

**FINAL  
OPERATIONAL RANGE ASSESSMENT PROGRAM  
PHASE I QUALITATIVE ASSESSMENT REPORT  
PIERRE TRAINING AREA  
HUGHES COUNTY, SOUTH DAKOTA**

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Prepared for:

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## EXECUTIVE SUMMARY

The United States (U.S.) Army is conducting qualitative assessments at operational ranges to meet the requirements of Department of Defense policy and to support the U.S. Army Sustainable Range Program. The operational range qualitative assessment (hereinafter referred to as Phase I Assessment) is the first phase of the U.S. Army Operational Range Assessment Program. This Phase I Assessment evaluates the operational range area at the South Dakota Army National Guard (SDARNG) Pierre Training Area to assess whether further investigation is needed to determine if potential munitions constituents of concern (MCOC) are or could be migrating off-range at levels that may pose an unacceptable risk to human health or the environment. In conducting the Phase I Assessment, MCOC sources, potential off-range migration pathways, and potential off-range human and ecological receptors are evaluated as appropriate.

Pierre Training Area is located approximately two miles north of the city of Pierre, South Dakota, in Hughes County. The SDARNG uses the training area to train its soldiers in support of achieving its various missions. An update to the Army Range Inventory Database-Geodatabase (ARID-GEO) was submitted to the U.S. Army Environmental Command in December 2005. The ARID-GEO (2005) identifies one operational range, which is eligible for the Phase I Assessment and covers the entire 4.63-acre training area. The total operational range area was derived from the Operational Use Area (total range area) acreage as reported in ARID-GEO (2005). No portion of the training area was identified as other than operational area. Training activities conducted at Pierre Training Area include small arms firing (ARID-GEO, 2005).

Potential MCOC sources identified at Pierre Training Area primarily consist of small arms range target and impact berms. In general, potential MCOC from primary source areas potentially impact soil as a source medium (i.e., target and impact berms). The release mechanism for soil is erosion and potential runoff to off-range surface water or sediment or to an off-range drainage ditch. Given the low precipitation rate (annual mean of 18 inches) and distance to the nearest intermittent stream (approximately one mile), it was determined that potential MCOC could be transported off-range via storm water runoff but that the potential MCOC were unlikely to reach potential human and ecological receptors present in and around the intermittent stream and in downstream waters.

The operational range at Pierre Training Area is categorized Unlikely.

### **Unlikely – Five-Year Review**

The one operational range at Pierre Training Area was categorized as Unlikely, totaling 4.63 acres. The range is a small arms firing range. Ranges where, based upon a review of readily available information, there is sufficient evidence to show that there are no known releases or source-receptor interactions off-range that could present an unacceptable risk to human health or the environment are categorized as Unlikely. Ranges categorized as Unlikely are required to be re-evaluated at least every five years. Re-evaluation may occur sooner if significant changes (e.g., change in range operations or site conditions, regulatory changes) occur that affect determinations made during this Phase I Assessment.

**Table ES-1** summarizes the Phase I Assessment findings.

**Table ES-1: Summary of Findings and Conclusions for Pierre Training Area**

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	One operational range; 4.63 acres	Target and impact berms	Surface water runoff flowing off-range		None	Re-evaluate during the five-year review. No potentially complete pathways were identified.

**ABBREVIATIONS/ACRONYMS**

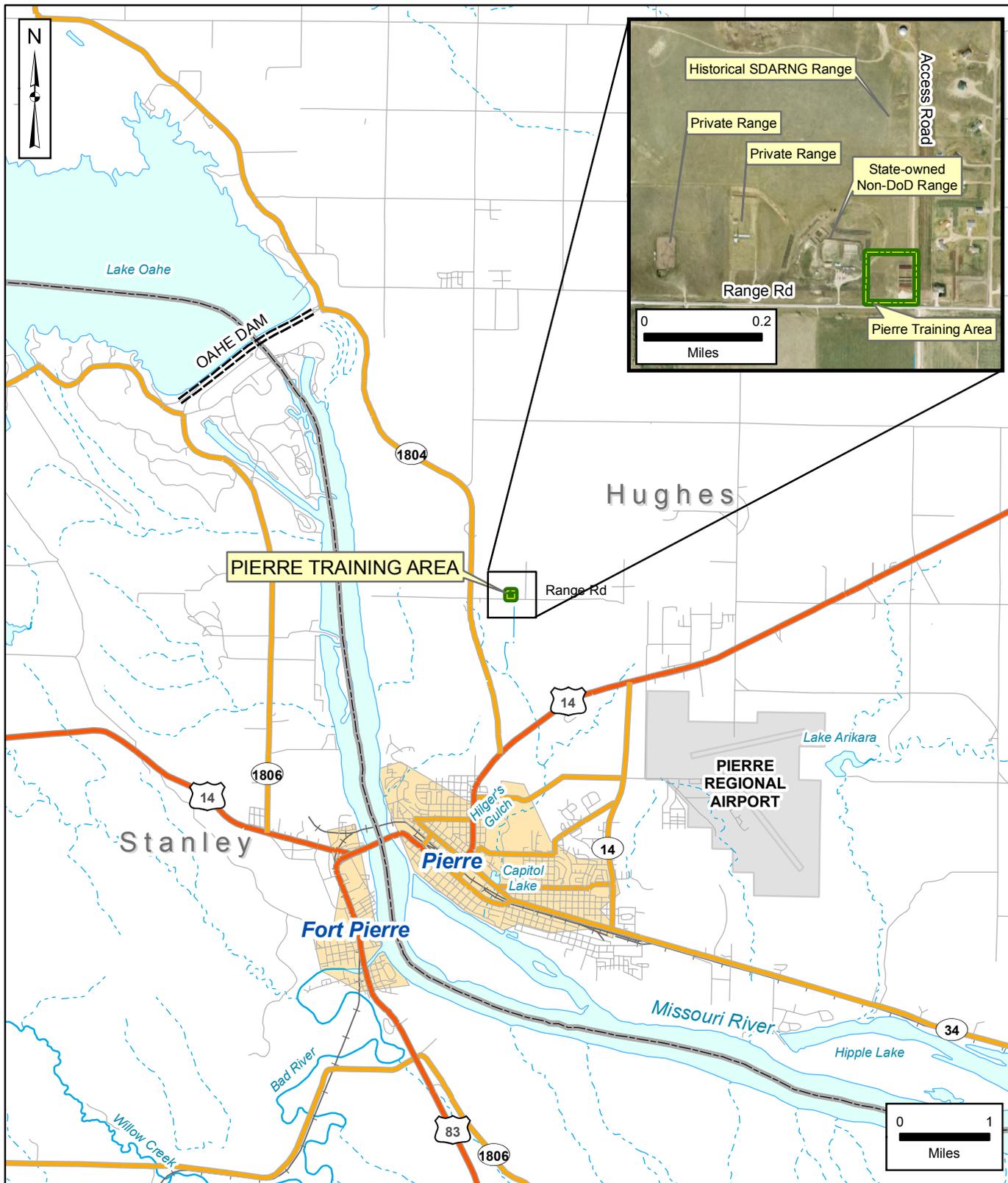
ARID-GEO	Army Range Inventory Database-Geodatabase
bgs	Below Ground Surface
CSM	Conceptual Site Model
DoD	Department of Defense
DODI	Department of Defense Instruction
E	Ecological receptors identified. (This refers to range grouping; pathway designation always precedes E designation.)
GW	Groundwater pathway identified. (This refers to range grouping; M designation always precedes GW designation.)
H	Human receptors identified. (This refers to range grouping; pathway designation always precedes H designation.)
HUC	Hydrologic Unit Code
LS	Limited Source
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
NG	Nitroglycerin
ORAP	Operational Range Assessment Program
PU	Pathway unlikely or incomplete. (This refers to range grouping; M designation always precedes PU designation.)
SDARNG	South Dakota Army National Guard
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)
U.S.	United States
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey



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**Operational Range Assessment Program  
Phase I Qualitative Assessment  
Pierre Training Area, SD**

**Figure 1-1  
Pierre Training Area Location**



**Installation**

- Training Area Boundary
- Operational Area

**Hydrology**

- River/Stream (Perennial)
- Stream (Intermittent)
- Drainage Ditch
- Water Body
- Dam

**Transportation**

- Highway
- Major Road
- Local Road
- Railroad

**Administrative**

- County Boundary
- Urbanized Area
- Airport

Data Sources:  
AEC, ARID-GEO, 2005  
ESRI, StreetMap USA, 2005

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