

FACTORS AFFECTING THE CHANGE IN GROUND WATERS OCCURRENCE  
LEVELS IN THE TERRITORY OF TYUMEN CITY

A. E. Vinogradova, T. V. Semenova

*Key words: ground water; underflooding areas; monitoring surveillance; forecast changes in levels of ground water*

1059  
( ),  
[1].

, - : , -  
 , - [2].  
 .  
 - : -  
 . , ,  
 , -  
 , —  
 . :  
 ;  
 ;  
 , - , -  
 . 0 12  
 , , 2-4 7 .  
 , , ,  
 ,  
 0,2 / .  
 .  
 ,  
 , - ,  
 ,  
 [1].  
 - 0,1–0,3 / <sup>3</sup>,  
 ( 3 / <sup>3</sup>), ,  
 ( ) ( = 5,5–7,8).  
 (4,6–7,5 - / <sup>3</sup>).  
 .  
 ,  
 ,  
 ( ,  
 ),  
 ,  
 : ,  
 [3]. ,  
 ,  
 ,  
 ,



1. ( 0-2 ), -  
 ,  
 ( ) 10-20 ,  
 ,

.1.

*l*

( 0-2 )

		,	,
( . )	0-14 , , 14-20 ,	10-12	0-2,0
( . )	0-12 ,	4-8	0-2,0
.	0-10 , , 10-12 , 12-15 , ,	5-12	0-2,0
.	0-4 , 4-7 , 7-15 , ,	3-7	0-2,0
	0-20 , 20-30 , 30-80 , 80-88 ,	5-15	0-2,0
.50	0-4 , 4-10 , , 10-16 , 16-20 , ,	5-10	0-2,0
.	0-5 , 5-8 , , 8-14 , 14-15 , 15-17 , 17-20 , 20-23 , 23-25 ,	5-10	0-2,0
.	0-3 , 3-8 , 8-13 , 13-15 ,	3-12	0-2,0
	0-4 , 4-14 , , 14-20 ,	5-15	0-2,0

2. ( 2 3 ), -  
 -  
 2 6 , -  
 2 3 . -

.2.

3. ( 3 4 ), ,  
 -

1-2 , -

.3.

( 2-3 )

	0-2 , 2-5 , 5-6 , 6-8 ,	2-8	2,0-3,0
	0-9 , , 9-12 , 12-17 , ,	4-12	2,0-3,0
	0-7 , 7-20 ,	10-13	2,0-3,0
. 30	0-4 , 4-6 , 6-9 , 9-15 , 15-17 ,	3-8	2,0-3,0
—	0-4 , 4-7 , 7-14 , 14-20 ,	5-12	2,0-3,0
( « »)	0-3 , 3-20 , 20-22 ,	4-12	2,0-3,0
	0-8 , 8-10 , , 10-20 ,	1-4	2,0-3,0
	0-6 , 6-20 ,	5	2,0-3,0
	0-20 , ,	10-15	2,0-3,0
	0-15 , ,	10-15	2,0-3,0

( 3-4 )

	0-1 , 1-3 , 3-6 , 6-10 , 10-11 , 11-20 , ,	10-15	3,0-4,0
—	0-10 , 10-13 , 13-15 , 15-20 ,	2-10	3,0-4,0
	0-17 , ,	10-15	3,0-4,0
	0-20 , ,	4-8	3,0-4,0

4

**4-6**

0,09–13,0 ( , ) 0,11–12,0  
3,03 ( , , ).  
( )  
2000 , 0,03 .  
( ) — 2009 ,  
13,0 .

[4].

1992 2002 .. — 2003 2013 .  
 (1994, 1999, 2002, 2008 .)  
 0,38 5,24 , (1992, 2003, 2005, 2009, 2010, 2013 .)  
 0,48 6,7 .

10–11- 18–21- , ,  
 [4].

11- 2013 , 2014 ,  
 3–5-,  
 7–8-

[4].

1. : XV  
 . – : , 1997. – . 63.
2. : , 2005. – 225 . //
3. . – 2016. – 2. – . 23-27.
4. // . – 2012. – 5. – . 9-13.

#### **Information about the authors**

**Vinogradova A. E.**, assistant of the chair of oil and gas fields geology, Industrial University of Tyumen, phone: 8(3452)390346, e-mail: vinograd0484@yandex.ru

**Semenova T. V.**, Candidate of Science in Geology and Mineralogy, associate professor of the chair of oil and gas fields geology, Industrial University of Tyumen, phone: 8(3452)390339, e-mail: t\_v\_semenova@list.ru