US EPA RECORDS CENTER REGION 5
425946

SAMPLING DATA

CHAMPAIGN LAB

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected _____ Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector PIERRAD/STOFFERAHN

Facility Name: UNION OIL Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location) #3D Drying bed #2 (west) at south end of bed. 3-6" DEPTH of sample.

Physical Observations, Remarks: Attn Roy Frazier - Please send copy of this report also to Larry Easter, Mngr IND PERMITS.

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

10.	Arsenic		Coliform/100ml		BOD
100.	Barium		Fecal Coliform 100 ml	180,000	COD
	Boron		Fecal Strep 100 ml	75.0%	TOTAL SOLIDS TS/EC
<1.0	Cadmium		Algae (Total) /ml		Susp. Solids
61.	Copper	**	15. Ammonia (N)	12.8%	% Vol. Solids
1100.	Chromium TOT.		2320. ~~Organic~~ Nitrogen (N) Total Kjeldahl	7.7	pH (units)
	~~Chromium (hex)~~		Nitrate + Nitrite(N)		Turbidity (JTU)
20000. ~~30000.~~ BJ	Iron (Total)		592. Phosphorus (P)		Hardness
	Iron (Dissolved)		540. Sodium ~~Chloride~~	* 4.99%	Alkalinity
120.	Lead		Fluoride	* 0.7%	Total Acidity
	Manganese		127. Sulfide ~~Sulfate~~		Free Acidity
0.27	Mercury (ppb)		8.2 Cyanide total	7600.	ALUMINUM
63.	Nickel		MBAS	20.	Other (Specify) Cobalt
3.0	Selenium		1.6 Phenol (~~ppb~~)	* 4 ug/l 8.2 B+D	
60.	~~Silver~~ VANADIUM				
630. ~~1300.~~ BJ	Zinc				

Results in mg/l unless otherwise noted.

100% Recycled Paper

SPECIAL HANDLING

** 24 hour composite

Transported by: [illegible]

Received by: [illegible]

Transported by: [illegible]

Received by: [illegible]

DATA IN UNITS OF MICROGRAMS PER GRAM OF SAMPLE (P.P.M.) UNLESS OTHERWISE INDICATED. BASED ON DRY WEIGHT, 103° C.

FOR LAB USE ONLY

Lab Number: 8004591 Rec'd by: [illegible]

Date sample rec'd: AUG -6 1982 Time: 3P

Date analysis completed:

Date results forwarded: DEC 3 1982

Total Tests requested: Tests run:

Lab Section: CHAMPAIGN Supervisor: [illegible]

NPDES COMPLIANCE INSPECTION REPORT (Coding Instructions on back of last page)

TRANSACTION CODE		NPDES	YR	MO	DA	TYPE	INSPECTOR	FAC TYPE	TIME a.m.	TIME p.m.
N	5	ILO034061	83	01	27	S	S	1	✓	✓
1	2	3–11	12		17	18	19	20		

REMARKS

21 — 64

ADDITIONAL

65 — 70

SECTION A - Permit Summary

NAME AND ADDRESS OF FACILITY (Include County, State and ZIP code)		EXPIRATION DATE
SPRING BROOK REGIONAL WATER RECLAMATION CENTER 115581 NAPERVILLE-PLAINFIELD ROAD NAPERVILLE, ILL. 60566		10-31-83
		ISSUANCE DATE 12-6-78
RESPONSIBLE OFFICIAL ALLAN L. POOLE	TITLE DIRECTOR OF UTILITIES	PHONE (312) 420-6131
FACILITY REPRESENTATIVE ALLEN F. PANEK	TITLE DIVISION SUPT.	PHONE (312) 420-6122

SECTION B - Effluent Characteristics (Additional sheets attached ✓) DATA: DMR JAN, 1983

PARAMETER/ OUTFALL		MINIMUM	AVERAGE	MAXIMUM	ADDITIONAL
FLOW MGD	SAMPLE MEASUREMENT	8.4	9.4	10.9	CONTINUOUS
	PERMIT REQUIREMENT		10.0	25.0	"
BOD	SAMPLE MEASUREMENT	5	11	22	5/7 24 HR COMP
	PERMIT REQUIREMENT		10	25	5/7 " " "
SS	SAMPLE MEASUREMENT	0	4	7	7/7 " " "
	PERMIT REQUIREMENT		12	30	5/7 " " "
pH	SAMPLE MEASUREMENT	7.0	7.3	7.5	7/7 GRAB
	PERMIT REQUIREMENT	6.0		9.0	5/7 "
CHLORINE	SAMPLE MEASUREMENT		0.36		7/7 "
	PERMIT REQUIREMENT		0.75		7/7 "

SECTION C - Facility Evaluation (S = Satisfactory, U = Unsatisfactory, N/A = Not applicable)

	EFFLUENT WITHIN PERMIT REQUIREMENTS		OPERATION AND MAINTENANCE		SAMPLING PROCEDURES
	RECORDS AND REPORTS		COMPLIANCE SCHEDULE		LABORATORY PRACTICES
	PERMIT VERIFICATION		FLOW MEASUREMENTS		OTHER:

SECTION D - Comments

SECTION E - Inspection/Review

SIGNATURES	AGENCY	DATE
INSPECTED BY		
INSPECTED BY		
REVIEWED BY		

ENFORCEMENT DIVISION USE ONLY

COMPLIANCE STATUS

☐ COMPLIANCE

☐ NONCOMPLIANCE

PARAMETER/ OUTFALL		MINIMUM	AVERAGE	MAXIMUM	ADDITIONAL
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
FECAL	SAMPLE MEASUREMENT			77	5/7 GRAB
	PERMIT REQUIREMENT			400	5/7 GRAB
NH_3N U/S	SAMPLE MEASUREMENT	0.6	1.2	1.7	5/7 "
	PERMIT REQUIREMENT				5/7 "
NH_3N EFF	SAMPLE MEASUREMENT	1.1	3.7	6.4	5/7 "
	PERMIT REQUIREMENT				5/7 "
NH_3N D/S	SAMPLE MEASUREMENT	0.9	1.3	1.6	5/7 "
	PERMIT REQUIREMENT				5/7 "
D.O U/S	SAMPLE MEASUREMENT	12.3	12.5	12.8	1/7 "
	PERMIT REQUIREMENT				1/7 "
D.O. EFF	SAMPLE MEASUREMENT	7.2	8.0	9.0	1/7 "
	PERMIT REQUIREMENT				1/7 "
D.O D/S	SAMPLE MEASUREMENT	11.5	12.0	12.3	1/7 "
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				

Form Approved
OMB No. 158-R0073

Sections F thru L: Complete on all inspections, as appropriate. N/A = Not Applicable

PERMIT NO. ILO034061

SECTION F Facility and Permit Background

ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code)
CITY OF NAPERVILLE
DEPT OF WATER & WASTEWATER
175 W JACKSON AVE.
NAPERVILLE, IL 60566 (DuPAGE)

DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE
8-12-81

FINDINGS EFFLUENT - UNSAT
ALL OTHER - SAT

SECTION G - Records and Reports

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. ☒ YES ☐ NO ☐ N/A (Further explanation attached _____)

DETAILS:

a) ADEQUATE RECORDS MAINTAINED OF:			
(i) SAMPLING DATE, TIME, EXACT LOCATION	☒ YES	☐ NO	☐ N/A
(ii) ANALYSES DATES, TIMES	☒ YES	☐ NO	☐ N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS	☒ YES	☐ NO	☐ N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED	☐ YES	☐ NO	☐ N/A
(v) ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data)	☒ YES	☐ NO	☐ N/A
b) MONITORING RECORDS (e.g., flow, pH, D.O., etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g. continuous monitoring instrumentation, calibration and maintenance records).	☒ YES	☐ NO	☐ N/A
c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT.	☒ YES	☐ NO	☐ N/A
d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT.	☒ YES	☐ NO	☐ N/A
e) QUALITY ASSURANCE RECORDS KEPT.	☒ YES	☐ NO	☐ N/A
f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICLY OWNED TREATMENT WORKS.	☒ YES	☐ NO	☐ N/A

SECTION H - Permit Verification

INSPECTION OBSERVATIONS VERIFY THE PERMIT. ☒ YES ☐ NO ☐ N/A (Further explanation attached _____)

DETAILS:

a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	☒ YES	☐ NO	☐ N/A
b) FACILITY IS AS DESCRIBED IN PERMIT.	☒ YES	☐ NO	☐ N/A
c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	☐ YES	☐ NO	☒ N/A
d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	☒ YES	☐ NO	☐ N/A
e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES.	☒ YES	☐ NO	☐ N/A
f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED.	☐ YES	☐ NO	☒ N/A
g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT.	☒ YES	☐ NO	☐ N/A
h) CORRECT NAME AND LOCATION OF RECEIVING WATERS.	☒ YES	☐ NO	☐ N/A
i) ALL DISCHARGES ARE PERMITTED.	☒ YES	☐ NO	☐ N/A

SECTION I - Operation and Maintenance

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. ☒ YES ☐ NO ☐ N/A (Further explanation attached _____)

DETAILS:

a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED.	☒ YES	☐ NO	☐ N/A
b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	☒ YES	☐ NO	☐ N/A
c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT.	☐ YES	☐ NO	☒ N/A
d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED.	☒ YES	☐ NO	☐ N/A
e) ALL TREATMENT UNITS IN SERVICE.	☒ YES	☐ NO	☐ N/A
f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS.	☒ YES	☐ NO	☐ N/A
g) QUALIFIED OPERATING STAFF PROVIDED.	☒ YES	☐ NO	☐ N/A
h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS.	☒ YES	☐ NO	☐ N/A
i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	☒ YES	☐ NO	☐ N/A
j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT	☒ YES	☐ NO	☐ N/A
k) OPERATION AND MAINTENANCE MANUAL MAINTAINED.	☒ YES	☐ NO	☐ N/A
l) SPCC PLAN AVAILABLE.	☐ YES	☐ NO	☒ N/A
m) REGULATORY AGENCY NOTIFIED OF BY PASSING. (Dates _____ _____)	☐ YES	☐ NO	☒ N/A
n) ANY BY PASSING SINCE LAST INSPECTION.	☐ YES	☐ NO	☒ N/A
o) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED.	☒ YES	☐ NO	☐ N/A

PERMIT NO.

SECTION J - Compliance Schedules

PERMITTEE IS MEETING COMPLIANCE SCHEDULE. ☒ YES ☐ NO ☐ N/A *(Further explanation attached ____)*

CHECK APPROPRIATE PHASE(S):

- ☐ (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.
- ☐ (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING *(mortgage commitments, grants, etc.)*.
- ☒ (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.
- ☐ (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.
- ☐ (e) CONSTRUCTION HAS COMMENCED.
- ☐ (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.
- ☐ (g) CONSTRUCTION HAS BEEN COMPLETED.
- ☐ (h) START UP HAS COMMENCED.
- ☐ (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.

SECTION K - Self-Monitoring Program

Part 1 - Flow measurement *(Further explanation attached ____)*

PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	☐ YES	☐ NO	☐ N/A
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	☐ YES	☐ NO	☐ N/A
TYPE OF DEVICE: ☐ WEIR ☐ PARSHALL FLUME ☐ MAGMETER ☐ VENTURI METER ☐ OTHER *(Specify ____)*			
(b) CALIBRATION FREQUENCY ADEQUATE. *(Date of last calibration ____)*	☐ YES	☐ NO	☐ N/A
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	☐ YES	☐ NO	☐ N/A
(d) SECONDARY INSTRUMENTS *(totalizers, recorders, etc.)* PROPERLY OPERATED AND MAINTAINED.	☐ YES	☐ NO	☐ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	☐ YES	☐ NO	☐ N/A

Part 2 - Sampling *(Further explanation attached ____)* TO 30 MGD

PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	☐ YES	☐ NO	☐ N/A
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	☐ YES	☐ NO	☐ N/A
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	☐ YES	☐ NO	☐ N/A
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT. IF NO, ☐ GRAB ☐ MANUAL COMPOSITE ☐ AUTOMATIC COMPOSITE FREQUENCY ____	☐ YES	☐ NO	☐ N/A
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	☐ YES	☐ NO	☐ N/A
(i) SAMPLES REFRIGERATED DURING COMPOSITING	☐ YES	☐ NO	☐ N/A
(ii) PROPER PRESERVATION TECHNIQUES USED	☐ YES	☐ NO	☐ N/A
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	☐ YES	☐ NO	☐ N/A
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3	☐ YES	☐ NO	☐ N/A
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT.	☐ YES	☐ NO	☐ N/A
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.	☐ YES	☐ NO	☐ N/A

Part 3 - Laboratory *(Further explanation attached ____)*

PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	☐ YES	☐ NO	☐ N/A
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. *(40 CFR 136.3)*	☐ YES	☐ NO	☐ N/A
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.	☐ YES	☐ NO	☐ N/A
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.	☐ YES	☐ NO	☐ N/A
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.	☐ YES	☐ NO	☐ N/A
(e) QUALITY CONTROL PROCEDURES USED.	☐ YES	☐ NO	☐ N/A
(f) DUPLICATE SAMPLES ARE ANALYZED. ____ % OF TIME.	☐ YES	☐ NO	☐ N/A
(g) SPIKED SAMPLES ARE USED. ____ % OF TIME.	☐ YES	☐ NO	☐ N/A
(h) COMMERCIAL LABORATORY USED.	☐ YES	☐ NO	☐ N/A
(i) COMMERCIAL LABORATORY STATE CERTIFIED.	☐ YES	☐ NO	☐ N/A

LAB NAME ____

LAB ADDRESS ____

Form Approved
OMB No. 158-R0073

PERMIT NO.

SECTION L - Effluent/Receiving Water Observations *(Further explanation attached ____)*

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M - Sampling Inspection Procedures and Observations *(Further explanation attached ____)*

- ☐ GRAB SAMPLES OBTAINED
- ☐ COMPOSITE OBTAINED
- ☐ FLOW PROPORTIONED SAMPLE
- ☐ AUTOMATIC SAMPLER USED
- ☐ SAMPLE SPLIT WITH PERMITTEE
- ☐ CHAIN OF CUSTODY EMPLOYED
- ☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY _____ PRESERVATION _____

SAMPLE REFRIGERATED DURING COMPOSITING: ☐ YES ☐ NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE _____

SECTION N - Analytical Results *(Attach report if necessary)*

Time Collected: _____ Lab # D025677

SPECIAL ANALYSIS FORM

Date Collected: 8-4-82 Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
WILL	UNION OIL	

SOURCE OF SAMPLE: (Exact Location) 3a. DRYING BED #1 (EAST) AT EAST END 3-6" DEPTH SAMPLE.

PHYSICAL OBSERVATIONS, REMARKS: TO SPFLD LAB

TESTS REQUESTED: GCMS SCAN - 46 BASE NEUTRAL EXTRACTABLE ORGANICS; 11 acid EXTRACTABLE ORGANICS; oil & grease

COLLECTED BY: [illegible] TRANSPORTED BY: [illegible]

LABORATORY

RECEIVED BY: [illegible] DATE COMPLETED: 2/23/83 DATE FORWARDED: 2/23/83

[illegible]

Methylnaphthalenes < 1. ug/g
Dimethylnaphthalenes < 1. ug/g
Trimethylnaphthalenes = 50. ug/g
Aliphatic hydrocarbons = 170. ug/g

LPC-8A 4/77 (NOT FOR DATA PROCESSING) D025677

Time Collected: 11:10

Date Collected: 8-4-82

Lab # DL 25078

SPECIAL ANALYSIS FORM

Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:

SOURCE OF SAMPLE: (Exact Location) 3b. Drying bed #2 (WEST) at south end of bed. 3-6" DEPTH of Sample

PHYSICAL OBSERVATIONS, REMARKS: TO SPECD LAB

TESTS REQUESTED: GCMS SCAN-46 BASE NEUTRAL & ACID EXTRACTABLE ORGANICS; oil & grease

COLLECTED BY: [signature] TRANSFORTED BY: [signature]

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: 2/23/83 DATE FORWARDED: 2/23/83 [signature]

Trimethylnaphthalenes = 10. ug/g
Aliphatic hydrocarbons = ~~200~~ 200 ug/g [signature]

LPC-8A 4/77 (NOT FOR DATA PROCESSING)

Time Collected: 11:20

Lab # D025675

SPECIAL ANALYSIS FORM

Date Collected: 8-4-82

Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lamont/Union oil	19780304

SOURCE OF SAMPLE: (Exact Location) #2 WASTEWATER ORGANIC SLUDGE THICKENER. DRAWOFF LINE-COMBINED 1° & 2° CLARIFIERS

PHYSICAL OBSERVATIONS, REMARKS: TO SPFLD LAB

TESTS REQUESTED: Scan for Base Neutrals and acid extractables; oil ~~&~~ grease

COLLECTED BY: [illegible] TRANSPORTED BY: [illegible]

LABORATORY

RECEIVED BY: [illegible] DATE COMPLETED: 2/23/83 DATE FORWARDED: 2/23/83 [illegible]

Naphthalene = 7 ~~B~~ µg/g (PPM)
Methylnaphthalenes = 70. µg/g
Dimethylnaphthalenes = 90. µg/g
Trimethylnaphthalenes = 20. µg/g
Aliphatic hydrocarbons = 40. µg/g

LPC-8A 4/77 (NOT FOR DATA PROCESSING)

HW

Time Collected: 11:30

Date Collected: 8-4-82

Lab # DU25676

SPECIAL ANALYSIS FORM

Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
will	Lamont/Union oil	1978 0304

SOURCE OF SAMPLE: (Exact Location) #2a SLUDGE LOADING PIT. COMBINED WATER & WASTEWATER SLUDGE.

PHYSICAL OBSERVATIONS, REMARKS: TO SPFLD LAB

TESTS REQUESTED: Scan for Base Neutrals & acid extractables; oil & grease

COLLECTED BY: [signature] TRANSPORTED BY: [signature]

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: 2/23/83 DATE FORWARDED: 2/23/83 [signature]

Naphthalene = 10 mg/g
Methylnaphthalenes = 80. mg/g
Dimethylnaphthalenes = 60. mg/g
phenanthrene = 10. mg/g
Aliphatic hydrocarbons = 90. mg/g

LPC-8A 4/77 (NOT FOR DATA PROCESSING)

HW

Time Collected: 11:25

Date Collected: 8-4-82

Lab # D025674

SPECIAL ANALYSIS FORM

Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lamont/Orion Oil	1978030 4

SOURCE OF SAMPLE: (Exact Location) #1 WATER TREATMENT SLUDGE FROM LIME THICKENER. RECIRCULATION LINE SAMPLE.

PHYSICAL OBSERVATIONS, REMARKS: TO SPFCD LAB

RECEIVED
NOV 24 1982
P.C.

TESTS REQUESTED: Oil + Grease

COLLECTED BY: [signature]

TRANSPORTED BY: [signature]

LABORATORY: John R. Anderson 8/18/82

RECEIVED BY: [signature]

DATE COMPLETED:

DATE FORWARDED:

Oil & Grease 8.1 mg/gm (dry wt. basis)

LPC-8A 4/77

(NOT FOR DATA PROCESSING)

EPA - CHAMPAIGN LAB
Rec'd. 3006040
AUG. 18. 1982

NOV 12 1982

SPECIAL HANDLING

MR

Time Collected: 10130

Date Collected: 8-4-82

Lab # D025679

SPECIAL ANALYSIS FORM

Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lemont / Union oil	19780304

SOURCE OF SAMPLE: (Exact Location) #4 INTERMITTENT STREAM ADJACENT TO SOUTH FARMLAND AREA. DEPTH OR SAMPLE MADE 3'-6".

PHYSICAL OBSERVATIONS, REMARKS: TO SPFLD LAB

RECEIVED
NOV 24 1982
E.P.A. - D.L.P.C.
STATE OF ILLINOIS

TESTS REQUESTED: Oil + Grease

COLLECTED BY: [illegible] TRANSPORTED BY: [illegible]

LABORATORY

RECEIVED BY: [illegible] DATE COMPLETED: John P. Andrasm 8/18/82 DATE FORWARDED:

Oil & Grease 11.0 mg/gram (dry wt. basis)

IEPA - CHAMPAIGN LAB
Rec'd.
AUG. 18. 1982 300604

NOV 9 1982

LPC-8A 4/77 (NOT FOR DATA PROCESS

SPECIAL HANDLING

Collected: 11:10

Date Collected: 8-4-82

SPECIAL ANALYSIS FORM

Lab # IL 256978

Date Received AUG 6 1982

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:

SOURCE OF SAMPLE: (Exact Location) 3b. Drying bed #2 (west) at south end of bed. 3-6" DEPTH of Sample

PHYSICAL OBSERVATIONS, REMARKS: TO SPFLD LAB

RECEIVED
MAR 29 1983
Environmental Protection Agency
Division of Water Pollution Control
Permit Section-Springfield
State of Illinois

TESTS REQUESTED: GCMS SCAN-46 BASE NEUTRAL & 11 ACID EXTRACTABLE ORGANICS; oil & grease

COLLECTED BY: [signature] TRANSPORTED BY: [signature]

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: 2/23/83 DATE FORWARDED: 2/23/83 [signature]

Trimethylnaphthalenes = 10. ug/g
Aliphatic hydrocarbons = ~~200~~ 200 ug/g [signature]

RECEIVED
ILL. ENVIRONMENTAL PROTECTION AGENCY
APR - 5 1983
ILL. WATER POLLUTION CONTROL
FIELD OPERATIONS SECTION - DCB 2

LPC-8A 4/77 (NOT FOR DATA PROCESSING)

ILLINOIS EPA

Environmental Protection Agency

2200 Churchill Road, Springfield, Illinois 62706

217/782-5544

September 23, 1980

RECEIVED

SEP 25 1980

ILL. E.P.A. – D.L.P.C.
STATE OF ILLINOIS

Mr. Ronald J. Patterson
Equestrian Estates
115th Street and Bell Road
Lemont, Illinois 60439

Dear Mr. Patterson:

You previously communicated with Mr. Joseph Svoboda, Manager of Enforcement Programs, Illinois Environmental Protection Agency, by your letter dated September 15, 1980, and regarding the Union Oil Company.

As Senior Attorney for the Land Pollution Control Division, Mr. Svoboda requested that I respond to your letter. Our technical investigatory staff has visited the Union Oil premises on numerous occasions. The manager of that staff is Mr. Ken Bechely, whose address is Illinois Environmental Protection Agency, Division of Land Pollution Control, 1701 First Avenue, Sixth Floor, Maywood, Illinois 60153. Mr. Bechely's telephone number is 312/345-9780. Mr. Bechely's staff has taken samples of the sludge which you are concerned with, and I am herewithin enclosing a copy of the laboratory results that we have thus far obtained. Based on the enclosed analysis, it would appear that the subject sludge is not a hazardous waste as that term is defined under the Resource Conservation and Recovery Act. Under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1021(d), a generator does not need a permit from this Agency to dispose of refuse generated by the operator's own activities and disposed of on-site. This exception does not apply if the waste is "hazardous". However, current indications are that the sludge is non-hazardous. Notwithstanding the above, five additional samples have been taken, and we will be testing for heavy metals, organics, etc. The laboratory results of these samples have not yet been completed.

Our staff is currently reviewing the laboratory analysis of the subject sludge which you had tested by Arro Laboratories, Inc. Before our staff renders an opinion on that analysis, they will be contacting Arro Laboratories and conferring in-house with some of our technical people in Springfield because we need additional information before we can render an opinion. For example, the Arro Laboratories test results

C26

indicated that they used Illinois Environmental Protection Agency procedures, but also indicated that testing was done in accordance with procedures outlined in the newest Federal Register. Until we fully understand test methods utilized by Arro Laboratories and are able to interpret the data supplied, we cannot comment on the information which you supplied. However, as soon as we have thoroughly analyzed and become familiar with the document, Mr. Ken Bechely will be reporting back to you and expressing our opinion concerning that laboratory report.

I am also informed that staff from this Agency's Water Pollution Control Division is investigating the matter since there was run-off of the sludge onto private property due to excessive rainfall.

Mr. Bechely is probably the most appropriate person for you to communicate with in the future since his staff is familiar with the situation and will be receiving the laboratory results of the additional samples which they have taken.

Sincerely,

William Seltzer
Senior Technical Advisor
Enforcement Programs

Enclosure
WS:bkm
cc: D. Haschemeyer (W/encl.)
J. Svoboda (W/encl.)
K. Bechely (W/encl.)
G. King (W/encl.)

Time Collected: 11 AM

Date Collected: 8-1-80

Lab # 00573 AUG-4

SPECIAL ANALYSIS FORM

Date Received

4/0.101

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
DuPage Co	Lemont/Union Oil	General

SOURCE OF SAMPLE: (Exact Location)

Sludge deposited on open field

PHYSICAL OBSERVATIONS, REMARKS:

Waste water treatment sludge

TESTS REQUESTED: 48hr. Leach

RECEIVED
ENFORCEMENT PROGRAM
SEP 22 1980
Environmental Protection Agency

COLLECTED BY: BRAD BENNING

TRANSPORTED BY:

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

LABORATORY

RECEIVED BY: 445 pm DATE

DATE COMPLETED:

DATE FORWARDED: 9-12-80

J Naughty

CN - 0.19	Pb - <0.03
Ag - 0.00	Se - 0.003
As - 0.001	Zn - 0.0
Ba - 0.0	pH - 8.0
Cd - 0.00	
Cr - 0.00	
Cu - 0.00	
Hg - 0.06 µg/l ppb	
Ni - 0.0	

(amounts shown in ppm)

C000573

LPC-8A 4/77 (NOT FOR DATA PROCESSING)

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27475 (9863)
Sampled by: Client
Date Sampled: 10-20-82
Date Received: 10-28-82
Date Reported: 11-15-82
Page 1 of 5

IDENTIFICATION: Land Farm Well #3
Land Farm Well #4
Land Farm Well #5

RESULTS OF ANALYSIS:	Well #3	Well #4	Well #5
Endrin	<0.0001	<0.0001	<0.0001
Lindane	<0.001	<0.001	<0.001
Methoxychlor	<0.01	<0.01	<0.01
Toxaphene	<0.001	<0.001	<0.001
2, 4-D	<0.01	<0.01	<0.01
2, 4, 5-TP (Silvex)	<0.001	<0.001	<0.001

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Michael R. Amar
Chemist/Biologist/Bacteriologist

Chemist/Biologist/Bacteriologist

Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27475 (9863)
Sampled by: Client
Date Sampled: 10-20-82
Date Received: 10-28-82
Date Reported: 11-15-82
Page 2 of 5

IDENTIFICATION: Land Farm Well #6
Reference Blank
Control Blank

RESULTS OF ANALYSIS:	Well #6	Reference Blank	Control Blank
Endrin	<0.0001	<0.0001	<0.0001
Lindane	<0.001	<0.001	<0.001
Methoxychlor	<0.01	<0.01	<0.01
Toxaphene	<0.001	<0.001	<0.001
2, 4-D	<0.01	<0.01	<0.01
2, 4, 5-TP (Silvex)	<0.001	<0.001	<0.001

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Michael R. Lemar
Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27475 (9863)
Sampled by: Client
Date Sampled: 10-20-82
Date Received: 10-28-82
Date Reported: 11-15-82
Page 3 of 5

IDENTIFICATION: Water samples identified as marked:

RESULTS OF ANALYSIS:	Gross Alpha, pCi/l Storet # 01501		Counting error, pCi/l Storet #01502
Land Farm Well #3	0.7	±	2.8
Land Farm Well #4	48.2	±	42.1
Land Farm Well #5	0.7	±	1.8
Land Farm Well #6	0.6	±	2.5
Reference Blank	0.2	±	0.2
Control Blank	9.7	±	5.8

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27475 (9863)
Sampled by: Client
Date Sampled: 10-20-82
Date Received: 10-28-82
Date Reported: 11-15-82
Page 4 of 5

IDENTIFICATION: Water samples identified as marked:

RESULTS OF ANALYSIS:	Gross Beta, pCi/l Storet # 03501		Counting error, pCi/l Storet #03502
Land Farm Well #3	5.1	±	18.3
Land Farm Well #4	46.6	±	75.1
Land Farm Well #5	3.2	±	18.1
Land Farm Well #6	9.1	±	17.2
Reference Blank	0.2	±	1.4
Control Blank	20.5	±	11.9

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Respectfully submitted,

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

ORLANDO LABORATORIES, INC.

Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27475 (9863)
Sampled by: Client
Date Sampled: 10-20-82
Date Received: 10-28-82
Date Reported: 11-15-82
Page 5 of 5

IDENTIFICATION: Water samples identified as marked:

RESULTS OF ANALYSIS:	Total Radium pCi/l		Counting error, pCi/l
Land Farm Well #3	0.9	±	0.2
Land Farm Well #4	4.3	±	0.7
Land Farm Well #5	0.5	±	0.2
Land Farm Well #6	0.6	±	0.2
Reference Blank	0.2	±	0.2
Control Blank	7.4	±	1.1

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont. Illinois 60439

Report # 27872 (179)
Sampled by: Client
Date Sampled: 12-1-82
Date Received: 12-09-82
Date Reported: 01-05-83
Page 1 of 4

IDENTIFICATION: Land Farm Well #1
Land Farm Well #2

RESULTS OF ANALYSIS:	Well #1	Well #2
Endrin	<0.0001	<0.0001
Lindane	<0.001	<0.001
Methoxychlor	<0.01	<0.01
Toxaphene	<0.001	<0.001
2, 4-D	<0.01	<0.01
2, 4, 5-TP (Silvex)	<0.001	<0.001
Total Solids, TS	676	2,260

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Michael R. Lemar — Chemist/Biologist/Bacteriologist
Marcella Walsh — Chemist/Biologist/Bacteriologist
Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27872 (179)
Sampled by: Client
Date Sampled: 12-1-82
Date Received: 12-09-82
Date Reported: 01-05-83
Page 2 of 4

IDENTIFICATION: Water samples identified as marked:

RESULTS OF ANALYSIS:	Gross Alpha, pCi/l Storet # 01501		Counting error, pCi/l Storet #01502
Land Farm Well #1	4.4	±	5.0
Land Farm Well #2	3.1	±	8.6

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27872 (179)
Sampled by: Client
Date Sampled: 12-1-82
Date Received: 12-09-82
Date Reported: 01-05-83
Page 3 of 4

IDENTIFICATION: Water samples identified as marked:

RESULTS OF ANALYSIS:	Gross Beta, pCi/l Storet # 03501		Counting error, pCi/l Storet #03502
Land Farm Well #1	7.2	±	16.7
Land Farm Well #2	1.6	±	46.5

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Union Oil Company of California
Attn: Mr. Vern Lemke
Chicago Refinery
135th Street & New Avenue
Lemont, Illinois 60439

Report # 27872 (179)
Sampled by: Client
Date Sampled: 12-1-82
Date Received: 12-09-82
Date Reported: 01-05-83
Page 4 of 4

IDENTIFICATION: Water samples identified as marked:

RESULTS OF ANALYSIS:	Total Radium pCi/l		Counting error, pCi/l
Land Farm Well #1	0.5	±	0.2
Land Farm Well #2	0.5	±	0.2

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Respectfully submitted,

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

ORLANDO LABORATORIES, INC.

Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

union 76

Chicago Refinery
February 9, 1983

Mr. H. D. Haas

ANALYSIS OF WATER WELL SAMPLES
FROM OCTOBER 20, 1982

Sludge farm water well samples were taken on October 20, 1982. This report outlines results of tests that were run in the Chicago Refinery Laboratory. Replicate pH tests were run on each of the 6 sludge farm water wells. Results are summarized in the table below:

	pH replicates			
Land Farm Well #1	7.8	8.0	8.0	8.0
Land Farm Well #2	7.7	7.8	7.8	7.8
Land Farm Well #3	8.2	8.3	8.3	8.3
Land Farm Well #4	8.1	8.1	8.1	8.1
Land Farm Well #5	8.3	8.3	8.3	8.3
Land Farm Well #6	8.3	8.3	8.3	8.3

V. A. Lemke

V. A. Lemke

VAL/jah

cc: Mr. D. J. Spreutels
Mrs. R. B. Kuna

ARS 82-540M

	Reference Blank	Control Blank	Well 1	Well 2	Well 3	Well 4	Well 5	Well 6
Specific Conductance, μS/cm	1.5	700	960	2000	1000	1070	900	860
	1.6	710	960	2010	1000	1070	965	890
	1.6	710	960	2010	1000	1070	965	895
	1.8	710	960	2010	1000	1100	965	895
TOC, mg/l	1	nd(<1)	nd(<1)	nd(<1)	nd(<1)	8	12	13
	2	nd(<1)	nd(<1)	nd(<1)	nd(<1)	8	13	16
	3	nd(<1)	nd(<1)	nd(<1)	nd(<1)	10	14	17
	3	nd(<1)	nd(<1)	nd(<1)	nd(<1)	10	14	17
TOX, mg/l	nd(<0.005)	0.076	0.076	0.084	0.011	0.020	0.024	0.011
	nd(<0.005)	0.082	0.082	0.085	0.014	0.025	0.025	0.016
	0.008	0.083	0.084	0.095	0.018	0.025	0.037	0.018
	0.009	0.085	0.085	0.106	0.019	0.027	0.048	0.023

nd None detected. If present at all, the concentration is lower than the indicated amount.

Union Science & Technology Division
Union Oil Company of California

1978 0304 Will Co
Lemont/Union Oil
Subpart F

UNION 76

To:	L. D. Erchull, Chicago	**Memo:**	ARS 82-540M
From:	G. W. Larson	**Date:**	December 7, 1982
Department:	Chemical Research	**Project:**	267-65211
Subject:	ANALYSIS OF WELL WATER SAMPLES: OCTOBER 20, 1982 and NOVEMBER 2, 1982	**Supervisor:**	N. W. Lambert NWL

cc: Library (2)
Patent

D. J. Christoffersen
J. M. Fraser
G. C. Graham
H. D. Haas, Chicago
V. A. Lemke, Chicago
J. Walker

Compiled in the attached table are the results of quadruplicate[1] analyses of the six landfarm well water samples and two blanks for specific conductance, TOC and TOX. These samples were received in two batches on October 21 and November 3, 1982. Also attached are copies of the chain of custody sheets; the originals were signed, dated, and returned to Mr. V. A. Lemke.

Gary Larson

GWL:glw
Attachments: Table
September Schedule

RECEIVED
DEC 13 1983
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

(1) Per verbal request November 5, 1982

19780304 ~~19704500~~ / Will County
Lemont / Union Oil
Subpart F

Union 76 Division: Eastern Region
Union Oil Company of California
Chicago Refinery
Lemont, Illinois 60439
Telephone (312) 257-7761

ENV 54-83

union 76

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

A. J. Eliskalns
Manager, Chicago Refinery

February 24, 1983

Mr. Greg Zak
Illinois Environmental Protection
Agency
Division of Land Pollution Control
Compliance Monitoring Section
2200 Churchill Road
Springfield, Illinois 62706

Dear Sir:

Annual Reports

Attached are the following annual reports from Union Oil Company; Chicago Refinery for 1982:

Generator Hazardous Waste Report
Facility Hazardous Waste Report

Should you have any questions concerning these reports, please contact L. D. Erchull at the above telephone number.

Very truly yours,

H. D. Haas, Supervisor
Environmental Services

LDE:dlw
attachments

RECEIVED
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

TABLE I

Extract Concentrations (mg/l)

Oak Creek Unit 7 & 8 Bottom Ash

Parameter:	Hg	Cd	Cr	Pb	Ag	Ba	As	Se
Sample 1 (2/79)	ND	ND	ND	ND	ND	ND	ND	.04
Sample 2 (3/79)	ND	ND	ND	ND	ND	ND	ND	ND
Sample 3 (6/79)	.0004	ND	ND	ND	ND	ND	.01	ND
Sample 4 (8/79)	ND	ND	ND	ND	ND	ND	ND	ND
Detection Limit	0.0002	0.1	0.1	0.05	0.1	0.01	0.01	0.01
RCRA Hazardous Waste Limit	.02	1.0	5.0	5.0	5.0	100	5.0	1.0

ND - Not Detected

Note: All samples were prepared and analyzed according to the EPA Extraction Procedure contained in the December 18, 1978, proposed Hazardous Waste Guidelines and Regulations.

h

TEI ANALYTICAL, INC.

460 SOUTH NORTHWEST HIGHWAY • PARK RIDGE, ILLINOIS • 60068 • 312/696-2070

LABORATORY REPORT

March 24, 1983 #9986

Mr. Vern Lemke
Union Oil Co. of California
Chicago Refinery
135th Street and New
Lemont, Illinois 60439

Samples received
March 16, 1983

[TEI-15088.01] LF-1 - Seal 00373 - 3/16/83
[TEI-15088.02] LF-2 - Seal 00375 - 3/16/83
[TEI-15088.03] LF-3 - Seal 00377 - 3/16/83
[TEI-15088.04] LF-4 - Seal 00347 - 3/15/83
[TEI-15088.05] LF-5 - Seal 00349 - 3/15/83
[TEI-15088.06] LF-6 - Seal 00351 - 3/15/83

	.01	.02	.03	.04	.05	.06
Lindane, ppb	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin, ppb	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Methoxychlor, ppb	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 1.5
Toxaphene, ppb	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4 D	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Silvex, ppb	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6

J. E. Marks

TEI ANALYTICAL, INC.

460 SOUTH NORTHWEST HIGHWAY • PARK RIDGE, ILLINOIS • 60068 • 312/696-2070

April 18, 1983

LABORATORY REPORT #0051

Mr. Vern Lemke
Union Oil Co. of California
Chicago Refinery
135th Street and New
Lemont, Illinois 60439

Samples received
March 16, 1983

[TEI-15087.01] LF-1 - Seal 00372 - 3/16/83
[TEI-15087.02] LF-2 - Seal 00374 - 3/16/83
[TEI-15087.03] LF-3 - Seal 00376 - 3/16/83
[TEI-15087.04] LF-4 - Seal 00346 - 3/15/83
[TEI-15087.05] LF-5 - Seal 00348 - 3/15/83
[TEI-15087.06] LF-6 - Seal 00350 - 3/15/83

	.01	.02	.03	.04	.05	.06
Total Radium, pCi/liter	< 1	< 1	< 1	2 ± 1	< 1	< 1
Gross Alpha, pCi/liter	< 2	< 2	< 2	< 2	< 2	< 2
Gross Beta, pCi/liter	4 ± 2	5 ± 3	5 ± 2	< 3	< 3	3 ± 2

g e Manke

union 76

Chicago Refinery
April 20, 1983

Mr. H. D. Haas

ANALYSIS OF WATER WELL SAMPLES
FROM MARCH 15-16, 1983

Sludge farm water well samples were taken on March 15 and March 16, 1983. This report outlines results of tests that were run in the Chicago Refinery Laboratory. Replicate pH tests were run on each of the 6 sludge farm water wells. Results are summarized in the table below:

	pH Replicates			
Land Farm Well #1	7.2	7.2	7.2	7.2
Land Farm Well #2	7.0	7.1	7.1	7.1
Land Farm Well #3	7.0	7.0	7.0	7.0
Land Farm Well #4	7.1	7.1	7.1	7.1
Land Farm Well #5	7.1	7.2	7.2	7.2
Land Farm Well #6	7.2	7.2	7.2	7.2

V. A. Lemke

V. A. Lemke

VAL/jah

cc: Mrs. R. B. Kuna
Mr. D. J. Spreutels
Mr. D. F. Torkelson

Union Oil Company of California

union 76

To:	L. D. Erchull, Chicago Refinery	Memo:	ARS 83-175M
From:	G. W. Larson	Date:	May 6, 1983
Department:	Chemical Research	Project:	267-65211
Subject:	ANALYSIS OF LANDFARM WELL WATERS: MARCH 16 AND 17, 1983	Supervisor:	N. W. Lambert NWL

cc: Library (2)
Patent
D. J. Christoffersen
J. M. Fraser
G. C. Graham
J. Walker
H. D. Haas)
V. A. Lemke) Chicago Refinery

The attached table is a listing of the results of the first quarterly well water survey of the Chicago Refinery landfarming operation. As required by RCRA (Resource Conservation and Recovery Act), quadruplicate results are reported for conductance, TOC and TOX. Also included are copies of the chain of custody forms; the originals were sent to Mr. V. A. Lemke separately.

Gary Larson

GWL:tsw
attach.

	Reference Blank (3/16/83)	Control Blank (3/15/83)	Well #1 (3/16/83)	Well #2 (3/16/83)	Well #3 (3/16/83)	Well #4 (3/15/83)	Well #5 (3/15/83)	Well #6 (3/15/83)
Chloride[a]	1.0	27	28	25	4.1	3.9	5.3	4.2
Iron	0.02	0.8	0.04	0.07	0.2	0.2	2.0	0.06
Manganese	0.03	0.03	0.05	0.2	0.1	0.07	0.1	0.1
Phenol	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	0.006
Sodium	d(<0.1)	66	19	27	11	15	6	12
Sulfate	3	85	140	640	97	150	120	63
Conductance	3.5	710	990	1840.	1035	1230	990	925
(μS/cm)	3.5	710	990	1840	1035	1230	990	925
	3.5	710	990	1840	1035	1230	990	925
	3.5	710	990	1840	1035	1230	990	925
TOC	9.3	4.3	6.2	5.7	4.8	15.2	8.8	10.1
	9.6	5.6	6.3	6.3	4.5	15.8	8.7	10.2
	9.7	3.4	6.4	5.8	5.1	11.4	7.4	10.4
	8.9	5.8	5.3	5.5	3.6	15.0	9.2	10.8
TOX*	nd(<0.005)	0.070	0.060	0.090	0.070	0.070	0.040	0.075
	nd(<0.005)	0.070	0.060	0.090	0.070	0.070	0.040	0.075
	nd(<0.005)	0.070	0.060	0.085	0.075	0.065	0.040	0.065
	nd(<0.005)	0.070	0.065	0.080	0.080	0.065	0.050	0.060

(a) Concentrations expressed as mg/l except in case of Conductance.

nd None detected

d Some detected but not quantifiable

* TOX analyses contracted through Montgomery Laboratories, 555 East Walnut Street, Pasadena, CA 91101.

Union Oil 9/23

H_2O elevation		Stickup	Depth H_2O	T.D.	I.D.
621.67	MW #1	2.72	96.05	110.5	4"
620.72	MW #5	2.46	64.94	89.43	4"
622.58	MW #6	1.4	75.62	92.48	4"
622.29	MW #4	1.36	71.87	77.63	4"
622.12	MW #2	2.57	99.75	113.3	4"
622.40	MW #3	2.38	83.98	103.18	4"

Todd Gates
513-248-1025
Union Oil

JEP
6/1/83

Table 1

Drinking Water Standard Exceedances

Parameter	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
Lead	5/81	0.1					.07
Coliform	5/81	> 5000	> 5000	2000			380
	9/81	30	110	80	40	140	10
	12/81	240	400	50	20	160	420
	3/82	70	110	30	40	260	70
Selenium	5/81	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	12/81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	3/82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Data shown for Lead and Selenium is reported as mg/l. Coliform data is reported as colonies/100 ml.

JEPurtell/ams

JEP
6/1/83

Table 2

Union Oil Company
Chicago Refinery
Land Treatment Facility Groundwater Elevations

Monitoring Well	May 1981	Sept. 1981	December 1981	March 1982	October 198~~3~~2
#1	625.05	622.8	622.8	623.3	622.1
#2	623.9	618.9*	621.4	622.4	621.3
#3	623.3	622.3	622.3	624.3	621.1
#4	622.8	622.3	622.3	624.0	622.3
#5	621.3	621.9	620.0	621.9	620.7
#6	623.2	622.5	623.2	624.0	618.3

Upgradient wells are No. 1 and 2.

* Abnormally low water elevation.

JEPurtell/ams

Northern Region
Subpart F Groundwater Monitoring
19780304

Union Oil Company of California

union 76

In Reply Give No.
LAB 181-83

Chicago Refinery
September 20, 1983

Mr. H. D. Haas

Water Elevations
In Sludge Farm Water Wells

Measurement of the elevation of water in the sludge farm water wells has been made every time that an individual well has been sampled.

All elevation data that has been collected since the sampling of the water wells was begun in 1981 is presented below:

Sample Date	LF-1	LF-2	LF-3	LF-4	LF-5	LF-6
5-06-81			623.3'	622.9'	621.2'	
5-12-81	625.1'	623.9'				623.1'
9-22-81			622.3'	622.4'	621.9'	
9-23-81	622.8'	618.9'				622.3'
11-17-81		620.4'				
12-01-81		623.4'				
12-08-81	622.8'	621.4'				623.1'
12-09-81			622.3'	622.4'	620.4'	
3-30-82	625.8'		624.3'		621.9'	
3-31-82		622.9'		624.1'		623.9'
10-20-82	622.1'	621.4'	621.4'	622.4'	620.9'	618.1'
3-15-83				623.4'	618.8'	623.1'
3-16-83	625.2'	622.9'	622.3'			
6-22-83	624.3'	624.4'	624.3'	624.6'	622.4'	621.6'
9-12-83	623.1'	625.9'	623.3'	624.4'	621.4'	623.2

LF-1 = landfarm well #1, etc.

All elevation data is listed in feet above sea level.

V. A. Lemke

V. A. Lemke

RECEIVED
SEP 23 1983
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

VAL:yc

cc: D. Torkelson
R. Kuna
D. Spreutels

TEI ANALYTICAL, INC.

50 SOUTH NORTHWEST HIGHWAY • PARK RIDGE, ILLINOIS • 60068 • 312/696-2070

July 25, 1983

LABORATORY REPORT #0321

Mr. Vern Lemke
Union Oil Co. of California
Chicago Refinery
135th Street and New
Lemont, Illinois 60439

Samples received
June 23, 1983

-15445	Total Radium pCi/liter	Gross Alpha pCi/liter	Gross Beta pCi/liter
quot #1 - 6-22-83			
- LF-1 - Seal No. 00402	< 1	< 2	6 ± 2
- LF-2 - Seal No. 00404	< 1	< 2	4 ± 2
- LF-3 - Seal No. 00406	< 1	< 2	7 ± 2
- LF-4 - Seal No. 00408	< 1	< 2	< 3
- LF-5 - Seal No. 00410	< 1	< 2	3 ± 2
- LF-6 - Seal No. 00412	< 1	< 2	6 ± 2

g. e. Marks

Copy to: Mr. L. D. Erchull

VAL/jah 7/28/83

RECEIVED
SEP 23 1983
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

TEI ANALYTICAL, INC.

480 SOUTH NORTHWEST HIGHWAY • PARK RIDGE, ILLINOIS • 60068 • 312/696-2070

June 28, 1983

LABORATORY REPORT #0247

Mr. Vern Lemke
Union Oil Co. of California
Chicago Refinery
135th Street and New
Lemont, Illinois 60439

Samples received
June 23, 1983

[TEI-15444.01] LF-1 - Seal #00403 6/22/83
[TEI-15444.02] LF-2 - Seal #00405 6/22/83
[TEI-15444.03] LF-3 - Seal #00407 6/22/83
[TEI-15444.04] LF-4 - Seal #00409 6/22/83
[TEI-15444.05] LF-5 - Seal #00411 6/22/83
[TEI-15444.06] LF-6 Seal #00413 6/22/83

	.01	.02	.03	.04	.05	.06
Lindane, ppb	< 0.05	< 0.05	< 0.05	< 0.05	< 0.07	< 0.20
Endrin, ppb	< 0.04	< 0.04	< 0.05	< 0.06	< 0.06	< 0.20
Methoxychlor, ppb	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.70
Toxaphene, ppb	< 0.10	< 0.20	< 0.20	< 0.30	< 0.30	< 0.80
2,4 D , ppb	< 2.0	< 2.0	< 2.0	< 2.0	< 3.0	< 5.0
Silvex, ppb	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0

RECEIVED
SEP 23 1983
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

	Reference Blank	Control Blank	Well #1	#2	#3	#4	#5	#6
Specific Conductance, µS/cm	2.27	730	910	1700	1050	1285	1020	1220
	2.28	730	910	1700	1050	1285	1020	1220
	2.29	730	910	1700	1050	1285	1020	1220
	2.31	730	910	1700	1050	1285	1020	1220
TOC, mg/l	13	23	29	21	20	19	15	34
	13	24	30	21	21	20	16	34
	13	24	30	22	21	20	16	34
	13	26	31	22	22	21	16	34
TOX *, µg/l	nd(<5)	135	190	20	nd(<5)	nd(<5)	nd(<5)	20
	nd(<5)	140	240	25	nd(<5)	nd(<5)	nd(<5)	25
	nd(<5)	140	240	30	nd(<5)	nd(<5)	nd(<5)	25
	nd(<5)	145	240	30	nd(<5)	nd(<5)	nd(<5)	45

* TOX analyses were performed by James M. Montgomery, Consulting Engineers, Inc.; 555 East Walnut Street, Pasadena, CA 91101.

nd None detected.

RECEIVED
SEP 23 1983
E.P.A. - D.L.P.C.
STATE OF ILLINOIS

Technical Memorandum
Union Science & Technology Division
Union Oil Company of California

union 76

To:	L. D. Erchull, Chicago	**Memo:**	ARS 83-298M
From:	G. W. Larson	**Date:**	July 26, 1983
Department:	Chemical Research	**Project:**	267-65211
Subject:	ANALYSIS OF LANDFARM WELL WATERS: JUNE 22, 1983	**Supervisor:**	N. W. Lambert N.W.L.

cc: Library (2)
Patent
D. J. Christoffersen
J. M. Fraser
G. C. Graham
J. Walker
H. D. Haas
V. A. Lemke
Chicago Refinery

Summary

Attached are results for the second quarterly groundwater monitoring survey at the Chicago Refinery landfarm conducted on June 22, 1983. The samples were received at Science and Technology on June 23, 1983. As required by regulation, quadruplicate results are reported for conductance, TOC and TOX. Also attached are copies of the chain-of-custody forms; the originals were sent to Mr. V. A. Lemke.

Gary Larson

GWL:tsw
attach.

RECEIVED
SEP 23 1983
E. P. A. — D.L.P.C.
STATE OF ILLINOIS

Union Oil Company of California

In Reply Give No.

LAB 129-83

union 76

Chicago Refinery
July 1, 1983

Mr. H. D. Haas

ANALYSIS OF WATER WELL SAMPLES
FROM JUNE 22, 1983

Sludge Farm water well samples were taken on June 22, 1983. This report outlines results of tests that were run in the Chicago Refinery Laboratory. Replicate pH tests were run on each of the 6 sludge farm water wells. Results are summarized in the table below.

	pH Replicates			
Land Farm Well #1	7.2	7.2	7.2	7.2
Land Farm Well #2	7.0	7.0	7.0	7.0
Land Farm Well #3	7.0	7.0	7.0	7.0
Land Farm Well #4	7.0	7.0	7.0	7.0
Land Farm Well #5	7.2	7.2	7.2	7.2
Land Farm Well #6	7.2	7.2	7.2	7.2

V. A. Lemke

V. A. Lemke

VAL/jah

cc: Mrs. R. B. Kuna
Mr. D. J. Spreutels
Mr. D. F. Torkelson

RECEIVED

SEP 23 1983

E P A. — D.L.P.C.
STATE OF ILLINOIS

Northern Region
Groundwater Monitoring Support F
19780304
Lemont/Cook County

Union 76 Division: Eastern Region
Union Oil Company of California
Chicago Refinery
Lemont, Illinois 60439
Telephone (312) 257-7761

ENV 229-83

union 76

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
#P 334 827 527

A. J. Eliskalns
Manager, Chicago Refinery

RECEIVED
OCT 1 1983
ILL. E.P.A. – D.L.P.C.
STATE OF ILLINOIS

September 21, 1983

Mr. Mark Haney
Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Latest Groundwater Monitoring Results

Dear Sir:

Attached are the latest results available from sampling the Land Treatment Facility groundwater monitoirng wells on June 22, 1983. Groundwater elevations are also being reported.

Should you have any questions on the data submitted, please contact L. D. Erchull at the above telephone number.

Very truly yours,

H. D. Haas, Supervisor
Environmental Services

LDE:dlw

Attachments

cc: J. K. Bassett

RECEIVED
SEP 23 1983
E.P.A. – D.L.P.C.
STATE OF ILLINOIS

Chicago Refinery
Lemont, Illinois 60439
Telephone (312) 257-7761

ENV 5-82

Arab Jay Patel

Larry Stearn
Permit Section
DWPC

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
#P15 2224611

January 8, 1982

1770 7304

Union Oil Co

Mr. Valdas V. Adamkus
U. S. Environmental Protection
Agency
Region 5
230 South Dearborn Street
Chicago, Illinois 60604

RECEIVED
SEP 13 1982
ILL. E.P.A. – D.L.P.C.
STATE OF ILLINOIS

Dear Sir:

Quarterly Monitoring Well Data

Union Oil Company of California, Chicago Refinery has installed a ground-water monitoring system for its land treatment facility which is registered as a RCRA hazardous waste site (EPA I.D. Number ILD041550567). We are enclosing analytical data on the first two quarterly sets of data.

If you have any questions concerning these data, contact Mr. L. D. Erchull at the above telephone number.

Very truly yours,

H. D. Haas, Supervisor
Environmental Services

LDE:mln

RECEIVED
1/13/82

Chicago Refinery
June 23, 1981

Mr. H. D. Haas

LAND FARM WELL WATER ANALYSIS

Below are listed the results of analyses run on water samples taken from the Chicago Refinery land farm monitoring wells.

Sample	Time and Date of Sample	Oil & Grease[1] ppm	pH[2]
Well #1	0755 May 12, 1981	1.4	6.9
Well #2	0710 May 12, 1981	1.1	6.5
Well #3	0815 May 6, 1981	1.5	6.7
Well #4	0755 May 6, 1981	0.7	6.8
Well #5	0730 May 6, 1981	5.6	7.3
Well #6	0630 May 12, 1981	1.2	7.0
Reference Blank[3]	0900 May 6, 1981	<0.1	7.0
Control Blank[4]	0830 May 12, 1981	0.8	6.9

1st Qr

[1]Methods for Chemical Analysis of Water and Wastes

[2]Corning pH Meter Model 130

[3]Deionized water from laboratory at Chicago Refinery

[4]Chicago Refinery potable water from fire station.

W. E. Vreuls
Supervisor - Laboratory

Rush

Time Collected: 10 30 Am

Lab # 01086 AUG27

SPECIAL ANALYSIS FORM

Date Collected: 8/26/80

Date Received

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
X101 Will	Lockport / Union oil	C81-26u

SOURCE OF SAMPLE: (Exact Location)

East end ~~South~~ side of Sludge field where runoff has accumulated ~~approx 100 ft from east border~~,

PHYSICAL OBSERVATIONS, REMARKS:

Reported to contain high Cr, CN, ZN

TESTS REQUESTED: 48 hr. Leach

COLLECTED BY: Brad Bunning

TRANSPORTED BY: [illegible]

Environmental Protection Agency
~~Division of Laboratory Services~~
2121 W. Taylor Street
Chicago, Illinois 60612

LABORATORY

RECEIVED BY: R. Modi. 11:30 AM.

DATE COMPLETED:

DATE FORWARDED: 10-3-80

J. Daugherty

As - 0.003
Ba - 0.0
Cd - 0.00
Cr - 0.21
Cu - 0.00
Pb - < 0.03
Hg 0.25
Se. 0.004
Ag - 0.00

CN - 0.09
ZN - 0.2
pH - 9.0

RECEIVED
OCT 1980
ILL. E.P.A. – D.L.P.C.
STATE OF ILLINOIS

LPC-8A 4/77

(NOT FOR DATA PROCESSING)

C091086

C196

Rush

Time Collected: 10 30 AM

Lab # 01087 AUG27

SPECIAL ANALYSIS FORM

Date Collected: 8/26/80

Date Received

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
X 102	Lockport / Union Oil	C81-28 a

SOURCE OF SAMPLE: (Exact Location)

south side ~~middle~~ of sludge field.
~ 100 ft from east bank

PHYSICAL OBSERVATIONS, REMARKS:

repeated to have high Cr, CN
ZN

TESTS REQUESTED: 48 hr leach

COLLECTED BY: David Denning

TRANSPORTED BY: ~~Environmental Protection Agency Division of Laboratory Services~~ 2121 W. Taylor Street Chicago, Illinois 60612

LABORATORY

RECEIVED BY: R. Modi. 11:30 AM

DATE COMPLETED:

DATE FORWARDED: 10-3-80

J Daugherty

As — 0.008
Ba — 0.0
Cd — 0.00
Cr — 0.09
Cu — 0.01
Pb — < 0.03
Hg — < 0.05
Se — 0.011
Ag — 0.00

CN — 0.34
Zn — 0.0
pH — 9.5

RECEIVED
ILL. E.P.A. — D.L.P.C.
STATE OF ILLINOIS

C001087

LPC-8A 4/77

(NOT FOR DATA PROCESSING)

C197

Rush

Time Collected: 10 30 Am

Lab # ~~01088~~ AUG27

SPECIAL ANALYSIS FORM

Date Collected: 8/26/80

Date Received _____

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
X 103 Will	Lockport/Union Oil	C81-26 r

SOURCE OF SAMPLE: (Exact Location)

Middle of Sludge field

PHYSICAL OBSERVATIONS, REMARKS:

reported to have high Cr, CN, ZN

TESTS REQUESTED: 48 hr leach

COLLECTED BY: Brad Benning

TRANSPORTED BY: Environmental Protection Agency Division of Laboratory Services 2121 W. Taylor Street Chicago, Illinois 60612

LABORATORY

RECEIVED BY: R. Modi 11:30 Am

DATE COMPLETED:

DATE FORWARDED: 10-3-80

J Dougherty

As – 0.025
Ba – 0.0
Cd – 0.00
Cr – 0.03
Cu – 0.01
Pb – < 0.03
Hg – <0.05
Se – 0.026
Ag – 0.00

CN – 0.47
ZN – 0.0
pH – 10.3

RECEIVED

ILL. E.P.A. – D.L.P.C.
STATE OF ILLINOIS

LPC-8A 4/77 (NOT FOR DATA PROCESSING) 0001088

RUSH 01089 AUG27

Time Collected: 10:30 Am

Lab #

SPECIAL ANALYSIS FORM

Date Collected: 8/26/80

Date Received

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
X104 Will	Lohport/Unionoil	C81-26N

SOURCE OF SAMPLE: (Exact Location)

North side of Sludge field.

PHYSICAL OBSERVATIONS, REMARKS:

Reported to have high Cr, CN, ZN

TESTS REQUESTED: 48 hr. leach

COLLECTED BY: Brad Denning

TRANSPORTED BY: Brad Denning

LABORATORY ~~Environmental Protection Agency~~ Division of Laboratory Services 2121 W. Taylor Street Chicago, Illinois 60612

RECEIVED BY: R. Modi. 11:30 Am

DATE COMPLETED:

DATE FORWARDED: 10-3-80

J Daugherty

As - 0.021
Ba - 0.0
Cd - 0.00
Cr - 0.78
Cu - 0.05
Pb - 0.04
Hg - <0.05
Se - 0.005
Ag - 0.00

CN - 0.13
ZN - 1.0
pH - 8.4

RECEIVED

ILL. E.P.A. - D.L.P.C.
STATE OF ILLINOIS

LPC-8A 4/77 (NOT FOR DATA PROCESSING) C001089

C17

01085 AUG27 RUSH

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow or Seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Waste
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only) Impounded water - BE area

(1) L P C S M D 1 0 (8) SITE INVENTORY NUMBER C81-26W (20)

MONITOR POINT NUMBER X 1 0 5 (17) (20) DATE COLLECTED 0 8 2 6 8 0 (22) (26)

Will Co. - LPC REGION 2 (27)

Lockport (Location) / Union Oil (Responsible Party)

Legal (1); Illegal (2); Indicate One: 2 (28) Board Order (X) (29)

Time Collected 1030 a.m. p.m. Unable to collect sample (X) (30)

Stick-up (31) . (33) ft. Depth to water (from T.O.C.) (34) . (36) ft.

Sample temp. (37) ° (39) Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) Gravity (41) 3

Sample Appearance: ponded liquid from sludge runoff.

Collector comments:

Brad Benning — Collected by — OLPC Div. or Company

Brad Benning — Transported by — OLPC Div. or Company

LAB USE ONLY

Lab No. C001085

Date Rec'd 8-27-80

Rec'd by R Modi Time 11:30 a.m. p.m.

Sample temp. acceptable YES NO

Sample properly preserved YES NO

Date completed

Date Forwarded 10-3-80

J Daugherty — Supervisor Signature

Name Environmental Protection Agency
Address Division of Laboratory Ser.
of Lab 2121 W. Taylor Street
Chicago, Illinois 60612

LPCSM020 Lab Comments:

(27) (36)

(37) (46)

RECEIVED (47) (56)

OCT 6 1980 (57) (66)

ILL. E.P.A. - D.L.P.C. STATE OF ILLINOIS (76)

Substitute Lab (X) (77)

IEPA Lab (X)

LPCSM020

		PARAMETERS*	PPM*
27		Alkalinity	X X X X
31		Ammonia as N	X X
37	✓	Arsenic As	0.008 X
44	✓	Barium Ba	0.1 X X
45		BOD-5	X X X X
53		Boron B	X X
59	✓	Cadmium Cd	0.00 X X
64		Calcium Ca	X X X
69		COD	X X X X
73		Chloride Cl	X X X X

LPCSM040

27	✓	Chromium Cr (tot)	0.15 X X
33	✓	Chromium Cr+6	0.00 X X
39	✓	Copper Cu	0.01 X X
45	✓	Cyanide CN	0.16 X X
52		Fecal Coli	X X X X
56		Fluoride F	X X X
61		Hardness CaCO3	X X X X
65		Iron Fe	X X X
70	✓	Lead Pb	0.00 X X

LPCSM060

27		Magnesium Mg	X X X
32		Manganese Mn	X X
38		[illegible]	
46		Nickel Ni	X X X
51		Nitrate-nitrite N	X X X
56		Oil and Grease	X X X X
60		pH (Units)	X X X X X
63		Phenolics	X
70		Phosphorus P	X X
75		Potassium K	X X X

LPCSM060

27		P.O.E. (as PO4)	X X X X
31	✓	Selenium Se	0.005 X
37	✓	Silver Ag	0.00 X X
44		Sodium Na	X X X
49		COD (mmos/cm)	X X X X
53		Sulfate SO4	X X X
59	✓	Zinc Zn	0.1 X X X

*Analysis are to be performed on unfiltered samples. *Values exceeding the limits of plated media are reported. In the lab comment section tests rejected but not run initially are explained in the lab comment section.

*Parameters to be analyzed as specified by the I.E.P.A.

Union 76 Division: Eastern Region

Union Oil Company of California
Chicago Refinery
Lemont, Illinois 60439
Telephone (312) 257-7761

ENV 138-83

RECEIVED

JUN 06 1983

STATE OF ILLINOIS

union 76

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 334 827 493

RECEIVED

JUN 16 1983

ILL. E.P.A. - D.L.P.C.
STATE OF ILLINOIS

A. J. Eliskalns
Manager, Chicago Refinery

June 2, 1983

Mr. Mark Haney
Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Response to IEPA Letter on Facility
Subpart F Groundwater Monitoring

Dear Sir:

On May 23, 1983 we received a letter from you stating that the Union Oil Company, Chicago Refinery Land Treatment Facility is in apparent violation of Title 35, Illinois Administrative Code, Part 725, Subpart F, Groundwater Monitoring. We will respond in detail to each of the apparent violations.

Section 725.194(a)(2)(A)

We have been timely submitting all groundwater monitoring data to you as it becomes available. We have not completed the monitoring for pesticides and radioactivity. We unsuccessfully tried to petition U.S. EPA to delete the pesticide and radioactivity testing for our facility. Since then to date we have completed two quarters of testing for these parameters. By September this testing will be complete. See Table 1 for a listing of parameters which exceeds the Interim Primary Drinking Water Standards for each test well.

Section 725.194(a)(2)(B)

We have submitted the required results as available on pH, Specific Conductance, Total Organic Carbon and Total Organic Halogen. We are unable to submit the required evaluation for these parameters because the data generated the first year was not replicated. We are presently gathering the replicate data on these parameters. Two additional sets of data need to be sampled for replicate analysis. This data will be complete by September. The evaluations on these parameters will be performed on samples tested in December. This data will be submitted with the 1984 Annual Report.

Section 725.194(a)(2)(C)

See Table 2 for quarterly groundwater elevations from May 1981 to October 1982.

Attached are latest analyses on the facility monitoring wells sampled in March 1983.

Should you have any questions on the information contained in this memo, please contact L. D. Erchull at telephone number 312-257-7761.

Very truly yours,

H. D. Haas, Supervisor
Environmental Services

LDE:dlw

cc: JKBassett/JCWilkes
J. E. Purtell.

Attachments

JEP
6/1/83

Table 1

Drinking Water Standard Exceedances

Parameter	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
Lead	5/81	0.1					.07
Coliform	5/81	> 5000	> 5000	2000			380
	9/81	30	110	80	40	140	10
	12/81	240	400	50	20	160	420
	3/82	70	110	30	40	260	70
Selenium	5/81	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	9/81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	12/81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	3/82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Data shown for Lead and Selenium is reported as mg/l. Coliform data is reported as colonies/100 ml.

JEPurtell/ams

JEP
6/1/83

Table 2

Union Oil Company
Chicago Refinery
Land Treatment Facility Groundwater Elevations

Monitoring Well	May 1981	Sept. 1981	December 1981	March 1982	October 1983
#1	625.05	622.8	622.8	623.3	622.1
#2	623.9	618.9*	621.4	622.4	621.3
#3	623.3	622.3	622.3	624.3	621.1
#4	622.8	622.3	622.3	624.0	622.3
#5	621.3	621.9	620.0	621.9	620.7
#6	623.2	622.5	623.2	624.0	618.3

Upgradient wells are No. 1 and 2.

* Abnormally low water elevation.

JEPurtell/ams

Union Oil Company of California

union 76

To:	L. D. Erchull, Chicago Refinery	**Memo:**	ARS 83-175M
From:	G. W. Larson	**Date:**	May 6, 1983
Department:	Chemical Research	**Project:**	267-65211
Subject:	ANALYSIS OF LANDFARM WELL WATERS: MARCH 16 AND 17, 1983	**Supervisor:**	N. W. Lambert

cc: Library (2)
Patent
D. J. Christoffersen
J. M. Fraser
G. C. Graham
J. Walker
H. D. Haas)
V. A. Lemke) Chicago Refinery

The attached table is a listing of the results of the first quarterly well water survey of the Chicago Refinery landfarming operation. As required by RCRA (Resource Conservation and Recovery Act), quadruplicate results are reported for conductance, TOC and TOX. Also included are copies of the chain of custody forms; the originals were sent to Mr. V. A. Lemke separately.

Gary Larson

GWL:tsw
attach.

	Reference Blank (3/16/83)	Control Blank (3/15/83)	Well #1 (3/16/83)	Well #2 (3/16/83)	Well #3 (3/16/83)	Well #4 (3/15/83)	Well #5 (3/15/83)	Well #6 (3/15/83)
Chloride[a]	1.0	27	28	25	4.1	3.9	5.3	4.2
Iron	0.02	0.8	0.04	0.07	0.2	0.2	2.0	0.06
Manganese	0.03	0.03	0.05	0.2	0.1	0.07	0.1	0.1
Phenol	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	nd(<0.003)	0.006
Sodium	d(<0.1)	66	19	27	11	15	6	12
Sulfate	3	85	140	640	97	150	120	63
Conductance	3.5	710	990	1840	1035	1230	990	925
(μS/cm)	3.5	710	990	1840	1035	1230	990	925
	3.5	710	990	1840	1035	1230	990	925
	3.5	710	990	1840	1035	1230	990	925
TOC	9.3	4.3	6.2	5.7	4.8	15.2	8.8	10.1
	9.6	5.6	6.3	6.3	4.5	15.8	8.7	10.2
	9.7	3.4	6.4	5.8	5.1	11.4	7.4	10.4
	8.9	5.8	5.3	5.5	3.6	15.0	9.2	10.8
TOX*	nd(<0.005)	0.070	0.060	0.090	0.070	0.070	0.040	0.075
	nd(<0.005)	0.070	0.060	0.090	0.070	0.070	0.040	0.075
	nd(<0.005)	0.070	0.060	0.085	0.075	0.065	0.040	0.065
	nd(<0.005)	0.070	0.065	0.080	0.080	0.065	0.050	0.060

(a) Concentrations expressed as mg/l except in case of Conductance.

nd None detected

d Some detected but not quantifiable

* TOX analyses contracted through Montgomery Laboratories, 555 East Walnut Street, Pasadena, CA 91101.

union 76

Chicago Refinery
April 20, 1983

Mr. H. D. Haas

ANALYSIS OF WATER WELL SAMPLES
FROM MARCH 15-16, 1983

Sludge farm water well samples were taken on March 15 and March 16, 1983. This report outlines results of tests that were run in the Chicago Refinery Laboratory. Replicate pH tests were run on each of the 6 sludge farm water wells. Results are summarized in the table below:

	pH Replicates			
Land Farm Well #1	7.2	7.2	7.2	7.2
Land Farm Well #2	7.0	7.1	7.1	7.1
Land Farm Well #3	7.0	7.0	7.0	7.0
Land Farm Well #4	7.1	7.1	7.1	7.1
Land Farm Well #5	7.1	7.2	7.2	7.2
Land Farm Well #6	7.2	7.2	7.2	7.2

V. A. Lemke

V. A. Lemke

VAL/jah

cc: Mrs. R. B. Kuna
Mr. D. J. Spreutels
Mr. D. F. Torkelson

OC02 (1-73)
PRINTED IN U.S.A.

TEI ANALYTICAL, INC.

460 SOUTH NORTHWEST HIGHWAY • PARK RIDGE, ILLINOIS • 60068 • 312/696-2070

April 18, 1983

LABORATORY REPORT #0051

Mr. Vern Lemke
Union Oil Co. of California
Chicago Refinery
135th Street and New
Lemont, Illinois 60439

Samples received
March 16, 1983

[TEI-15087.01] LF-1 - Seal 00372 - 3/16/83
[TEI-15087.02] LF-2 - Seal 00374 - 3/16/83
[TEI-15087.03] LF-3 - Seal 00376 - 3/16/83
[TEI-15087.04] LF-4 - Seal 00346 - 3/15/83
[TEI-15087.05] LF-5 - Seal 00348 - 3/15/83
[TEI-15087.06] LF-6 - Seal 00350 - 3/15/83

	.01	.02	.03	.04	.05	.06
Total Radium, pCi/liter	< 1	< 1	< 1	2 ± 1	< 1	< 1
Gross Alpha, pCi/liter	< 2	< 2	< 2	< 2	< 2	< 2
Gross Beta, pCi/liter	4 ± 2	5 ± 3	5 ± 2	< 3	< 3	3 ± 2

g e Mauter

TEI ANALYTICAL, INC.

460 SOUTH NORTHWEST HIGHWAY • PARK RIDGE, ILLINOIS • 60068 • 312/696-2070

LABORATORY REPORT

March 24, 1983 #9986

Mr. Vern Lemke
Union Oil Co. of California
Chicago Refinery
135th Street and New
Lemont, Illinois 60439

Samples received
March 16, 1983

[TEI-15088.01] LF-1 - Seal 00373 - 3/16/83
[TEI-15088.02] LF-2 - Seal 00375 - 3/16/83
[TEI-15088.03] LF-3 - Seal 00377 - 3/16/83
[TEI-15088.04] LF-4 - Seal 00347 - 3/15/83
[TEI-15088.05] LF-5 - Seal 00349 - 3/15/83
[TEI-15088.06] LF-6 - Seal 00351 - 3/15/83

	.01	.02	.03	.04	.05	.06
Lindane, ppb	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endrin, ppb	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Methoxychlor, ppb	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 1.5
Toxaphene, ppb	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4 D	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Silvex, ppb	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6

J. E. Marks

ENTAL PROTECTION AGENCY

DIVISION OF WATER POLLUTION CONTROL

WASTE TREATMENT WORKS EFFLUENT SAMPLING FORM

SAMPLE COLLECTED BY: P. MURPHY

LOCATION OF SAMPLING POINT: UNION OIL LEMONT GRAB (1)

BASIN: DESPLAINES R.

SUB-BASIN (IF NONE ENTER "DIRECT"): CS & SHIPCANAL

TRIBUTARY: COC493 AUG 55

MINOR TRIBUTARY: —

SEND ORIGINAL OF RESULTS TO: MAYWOOD SUB-BASIN OFFICE

☐ PERFORMANCE MEASUREMENT SECTION, SPRINGFIELD

SEND COPY OF RESULTS TO: ☒ EDP SERVICES SECTION, SPRINGF

CARD COL. 1 — CARD NO. 1	CARD COL. 1 2 — CARD NO. 2	CARD COL. 1 3 — CARD NO. 3
2-5: GI — BASIN CODE	6-7: 02 — PLANT OR STATION NO.	8-10: 122 — FIPS COUNTY CODE (USE ONLY FOR PLANT)
11-17: C000493 — LAB ID NO.	11-17: C000493 — LAB ID NO.	11-17: C000493 — LAB ID NO.
18: I — SAMPLE TYPE CODE (SEE LIST BELOW)	18: I — SAMPLE TYPE CODE	18: I — SAMPLE TYPE CODE

19-20: 82	YEAR	
21-22: 08	MONTH	
23-24: 04	DAY	
25-26: 12	HOUR (NEAREST)	11:40
27: A	TIME OF DAY (A.P.N.)	
28-30:	WATER TEMPERATURE (DEG. F.)	
31-33:	FIELD D.O.	

PH (UNITS)	34-36	8.0
TOTAL PHOSPHORUS	37-40	0.17
AVG. BOD	41-44	9
C.O.D.	45-48	105
PHENOLS	49-52	0.059
FECAL COL (NO./100ML)	53-56	
AMMONIA N	60-63	18.0
NITRATE + NITRITE AS N	64-66	0.3
ORGANIC N	67-69	
TOTAL N	70-72	
T.D.S./E.C.	73-76	
TOTAL SUSP. SOLIDS	77-80	18

ARSENIC	19-22	0.012
BARIUM	23-25	0.0
BORON	26-28	0.7
CADMIUM	29-32	0.0
CHROMIUM (HEX)	33-35	0.0
CHROMIUM (TRI)	36-38	0.12
CHROMIUM (TOTAL)	39-41	0.12
COPPER	42-45	0.0
CYANIDE	46-49	0.42
IRON (TOTAL)	50-53	0.4
IRON (DISSOLVED)	54-56	
LEAD	57-60	0.0
MANGANESE	61-63	0.02
MERCURY (MICROGM/L)	64-66	<0.05
NICKEL	67-69	0.0
SELENIUM	70-72	0.07
SILVER	73-76	0.0
ZINC	77-79	0.0

PLANKTON (NO./ML)	19-23	
FLUORIDE	24-26	
CHLORIDE	27-30	
SULFATE AS SO4	31-34	
TOTAL SULFUR AS S	33-38	
OIL	39-42	6
M.B.A.S.	43-46	
CARBON CHLOROFORM EXTRACT	47-50	
TURBIDITY (UNITS)	51-54	
RESIDUE ON EVAPORATION	55-58	
VOLATILE SUSP. SOLIDS	59-62	
COLOR (UNITS)	63-65	
HARDNESS	66-68	
ALKALINITY	69-71	
TOTAL ACIDITY	72-74	82
FREE ACIDITY	75-77	

OTHER TESTS REQUIRED — RESULTS

ALL RESULTS EXPRESSED AS MG/L EXCEPT WHERE OTHERWISE STATED.

PHYSICAL OBSERVATIONS & COMMENTS (ABNORMAL COLOR, ODOR, FLOATING MATTER, OIL, SLUDGE, TURBIDITY, WEATHER), LOCATION OF SAMPLING POINT: GRAB

SAMPLE TYPE CODES:

A = DOMESTIC WASTE ONLY
E = INDUSTRIAL WASTE ONLY
I = MIXED DOMESTIC & INDUSTRIAL WASTE
S = STREAM, LAKE, OR RECEIVING WATER QUALITY
T = MINE DRAINAGE OR WASTE
X = OTHER OR TYPE UNKNOWN

SIGN BELOW FOR EFFLUENT SAMPLE

TRANSPORTED BY: [signature]

RECEIVED BY: [signature] 8-4-82 TIME 1230P

TRANSPORTED BY: [signature]

RECEIVED BY: _____ TIME _____

FOR LABORATORY USE ONLY

SAMPLE RECEIVED BY: [signature]

DATE REC'D: 8-5-82 TIME REC'D: 11:30

DATE ANALYSES COMPLETED: _____

DATE RESULTS FORWARDED: OCT. 22. 1982

TOTAL TESTS REQUESTED: _____ TESTS RUN: _____

LAB SECTION: Chicago SUPERVISOR: Daughert

EI ENTAL PROTECTION AGENCY

DIVISION OF WATER POLLUTION CONTROL

WASTE TREATMENT WORKS EFFLUENT SAMPLING FORM

SAMPLE COLLECTED BY: J. MURPHY

LOCATION OF SAMPLING POINT: UNION OIL CE MONT - 24 HR COMP (8)

BASIN: DES PLAINES R.

SUB-BASIN (IF NONE ENTER "DIRECT"): CS SHIP CANAL

TRIBUTARY: COUNTY HOUSE

MINOR TRIBUTARY:

SEND ORIGINAL OF RESULTS TO: HAYWOOD

SUB-BASIN OFFICE ☐ PERFORMANCE MEASUREMENT SECTION, SPRINGFIELD

SEND COPY OF RESULTS TO: ☒ EDP SERVICES SECTION, SPRINGFI

CARD COL. 1 — CARD NO. 1	CARD COL. 1 2 — CARD NO. 2	CARD COL. 1 3 — CARD NO. 3
2-5 GI BASIN CODE	6-7 02 PLANT OR STATION NO.	8-10 197 FIPS COUNTY CODE (USE ONLY FOR PLANT)
11-17 C000494 LAB ID NO.	11-17 C000494 LAB ID NO.	11-17 C000494 LAB ID NO
18 I SAMPLE TYPE CODE (SEE LIST BELOW)	18 I SAMPLE TYPE CODE	18 I SAMPLE TYPE CODE

19-20	82	YEAR
21-22	08	MONTH
23-24	04	DAY
25-26		HOUR (NEAREST)
27		TIME OF DAY (A.P.N.)
28-30		WATER TEMPERATURE (DEG. F.)
31-33		FIELD D.O.
PH (UNITS)	8.2 (34-36)	
TOTAL PHOSPHORUS	0.11 (37-40)	
AVG. BOD	11 (41-44)	
C.O.D.	97 (45-48)	
PHENOLS	0.054 (49-52)	FECAL COL (NO./100ML)
	(53-56)	
AMMONIA N	18.0 (60-63)	
NITRATE + NITRITE AS N	0.2 (64-66)	
ORGANIC N	(67-69)	
TOTAL N	(70-72)	
T.D.S./E.C.	(73-76)	
TOTAL SUSP. SOLIDS	[illegible] (77-80)	

ARSENIC	0.012 (19-22)	
BARIUM	0.0 (23-25)	
BORON	0.8 (26-28)	
CADMIUM	0.00 (29-32)	
CHROMIUM (HEX)	0.00 (33-35)	
CHROMIUM (TRI)	0.10 (36-38)	
CHROMIUM (TOTAL)	0.10 (39-41)	
COPPER	0.0 (42-45)	
CYANIDE	0.36 (46-49)	
IRON (TOTAL)	0.3 (50-53)	
IRON (DISSOLVED)	(54-56)	
LEAD	0.00 (57-60)	
MANGANESE	0.02 (61-63)	
MERCURY (MICROGM/L)	<0.05 (64-66)	
NICKEL	0.0 (67-69)	
SELENIUM	0.06 (70-72)	
SILVER	0.00 (73-76)	
ZINC	0.0 (77-79)	

PLANKTON (NO./ML)	(19-23)
FLUORIDE	(24-26)
CHLORIDE	(27-30)
SULFATE AS SO4	(31-34)
TOTAL SULFUR AS S	(33-38)
OIL	(39-42)
M.B.A.S.	(43-46)
CARBON CHLOROFORM EXTRACT	(47-50)
TURBIDITY (UNITS)	(51-54)
RESIDUE ON EVAPORATION	(55-58)
VOLATILE SUSP. SOLIDS	(59-62)
COLOR (UNITS)	(63-65)
HARDNESS	(66-68)
ALKALINITY	(69-71)
TOTAL ACIDITY	(72-74)
FREE ACIDITY	(75-77)

OTHER TESTS REQUIRED	RESULTS
T. Susp. Solids	19

ALL RESULTS EXPRESSED AS MG/L EXCEPT WHERE OTHERWISE STATED.

PHYSICAL OBSERVATIONS & COMMENTS (ABNORMAL COLOR, ODOR, FLOATING MATTER, OIL, SLUDGE, TURBIDITY, WEATHER), LOCATION OF SAMPLING POINT:
24 HR. COMP.

SAMPLE TYPE CODES:

A = DOMESTIC WASTE ONLY
E = INDUSTRIAL WASTE ONLY
I = MIXED DOMESTIC & INDUSTRIAL WASTE
S = STREAM, LAKE, OR RECEIVING WATER QUALITY
T = MINE DRAINAGE OR WASTE
X = OTHER OR TYPE UNKNOWN

SIGN BELOW FOR EFFLUENT SAMPLE

TRANSPORTED BY: J. Murphy

RECEIVED BY: [illegible] TIME: 8-4 [illegible]

TRANSPORTED BY: [illegible]

RECEIVED BY: TIME

FOR LABORATORY USE ONLY

SAMPLE RECEIVED BY: M. [illegible]

DATE REC'D: 8-5-82 TIME REC'D: 11:30

DATE ANALYSES COMPLETED:

DATE RESULTS FORWARDED: OCT. 22. 1982

TOTAL TESTS REQUIRED: TESTS RUN:

LAB SECTION: Chicago SUPERVISOR: [illegible]

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECEIVED 348 OCT 1982 — D.L.P.C. STATE OF ILLINOIS

mr

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow on seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Gas
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only)

L P C S M 0 3 0 (1) (8)

SITE INVENTORY NUMBER 1828030 4 (9) (16)

MONITOR POINT NUMBER G 2 0 1 (17) (22)

DATE COLLECTED 0 2 1 4 8 2 (23) (28)

1 Co. - LPC REGION N (27)

nT / Union Oil
(Location) (Responsible Party)

Legal (1); Illegal (2); Indicate One: 1 (29) Board Order (X) (29)

Time Collected 1:35 P.M. Trouble to collect sample (X) (30)

Stick-up (31) . (33) ft. Depth to water (from T.O.C.) (34) . (36) ft.

Sample temp. (37) (39) °. Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) private well 3 (41)

Sample Appearance: clear

Collector comments: Ran water 10 min

Collected by — Div. or Company

Transported by — Div. or Company

AT USE ONLY
Lab No. C000348

Date Rec'd 7-23-82

Rec'd by [illegible] Time 2:20 p.m.

Sample temp. acceptable (YES) NO
Sample properly preserved YES NO
Date completed
Date Forwarded SEP. 28. 1982

J Daugherty
Supervisor Signature

Place Address of Lab: Environmental Protection Agency, Division of Laboratory Services, 2121 W. Taylor Street, Chicago, Illinois 60612

LPCSM020
Lab Comments:

(27) — (36)
(37) — (46)
(47) — (56)
(57) — (66)
(67) — (76)

Private Lab (X)
IEPA Lab (X) (77) (A)

LPCSM030

		PARAMETERS*	PPM*
27	X	Alkalinity[1]	352
31	X	Ammonia as N	0.17
37	X	Arsenic As	0.001
44	X	Barium Ba	0.0
49	X	[illegible]	
53	X	Boron B	0.4
58	X	Cadmium Cd	0.00
64	X	Calcium Ca	112
69	X	COD	3
73	X	Chloride Cl	20

LPCSM040

27	X	Chromium Cr (total)	0.00
33	X	Chromium Cr^{+6}	0.0
39	X	Copper Cu	0.0
45	X	Cyanide CN	0.00
52		[illegible]	
56	X	Fluoride F	0.9
61	X	Hardness $CaCO_3$	680
65	X	Iron Fe	11.5
70	X	Lead Pb	0.00

LPCSM050

27	X	Magnesium Mg	90.3
32	X	Manganese Mn	0.07
38	X	~~Mercury Hg~~ KP	
46	X	Nickel Ni	0.0
52	X	Nitrate-nitrite N	0.0
56	X	Oil and Grease	0
60	X	pH (Units)	8.2
63	X	Phenolics	0.000
70	X	Phosphorus P	0.0
76	X	Potassium K	3.5

LPCSM060

27	X	Total Solids (TDS)	980
31	X	Selenium Se	0.00
38	X	Silver Ag	0.0
44	X	Sodium Na	16.1
49	X	SC (umhos/cm)	889
53	X	Sulfate SO_4	315
58	X	Zinc Zn	0.6
63			

*Analyses are to be performed on unfiltered samples. *Value exceeding no. of places shown are reported in the lab comments section; tests requested but not run should also be explained in the lab comments section.

[1] Alkalinity is to be determined as ppm of $CaCO_3$ at pH 4.5.

C000349 UL237

mr

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

OCT - 4 1982
I.E.P.A. - D.L.P.C.
STATE OF ILLINOIS

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow or seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Waste
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only)

L P C S M 0 1 0 (1–7) SITE INVENTORY NUMBER 1 9 7 8 0 3 0 4 (9–16)

MONITOR POINT NUMBER F202 (17–20) DATE COLLECTED 0 7 1 4 8 2 (21–26)

11 Co. - LPC REGION N (27)

ST / Union Oil
(Location) (Responsible Party)

Legal (1); Illegal (2); Indicate One: 1 (28) Board Order (X) (29)

Time Collected 2:00 P.M. Unable to collect sample (X) (30)

Stick-up ___ . ___ ft. (31–33) Depth to water ___ . ___ ft. (from T.O.C.) (34–36)

Sample temp. ___ ° (37–39) Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) Private well 3 (41)

Sample Appearance: Clear

Collector comments: Ran water 10 min

Collected by — Div. or Company LPC

Transported by — Div. or Company

LAB USE ONLY
Lab No. C000349
Date Rec'd 7-23-82
Rec'd by [illegible] Time 3:30 a.m. p.m.
Sample temp. acceptable YES NO
Sample properly preserved YES NO
Date completed
Date forwarded SEP. 28. 1982
Supervisor signature J Daugherty

Name and Address of Lab: Environmental Protection Agency, Division of Laboratory Services, 2121 W. Taylor Street, Chicago, Illinois 60612

LPCSM020
Lab Comments:
Ca 101 (35–36)
(37–46)
(47–56)
(57–66)
(67–76)
Private Lab (X)
IEPA Lab (X) (X) (77)

LPCSM030

		PARAMETERS*	PPM*
27	X	Alkalinity[1]	384
31	X	Ammonia as N	0.25
37	X	Arsenic As	0.00
44	X	Barium Ba	0.0
49	X	BOD-5	
53	X	Boron B	0.4
58	X	Cadmium Cd	0.00
64	X	Calcium Ca	101
69	X	COD	4
73	X	Chloride Cl	19

LPCSM040

27	X	Chromium Cr (total)	0.00
33	X	Chromium Cr+6	0.00
39	X	Copper Cu	0.00
45	X	Cyanide CN	0.00
52		Fecal Coli	
56	X	Fluoride F	0.3
61	X	Hardness (as Ca)	480
65	X	Iron Fe	0.8
70	X	Lead Pb	0.00

LPCSM050

27	X	Magnesium Mg	54.6
32	X	Manganese Mn	0.01
36	X	Mercury Hg	KP
46	X	Nickel Ni	0.0
51	X	Nitrate-nitrite N	0.0
56	X	Oil and Grease	0
60	X	pH (Units)	8.0
63	X	Phenolics	0.000
70	X	Phosphorus P	0.00
76	X	Potassium K	3.3

LPCSM060

27	X	Solids, Total (TDS)	706
31	X	Selenium Se	0.000
38	X	Silver Ag	0.00
44	X	Sodium Na	51.2
49	X	SC (umhos/cm)	815
53	X	Sulfate SO_4	173
58	X	Zinc Zn	0.1
63			

*Analyses are to be performed on unfiltered samples. *Values exceeding no. of places shown are reported in the lab comments section; tests requested but not run should also be explained in the lab comments section.

[1] Alkalinity is to be determined as ppm of $CaCO_3$ at pH 4.5.

RECEIVED
OCT - 4 1982
I.E.P.A.
STATE OF ILLINOIS

C00350 IL237

mr

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow or seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Waste
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only)

LPCSM030 (1) — SITE INVENTORY NUMBER (5) 1 9280304 (16)

MONITOR POINT NUMBER (17) 203 (23) — DATE COLLECTED (21) 071482 (26)

Co. - LPC — REGION (27) N

(Location) / Union Oil (Responsible Party)

Legal (1); Illegal (2); Indicate One: (28) 1 — Board Order (X) (29)

Time Collected 2:45 P.M. — Unable to collect sample (X) (30)

Stick-up (31) . (33) ft. — Depth to water (from T.O.C.) (34) . (36) ft.

Sample temp. (37) ° (39) — Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) private well (41) 3

Sample Appearance:

Collector comments: Depth 120' Raw water

Collected by — Div. or Company

Transported by — Div. or Company

LAB USE ONLY C00350

Lab No.

Date Rec'd 7-23-82

Rec'd by J. H. Time 3:30 P.M.

Sample temp. acceptable (YES) NO

Sample properly preserved (YES) NO

Date completed

Date forwarded SEP 28 1982

Supervisor Signature J. Daugherty

Name Environmental Protection Agency
Address of Lab Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

LPCSM020 Lab Comments:

(27) — (30)
(37) — (46)
(47) — (56)
(57) — (66)
(67) — (76)

Private Lab (X) (77)

IEPA Lab (X) (X) (78)

LPCSM030

		PARAMETERS	PPM*
27	X	Alkalinity[1]	316
31	X	Ammonia as N	0.01
37	X	Arsenic As	0.00
44	X	Barium Ba	0.0
49	X	BOD 5	
53	X	Boron B	0.3
58	X	Cadmium Cd	0.0
64	X	Calcium Ca	109
69	X	COD	3
73	X	Chloride Cl	72

LPCSM040

27	X	Chromium Cr (Total)	0.00
33	X	Chromium Cr+6	0.0
39	X	Copper Cu	0.0
45	X	Cyanide CN	0.00
52		Fecal Coli	
56	X	Fluoride F	0.2
61	X	Hardness (as CaCO3)	510
65	X	Iron Fe	0.0
70	X	Lead Pb	0.0

LPCSM050

27	X	Magnesium Mg	60.1
32	X	Manganese Mn	0.00
38	X	Mercury Hg KP	
46	X	Nickel Ni	0.0
51	X	Nitrate-nitrite N	3.4
56	X	Oil and Grease	0
60	X	pH (Units)	8.3
63	X	Phenolics	0.000
70	X	Phosphorus P	0.0
76	X	Potassium K	2.9

LPCSM060

27	X	S.O.E. (as CaCO3)	750
31	X	Selenium Se	0.00
38	X	Silver Ag	0.0
44	X	Sodium Na	27.2
49	X	SC (umhos/cm)	776
53	X	Sulfate SO4	121
58	X	Zinc Zn	0.1
63			

*Analyses are to be performed on unfiltered samples. *Values exceeding no. of places shown are reported in the lab comments section; tests requested but not run should also be explained in the lab comments section.

[1] Alkalinity is to be determined as ppm of $CaCO_3$ at pH 4.5.

(3)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

SPECIAL ANALYSIS FORM C00495 AUG 5

Time Collected 10:30 Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector P. MURPHY

Facility Name: UNION OIL LAMONT Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location)

STREAM ADJACENT TO SOUTH FARMLAND AREA. BETWEEN N'S AREAS TRIB TO WW TREATMENT.

Physical Observations, Remarks:

Flow <2 FPS	Field Dissolved Oxygen	Field pH	Field Temp.

0.003	Arsenic		Coliform/100ml	9	BOD
0.0	Barium		Fecal Coliform 100 ml		COD
0.7	Boron		Fecal Strep 100 ml		TS/EC
0.00	Cadmium		Algae (Total) /ml		Susp. Solids
0.00	Copper	0.06	Ammonia (N)		Vol. Susp. Solids
0.00	Chromium (tri)		Organic Nitrogen (N)	7.8	pH (units)
0.00	Chromium (hex)	0.6	Nitrate + Nitrite (N)		Turbidity (JTU)
1.0	Iron (Total)	0.09	Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride		Alkalinity
<0.03	Lead		Fluoride	10	Total Acidity
0.33	Manganese		Sulfate		Free Acidity
<0.05	Mercury (ppb)	0.00	Cyanide	0	Oil
0.0	Nickel		MBAS	51	Other (Specify): COD*
<0.001	Selenium	0.011	Phenol (ppm)	55	Susp. Solids
0.00	Silver				
0.1	Zinc				

Results in mg/l unless otherwise noted.

Transported by:

Received by:

Transported by:

Received by:

FOR LAB USE ONLY

C000495

Lab Number: Rec'd By:

Date sample rec'd: 8-5-82 Time: 11:25

Date analysis completed: OCT. 22 1982

Date results forwarded:

Total Tests requested: Tests run:

Lab Section: Chemistry Supervisor:

100% Recycled Paper

IL 532-0546

LABS 3 3/73

CHAMPAIGN LAB

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 10:30 Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector PIERARD/STOFFERAHN

Facility Name: UNION OIL - LAYMONT Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location) #4 INTERMITTENT STREAM ADJACENT TO SOUTH FARMLAND AREA. DEPTH OF SAMPLE MAT'L 3"-6".

Physical Observations, Remarks: Attn Roy Frazier - Please send copy of this report also to Larry Eastep, Mngr IND PERMITS.

Flow <2 FPS	Field Dissolved Oxygen	Field pH	Field Temp.

	Arsenic		Coliform/100ml		BOD
110.	Barium		Fecal Coliform 100 ml	110,000	COD
	Boron		Fecal Strep 100 ml	46.4%	TOTAL SOLIDS TS/EC
	Cadmium		Algae (Total) /ml		Susp. Solids
41.	Copper		Ammonia (N)	9.6%	% Vol. Solids
590.	Chromium (TOT.)		Organic Nitrogen (N)	7.0	pH (units)
	~~Chromium (hex)~~		Nitrate + Nitrite (N)		Turbidity (JTU)
	Iron (Total)	2820.	Phosphorus (P)		Hardness
	Iron (Dissolved)		Chloride	* 4.34%	Alkalinity
46.	Lead		Fluoride	* 0.9%	Total Acidity
	Manganese	125.	Sulfide ~~Sulfate~~		Free Acidity
	Mercury (ppb)	7.6	Cyanide total		ALUMINUM
89.	Nickel		MBAS		Other (Specify) Cobalt
	Selenium	0.4	Phenol ~~(ppb)~~	*4% pH 8.2 B4%	
40.	VANADIUM				
300.	Zinc				

Results in mg/l unless otherwise noted.

100% Recycled Paper

SPECIAL HANDLING

Transported by:

Received by:

Transported by:

Received by:

DATA IN UNITS OF MICROGRAMS PER GRAM OF SAMPLE (DRY WT.) UNLESS OTHERWISE INDICATED. 3 HOURS ON DRY WEIGHT, 103°C, 4

FOR LAB USE ONLY

Lab Number: 0004592 Rec'd by

Date sample rec'd AUG 6 1982 Time 3PM

Date analysis completed:

Date results forwarded: DEC 3 1982

Total Tests requested: Tests run

Lab Section: CHAMPAIGN Supervisor

IL-021-12

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

C00348 JUL 23

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow or seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Waste
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only)

(1) L P C S M 0 1 0 (8) SITE INVENTORY NUMBER (9) 1928030 4 (16)

MONITOR POINT NUMBER (17) 201 (20) DATE COLLECTED (21) 021482 (26)

Co. - LPC REGION (27) N

(Location) / (Responsible Party) Union Oil

Legal (1); Illegal (2); Indicate One: 1 (28) Board Order (X) (29)

Time Collected 1:35 a.m. p.m. Unable to collect sample (X) (30)

Stick-up ___ . ___ ft. (31) (33) Depth to water ___ . ___ ft. (from T.O.C.) (34) (36)

Sample temp. ___ ° (37) (39) Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) private well (41) 3

Sample Appearance: clear

Collector comments: Ran water 10 min

R.O. — Collected by; LPC — Div. or Company

Transported by — Div. or Company

LAB USE ONLY

Lab No. C000348

Date Rec'd 7-23-82

Rec'd by [illegible] Time 3:30 a.m. p.m.

Sample temp. acceptable YES NO

Sample properly preserved YES NO

Date completed

Date forwarded SEP. 28 1982

J Daugherty — Supervisor Signature

Name Environmental Protection Agency

Address of Lab Division of Laboratory Services, 2121 W. Taylor Street, Chicago, Illinois 60612

LPCSM020 Lab Comments:

(27) — (36)

(37) — (46)

(47) — (56)

(57) — (66)

(67) — (76)

Private Lab (X)

IEPA Lab (X) (X) (77)

LPCSM030

		PARAMETERS*	PPM*
27	X	Alkalinity[1]	352
31	X	Ammonia as N	0.17
37	X	Arsenic As	0.001
44	X	Barium Ba	0.0
49	X	[illegible]-5 CVAS	
53	X	Boron B	0.4
58	X	Cadmium Cd	0.00
64	X	Calcium Ca	112.X
69	X	COD	3
73	X	Chloride Cl	20

LPCSM040

27	X	Chromium Cr (tot)	0.00
33	X	Chromium Cr^{+6}	0.0
39	X	Copper Cu	0.0
45	X	Cyanide CN	0.00X
52		Fecal Coli (#/100 ml)	
56	X	Fluoride F	0.9
61	X	Hardness $CaCO_3$	680
65	X	Iron Fe	11.5
70	X	Lead Pb	0.00

LPCSM050

27	X	Magnesium Mg	90.3
32	X	Manganese Mn	0.07
38	X	~~Mercury Hg~~ KP	
46	X	Nickel Ni	0.0
51	X	Nitrate-nitrite N	0.0
56	X	Oil and Grease	0.
60	X	pH (Units)	8.2
63	X	Phenolics	0.000
70	X	Phosphorus P	0.0
75	X	Potassium K	3.5

LPCSM060

27	X	R.O.E. (180°C)	980
31	X	Selenium Se	0.00
38	X	Silver Ag	0.0
44	X	Sodium Na	16.1
49	X	SC (umhos/cm)	889
53	X	Sulfate SO_4	315.*
58	X	Zinc Zn	0.6
63			

*Analyses are to be performed on unfiltered samples. *Values exceeding no. of places shown are reported in the lab comments section; tests requested but not run should also be explained in the lab comments section.

[1] Alkalinity to be determined as ppm of $CaCO_3$ at pH [illegible].

C00349 JUL23

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow or seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Waste
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only)

(1) L P C S M O 1 0 (8) SITE INVENTORY NUMBER (9) 1 9 7 8 0 3 0 4 (16)

MONITOR POINT NUMBER (17) P 2 0 2 (20) DATE COLLECTED (21) 0 7 1 4 8 2 (26)

Co. - LPC REGION (27) 4

(Location) / (Responsible Party) Union Oil

Legal (1); Illegal (2); Indicate One: (28) 1 Board Order (X) (29)

Time Collected 2:00 a.m. p.m. Unable to collect sample (X) (30)

Stick-up (31) . (33) ft. Depth to water (from T.O.C.) (34) . (36) ft.

Sample temp. (37) ° (39) Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) Private well (41) 3

Sample Appearance: Clear

Collector comments: Ram water 10 min

Collected by — Div. or Company LPC

Transported by — Div. or Company

LAB USE ONLY

Lab No. C000349

Date Rec'd 7-23-82

Rec'd by Time 3:30 a.m. p.m.

Sample temp. acceptable YES NO

Sample properly preserved YES NO

Date completed

Date forwarded SEP. 28. 1982

Supervisor Signature

Name Environmental Protection Agency
Address of Lab Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

LPCSM020
Lab Comments:
(27) Ca 101 (36)
(37) (46)
(47) (56)
(57) (66)
(67) (76)

Private Lab (X)
IEPA Lab (X) (X) (77)

LPCSM030

		PARAMETERS*	PPM*
27	X	Alkalinity[1]	384
31	X	Ammonia as N	0.25
37	X	Arsenic As	0.001
44	X	Barium Ba	0.0
49	X	BOD -5 CMG	
53	X	Boron B	0.4
58	X	Cadmium Cd	0.00
64	X	Calcium Ca	Total
69	X	COD	4
73	X	Chloride Cl	19

LPCSM040

27	X	Chromium Cr (tot)	0.00
33	X	Chromium Cr^{+6}	0.00
39	X	Copper Cu	0.0 0
45	X	Cyanide CN	0.00 X
52		Fecal Coli (#/100 ml)	
56	X	Fluoride F	0.3
61	X	Hardness $CaCO_3$	480
65	X	Iron Fe	0.8
70	X	Lead Pb	0.00

LPCSM050

27	X	Magnesium Mg	54.6
32	X	Manganese Mn	0.01
38	X	Mercury Hg KP	
46	X	Nickel Ni	0.0
51	X	Nitrate-nitrite N	0.0
56	X	Oil and Grease	0
60	X	pH (Units)	8.0
63	X	Phenolics	0.00 0
70	X	Phosphorus P	0.00
75	X	Potassium K	3 3

LPCSM060

27	X	R.O.E. (180°C)	706
31	X	Selenium Se	0.000
36	X	Silver Ag	0.0 0
44	X	Sodium Na	51.2
49	X	SC (umhos/cm)	815
53	X	Sulfate SO_4	173
58	X	Zinc Zn	0.1
63			

*Analyses are to be performed on unfiltered samples. *Values exceeding no. of places shown are reported in the lab comments section; tests requested but not run should also be explained in the lab comments section.

[1] Alkalinity is to be determined as ppm of $CaCO_3$ at pH 4.5.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

C00350 JUL23

Key for Determining Type of Monitoring Point

(S) Surface Water	(G) Ground Water	(L) Leachate	(X) Special
(1) Upstream	(1) Monitor Well	(1) Flow or seep	(1) Soil
(2) Mid-site	(2) Private well	(2) Pond	(2) Waste
(3) Downstream	(3) Spring	(3) Collection System	(3) Other
(4) Run-off	(4) Lysimeter		
(5) Impounded	(5) Public W S		

Name (Private Well, Stream, Spring, Impounded Water only)

(1) L P C S M 0 1 0 (8) SITE INVENTORY NUMBER (9) 1 9 2 8 0 3 0 4 (16)

MONITOR POINT NUMBER (17) 2 0 3 (20) DATE COLLECTED (21) 0 7 1 4 8 2 (26)

Co. - LPC REGION N (27)

T / Union Oil
(Location) (Responsible Party)

Legal (1); Illegal (2); Indicate One: 1 (28) Board Order (X) (29)

Time Collected 2:45 a.m. p.m. Unable to collect sample (X) (30)

Stick-up ___ . ___ ft. (31) (33) Depth to water ___ . ___ ft. (from T.O.C.) (34) (36)

Sample temp. ___ ° (37) (39) Background (X). . . . (40)

Ground water sampled by (Indicate one): (1) Bailing; (2) Pumping; (3) Other (Specify) private well (41) 3

Sample Appearance:

Collector comments: Depth 120' Raw water

Collected by: [illegible] Div. or Company: CR

Transported by: Div. or Company:

LAB USE ONLY C0003 50
Lab No.
Date Rec'd 7.23.82
Rec'd by Ill Time 3:30 a.m. p.m.
Sample temp. acceptable YES NO
Sample properly preserved YES NO
Date completed
Date forwarded SEP 28 1982
Supervisor Signature J Daugherty

Name Environmental Protection Agency
Address of Lab Division of Laboratory Services, 2121 W. Taylor Street, Chicago, Illinois 60612

LPCSM020 Lab Comments:
(27) (36)
(37) (46)
(47) (56)
(57) (66)
(67) (76)
Private Lab (X)
IEPA Lab (X) (X) (77)

		PARAMETERS*	PPM*
		LPCSM030	
27	X	Alkalinity[1]	316
31	X	Ammonia as N	0.01
37	X	Arsenic As	0.00 0
44	X	Barium Ba	0.0
49	X	BOD -5 0.006	
53	X	Boron B	0.3
58	X	Cadmium Cd	0.0 0
64	X	Calcium Ca	109.*
69	X	COD	3
73	X	Chloride Cl	72
		LPCSM040	
27	X	Chromium Cr (tot)	0.00
33	X	Chromium Cr^{+6}	0.0 0
39	X	Copper Cu	0.0 0
45	X	Cyanide CN	0.00 X
52		Fecal Coli (#/100 ml)	
56	X	Fluoride F	0.2
61	X	Hardness $CaCO_3$	510
65	X	Iron Fe	0.0
70	X	Lead Pb	0.0 0
		LPCSM050	
27	X	Magnesium Mg	60.1
32	X	Manganese Mn	0.0 0
38	X	Mercury Hg KP	
46	X	Nickel Ni	0.0
51	X	Nitrate-nitrite N	3.4
56	X	Oil and Grease	0
60	X	pH (Units)	8.3
63	X	Phenolics	0.000
70	X	Phosphorus P	0.0 0
73	X	Potassium K	2.9
		LPCSM060	
27	X	R.O.E. (180°C)	750
31	X	Selenium Se	0.00 0
38	X	Silver Ag	0.0 0
44	X	Sodium Na %	27.2
49	X	SC (umhos/cm)	776
53	X	Sulfate SO_4	121.X
58	X	Zinc Zn	0.1
63			

*Analyses are to be performed on unfiltered samples. *Values exceeding no. of places shown are reported in the lab comments section; tests requested but not run should also be explained in the lab comments section.

[1] Alkalinity is to be determined as mg/l $CaCO_3$ at pH 4.5.

Time Collected: 130 PM

Date Collected: 6·25·82

C05556 JUN28 Lab #

SPECIAL ANALYSIS FORM

Date Received 6.28.82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lemont / Union Oil	1978030 4

X101

SOURCE OF SAMPLE: (Exact Location) X101 intermitent stream bed

PHYSICAL OBSERVATIONS, REMARKS: Black oily material 1-6in

TESTS REQUESTED: EP Toxicity

COLLECTED BY: [signature] TRANSPORTED BY: C GEAREN

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: DATE FORWARDED: JUL. 28. 1982

J Daugherty

Pb - <0.03
Cr - 0.01
Zn - 1.8

LPC-8A 4/77 AW (NOT FOR DATA PROCESSING) C05556

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

Time Collected: 2:00P

Date Collected: 6.25.82

Lab #55 JUN 28

SPECIAL ANALYSIS FORM

Date Received 6.28.82

X 102

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lemont/Union oil	19780308

SOURCE OF SAMPLE: (Exact Location) X102 drying beds NW portion of property

PHYSICAL OBSERVATIONS, REMARKS: Tan soil like material

TESTS REQUESTED: EP Toxicity

COLLECTED BY: [illegible] TRANSPORTED BY: Chas Gordon

LABORATORY

RECEIVED BY: N. Tach DATE COMPLETED: DATE FORWARDED: JUL. 28. 1982

Pb - 0.06
Cr - 0.09
Zn - 8.5

J Daugherty

LPC-8A 4/77

HW

(NOT FOR DATA PROCESSING)

CD05555

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

C05558 JUNCO

Time Collected: 220P

Lab #

SPECIAL ANALYSIS FORM

Date Collected: 6·25·82

Date Received

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

X103

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lemont/ union oil	19780304

SOURCE OF SAMPLE: (Exact Location) X103 Drying beds NW portion of property

PHYSICAL OBSERVATIONS, REMARKS: Black sludge material

TESTS REQUESTED: EP Toxicity

COLLECTED BY: [signature] TRANSPORTED BY: [illegible]

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: DATE FORWARDED: JUL 28 1982

Pb - 1.50
Cr - 0.02
Zn - 22.0

J Daugherty

LPC-8A 4/77

H/W

(NOT FOR DATA PROCESSING)

C005558

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

Time Collected: 250P

Lab 005557 JUN28

SPECIAL ANALYSIS FORM

Date Collected: 6.25.82

Date Received 6.28.82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
X 104 Will	Lemont/union oil	19780304

SOURCE OF SAMPLE: (Exact Location) X104 waste water Treatment sludge

PHYSICAL OBSERVATIONS, REMARKS: grey sludge

TESTS REQUESTED: EP. Toxicity

COLLECTED BY: [signature] TRANSPORTED BY: C. GRAY

LABORATORY

RECEIVED BY: N. [signature] DATE COMPLETED: DATE FORWARDED JUL. 28. 1982

J Daugherty

Pb - 0.04
Cr - 0.04
Zn - 0.58

LPC-8A 4/77

(NOT FOR DATA PROCESSING) 005557

HW

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

Time Collected: 10:50

Date Collected: 8-4-82

Lab # C00498 AUG 85

SPECIAL ANALYSIS FORM

Date Received 8-5-82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
VIL.	UNION OIL	

SOURCE OF SAMPLE: (Exact Location) 3a. DRYING BED #1 (EAST) ~~AREA~~ AT EAST END. 3-6" DEPTH SAMPLE.

PHYSICAL OBSERVATIONS, REMARKS: TO CHICAGO LAB

TESTS REQUESTED: (EP TOXICITY METALS ONLY) REACTIVITY - CONTACT LARRY STEARNS INSPFLE @ 217-782-0010

COLLECTED BY: [signature] TRANSPORTED BY: [signature]

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: DATE FORWARDED: OCT. 20. 1982

[signature]

EP TOXICITY

As - 0.008
Ba - Interference
Cd - 0.13
Cr - 0.03
Pb - 0.10
Hg - <0.00005
Se - <0.002
Ag 0.03

reported in mg/liter

REACTIVITY -

LBC-LA 4/77 C00498 (NOT FOR DATA PROCESSING)

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

Time Collected: 11:10

Date Collected: 8-4-82

SPECIAL ANALYSIS FORM

Lab C00499 AUG 5

Date Received 8-5-82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
WILL	UNION OIL	

SOURCE OF SAMPLE: (Exact Location) 3b. DRYING BED #2 (WEST) at South end of BED, 3-6" DEPTH OF SAMPLE.

PHYSICAL OBSERVATIONS, REMARKS: TO CHICAGO LAB

TESTS REQUESTED: (EP TOXICITY METALS ONLY); REACTIVITY - CONTACT LARRY STEARNS IN SPFLD @ 217-782-0610

COLLECTED BY: [signature] TRANSPORTED BY: [signature]

LABORATORY

RECEIVED BY: [signature] DATE COMPLETED: DATE FORWARDED: OCT. 20. 1982

Daugherty

EP TOXICITY

As — 0.002
Ba — Interference
Cd — <0.01
Cr — 0.22
Pb — 0.06
Hg — <0.00005
Se — <0.002
Ag — 0.02

reported in mg/liter

REACTIVITY —

LPC-8A 4/77

C000499 (NOT FOR DATA PROCESSING)

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

Time Collected: 11:20

Lab # C000496

SPECIAL ANALYSIS FORM

Date Collected: 8-4-82

Date Received 8-5-82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
Will	Lemont/Union oil	19780304

SOURCE OF SAMPLE: (Exact Location) #2 WASTEWATER ORGANIC SLUDGE THICKENER. DRAWOFF LINE - COMBINED 1° & 2° CLARIFIERS

PHYSICAL OBSERVATIONS, REMARKS: To chi. lab

TESTS REQUESTED: EP Toxicity & reactivity contact Larry Sterns (217) 782-0610

COLLECTED BY: [illegible] TRANSPORTED BY: [illegible]

LABORATORY

RECEIVED BY: N. Jadhav DATE COMPLETED: DATE FORWARDED: OCT. 20. 1982

J Daugherty

As - 0.007
Ba - Interference
Cd - <0.01
Cr - 0.12
Pb - <0.03
Hg - <0.00005
Se - <0.002
Ag 0.02

reported in mg/liter

reactivity -

LPC-8A 4/77 C000496 (NOT FOR DATA PROCESSING)

H11

Environmental Protection Agency
Division of Laboratory Services
1131 W. Taylor Street
Chicago, Illinois 60612

C00497 AUG 5

Time Collected: 11:30

Lab #

SPECIAL ANALYSIS FORM

Date Collected: 8-4-82

Date Received 8-5-82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:

SOURCE OF SAMPLE: (Exact Location) 2a. SLUDGE LOADING PIT. COMBINED WATER & WASTEWATER SLUDGE

PHYSICAL OBSERVATIONS, REMARKS: EP TOXICITY; REACTIVITY TO Ch. lab

TESTS REQUESTED: EP TOXICITY (METALS ONLY); REACTIVITY - CONTACT LARRY STEARNS IN SPFLD @ 217-782-0610

COLLECTED BY: [illegible] TRANSPORTED BY: [illegible]

LABORATORY

RECEIVED BY: M. Jadhav DATE COMPLETED: DATE FORWARDED: OCT. 20. 1982

Daugherty

EP. TOXICITY

As 0.004
Ba - Interference
Cd - <0.01
Cr - 0.08
Pb - <0.03
Hg - <0.00005
Se - <0.002
Ag - 0.02

reported in mg/liter

REACTIVITY - X

LPC-8A 4/77 C000497 (NOT FOR DATA PROCESSING)

Environmental Protection Agency
Division of Laboratory Services
2121 W. Taylor Street
Chicago, Illinois 60612

CHAMPAIGN CAO

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 10:50 Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector PIERARD/SHOFFERAHN

Facility Name: UNION OIL Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location) #3a DRYING BED #1 (EAST) AT EAST END. 3-6" DEPTH SAMPLE.

Physical Observations, Remarks: Attn Roy Frazier - Please send copy of this report also to Larry Eastep, Mngr IND PERMITS.

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

17.	Arsenic		Coliform/100ml		BOD
240.	Barium		Fecal Coliform 100 ml	180,000	COD
	Boron		Fecal Strep 100 ml	71.1%	TOTAL SOLIDS TS/EC
41.	Cadmium		Algae (Total) /ml		Susp. Solids
440.	Copper	** 3.	Ammonia (N)	12.5%	% Vol. Solids
330.	Chromium (TOT)	2430.	~~Organic~~ Nitrogen (N) Total Kjeldahl	6.8	pH (units)
	~~Chromium (hex)~~		Nitrate + Nitrite (N)		Turbidity (JTU)
36000.	Iron (Total)	2110.	Phosphorus (P)		Hardness
	~~Iron (Dissolved)~~	860.	Sodium ~~Chloride~~	* 4.65%	Alkalinity
860.	Lead		Fluoride	* 0.9%	Total Acidity
	Manganese	35.	Sulfide ~~Sulfate~~		Free Acidity
1.7	Mercury (ppb)	9.1	Cyanide total	9400.	ALUMINUM
200.	Nickel		MBAS	30.	Other (Specify) Cobalt
23.	Selenium	1.0	Phenol (ppb)	* pH 8.2 B+D	
30.	VANADIUM	** 24 hr RF leach			
1300.	Zinc				

Results in mg/l unless otherwise noted.

100% Recycled F

SPECIAL HANDLING

Transported by:

Received by:

Transported by:

Received by:

FOR LAB USE ONLY

Lab Number: Rec'd by

Date sample rec'd: AUG -6 1982 Time 3:11

Date analysis completed:

Date results forwarded: DEC 3 1982

Total Tests requested: Tests run:

Lab Section: CHAMPAIGN Supervisor

RECEIVED NOV 19 1982 ILL. E.P.A. - D.L.P.C. STATE OF ILLINOIS

CC-P. Murphy 11-19-82

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 11:20 Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector PIERARD/STOFFERAHN

Facility Name: UNION OIL - LAMONT Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location) #2 WASTEWATER ORGANIC SLUDGE THICKENER. DRAWOFF LINE - COMINGS 1° & 2° CLARIFIERS

Physical Observations, Remarks: Attn Roy Frazier - Please send copy of this report also to Larry Eastep, Mngr IND PERMITS.

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

11.	Arsenic		Coliform/100ml		BOD
140.	Barium		Fecal Coliform 100 ml		COD
	Boron		Fecal Strep 100 ml	6.4%	TOTAL SOLIDS TS/EC
3.	Cadmium		Algae (Total) /ml		Susp. Solids
35.	Copper	**	570. Ammonia (N)	16.4%	% Vol. Solids
1100.	Chromium ~~(tri)~~ total		8540. ~~Organic~~ Nitrogen (N) TOTAL Kjeldahl	9.8	pH (units)
	~~Chromium (hex)~~		Nitrate + Nitrite (N)		Turbidity (JTU)
6900.	Iron (Total)		1200. Phosphorus (P)		Hardness
	~~Iron (Dissolved)~~		5900 ~~Chloride~~ Sodium	* 4.75%	Alkalinity
44.	Lead		Fluoride	* 0.9%	Total Acidity
	Manganese		667. ~~Sulfate~~ Sulfide		Free Acidity
0.42	Mercury (ppb)		10. Cyanide total	2800.	ALUMINUM
120.	Nickel		MBAS	20.	Other (Specify) Cobalt
17.	Selenium		187. Phenol ~~(ppb)~~		
~~110.~~ 150.	VANADIUM ~~Silver~~				
730.	Zinc				

* to pH 7.2 B+O

** 24 hour Leach

Results in mg/l unless otherwise noted

100% Recycled Paper

SPECIAL HANDLING

Transported by:

Received by:

Transported by:

Received by:

DATA IN UNITS OF MICROGRAMS PER GRAM OF SAMPLE (P.P.M.) UNLESS OTHERWISE INDICATED. BASED ON DRY WEIGHT, 103°C, 48 HOURS.

FOR LAB USE ONLY

Lab Number: 0004588 Rec'd by

Date sample rec'd: AUG. -6. 1982 Time: 3:11

Date analysis completed:

Date results forwarded: NOV 15 1982

Total Tests requested: Tests run

Lab Section: CHAMPAIGN Supervisor

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 11:25 Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector PIERRY/SOORROWN

Facility Name: UNION OIL - LEMONT Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location) #1 Water treatment Sludge from Lime thickener. RECIRCULATED LINE SAMPLE

Physical Observations, Remarks: Attn Roy Frazier - Please send copy of this report also to Larry Eastep, Mngr IND WPC PERMITS. - SPFLD.

RECEIVED

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

RECEIVED DEC 09 1982 ILL. E.P.A. - D.W.P.C. STATE OF ILLINOIS

6.0	Arsenic		Coliform/100ml		BOD
100.	Barium		Fecal Coliform 100 ml	51,000	COD
	Boron		Fecal Strep 100 ml	14.2%	TOTAL SOLIDS TS/EC
4.	Cadmium		Algae (Total) /ml		Susp. Solids
43.	Copper		Ammonia (N)	7.4%	% Vol. Solids
71.	Chromium ~~(tri)~~ total		Organic Nitrogen (N)	9.5	pH (units)
	~~Chromium (hex)~~		Nitrate + Nitrite(N)		Turbidity (JTU)
5000.	Iron (Total)	1700.	Phosphorus (P)		Hardness
No Field Filtered Sample	Iron (Dissolved)		~~Chloride~~ Sodium	* 4.99%	Alkalinity
44.	Lead		Fluoride	* 0.9%	Total Acidity
	Manganese	18.	~~Sulfate~~ Sulfide		Free Acidity
0.16	Mercury (ppb)	4.4	Cyanide total	500.	ALUMINUM
110.	Nickel		MBAS	10.	Other (Specify) Cobalt
0.9	Selenium	103.	Phenol ~~(ppb)~~		
10.	~~Silver~~ VANADIUM				
180.	Zinc				

* to pH 8.2 B.D.

Results in mg/l unless otherwise noted.

Transported by:

Received by:

Transported by:

Received by:

DATA IN UNITS OF MICROGRAMS PER GRAM OF SAMPLE (P.P.M.) UNLESS BASED ON DRY WEIGHT, 103°C, 48 hrs.

FOR LAB USE ONLY

Lab Number: 800487 Rec'd by:

Date sample rec'd: AUG -6 1982 Time: 3P

Date analysis completed:

Date results forwarded: DEC 3 1982

Total Tests requested: Tests run:

Lab Section: CHAMPAIGN Supervisor:

100% Recycled Paper

SPECIAL HANDLING

IL 532-054
LABS 3 3/73

CHAMPAIGN LAB

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

Time Collected 11:30 Sub-Basin MAYWOOD

Date Collected 8-4-82 Collector PIERARD/STORRERAWN

Facility Name: UNION OIL Facility Number: File Town

Stream Name(s) Stream Code:

Source of Sample: (Exact Location #2a SLUDGE LOADING PIT. COMBINED WATER & WASTEWATER SLUDGE

Physical Observations, Remarks: Attn Roy Frazier - Please send copy of this report also to Larry Easter, Mngr IND PERMITS.

Flow	Field Dissolved Oxygen	Field pH	Field Temp.

5.0	Arsenic		Coliform/100ml		BOD
140.	Barium		Fecal Coliform 100 ml	380,000 / 484,000	COD
	Boron		Fecal Strep 100 ml	40.2%	TOTAL SOLIDS TS/EC
1.0	Cadmium		Algae (Total) /ml		Susp. Solids
30.	Copper	**	200. Ammonia (N)	6.5%	% Vol. Solids
510.	Chromium ~~(tri)~~ total		2510. ~~Organic~~ Nitrogen (N) Total Kjeldahl	8.2	pH (units)
	~~Chromium (hex)~~		Nitrate + Nitrite (N)		Turbidity (JTU)
4700.	Iron (Total)		876. Phosphorus (P)		Hardness
	~~Iron (Dissolved)~~		1200. ~~Chloride~~ Sodium	* 9.99%	Alkalinity
27.	Lead		Fluoride	* 0.%	Total Acidity
	Manganese		275. ~~Sulfate~~ Sulfide		Free Acidity
0.19	Mercury (ppb)		7.4 Cyanide total	1400.	ALUMINUM
80.	Nickel		MBAS	20.	Other (Specify) Cobalt
5.0	Selenium	**	57. Phenol ~~(ppb)~~	* to pH 8.2 B+D	
110.	Vanadium				
300.	Zinc				

** 24 hour DI Leach

Results in mg/l unless otherwise noted.

DATA IN UNITS OF MICROGRAM OF SAMPLE OTHERWISE INDICATED ON DRY WEIGHT

Transported by:

Received by:

Transported by:

Received by:

FOR LAB USE ONLY

Lab Number: Rec'd by

Date sample rec'd AUG -6 1982 Time

Date analysis completed:

Date results forwarded: DEC 3 1982

Total Tests requested: Tests run:

Lab Section: Supervisor:

CHAMPAIGN

100% Recycled SPECIAL HANDLING

IL 532-0546

Union Oil 9/23

MW 12356 Glenn Wittman hydrologist Converse/Tetra
D & G Drilling (?)
MW #4 Dames & Moore

Started sampling June 81
" replicates ~~Sept~~ 82 Last Quarter
intend to do Student T with Dec 83 samples

(Union Oil)
Brea Research Center Brea, California

Pest & Radio samples missed 1st year now
made up between Sept 82 - 83

Finish DWS except pest & Radio in March 82
" Quality standard for 1st year "
Oil " " March 83

Three close wells 700 1300 1800
from land farm

Leo will ✓ # of ~~boring~~ test pits by Dames & Moore
if D & G worked

#1 & 2
2 wells outside fence are locked w/ metal standpipe
4 inside - pvc stick up
Use elevations on chart not Boring log

(3) IL-21-05

ILLINOIS GEOLOGICAL SURVEY, URBANA (71989—10M—2-49)

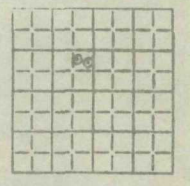
Strata	Thickness Feet	Thickness In.	Depth Feet	Depth In.
Boring No. 8				
NE., SE., NW., sec. 14, T. 37N., R. 11E.	COUNTY No. 40			
Elevation 581.5 MSL				
Top soil	1	0	1	0
Gravel	5	0	6	0
Very Coarse Sand	10	0	16	0
Gravel	3	0	19	0
Coarse Sand	5	0	24	0
Limestone	1	6	25	6
Boring No. 9				
NE., SE., NW., sec. 14. T. 37N., R. 11E.	COUNTY No. 41			
Elevation 581.5 MSL				
Top soil	1	10	1	10
Yellow clay	4	0	5	10
Clay and gravel	8	8	14	6
Clay and silt	5	0	19	6
Limestone	3	2	22	8

Reference set of drawings 4040 p5-25 in map files.

Sag Bridge quadrangle

COMPANY Corps of Engineers
FARM Calumet-Sag Canal
DATE DRILLED Prior to 10-1-46
AUTHORITY Corps of Engineers
ELEVATION
Location: NE., SE., NW.
Cook

NO.
NO.
COUNTY NO. 8 & 9



14-37N-11E

Union Oil Co.

Boring No. 12 State
SW., SE., NE., sec. 14, T. 37N., R. 11E

	Thickness Feet	Thickness In.	Depth Feet	Depth In.
Elevation 584.5 MSL				
Top soil	1	10	1	10
Limestone	4	0	5	10
Limestone and clay pockets	6	6	12	4
Clay pocket	1	0	13	4
Limestone	2	6	15	10
Clay pocket	0	10	16	8
Limestone	1	10	18	6
Clay and sand	1	0	19	6
Limestone	1	0	20	6
Sand pocket	1	0	21	6
Limestone	1	0	22	6
Clay and sand pocket	1	0	23	6
Limestone	1	0	24	6

Reference set of drawings 4040 p5-25
in map files.

Sag Bridge quadrangle

Corps of Engineers
Calumet-Sag Canal 12

COMPANY Prior to 10-1-46
FARM Corps of Engineers
DATE DRILLED 584.5 MSL
AUTHORITY Location: SW., SE., NE.
ELEV. book

NO.
NO.
COUNTY NO. 44

14-37N-11E

 ILLINOIS GEOLOGICAL SURVEY, URBANA (71989—10M—2-49)

Strata	Thickness Feet	Thickness In.	Depth Feet	Depth In.
Boring No. 10				
NE., SW., NE., sec. 14, T. 37N., R. 11E.				
Elevation 583.5 MSL				
Top soil	1	0	1	0
Clay and gravel	12	10	13	10
Fine sand	2	0	15	10
Clay and gravel	8	10	24	8
Limestone	1	10	26	6
Boring No. 11				
NE., SW., NE., sec. 14, T. 37N., R. 11E.				
Elevation 583.0 MSL				
Top soil	4	0	4	0
Clay and gravel	13	6	17	6
Sand, gravel and small boulders	7	0	24	6
Limestone	2	6	27	0
Reference set of drawings 4040 p5-25 in map files				
Sag Bridge quadrangle				

COUNTY No. 42

COUNTY No. 43

COMPANY Corps of Engineers
FARM Calumet-Sag Canal
DATE DRILLED Prior to 10-1-46
AUTHORITY Corps of Engineers
ELEVATION
Location: NE., SW., NE.
Cook

Nos. 10 & 11
NO.
COUNTY NO.

14-37N-11E