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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

June 25, 1999

Mr. William C. Bodkin
Chief of Environmental Management Branch
U.S. Army, HQ III Corps and Fort Hood
Attn: AFZF-DE-ENV
Fort Hood, Texas 76544-5057

Re Exemption Registration No. 41479
Soil Bioremediation Operations
Killeen, Bell County
Account ID No. 94-1479-M

Dear Mr. Bodkin:

This is in response to your exemption registration, Form PI-7, concerning bioremediation of contaminated soil at the northwest of the intersection of Santa Fe Avenue and 77th Street in Fort Hood, Bell County. We understand that emissions do not exceed 1.0 and 0.08 pound per hour of total petroleum hydrocarbons and benzene, respectively. We further understand that you have located the emissions points at least 3,000 feet away from any off-site receptors.

Accordingly, and with the exception of timely registration, we have determined that your operation conforms to the criteria of 30 Texas Administrative Code (TAC) Sections 106.533 and 106.262, if constructed and operated as described in your application. The Texas Natural Resource Conservation Commission (TNRCC) Executive Director authorized these exemptions pursuant to 30 TAC Chapter 106. We have included copies of the exemptions in effect at the time of this registration. You must operate in accordance with all of their requirements.

We remind you that regardless of whether a permit is required, you must maintain these facilities in compliance with all air quality rules and regulations of the TNRCC and of the U.S. Environmental Protection Agency at all times.

Mr. William C. Bodkin

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Re: Exemption Registration No. 41479

We appreciate your cooperation in this matter. If you have any questions concerning these exemptions, please call Mr. Terry Murphy at (512) 239-1587 or write to him at Texas Natural Resource Conservation Commission, Office of Air Quality, New Source Review Permit Division (MC-162), P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,



for Tammy Villarreal
Manager, Chemical Section
New Source Review Permits Division

TV/TM/pl

Enclosures

cc: Ms. Zoe Rascoe, Manager, Air Program, Waco

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
CHAPTER 106 - EXEMPTIONS FROM PERMITTING**

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118).

Facilities, or physical or operational changes to a facility, are exempt provided that all of the following conditions of this section are satisfied.

- (1) This section shall not be used to authorize construction or any change to a facility specifically authorized in another section of this chapter, but not meeting the requirements of that section. However, once the requirements of a section of this chapter are met, paragraphs (3) and (4) of this section may be used to qualify the use of other chemicals at the facility.
- (2) Emission points associated with the facilities or changes shall be located at least 100 feet from any off-plant receptor. Off-plant receptor means any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facilities or the owner of the property upon which the facilities are located.
- (3) New or increased emissions, including fugitives, of chemicals shall not be emitted in a quantity greater than five tons per year nor in a quantity greater than E as determined using the equation $E = L/K$ and the following table.

Figure: 30 TAC §106.262(3)

<u>D. Feet</u>	<u>K</u>	
100	326	E = maximum allowable hourly emission, and never to exceed 6 pounds per hour.
200	200	
300	139	L = value as listed or referenced in Table 262.
400	104	
500	81	
600	65	K = value from the table on this page. (interpolate intermediate values)
700	54	
800	46	
900	39	
1,000	34	
2,000	14	D = distance to the nearest off-plant receptor.
3,000 or more	8	

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
CHAPTER 106 - EXEMPTIONS FROM PERMITTING**

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

**TABLE 262
LIMIT VALUES (L) FOR USE WITH EXEMPTIONS FROM PERMITTING §106.262**

The values are not to be interpreted as acceptable health effects values relative to the issuance of any permits under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification).

<u>Compound</u>	<u>Limit (L) Milligrams Per Cubic Meter</u>
Acetone	590.
Acetaldehyde	9.
Acetone Cyanohydrin	4.
Acetonitrile	34.
Acetylene	2662.
Adiponitrile	18.
Aldrin	0.15
Sec-Amyl Acetate	1.1
Arsenic	0.01
Benzene	3.
Beryllium and Compounds	0.0005
Butyl Acrylate	19.
Butyl Glycidyl Ether	30.
Butyl Mercaptan	0.3
Butyraldehyde	1.4
Butyric Acid	7.3
Butyronitrile	22.
Carbon Tetrachloride	12.
Chloroform	10.
Chlorophenol	0.2
Chloroprene	3.6
Chromic Acid	0.05
Chromium and Compounds	0.025
Coal Tar Pitch Volatiles	0.1
Creosote	0.1
Cresol	0.12
Cumene	43.
o-Dichlorobenzene	180.
p-Dichlorobenzene	108.
1,2-dichloroethylene	79.
Dicyclopentadiene	3.1
Diethylaminoethanol	5.5
Diisobutyl Ketone	140.

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§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

TABLE 262. Cont'd.

<u>Compound</u>	<u>Limit (L) Milligrams Per Cubic Meter</u>
Dimethyl Aniline	6.4
Dimethylhydrazine	0.15
Dioxane	3.6
Dipropylamine	8.4
Ethyl Acrylate	0.5
Ethylene Dibromide	1.
Ethylene Glycol Dinitrate	0.1
Ethylene Oxide	0.18
Ethyl Mercaptan	0.15
Ethyl Sulfide	1.6
Fibrous Glass Dust	5.
Glycolonitrile	5.
Heptane	350.
Hydrazine	0.04
Hydrogen Chloride	1.
Hydrogen Sulfide	1.1
Isoamyl Acetate	13.
Isoamyl Alcohol	15.
Isobutyronitrile	22.
Isophorone Diisocyanate	0.045
Kepone	0.001
Kerosene	100.
Malononitrile	8.
Mercury, Inorganic	0.05
Mesityl Oxide	40.
Methyl Acrylate	1.7
Methyl Amyl Ketone	5.8
Methyl Butyl Ketone	4.
Methyl Disulfide	2.2
Methylenebis (Chloroaniline) MOCA	0.003
Methylenebis (Phenyl isocyanate)	0.05
Methylene Chloride	26.
Methylhydrazine	0.08
Methyl Isoamyl Ketone	5.8
Methyl Mercaptan	0.3
Methyl Methacrylate	34.
Methyl Propyl Ketone	530.
Methyl Sulfide	0.5
Mineral Spirits	350.

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§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

TABLE 262. Cont'd.

<u>Compound</u>	<u>Limit (L) Milligrams Per Cubic Meter</u>
Naphtha	350.
Nickel, Inorganic Compounds	0.015
Nitroglycerine	0.1
Nitropropane	36.
Octane	350.
Parathion	0.05
Pentane	350.
Perchloroethylene	33.5
Petroleum Ether	350.
Phenyl Glycidyl Ether	5.
Phenylhydrazine	0.6
Phenyl Mercaptan	0.4
Propionitrile	14.
Propyl Acetate	281.
Propylene Oxide	5.
Propyl Mercaptan	0.008
Stoddard Solvent	350.
Styrene	21.
Succinonitrile	20.
Tolidine	0.02
Trichloroethylene	135.
Trimethylamine	0.1
Valeric Acid	0.34
Vinyl Acetate	15.
Vinyl Chloride	2.

NOTE: The time weighted average Threshold Limit Value (TLV) published by the American Conference of Governmental Industrial Hygienists (ACGIH), (1985-1986 Edition) shall be used for compounds not included in the table. This section cannot be used if the compound is not listed in the table or does not have a published TLV in the ACGIH.

- (4) Notification must be provided using Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, and data identifying specific chemical names, L values, D values, and a description of pollution control equipment, if any.

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CHAPTER 106 - EXEMPTIONS FROM PERMITTING**

§106.262. Facilities (Emission and Distance Limitations) (Previously SE 118). (CON'T)

- (5) The facilities in which the following chemicals will be handled shall be located at least 300 feet from the nearest property line and 600 feet from any off-plant receptor and the cumulative amount of any of the following chemicals resulting from one or more authorizations under this section (but not including permit authorizations) shall not exceed 500 pounds on the plant property and all listed chemicals shall be handled only in unheated containers operated in compliance with the United States Department of Transportation regulations (49 Code of Federal Regulations, Parts 171-178): acrolein, ammonia, arsine, boron trifluoride, bromine, carbon disulfide, chlorine, chlorine dioxide, chlorine trifluoride, chloroacetaldehyde, chloropicrin, chloroprene, diazomethane, diborane, dimethylhydrazine, ethyl mercaptan, fluorine, formaldehyde, hydrogen bromide, hydrogen chloride, hydrogen cyanide, hydrogen fluoride, hydrogen selenide, hydrogen sulfide, ketene, methylamine, methyl bromide, methylhydrazine, methyl isocyanate, methyl mercaptan, nickel carbonyl, nitric oxide, nitrogen dioxide, oxygen difluoride, ozone, pentaborane, perchloromethyl mercaptan, perchloryl fluoride, phosgene, phosphine, phosphorus trichloride, selenium hexafluoride, stibine, liquified sulfur dioxide, sulfur pentafluoride, and tellurium hexafluoride. Containers of these chemicals may not be vented or opened directly to the atmosphere at any time.
- (6) For physical changes or modifications to existing facilities, there shall be no changes or additions of air pollution abatement equipment.
- (7) Visible emissions, except uncombined water, to the atmosphere from any point or fugitive source shall not exceed 5.0% opacity in any five-minute period.

Adopted February 19, 1997

Effective March 14, 1997

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
CHAPTER 106 - EXEMPTIONS FROM PERMITTING

§106.533. Water and Soil Remediation (Previously SE 68).

Equipment used to reclaim or destroy chemicals removed from contaminated ground water, contaminated water condensate in tank and pipeline systems, or contaminated soil for the purpose of remedial action is exempt, provided all the following conditions of this section are satisfied.

- (1) Applicability shall pertain to soil and water remediation at the property where the original contamination of the ground water or soil occurred or at a nearby property secondarily affected by the contamination, but not to any soil or water treatment facility where soils or water are brought in from another property. Such facilities are subject to §116.110 of this title (relating to Applicability).
- (2) For treating groundwater or soil contaminated with petroleum compounds, the total emissions of petroleum hydrocarbons shall not exceed 1.0 pound per hour (lb/hr), except that benzene emissions also must meet the conditions of §106.262(3) and (4) of this title (relating to Facilities (Emission and Distance Limitations) (Previously SE 118)). For purposes of this section, petroleum is considered to include:
 - liquids or gases produced from natural formations of crude oil, tar sands, shale, coal and natural gas; or
 - refinery fuel products to include fuel additives.
- (3) For treating groundwater or soil contaminated with chemicals other than petroleum, emissions must meet the requirements of §106.262(2), (3), and (4) of this title. If the groundwater or soil is contaminated with both petroleum and other chemicals, the petroleum compound emissions must meet paragraph (2) of this section and the other chemical emissions must meet the requirements of §106.262(2), (3), and (4) of this title. The emission of any chemical not having a Limit (L) Value in Table 262 of §106.262 of this title is limited to 1.0 lb/hr.
- (4) The handling and processing (screening, crushing, etc.) of contaminated soil and the handling and conditioning (adding moisture) of remediated soil shall be controlled such that there are no visible emissions with the exception of moisture.
- (5) If abatement equipment is used to meet paragraphs (2) and (3) of this section, the equipment must satisfy one of the following conditions.
 - (A) The vapors shall be burned in a direct-flame combustion device (incinerator, furnace, boiler, heater, or other enclosed direct-flame device) operated in compliance with §106.493(2) and (3) of this title (relating to Direct Flame Incinerators (Previously SE 88)).

The vapors shall be burned in a flare which meets the requirements of §106.492 of this title (relating to Flares (Previously SE 80)) and the requirements of 40 Code of Federal Regulations 60.18, which shall take precedence over §106.492 of this title in any conflicting requirements whether or not New Source Performance Standards apply to the flare.

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CHAPTER 106 - EXEMPTIONS FROM PERMITTING

§106.533. Water and Soil Remediation (Previously SE 68). (CON'T)

The vapors shall be burned in a catalytic oxidizer which destroys at least 90 percent of the vapors. An evaluation of oxidizer effectiveness shall be made at least weekly, using a portable flame or photoionization detector or equivalent instrument to determine the quantity of carbon compounds in the inlet and outlet of the catalytic oxidizer. Records of oxidizer performance shall be maintained in accordance with paragraph (7) of this section.

The vapors shall be routed through a carbon adsorption system (CAS) consisting of at least two activated carbon canisters that are connected in series. The system shall meet the following additional requirements.

- (i) The CAS shall be sampled and recorded weekly to determine breakthrough of volatile organic compounds (VOC). Breakthrough is defined as a measured VOC concentration of 50 parts per million by volume (ppmv) in the outlet of the initial canister. The sampling point shall be at the outlet of the initial canister, but before the inlet to the second or final polishing canister. Sampling shall be performed while venting maximum emissions to the CAS (example: during loading of tank trucks, during tank filling, during process venting).
- (ii) A flame ionization detector (FID) shall be used for VOC sampling. The FID shall be calibrated prior to sampling with certified gas mixtures (propane in air) of 10 ppmv \pm 2.0 percent and of 100 ppmv \pm 2.0 percent.
- (iii) When the VOC breakthrough is measured, the waste gas flow shall be switched to the second canister immediately. Within four hours of detection of breakthrough, a fresh canister shall be placed as the new final polishing canister. Sufficient fresh activated carbon canisters shall be maintained at the site to ensure fresh polishing canisters are installed within four hours of detection of breakthrough.
- (iv) Records of the CAS monitoring maintained at the plant site shall include, but are not limited to, the following:
 - (I) sample time and date;
 - (II) monitoring results (ppmv);
 - (III) corrective action taken, including the time and date of the action; and
 - (IV) process operations occurring at the time of sampling.
- (v) The registration shall include a demonstration that activated carbon is an appropriate choice for control of the organic compounds to be stripped.

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§106.533. Water and Soil Remediation (Previously SE 68). (CON'T)

- (6)** Before construction of the facility begins, the facility shall be registered with the commission's Office of Air Quality in Austin using Form PI-7. The registration shall contain specific information concerning the basis (measured or calculated) for the expected emissions from the facility. The registration shall also explain details as to why the emission control system can be expected to perform as represented.

- (7)** Records required by applicable paragraphs of this section shall be maintained at the site and made available to personnel from the commission or any local agency having jurisdiction. These records shall be made available to representatives of the commission and local programs upon request and shall be retained for at least two years following the date that the data is obtained.

Adopted February 19, 1997

Effective March 14, 1997