Evaluation of Town of DISH, Texas Ambient Air Monitoring Analysis

by Wilma Subra

Wolf Eagle Environmental sampled the ambient air in the Town of DISH, Texas at seven locations on August 17 to 18, 2009. The air sampled was analyzed for Volatile Organic Chemicals, Hazardous Air Pollutants, Tentatively Identified Compounds and NOX.

In the conclusion section of the report, Wolf Eagle stated "Air analysis in the Town of DISH confirmed the presence in high concentrations of carcinogenic and neurotoxin compounds in ambient air near and/or on residential properties." The report further indicated that many of the compounds in the air exceeded the Short-term and Long-term Effects Screening Levels (ESLs) according to Texas Commission on Environmental Quality (TCEQ) regulations.

The following is a compilation of the analytical results based on individual sampling locations.

The sample locations with the highest chemical concentrations and most chemicals present in concentrations exceeding TCEQ Short-term and Long-term Effects Screening Levels were 9203 Chisum - behind white barn 5 ft. and Airfield - corner SE.

The air sample from 9203 Chisum - behind white barn 5 ft. contained 10 chemicals that exceeded the TCEQ ESLs. Benzene, a known human cancer causing agent, was present in the second highest concentration of all stations sampled. The concentration of Benzene in the air exceeded the Long-term ESL by 8.7 times the standard. Carbon Disulfide was present in a concentration that exceeded the Short-term (10.7 times) and Long-term (107 times) ESLs by the largest factor of any of the chemicals detected

at this station. 1,2,4-Trimethylbenzene was detected in the air at this station in the highest concentration of any station sampled. Xylenes (m & p), a neurotoxin, exceeded the Long-term ESl by a factor of 1.1 times. Naphthalene, a potential human carcinogen, exceeded the long-term ESL by a factor of 3.6 times. The other chemicals in the air at this station that exceeded the Short-term and Long-term ESLs were Carbonyl Sulfide (exceeded Long-term ESL), Trimethyl Benzene (exceeded Short-term and Long-term ESLs), and Diethyl Benzene, Methyl-methylethyl Benzene, and Tetramethyl Benzene (exceeded the Long-term ESLs).

The air sample from the Air Field - corner SE contained 8 chemicals that exceeded the TCEQ ESLs. Benzene, a known human cancer causing agent, was present in the highest concentration of all stations sampled. The concentration of Benzene in the air exceeded the Short-term ESL by 1.45 times and the Long-term ESL by 55 times the standard. The Benzene concentration at this sample location was more than 6 times the next highest benzene concentration (at 9203 Chisum). Xylenes (m & p), a neurotoxin, was present in the highest concentration of all stations sampled and exceeded the Long-term ESL by 2 times. Carbon Disulfide was present in a concentration that exceeded the Short-term (28 times) and Long-term (101 times) ESLs by the largest factor of any of the chemicals detected at this station. Methyl Pyridine and Dimethyl Pyridine, possible carcinogens, exceeded Short-term and Long-term ESLs. The other chemicals in the air at this location that exceeded Long-term ESLs were 1,2,4-Trimethyl Benzene, Carbonyl Sulfide, and Trimethyl Benzene.

The third highest ranking sample location was 9213 Chisum - 20 feet off property line and contained 5 chemicals that exceeded the TCEQ ESLs. Benzene, a known human cancer causing agent, was present in the third highest concentration of all stations sampled. Benzene in the air exceeded the Long-term ESL by a factor of 7.6 times. Dimethyl Disulfide was present in a concentration that exceeded the Short-term (38 times) and Long-

term (384 times) ESLs by the largest factors of any of the chemicals detected at this station. Methyl Ethyl Disulphide and Ethyl Methylethyl Disulfide exceeded the Short-term and Long-term ESLs. Trimethyl Benzene exceeded the Long-term ESL.

The sample location **Airfield - off yellow barn and rock rd.** contained three chemicals that exceeded the TCEQ ESLs. Dimethyl Sulfide was present in a concentration that exceeded the Short-term (3.7 times) and Long-term (37.5 times) ESLs by the largest factors of any of the chemicals detected at this station. Carbonyl Sulfide and Carbonyl Disulfide exceeded the Long-term ESLs.

The sample location **Burgess Horse Ranch W. Prop. Line** contained one chemical that exceeded the TCEQ ESLs. Dimethyl Disulfide exceeded the Short-term (10 times) and Long-term (101 times) ESLs.

The sample locations **9217 Chisum** - 20 ft. off property line s and **Guthries Property W Prop Line by Pond** contain 5 and 7 chemicals, respectively. None of the chemicals at either station location exceeded the TCEQ ESLs.

Benzene, a known human cancer causing agent, was detected at all 7 sample locations. Three sample locations exceeded TCEQ ESLs and four stations had concentrations of Benzene below TCEQ ESLs. Xylene (m & p) were detected at all 7 sample locations. Two sample locations exceeded TCEQ ESLs and five sample locations had concentrations of Xylene below TCEQ ESLs. Toluene was present at all 7 sample locations but the concentrations were below the TCEQ ESLs at each sample locations. These chemicals, Benzene, Toluene and Xylene, are the volatile organic compounds most associated with oil and gas activities.

The results of the ambient air testing in DISH detected a total of 16 volatile organic chemicals that exceeded TCEQ ESLs. The concentrations of the chemicals in the air were compared to the

TCEQ ESLs and 5 of the sample locations had chemicals in concentrations that exceeded TCEQ ESLs. Sample location 9203 Chisum - behind white barn 5 ft had 10 chemicals detected in excess of ESLs and Airfield - corner SE had 8 chemicals detected in excess of ESLs. The cumulative effects of multiple chemicals in the ambient air at concentrations in excess of ESLs has not been evaluated.

The data from the report should be used to educate community members living in the area with the highest concentrations of chemicals and chemicals in excess of TCEQ ESLs in the air they are being exposed to.