

## APPENDIX H. BENEFICIAL USE DESIGNATIONS FOR CERTAIN LIMITED AREAS OF GROUNDWATER

A. Within Oklahoma there are some bodies or areas of groundwater the quality of which is not suitable for the beneficial uses that are designated on a default basis in OAC 785:45-7-3(b). In most cases this unsuitability is caused by natural conditions or irreversible human-induced impacts such as pollution. Consequently, it is necessary to provide for beneficial use designations for these limited areas of groundwater which are more accurate and appropriate than the default designations in 785:45-7-3(b). The absence of an area of a groundwater formation from this appendix does not indicate that area is free from contamination or has quality suitable for any beneficial use.

B. The groundwater formations or portions thereof that require special designations are identified in the tables that follow in this Appendix. The groundwater formations or units are identified by their name (e.g., "Garber Wellington") and legal description (e.g., "2-4, 9-11, 13-16 T2N R20W " denoting section(s), Township and Range). The area identified may be localized and not necessarily inclusive of the entire hydrogeologic basin or groundwater formation. The tables also set forth a general description of the physical location above the groundwater formation or unit for use as a general point of reference. The tables also set forth columns to show the groundwater classifications and beneficial uses which are designated for each identified area of groundwater. A "Depth Zone" also is indicated, to which the beneficial uses and "Remarks" listed in following columns are applicable.

C. Designations of beneficial uses for an identified groundwater formation or portion thereof are reflected in the tables by the presence of a dot ("•") in the columns to the right of the groundwater name and location. An empty space in a column means that column's beneficial use or subcategory thereof is not designated for that groundwater. Groundwater not identified in this Appendix is subject to the default designations detailed in OAC 785:45-7-3.

D. The state environmental agency that requested the groundwater formation or unit to be so identified and designated with certain beneficial uses and/or limitations is shown in the column headed "Agency". A specific division within that agency may also be listed. Questions relating to the quality of the groundwater found in any particular formation or unit, or concerns related to any comment in the "Remarks" column, should be addressed to the agency denoted in the "Agency" column.

E. The presence of any comment in the "Remarks" column denotes special circumstances which are applicable only to the groundwater formation or unit so identified. These comments may refer to certain constituents of the groundwater at that location, special well construction requirements, or other information deemed pertinent by the agency that requested this listing.

### F. Definitions

"ACOG" means Association of Central Oklahoma Governments

"Corp Comm" means Oklahoma Corporation Commission

"DEQ" means Oklahoma Department of Environmental Quality

"SEP" means Supplemental Environmental Projects

"RCRA" means Resource Conservation and Recovery Act

"VCP" means Voluntary Cleanup Program

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Garber Wellington (Thunderhead Hills)	W 1/2 of W 1/2 of Section 20, T 14 N, R 2 WIM; W 1/2 of NW 1/4 and NW 1/4 of SW 1/4 of Section 29, T 14 N, R 2 WIM	Along and ¼ mile east of Coltrane from Danforth Rd to Sherrywood Rd, Edmond, Oklahoma County	85 - 200 ft deep; ¼ mile wide by at least 1 ¾ mile long	2		•		Corp Comm, Oil and Gas Div & ACOG	Brine plume moving south about 80 feet/year. Case/cement new wells through upper affected zone.
Garber Wellington (Double Eagle / 4 <sup>th</sup> St superfund site)	SE 1/4 of Section 35, T 12 N, R 3 WIM and SW 1/4 of Section 36, T 12 N, R 3 WIM	Oklahoma County	0 - 160 ft	2		•	•	DEQ	Brine, chlorinated solvents and hydrocarbons. Special well construction required.

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Boone (Tar Creek superfund site)	Sections 13, 14, 23, 24, 25, 26, 35, and 36 of T 29 N, R 22 EIM. Sections 13-36 of T 29 N, R 23 EIM. Sections 17-19, W 1/2 of Section 20, W 1/2 of Section 29, and Sections 30-32 of T 29 N, R 24 EIM. Section 1, E 1/2 of Section 2, E 1/2 of Section 11, Section 12, N 1/2 of Section 13, NE 1/4 of Section 14 all in T 28 N, R 22 EIM. Section 1, W 1/2 of Section 5, Section 6, Section 7, W 1/2 of Section 8, NW 1/4 of Section 17, N 1/2 of Section 18 all in T 28 N, R 23 EIM, W 1/2 of Section 5, Section 6 all in T 28 N, R 24 EIM.	Ottawa County	0 - 350 ft	2	•	•	•	DEQ	Toxic metals, special well construction required
Quaternary Terrace (Kingfisher Wellhead Protection Area)	Section 33, SW 1/4 of Section 36 in T 18 N, R 7 WIM. SW 1/4 of Section 1, NW 1/4 and S 1/2 of Section 2, N 1/2 of Section 3, N 1/2 of Section 4, NE 1/4 of Section 11, and Section 12 all in T 17 N, R 7 WIM	Kingfisher County	0 - 100 ft	1	•	•	•	DEQ	Zone 1 Wellhead Protection Area, no pollution sources
Southwestern Oklahoma (Altus AFB area)	Sections 34-36 in T 3 N, R 20 WIM. Sections 1-3, Sections 10-15, and Sections 22-24 all in T 2 N, R 20 WIM	North of US 62, eastern edge of City of Altus and entire AFB, Jackson County	0 - 60 ft	3		•	•	OWRB	TCE and by-products, remediation activity in-place

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Ogallala (Dobson Ranch)	One square acre within NW 1/4 of Section 17, T11N, R26W IM	State Highway 152, approximately four miles west of Sweetwater, OK, Roger Mills County	0 - 20 ft	2	•	•	•	DEQ - VCP	Restriction on groundwater use within the 1 square mile recorded on a deed notice due to Benzene contamination. See DEQ or county clerk for location details
Quaternary Terrace Deposits - (Cornerstone Shopping Center)	SE 1/4 of Section 16, T 12 N, R 4 WIM, Approx six (6) acres of WEST PARK ADDITION to Oklahoma County, Oklahoma.	3900 N. MacArthur Avenue, Oklahoma City, Oklahoma County, Oklahoma	0 - 22 ft	2	•	•	•	DEQ - VCP	Tetrachloroethene - Deed restriction on file. See DEQ or county clerk for location details.

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Alluvium & Terrace Deposits - (OKC Urban Renewal Phase I)	21.6 acres of the NW 1/4 of Section 3, T 11 N, R 3 WIM	An area bounded to the South of Reno Avenue, East of the BNSF railroad tracks, North of Interstate 40/or its replacement street and west of a line extended from Stiles Avenue to Interstate 40/or its replacement street in Oklahoma City, Oklahoma County, Oklahoma.	0 - 30 ft	2	•	•	•	DEQ - VCP	Deed restriction on groundwater use. See DEQ or county clerk for location details.
Coffeyville Formation (Compass Industries Landfill Superfund site)	SE 1/4 of NE 1/4 and NE 1/4 of SE 1/4 of Section 13, T 19 N, R 11 EIM, and S 1/2 of NW 1/4 and N 1/2 of SW 1/4 of Section 18, T 19 N, R 12 EIM	7600 W 26th St, Tulsa, Tulsa County, Oklahoma	0 - 105 ft	2	•	•	•	DEQ-Superfund	Deed restriction on groundwater use for any purpose. See DEQ or county clerk for location details.

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Weatherford Member of the Cloud Chief Formation & Rush Springs Sandstone Formation (Oklahoma Refining Company Superfund site)	S 1/2 of SW 1/4 of Section 18, T 5 N, R 9 WIM and NW 1/4 of Section 19, T 5 N, R 9 WIM, and NW 1/4 of Section 19, T 5 N, R 9 WIM, and SE 1/4 of SE 1/4 of Section 13, T 5 N, R 10 WIM and E 1/2 of NE 1/4 of NE 1/4 of Section 24, T 5 N, R 10 WIM	South Baskett St, Cyri, Caddo County, Oklahoma	0 - 145 ft	2	•	•	•	DEQ - Superfund	Deed restriction on disturbing landfill caps and on groundwater use for any purpose due to hydrocarbon contamination. See DEQ or county clerk for location details.
North Canadian Alluvium (Tenth Street Superfund site)	2.931 acres in the NW 1/4 of Section 31, T 12 N, R 2 WIM	3200 NE 10th St Oklahoma City, Oklahoma County, Oklahoma	0 - 20 ft		•	•	•	DEQ - Superfund	Deed restriction on drilling of any type of wells through the landfill cap or into the landfill. See DEQ or county clerk for location details.
North Canadian Alluvium and Garber (Mosley Road Landfill Superfund site)	71.765 acres in NE 1/4 of Section 21, T 12 N, R 2 WIM	Mosely Road Between NE 23 & NE 36 Oklahoma City, Oklahoma County, Oklahoma	0 - 150 ft	2	•	•	•	DEQ - Superfund	Restriction on groundwater use for any purpose. See DEQ or county clerk for location details

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Tallant Formation (Blackstar Performance)	SE 1/4 of Section 25, T 20 N, R 8 EIM and NE 1/4 of Section 25, T 20 N, R 8 EIM	East of Highway OK-48, about 4 miles north of Highway OK-51 intersection, in Terlton, Pawnee County, Oklahoma	0 - 30 ft; depth of contamination not yet defined.	2	•	•	•	DEQ - RCRA	1,1,1-Trichloroethane and 1,1-Dichloroethene Depth of contamination unknown, private wells to 200 feet are impacted. See DEQ for additional details.
N. Canadian Terrace Deposits underlain by Hennesey Group (OKC Solvent Plume)	Approximately 80 acres in NE 1/4 of Section 27, T 12 N, R 4 WIM and NW 1/4 of Section 27, T 12 N, R 4 WIM	Between NW 23rd and NW 19th and N Meridian and Ann Arbor, Oklahoma City, Oklahoma County, Oklahoma	0 - 30 ft; depth of contamination not yet defined.	2	•	•	•	DEQ -SEP	Tetrchloroethylene (max 1200 ppb) and Thrichloroethylene (max 35 ppb). Plume not delineated; private wells impacted. See DEQ for details.
Garber-Wellington (Eagle Industries)	Approximately 6 acres in SE 1/4 of Section 7, T 11 N, R 1 WIM	North of SE 29th & West of Westminister Road, Midwest City, Oklahoma County, Oklahoma	0 - 50 ft; depth of contamination not yet defined.	2	•	•	•	DEQ - RCRA	Trichloroethylene (max 2280 ppb). Plume not delineated. See DEQ for details.

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
East Central Oklahoma bedrock	SE 1/4 of SE 1/4 of SE 1/4 of Section 5, T 7 N, R 9 E1M	Hughes County	200 ft; Aerial extent unknown	2	•	•	•	Corp. Comm. O & G Division	Brine affecting aquifer. Disposal well offsetting old (now plugged) oil well was the most likely conduit.
Garber-Wellington Sandstone Formation	NW 1/4 of SE 1/4 of Section 1, T 9 N, R 2 E1M	Pottawatomie Countie	160 - 200 ft; 20 acres	2	•	•	•	Corp. Comm. O & G Division	Brine affecting aquifer. Now plugged disposal well was the most likely source.
Rush Springs Sandstone, Marlow Formation. (Cyril Plume)	Portions of Sections 1 and 12 in T 5 N, R 10 W1M and Sections 6 and 7 in T 5 N, R 9 W1M and Section 36, T 6 N, R 10 W1M and Section 31, T 6 N, R 9 W1M	2-3 miles north of Cyril, Caddo County.	Up to 450 ft deep; some saline groundwater discharge into Little Washita River tributaries. ~960 acre plume	2	•	•	•	Corp Comm, Oil and Gas Div	~960 acre plume moving S-SW @ 90'/year; 30 year monitoring program started in 1999. Cyril municipal wells affected were abandoned.
Blaine (Drummond Flats)	NE 1/4 of Section 33, T 22 N, R 8 W1M	From NE corner of Drummond 4 miles north, 1 west, 1 south and 3/8 west. Near Turkey creek.	20 - 50 ft in affected wells.	2	•	•	•	Corp Comm, Oil and Gas Div	Drummond Flats, water has historical contamination.



Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Terrace Deposits (Drummond Flats)	SW 1/4 of Section 12, R 21 N, R 9 WIM	From Ames, 1/2 mile east, 4 miles north, 3 3/4 east, north into site.	About 40 ft in affected wells.	2	•	•	•	Corp Comm, Oil and Gas Div	Drummond Flats, water has historical contamination.
Arkansas River Alluvium (Sand Springs Petrochemical Superfund Site)	W 1/2 of NW 1/4 of Section 13, T 19 N, R 11 EIM and NW 1/4 of Section 14, T 19 N, R 11 EIM	Tulsa County	0 - 37 ft	2		•	•	DEQ	Metals, VOC Special Well Construction Required.