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FROM: J. Callicoaat  LOCATION: EPA Compliance Programs

TO: Memo to File LOCATION:

SUBJECT: Calculation of Shallow Drilling for 2007

The objective of this memorandum is to provide a calculation for the shallow drilling rate. Although EPA accepted the DOE's finding that shallow drilling would not be of consequence to the repository's performance, shallow hole data continues to be collected. This information can be found in the annual Delaware Basin Monitoring Report.

1.0 Shallow Drilling Events

Shallow holes are holes that have been drilled to a depth that is less than that of the WIPP repository or less than 2,150 feet deep. The identification, location, and depth of shallow boreholes in the Delaware Basin are collected from commercial sources and stored in Microsoft Access databases by the Delaware Basin Drilling Surveillance Plan. The following events are excluded from the shallow well count and the calculation of the shallow drilling rate.

- Sulfur Coreholes
Sulfur Coreholes have been excluded from the shallow well count because it has been determined that there is no mineable sulfur in the area.
- WIPP Wells
EPA allowed the exclusion of WIPP wells because they are for determining site characteristics and monitoring and they were not resource driven.
- Drilling or Awaiting Paperwork
Wells that are in the process of drilling or awaiting paperwork have been excluded from the shallow well count because many of them will become deep holes and until the hole has been completed it is difficult to determine which ones will be shallow holes.

2.0 Shallow Drilling Rate

The shallow drilling rate is calculated as follows: number of shallow holes (less than 2,150 feet or the depth of the repository and drilled within the last 100 years) times 10,000 years (regulatory time frame) divided by the area of the Delaware Basin (23,102.1 square kilometers) divided by 100 years (current active drilling era). In 1996, the calculated shallow drilling rate was 21.82 boreholes per square kilometer. No shallow drilling rate was calculated for CRA-2004. For the CRA-2009 the calculated shallow drilling rate is 22.87 boreholes per square kilometer. Table 1 shows shallow hole data in the Delaware Basin as of September 2007.

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Attachment

cc: WRES Managers

Table 1
Shallow Well Status in the Delaware Basin

Well Type	Texas	New Mexico	Totals
Core Hole	31	2	33
Dry Hole	342	148	490
Gas Well	8	7	15
Injection Well	5	0	5
Junked and Abandoned Well	62	29	91
Oil Well	89	20	109
Oil and Gas Well	2	0	2
Plugged Gas Well	1	2	3
Plugged Oil Well	15	14	29
Plugged Brine Well	2	1	3
Plugged Salt Water Disposal Well	0	4	4
Brine Well	1	4	5
Salt Water Disposal Well	0	1	1
Service Well	13	0	13
Stratigraphic Test Hole	1170	0	1170
Potash Core Hole	0	971	971
Water Well	1706	590	2296
Other (Mine Shafts, Gnome Project Wells)	0	44	44
TOTALS	3447	1837	5284