

# Texas Commission on Environmental Quality

## INTEROFFICE MEMORANDUM

**To:** License File R05807 **Date:** April 19, 2010

**Thru:** Gary Smith, Ph.D. *gls 4/19/10*  
UTA Section Manager

**From:** Conrad A. Kuharic, P.G. *ckc 4/19/10*  
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**Subject:** February OAG Groundwater Level Elevation Report, for January 2010 data  
Log No. 2010-02-0007

Staff has reviewed the above named report, dated February 10, 2010, and received February 10, 2010, from Waste Control Specialists (WCS), and offers the following comments. This monthly report is required by License Condition 44.

The report provides January groundwater level elevations for 257 OAG monitor wells within, and in the immediate vicinity of, the 1338 acre WCS facilities area. This is 3 more wells than previously, reflecting the addition of GW-3, GW-5, and TMW-K to the list. TP-74, which is plugged, remains on the list, but, obviously, with no associated water level elevation data. All water level elevations were collected over the period January 4 through January 28, 2010, although all but 6 were measured by January 13. TP-73 and TP-81 were measured twice, on January 5 and January 6 respectively, and again on January 21. TP-73 underwent an increase in water level elevation of 0.57 feet in the intervening 16 days, but the report notes that it went up 0.95 feet overall. No explanation for the sudden rise was offered. Apparently no wells were sampled in January, thus no Table 2 was included. TP-81 had a notation that data was disqualified due to inconsistency with previous measurements. Whenever this comment is made, it must be accompanied by an explanation of the inconsistency.

The January 2010 data show 157 wells were reported as dry, one fewer than in December 2009. Water level elevations were listed for 46 of these dry wells, up from the 23 of these wells last month. In all, 24 additional wells that are called dry had a water level elevation (FWF-26A, OAG-7, OAG-10, OAG-12, OAG-15, TMW-C, TP-73, TP-81, TP-82, TP-84, TP-86, TP-103, TP-107, TP-108, TP-115, TP-116, TP-124, TP-136, TP-144, TP-150, TP-151, TP-157, TP-158, TP-164, TP-170) while 2 that had a water level elevation last month are now just shown as dry (TP-84, TP-89). WCS considers wells dry because there is either no measurable water or water may be present in a sump below the elevation of the bottom of the screened interval. This large increase in the number of dry wells with some degree of moisture in them is a cause for concern, as many of these wells are in close proximity to the Low level and compact waste facilities, especially FWF-23A, which continues to increase, up by almost 3" this month. This is critical because of its location in the buffer zone of the FWF facility. In general, the measurement changes were very small, but several varied significantly (by up to almost 3" from the previous month). **The fact that not all wells increase, the amounts of increase vary, and some data indicate a decline, rules out condensation as the cause. While these wells may not yet have a substantial amount of water present in them, they strongly suggest that water in the OAG may be moving. The distribution of these wells appears to make the concept of the dry line difficult to maintain.**

Of the 100 wells not called dry, 3 were new wells, having no measurement value for December (GW-3, GW-5, TMW-K). No change in water level elevation was reported in 3 wells (the text portion of the report states 4 wells, but a comparison of the December Table 1 and January Table 1, indicates 3, as does their Figure 2), while 49 wells registered an increase, and 45 a decrease. The remaining non-dry wells had water level elevations above the bottom of the screen. Three of these wells were new and had no previous water level measurements, and 4 had levels that were unchanged from December. January elevations were lower in 44 of the remaining wells, down 18 from 62 last month. Overall, water level declines ranged from 0.01 feet to 1.00 feet. Thirty six of the 45 declines measured less than 0.10 feet. Forty nine wells, an increase of 24 from the 25 wells from last month, had increases in water level elevation, ranging from 0.01 foot to 0.40 feet (the text portion of the report mentions that TP-73 increased by 0.95 feet, but this well was dry last month, so this measurement must be based on a total well depth measurement as well as a water level measurement), with 31 of 49 of the increases being less than 0.10 feet. TP-42, north of the byproduct landfill, rose again this month, by 0.10 feet, up from 0.03 feet in December, reversing the trend of declining increases. At the same time, however, all of the wells in the vicinity of the byproduct facility northwest of TP-42 experienced an increase in water level elevation, along with TP-149 just to the southeast of TP-42. TP-92, which is situated on the other side of an apparent top of Dockum high from TP-42 showed a slightly declining water level elevation. Six of the 7 wells closest to the south side of the byproduct facility experienced water level declines, and one (TP-88) increased slightly. From this data, it appears that the behavior of OAG groundwater along the south side of the byproduct facility is still not well understood. Four of the non-dry wells in the vicinity of the former septic system drainage area had water level elevation increases, and one decreased.

Fifteen wells not considered dry had water level elevations above the bottom of the screen but below the top of the red bed, two more than in December. The top of Dockum elevation in A-16 still varies from the value used prior to the April 2009 report.

There are now 29 monitor wells in close proximity to the byproduct excavation, as follows, and shown in the schematic byproduct facility boundary diagram below;

TP-41, 42, 43, 72, 78, 85, 86, 88, 90, 92, 140, 141, 142, 143, 145, 146, 147, 148, 149, 150, 151, 166, 167, 168, 169, 171, FWF-1A, FWF-26A, and FWF-27A.

Ten of the wells, TP-41, 85, 86, 145, 147, 150, 151, 168, 169, and FWF-26A, were listed as dry this month, identical to last month, although 6 of the 10 had a water level associated with them, 4 more than last month. Seventeen of the remaining wells have saturated OAG sections, and 3 have water in the well bore below the top of the Dockum (TP-92, TP-140, and TP-149). One well had no change in water level from last month. Of the remaining wells, 7 had higher water levels and 11 had water level declines. All changes were less than 0.25 feet in magnitude.

The increased presence of water along the northern and western edge of the byproduct facility is a matter of concern to Staff. This increase may be interpreted as an early warning that the plan for surface water runoff control is contributing to the water in the OAG, rather than solving the problem. This presence will be monitored, and may ultimately require lining of the runoff control ditches.