

**Erler &
Kalinowski, Inc.**

Consulting Engineers and Scientists

1730 So. Amphlett Blvd., Suite 320
San Mateo, California 94402
(415) 578-1172
Fax (415) 578-9131

LETTER OF TRANSMITTAL

TO: Caroline Kwan
U. S. EPA
290 Broadway, 20th Floor
New York, NY 10007-1866

DATE: 19 January 1996
PROJ. NO. 940058.07
SUBJECT: Texaco Tutu

WE ARE SENDING YOU THE FOLLOWING:

Table 1 from our letter of 11 January 1996 regarding "Proposal for Disposal of Drums Containing Solid Drilling Spoils with Low Levels of Petroleum Hydrocarbons at the Bavoni Landfill, Tutu Texaco Service Station, St. Thomas, U.S. Virgin Islands". We apologize for the inconvenience.

COPY TO:

Paul Ryan, TCI

Very truly yours,



Carey E. Peabody
ERLER & KALINOWSKI, INC.

*If enclosures are not as noted, please advise us
at once at (415) 578-1172.*

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Table 1
Estimated Human Health Risk to Landfill Employees due to Petroleum Hydrocarbons in Solids
Proposed for Disposal at Bavoni Landfill, St. Thomas (1)

Texaco, Tutu, St. Thomas, Virgin Islands
(EKI 940058.01)

Compound (2)	Maximum Concentration Detected (mg/kg)	Chronic Oral Reference Dose (RfDo) (3) (mg/kg-day)	Chronic Inhalation Reference Dose (RfDi) (3) (mg/kg-day)	Carcinogenic Oral Slope Factor (SFO) (3) (mg/kg-day) ⁻¹	Carcinogenic Inhalation Slope Factor (SFi) (3) (mg/kg-day) ⁻¹	Volatilization Factor (4) (m ³ /kg)	Estimated Non-Carcinogenic Hazard Index (5)	Estimated Incremental Lifetime Cancer Risk (5)
TPH as diesel	870	0.02 e	0.02 r	NA	NA	NA	0.21	NA
TPH as gasoline	7.3	0.2 e	0.2 r	0.0017 e	0.0017 r	3500	0.00018	5.8E-09
Toluene	0.0088	0.2 i	0.11 i	NA	NA	13000	0.00000022	NA
Xylenes	0.03	2 i	2 r	NA	NA	41000	0.00000007	NA
1,2,4-Trimethylbenzene	0.12	Data inadequate for quantitative risk analysis (U.S. EPA HEAST, 1995)						
Total Estimated Risk due to Petroleum Hydrocarbons in Solids from Texaco Tutu Service Station							0.21	5.8E-09

Notes:

- (1) Landfill employees are assumed to be exposed to solids containing petroleum hydrocarbons through incidental ingestion of solids, dermal contact with solids, and inhalation of volatile compounds or fugitive dust containing non-volatile compounds.
- (2) Petroleum hydrocarbon compounds detected in 3 composite samples collected from 55-gallon drums (Texaco, 3 February 1995).
- (3) Toxicity information obtained from the following sources:
e=U.S. EPA Environmental Criteria and Assessment Office (ECAO), Cincinnati, Ohio (provisional reference dose).
i=U.S. EPA Integrated Risk Information System (IRIS).
r=Route extrapolation (e.g., ingestion data used in the absence of inhalation data).
NA=not available or not applicable
- (4) Volatilization calculated using the equations in U.S. EPA Region IX Preliminary Remediation Goals, Second Half 1995, dated 1 September 1995. In the absence of a volatilization factor for gasoline, the volatilization factor for hexane was used. Due to the higher molecular weight of diesel, a volatilization factor is not applicable. Inhalation of diesel is assumed to occur through inhalation of fugitive dust.
- (5) Estimated non-carcinogenic hazard index and lifetime incremental cancer risk calculated using the following assumptions:
Exposure frequency=250 days/year; Exposure duration=0.5 year; Body weight=70 kg; Averaging time=365 days (non-carcinogenic);
Averaging time=25,550 days (carcinogenic); Soil ingestion rate=480 mg/day; Exposed skin surface area=5200 cm² (legs, arms, hands, head);
Soil adherence factor=1 mg/cm²; Skin absorption factor=0.1; Breathing rate=20 m³/day; Fugitive dust concentration (TPHd only)=0.05 mg/m³
Values obtained from U.S. EPA documents; exposure duration of 0.5 year based on best professional judgment for a conservative exposure scenario.