

Cover Sheet for
ENVIRONMENTAL CHEMISTRY METHOD

Pesticide Name: Linuron

MRID #: 424228-01

Matrix: Soil

Analysis: HPLC/UV

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THE COMPANY AND ITS COMPETITORS. The capital of the company is £1,000,000, divided into 10,000 shares of £100 each. The company has a large area of mineral land, amounting to 1,000 acres, which contains mineral veins of gold, silver, copper, lead, zinc, tin, and other minerals. The company also owns a number of buildings, including a large factory, a warehouse, and several houses. The company is managed by a board of directors, consisting of five members, who are elected by the shareholders. The company's main office is located in London, and it has branches in New York, Paris, and Berlin. The company's products include gold, silver, copper, lead, zinc, tin, and other minerals, as well as various chemicals and pharmaceuticals. The company's main source of revenue is from the sale of its minerals and chemicals, and it also derives income from its real estate holdings and its manufacturing operations.

在“新嘉坡-吉隆坡-新嘉坡”航线上，新嘉坡港务局（NPA）负责管理新嘉坡港的航行和停泊服务。

ORGANICS LABORATORY
Minnesota Valley Testing Laboratories, Inc.
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Method No.	Edition	Revision
L35011	1	
Subject:		
Determination of Linuron in Soil using High Performance Liquid Chromatography		
Submitted By: Steven C. Anderson		
Approved By: Kim Sjogren		
References: J. Ag. Food Chem., 1980, 28, 974-978		

1.0 SCOPE

This method describes the procedure for extracting and analyzing soil samples for Linuron residue. The screening limit for this residue is 0.01 ppm in soil.

1.0 PRINCIPLE

Linuron is extracted from soil by shaking with methanol and water. The extract is then concentrated by rotary evaporation until near dryness. The remaining extract is diluted to 5ml with 45/55 acetonitrile/water and filtered through a 45 micron filter. The extract is then analyzed by HPLC.

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3.0

CHEMICALS AND SOLUTIONS

Acetonitrile, J.T. Baker HPLC grade, or equivalent

Linuron Standard Reference Material

Methanol, J.T. Baker reagent grade, or equivalent

Water, deionized

4.0

APPARATUS

4.1 Equipment

4.1.1 Centrifuge, capable of holding 250ml bottles
and capable of 1500rpm

4.1.2 Centrifuge bottle, 250ml polypropylene, w/lid

4.1.3 Cotton, absorbent

4.1.4 Filter, 45 micron, for 4.1.13

4.1.5 Funnel, 65mm

4.1.6 Graduated cylinder, 10ml

4.1.7 Graduated cylinder, 100ml

4.1.8 Rotary Film Evaporator

4.1.9 Ultrasonic bath

4.1.10 Shaker, Reciprocating, capable of 200rpm

4.1.11 Syringe, 2.5-5ml capacity disposable

4.2 Glassware

4.2.1 Boiling Flask, 500ml

4.2.2 Pipettes, Disposable Pasteur

4.2.3 Vial, Auto Sampler (4ml), w/screw cap and
7mm thin Teflon seal

4.2.4 Vial, Solvent Saver (7ml), w/screw cap

4.2.5 Volumetric Flask, 5ml, w/lid

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4.3 HPLC

- 4.3.1 Column: Dupont Zorbax ODS, number 880952.702, 4.6mm X 25cm, or equivalent.
- 4.3.2 Detector: Shimadzu SPO-6A, variable wavelength UV, operable at 254nm, or equivalent.
- 4.3.3 Injector: Shimadzu SIL-6B, capable of reproducibly injecting 20uL.
- 4.3.4 Pump: Waters model 510 or equivalent, capable of operating at pressures up to 2500psi with a solvent flow rate of 1.5 ml/minute.
- 4.3.5 Recorder: Shimadzu C-R3A Chromatopac, capable of reporting peak height, area and retention time, or equivalent.

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5.0 ANALYTICAL PROCEDURE

5.1 Extraction

- 5.1.1 Weigh 50 grams (to 0.005 g) of well homogenized, air dried soil into a 250 ml polypropylene centrifuge bottle fitted with a rubber ringed screw cap.
- 5.1.2 Add 10 ml of deionized water and 100 ml of methanol to the soil sample and shake for one hour at 200rpm on the reciprocating shaker.
- 5.1.3 Centrifuge for fifteen minutes at 1500 rpm. Place a small plug of absorbent cotton in a 65mm funnel and decant the solution through the cotton into a 500ml boiling flask. Keep the funnels and flasks together and set aside.
- 5.1.4 Add 100 ml of methanol to the 250 ml centrifuge bottle, cap and shake to break up soil then return to shaker for one hour.
- 5.1.5 Centrifuge again for fifteen minutes at 1500rpm. Decant the solution again through the cotton into the 500 ml boiling flask, combining this decantant with the decantant from step 5.1.3.
- 5.1.6 Concentrate the combined solutions on a rotary evaporator at 40 degrees C., until about 1ml of solution remains.
- 5.1.7 Using a disposable pastuer pipette, quantitatively transfer the remaining solution to a 5ml volumetric flask, then using about 1ml aliquots of acetonitrile/water (45/55) and the sonic cleaner, remove as much of the remaining residue from the boiling flask as possible and add it to the volumetric flask. Bring the sample to 5ml with the acetonitrile /water.
- 5.1.8 Filter the resulting solution from 5.1.7 through a 0.45 micron filter, using a disposable syringe, into a 7 ml saver vial. Transfer 2ml of the filtered solution to an autosampler vial for analysis and archive the remaining extract.

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6.0

High Performance Liquid Chromatographic Analysis

The final determination of Linuron is performed on a HPLC equipped with a reverse phase column and a UV detector at 254nm, a pump flow rate of 1.5ml/minute of mobile phase (45/55 acetonitrile/water) and a chart speed of 1cm/minute.

6.1 Standardization

- 6.1.1 Make up standard solutions by serially diluting a known amount of the reference standard in mobile phase.
- 6.1.2 Inject constant volumes (20uL) of known amounts of standard on the HPLC.
- 6.1.3 Measure the standard peak areas.
- 6.1.4 Plotting peak area vs. concentration, calculate the best fit line using linear regression.

6.2 Residue Determination

- 6.2.1 Inject the solution from 5.1.8 at the same volume used for the standards (20uL).
- 6.2.2 Measure the peak area.
- 6.2.3 Determine the concentration (ppm) of Linuron in the sample aliquot injected by inserting the peak area into the equation of the line obtained in 6.1.4.
- 6.2.4 Calculate the residue as follows:

$$\text{ppm(sample)} = \frac{(\text{extraction (dilution ml)})(\text{dilution conc ug/mL})}{(\text{grams of sample})}$$

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**APPENDIX II
FORTIFICATION LEVELS**

1. Fortification Level I - 100% of the fortifications are intact.

2. Fortification Level II - 90% of the fortifications are intact.

3. Fortification Level III - 80% of the fortifications are intact.

4. Fortification Level IV - 70% of the fortifications are intact.

5. Fortification Level V - 60% of the fortifications are intact.

6. Fortification Level VI - 50% of the fortifications are intact.

7. Fortification Level VII - 40% of the fortifications are intact.

8. Fortification Level VIII - 30% of the fortifications are intact.

9. Fortification Level IX - 20% of the fortifications are intact.

10. Fortification Level X - 10% of the fortifications are intact.

11. Fortification Level XI - 5% of the fortifications are intact.

12. Fortification Level XII - 2% of the fortifications are intact.

13. Fortification Level XIII - 1% of the fortifications are intact.

14. Fortification Level XIV - 0.5% of the fortifications are intact.

15. Fortification Level XV - 0.2% of the fortifications are intact.

16. Fortification Level XVI - 0.1% of the fortifications are intact.

17. Fortification Level XVII - 0.05% of the fortifications are intact.

18. Fortification Level XVIII - 0.02% of the fortifications are intact.

19. Fortification Level XIX - 0.01% of the fortifications are intact.

APPENDIX II
FORTIFICATION LEVELS

Sample Description	Reference Study	Fortification/Extraction Date	Fortification Level (μg)	Fortification Level (ppm)	Analysis Date
0-month - aged ^a	AMR 1269-88	-02 JUL 89	49.9	0.998	—
0-month - fresh	AMR 1269-88	-02 JUL 89	49.9	0.998	—
0-month - aged	AMR 1677-90	21 MAY 90	53.85	1.077	31 MAY 90
0-month - fresh	AMR 1677-90	21 MAY 90	53.85	1.077	31 MAY 90
1 month - aged	AMR 1677-90	21 MAY 90	53.85	1.077	26 JUN 90
1 month - fresh	AMR 1677-90	21 JUN 90	53.85	1.077	26 JUN 90
3 month - aged	AMR 1677-90	21 MAY 90	53.85	1.077	24 AUG 90
3 month - fresh	AMR 1677-90	21 AUG 90	54.35	1.087	24 AUG 90
6 month - aged	AMR 1677-90	21 MAY 90	53.85	1.077	27 NOV 90
6 month - fresh	AMR 1677-90	26 NOV 90	54.35	1.087	27 NOV 90
12 month - aged	AMR 1269-88	-02 JUL 89	49.9	0.998	13 JUL 90
12 month - fresh	AMR 1269-88	02 JUL 90	53.85	1.077	13 JUL 90
12 month - aged	AMR 1677-90	21 MAY 90	53.85	1.077	24 JUN 91
12 month - fresh	AMR 1677-90	28 MAY 91	54.35	1.087	24 JUN 91
18 month - aged	AMR 1269-88	-02 JUL 89	49.9	0.998	06 FEB 91
18 month - fresh	AMR 1269-88	23 JAN 91	54.35	1.087	06 FEB 91
24 month - aged	AMR 1269-88	-02 JUL 89	49.9	0.998	18 JUL 91
24 month - fresh	AMR 1269-88	09 JUL 91	54.35	1.087	18 JUL 91
26 month - aged	AMR 1269-88	-02 JUL 89	49.9	0.998	15 SEP 91
26 month - fresh	AMR 1269-88	30 AUG 91	54.35	1.087	15 SEP 91
30 month - aged	AMR 1269-88	-02 JUL 89	49.9	0.9006, 0.9121 ^t	26 DEC 91
30 month - fresh	AMR 1269-88	23 DEC 91	54.35	0.9882	26 DEC 91
		23 DEC 91	—	—	27 DEC 91
		27 DEC 91	—	—	30 DEC 91

* The soil samples for AMR 1269-88 were weighed, fortified (as 0-month), and extracted approximately July 2, 1989 (see protocol deviations, p 15).

^t Fortification levels in ppm were calculated based on reweighed soil contents for the 30-month analysis interval.

APPENDIX III
TYPICAL CHROMATOGRAMS

REDUCTION FACTOR: 90%

Sample	Time	RT₁	RT₂	RT₃	RT₄	RT₅	RT₆	RT₇	RT₈	RT₉	RT₁₀	RT₁₁	RT₁₂	RT₁₃	RT₁₄	RT₁₅	RT₁₆	RT₁₇	RT₁₈	RT₁₉	RT₂₀	RT₂₁	RT₂₂	RT₂₃	RT₂₄	RT₂₅	RT₂₆	RT₂₇	RT₂₈	RT₂₉	RT₃₀	RT₃₁	RT₃₂	RT₃₃	RT₃₄	RT₃₅	RT₃₆	RT₃₇	RT₃₈	RT₃₉	RT₄₀	RT₄₁	RT₄₂	RT₄₃	RT₄₄	RT₄₅	RT₄₆	RT₄₇	RT₄₈	RT₄₉	RT₅₀	RT₅₁	RT₅₂	RT₅₃	RT₅₄	RT₅₅	RT₅₆	RT₅₇	RT₅₈	RT₅₉	RT₆₀	RT₆₁	RT₆₂	RT₆₃	RT₆₄	RT₆₅	RT₆₆	RT₆₇	RT₆₈	RT₆₉	RT₇₀	RT₇₁	RT₇₂	RT₇₃	RT₇₄	RT₇₅	RT₇₆	RT₇₇	RT₇₈	RT₇₉	RT₈₀	RT₈₁	RT₈₂	RT₈₃	RT₈₄	RT₈₅	RT₈₆	RT₈₇	RT₈₈	RT₈₉	RT₉₀	RT₉₁	RT₉₂	RT₉₃	RT₉₄	RT₉₅	RT₉₆	RT₉₇	RT₉₈	RT₉₉	RT₁₀₀	RT₁₀₁	RT₁₀₂	RT₁₀₃	RT₁₀₄	RT₁₀₅	RT₁₀₆	RT₁₀₇	RT₁₀₈	RT₁₀₉	RT₁₁₀	RT₁₁₁	RT₁₁₂	RT₁₁₃	RT₁₁₄	RT₁₁₅	RT₁₁₆	RT₁₁₇	RT₁₁₈	RT₁₁₉	RT₁₂₀	RT₁₂₁	RT₁₂₂	RT₁₂₃	RT₁₂₄	RT₁₂₅	RT₁₂₆	RT₁₂₇	RT₁₂₈	RT₁₂₉	RT₁₃₀	RT₁₃₁	RT₁₃₂	RT₁₃₃	RT₁₃₄	RT₁₃₅	RT₁₃₆	RT₁₃₇	RT₁₃₈	RT₁₃₉	RT₁₄₀	RT₁₄₁	RT₁₄₂	RT₁₄₃	RT₁₄₄	RT₁₄₅	RT₁₄₆	RT₁₄₇	RT₁₄₈	RT₁₄₉	RT₁₅₀	RT₁₅₁	RT₁₅₂	RT₁₅₃	RT₁₅₄	RT₁₅₅	RT₁₅₆	RT₁₅₇	RT₁₅₈	RT₁₅₉	RT₁₆₀	RT₁₆₁	RT₁₆₂	RT₁₆₃	RT₁₆₄	RT₁₆₅	RT₁₆₆	RT₁₆₇	RT₁₆₈	RT₁₆₉	RT₁₇₀	RT₁₇₁	RT₁₇₂	RT₁₇₃	RT₁₇₄	RT₁₇₅	RT₁₇₆	RT₁₇₇	RT₁₇₈	RT₁₇₉	RT₁₈₀	RT₁₈₁	RT₁₈₂	RT₁₈₃	RT₁₈₄	RT₁₈₅	RT₁₈₆	RT₁₈₇	RT₁₈₈	RT₁₈₉	RT₁₉₀	RT₁₉₁	RT₁₉₂	RT₁₉₃	RT₁₉₄	RT₁₉₅	RT₁₉₆	RT₁₉₇	RT₁₉₈	RT₁₉₉	RT₂₀₀	RT₂₀₁	RT₂₀₂	RT₂₀₃	RT₂₀₄	RT₂₀₅	RT₂₀₆	RT₂₀₇	RT₂₀₈	RT₂₀₉	RT₂₁₀	RT₂₁₁	RT₂₁₂	RT₂₁₃	RT₂₁₄	RT₂₁₅	RT₂₁₆	RT₂₁₇	RT₂₁₈	RT₂₁₉	RT₂₂₀	RT₂₂₁	RT₂₂₂	RT₂₂₃	RT₂₂₄	RT₂₂₅	RT₂₂₆	RT₂₂₇	RT₂₂₈	RT₂₂₉	RT₂₃₀	RT₂₃₁	RT₂₃₂	RT₂₃₃	RT₂₃₄	RT₂₃₅	RT₂₃₆	RT₂₃₇	RT₂₃₈	RT₂₃₉	RT₂₄₀	RT₂₄₁	RT₂₄₂	RT₂₄₃	RT₂₄₄	RT₂₄₅	RT₂₄₆	RT₂₄₇	RT₂₄₈	RT₂₄₉	RT₂₅₀	RT₂₅₁	RT₂₅₂	RT₂₅₃	RT₂₅₄	RT₂₅₅	RT₂₅₆	RT₂₅₇	RT₂₅₈	RT₂₅₉	RT₂₆₀	RT₂₆₁	RT₂₆₂	RT₂₆₃	RT₂₆₄	RT₂₆₅	RT₂₆₆	RT₂₆₇	RT₂₆₈	RT₂₆₉	RT₂₇₀	RT₂₇₁	RT₂₇₂	RT₂₇₃	RT₂₇₄	RT₂₇₅	RT₂₇₆	RT₂₇₇	RT₂₇₈	RT₂₇₉	RT₂₈₀	RT₂₈₁	RT₂₈₂	RT₂₈₃	RT₂₈₄	RT₂₈₅	RT₂₈₆	RT₂₈₇	RT₂₈₈	RT₂₈₉	RT₂₉₀	RT₂₉₁	RT₂₉₂	RT₂₉₃	RT₂₉₄	RT₂₉₅	RT₂₉₆	RT₂₉₇	RT₂₉₈	RT₂₉₉	RT₃₀₀	RT₃₀₁	RT₃₀₂	RT₃₀₃	RT₃₀₄	RT₃₀₅	RT₃₀₆	RT₃₀₇	RT₃₀₈	RT₃₀₉	RT₃₁₀	RT₃₁₁	RT₃₁₂	RT₃₁₃	RT₃₁₄	RT₃₁₅	RT₃₁₆	RT₃₁₇	RT₃₁₈	RT₃₁₉	RT₃₂₀	RT₃₂₁	RT₃₂₂	RT₃₂₃	RT₃₂₄	RT₃₂₅	RT₃₂₆	RT₃₂₇	RT₃₂₈	RT₃₂₉	RT₃₃₀	RT₃₃₁	RT₃₃₂	RT₃₃₃	RT₃₃₄	RT₃₃₅	RT₃₃₆	RT₃₃₇	RT₃₃₈	RT₃₃₉	RT₃₄₀	RT₃₄₁	RT₃₄₂	RT₃₄₃	RT₃₄₄	RT₃₄₅	RT₃₄₆	RT₃₄₇	RT₃₄₈	RT₃₄₉	RT₃₅₀	RT₃₅₁	RT₃₅₂	RT₃₅₃	RT₃₅₄	RT₃₅₅	RT₃₅₆	RT₃₅₇	RT₃₅₈	RT₃₅₉	RT₃₆₀	RT₃₆₁	RT₃₆₂	RT₃₆₃	RT₃₆₄	RT₃₆₅	RT₃₆₆	RT₃₆₇	RT₃₆₈	RT₃₆₉	RT₃₇₀	RT₃₇₁	RT₃₇₂	RT₃₇₃	RT₃₇₄	RT₃₇₅	RT₃₇₆	RT₃₇₇	RT₃₇₈	RT₃₇₉	RT₃₈₀	RT₃₈₁	RT₃₈₂	RT₃₈₃	RT₃₈₄	RT₃₈₅	RT₃₈₆	RT₃₈₇	RT₃₈₈	RT₃₈₉	RT₃₉₀	RT₃₉₁	RT₃₉₂	RT₃₉₃	RT₃₉₄	RT₃₉₅	RT₃₉₆	RT₃₉₇	RT₃₉₈	RT₃₉₉	RT₄₀₀	RT₄₀₁	RT₄₀₂	RT₄₀₃	RT₄₀₄	RT₄₀₅	RT₄₀₆	RT₄₀₇	RT₄₀₈	RT₄₀₉	RT₄₁₀	RT₄₁₁	RT₄₁₂	RT₄₁₃	RT₄₁₄	RT₄₁₅	RT₄₁₆	RT₄₁₇	RT₄₁₈	RT₄₁₉	RT₄₂₀	RT₄₂₁	RT₄₂₂	RT₄₂₃	RT₄₂₄	RT₄₂₅	RT₄₂₆	RT₄₂₇	RT₄₂₈	RT₄₂₉	RT₄₃₀	RT₄₃₁	RT₄₃₂	RT₄₃₃	RT₄₃₄	RT₄₃₅	RT₄₃₆	RT₄₃₇	RT₄₃₈	RT₄₃₉	RT₄₄₀	RT₄₄₁	RT₄₄₂	RT₄₄₃	RT₄₄₄	RT₄₄₅	RT₄₄₆	RT₄₄₇	RT₄₄₈	RT₄₄₉	RT₄₅₀	RT₄₅₁	RT₄₅₂	RT₄₅₃	RT₄₅₄	RT₄₅₅	RT₄₅₆	RT₄₅₇	RT₄₅₈	RT₄₅₉	RT₄₆₀	RT₄₆₁	RT₄₆₂	RT₄₆₃	RT₄₆₄	RT₄₆₅	RT₄₆₆	RT₄₆₇	RT₄₆₈	RT₄₆₉	RT₄₇₀	RT₄₇₁	RT₄₇₂	RT₄₇₃	RT₄₇₄	RT₄₇₅	RT₄₇₆	RT₄₇₇	RT₄₇₈	RT₄₇₉	RT₄₈₀	RT₄₈₁	RT₄₈₂	RT₄₈₃	RT₄₈₄	RT₄₈₅	RT₄₈₆	RT₄₈₇	RT₄₈₈	RT₄₈₉	RT₄₉₀	RT₄₉₁	RT₄₉₂	RT₄₉₃	RT₄₉₄	RT₄₉₅	RT₄₉₆	RT₄₉₇	RT₄₉₈	RT₄₉₉	RT₅₀₀	RT₅₀₁	RT₅₀₂	RT₅₀₃	RT₅₀₄	RT₅₀₅	RT₅₀₆	RT₅₀₇	RT₅₀₈	RT₅₀₉	RT₅₁₀	RT₅₁₁	RT₅₁₂	RT₅₁₃	RT₅₁₄	RT₅₁₅	RT₅₁₆	RT₅₁₇	RT₅₁₈	RT₅₁₉	RT₅₂₀	RT₅₂₁	RT₅₂₂	RT₅₂₃	RT₅₂₄	RT₅₂₅	RT₅₂₆	RT₅₂₇	RT₅₂₈	RT₅₂₉	RT₅₃₀	RT₅₃₁	RT₅₃₂	RT₅₃₃	RT₅₃₄	RT₅₃₅	RT₅₃₆	RT₅₃₇	RT₅₃₈	RT₅₃₉	RT₅₄₀	RT₅₄₁	RT₅₄₂	RT₅₄₃	RT₅₄₄	RT₅₄₅	RT₅₄₆	RT₅₄₇	RT₅₄₈	RT₅₄₉	RT₅₅₀	RT₅₅₁	RT₅₅₂	RT₅₅₃	RT₅₅₄	RT₅₅₅	RT₅₅₆	RT₅₅₇	RT₅₅₈	RT₅₅₉	RT₅₆₀	RT₅₆₁	RT₅₆₂	RT₅₆₃	RT₅₆₄	RT₅₆₅	RT₅₆₆	RT₅₆₇	RT₅₆₈	RT₅₆₉	RT₅₇₀	RT₅₇₁	RT₅₇₂	RT₅₇₃	RT₅₇₄	RT₅₇₅	RT₅₇₆	RT₅₇₇	RT₅₇₈	RT₅₇₉	RT₅₈₀	RT₅₈₁	RT₅₈₂	RT₅₈₃	RT₅₈₄	RT₅₈₅	RT₅₈₆	RT₅₈₇	RT₅₈₈	RT₅₈₉	RT₅₉₀	RT₅₉₁	RT₅₉₂	RT₅₉₃	RT₅₉₄	RT₅₉₅	RT₅₉₆	RT₅₉₇	RT₅₉₈	RT₅₉₉	RT₆₀₀	RT₆₀₁	RT₆₀₂	RT₆₀₃	RT₆₀₄	RT₆₀₅	RT₆₀₆	RT₆₀₇	RT₆₀₈	RT₆₀₉	RT₆₁₀	RT₆₁₁	RT₆₁₂	RT₆₁₃	RT₆₁₄	RT₆₁₅	RT₆₁₆	RT₆₁₇	RT₆₁₈	RT₆₁₉	RT₆₂₀	RT₆₂₁	RT₆₂₂	RT₆₂₃	RT₆₂₄	RT₆₂₅	RT₆₂₆	RT₆₂₇	RT₆₂₈	RT₆₂₉	RT₆₃₀	RT₆₃₁	RT₆₃₂	RT₆₃₃	RT₆₃₄	RT₆₃₅	RT₆₃₆	RT₆₃₇	RT₆₃₈	RT₆₃₉	RT₆₄₀	RT₆₄₁	RT₆₄₂	RT₆₄₃	RT₆₄₄	RT₆₄₅	RT₆₄₆	RT₆₄₇	RT₆₄₈	RT₆₄₉	RT₆₅₀	RT₆₅₁	RT₆₅₂	RT₆₅₃	RT₆₅₄	RT₆₅₅	RT₆₅₆	RT₆₅₇	RT₆₅₈	RT₆₅₉	RT₆₆₀	RT₆₆₁	RT₆₆₂	RT₆₆₃	RT₆₆₄	RT₆₆₅	RT₆₆₆	RT₆₆₇	RT₆₆₈	RT₆₆₉	RT₆₇₀	RT₆₇₁	RT₆₇₂	RT₆₇₃	RT₆₇₄	RT₆₇₅	RT₆₇₆	RT₆₇₇	RT₆₇₈	RT₆₇₉	RT₆₈₀	RT₆₈₁	RT₆₈₂	RT₆₈₃	RT₆₈₄	RT₆₈₅	RT₆₈₆	RT₆₈₇	RT₆₈₈	RT₆₈₉	RT₆₉₀	RT₆₉₁	RT₆₉₂	RT₆₉₃	RT₆₉₄	RT₆₉₅	RT₆₉₆	RT₆₉₇	RT₆₉₈	RT₆₉₉	RT₇₀₀	RT₇₀₁	RT₇₀₂	RT₇₀₃	RT₇₀₄	RT₇₀₅	RT₇₀₆	RT₇₀₇	RT₇₀₈	RT₇₀₉	RT₇₁₀	RT₇₁₁	RT₇₁₂	RT₇₁₃	RT₇₁₄	RT₇₁₅	RT₇₁₆	RT₇₁₇	RT₇₁₈	RT₇₁₉	RT₇₂₀	RT₇₂₁	RT₇₂₂	RT₇₂₃	RT₇₂₄	RT₇₂₅	RT₇₂₆	RT₇₂₇	RT₇₂₈	RT₇₂₉	RT₇₃₀	RT₇₃₁	RT₇₃₂	RT₇₃₃	RT₇₃₄	RT₇₃₅	RT₇₃₆	RT₇₃₇	RT₇₃₈	RT₇₃₉	RT₇₄₀	RT₇₄₁	RT₇₄₂	RT₇₄₃	RT₇₄₄	RT₇₄₅	RT₇₄₆	RT₇₄₇	RT₇₄₈	RT₇₄₉	RT₇₅₀	RT₇₅₁	RT₇₅₂	RT₇₅₃	RT₇₅₄	RT₇₅₅	RT₇₅₆	RT₇₅₇	RT₇₅₈	RT₇₅₉	RT₇₆₀	RT₇₆₁	RT₇₆₂	RT₇₆₃	RT₇₆₄	RT₇₆₅	RT₇₆₆	RT₇₆₇	RT₇₆₈	RT₇₆₉	RT₇₇₀	RT₇₇₁	RT₇₇₂	RT₇₇₃	RT₇₇₄	RT₇₇₅	RT₇₇₆	RT₇₇₇	RT₇₇₈	RT₇₇₉	RT₇₈₀	RT₇₈₁	RT₇₈₂	RT₇₈₃	RT₇₈₄	RT₇₈₅	RT₇₈₆	RT₇₈₇	RT₇₈₈	RT₇₈₉	RT₇₉₀	RT₇₉₁	RT₇₉₂	RT₇₉₃	RT₇₉₄	RT₇₉₅	RT₇₉₆	RT₇₉₇	RT₇₉₈	RT₇₉₉	RT₈₀₀	RT₈₀₁	RT₈₀₂	RT₈₀₃	RT₈₀₄	RT₈₀₅	RT₈₀₆	RT₈₀₇	RT

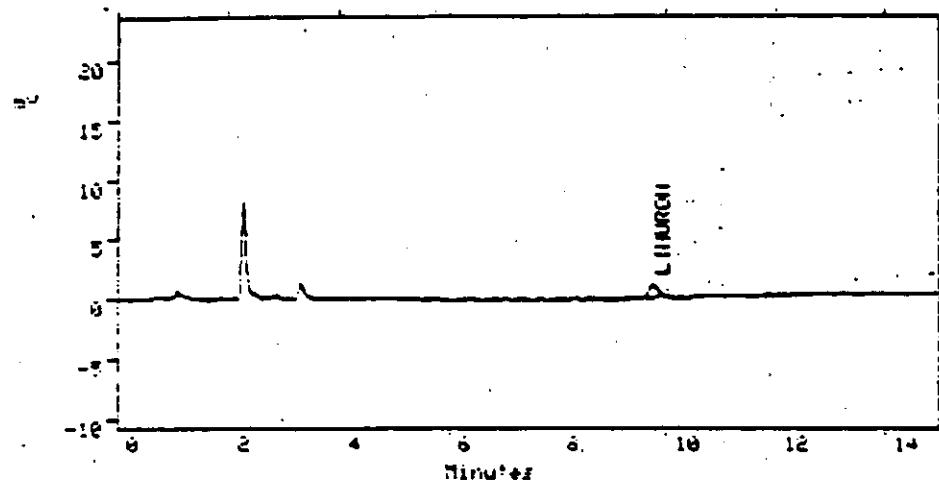
CHROMATOGRAM OF LINURON STANDARD

LC Results:

Peak Name	Ret Time	Area	Height Int	Amount
LINURON	9.750	13701	1038 BB	CAL

Second Plot:

24MSTD1 Manual Injection 1 Ch 1



Linuron Standard
0.1067 μ g/ml.

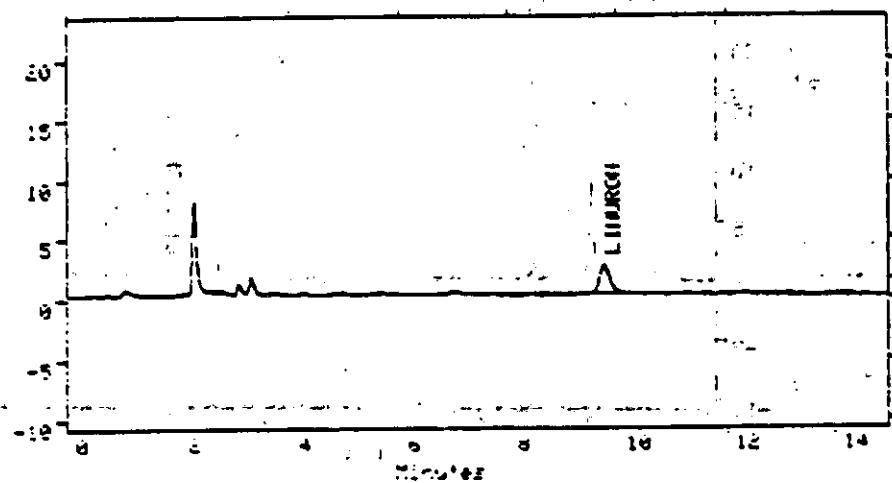
CHROMATOGRAM OF LINURON STANDARD

LC Results:

Ex. Name	Ret. Time	Area	Height Ins.	Amount
LINURON	9.70u	34221	2343 86	CAL

Second Plot:

24MSD8 Manual Injection 1 Ch 1



Linuron Standard
0.2174 μ g/mL

BEST AVAILABLE COPY

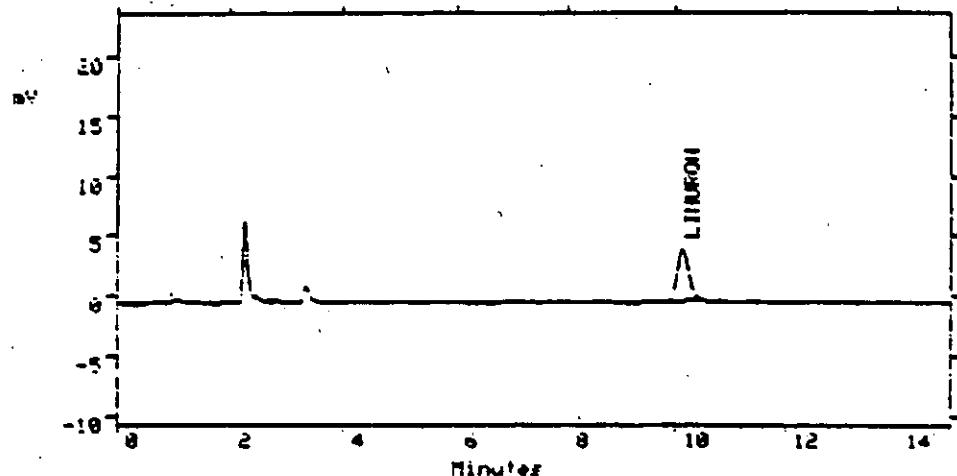
CHROMATOGRAM OF LINURON STANDARD

GC Results:

Peak Name	Ret Time	Area	Height Int	Amount
LINURON	10.120	62421	4272 55	CAL

Second Plot:

24MSTD4 Manual Injection 1 Ch 1



Linuron Standard
0.4347 µg/mL

BEST AVAILABLE COPY

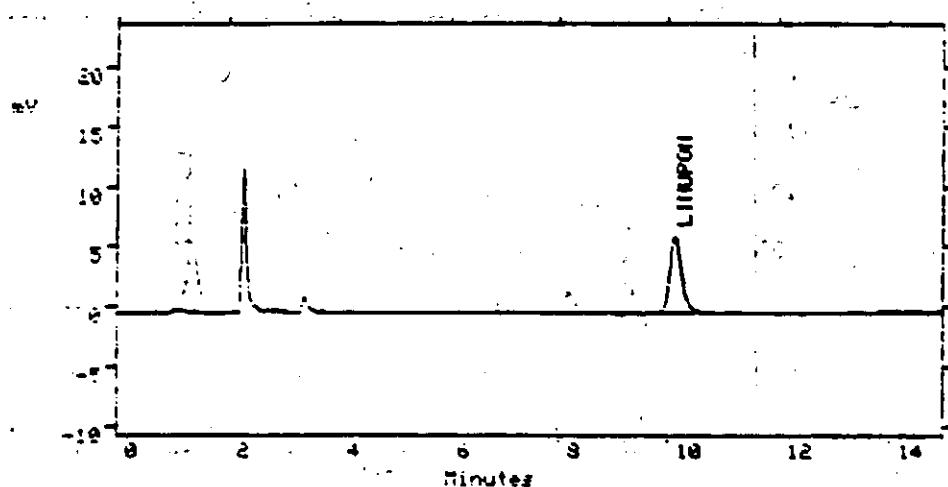
CHROMATOGRAM OF LINURON STANDARD

LC Results:

Peak Name	Ret Time	Area	Height (in)	Amount
LINURON	10.120	95448	63.0	BB

Second Plot:

24MSTD5 Manual Injection : Ch 1



Linuron Standard
0.6521 µg/ml.

BEST AVAILABLE COPY

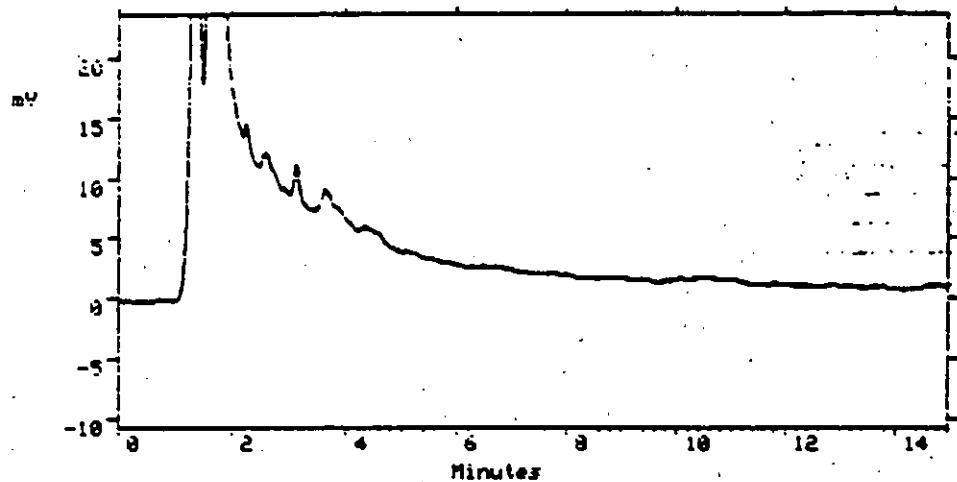
CHROMATOGRAM OF UNTREATED SOIL SAMPLE

GC Results:

Peak Name	Ret Time	Area	Height Int	Amount
INURON	9.900	-	- NF	-

Second Plot:

24M2CNTL Manual Injection 1 Ch 1



Untreated Soil Sample
≤0.010 ppm Thuron

BEST AVAILABLE COPY

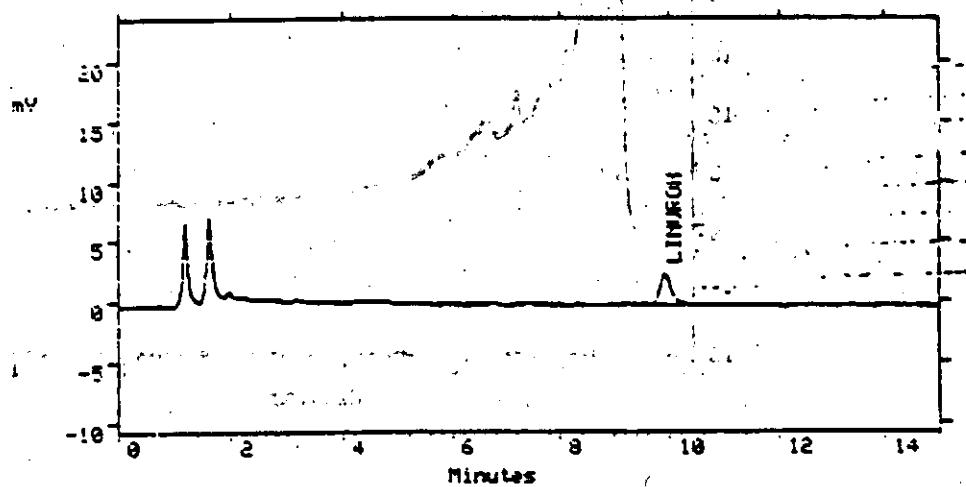
**CHROMATOGRAM OF UNTREATED SOIL SAMPLE FORTIFIED
WITH LINURON AND AGED 24 MONTHS**

LC Results:

Peak Name	Ret Time	Area	Height Int	Amount
LINURON	9.913	33835	2431 BB	0.004

Second Plot:

24MFI Manual Injection 1 Ch 1



Untreated Soil Sample

Fortified at: 0.998 ppm
Aged: Frozen 24 months
Recovery: 61%
Recovery, normalized: 86%

BEST AVAILABLE COPY

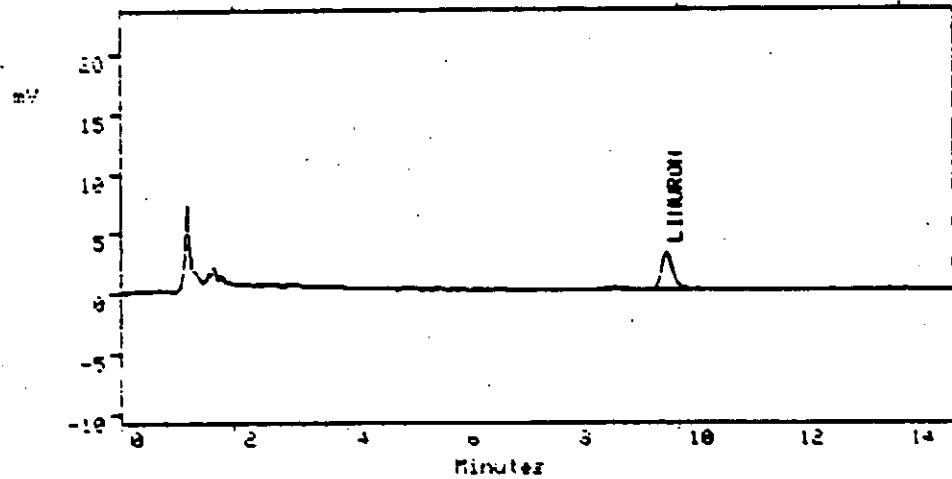
**CHROMATOGRAM OF UNTREATED SOIL SAMPLE FRESHLY FORTIFIED
WITH LINURON**

LC results:

Peak Name	Ret Time	Area	Height Int	Amount
LINURON	9.774	43390	3050	0.005

Second Plot:

24MFCW Manual Injection 1 Ch 1



Untreated Soil Sample

Freshly Fortified at: 0.1087 ppm
Frozen: 24 Months
Recovery: 71%
Recovery, normalized: 100%

BEST AVAILABLE COPY

**APPENDIX IV
SUPPORTING RAW DATA**