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ENVIRONMENTAL SAMPLING IN THE ACREAGE COMMUNITY RESPONSES TO QUESTIONS June 29, 2010

This document addresses questions raised during a recent meeting of the Acreage Community Focus Group.

Is there a Web site link for the public to get information related to DEP's sampling and testing in The Acreage Community?

- The DEP posts this information once it is available on the Southeast District's website at <http://www.dep.state.fl.us/southeast/acreage/default.htm>. The Palm Beach County Health Department also has the results of The Acreage sampling posted on their website at http://www.pbchd.com/spotlight/acreage/cancer_cluster_reports.html

What has been the extent of the testing?

- August/September 2009 (groundwater and surface water only)
 - 50 locations (49 residences, 1 day care), 63 samples collected
 - Seminole Improvement District (SID) 5 wells for a total of 7 samples, and one sample each collected from the Point of Entry (treated), repump (treated) and reject water (untreated) areas
 - 5 surface water samples collected from 5 different locations
- February 2010 (groundwater only)
 - 27 residences (23 new homes, 4 revisits for additional samples), 54 samples collected
 - 1 from SID Point of Entry
- March 2010 (groundwater and soil)
 - 2 residences, 5 water samples
 - 25 residences, 110 soil samples
- April 2010 (groundwater and soil)
 - 9 residences (1 new home, 8 revisits for additional samples), 13 groundwater samples collected
 - 10 residences, 30 soil samples

Were zinc, nickel, chromium or methyl ethyl ketone (MEK) tested for in the Acreage samples?

- August/September 2009 (water only)
 - The water samples were not analyzed for zinc and nickel, but they were for total chromium and MEK. MEK is also known as 2-butanone and that is the name it is listed under in EPA method 8260. While the samples were not specifically tested for hexavalent chromium, the results of tests for total chromium include hexavalent chromium. No speciation work (to determine the amount of hexavalent chromium) was required since none of the samples exceeded the criteria for chromium.
- February 2010 (water only)
 - The water samples were analyzed for zinc, nickel, total chromium and MEK (2-butanone).
- March 2010 (water and soils)
 - Both the water and soil samples were analyzed for zinc, nickel, total chromium and MEK (2-butanone).
- April 2010 (water and soils)
 - Both the water and soil samples were analyzed for zinc, nickel, total chromium and MEK (2-butanone).

Summary: As noted, DEP has tested for the four (4) contaminants listed in Attorney Srolovic's June 16, 2010 e-mail, and based on the analytical results, none of the samples exceeded the criteria for such contaminants. The results of the soil samples will be released in approximately mid-July 2010.

Has DEP reviewed the Environmental Site Assessment (ESA) reports for the utilities parcel at the Pratt & Whitney facility?

Yes. DEP's comments are provided below:

- **Phase I Final ESA Report by CDM (December 2001).** This review by CDM is an environmental assessment of the parcel to be acquired by the county. The assessment finds 7 Recognized Environmental Conditions (REC's) where the presence or likely presence of hazardous substances needs to be addressed. These REC's are the solid waste management units (SWMU) 9, 12, 14, 42, 49, 59, and 75 that are being addressed under the DEP HSWA permit. The assessment concludes that remediation is not complete and there is the likelihood of discovering additional environmental contamination.
- **DRAFT Phase II Environmental Assessment by Nodarse and Associates (no date).** Comments on the document dated August 30, 2001 by Larry. This report is the result of investigation of the 22 REC's identified in Phase I (Nodarse expanded the 7 REC's from Phase I into 22). The report found 10 REC's with contamination greater than the Cleanup

Target Levels (CTL's) for various contaminants. There is a table that lists the 22 sites, but the table only has 21 (# 20 is missing). In the report there is a statement that a description of the sites, together with the analytical results as presented in the Environmental Solutions (actually Environmental Standards) January 12, 2001 report may be found in Appendix A. Unfortunately, Appendix A is not complete and what was sent does not describe the sites.

- **Section 3 of the report: Groundwater and Soil Sampling.** All samples tested for metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, but not nickel or zinc), volatiles, semivolatiles, and PCB. Figures showing where samples were taken are not in the documents received by the Department. In the following comments, reported detections for BEHP (bis ethyl hexyl phthalate) are artifacts of contamination added by the people conducting the sampling or the analysis.
- **Lime Drying Beds.** Soil sample 1-CS-2 had PCB at 340 µg/kg, but nothing was found in the groundwater samples.
- **Waste Pile No. 2.** Soil sample 2-CS-1 and 2-CS-2 had PCB at 2,110 and 865 µg/kg, respectively. Well 2-TW-1 had benzo(a)anthracene, benzo(a)pyrene, 4-chlorophenylphenylether, fluoranthene, fluorine, indeno(123-cd)pyrene, and pyrene at 8, 5, 9, 8, 8, 5, and 8 µg/L, respectively.
- **Incinerator.** Nothing found in the soil or groundwater.
- **Water Plant Container Storage Area.** Report states nothing in soil but lab data shows 4-CS-1 and 4-CS-2 with PCB of 365 and 100 µg/kg, respectively. BEHP reported in the groundwater.
- **Incinerator Container Storage Area.** Nothing found in the soil or groundwater.
- **Returnable Drum Storage Area.** Nothing found in the soil or groundwater.
- **Deep Injection Well.** Nothing found in the soil. BEHP reported in the groundwater.
- **Acid/Alkali Rinse System.** Soil sample 8-CS-1 had PCB of 34,320 µg/kg, lead of 220 mg/kg, and silver of 2.8 mg/kg. Nothing found in the groundwater.
- **Hazardous Waste Storage Area.** Nothing found in the soil. BEHP reported in the groundwater.
- **Concentrated Waste Treatment Facility.** PCB in soil samples 10-CS-1 and 10-CS-4 of 2,030 and 1,720 µg/kg. Groundwater well 10-TW-1 had tetrachloroethene of 3.4 µg/L.

- **Oil/Water Evaporator.** PCB in soil samples 11-CS-1, 11-CS-2, and 11-CS-3 at 1,630, 705, and 7,100 µg/kg. Nothing found in the groundwater.
- **Gas/Acid Storage Building.** PCB in soil samples 12-CS-1 and 12-CS-6 of 99, and 865 µg/kg. Nothing found in the groundwater.
- **Firing Range.** Nothing found in the soil. No groundwater samples taken.
- **Explosives Storage Area.** Nothing found in the soil. BEHP reported in the groundwater.
- **Storm Water Management Collection System.** Nothing found in the sediment. No water samples were taken.
- **North Pond.** Nothing found in the sediment or water samples.
- **Water Quality Sampling on Canal Boundary.** Five temporary wells 50 ft north of the southern property boundary show nothing except BEHP. No soil samples taken.
- **Existing Potable Well Fields.** Well PW-1 had lead at 16 µg/L. However, the well was not being used.
- **Southern Canal Sediment Sampling.** Six evenly spaced samples from the canal show nothing above residential SCTLs. Data shows nothing above detection limits of lab except for barium which was above the Threshold Effect Concentration (TEC) for some samples, but below the Probable Effect Concentration (PEC).
- **Environmental Laboratory.** Nothing detected in the soil or groundwater.
- **Entrance Road.** Report states nothing detected from nine samples. Lab data for 22-CS-6 shows Cr and Pb at 415 and 145 mg/kg, respectively.
- **Environmental Standards report of January 2001 in Appendix A.** It is not complete (what was sent starts at Section 6.9 and does not include any figures, tables, or analytical data). South canal environmental sampling results and discussion appears to be contradicted by the later study conducted by Nodarse (see results above). Not much discussion in the Nodarse report on the contradiction.
- **Appendix A: Environmental Standards report on the Surface Water Canal System, Section 6.15 of report.** Studied a 5,500 feet length of the southern canal system. The initial investigation consisted of 10 paired sediment and surface water samples at 500 feet increments from the center of the canal looking for TCL VOCs, SVOCs, PPL Metals, PCBs, and pesticides (TCL could refer to Target Compound List and PPL could refer to Priority

Pollutant List [Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn], but the acronyms are not defined). The follow up with samples every 100 feet that consisted of sediment samples at 1/3 and 2/3 transect distances and one surface water sample from center of canal. These second sets of samples looked only at PCB's, cadmium, chromium, copper, and nickel.

The initial 10 samples found no VOCs or SVOCs. One surface water sample had PCBs at 0.18 µg/L (criteria in 2001 was ≤ 0.000044 annual avg.; 0.014 max, all units µg/L). Detection limit for PCBs was not given and does not mention if the sample was filtered. The metals Cd, Cr, Cu, Ni and Zn were detected in the surface water. No SVOCs were detected in the sediments. The VOCs chlorobenzene and MEK were detected at 5.8 and 16.3 µg/kg, respectively (not mg/kg).

Then the report jumps to a discussion of all the sediment samples (118 total). PCBs were detected in 27 of the 118 samples in concentrations from 17 to 75 µg/kg. Metals were found in 112 of the 118 samples. The highest measured were: As 1.7 mg/kg, Cd 0.79 mg/kg, Cr 50 mg/kg, Cu 9.7 mg/kg, Ni 21 mg/kg, Tl 1.8 mg/kg, Zn 39.4 mg/kg. The report does not mention if these are dry weight results. Compared to the TEC [As 9.8 mg/kg, Cd 1.0 mg/kg, Cr 43 mg/kg, Cu 32 mg/kg, Ni 23 mg/kg, Zn 120 mg/kg (nothing for Tl), and PCB 60 µg/kg] there were exceedances for the following compounds: Chromium and PCB are just barely over the TEC for freshwater sediments, but below the PEC.

The Environmental Standards report used 1994 guidance for marine sediments and found exceedances for 24 samples for PCB (TEL is 22 µg/kg), Cd for three samples (TEL is 0.68 mg/kg) and seven samples for Ni (TEL is 16 mg/kg). The TEL for marine sediments is lower than the freshwater TEC criteria for sediments.

- **Groundwater samples along southern property line, Section 6.17.** Sampled existing monitoring wells WEMA-23B, WEMA-24A, WEMA-24B, WEPP-6A, WEPP-6B, WEPP-6D, WEPP-5B, and WEPP-5C. No VOC's were found, and the only SVOC detected was BEHP from lab/sampling contamination. Metals were detected in 4 wells (not listed); chromium in two wells at 63.4 and 129 µg/l; copper in two wells at 45.8 and 47.0 µg/L; and nickel in two wells at 68.2 and 325 µg/L. The groundwater CTLs were exceeded for Cr and Ni, however we do not know if samples were filtered.
- **Appendix B: MEMO from David B. Twedell - Nodarse & Associates, Inc. to Larry A. Johnson - Palm Beach County Utilities dated May 10, 2001.** Excerpt from that letter: "Surface water contamination with organics, heavy metals (including mercury) and PCBs were encountered in the canal located on the southern boundary of the utility parcel. In addition, high levels of PCBs, organics and heavy metals, including mercury were detected in sediment samples taken from this same canal."

The Environmental Standards report does mention the presence of PCBs and metals in the canal on the southern boundary. It does not report any organics other than chlorobenzene and MEK (2-butanone) in the sediments at low concentrations. There was one surface water detection of PCB and 27 detections in the sediment. The heavy metals reported were cadmium, chromium, copper, nickel, and zinc. No mention is made of mercury. The maximum concentrations reported in the sediments were slightly above the TEC and well below the PEC.

The results of the study by Nodarse & Associates indicate no contamination in the sediments of the canal. Unfortunately, the report does not explain why Nodarse did not take any surface water samples as part of its confirmatory sampling program after making special note of surface water contamination in the May 10, 2001 MEMO.

What actions have been taken by Pratt & Whitney since these reports were issued?

- In December 2002 and January 2003, 169 tons of soil with PCB concentrations greater than 2.1 mg/kg was removed from the area near the Acid and Alkali Rinse system Structure (SWMU 49).
- In June 2003 the Utility Parcel was transferred to the Beeline Community Development District. A deed restriction to maintain industrial use of the property was recorded with Palm Beach County.
- From October 2003 through April 2004, soil was excavated from SWMU 58 (Hazardous Waste Storage Building), Fitness Trail, Test Explosives Storage Area, Gas/Acid Storage Building/Environmental Laboratory, SWMU 49 (Acid and Alkali Rinse Tanks), and SWMU 37 (Water Treatment Plant Container Storage Area).
SWMU 58: Excavated 136 tons of soil.
Fitness Trail: Excavated 701 tons of soil.
Testing Explosives Storage Area: Excavated 491 tons of soil.
Gas/Acid Storage Building and Environmental Laboratory: Excavated 20 tons of soil.
SWMU 49: Excavated 169 tons of soil.
SWMU 37: Excavated 3,423 tons of soil.
- Approximately 5,000 tons of soil were removed during these operations.
- This year Pratt & Whitney is demolishing buildings in the utility parcel and removing any contaminated soil encountered during the process.

Has contamination been transported via surface water (canal) to areas south of the facility?

- There is no data to support any claim that the C-18 canal has transported contamination in the past, or is now transporting contamination from the facility to The Acreage or any other area in measureable amounts.

Summary: Based upon DEP's analysis, it has not found any information indicating that contaminants identified in the ESA are present at The Acreage in excess of the applicable criteria.