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(54) **METHOD AND SYSTEM FOR REGISTERING THE LOCATION OF A MOBILE CELLULAR COMMUNICATIONS DEVICE**

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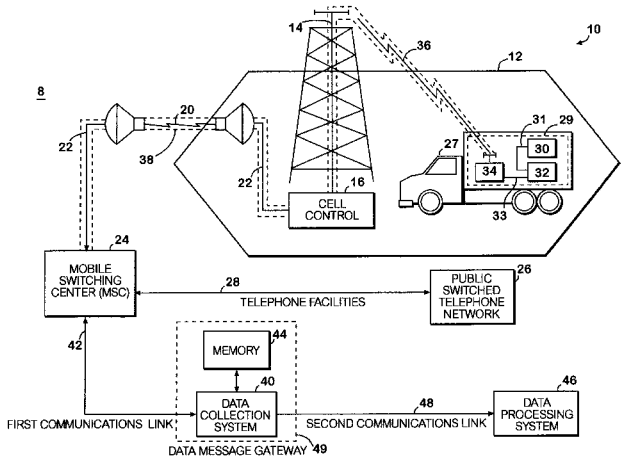
(57) **ABSTRACT**

Identifying and registering the location of a mobile data reporting device operating within the coverage areas of a cellular mobile radiotelephone (CMR) system. The mobile data reporting device travels freely between CMR systems and is operative to communicate selected data collected from data sources to a data collection system via control channels of the CMR system. The location registration system enables the data collection system to transmit a data message to the mobile data reporting device via the control channels of the particular CMR system within the coverage areas of which the mobile data reporting device resides. Each CMR system transmits a beacon page that distinguishes the CMR system from adjacent CMR systems. When the mobile data reporting device receives a beacon page that is different from a previously received beacon page, the mobile data reporting device generates a beacon-responsive signal. The beacon-responsive signal is transmitted to the data collection system and enables the data collection system to determine the location of the mobile data recording device. Because the particular CMR system is identified, the data collection system can transmit a data message to the mobile data reporting device without flood paging all of the CMR systems in which the mobile data reporting device might be located.

27 Claims, 9 Drawing Sheets