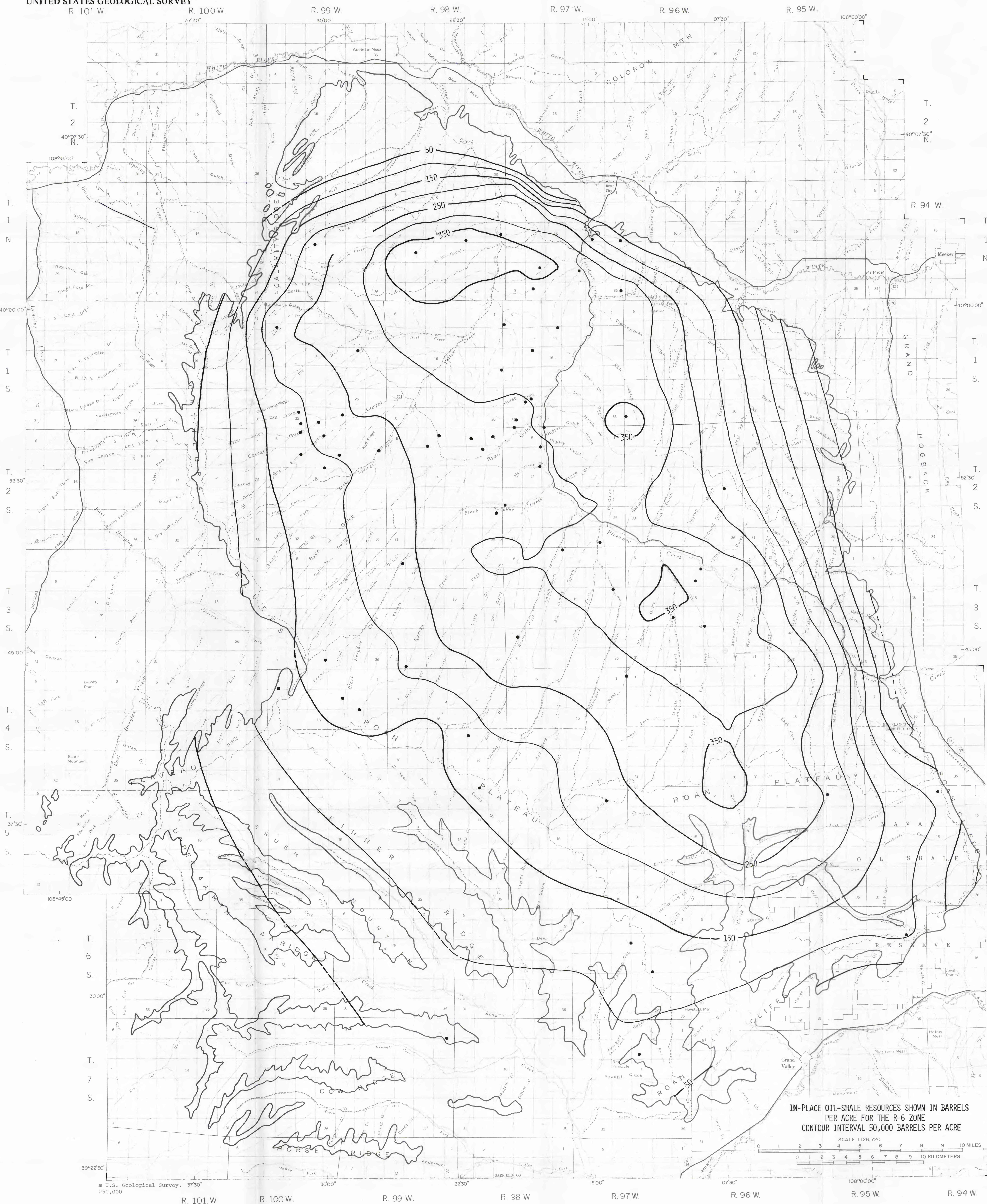




- EXPLANATION
- OUTCROP OF THE MARGOYARD BED
 - ANTICLINE—Shows direction of plunge on top of the R-6 zone
 - SYNCLINE—Shows direction of plunge on top of the R-6 zone
 - 1000—STRUCTURE, ISOPACH, AND RESOURCE CONTOURS—Drawn on the R-6 zone; dashed where Margo yard zone has been eroded; or there is no control
 - DRILL HOLE FOR OIL AND GAS
 - CORE HOLE FOR OIL-SHALE EVALUATION

The Parachute Creek Member of the Roan River Formation in the Piceance Creek basin, Colorado, contains alternating zones of rich and lean oil shale, the thickest and richest of which is the Margo yard zone. The sequences of lean oil shale that occur immediately above and below the zone are called "A" and "B" grooves, respectively. Underlying "B" groove is a sequence of rich oil shale informally designated as the R-6 zone, the base of which is represented by an interval of rich oil shale that can be widely correlated over most of the basin.

Isopach and structure contour maps of the R-6 zone were prepared using data primarily from Fischer assays and geophysical logs. Core drilling for oil shale evaluation and wells drilled for oil and gas exploration provide excellent subsurface control; sections measured along the outcrop provide additional surface coverage. The R-6 zone is easily distinguished on density, sonic, and gamma-ray logs and can be correlated with Fischer assay oil-yield histograms. Electric logs can also be used for correlation purposes and are available in many parts of the basin where other control does not exist. Resistivity may be a function of factors other than oil-shale richness, however, and individual oil-shale beds are not always recognized. The north-south trending cross section illustrates the correlation of different suites of these logs that penetrate the R-6 zone and the variation in thickness from the edge to the center of the basin. The abrupt thickening of the R-6 zone near the northeastern margin of the basin is due to extensive intertonguing of clastics with oil shale, marlstone, and carbonate rocks.

Resource maps, showing the shale-oil content of the R-6 zone in gallons of oil per ton and thousands of barrels per acre, were computer drawn by Tetrahedron Information. The control used in constructing these maps is restricted to Fischer assay data from core because Fischer assay pyrolysis provides the most reliable and consistent analytical method of quantifying oil-shale richness. Density and sonic curves may be converted by empirical methods to oil yield; however, results have not been adequately compared with Fischer assay analyses and were therefore not considered in the resource appraisal. Total in-place resources were computed on a township-range basis. In areas along the margins of the basin where control is sparse, resource contours were estimated.

CONTOUR VALUES

Feet	Meters
8400	2560
8000	2438
7500	2286
7200	2195
6800	2073
6400	1951
6000	1829
5600	1707
5200	1585
320	98
240	73
160	49
80	24
40	12
20	6

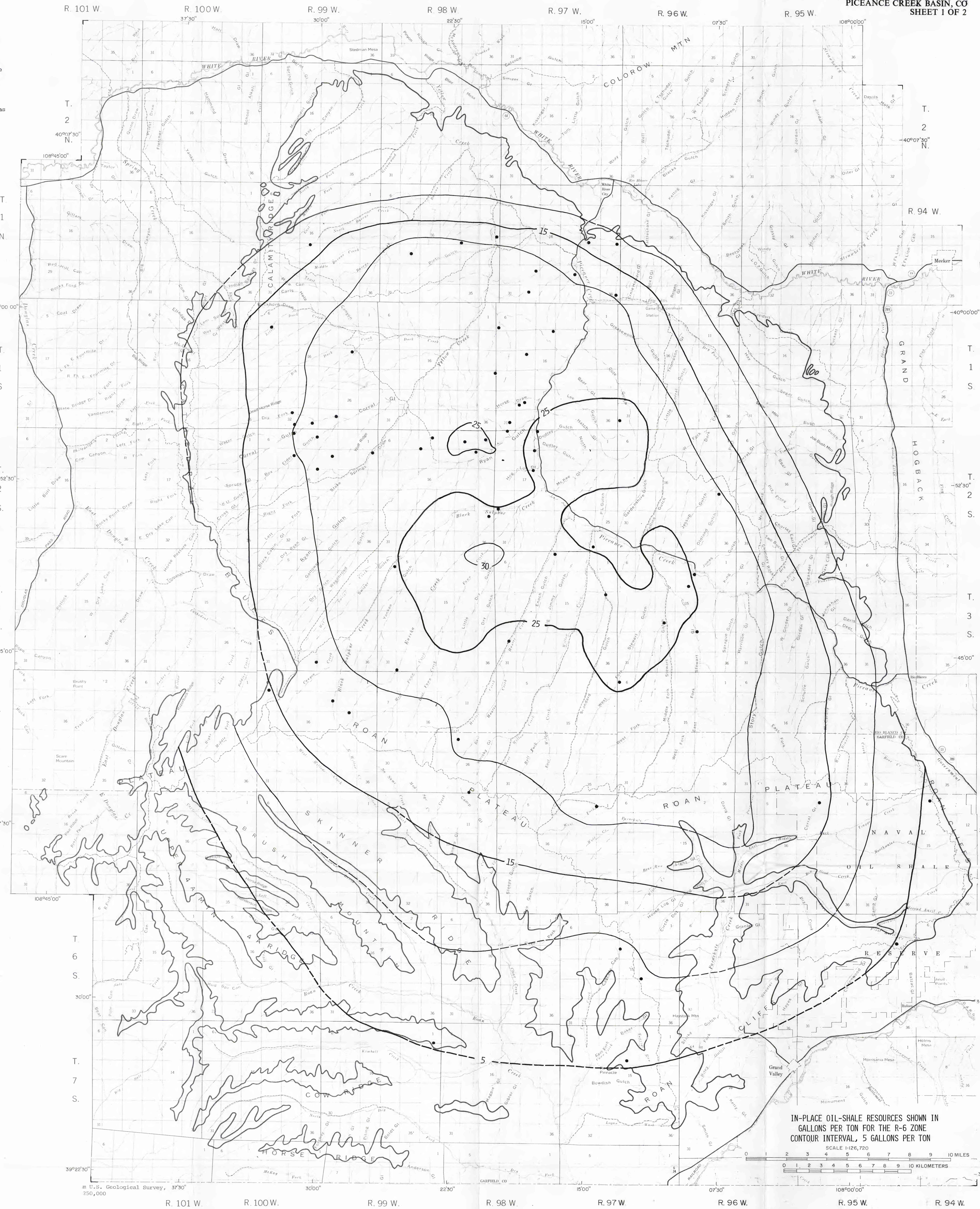
Meters equal feet times 0.3048
Metric equivalents to the nearest meter
are shown above English units

In-place oil-shale resource for the R-6 zone
shown in thousands of barrels

LOCATION		TOTAL RESOURCES
TN	SR	
2	97	115,671
2	98	1,613,707
2	99	1,009,920
1	95	1,655,359
1	97	5,208,895
1	98	6,369,959
1	99	4,009,833
1	100	126,207
TS		SR
1	95	1,295,776
1	96	6,007,621
1	97	9,131,159
1	98	7,282,021
1	99	5,612,099
1	100	1,597,541
2	95	2,583,613
2	96	6,128,320
2	97	7,138,068
2	98	6,044,955
2	99	6,053,164
2	100	1,194,530
3	94	156,239
3	95	4,749,507
3	96	7,206,961
3	97	6,972,504
3	98	5,839,544
3	99	3,744,312
3	100	327,119
4	94	904,019
4	95	5,600,159
4	96	6,528,163
4	97	5,439,115
4	98	4,186,597
4	99	2,937,854
4	100	683,788
4	101	15,123
5	94	2,189,722
5	95	4,165,623
5	96	5,220,063
5	97	3,909,584
5	98	2,177,218
5	99	1,490,416
5	100	529,666
5	101	25,244
6	94	64,327
6	95	910,968
6	96	1,150,043
6	97	2,437,386
6	98	896,155
6	99	439,179
6	100	225,751
6	101	42,483
7	96	144,121
7	97	583,481
7	98	130,897
7	99	217,319
7	100	94,798
7	101	9,468
8	99	0
8	100	0
8	101	45
Total		159,213,289

IN-PLACE OIL-SHALE RESOURCES SHOWN IN BARRELS
PER ACRE FOR THE R-6 ZONE
CONTOUR INTERVAL 50,000 BARRELS PER ACRE

SCALE 1:126,720
0 1 2 3 4 5 6 7 8 9 10 MILES
0 1 2 3 4 5 6 7 8 9 10 KILOMETERS



IN-PLACE OIL-SHALE RESOURCES SHOWN IN
GALLONS PER TON FOR THE R-6 ZONE
CONTOUR INTERVAL, 5 GALLONS PER TON

SCALE 1:126,720
0 1 2 3 4 5 6 7 8 9 10 MILES
0 1 2 3 4 5 6 7 8 9 10 KILOMETERS

ISOPACH, STRUCTURE CONTOUR, AND RESOURCE MAPS OF THE R-6 OIL-SHALE ZONE, GREEN RIVER FORMATION, PICEANCE CREEK BASIN, COLORADO

By

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1979

