said the inability to obtain federal leases would leave mine companies with a potential production loss of 38 million tons in 1985 and 69 million tons in 1990.

The productive capacity in 1980 expected to be dependent on federal leases is 200,000 tons. The 69-million-ton potential production loss for 1990 includes 2 million tons in Utah.

Copies of the report, entitled "Western Coal Development Monitoring System—A Survey Of Coal Mining Capacity In The New West," (DOE/RA-0045), are available from the National Technical Information Service, 5285 Port Royal Rd., Springfield, VA 22161. The report costs $4.50.

AGA HAS NEW STUDY ON GAS RESERVES

The American Gas Association has available a detailed publication on proved reserves of natural gas and oil in the U. S. and Canada.

Copies of the 254-page publication (Catalog no. F40078) are available for $15 a copy from the American Gas Association, Order and Billing Department, 1515 Wilson Boulevard, Arlington, VA 22209.

NEW GAS PLANT IN UTAH

Champlin Petroleum Co., a subsidiary of Union Pacific Corp., has started construction of a plant to process natural gas gathered by Mountain Fuel Supply Co. from Yellow Creek and other Overthrust Belt fields in northern Utah and southern Wyoming.

The $12-million plant is being constructed 24 miles northeast of Coalville, near the intersection of the Mountain Fuel main transmission line and the Yellow Creek feeder pipeline.

The plant, which will process 80 million cubic feet of natural gas a day, is expected to recover up to 4,000 barrels a day of liquid products, propane, butane and natural gasoline, and will have the capability to recover methane.

UTAH COAL PRODUCTION JUMPS

In 1979 Utah coal production set another record; preliminary figures indicate the tonnage at about 12.3 million. There were about 26 active mines in the state all operating in Carbon, Emery, and Sevier Counties. Emery County produced the most with 43.8 percent of the total; Carbon County was next with 42.8 percent and Sevier County produced 13.4 percent. More than ¾'s of the coal is used in power generation (76.8 percent), 10.7 percent is used industrially, 8.9 percent in steel production, and 3.6 percent in space heating. In 1979 45 percent of the coal was burned in Utah, the remainder left for markets in Nevada, California, Indiana, Idaho, Mississippi, Washington, Montana, Wyoming, Arizona, Nebraska, Illinois, and Hong Kong.

HOWARD RITZMA HONORED

Howard Ritzma, Assistant Director of UGMS, has been appointed an adjunct professor in the Department of Mining and Fuels Engineering, University of Utah. In recent months he has been working closely with a group in the department and the University Engineering Experiment Station on an assessment of the oil shale and tar sand resources of the Uinta Basin.

DOI APPROVES FIVE COAL LEASE SALES IN FOUR STATES

The Department of the Interior has approved competitive sales of five federal coal leases. The leases cover 3,392 acres in Alabama, North Dakota, Utah and Wyoming. The acreage is estimated to contain 13.9 million tons of coal.

The sales are scheduled for next month. All of the applicants in the competitive leasing sales are companies operating near the 3,392 acres. DOI said it feared the federal coal would be bypassed completely if it was not removed by private operators currently conducting mining operations adjacent to the deposits.

DOI Secretary Cecil Andrus said the department's action was indicative of its commitment to implementing a comprehensive federal coal management program. "We are now seeing tangible results from our recently revitalized coal leasing program and we expect more of the same in the months ahead," Andrus said.

FOR YOUR INFORMATION

There are 2,700 news correspondents in Washington receiving news releases from 732,000 government information specialists.

DOE employs 20,000 people, has a $10 billion budget, costs American taxpayers $3 for every barrel of oil produced in the U. S. and has not produced any energy.

There are 77 federal agencies that handle more than 1,000 federal programs. 50 of these agencies have been created since 1960.

In 1976 there were 84,000 federal regulation employees and today there are 215,000.

Under federal health and safety regulations the rate of on-the-job accidents in metal mining jumped 25% from 1976 to 1977.

from Mining Congress Journal, 2-80, v. 66, no. 2

OUTDOOR ENTHUSIASTS TURN TO "TOPO" MAPS

As the country heads in to the outdoor season more vacationers will turn to the 40,000 U. S. Geological Survey topographic maps as their "silent guides" to get away from – or stay on – the beaten path.

Intended primarily as a basic working tool for the scientist, engineer, and resource planner, the USGS "topo" maps are becoming increasingly popular with back packers, hikers, fishermen, hunters and other outdoor enthusiasts. The multicolor maps show the shape and elevations of the landscape; they identify roads, trails and streams; and they delineate a wide range of other natural and manmade features, from mountain lakes to swimming pools.

As the principal national civilian mapmaking agency, the Geological Survey expects to distribute more than ten million of its published maps in 1980.

The most popular maps are the standard 7.5 and 15-minute quadrangle maps published respectively at scales of 1:24,000 (1 inch on the map represents 2,000 feet on the ground) and 1:62,500 (1 inch represents about 1 mile). Each 1:24,000-scale map covers from 49 to 70 square miles of the Earth's surface, depending on latitude, and the 1:62,500-scale map from 197 to 282 square miles.

Both kinds of maps are small enough to be folded conveniently to pocket size. The USGS plans to continue its successful experimental program of producing special pocket-sized editions of selected topo maps in plastic jackets.

USGS cartographers offer the following advice on the use of topo maps:

*With a little practice in reading contour lines on the maps, the outdoorsman can determine the height of each hill, the depth of each valley, the approximate elevation and slope of the ground at any one point, and learn to mentally picture the lay of the land.

*Hunters can use the maps to plan preseason visits to game areas or the topo maps can be used in the field on actual hunting trips. Fisherman can use topo maps to help plan the best route to lakes, trout pools and other fishing spots, and older pre-impoundment maps can help locate the deeper holes.

*The most convenient access or cross-country routes in heavily wooded areas can be selected from topo maps, which identify roads, trails, fire lanes and similar clearings, and sometimes old logging roads.

*Woodlands that provide cover for certain game and open lands and grasslands that furnish grazing areas or habitats for other game can be identified on topo maps.

*Streams, springs, ponds, lakes, swamps and marshes – the home and water source for many types of game – are clearly identified on the maps.

*Many topo maps of recreational areas show trails, campsites, springs, cemeteries, unusual place names, scenic overlooks, historic landmarks, and other features of interest to the sportsman or tourist. The USGS National Mapping Program also prepares and publishes, at various scales, a special series of maps of national parks, monuments and historic sites.

Indexes listing the maps for Utah are free and may be ordered from the Branch of Distribution, USGS, P. O. Box 25286, Federal Center, Denver, Colorado 80225.

Maps may also be purchased by mail. The standard 7.5 and 15-minute topo maps sell for $1.25 each, and orders must include check or money order payable to the U. S. Geological Survey.

Indexes and maps are also available over the counter at USGS Public Inquiries Offices (PIO). The PIO outlet in Salt Lake City is 8105 Federal Building, 125 S. State Street.

NEW UGMS PUBLICATIONS

Special Studies 51, *Geology for Assessment of Seismic Risk in the Tooele and Rush Valleys, Tooele County, Utah,* by B. Everitt and B. Kaliser, March 1980, 33 pages, 6 plates, $6.00 over the counter and $6.75 by mail.

Special Studies 52, *Studies in Late Cenozoic Volcanism in West-central Utah,* is a collection of two papers:

1. *Petrology of Late Tertiary and Quaternary Volcanism in Western Juab and Millard Counties, Utah*, by C. Turley and W. Nash.

2. *Geology and Petrology of the Fumarole Butte Volcanic Complex, Utah*, by J. Peterson and W. Nash, 58 pages, $2.50 over the counter or $3.25 by mail.

Water Resources Bulletin 23, *Hydrogeology of Utah Lake with Emphasis on Goshen Bay*, by J. D. Dustin and L. B. Merritt, 50 pages, $2.50 over the counter or $3.25 by mail.

Circular 63, *Rockhound Guide to Mineral and Fossil Localities in Utah*, compiled by C. H. Stowe, field checked by L. I. Perry, 79 pages, $2.50 over the counter or $3.25 by mail.

Report of Investigation No. 139, *Geothermal Investigations at Crystal Hot Springs, Salt Lake County, Utah*, by Peter Murphy and J. Wallace Gwynn, October 1979, 86 p.

Report of Investigation No. 140, *Geothermal Investigations of the Warm Springs Fault Geothermal System, Salt Lake County, Utah*, by Peter Murphy and J. Wallace Gwynn, October 1979, 29 p.

Report of Investigation No. 141, *Geothermal Investigations at Selected Thermal Systems of the Northern Wasatch Front, Weber and Box Elder Counties, Utah*, by Peter Murphy and J. Wallace Gwynn, October 1979, 50 p.

HOTHOUSE TOMATOES

Christensen Brothers Farms of Newcastle (Iron County) have begun growing tomatoes in a hydroponic greenhouse that is heated with geothermal energy. The reservoir of thermal water is only 300 to 400 feet below the surface and consists of alluvial sands and gravels. Reservoir temperatures as great as 108°C have been reported. The water contains only 900 mg/l total dissolved solids.

COAL COMMISSION REPORTS SMALL ENVIRONMENTAL RISK FROM INCREASED COAL USE

By 1990, coal could replace almost 2.2 million barrels of oil per day, according to the report of the President's Commission on Coal. The report, issued recently, said this increase can be achieved without violating the Clean Air Act.

The report said synthetic fuels from coal can contribute "significantly to oil replacement" in the mid-1990's. For the nearer term, the report asserted increased coal usage can be attained by "accelerated construction of new coal-fired utility and industrial boilers, the reconversion of coal-capable boilers to coal where practical, and the use of coal-oil mixtures."

The commission found that replacement of oil with coal will cause a "minimal" increase in atmospheric pollution. According to the report, "The best available information indicates that the maximum possible effect of the proposed oil and natural gas replacement program will be a cumulative increase by 1990 of about 0.01% in world atmospheric concentrations of carbon dioxide, compared with using more oil instead."

GOVERNMENT PROFITS

The total bonuses paid to state and federal governments for outer continental shelf leasing for the period 1953 to 1978 amounted to $21,496,000,000. (Source: U. S. Geological Survey, outer continental shelf statistics).

IMA GEM

SANDY STEWART

NEW PIPELINE TO CROSS UTAH

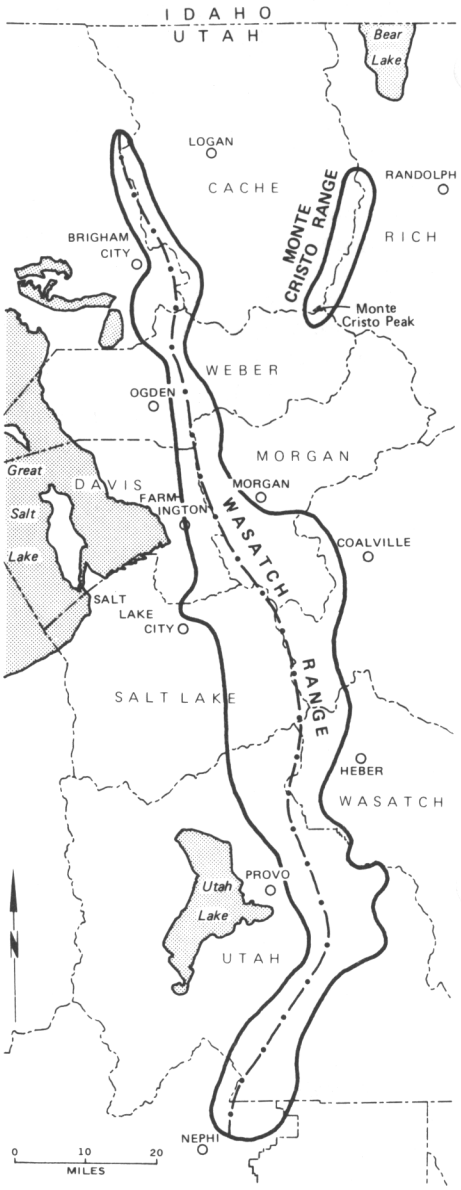
Mapco, Inc. (Mid-America Pipeline) will construct a 10½ inch pipeline to transport liquid petroleum gas from thrust belt fields in southwest Wyoming to Kutz, New Mexico where it will join the main Mapco system. The pipeline will follow existing pipeline routes across eastern Utah. The 791-mile line is planned to be operative in early 1981. Cost is estimated at $110 million.

BUREC GETS NAME CHANGE

"Good-by, Bureau of Reclamation" and "Hello, Water and Power Resources Service" or, more familiarly, "WPRS." The name change comes after more than three quarters of a century as the Reclamation Service and the Bureau of Reclamation.

GEOLOGICAL HIGHWAY MAPS FROM AAPG

The American Association of Petroleum Geologists has produced an interesting series of geological highway maps. Eleven regional maps are available, including one of Alaska and Hawaii. Basically, they consist of a geologic map of the area overlain by a standard highway map, a fascinating tool for a traveler who is also interested in the geology of a region. Typically, special map sections include stratigraphic column, tectonic map, physiographic map, a source-of-information listing, area cross sections, geologic history of the region, and a highway mileage chart. The maps may be ordered from the AAPG Bookstore, Box 979, Tulsa, OK 74101 at $3 a map, plus handling (50 cents, folded; $1 rolled).



RANGE DEFINITION PROPOSED

The Utah Committee on Geographic Names has recommended to the U. S. Board, that the Wasatch and Monte Cristo Ranges be defined as outlined above.

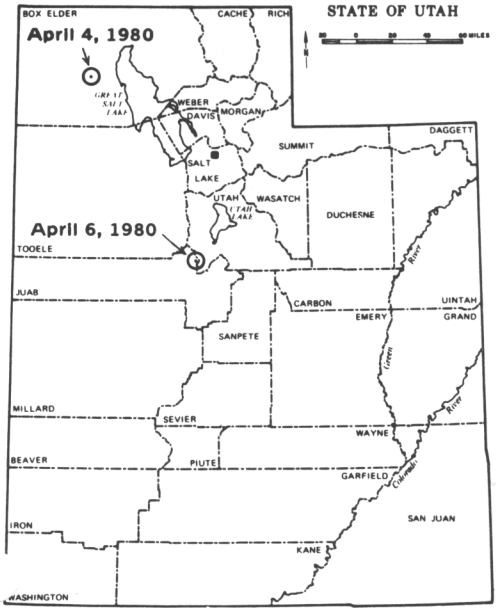
CASING SET AT LAKE TEST

Amoco Production has set casing, perforated and conducted tests at its No. 1 State-L well, SW NW 12, T. S N., R. 7 W., Box Elder County. The well has been drilled to total depth 12,070 feet. Information has not been released to date as to the depth casing has been run and the nature of the tests. The well is about 7 miles offshore west-southwest of Promontory Point and 2.5 miles south of the Southern Pacific causeway. It was originally permitted as a test to 5,000 feet.

The well is the third in Amoco's series in the part of the lake south of the causeway (south arm). The first two wells were plugged and abandoned as dry holes, one to 10,400 feet in Davis County about 4 miles off the west shore of Antelope Island and another to 4,971 feet off Carrington Island in Tooele County.

UTAH EARTHQUAKES
February 15 through April 15, 1980

Two tremors were felt on April 4 within minutes of each other in the Newfoundland Mountains west of Great Salt Lake. Another on April 6, west of Mona, Utah was not felt because of the location and time of day.



Local Time	Latitude	Longitude	Richter Magnitude
April 4			
5:45 p.m.	41°20.29'N	113°20.02'W	3.0
5:56 p.m.	41°21.04'N	113°19.15'W	2.7
April 6			
3:45 a.m.	39°57.13'N	111°58.7'W	3.8

University of Utah Seismography Station

HEAVY PRECIPITATION CAUSES LANDSLIDE

Ominous arcuate cracks in the pavement of U. S. 6 west of Helper and Price, Utah indicate incipient failure of two lanes of this important artery. Further slippage at this location could result in a landslide that would close the highway. The earth movement is the result of heavy winter and spring precipitation that has saturated the material beneath the road bed and caused it to slip.

ANSCHUTZ RANCH, EAST – NEW THRUST BELT FIELD CAUSES INTERSTATE PROBLEMS

Geology and Mother Nature seem determined to thumb their noses at the Wyoming - Utah boundary line and cause some unusual problems in oil and gas regulation. Drilling south and west of a 1979 Uinta County, Wyoming oil and gas discovery has shown the original productive area to be much larger than anticipated. The field is seen to be part of a single anticlinal structure and reservoir extending into Summit County, Utah. The "pay" or producing formation in this structure is a massive thickness of Nugget Sandstone of Jurassic age.

To meet the challenge of the common oil and gas reservoir but an uncommon land situation, the Wyoming Oil and Gas Commission and the Utah Board of Oil, Gas and Mining have held two unusual joint sessions, one in Evanston, Wyoming and one in Salt Lake City, Utah, to consider the complexities of establishing uniform well spacing across the state boundary. The field also crosses a strip of odd-sized lots along the Wyoming side of the line that was contrived to fill the space where land surveys did not quite meet back in the pioneer days.

From what is known of the field to date, one well per 160 acres (4 per square mile) seems to be the best spacing pattern for maximum efficient development of the reservoir. However, the odd lots and adjoining quarter sections (160 acres) simply do not add up to the orderly 160-acre well units of equal size that delight the legal, accounting, and engineering mind. And splitting a unit between states would also be impossible because of different royalties, taxes and the like. So it's back to the drawing board for another creative, amicable try at dividing up the space in equal parts.

The Utah Field Names Advisory Committee has done its best to help the situation. Abandoning long-standing policy that omits directions from field names, the committee swallowed hard and adopted the Wyoming name for Utah's part of the field. It's now Anschutz Ranch, East, on both sides of the line.

The problems of names and spacing may seem like a bureaucratic ballet exercize to some, but test data and seismic structure maps introduced at the hearings give ample proof that serious business has been transacted. Anschutz Ranch, East seems destined for giant status, and its name and the pattern for its development has been set. The value of the oil and gas production should easily run into the billions.

PLATEAU CLOSES ITS BUYING STATION

Plateau Resources has announced suspension, for an indefinite period, of uranium ore buying operations at its Blanding, Utah, station, which had been purchasing since September 1977. The closing resulted from a depressed market for uranium and satisfactory results of exploration in other areas near Plateau's uranium mine and mill in Garfield County, which are expected to come on stream in the fourth quarter of 1980. The mill will produce 247 stpy of uranium oxide.

The Blanding station has been stockpiling ore for processing at a 760-stpd mill that Plateau is building about 16 miles north of Bullfrog Basin. The company has developed a mine at Shootering Canyon near the mill site. Plateau is building a community, Ticaboo, at the site to accommodate 250 mine and mill workers and their families and a support community of about 890 to 950 service workers. The yellowcake will be used at two tandem 800-Mw units under construction near Midland, Mich., by parent company, Consumers Power Co.

from Engineering and Mining Journal, January 1980

IN MEMORIAM

Joseph J. Beeson
1890-1980

Joseph J. Beeson, mining engineer and geologist, died in Denver, February 8, 1980. Although born in Mankato, Kansas, most of his youth and adult years were spent in the western U. S. His first touch with mining came at the age of 12 as a newsboy selling papers to miners coming off shift from the mines in Jerome, Arizona.

He was a student at the University of Utah from 1911 to 1913, then transferred to Stanford University. He returned to Utah in 1916 after his training at Stanford, and his mapping led to the celebrated discovery of the "Lost Emma" ore body at Alta, the displaced segment of the historic Emma ore body. Mining of this bonanza had ended abruptly in 1872 against a post-mineral fault. His degree in geology was awarded by Stanford in 1919 after World War I.

In World War I, Joe Beeson served as an engineer in France, and in World War II he was associate director of the Office of Mining Analysis under the War Production Board.

Joe Beeson's long career in mining spanned more than 60 years and included work and ventures in Utah, California, Montana, Alaska, and South America. However he was best known for his continuing work at Alta in the Little Cottonwood Mining District. He was president of Cardiff Mines from 1961 to the time of its closure when Snowbird ski resort was developed. In partnership with his wife (deceased 1976) and son, he remained active to the time of his death in the consulting firm, Beeson Exploration.

Joseph Beeson was a member of the Society of Economic Geologists and the Society of Mining Engineers of AIME. With his wife, the late Desdemona Stott Beeson, he was awarded honorary membership in the Utah Geological Association. He served as president of the Utah Geological Society, predecessor of UGA, in 1953.

LAKE CONTINUES RISE

Date	Boat Harbor (South Arm)	Saline (North Arm)
Feb. 1, 1980	4198.25	4197.00
Feb. 15	4198.35	4197.15
Mar. 1	4198.85	4197.50
Mar. 15	4199.10	4197.75
Apr. 1	4199.20	4197.75
Apr. 15	4199.30	4197.75

The lake level on April 15 was .55 feet lower than one year ago. Depending on the melt rate of the snowpack, levels could close in on or surpass last years high of 4199.85.

STAFF CHANGES

Since the last issue of Survey Notes, the following personnel changes have occurred.

Martha Smith, former editor, has become the UGMS Information Specialist. Martha has been our editor for the past three years. We wish her well in her new position.

Our new editor, Dave Scardena, is a geology graduate from Bowling Green State University in Ohio. He recently completed a 4 year tour with the U. S. Army Corps of Engineers where he was a technical writer and editor.

Harold Gill has recently been added as engineering geologist. Harold received his B. S. from Northern Arizona University and worked the past 4 years at FUGRO Inc.

UTAH GEOLOGICAL AND MINERAL SURVEY
SURVEY NOTES

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