WASTE CONTROL SPECIALISTS LLC

TCEQ
RADIOACTIVE
MATERIALS DIVISION

2012 AUG -8 AM 9:57

August 7, 2012

VIA FedEx

R04100
ARTs# 16058653
PM

Mr. Mike Aplin, Manager
Radioactive Materials Division
Texas Commission on Environmental Quality
PO Box 13087, MC-233
Austin, TX 78711-3087

References: (1) Radioactive Material License No. R05807, Amendment No. 04
CN 600616890, RN 101702439

(2) Radioactive Material License No. R04100, Amendment No. 17
CN 600616890, RN 101702439

Subject: Monthly OAG Water Level Report Submitted in Support of LC 44 in RML No. R05807 and LC 72 in RML No. R04100, Waste Control Specialists LLC, Andrews County, Texas.

Dear Mr. Aplin,

License Condition (LC) 44 of Radioactive Material License (RML) No. R05807 (Reference 1) and LC 72 of RML No. R04100 (Reference 2) require Waste Control Specialists LLC (WCS) to conduct Ogallala-Antlers-Gatuña (OAG) water level elevation measurements monthly and report the elevations to the Executive Director.

The attached monthly report provides an analysis of the July 2012 water level data for all required OAG monitoring wells on the WCS facility (Attachment 1). July 2012 water level measurements and pertinent well data are summarized in Table 1 and locations are presented visually on a map of OAG wells in and near the 1,338 acres of WCS operations (Figure 1), as well as on a smaller scale map of all OAG wells on the WCS property (Figure 2). The July 2012 OAG water level data is also provided as a Microsoft Excel file on the attached CD.

The location of the dry line in July 2012 is substantially the same as represented in the license applications. The zone of continuous saturation of the OAG north of the Federal Facility Waste Disposal Facility (FWF) and Compact Waste Facility (CWF) landfills also remains approximately the same. Please refer to attached report for additional details.

Corporate
5430 LBJ Freeway, Ste. 1700
Three Lincoln Centre
Dallas, TX 75240
Ph. 972.715.9800
Fx. 972.448.1419

Facility
P.O. Box 1129
Andrews, TX 79714
Ph. 888.789.2783
Fx. 575.394.3427

WCS requests that a copy of all correspondence regarding this matter be directly emailed (skirk@valhi.net) to my attention as soon as possible after issuance. If you have any questions or need additional information, please call me at 432-525-8500.

Sincerely,

J. Scott Kirk, CHP
Vice President, Licensing, Corporate Compliance and Radiation Safety Officer

Enclosure

cc: Charles Maguire, TCEQ
Gary L. Smith, Ph.D., TCEQ
William Dornsife, P.E., WCS
Jim Van Vliet, WCS
Linda Beach, WCS
Jane Grimm, WCS
Pam Giblin, Baker Botts
WCS Regulatory Compliance
WCS Records Management

WASTECONTROL
SPECIALISTS LLC

Monthly OAG Water Level Report Submitted:

In Support of License Condition 44, License No. R05807, and License Condition 72, License No. R04100, Waste Control Specialists LLC,

Andrews County, Texas

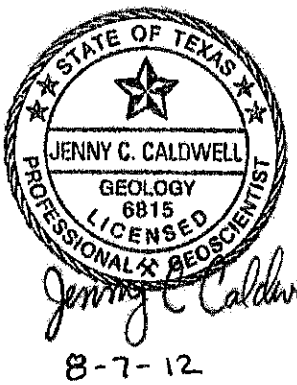
July 2012

Attachment 1

July 2012 OAG Water Level Report

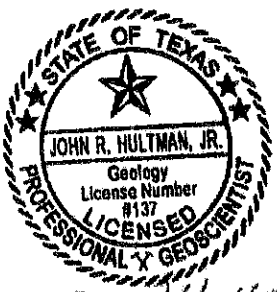
Prepared by:

Waste Control Specialists LLC
P.O. Box 1129
Andrews, TX 79714



8-7-12

Jenny Caldwell, P.G.



8/7/2012

John R. Hultman, Jr., P.G

August 7, 2012

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1.0 Introduction

As required in By-product Disposal Facility Radioactive Materials License (RML) No. R05807, License Condition (LC) 44, and Low Level Radioactive Waste Disposal Facility (LLRW) RML No. R04100, LC 72, Waste Control Specialists LLC (WCS) measures the water level elevations in wells completed in the Ogallala-Antlers-Gatuña (OAG) unit each month and reports the elevation data in writing to the Texas Commission on Environmental Quality (TCEQ).

The relevant portion of the license conditions state:

RML No. R05807, LC 44

> "The Licensee must conduct water level elevation measurements monthly on all wells completed in the OAG formation, and report, in writing, these elevations to the Executive director within 10 days, to monitor potential movement in the mapped dry line. If the water level elevations are at or higher than the top of the Dockum formation at the facility, excavation shall cease in order to sample, verify or test."

RML No. R04100, LC 72

> "The Licensee must conduct water level elevation measurements monthly, including during excavation and construction, on all wells within the site boundary completed in the Ogallala-Antlers-Gatuña formation, and report, in writing, these elevations to the executive director within ten (10) days, to monitor movement in the Ogallala-Antlers-Gatuña formation "dry line" as presented in the application. ..."

The OAG is not the uppermost water bearing zone for the facilities and occurs on average, *40 feet above* the elevation of any regulated placement of waste at the By-product and LLRW Facilities. As described in the above license conditions, the groundwater elevation data is used to monitor potential movement in the mapped dry line outside the boundaries of a prescribed buffer zone which surrounds the By-product and LLRW facilities.

This report meets the requirements of the By-product and LLRW license conditions. OAG water level measurements are provided in tabular form. A narrative of the monthly OAG water level measurements includes a discussion of significant changes and apparent trends relative to the mapped dry line. This report provides depth to water (DTW) measurements and water level elevations of OAG wells.

OAG Wells

Water levels in the OAG wells fall into one of two categories. The categories are defined as follows:

Dry OAG Wells

During the water level gauging task, if there is a measurable water level in a well and it is below the documented elevation of the OAG/Dockum Group contact, the well is reported as dry or not applicable (NA) and the OAG is unsaturated at the location of the well.

Saturated OAG Wells

During the water level gauging task, when water is found in a well and the measured water level is above the elevation of the contact between the OAG and the underlying Dockum red beds, the measured water level elevation is used to calculate the saturated thickness of the OAG above the red beds. For example, if the OAG/Dockum contact is at elevation 3430 ft msl, and the measured water level elevation is at 3431 ft msl, the saturated thickness is 1.0 foot.

Reporting Criteria

WCS will report any significant change in water level in an individual OAG well. A "significant change" is defined as a measured positive/negative change of 1 foot or more in the water level in a well where the OAG is documented as saturated and the water level change is unrelated to recharge or discharge following a sampling event.

2.0 July 2012 Water Levels

Table 1 provides the July, 2012 water level elevations and pertinent well data for the OAG wells and represents pre-sampling water levels or data as free from sampling influences as possible. Post-sampling water levels are included for wells that were sampled in July. Table 2 provides a summary of the OAG wells sampled in July, 2012 including the monitoring program and license for which the samples were obtained. Figure 1 is a location map of OAG wells within and near the 1338 acres of WCS facility operations (the Facility). Figure 2 is a location map of OAG wells on the approximately 23 square miles comprising the entire WCS property (the Site).

The OAG wells have been subdivided into Type 1, Type 2 and Type 3 wells. Type 1, Type 2 and Type 3 wells as currently designated are summarized in Table 3. As of July, 2012 there are 18 Type 1 wells, 211 Type 2 wells and 81 Type 3 wells for a total of 292 certified OAG wells during July.

Type 1 wells are those with continuous water level measurements via transducers (Level TROLL) in the vicinity of the By-product Landfill. There are 18 Type 1 wells (see Table 3).

Exhibit 1 contains comma-separated value (csv) files for all Type 1 wells with continuous water level measurements. Exhibit 1 is provided on the attached CD. Locations of all Type 1 wells are shown on Figure 3.

Type 2 wells include essentially all wells and piezometers located within and immediately adjacent to the Facility. All Type 1 wells are also included in the total of Type 2 wells for a total of 211 Type 2 wells. In addition to the continuous transducer measurements, each Type 1 well is hand measured for use in Table 1. Type 1 well TP-14 is included as a Type 2 well because of its location in a playa north of the CWF.

The above-grade surface monument of OAG-25 was accidentally damaged when stuck by heavy equipment. A decision to replace the well was made and Mr. Charles Maguire (TCEQ) was notified by letter on June 19, 2012 of WCS's intention. The letter stated that the replacement well (OAG-25R) would have no subsurface design changes from

the well being replaced (OAG-25) and it would be drilled and installed within fifteen (15) feet of the well being replaced. Additionally, the above ground completion would be lowered to grade (flush-mounted) utilizing a PEMCO (or similar) monitor well vault anchored in a surrounding concrete pad to reduce the likelihood of future damage by landfill equipment. When the above tasks are completed a monitor well certification report will be submitted separately and water level measurements will begin for replacement well OAG-25R.

Type 3 wells are generally those wells that are either distant from the Facility or are in locations that provide redundant data in areas of high OAG well density within the Facility. Water levels in the Type 2 wells are measured within the first seven days of each month. The Type 3 wells are measured as soon as practicable, but no later than the end of each month.

By-product Quarterly Monitoring Events

By means of this report, WCS provides notice to TCEQ of the planned By-product quarterly monitoring events for the upcoming four quarters. If resource conflicts or weather conditions require that these events be rescheduled, TCEQ will be notified as quickly as possible of the rescheduled sampling date. No changes to the sampling schedule have occurred since the June 2012 OAG Water Level Report.

By-product Facility Environmental Monitoring Dates:
Third Quarter 2012 through Second Quarter 2013

Media	Planned Sample Date			
	Third Quarter 2012	Fourth Quarter 2012	First Quarter 2013	Second Quarter 2013
Ambient Radiation	7/9/2012	10/8/2012	1/7/2013	4/8/2013
Air Particulate	Every Tuesday	Every Tuesday	Every Tuesday	Every Tuesday
Radon	7/18/2012	10/15/2012	1/15/2013	4/15/2013
Soil	7/9/2012	10/9/2012	1/14/2013	4/8/2013
Water	8/13/2012	11/12/2012	2/11/2013	5/13/2013
Vegetation	N/A	10/22/2012	N/A	5/13/2013
Fauna	N/A	N/A	N/A	N/A

Meteorological Data

Four weather stations monitor meteorological data in real time on the WCS Site. Locations of all WCS weather stations are provided on Figures 1 and 2. The WeatherHawk West station, which is located northwest of the By-product Landfill, is the closest station to the Type 1 wells. Daily rainfall data for July, 2012 for each of the four weather stations are provided in Table 4 and graphically illustrated in Figure 4.

2.1 OAG Groundwater Occurrence in the Vicinity of the FWF and CWF

The location of the dry line in July, 2012 is shown in Figures 5 and is substantially in the same location as represented in the license applications and as shown on the previously submitted monthly OAG maps. The zone of continuous saturation of the OAG north of the Federal Waste Facility (FWF) and Compact Waste Facility (CWF) Landfills is approximately in the same location. The southern extent of the zone of saturation extending from the playa north of the FWF/CWF toward the northeastern corner of the FWF remains in the same position as in June 2012. Water levels in the wells defining the zone of saturation did not increase or decrease by more than 1.0 foot during the reporting period.

OAG wells around the perimeter of the CWF remain dry with the exception of OAG-21 and OAG-22, which are located in the vicinity of the former small playa on the eastern boundary of the CWF. As discussed in the license application(s) and documentation presented to the TCEQ since 1994, water in the OAG was expected in the vicinity of the playa because it was a localized, closed surface depression. The water beneath the former small playa appears to be an isolated and localized lens of infiltrated surface water in the OAG formation. This lens of infiltrated surface water is being removed by pumping OAG-21.

Temporary observation wells OW-1 and OW-2 have been dry since installation in January, 2012. In early March, water was noted below the lowermost screen slots in OW-2. Based on field observations and free chlorine residual measurements of the

water, part or all of the water in OW-2 may be from the CWF tanks that contained clean potable water. The water in the tanks was discharged onto the ground and flowed south across the area where OW-1 and OW-2 were subsequently installed. The height of the water column in OW-2 averaged 0.49 feet in June and remains over 2.5 feet below the top of red beds. The well is considered dry.

TCEQ requested that WCS install three (3) additional temporary OAG observation wells (OW-3, OW-4, and OW-5) in a north-south line approximately 350 feet west of the FWF excavated cell area to monitor for the presence of water along the OAG/red bed contact. When installed and certified, monthly water level measurements for OW-3, OW-4, and OW-5 will be included in the August 2012 Type 3 wells list.

Six (6) additional OAG wells were installed in accordance with the requirements of Hazardous Waste Permit HW-50358. These wells are designated as Supplemental Wells (SW) SW-60 through SW-65. Beginning with the August 2012 OAG Water Level Report, water level measurements in these wells will also be included in the Type 3 wells list.

2.2 OAG Groundwater Occurrence in the Vicinity of the By-product Landfill

In July, 2012, the location of the dry line north of the By-product Landfill and saturated conditions in the OAG in the vicinity of the landfill are essentially the same as presented in the May, 2012 and earlier monthly OAG reports.

3.0 Water Level Trends

Water levels in the 292 wells installed in the OAG are currently measured on a monthly basis. Of the 292 wells, 204 are currently dry (unsaturated) and 88 have measureable water levels above the top of red beds (saturated). One (1) well, OAG-25 was damaged and water level measurements were not recorded. For this reporting period, zero (0) wells showed a significant change in water level between June and July.

4.0 Data Collected From Type 1 Wells

Type 1 wells are those with continuous water level measurements via transducers (Level TROLL) in the vicinity of the By-product Landfill. There are 18 Type 1 wells (See Table 3 and Figure 3). Individual comma-separate value (csv) files for the month of July 2012 at the Type 1 wells with continuous water level measurements are provided on the CD in Exhibit 1. The manual measurements recorded in Table 1 are used for monthly comparisons and for any OAG water level elevation interpretations, whereas the continuous Level TROLL data are used primarily for evaluation of monthly water level trends and responses to rainfall.

The continuous water level records for the Type 1 wells, TP-42, TP-43, ,TP-78, TP-86, TP-88, TP-90, TP-92, ,TP-141, TP-142, TP-143, TP-146, TP-148, TP-166, TP-167, TP-171, FWF-1A, FWF-26A, and FWF-27A are included in Exhibit 1.

TABLES

Table 1

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
A-16	05/20/99	40.60	3406.81	3444.39	3447.41	35.0	3409.39	07/03/12	Dry	Dry	Dry	Unsaturated
CWF-1A	02/10/08	28.59	3441.42	3468.80	3470.01	22.0	3446.80	07/02/12	28.41	3441.60	NA	Unsaturated
CWF-2A	06/07/11	29.60	3441.98	3468.40	3471.58	23.7	3444.70	07/12/12	29.60	3441.98	NA	Unsaturated
CWF-3A	06/07/11	34.30	3436.73	3467.90	3471.03	30.4	3437.50	07/02/12	Dry	Dry	Dry	Unsaturated
CWF-4A	02/09/08	34.10	3437.57	3467.50	3471.67	28.9	3438.60	07/02/12	Dry	Dry	Dry	Unsaturated
CWF-5A	06/08/11	21.32	3449.09	3467.20	3470.41	20.0	3447.19	07/02/12	Dry	Dry	Dry	Unsaturated
CWF-6A	06/08/11	28.46	3441.70	3466.90	3470.16	26.2	3440.69	07/02/12	28.56	3441.60	0.91	Saturated
CWF-7A	02/09/08	28.49	3440.36	3465.66	3468.85	22.5	3443.16	07/02/12	28.41	3440.44	NA	Unsaturated
CWF-8A	02/09/08	30.46	3442.98	3470.35	3473.44	25.0	3445.35	07/02/12	30.38	3443.06	NA	Unsaturated
CWF-10A	02/10/08	40.41	3437.56	3478.30	3477.97	37.9	3440.40	07/02/12	39.77	3438.20	NA	Unsaturated
CWF-11A	01/17/08	36.12	3441.70	3478.10	3477.82	34.5	3443.60	07/02/12	35.61	3442.21	NA	Unsaturated
CWF-12A	02/10/08	38.89	3439.75	3473.40	3478.64	30.3	3443.10	07/12/12	38.79	3439.85	NA	Unsaturated
CWF-13A	06/08/11	34.72	3438.69	3470.33	3473.41	23.1	3447.23	07/02/12	Dry	Dry	Dry	Unsaturated
CWF-110A	07/23/09	36.99	3441.80	3475.70	3478.79	32.5	3443.20	07/02/12	36.62	3442.17	NA	Unsaturated
FWF-1A	02/05/08	31.17	3443.58	3471.70	3474.75	25.4	3446.30	07/02/12	27.94	3446.81	0.52	Saturated
FWF-6A	02/06/08	28.04	3445.14	3469.89	3473.18	22.9	3446.99	07/02/12	23.68	3449.50	2.52	Saturated
FWF-8A	02/11/08	21.61	3449.60	3467.81	3471.21	16.8	3451.01	07/02/12	Dry	Dry	Dry	Unsaturated
FWF-9A	07/12/11	22.16	3450.19	3469.14	3472.35	16.6	3452.54	07/06/12	21.59	3450.76	NA	Unsaturated
FWF-10A	02/06/08	20.44	3453.60	3468.90	3474.04	17.4	3451.50	07/06/12	19.95	3454.09	NA	Unsaturated
FWF-11A	07/12/11	23.58	3448.69	3468.88	3472.27	17.7	3451.18	07/06/12	23.24	3449.03	NA	Unsaturated
FWF-12A	07/13/11	25.01	3447.68	3469.00	3472.69	20.2	3448.80	07/06/12	24.53	3448.16	NA	Unsaturated
FWF-13A	07/12/11	28.19	3444.13	3468.90	3472.32	23.1	3445.80	07/06/12	28.04	3444.28	NA	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
FWF-14A	02/11/08	29.67	3444.03	3469.40	3473.70	16.4	3453.00	07/06/12	29.29	3444.41	NA	Unsaturated
FWF-15A	07/12/11	32.68	3440.09	3469.50	3472.77	27.2	3442.30	07/06/12	32.32	3440.45	NA	Unsaturated
FWF-16A	02/11/08	35.53	3442.56	3473.00	3478.09	28.0	3445.00	07/06/12	35.17	3442.92	NA	Unsaturated
FWF-17A	02/10/08	37.39	3439.87	3477.40	3477.26	35.0	3442.40	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-18A	08/02/11	48.74	3434.63	3480.48	3483.37	41.2	3439.28	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-20A	03/20/09	45.72	3435.79	3482.00	3481.51	43.6	3438.40	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-21A	01/18/08	49.82	3434.85	3484.40	3484.67	46.9	3437.50	07/06/12	49.73	3434.94	NA	Unsaturated
FWF-22A	03/26/09	49.36	3437.68	3486.90	3487.04	48.2	3438.70	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-23A	01/18/08	54.40	3432.18	3486.50	3486.58	52.6	3433.90	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-24A	01/18/08	45.79	3437.58	3483.20	3483.37	43.6	3439.60	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-25A	07/30/09	45.88	3440.54	3483.05	3486.42	38.9	3444.15	07/06/12	Dry	Dry	Dry	Unsaturated
FWF-26A	02/06/08	41.79	3440.93	3479.40	3482.72	36.0	3443.40	07/02/12	41.69	3441.03	NA	Unsaturated
FWF-27A	02/06/08	36.51	3442.65	3475.02	3479.28	29.3	3445.72	07/02/12	33.66	3445.62	NA	Unsaturated
GW-1A	02/02/10	65.24	3408.95	3471.69	3474.19	53.4	3418.29	07/05/12	50.59	3423.60	5.31	Saturated
GW-3	12/02/09	20.21	3445.82	3462.95	3466.03	16.4	3446.55	07/03/12	19.96	3446.07	NA	Unsaturated
GW-5	12/02/09	50.27	3431.03	3478.39	3481.30	44.4	3433.99	07/06/12	46.24	3435.06	1.07	Saturated
OAG-1	07/13/11	29.19	3444.67	3470.72	3473.86	23.7	3447.02	07/06/12	28.90	3444.96	NA	Unsaturated
OAG-2	07/13/11	40.04	3435.19	3471.90	3475.23	34.9	3437.00	07/06/12	39.57	3435.66	NA	Unsaturated
OAG-3	07/13/11	32.90	3445.19	3474.57	3478.09	27.1	3447.47	07/06/12	32.61	3445.48	NA	Unsaturated
OAG-4	07/13/11	36.04	3443.31	3476.18	3479.35	30.7	3445.48	07/06/12	35.93	3443.42	NA	Unsaturated
OAG-5	09/22/11	35.33	3443.20	3478.75	3478.53	33.5	3445.25	07/05/12	35.16	3443.37	NA	Unsaturated
OAG-7	03/20/09	43.98	3436.98	3481.00	3480.96	41.3	3439.70	07/06/12	43.95	3437.01	NA	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
OAG-8	12/18/08	53.60	3433.39	3483.64	3486.99	49.0	3434.64	07/05/12	Dry	Dry	Dry	Unsaturated
OAG- 9	03/26/09	53.81	3433.38	3484.02	3487.19	48.3	3435.72	07/25/12	53.72	3433.47	NA	Unsaturated
OAG-10	03/20/09	58.30	3429.75	3484.76	3488.05	51.4	3433.36	07/25/12	58.20	3429.85	NA	Unsaturated
OAG-12R	08/16/11	54.65	3431.75	3486.08	3486.40	49.6	3436.48	07/25/12	Dry	Dry	Dry	Unsaturated
OAG-13	03/26/09	51.18	3435.82	3487.00	3487.00	48.2	3438.80	07/25/12	Dry	Dry	Dry	Unsaturated
OAG-14	03/26/09	48.03	3437.96	3485.80	3485.99	45.3	3440.50	07/25/12	Dry	Dry	Dry	Unsaturated
OAG-15	03/26/09	47.00	3438.49	3485.37	3485.49	45.0	3440.37	07/25/12	Dry	Dry	Dry	Unsaturated
OAG-20	06/21/11	26.25	3444.07	3466.80	3470.32	19.6	3447.20	07/02/12	26.12	3444.20	NA	Unsaturated
OAG-21	06/21/11	35.18	3436.39	3468.50	3471.57	28.8	3439.70	07/02/12	29.01	3442.56	2.86	Saturated
OAG-21	06/21/11	35.18	3436.39	3468.50	3471.57	28.8	3439.70	07/26/12	29.06	3442.51	2.81	Post Sampling Saturated
OAG-22	06/21/11	34.27	3438.74	3469.80	3473.01	26.9	3442.90	07/02/12	29.05	3443.96	1.06	Saturated
OAG-22	06/21/11	34.27	3438.74	3469.80	3473.01	26.9	3442.90	07/26/12	33.10	3439.91	NA	Post Sampling Unsaturated
OAG-23	06/23/11	36.82	3439.15	3472.20	3475.97	31.1	3441.10	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-24	06/23/11	37.06	3437.69	3474.80	3474.75	32.2	3442.65	07/02/12	37.04	3437.71	NA	Unsaturated
OAG-25	12/18/08	42.84	3437.45	3476.20	3480.29	37.0	3439.20	NM	NM	NM	NM	To Be Replaced
OAG-26	12/18/08	49.58	3428.67	3478.44	3478.25	47.1	3431.34	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-27	12/18/08	48.89	3429.23	3478.32	3478.12	47.7	3430.62	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-28	12/18/08	42.36	3436.22	3478.71	3478.58	40.3	3438.41	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-29	12/18/08	36.83	3441.94	3478.74	3478.77	34.4	3444.34	07/02/12	36.55	3442.22	NA	Unsaturated
OAG-34	06/22/11	39.21	3438.83	3478.10	3478.04	35.6	3442.50	07/02/12	35.97	3442.07	NA	Unsaturated
OAG-35	06/22/11	36.60	3441.59	3477.60	3478.19	33.3	3444.30	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-36	10/04/11	36.02	3441.98	3476.50	3478.00	32.5	3444.00	07/02/12	Dry	Dry	Dry	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
OAG-37	06/22/11	39.96	3440.25	3476.80	3480.21	34.7	3442.10	07/02/12	39.86	3440.35	NA	Unsaturated
OAG-38	06/22/11	38.33	3439.90	3475.20	3478.23	32.5	3442.70	07/02/12	38.26	3439.97	NA	Unsaturated
OAG-39	06/21/11	40.18	3435.19	3472.50	3475.37	35.3	3437.20	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-40	06/21/11	37.51	3437.05	3471.20	3474.56	31.7	3439.50	07/02/12	Dry	Dry	Dry	Unsaturated
OAG-41	06/21/11	37.34	3442.73	3480.18	3480.07	35.4	3444.78	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-42	06/21/11	48.77	3435.68	3480.82	3484.45	41.6	3439.22	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-43	06/21/11	48.76	3435.84	3481.48	3484.60	42.0	3439.48	07/05/12	48.68	3435.92	NA	Unsaturated
OAG-45	06/21/11	48.30	3434.31	3482.39	3482.61	47.4	3434.99	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-47	06/21/11	48.32	3435.97	3484.46	3484.29	46.1	3438.36	07/05/12	47.91	3436.38	NA	Unsaturated
OAG-48	06/21/11	50.67	3435.18	3485.59	3485.85	48.3	3437.29	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-49	06/21/11	54.22	3432.55	3486.36	3486.77	51.5	3434.86	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-50	06/21/11	45.88	3439.16	3484.80	3485.04	41.8	3443.00	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-51	06/21/11	43.96	3440.88	3484.64	3484.84	41.8	3442.84	07/05/12	Dry	Dry	Dry	Unsaturated
OAG-52	06/21/11	43.22	3440.41	3483.69	3483.63	41.8	3441.89	07/05/12	Dry	Dry	Dry	Unsaturated
OW-1	01/04/12	27.83	3442.48	3470.76	3470.31	25.0	3445.76	07/06/12	Dry	Dry	Dry	Unsaturated
OW-2	01/04/12	28.65	3439.83	3468.88	3468.48	26.0	3442.88	07/06/12	28.16	3440.32	NA	Unsaturated
PM-01	08/01/01	61.41	3427.93	3485.52	3489.34	55.0	3430.52	07/06/12	56.49	3432.85	2.33	Saturated
PM-04	08/03/01	61.74	3428.98	3486.72	3490.72	51.0	3435.72	07/06/12	Dry	Dry	Dry	Unsaturated
PM-07	09/06/01	54.32	3429.34	3479.55	3483.66	unk	unk	07/06/12	53.55	3430.11	NA	Unsaturated
PM-10	09/10/01	36.51	3439.00	3471.13	3475.51	33.5	3437.63	07/06/12	Dry	Dry	Dry	Unsaturated
PW-01	05/26/09	61.21	3419.84	3478.63	3481.05	60.0	3418.63	07/19/12	50.87	3430.18	11.55	Saturated
PW-07	05/29/09	82.00	3409.08	3487.02	3491.08	80.0	3407.02	07/19/12	63.10	3427.98	20.96	Saturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
PZ-1	03/22/99	119.89	3422.09	3541.64	3541.98	101.0	3440.64	07/19/12	75.86	3466.12	25.48	Saturated
PZ-2	03/22/99	79.42	3438.85	3517.97	3518.27	88.0	3429.97	07/19/12	73.30	3444.97	15.00	Saturated
PZ-3	03/23/99	79.78	3411.60	3491.19	3491.38	62.0	3429.19	07/19/12	57.45	3433.93	4.74	Saturated
PZ-4	04/06/99	103.88	3408.52	3511.73	3512.40	109.5	3402.23	07/19/12	Dry	Dry	Dry	Unsaturated
PZ-5	03/23/99	94.83	3397.35	3491.28	3492.18	80.0	3411.28	07/19/12	84.17	3408.01	NA	Unsaturated
PZ-6	03/24/99	78.33	3388.75	3466.28	3467.08	65.0	3401.28	07/19/12	63.53	3403.55	2.27	Saturated
PZ-7	03/25/99	69.23	3387.33	3455.87	3456.56	55.0	3400.87	07/19/12	69.03	3387.53	NA	Unsaturated
PZ-8	03/23/99	69.76	3420.73	3490.85	3490.49	59.0	3431.85	07/03/12	Dry	Dry	Dry	Unsaturated
PZ-9	03/24/99	79.97	3404.13	3483.48	3484.10	66.0	3417.48	07/20/12	58.39	3425.71	8.23	Saturated
PZ-10	03/24/99	94.74	3390.67	3484.93	3485.41	80.0	3404.93	07/19/12	74.04	3411.37	6.44	Saturated
PZ-11	03/24/99	80.25	3370.16	3449.91	3450.41	65.0	3384.91	07/19/12	63.78	3386.63	1.72	Saturated
PZ-12	03/25/99	89.40	3340.83	3429.64	3430.23	75.0	3354.64	07/19/12	61.60	3368.63	13.99	Saturated
PZ-13	03/25/99	89.13	3380.71	3469.25	3469.84	75.0	3394.25	07/19/12	56.70	3413.14	18.89	Saturated
PZ-14	03/25/99	84.10	3402.93	3486.30	3487.03	71.0	3415.30	07/19/12	61.50	3425.53	10.23	Saturated
PZ-15	03/26/99	94.93	3353.55	3447.93	3448.48	80.0	3367.93	07/19/12	Dry	Dry	Dry	Unsaturated
PZ-16	03/23/99	76.78	3442.91	3519.37	3519.69	75.0	3444.37	07/19/12	68.70	3450.99	6.62	Saturated
PZ-17	04/07/99	93.33	3372.77	3465.46	3466.10	85.0	3380.46	07/19/12	83.78	3382.32	1.86	Saturated
PZ-18	04/07/99	75.89	3406.97	3482.36	3482.86	71.0	3411.36	07/19/12	65.15	3417.71	6.35	Saturated
PZ-19	04/15/99	117.68	3315.52	3432.45	3433.20	105.0	3327.45	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-20	04/05/99	100.11	3341.51	3440.92	3441.62	96.0	3344.92	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-21	03/30/99	69.85	3332.61	3401.98	3402.46	65.0	3336.98	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-22	pre- 6/25/99	108.02	3286.38	3393.70	3394.40	115.0	3278.70	07/18/12	Dry	Dry	Dry	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
PZ-23	pre- 6/25/99	102.66	3310.82	3412.63	3413.48	102.0	3310.63	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-24	pre- 6/25/99	79.85	3337.61	3417.28	3417.46	85.0	3332.28	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-25	03/31/99	44.33	3367.23	3411.18	3411.56	41.0	3370.18	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-26	03/30/99	54.91	3380.16	3434.37	3435.07	46.0	3388.37	07/18/12	38.07	3397.00	8.63	Saturated
PZ-27	03/30/99	49.79	3357.17	3406.31	3406.96	45.0	3361.31	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-28	03/31/99	69.40	3307.33	3376.13	3376.73	65.0	3311.13	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-29	03/31/99	84.02	3301.64	3385.00	3385.66	80.0	3305.00	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-30	04/05/99	38.28	3379.17	3416.73	3417.45	35.0	3381.73	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-31	03/29/99	59.45	3402.65	3461.59	3462.10	54.0	3407.59	07/18/12	Dry	Dry	Dry	Unsaturated
PZ-32	03/29/99	100.13	3384.81	3484.49	3484.94	88.0	3396.49	07/18/12	70.60	3414.34	17.85	Saturated
PZ-33	03/29/99	82.66	3393.29	3475.12	3475.95	75.0	3400.12	07/18/12	63.25	3412.70	12.58	Saturated
PZ-34	03/29/99	54.86	3378.71	3432.93	3433.57	40.0	3392.93	07/18/12	35.15	3398.42	5.49	Saturated
PZ-36	07/20/05	78.98	3419.51	3494.79	3498.49	75.0	3419.79	07/03/12	Dry	Dry	Dry	Unsaturated
PZ-37	07/18/05	74.90	3438.81	3510.20	3513.71	72.0	3438.20	07/19/12	71.22	3442.49	0.78	Saturated
PZ-38	07/19/05	110.83	3393.14	3500.72	3503.97	106.5	3394.22	07/19/12	98.31	3405.66	11.44	Saturated
PZ-39	07/22/05	88.45	3414.75	3499.09	3503.20	84.0	3415.09	07/19/12	Dry	Dry	Dry	Unsaturated
PZ-40	07/23/05	95.10	3419.89	3512.59	3514.99	92.0	3420.59	07/19/12	80.95	3434.04	13.45	Saturated
PZ-41	01/21/08	50.49	3382.35	3429.87	3432.84	44.9	3384.97	07/03/12	Dry	Dry	Dry	Unsaturated
PZ-42	01/21/08	27.55	3447.00	3471.51	3474.55	22.8	3448.71	07/03/12	27.33	3447.22	NA	Unsaturated
PZ-43	01/21/08	54.58	3429.62	3481.16	3484.20	49.5	3431.66	07/03/12	51.73	3432.47	0.81	Saturated
PZ-44	01/22/08	82.98	3416.90	3496.59	3499.88	77.1	3419.49	07/19/12	76.38	3423.50	4.01	Saturated
PZ-45	01/22/08	37.83	3457.77	3492.55	3495.60	32.0	3460.55	07/03/12	Dry	Dry	Dry	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
PZ-46	01/23/08	93.83	3412.04	3502.38	3505.87	87.4	3414.98	07/19/12	90.15	3415.72	0.73	Saturated
PZ-47	01/24/08	92.22	3411.56	3500.60	3503.78	87.0	3413.60	07/19/12	86.53	3417.25	3.65	Saturated
PZ-48R	01/14/11	82.80	3417.49	3496.93	3500.29	74.3	3422.63	07/19/12	77.86	3422.43	NA	Unsaturated
PZ-49	01/15/08	70.61	3423.04	3490.56	3493.65	65.0	3425.56	07/03/12	59.89	3433.76	8.21	Saturated
PZ-50	01/16/08	83.07	3409.13	3489.01	3492.20	77.0	3412.01	07/19/12	74.62	3417.58	5.57	Saturated
PZ-51	01/15/08	84.22	3410.20	3491.00	3494.42	78.5	3412.50	07/19/12	71.61	3422.81	10.31	Saturated
PZ-52	01/17/08	91.95	3408.77	3497.63	3500.72	87.1	3410.53	07/19/12	74.44	3426.28	15.75	Saturated
PZ-53	01/17/08	93.72	3388.42	3479.00	3482.14	88.5	3390.50	07/19/12	Dry	Dry	Dry	Unsaturated
PZ-54	01/30/08	113.69	3373.47	3484.09	3487.16	107.3	3376.79	07/19/12	102.04	3385.12	8.34	Saturated
PZ-55	01/30/08	79.42	3415.07	3491.50	3494.49	73.5	3418.00	07/19/12	73.84	3420.65	2.64	Saturated
PZ-56	02/01/08	90.31	3410.60	3497.52	3500.91	84.3	3413.22	07/25/12	87.31	3413.60	0.38	Saturated
PZ-57	01/23/08	99.56	3415.44	3511.79	3515.00	93.5	3418.29	07/19/12	94.96	3420.04	1.74	Saturated
PZ-58	01/31/08	125.97	3382.71	3505.88	3508.68	120.5	3385.38	07/19/12	103.63	3405.05	19.67	Saturated
PZ-59	01/31/08	79.66	3429.03	3505.23	3508.69	73.3	3431.93	07/19/12	77.68	3431.01	NA	Unsaturated
PZ-60	02/04/08	93.67	3403.94	3494.48	3497.61	87.4	3407.08	07/19/12	87.63	3409.98	2.90	Saturated
PZ-61	02/20/08	26.01	3444.56	3467.38	3470.57	20.6	3446.78	07/03/12	25.90	3444.67	NA	Unsaturated
PZ-62	02/20/08	32.55	3413.89	3443.15	3446.44	27.5	3415.65	07/03/12	32.54	3413.90	NA	Unsaturated
PZ-63	02/20/08	30.22	3417.35	3444.30	3447.57	23.1	3421.20	07/03/12	Dry	Dry	Dry	Unsaturated
PZ-64	02/20/08	30.41	3423.45	3450.64	3453.86	25.8	3424.84	07/03/12	Dry	Dry	Dry	Unsaturated
PZ-66	04/03/09	29.65	3448.64	3475.53	3478.29	24.1	3451.43	07/03/12	29.61	3448.68	NA	Unsaturated
PZ-67	04/03/09	34.17	3446.38	3477.60	3480.55	28.5	3449.10	07/03/12	Dry	Dry	Dry	Unsaturated
TMW-B	05/07/08	41.86	3391.66	3430.40	3433.52	36.7	3393.70	07/05/12	30.54	3402.98	9.28	Saturated

Table 1. OAG Water Levels
July 2012

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TMW-C	05/07/08	27.47	3405.03	3429.31	3432.50	21.2	3408.11	07/05/12	27.28	3405.22	NA	Unsaturated
TMW-D	05/07/08	33.71	3395.55	3426.25	3429.26	27.3	3398.95	07/05/12	23.38	3405.88	6.93	Saturated
TMW-E	05/07/08	30.13	3416.74	3443.67	3446.87	25.6	3418.07	07/02/12	30.01	3416.86	NA	Unsaturated
TMW-F	05/07/08	32.24	3408.67	3437.84	3440.91	27.1	3410.74	07/02/12	32.12	3408.79	NA	Unsaturated
TMW-G	05/07/08	35.98	3408.32	3441.20	3444.30	30.8	3410.40	07/02/12	35.91	3408.39	NA	Unsaturated
TMW-H	08/28/08	41.33	3388.96	3427.63	3430.29	35.2	3392.43	07/05/12	25.56	3404.73	12.30	Saturated
TMW-I	03/20/09	31.89	3397.98	3427.00	3429.87	25.8	3401.20	07/05/12	23.23	3406.64	5.45	Saturated
TMW-J	03/26/09	37.31	3393.78	3428.13	3431.09	30.7	3397.43	07/05/12	25.78	3405.31	7.87	Saturated
TMW-K	12/02/09	48.99	3385.71	3431.94	3434.70	43.0	3388.94	07/05/12	39.93	3394.77	5.83	Saturated
TP-12	09/08/01	60.91	3431.71	3489.32	3492.62	56.0	3433.32	07/05/12	59.72	3432.90	NA	Unsaturated
TP-13	09/08/01	45.62	3436.06	3478.64	3481.68	42.5	3436.14	07/05/12	Dry	Dry	Dry	Unsaturated
TP-14	01/13/04	54.94	3424.61	3476.51	3479.55	51.5	3425.01	07/05/12	49.28	3430.27	5.26	Saturated
TP-14	01/13/04	54.94	3424.61	3476.51	3479.55	51.5	3425.01	07/10/12	49.64	3429.91	4.90	Post Sampling Saturated
TP-15	10/09/05	64.89	3423.55	3484.92	3488.44	58.0	3426.92	07/05/12	57.94	3430.50	3.58	Saturated
TP-16	10/09/05	57.97	3433.95	3488.48	3491.92	54.0	3434.48	07/03/12	57.93	3433.99	NA	Unsaturated
TP-17	11/08/05	53.76	3436.44	3487.21	3490.20	49.0	3438.21	07/05/12	Dry	Dry	Dry	Unsaturated
TP-18	10/09/05	62.18	3426.16	3485.45	3488.34	58.0	3427.45	07/03/12	57.61	3430.73	3.28	Saturated
TP-18	10/09/05	62.18	3426.16	3485.45	3488.34	58.0	3427.45	07/10/12	60.98	3427.36	NA	Post Sampling Unsaturated
TP-19	11/08/05	52.69	3427.57	3477.40	3480.26	47.0	3430.40	07/03/12	48.80	3431.46	1.06	Saturated
TP-19	11/08/05	52.69	3427.57	3477.40	3480.26	47.0	3430.40	07/10/12	48.85	3431.41	1.01	Post Sampling Saturated
TP-20	11/08/05	67.01	3425.52	3489.72	3492.53	62.0	3427.72	07/05/12	66.75	3425.78	NA	Unsaturated
TP-30	11/08/05	53.32	3432.21	3482.68	3485.53	47.0	3435.68	07/05/12	Dry	Dry	Dry	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
TP-31	10/09/05	44.03	3433.12	3473.80	3477.15	40.5	3433.30	07/06/12	43.57	3433.58	0.28	Saturated
TP-32	11/08/05	55.19	3431.88	3483.56	3487.07	50.0	3433.56	07/05/12	Dry	Dry	Dry	Unsaturated
TP-33	11/08/05	55.18	3431.10	3483.47	3486.28	51.0	3432.47	07/05/12	Dry	Dry	Dry	Unsaturated
TP-34	11/08/05	51.85	3433.76	3482.41	3485.61	47.0	3435.41	07/05/12	Dry	Dry	Dry	Unsaturated
TP-35	11/08/05	55.45	3433.96	3486.92	3489.41	52.0	3434.92	07/05/12	Dry	Dry	Dry	Unsaturated
TP-36	11/08/05	57.45	3429.52	3483.77	3486.97	53.0	3430.77	07/03/12	56.59	3430.38	NA	Unsaturated
TP-37	11/08/05	56.95	3431.37	3485.32	3488.32	52.5	3432.82	07/05/12	Dry	Dry	Dry	Unsaturated
TP-38	11/08/05	48.77	3429.16	3477.70	3477.93	47.2	3430.50	07/02/12	Dry	Dry	Dry	Unsaturated
TP-39	11/08/05	41.84	3435.87	3477.90	3477.71	41.4	3436.50	07/02/12	Dry	Dry	Dry	Unsaturated
TP-41	02/21/06	44.43	3441.11	3482.46	3485.54	39.0	3443.46	07/06/12	Dry	Dry	Dry	Unsaturated
TP-42	02/21/06	41.62	3440.04	3478.70	3481.66	37.0	3441.70	07/05/12	35.91	3445.75	4.05	Saturated
TP-43	02/21/06	24.57	3446.73	3471.57	3471.30	22.3	3449.27	07/06/12	19.20	3452.10	2.83	Saturated
TP-44	02/21/06	15.05	3443.09	3455.57	3458.14	10.0	3445.57	07/05/12	Dry	Dry	Dry	Unsaturated
TP-45	02/21/06	20.38	3435.97	3453.35	3456.35	14.0	3439.35	07/05/12	20.19	3436.16	NA	Unsaturated
TP-46	02/21/06	34.91	3405.59	3437.31	3440.50	30.0	3407.31	07/05/12	33.85	3406.65	NA	Unsaturated
TP-46	02/21/06	34.91	3405.59	3437.31	3440.50	30.0	3407.31	07/11/12	34.51	3405.99	NA	Post Sampling Unsaturated
TP-47	02/21/06	69.03	3367.38	3433.32	3436.41	64.0	3369.32	07/05/12	Dry	Dry	Dry	Unsaturated
TP-48	02/22/06	50.14	3427.56	3474.78	3477.70	42.0	3432.78	07/05/12	45.91	3431.79	NA	Unsaturated
TP-49	02/22/06	48.12	3429.29	3474.25	3477.41	42.0	3432.25	07/05/12	47.32	3430.09	NA	Unsaturated
TP-62	01/10/08	52.18	3380.54	3429.56	3432.72	46.3	3383.26	07/03/12	34.51	3398.21	14.95	Saturated
TP-63	01/10/08	25.60	3437.59	3460.47	3463.19	19.3	3441.17	07/03/12	21.68	3441.51	0.33	Saturated
TP-64	01/11/08	70.81	3433.99	3502.08	3504.80	65.3	3436.78	07/05/12	70.60	3434.20	NA	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
TP-65	01/11/08	57.68	3436.07	3490.40	3493.75	52.5	3437.90	07/05/12	57.50	3436.25	NA	Unsaturated
TP-66	01/10/08	57.78	3430.88	3485.45	3488.66	51.0	3434.45	07/05/12	Dry	Dry	Dry	Unsaturated
TP-67	01/11/08	61.55	3425.94	3484.35	3487.49	55.8	3428.55	07/05/12	58.79	3428.70	0.16	Saturated
TP-68	01/10/08	70.85	3418.32	3485.95	3489.17	64.0	3421.95	07/05/12	65.68	3423.49	1.55	Saturated
TP-70	02/04/08	39.16	3435.51	3471.53	3474.67	33.5	3438.03	07/05/12	Dry	Dry	Dry	Unsaturated
TP-71	02/04/08	57.08	3425.10	3479.14	3482.18	51.3	3427.84	07/05/12	52.09	3430.09	2.25	Saturated
TP-75	02/07/08	23.33	3450.26	3470.10	3473.59	17.4	3452.70	07/05/12	23.27	3450.32	NA	Unsaturated
TP-76	02/07/08	53.42	3436.78	3487.06	3490.20	47.1	3439.96	07/05/12	Dry	Dry	Dry	Unsaturated
TP-77	02/07/08	51.30	3436.09	3484.19	3487.39	45.4	3438.79	07/03/12	46.65	3440.74	1.95	Saturated
TP-78	02/07/08	27.87	3447.88	3472.41	3475.75	22.7	3449.71	07/05/12	24.91	3450.84	1.13	Saturated
TP-79	02/07/08	15.97	3441.57	3454.27	3457.54	10.7	3443.57	07/05/12	Dry	Dry	Dry	Unsaturated
TP-80	02/09/08	45.55	3402.79	3445.11	3448.34	39.4	3405.71	07/03/12	41.10	3407.24	1.53	Saturated
TP-83	02/11/08	55.55	3435.60	3487.77	3491.15	49.8	3437.97	07/03/12	55.06	3436.09	NA	Unsaturated
TP-84	02/12/08	65.24	3429.59	3491.56	3494.83	58.7	3432.86	07/05/12	65.03	3429.80	NA	Unsaturated
TP-85	02/12/08	40.49	3445.22	3482.54	3485.71	34.0	3448.54	07/03/12	40.34	3445.37	NA	Unsaturated
TP-86	03/04/08	33.67	3445.53	3476.00	3479.20	27.3	3448.70	07/05/12	30.21	3448.99	0.29	Saturated
TP-87	03/15/08	49.02	3438.47	3484.17	3487.49	43.3	3440.87	07/03/12	46.22	3441.27	0.40	Saturated
TP-88	03/12/08	26.95	3447.93	3471.85	3474.88	22.5	3449.35	07/05/12	25.99	3448.89	NA	Unsaturated
TP-90	03/14/08	38.50	3443.47	3478.51	3481.97	32.5	3446.01	07/05/12	34.60	3447.37	1.35	Saturated
TP-91	03/14/08	39.89	3442.16	3478.85	3482.05	34.7	3444.15	07/05/12	39.74	3442.31	NA	Unsaturated
TP-92	03/15/08	39.96	3443.20	3479.97	3483.16	35.2	3444.77	07/05/12	39.50	3443.66	NA	Unsaturated
TP-93	09/30/08	67.32	3423.52	3487.60	3490.84	61.6	3426.00	07/03/12	60.16	3430.68	4.68	Saturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
TP-94	09/30/08	62.39	3426.98	3485.81	3489.37	57.8	3428.01	07/03/12	58.74	3430.63	2.63	Saturated
TP-95	09/30/08	61.95	3429.41	3487.89	3491.36	56.6	3431.29	07/03/12	61.81	3429.55	NA	Unsaturated
TP-96	09/30/08	59.39	3430.69	3486.88	3490.08	54.2	3432.68	07/03/12	Dry	Dry	Dry	Unsaturated
TP-97	10/01/08	63.98	3427.11	3487.85	3491.09	59.3	3428.55	07/03/12	60.38	3430.71	2.16	Saturated
TP-98	10/01/08	66.81	3424.50	3487.99	3491.31	61.8	3426.19	07/03/12	60.69	3430.62	4.43	Saturated
TP-99	10/01/08	63.91	3427.22	3487.98	3491.13	59.6	3428.38	07/03/12	60.64	3430.49	2.10	Saturated
TP-100	10/02/08	59.94	3425.48	3482.44	3485.42	55.6	3426.84	07/03/12	54.74	3430.68	3.84	Saturated
TP-101	12/12/08	55.28	3432.53	3484.57	3487.81	50.2	3434.37	07/05/12	55.24	3432.57	NA	Unsaturated
TP-102	12/12/08	41.11	3439.72	3481.07	3480.83	39.6	3441.47	07/05/12	Dry	Dry	Dry	Unsaturated
TP-103	12/12/08	60.80	3430.47	3487.94	3491.27	56.6	3431.34	07/19/12	60.77	3430.50	NA	Unsaturated
TP-104	12/12/08	58.66	3430.91	3486.38	3489.57	53.3	3433.08	07/03/12	Dry	Dry	Dry	Unsaturated
TP-105	12/12/08	53.88	3428.88	3479.37	3482.76	47.8	3431.57	07/03/12	52.58	3430.18	NA	Unsaturated
TP-106	12/12/08	56.75	3428.44	3481.72	3485.19	51.3	3430.42	07/03/12	Dry	Dry	Dry	Unsaturated
TP-107	12/12/08	52.91	3428.58	3478.17	3481.49	47.5	3430.67	07/03/12	Dry	Dry	Dry	Unsaturated
TP-108	12/12/08	52.99	3430.22	3479.85	3483.21	48.6	3431.25	07/03/12	52.95	3430.26	NA	Unsaturated
TP-109	12/12/08	53.11	3427.66	3477.54	3480.77	47.1	3430.44	07/03/12	Dry	Dry	Dry	Unsaturated
TP-110	12/12/08	54.62	3429.54	3480.82	3484.16	49.3	3431.52	07/05/12	Dry	Dry	Dry	Unsaturated
TP-111	12/12/08	56.96	3422.39	3476.04	3479.35	51.3	3424.74	07/03/12	51.04	3428.31	3.58	Saturated
TP-112	12/18/08	54.03	3429.87	3480.44	3483.90	47.6	3432.84	07/05/12	Dry	Dry	Dry	Unsaturated
TP-113	12/12/08	41.30	3434.82	3472.57	3476.12	35.7	3436.87	07/03/12	Dry	Dry	Dry	Unsaturated
TP-114	12/12/08	37.20	3437.86	3471.71	3475.06	31.6	3440.11	07/03/12	37.12	3437.94	NA	Unsaturated
TP-115	12/12/08	28.78	3443.46	3469.12	3472.24	23.6	3445.52	07/03/12	28.62	3443.62	NA	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
TP-116	12/18/08	27.97	3444.64	3469.26	3472.61	22.5	3446.76	07/03/12	27.82	3444.79	NA	Unsaturated
TP-117	12/18/08	29.44	3434.56	3460.46	3464.00	24.0	3436.46	07/03/12	22.23	3441.77	5.31	Saturated
TP-118	12/18/08	57.47	3426.35	3480.44	3483.82	51.8	3428.64	07/03/12	52.95	3430.87	2.23	Saturated
TP-119	12/18/08	46.69	3431.58	3474.88	3478.27	41.3	3433.58	07/03/12	46.64	3431.63	NA	Unsaturated
TP-120	12/18/08	54.55	3429.59	3480.87	3484.14	49.2	3431.67	07/03/12	Dry	Dry	Dry	Unsaturated
TP-121	12/18/08	54.54	3427.65	3478.91	3482.19	49.1	3429.81	07/03/12	54.49	3427.70	NA	Unsaturated
TP-122	12/18/08	51.62	3426.14	3474.38	3477.76	46.2	3428.18	07/06/12	50.55	3427.21	NA	Unsaturated
TP-123	12/18/08	52.95	3423.09	3472.59	3476.04	43.3	3429.29	07/06/12	Dry	Dry	Dry	Unsaturated
TP-124	12/18/08	33.30	3440.26	3470.15	3473.56	27.3	3442.85	07/06/12	33.03	3440.53	NA	Unsaturated
TP-125	12/18/08	32.59	3439.18	3468.17	3471.77	26.8	3441.37	07/06/12	Dry	Dry	Dry	Unsaturated
TP-126	12/18/08	26.49	3441.22	3464.33	3467.71	21.1	3443.23	07/06/12	Dry	Dry	Dry	Unsaturated
TP-127	12/18/08	42.10	3440.45	3479.00	3482.55	36.6	3442.40	07/03/12	41.93	3440.62	NA	Unsaturated
TP-128	01/09/09	30.24	3441.13	3468.03	3471.37	24.9	3443.13	07/06/12	30.24	3441.13	NA	Unsaturated
TP-129	01/09/09	42.62	3435.26	3478.00	3477.88	40.5	3437.50	07/02/12	42.20	3435.68	NA	Unsaturated
TP-130	01/09/09	40.87	3437.21	3478.32	3478.08	39.9	3438.42	07/02/12	40.64	3437.44	NA	Unsaturated
TP-131	01/09/09	37.75	3439.18	3477.00	3476.93	37.4	3439.60	07/02/12	Dry	Dry	Dry	Unsaturated
TP-132	03/20/09	53.77	3433.43	3484.14	3487.20	47.9	3436.24	07/25/12	Dry	Dry	Dry	Unsaturated
TP-133	03/20/09	61.79	3429.91	3488.54	3491.70	55.9	3432.64	07/25/12	61.67	3430.03	NA	Unsaturated
TP-134	03/20/09	60.17	3434.85	3491.96	3495.02	55.0	3436.96	07/25/12	Dry	Dry	Dry	Unsaturated
TP-135	03/20/09	53.87	3435.96	3486.72	3489.83	47.3	3439.42	07/25/12	53.83	3436.00	NA	Unsaturated
TP-136	03/20/09	55.21	3438.01	3490.17	3493.22	50.5	3439.67	07/25/12	55.09	3438.13	NA	Unsaturated
TP-137	03/20/09	56.41	3434.73	3488.00	3491.14	51.5	3436.50	07/19/12	56.38	3434.76	NA	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
TP-138	03/20/09	60.08	3430.66	3487.63	3490.74	55.6	3432.03	07/06/12	59.94	3430.80	NA	Unsaturated
TP-139	03/20/09	61.58	3426.23	3484.54	3487.81	55.8	3428.74	07/06/12	59.98	3427.83	NA	Unsaturated
TP-140	03/20/09	22.04	3448.63	3470.85	3470.67	19.8	3451.05	07/06/12	20.63	3450.04	NA	Unsaturated
TP-141	03/20/09	24.02	3446.37	3470.56	3470.39	21.3	3449.26	07/06/12	19.15	3451.24	1.98	Saturated
TP-142	03/26/09	21.82	3448.56	3470.60	3470.38	19.9	3450.70	07/06/12	18.62	3451.76	1.06	Saturated
TP-143	03/26/09	21.75	3448.82	3470.75	3470.57	19.9	3450.85	07/06/12	18.23	3452.34	1.49	Saturated
TP-144	03/20/09	21.87	3449.38	3468.06	3471.25	16.2	3451.86	07/06/12	21.62	3449.63	NA	Unsaturated
TP-145	03/20/09	25.67	3450.16	3472.81	3475.83	20.8	3452.01	07/06/12	23.30	3452.53	0.52	Saturated
TP-146	03/20/09	31.92	3444.82	3473.82	3476.74	26.6	3447.22	07/06/12	27.82	3448.92	1.71	Saturated
TP-147	03/20/09	28.78	3449.30	3475.18	3478.08	22.8	3452.38	07/06/12	28.68	3449.40	NA	Unsaturated
TP-148	03/26/09	37.70	3443.42	3478.36	3481.12	32.5	3445.86	07/05/12	34.65	3446.47	0.60	Saturated
TP-149	03/26/09	39.72	3441.79	3478.82	3481.51	33.9	3444.92	07/05/12	35.83	3445.68	0.76	Saturated
TP-150	03/26/09	41.60	3441.69	3480.04	3483.29	36.1	3443.94	07/05/12	41.50	3441.79	NA	Unsaturated
TP-151	03/26/09	43.25	3441.22	3481.41	3484.47	38.8	3442.61	07/06/12	39.95	3444.52	1.90	Saturated
TP-152	03/20/09	45.37	3437.73	3480.31	3483.10	39.3	3441.01	07/25/12	45.29	3437.81	NA	Unsaturated
TP-153	03/20/09	46.07	3436.21	3479.30	3482.28	40.3	3439.00	07/25/12	45.99	3436.29	NA	Unsaturated
TP-154	03/20/09	52.80	3428.40	3478.16	3481.20	47.3	3430.86	07/25/12	52.67	3428.53	NA	Unsaturated
TP-155	03/20/09	42.50	3435.25	3477.95	3477.75	42.7	3440.05	07/25/12	42.13	3435.62	NA	Unsaturated
TP-156	03/20/09	44.17	3432.65	3473.79	3476.82	38.6	3435.19	07/25/12	Dry	Dry	Dry	Unsaturated
TP-157	03/26/09	54.74	3432.65	3484.20	3487.39	49.3	3434.90	07/25/12	Dry	Dry	Dry	Unsaturated
TP-158	03/26/09	55.15	3432.30	3484.25	3487.45	49.6	3434.65	07/25/12	55.04	3432.41	NA	Unsaturated
TP-159	03/26/09	60.25	3429.04	3486.08	3489.29	54.2	3431.88	07/25/12	Dry	Dry	Dry	Unsaturated

Table 1. OAG Water Levels
July 2012

Monitoring Well/ Piezometer Name	Date Drilled/ Completed	Total Depth Well (ft btoc)	Bottom of Well Elevation (ft msl)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Top of Red Beds (ft bgs)	Top of Red Bed Elevation (ft msl)	Date of Gauging Event	Depth to Water (ft btoc)	Water Elevation[1] (ft msl)	Saturated Thickness (ft)	Comments[2,3]
TP-160	03/26/09	55.01	3434.40	3486.10	3489.41	49.5	3436.60	07/25/12	Dry	Dry	Dry	Unsaturated
TP-161	03/26/09	21.87	3430.43	3449.30	3452.30	17.3	3432.00	07/25/12	21.77	3430.53	NA	Unsaturated
TP-162	03/26/09	25.23	3431.53	3454.20	3456.76	20.3	3433.90	07/25/12	Dry	Dry	Dry	Unsaturated
TP-163	03/26/09	29.43	3423.27	3449.61	3452.70	23.3	3426.31	07/25/12	29.36	3423.34	NA	Unsaturated
TP-164	03/26/09	47.94	3435.79	3484.06	3483.73	45.5	3438.56	07/25/12	Dry	Dry	Dry	Unsaturated
TP-166	04/03/09	39.42	3442.49	3478.97	3481.91	34.0	3444.97	07/05/12	34.79	3447.12	2.16	Saturated
TP-167	04/03/09	41.73	3441.19	3479.98	3482.92	35.8	3444.18	07/03/12	36.93	3445.99	1.81	Saturated
TP-168	04/03/09	36.74	3447.22	3481.06	3483.96	31.4	3449.66	07/05/12	36.67	3447.29	NA	Unsaturated
TP-169	04/03/09	18.19	3451.68	3470.12	3469.87	16.7	3453.42	07/06/12	16.86	3453.01	NA	Unsaturated
TP-170	04/03/09	22.87	3449.58	3469.29	3472.45	17.1	3452.19	07/06/12	22.50	3449.95	NA	Unsaturated
TP-171	04/03/09	27.01	3444.52	3471.61	3471.53	24.2	3447.41	07/06/12	23.22	3448.31	0.90	Saturated
TP-172	04/03/09	22.70	3448.87	3471.40	3471.57	19.8	3451.60	07/25/12	22.61	3448.96	NA	Unsaturated
TP-173	09/13/11	30.50	3440.46	3471.10	3470.96	27.7	3443.40	07/02/12	30.25	3440.71	NA	Unsaturated

Notes

1 Water elevation does not imply groundwater elevation except where saturated thickness is greater than zero (0).

2 There are 88 Saturated OAG wells and 204 Unsaturated wells during this event.

3 Significant Change is defined as an increase or decrease of at least one foot of water in a saturated OAG well during the reporting month. There was 0 OAG well(s) that showed a significant increase (unrelated to sampling) during this event.

NM = Not Measured (Well Damaged)

FIGURES

Fig. 1

DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
PROJ. ENG. MGR.		
D.C. DIRECTOR		
DOCUMENT CONTROL NO.:		
DWG. SCALE:	AS NOTED	

OAG MONTHLY REPORT

FACILITIES AREA
WASTE CONTROL SPECIALISTS, ANDREWS TEXAS

OAG WELL LOCATIONS MAP

C:\Users\syoungblood\Desktop\CAD FILES\5-2012 OAG GW NO 1 TRW (WCS).dwg Jul 05, 2012 2:56pm

LEGEND

WCS Facilities Area Boundary

WCS Site Boundary

Waste Storage and Disposal Locations

PW-07 ● OAG Monitoring Well Location

◆ Weather Station Location

NOTES:

1. Not For Construction. Information Only.

2. See Fig. 1 for all OAG Well Names inside the WCS Facility Boundary.

Fig. 2

DESIGNED BY		
DRAWN BY		
CHECKED BY		
PROJ. ENG. MGR.		
ENG. DIRECTOR		
DOCUMENT CONTROL No.		
CONTROL COPY No.		
DWG. SCALE	AS NOTED	

OAG MONTHLY REPORT

SITE AREA

WASTE CONTROL SPECIALISTS, ANDREWS TEXAS

OAG WELL LOCATION MAP

C:\Users\syoungblood\Desktop\CAD FILES\5-2012 OAG GW NO 1 TRW (WCS).dwg Jul 05, 2012 2:57pm

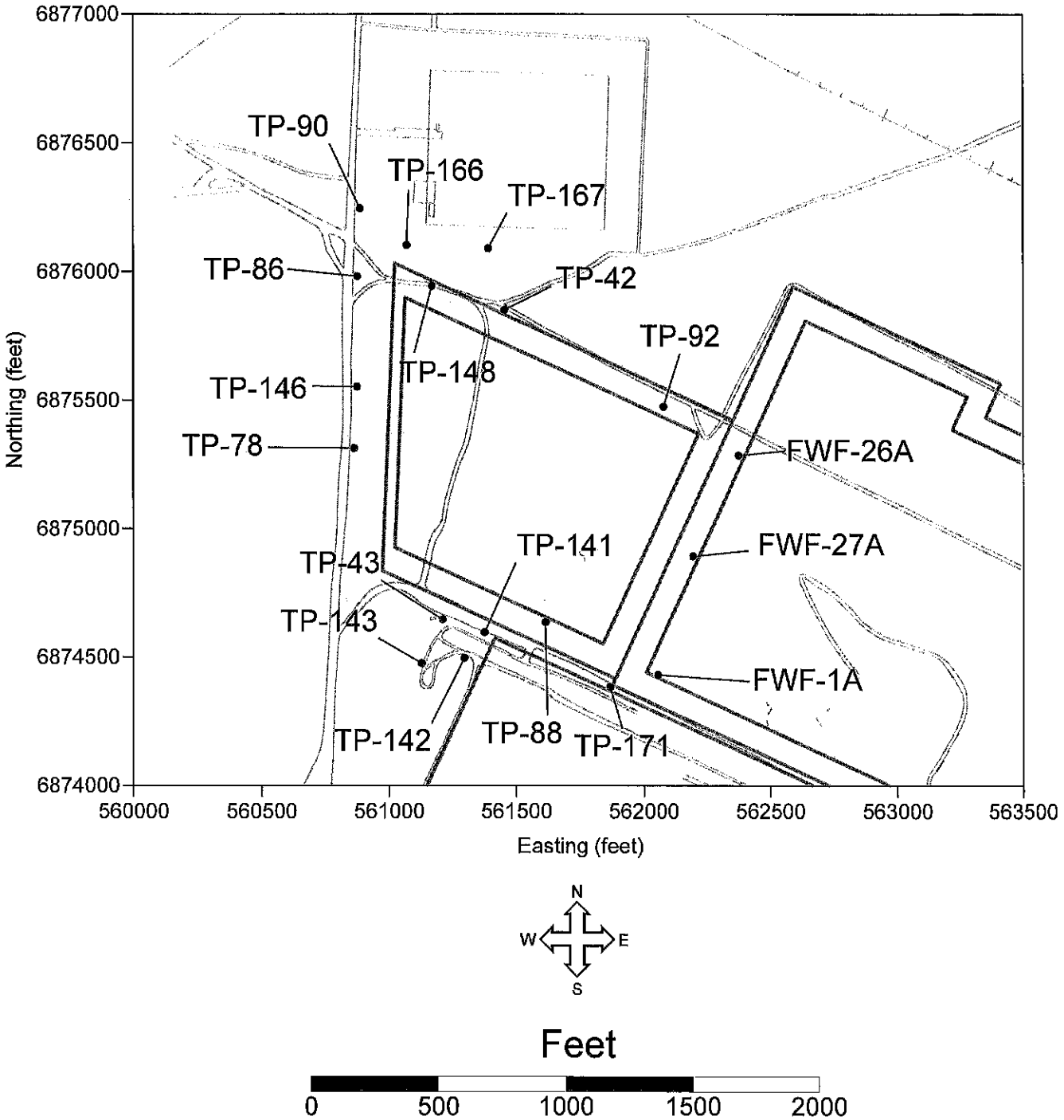
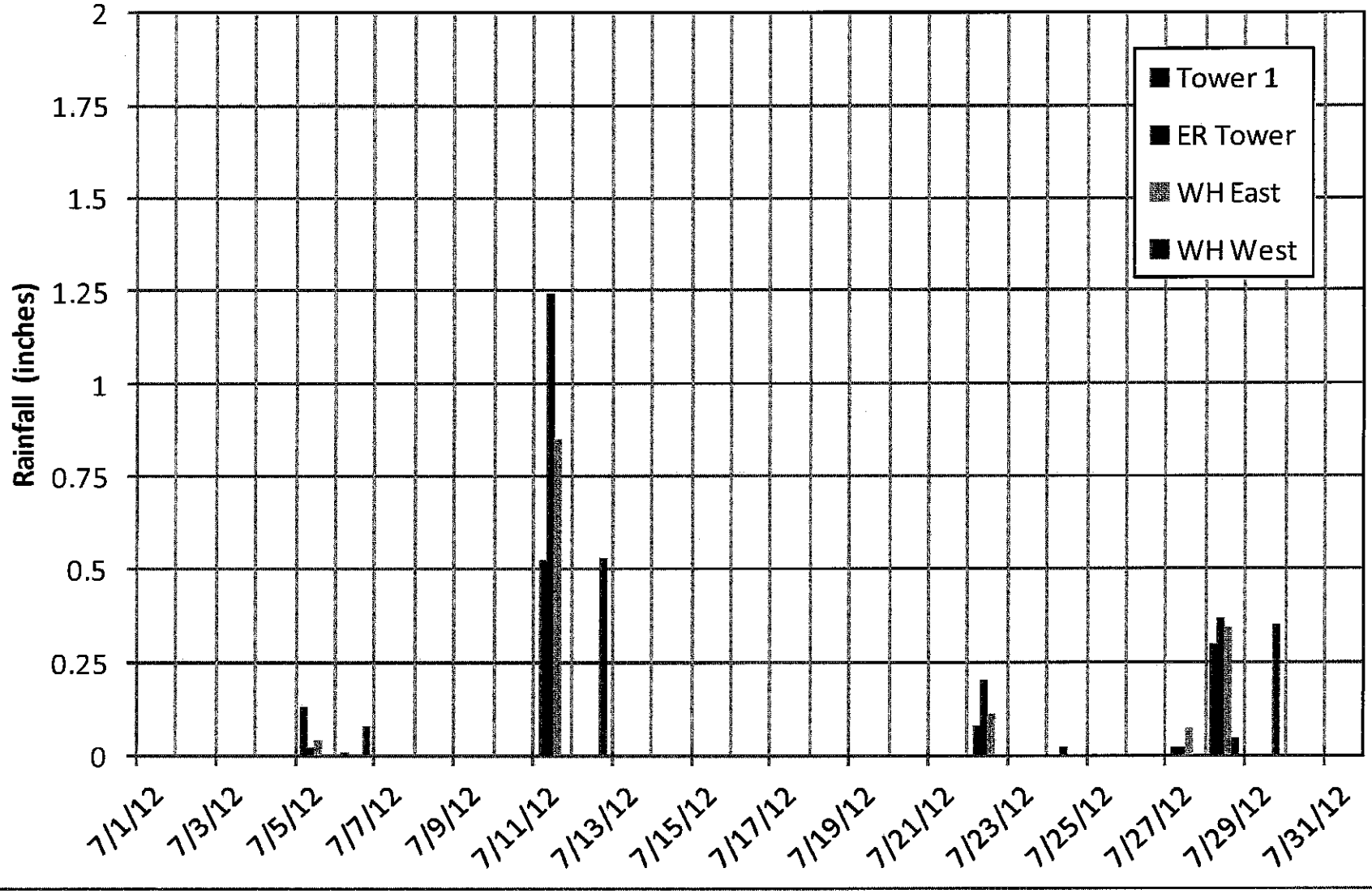


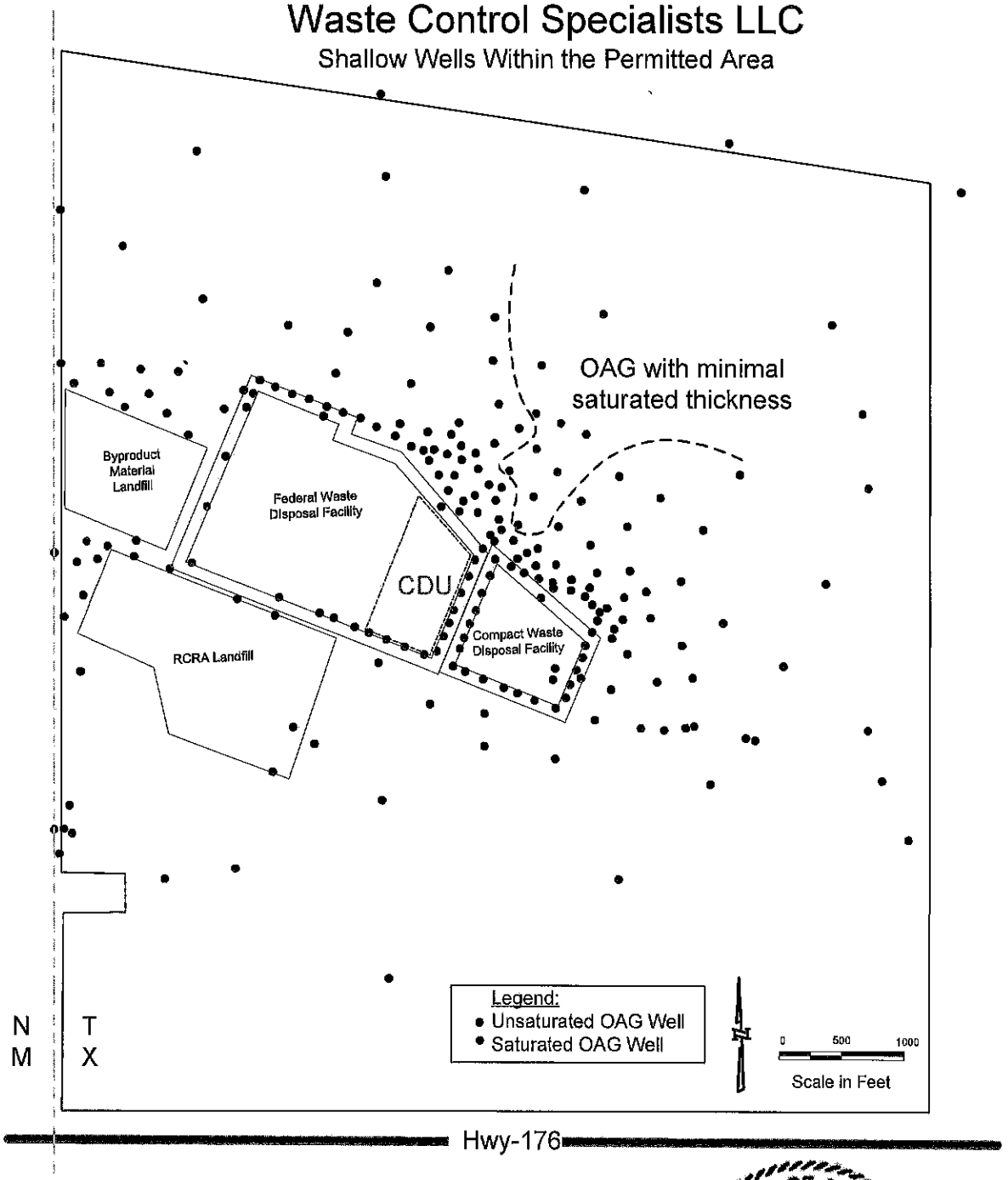
Figure 3: Locations of Type 1 Wells

Figure 4. July 2012 Rainfall



Waste Control Specialists LLC

Shallow Wells Within the Permitted Area



Approximate location of OAG "dry-line"

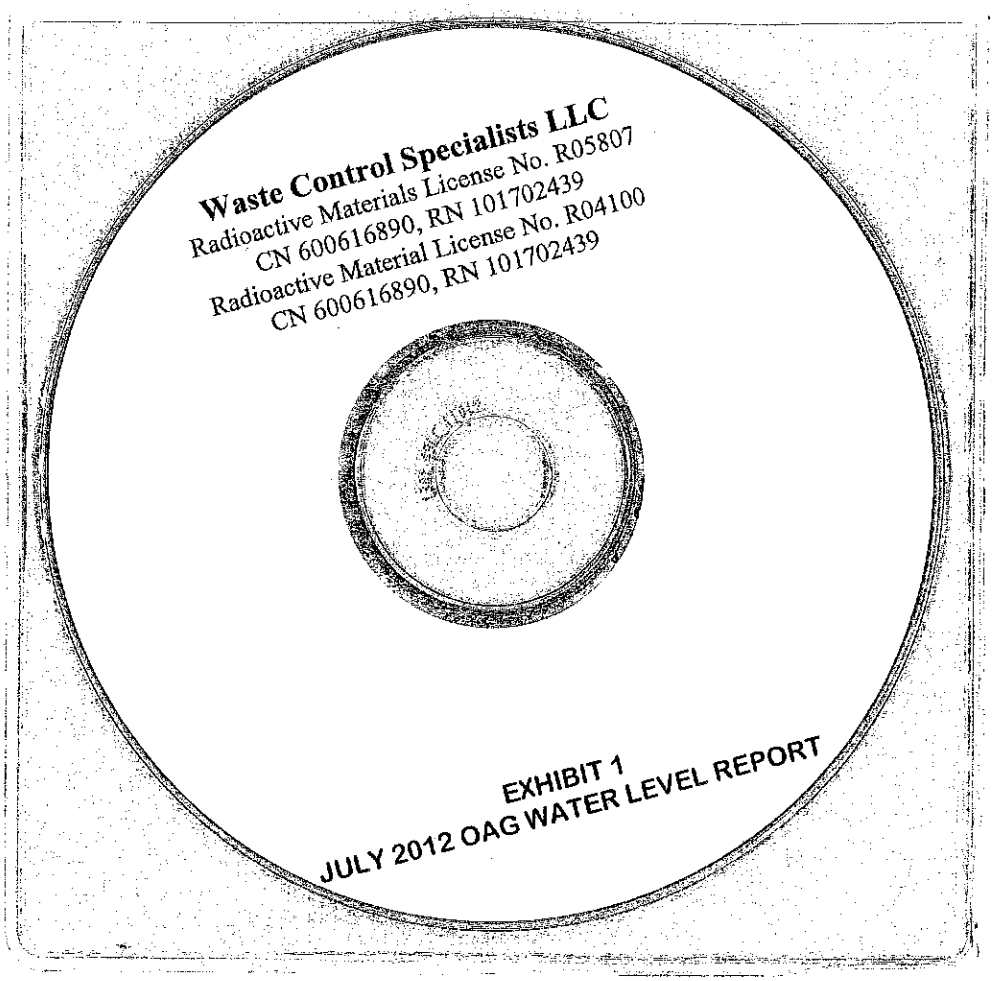
STATE OF TEXAS
JOHN R. HULTMAN, JR.
Geology
License Number
#137
LICENSED
PROFESSIONAL GEOSCIENTIST

8/6/12

	Figure:	Date:
WASTE CONTROL SPECIALISTS, LLC	5	8/6/12
		Scale: Shown

EXHIBIT 1

- Comma-Separate Value (csv) Files for Individual Type 1 Wells
- Microsoft Excel File for Table 1


Waste Control Specialists LLC
Radioactive Materials License No. R05807
CN 600616890, RN 101702439
Radioactive Material License No. R04100
CN 600616890, RN 101702439
EXHIBIT 1
JULY 2012 OAG WATER LEVEL REPORT