

In order to arrive at the oil reserves of the Todilto/Entrada, the following Table II was prepared to determine the average thickness of the Todilto and Entrada horizons. Thicknesses shown were taken from the logs on the wells.

TABLE II  
AVERAGE THICKNESS - TODILTO AND ENTRADA

	<u>Todilto Thickness</u>	<u>Entrada Thickness</u>
No. 1 Federal Media	9'	29'
No. 2 Federal Media	34'	30'
No. 3 Federal Media	48'	4'
No. 4 Federal Media	8'	18'
No. 1 Hutchinson Federal	10'	44'
No. 2 Hutchinson Federal	14'	Undetermined
No. 1 Beard	52'	3'
No. 1 Harvey	28'	22'
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Total Thickness	203'	150'
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Average Thickness	25'	21'

After determination of the average thickness of the porous section as shown in Table II, core analyses from the Todilto were averaged and the average porosity was found to be 5.0% while the average connate water was found to be 31.2%. Using a formation volume factor of 1.20, it was calculated that there would be 222 barrels of stock tank oil in place per acre/foot in the Todilto limestone portion of the Todilto/Entrada reservoir.

Four wells have been produced from the Entrada reservoir at Media Dome. Information obtained from core analyses on these four wells is summarized in Table III in order to arrive at the average barrels of oil per acre/foot in the Entrada horizon.

BEFORE EXAMINATION
OF APPLICATION
APPLICANT'S ACCOUNT NO. <u>8</u>
CASE NO. <u>4642</u>

TABLE III  
SUMMARY OF CORE ANALYSES - ENTRADA WELLS

	<u>No. 1 Media</u>	<u>No. 2 Media</u>	<u>No. 4 Media</u>	<u>No. 1 Hutchinson</u>
Cored Interval	5245- 5269'	5217- 5238'	5283- 5294'	5219- 5257'
Feet of Core Recovered	24'	21'	11'	38'
Average Permeability - Millidarcys	286	130.5	269	283
Productive Capacity, Millidarcy/Feet	6866	2740	2958	10754
Average Per Cent Porosity	23.3	22.6	25.0	22.8
Average Per Cent Residual Oil	20.7	20.2	18.8	26.2
Average Per Cent Connate Water	30.0	30.0	30.0	41.0
Formation Volume Factor	1.20	1.20	1.20	1.35
Calculated Stock Tank Barrels of Oil in Place per Acre Foot	1055	1023	1131	773

The four Entrada wells shown in Table III average 995 stock tank barrels of oil in place per foot.

The oil/water structural contact line of + 1560' as shown on the Entrada Structure Map encompasses the area shown to be the total productive area from which oil will be produced at Media Dome. By triangular method, it was calculated that the productive area encompassed a minimum of 416 acres.

Using an average of 21' of Entrada sandstone pay with 995 stock tank barrels per acre/foot in place, it is calculated that there is 20,895 stock tank barrels in place per acre or a total of 8,692,320 barrels in place under the 416 acres. Using an average of 25' of Todilto limestone pay with 222 stock tank barrels in place per acre/foot, it is calculated that there is 5,550 stock tank barrels in place per acre or 2,308,800 barrels in place under the 416 acres. The total calculated for the Todilto/Entrada reservoir is 11,001,120 barrels of oil in place at Media Dome.

At an estimated recovery of 33%, it is calculated that there are 3,630,370 barrels of recoverable oil under the Media Dome from the Todilto/Entrada reservoir. The following detail shows how the Todilto/Entrada reserves were calculated:

Entrada:

Net Sand Thickness	21'
Calculated Stock Tank Barrels per Acre/Foot in Place	995
Calculated Stock Tank Barrels per Acre in Place	20,895

Todilto:

Net Sand Thickness	25'
Calculated Stock Tank Barrels per Acre/Foot in Place	222
Calculated Stock Tank Barrels per Acre in Place	5,550

Combined Todilto/Entrada:

Calculated Stock Tank Barrels per Acre in Place	26,445
Acres in Reserve Area	416
Total Calculated Stock Tank Barrels in Place under 416 acre Reserve Area	11,001,120
Calculated Recoverable Barrels of Oil @ 33%	3,630,370