

Mono - Long Valley  
Getty Oil Co.

MONO-LONG VALLEY K.G.R.A., 460,256 ACRES

MONO BASIN

REGIONAL GEOLOGY: Mono Basin is a northeast-trending rectangular depression at the base of the steep east-facing Sierra Nevada escarpment and is flanked on the other three sides by Cenozoic volcanic rocks. The probable maximum depth to basement, in the western portion, is about 6,000 to 7,000 feet.

The Mono Craters, which extend in a broad arc nearly due south from the south shore of Mono Lake, range from 30,000 to as little as 1,300 years of age, whereas the Inyo Craters, 8 miles farther to the south, are estimated to be only 650 years old in part.

SURFACE THERMAL PHENOMENA:

- a. Boiling (200<sup>o</sup>+ F) hot springs and steam vents on Paoha Island in Mono Lake.
- b. Numerous thermal springs, up to 150<sup>o</sup> F.
- c. Groundwater temperatures 30<sup>o</sup>-40<sup>o</sup> F above mean ambient temperature.

WELL DATA:

OPERATOR	SEC. T. R.	DEPTH TO BASEMENT	BOTTOM HOLE TEMP.	ABAND. T.D.	DATE
Great Western Oil and Development Co. (Drilled in 1908)	Unnamed, Paoha Island, Mono Lake	32 2N 27E Not Reached	Flowed water at 122 <sup>o</sup> F	1998'	
Geothermal Resources International, Inc.	"State PRC 4397.1" 1	17 1N 27E 3870'	131 <sup>o</sup> F	4110'	9/71
Getty Oil Co.	"State PRC 4572.1" 23-1	23 2N 26E 1740'	135 <sup>o</sup> F	2437'	12/71

LONG VALLEY

REGIONAL GEOLOGY: Sheridan (1971) has grouped the Quaternary volcanism of the area into three stages. The first stage was the development of a basalt to andesitic-basalt lava plateau 3.2 to 2.7 million years ago.

The second stage involves the caldera cycle that corresponds closely with the patterns of resurgent cauldrons outlined by Smith and Bailey (1968). The caldera eruption of Bishop Tuff (700,000+ years ago) brought about the collapse of what is now Long Valley, an area approximately 10 miles wide by 20 miles long. The eruption was followed by the intrusion of rhyolite to andesite domes in the resurgent cauldron core, and the filling of the northern and southern moats by basalts. This was followed by hydrothermal activity that persists to the present.

The third stage is represented by the Inyo Crater-Mono Crater belt, and may or may not be related to the caldera cycle.

SELECTED SURFACE THERMAL PHENOMENA: (Ref. No. )

Name	Springs	Fumaroles	Temp. (°F)	Flow (GPM)	Location
Casa Diablo Hot Springs	X	X	115-194	35	Sec. 32, T. 3S R. 28E
Hot Bubbling Pool	X		180	Intermittent	Sec. 35, T. 3S R. 28E
The Geyser	X	X	120-202	500	Sec. 30, T. 3S R. 29E
Unnamed Hot Spring	X		170	5	Sec. 13, T. 3S R. 28E

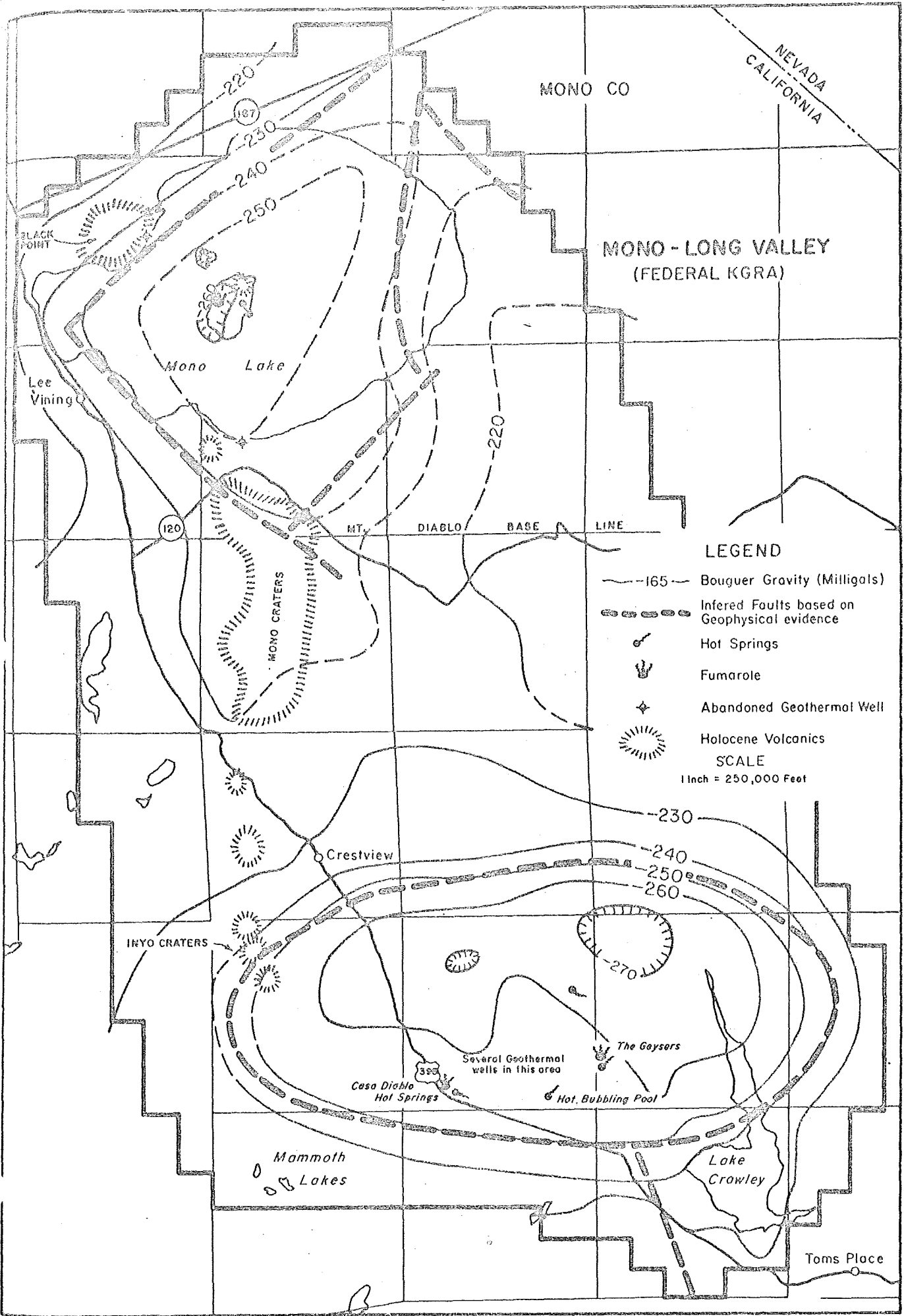
WELL DATA: Exploratory drilling began in 1959 at Casa Diablo Hot Springs and continued until the end of 1962, by which time some 20 exploratory steam wells had been reportedly drilled by the Magma Power Company and its affiliates. In addition, one well (Chance No. 1) was drilled at the Hot Bubbling pool. Depths range from 400' to 1100', maximum temperature recorded was about 350<sup>o</sup> F, and the maximum discharge per well was about 500 gallons per minute. Average concentrations of selected constituents in produced water were: arsenic 1.7 ppm, fluoride 13.6 ppm, boron 14.3 ppm and total dissolved solids 1530 ppm.

BIBLIOGRAPHY: 9, 15, 40, 42, 51, 52, 63, 73, 74, 75, 80, 82, 84, 85, and 89

NEVADA  
CALIFORNIA

MONO CO

MONO - LONG VALLEY  
(FEDERAL KGRA)



LEGEND

- 165- Bouguer Gravity (Milligals)
- Inferred Faults based on Geophysical evidence
- Hot Springs
- Fumarole
- Abandoned Geothermal Well
- Holocene Volcanics

SCALE  
1 Inch = 250,000 Feet