US EPA RECORDS CENTER REGION 5
487715

I.1
4-28-03

Current Conditions Report

Premcor Refining Group, Inc.
Hartford Refinery and River Dock
Hartford, Illinois

1190500002 – Madison County – ILD041889023

Volume 2 of 3
Appendices J-2 through O

Clayton Project No. 15-03095.00.001
April 28, 2003

RECEIVED
IEPA
MAY 05 2003
COLLINSVILLE OFFICE

Prepared for:
THE PREMCOR REFINING GROUP, INC.
St. Louis, Missouri

RECEIVED
APR 30 2003
IEPA-BOL
PERMIT SECTION

Prepared by:
CLAYTON GROUP SERVICES, INC.
3140 Finley Road
Downers Grove, Illinois
630.795.3200

Clayton
GROUP SERVICES

Clayton
GROUP SERVICES

APPENDIX J-2

MAJOR DOCUMENTATION RELATED TO INCIDENT NOS. 941701, 950726, 950893

Burns & McDonnell | Waste Consultants, Inc.
ENGINEERS·GEOLOGISTS·SCIENTISTS · 100% EMPLOYEE-OWNED

September 27, 1994

Mr. Bill Irwin
Environmental Manager
Clark Refining and Marketing, Inc.
201 East Hawthorne, P.O. Box 7
Hartford, Illinois 62048

Summary of River Dock Sampling
Clark Hartford Refinery, Hartford, Illinois
Project: CLARK 94-106-4

Dear Mr. Irwin:

The purpose of this letter and attached documentation is to provide a summary of the excavation and sampling activities following the release of gasoline in the river dock area. On August 2, 1994, [redacted] gallons of gasoline were released from an above-ground storage tank at the Clark Refining and Marketing (Clark) river dock [redacted] Clark personnel immediately placed absorbent booms on the Mississippi River between the shore and the barge dock and notified the National Response Center (NRC) and Tom Powell from the Illinois Environmental Protection Agency (IEPA) Emergency Response Unit.

The product was released from the river dock storage tank, approximately 20 feet above the ground, and flowed northwest to a small runoff ditch, where it began flowing west toward the river. Figure 1 indicates the impacted area and the locations of the absorbent booms. [redacted] soil samples should be collected according to the grid interval equation specified in 35 Illinois Administrative Code (IAC) 725.211. Based on an area of 1,711 square feet (ft^2) of soil impacted by the release, the equation yields a grid interval of 11.67 feet. Grid interval calculations are given in Table 1.

On August 3, 1994, [redacted].

Soil samples RD-1 and RD-6 were collected on August 3, 1994, in the locations indicated in Figure 2. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8020 and polynuclear aromatic hydrocarbons (PNAs) by EPA method 8310. Sample RD-6 had levels of 11 mg/kg and 205 mg/kg

3701 South Lindbergh Boulevard, St. Louis, Missouri 63127
Phone (314) 821-9016 Fax (314) 821-5406

for benzene and total BTEX respectively. Soil samples RD-2 through RD-5 were collected on August 5, 1994, after the excavation of soils under the river dock was completed. The sample results are summarized in Table 2 and sampling locations are indicated in Figure 2. Analytical laboratory results are attached.

SAMPLING PROTOCOL

Soil samples were collected from 0 to 1 foot below the bottom of the excavation. A new pair of disposable, surgical gloves were worn for each sample collected to prevent possible cross-contamination. Samples were placed in laboratory-cleansed glass containers and cooled to approximately 4 degrees Celsius. Samples were transported by a laboratory representative to the analytical laboratory using chain-of-custody procedures. All laboratory analyses were performed in accordance with USEPA methodology by Environmetrics of Maryland Heights, Missouri.

CONCLUSIONS AND RECOMMENDATIONS

The p[redacted] conducted in the impacted area at the river dock exposed the presence of petroleum hydrocarbons at [redacted]. [redacted] Due to the uncertainty of the horizontal and vertical extent of any previous release, excavation was completed at depths ranging from 2 to 3 feet, and confirmation samples were collected.

Burns and McDonnell Waste Consultants, Inc. [redacted]

If you have any questions or comments concerning this project, please call me at (314) 821-9016.

Sincerely,

James D Roach

James D. Roach, P.G.
Project Manager

JDR/pmc

Attachments

cc: D. Ballard, BMWCI

941064\c
rdock.lt

Table 1
Summary of Grid Interval Calculations
Clark Refining and Marketing
Hartford Refinery

Location	Length (ft)	Width (ft)	Area (ft^2)	Grid[1] Interval (ft)
Under River Dock	31	31	961	
Path to Ditch	25	3	75	
Ditch to River	45	15	675	
Total			1,711	11.67

[1] Grid Interval from 35 IAC 725.211; GI = [(Area/3.14)^0.5]/2

Table 2
Summary of River Dock Sample Results
Clark Refining and Marketing
Hartford Refinery

	Soil Sample No.:	RD-1		RD-2		RD-3		RD-4		RD-5		RD-6	
	Date Collected:	08/03/94		08/05/94		08/05/94		08/05/94		08/05/94		08/03/94	
PARAMETER	Units	PQL	Result	PQL	Result	PQL	Result	PQL	Result	PQL	Result	PQL	Result
BTEX CONSTITUENTS													
Benzene	µg/kg	2.0	4.0	1,000	ND	5,000	5,000	500	1,500	5,000	10,000	1,000	11,000
Toluene	µg/kg	2.0	ND	1,000	7,000	5,000	75,000	500	6,000	5,000	45,000	1,000	84,000
Ethylbenzene	µg/kg	2.0	ND	1,000	2,000	5,000	25,000	500	2,000	5,000	25,000	1,000	30,000
Xylenes (total)	µg/kg	5.0	6.0	2,500	13,000	12,500	160,000	1,250	14,000	12,500	75,000	2,500	100,000
Total BTEX	µg/kg		10.0		22,000		265,000		23,500		165,000		205,000
Noncarcinogenic PNAs													
Naphthalene	µg/kg	625	ND	31,429	148,401	8,148	19,798	7,857	10,184	8,800	16,709	1,714	7,964
Acenaphthylene	µg/kg	625	ND	786	ND	815	ND	786	ND	880	ND	857	ND
Acenaphthene	µg/kg	1,500	ND	1,429	ND	1,481	1,221J	1,428	ND	1,600	ND	1,558	ND
Fluorene	µg/kg	175	ND	6,667	11,477	173	ND	1,667	2,356	1,867	5,993	7,273	21,175
Phenanthrene	µg/kg	206	ND	7,857	16,138	2,037	2,274	1,964	3,029	6,800	8,826	17,143	33,766
Anthracene	µg/kg	625	ND	7,857	584J	815	ND	786	ND	6,800	186J	4,286	614J
Fluoranthene	µg/kg	206	ND	15,714	63,663	8,148	17,433	7,857	15,267	8,800	34,137	34,286	129,702
Pyrene	µg/kg	225	ND	34,286	87,205	8,889	22,534	8,571	18,872	19,200	45,985	74,805	104,116
Carcinogenic PNAs													
Benzo (a) anthracene	µg/kg	11.3	ND	10.7	ND	11.1	ND	10.7	ND	12.0	ND	11.7	ND
Chrysene	µg/kg	125	ND	119	ND	123	ND	119	ND	133	ND	130	ND
Benzo (b) fluoranthene	µg/kg	14.8	ND	13.1	ND	13.6	ND	13.1	ND	14.7	ND	14.3	ND
Benzo (k) fluoranthene	µg/kg	14.8	ND	13.1	ND	13.6	ND	13.1	ND	14.7	ND	14.3	ND
Benzo (a) pyrene	µg/kg	18.8	ND	17.9	ND	18.5	ND	17.9	ND	20.0	ND	19.5	ND
Dibenzo (a,h) anthracene	µg/kg	25.0	ND	23.8	ND	24.7	ND	23.8	ND	26.7	ND	26.0	ND
Benzo (g,h,i) perylene	µg/kg	63.8	ND	60.7	ND	63.0	ND	60.7	ND	66.0	ND	66.2	ND
Indeno (1,2,3-cd) pyrene	µg/kg	36.3	ND	34.5	ND	35.8	ND	34.5	ND	38.7	ND	37.7	ND

PQL - Practical Quantitation Limit
µg/kg - Micrograms per kilogram
ND - Not Detected
Total BTEX - Sum of benzene, toluene, ethylbenzene, and total xylenes
PNAs - Polynuclear aromatic hydrocarbons
J - Detected, but below practical quantitation limit

I:\projects\64106\4999\work\rdock1.xls4

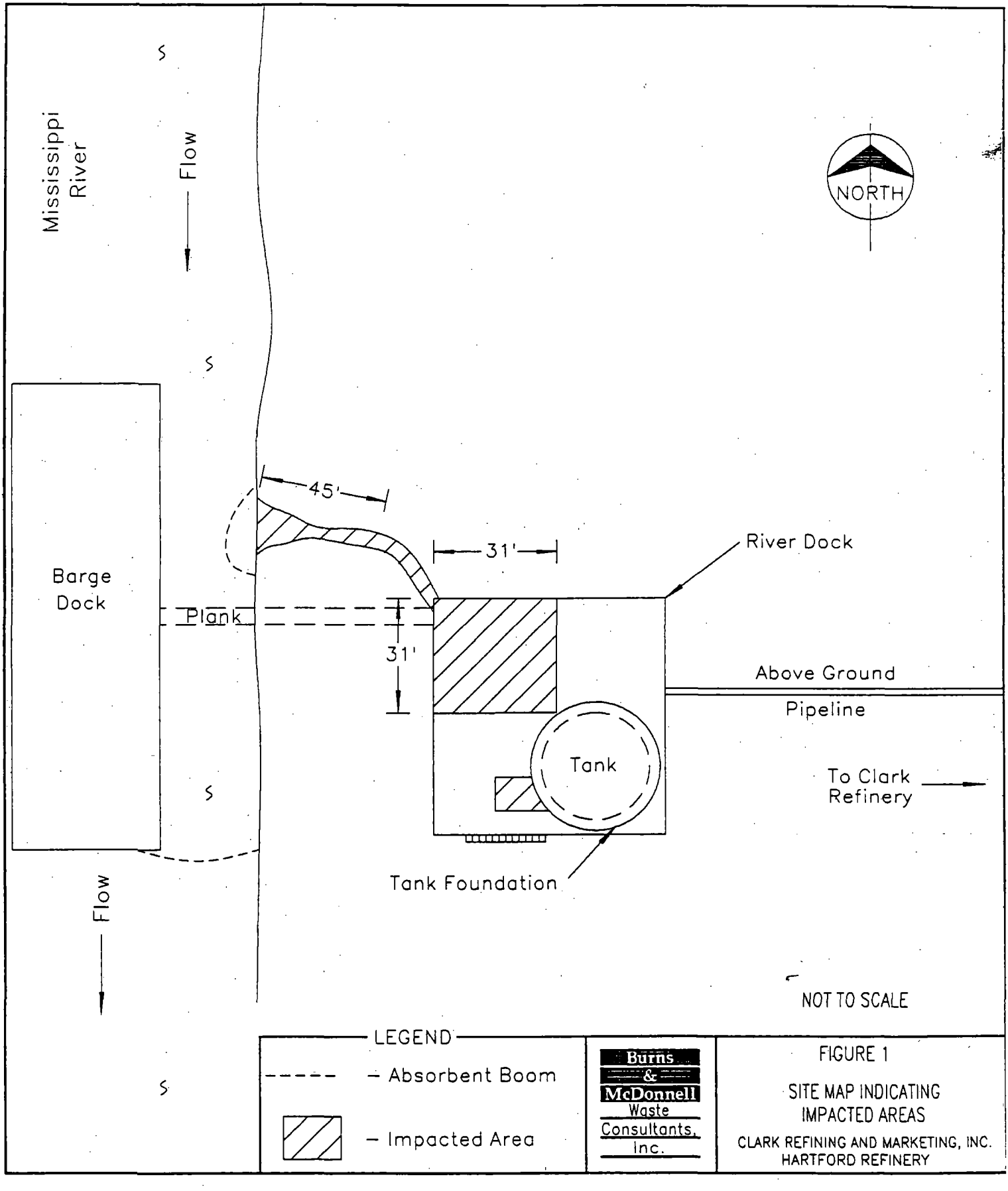

FIGURE 1

SITE MAP INDICATING IMPACTED AREAS

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY

Source: IEPA ERU

CLARK

REFINING & MARKETING, INC.
2 0 1 [illegible] Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

04700090059

RECEIVED
MAY 26 1995
IEPA
Office of Chemical Safety

May 22, 1995

Mr. Charles W. Brutlag
Illinois Environmental Protection Agency
Emergency Response Unit, Mail Drop #29
P.O. Box 19276
2200 Churchill Road
Springfield, IL 62794-9276

RE: Incident #950893

Dear Mr. Brutlag:

I am writing to follow-up on a telephone notification that was received by your office on May 1, 1995. Clark Refining and Marketing reported a sheen coming off of the bank at our dock facility located at milepost 197.3 along the Mississippi River. The reportable quantity was minimal, but absorbent boom was deployed. The United States Coast Guard and NRC were notified of the sheen.

The sheen was caused by some surface run-off into the river. There was a two-barrel release of diesel fuel at this facility on April 11, 1995, with the spring showers some of the residual fuel oil on the surface was washed into the river. As mentioned above, absorbent boom was deployed to capture the sheen

If you have any questions or comments regarding this report, I can be contacted at (618) 254-7301 ext. 259.

Respectfully,

Johanna S. Van Keuren

Johanna S. Van Keuren
Environmental Manager - Terminals

cc: C. Lowe, Hartford (RCM\Water gency & Interoff. Corres.)
A. Szabo, Hartford

jsvk3\hartsp2

CLARK

Source: IEPA ERW

Illinois Emergency Management Agency

FIELD REPORT

Incident Number 9 5 0 8 9 3

Notify: ILLINOIS EMERGENCY MANAGEMENT AGENCY
1 - 800 / 782 - 7860 or 217 / 782 - 7860

Date: 05 / 01 / 95
Time: 1457
Received by: JMC

1. Caller: JOENNA VAN KEUREN
2. Call back phone#: 618/254-7301 X259
3. Caller represents: CLARK REFINING & MARKETING
4. Type of incident: [ ] Fire [x] Leak [ ] Spill
   [ ] Explosion [x] Water Involvement
   [ ] Gas or Vapor cloud [ ] Other
5. Incident Location: MISSISSIPPI RIVER
   Street: 201 E. HAWTHORNE STREET
   City: HARTFORD 050 [ ] In [x] Near
   County: MADISON 119
   Milepost: [ ] RR [ ] River [ ] Highway
   Sec. Twp. Range
6. Area Involved: [ ] Highway [ ] Rail [ ] Fixed Facility
   [x] Waterway [ ] Air [ ] Other
7. Material (s) Involved: PETROLEUM PRODUCT
   [ ] Gas [x] Liquid [ ] Semi-Solid [ ] Solid
   [ ] Pesticide [ ] Radioactive
   CAS #: 000000035
   UN/NA #:
   Is this a 302 (a) Extremely Hazardous Substance? [ ] Yes [ ] No [ ] Unknown
   Is this a RCRA Hazardous Waste? [ ] Yes [ ] No [ ] Unknown
   If Yes, is this a RCRA regulated facility? [ ] Yes [ ] No
8. Container: [ ] Truck [ ] RR car [ ] Drum
   [ ] Aboveground tank [ ] Pipeline
   [ ] Underground tank [x] Other LEAKING OUT OF SOIL
   container size: ———
9. Amount released: UNKNOWN
   Rate of release: ———— / min.
10. Cause of release: UNKNOWN
11. Estimated spill extent: ———
    [ ] square feet [ ] square yards
12. [ ] Occurred Date: / / Time:
    [x] Discovered Date: 05 / 01 / 95 Time: 0800
13. Emergency units contacted
    [ ] Fire
    [ ] Sheriff
    [ ] Police
    [ ] ESDA
    [x] Other COAST GUARD ST. LOUIS/NRC

    On scene
    [ ] Fire
    [ ] Sheriff
    [ ] Police
    [ ] ESDA
    [x] Other COAST GUARD ST. LOUIS
14. On Scene Contact: WAYNE SCHATLEY
    On Scene Phone#: 618/251-2083
15. No. Injured: -0- [ ] Haz-mat related
    Where taken:
16. Public health risks and/or precautions taken, including # evacuated:
    NONE
17. Assistance needed from State Agencies:
    NONE
18. Containment/cleanup actions and plans:
    PUT ABSORBANT BOOMS IN WATER
19. Weather: [ ] sunny [ ] overcast [ ] night
    [ ] ptly. cldy. [ ] rain [ ] snow
    Temp. F wind dir. speed mph.
20. Responsible Party: CLARK REFINING & MARKETING
    Contact person: #1
    Phone #: #2
    Mailing address: 201 E. HAWTHORNE STREET
    HARTFORD, IL 62408

Notifications: 1526-FAXED TO EPA & SEM, IDPH DOC

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

September 5, 1995

Mr. John Sherrill
Remedial Project Management Section
Division of Remediation Management
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, IL 62794-9276

RE: 1190500002-- Response to Comments for Clark Refining and Marketing's Hartford Dock Work Plan

Dear Mr. Sherrill:

Attached are responses to the Hartford dock's work plan comments pertaining to the Clark Refining and Marketing, Inc. (Clark) Hartford River dock facility.

The comments will be addressed in numerical order in the order which they appeared in the August 28, 1995 letter addressed to me.

If you have any questions or additional comments, please contact me at (618) 254-7301 ext. 259.

Sincerely,

Johnna S Van Keuren

Johnna S. Van Keuren
Environmental Manager - Terminals

cc: F. Lauher, Hartford
B. Burmaster, Blue Island
R. Eggert, Mayer, Brown & Platt

j\hartdoc\wplan2

CLARK

SPECIFIC COMMENTS FOR WORK PLAN

Comment 1: Page 1-1, Section 1.2, paragraph 2. Discuss the final disposition of the 200 yds^3 of impacted soil, and provide copies of any related manifests.

Response: Attached are the manifests (See Attachments A) for the impacted soil that was removed from the area. It had been assumed that each of the nine roll-offs used approximately 20 yds^3 of soil, in reality the volume was ten to fifteen cubic yards per roll-off. A total of 140 yds^3 of soil was taken to Milam Recycling & Disposal facility.

Comment 2: Page 1-2, Section 1.2. Discuss the final disposition of the 10 yds^3 of impacted soil, and provide copies of any related manifests.

Response: Attached is the manifest (See Attachment B) for the impacted soil that was removed from the area. The soil was taken to Milam Recycling & Disposal facility.

Comments 3: Page 2-1, Section 2.0. Discuss the rationale for determining the proposed monitoring well locations.

Response: The State had requested that wells be installed around the perimeter of the structure. Since the platform is square it seemed logical that one cluster well on each side of the structure would be sufficient. Based on Figure 2 of the work plan, monitoring wells MW-2 and MW-3 delineate the area down gradient of the tank, while MW-1 and MW-4 illustrate the area up gradient of the tank.

Comment 4: Page 2-2, Section 2.2. Surface soil sampling should include the river bank in addition of the area north of the elevated dock, where the old dormant pipelines are abandoned in place.

Response: Figure 3 in the work plan illustrates the location of all of soil samples. Samples will be taken at the river bank and to the north of the elevated dock, as shown on Figure 3.

Comment 5: Page 2-4, Section 2.4. Since the proposed monitoring well locations are prone to flooding, discuss if the wells' integrity will be impacted by a flood event?

Response: It is difficult to answer this question since the extent and duration of flooding cannot be predicted. However, if the wells were to be flooded, Clark would try to clean the silt from the wells and redevelop them.

Comment 6: Page 2-5, Section 2.5. The Agency requests water levels be obtained from wells located outside the immediate area of the dock facility, in addition to the proposed wells. Water level data from up to one mile from the dock facility should be obtained in order to obtain information on the area's hydraulic gradient. This information can be submitted as a piezometric surface map.

Response: Clark currently has six four-inch monitoring wells east of the dock structure, between the dock and the retention pond. These are in close proximity to the dock area and will give the most accurate hydraulic information. Since the facility is adjacent to the river, the river primarily controls the groundwater flow in this area. Clark is exploring the availability of data from other sources within a mile of the facility.

Comment 7: Page 2-6, Section 2.6. The Agency requests the wells not be developed until 48 hours after well installation. Next, well purging should not occur until 24 hours after development. All wells should be developed and purged prior to sample collection.

Response: Clark concurs with this comment.

Comment 8: The Agency requests the opportunity to oversee field activities and to collect soil and groundwater samples. Agency samples may be analyzed for volatiles, semi-volatiles, and metals. Generally, Agency personnel collect samples while participating with an owner/operator's environmental consultant. Please provide Tom Powell at telephone number (618) 346-5120, and John Sherrill at telephone number (217) 785-5697, fourteen days notification of any field activities in order to coordinate Agency oversight.

Response: Clark agrees to contact Tom Powell and John Sherrill fourteen days prior to commencing any field activities.

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

ATTACHMENT A

State Form LPC 62 8/81 IL532-0610

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023 — Manifest Document No.: 20317

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048 (618)254-7301

4. "24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS" (800)424-9300

A. Illinois Manifest Document Number: IL6256084 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: 1190500002

5. Transporter 1 Company Name: MIDWEST SANITARY — 6. US EPA ID Number: ILD053980272

C. Illinois Transporter's ID: 0028

D. Transporter's Phone: 618) 254-0171

7. Transporter 2 Company Name — 8. US EPA ID Number

E. Illinois Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address — 10. US EPA ID Number

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

G. Illinois Facility's ID: 1630450001

H. Facility's Phone: 618) 271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	00015	Y	EPA HW Number: XX; Authorization Number: 070243
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above

PROFILE # CRL19295
ROLLOFF # 2009

K. Handling Codes for Wastes Listed Above In Item #14

G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 XX 218 OR CHEMTREC AT (800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MASSOOD MODARRES — Signature: M. Modarres — Date (Month Day Year): 08 17 94

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: FRED GRIZZLE — Signature: Fred Grizzle — Date (Month Day Year): 08 17 94

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Date (Month Day Year)

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: A Aleman — Signature: [signature] — Date (Month Day Year): 08 19 94

GENERATOR — TRANSPORTER — FACILITY

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

STATE OF ILLINOIS

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

ATTACHMENT A

State Form LPC 62 8/81 IL532-0610

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023
Manifest Document No.: 20318
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address / Location If Different
CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048
(618)254-7301

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (800)424-9300

A. Illinois Manifest Document Number: IL6256085 FEE PAID IF APPLICABLE
B. Illinois Generator's ID: IL9050000 2
C. Illinois Transporter's ID: 0028
D. (618) 254-0177 Transporter's Phone

5. Transporter 1 Company Name: MIDWEST SANITARY
6. US EPA ID Number: ILD053980272

7. Transporter 2 Company Name
8. US EPA ID Number

E. Illinois Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

10. US EPA ID Number

G. Illinois Facility's ID: IL630450001
H. Facility's Phone: (618) 271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No. / EPA/HW Number / Authorization Number
a. NON HAZDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	00015	Y	XX / 07024
b.					XX
c.					XX
d.					XX

J. Additional Description for Materials Listed Above
PROFILE # CRT19295
PROFILE # 20218

K. Handling Codes for Wastes Listed Above in Item #14
G=Gallons Y=Cubic Yards

15. Special Handling Instructions and Additional Information
IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 X 218 OR CHEMTREC AT (800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MASSOUD MODARRES
Signature: M. Modarres
Date (Month Day Year): 08 17 94

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: FRED GRTZZLE
Signature: Fred Grizzle
Date (Month Day Year): 08 17 94

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date (Month Day Year)

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Linda Oleman
Signature
Date (Month Day Year): 08 17 94

GENERATOR / TRANSPORTER / FACILITY

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and/imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

STATE OF ILLINOIS

ATTACHMENT A

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023

Manifest Document No.: 20319

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048

Location If Different: (618)254-7301

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (800)424-9300

A. Illinois Manifest Document Number: IL 6256086 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: IL90500002

5. Transporter 1 Company Name: MIDWEST SANITARY

6. US EPA ID Number: ILD053980272

C. Illinois Transporter's ID: 0028

D. Transporter's Phone: 618 254-0171

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. Illinois Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address: MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

10. US EPA ID Number:

G. Illinois Facility's ID: 1630450001

H. Facility's Phone: 618 271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON-HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	00015	Y	EPA HW Number: XX; Authorization Number: 070243
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above: PROFILE # CRL19295
ROLLOFF # 2039

K. Handling Codes for Wastes Listed Above In Item #14: G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 X 218
OR CHEMTREC AT (800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MASSOOD MODARRES | Signature: M. Modarres | Date (Month Day Year): 08 17 94

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: FRED GRIZZIE | Signature: Fred Grizzie | Date (Month Day Year): 08 17 94

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: | Signature: | Date (Month Day Year):

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: [illegible] | Signature: [illegible] | Date (Month Day Year): 08 17 94

GENERATOR

TRANSPORTER

FACILITY

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

STATE OF ILLINOIS

ATTACHMENT A

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

State Form LPC 62 8/81 IL532-0810

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023 — Manifest Document No.: 20320

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (618)254-7301 (800)424-9300

A. Illinois Manifest Document Number: IL6256087 — FEE PAID: IF APPLICABLE

B. Illinois Generator's ID: IL190500002

5. Transporter 1 Company Name: MIDWEST SANITARY — 6. US EPA ID Number: ILD053980272

C. Illinois Transporter's ID: 0028

D. (618) 254-0171 Transporter's Phone

7. Transporter 2 Company Name — 8. US EPA ID Number

E. Illinois Transporter's ID

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address — 10. US EPA ID Number

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

G. Illinois Facility's ID: 1630450001

H. Facility's Phone: 618 271 6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	00015	Y	EPA HW Number: XX; Authorization Number: 07024
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Descriptions for Materials Listed Above
a. PROFILE # CRT 19295
b. ROLLOFF # 20248

K. Handling Codes for Wastes Listed Above In Item #14
G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 X 218 OR CHEMTREC AT 9800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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GENERATOR — Printed/Typed Name: MASSOOD MODARRES — Signature: [signature] — Date (Month Day Year): 08 17 95

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: FRED GRIZZLE — Signature: [signature] — Date (Month Day Year): 08 17 95

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name: — Signature: — Date (Month Day Year):

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. — Printed/Typed Name: [illegible] — Signature: [signature] — Date (Month Day Year): 08 17 94

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 (per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

STATE OF ILLINOIS

ATTACHMENT A

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023 | Manifest Document No.: 20321 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address | Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048 (618)254-7301

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (800)424-9300

A. Illinois Manifest Document Number: IL 6256088 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: IL9050000021

5. Transporter 1 Company Name: MIDWEST SANITARY | 6. US EPA ID Number: ILD053980272

C. Illinois Transporter's ID: 0028

D. (618) 254-0177 Transporter's Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

E. Illinois Transporter's ID

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

G. Illinois Facility's ID: IL630450001

H. Facility's Phone: (618) 271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	0020	Y	EPA/HW Number: XX; Authorization Number: 07102413
b.					EPA/HW Number: XX; Authorization Number:
c.					EPA/HW Number: XX; Authorization Number:
d.					EPA/HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above
PROFILE # CRL-19295
ROLLOFF # 20272

K. Handling Codes for Wastes Listed Above In Item 14
G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 X 218 OR CHEMTREC AT (800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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GENERATOR — Printed/Typed Name: MASSOOD MODARRES | Signature: M. Modarres | Date (Month Day Year): 08 17 94

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: FRED GRIZZLE | Signature: Fred Grizzle | Date (Month Day Year): 08 17 94

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name | Signature | Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. — Printed/Typed Name: [illegible] | Signature: [illegible] | Date (Month Day Year): [illegible]

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

STATE OF ILLINOIS

ATTACHMENT A

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

EPA Form 8700-22 (Rev. 6-89)

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023

Manifest Document No.: 20323

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address / Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048

4. 24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS: (618)254-7301 (800)424-9300

A. Illinois Manifest Document Number: IL6256101 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: IL9050000?

5. Transporter 1 Company Name: BARTON CONSTRUCTION

6. US EPA ID Number:

C. Illinois Transporter's ID: 3605

D. Illinois Transporter's Phone: (618)656-8484

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. Illinois Transporter's ID:

F. Illinois Transporter's Phone:

9. Designated Facility Name and Site Address

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

10. US EPA ID Number:

G. Illinois Facility's ID: IL6304500011

H. Illinois Facility's Phone: (618)271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No. / Authorization Number
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	00015	Y	XX / 07102483
b.					XX
c.					XX
d.					XX

J. Additional Description for Materials Listed Above: PROFILE # CR12L9295

K. Handling Codes for Wastes Listed Above: In Item #14: G=Gallons Y=Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 X 218 OR CHEMTREC AT (800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MASSOOD MODARRES — Signature: M. Mod — Date (Month Day Year): 08 23 94

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Doyle Stegall — Signature: Doyle Stegall — Date (Month Day Year): 08 23 94

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Date (Month Day Year):

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Angie Young — Signature: Angie Young — Date (Month Day Year): 08 23 94

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 6 years. This form has been approved by the Forms Management Center.

GENERATOR — TRANSPORTER — FACILITY

COPY 1. TSD MAIL TO GENERATOR

In case of a spill call the Illinois Office of Emergency Response at 217/782-7860 and the National Response Center at 800/424-8802 or 202/267-2675.

STATE OF ILLINOIS

ENVIRONMENTAL PROTECTION AGENCY DIVISION OF LAND POLLUTION CONTROL

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

ATTACHMENT A

State Form LPC 62 8/81 IL532-0610

EASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023 — Manifest Document No.: 20324 — 2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048 (618)254-7301

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (800)424-9300

A. Illinois Manifest Document Number: IL6256102 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: IL190500002

5. Transporter 1 Company Name: BARTON CONSTRUCTION — 6. US EPA ID Number:

C. Illinois Transporter's ID: 3603

D. Transporter's Phone: 618 656-8484

7. Transporter 2 Company Name: — 8. US EPA ID Number:

E. Illinois Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address — 10. US EPA ID Number:

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

G. Illinois Facility's ID: IL630450001

H. Facility's Phone: 618 271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	0.0.1	CM	0,0,0,1,5	Y	EPA HW Number: XX; Authorization Number: 0702443
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above: PROFILE # CRL19295

K. Handling Codes for Wastes Listed Above: In Item 14: G=Gallons Y=Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CALL MOE MODARRES AT (618)254-7301 X 218
OR CHEMTREC AT (800)424-9300.

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MASSOOD MODARRES — Signature: M. Mod — Date (Month Day Year): 08 23 94

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Doyle Stagall — Signature: Doyle Stagall — Date (Month Day Year): 08 23 94

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Date (Month Day Year):

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: A Aleman — Signature: [signature] — Date (Month Day Year): 08 23 94

In case of a spill call the Illinois Office of Emergency Response at 217 / 782-7860 and the National Response Center at 800 / 424-8802 or 202 / 426-2675.

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

STATE OF ILLINOIS

ATTACHMENT A

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

State Form LPC 62 8/81 ILS32-0610

LEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

In case of a spill call the Illinois Office of Emergency Response at 217 782 7000 and the Nationa...

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023

Manifest Document No.: 20325

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address / Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048 (618)254-7301

4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS* (800)424-9300

A. Illinois Manifest Document Number: IL6256103 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: IL90500002

C. Illinois Transporter's ID: 13603

D. Transporter's Phone: (618) 656-8484

E. Illinois Transporter's ID:

F. Transporter's Phone:

G. Illinois Facility's ID: IL630450001

H. Facility's Phone: (618) 271-6788

5. Transporter 1 Company Name: BARTON CONSTRUCTION

6. US EPA ID Number:

7. Transporter 2 Company Name:

8. US EPA ID Number:

9. Designated Facility Name and Site Address

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

10. US EPA ID Number:

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	001	CM	00015	Y	EPA HW Number: XX; Authorization Number: 07012443
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above: PROFILE # CRL-19295

K. Handling Codes for Wastes Listed Above: In Item 14: G=Gallons Y=Cubic Yards

15. Special Handling Instructions and Additional Information

IN CASE OF EMERGENCY CAAL MOE MODARRES AT (618)254-7301 X 218 OR CHEMTREC AT (800)424-9300.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: MASSOOD MODARRES Signature: M. Modarres Date: Month 08 Day 23 Year 94

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Doyle Stegall Signature: Doyle Stegall Date: Month 08 Day 23 Year 94

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Angelo Aleman Signature: [signature] Date: Month 08 Day 23 Year 94

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

STATE OF ILLINOIS

ATTACHMENT A

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST

1. Generator's US EPA ID No.: ILD041889023 — Manifest Document No.: 20326

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different

CLARK REFINING & MARKETING
201 EAST HAWTHORNE
HARTFORD, IL 62048 (618)254-7301

4. "24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS" (800)424-9300

A. Illinois Manifest Document Number: IL6256105 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: 1190500002

5. Transporter 1 Company Name: BARTON CONSTRUCTION — 6. US EPA ID Number:

C. Illinois Transporter's ID: 3608

D. Transporter's Phone: 618 656-6484

7. Transporter 2 Company Name: — 8. US EPA ID Number:

E. Illinois Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address — 10. US EPA ID Number:

MILAM RECYCLING & DISPOSAL FACILITY
RT 203 & HWY 55
FAIRMONT CITY, IL 62201

G. Illinois Facility's ID: 1630450001

H. Facility's Phone: 618) 271-6788

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON HAZARDOUS SPECIAL WASTE (OIL CONTAMINATED SOIL) NOT REGULATED BY DOT	0.0.1	CM	0,0,0,1,5	Y	EPA HW Number: XX; Authorization Number: 0702 4
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above: PROFILE# CRL 19295

K. Handling Codes for Wastes Listed Above in Item #14: G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information

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Printed/Typed Name: MASSOOD MODARRES — Signature: M. Mod — Date: Month Day Year: 08 24 94

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Doyle Stegall — Signature: Doyle Stegall — Date: Month Day Year: 08 24 94

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Date: Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: H Pleman — Signature: [signature] — Date: Month Day Year: 08 24 94

GENERATOR — TRANSPORTER — FACILITY

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

In case of a spill call the Illinois Office of Emergency Response at 217 782-7860 and the National Response Center at 800 424-8802

STATE OF ILLINOIS

ATTACHMENT B

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-94

In case of a spill call the Illinois Office of Emergency Response at 217/782-7860 and the National Response Center at ...

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST

1. Generator's US EPA ID No. ILD 041 889 023 95051 — Manifest Document No.

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different
Clark Refining & Marketing Inc.
201 East Hawthorne Hartford, IL 62048 618 254-7301

4. "24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS"

A. Illinois Manifest Document Number: IL 6256361 FEE PAID IF APPLICABLE

B. Illinois Generator's ID: 1190500002

C. Illinois Transporter's ID: 0028

D. ( ) Transporter's Phone: 618-254-0171

E. Illinois Transporter's ID:

F. ( ) Transporter's Phone:

G. Illinois Facility's ID: 1630450001

H. Facility's Phone: 618-271-6788

5. Transporter 1 Company Name: Midwest Sanitary — 6. US EPA ID Number: ILD053980272

7. Transporter 2 Company Name: — 8. US EPA ID Number:

9. Designated Facility Name and Site Address: Milam Recycling and Disposal
Route 203 Highway 55
Fairmont City, IL 62201

10. US EPA ID Number:

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. Special Waste (Soil Contaminated with Oil) Nonhazardous	0.01	~~001~~ CM	~~GM~~ 0001.04	Y	EPA HW Number: XX; Authorization Number: 07024
b.					EPA HW Number: XX; Authorization Number:
c.					EPA HW Number: XX; Authorization Number:
d.					EPA HW Number: XX; Authorization Number:

J. Additional Description for Materials Listed Above: Rolloff # 20196 CRL 19295 Weight LBS

K. Handling Codes for Wastes Listed Above in Item #14: G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information
Bill to P.O.
Emergency Telephone Number 1-800-424-9300
If undeliverable, return to generator.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MASSOOD MODARRES — Signature: M. Modarres — Date: Month 04 Day 10 Year 95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Fred Grizzle — Signature: Fred Grizzle — Date: Month 04 Day 11 Year 95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: [illegible] — Signature: [illegible] — Date: Month 4 Day 11 Year 95

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Sections 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/782/3637

September 22, 1995

CERTIFIED MAIL
Return Receipt Requested
Z 422 918 936

Mr. Russell Eggert
Mayer, Brown, & Platt
190 S. LaSalle
Chicago, IL 60603

PRE-ENFORCEMENT CONFERENCE LETTER

Re: Nine Release Incidents at Clark's Hartford, Illinois Refinery and Dock
Dates of Releases: February 1993 - June 1995

Dear Mr. Eggert:

Review of available information and personal investigation by representatives of the Illinois Environmental Protection Agency ("Agency") indicate that the Hartford, Illinois refinery and dock owned and operated by Clark Oil and Refining Corporation is in apparent noncompliance with the Illinois Environmental Protection Act, 415/LCS 5/1, et seq. ("Act"), as the result of nine environmental release incidents which occurred from February 1993 through June 1995. These releases are in addition to the thirteen incidents previously cited in my October 21, 1994 pre-enforcement letter to Clark and this letter supplements that prior letter. The incident numbers and occurrence dates associated with the nine releases are as follows: 930211 (2/21/93); 942288 (10/10/94); 942432 (10/28/94); 942554 (11/14/94); 942837 (12/16/94); 942855 (12/20/94); 950726 (4/11/95); and 950893 (5/1/95). Attachment one (1) to this letter provides specific details of the identity of the material released, the quantity of material released, the environmental medium impacted, and the cause reported by Clark for each incident.

The materials released at the Hartford refinery and dock have included the following: crude oil, gasoline, fuel oil, hydrogen, gasoil, diesel and petroleum (NOS). The total quantity of these various materials exceeded 47,821 gallons, based upon Clark's reports to the Illinois Emergency Management Agency ("IEMA")

and/or IEPA. These releases have impacted soil, groundwater, surface water and air, and continue to present continuing sources of contamination.

Releases 950726 and 950893, have been observed/confirmed to have contaminated surface waters, while the residual contamination from 930211, 942288, 942432, 942837, 942855 and 951217 may be continuing to threaten releases to waters of the State (both surface water and groundwater). Such releases of contaminants to waters of the State constitute violations of Sections 12(a)(d) and (f) of the Act. Furthermore, releases 950726 and 950893 also violated 35 Ill.Adm. Code 302.203 since they resulted in the presence of visible oil on the Mississippi River. All of the releases except 942554 impacted soil and land surface, and may constitute open dumping under Section 21 of the Act. Release 942554 involved the release of hydrogen gas to the air, resulting in a fire, and constituted a violation of Section 9 of the Act, which prohibits releases of contaminants to the air. The text of these sections appears in Attachment two(2).

Further review of the releases previously cited in my October 21, 1994 letter has also identified additional violations. Releases 4DBB (5/23/94), 4DBC (5/31/94), 941478 (7/2/94) and 941701 (8/1/94) caused the presence of visible oil in the Mississippi River in violation of 35 Ill.Adm. Code 302.203. Release 940851 (3/1/94) also violated section 12(f) of the Act because Clark did not have an NPDES permit authorizing such a discharge. The text of these sections appears in Attachment two (2).

Resolution of this apparent non-compliance through prompt, voluntary action by Clark Oil and Refining Corporation is the preferred course of action. However, the Agency has a statutory responsibility to pursue formal enforcement proceedings to obtain penalties and injunctive relief against environmental releases which constitute violations of the Act if voluntary compliance is not obtained in a timely fashion. Non-compliance with the cited requirements of the Act may subject Clark Oil and Refining Corporation to civil penalties of up to $50,000 for each violation, plus up to $10,000 for every succeeding day each violation continues.

If Clark Oil and Refining Corporation does not, by the close of business on October 12, 1995, provide the Agency with a written commitment and timetable for the performance of all investigation and remediation made necessary by the above-referenced nine releases, the Agency's Division of Legal Counsel may refer this matter to the Attorney General's Office for formal enforcement. The remedy to be required by the Agency will likely require the implementation of new measures to prevent future releases, detect them more readily, and to respond more effectively in the event of release contingencies.

By means of this pre-enforcement conference letter, the Agency is offering you an

opportunity to meet with Agency representatives pursuant to Section 31(d) of the Act prior to the initiation of formal enforcement. Pursuant to your discussion with Assistant Attorney General, Jim Morgan, appropriate Agency representatives will be available to participate in a 31(d) meeting relative to the violations cited herein at 9:30 a.m. on October 12, 1995 in Collinsville, Illinois. It is my understanding that Clark has agreed to arrange for a room for the meeting at the Collinsville Holiday Inn. When you have finalized the meeting room arrangements, please contact Ms. Nicole Piller, Division of Legal Counsel, at (217) 782-5544 with the information.

Sincerely,

James P. O'Brien

James Patrick O'Brien
Manager,
Office of Chemical Safety

Attachment

cc: Jim Morgan, IAGO

ATTACHMENT 1
Clark Oil
Hartford Refinery & Dock
Additional Releases to Soil, Ground Water, Surface Water or Air, February 1993-June 1995

Incident #	Date	Quantity	Material	Medium Impacted	Cause
930211	2/21/93	750 bbls.	Crude Oil	Soil; possible groundwater	Release from above ground tank due to failed rupture disk
942288	10/10/94	25 bbls.	Gasoline	Soil; possible groundwater	Pipeline sprung leak
942432	10/28/94	more than 25 gal	Fuel Oil	Soil	Transfer line rupture
942554	11/14/94	Unknown	Hydrogen	Air	Leak in flange in processing unit, which resulted in fire
942837	12/16/94	10-30 bbls.	Gas oil	Soil; possible groundwater	Overfill of above ground tank
942855	12/20/94	42 gal	Crude oil	Soil; possible groundwater	Leak in pipeline
950726	4/11/95	2 bbl	Diesel	Soil; Mississippi River	Pipeline rupture at loading dock
950893	5/1/95	Unknown	Petroleum (NOS)	Soil; Mississippi River; probable groundwater	Unexplained release from soil in dock area (historic contamination)
951217	6/7/95	350 bbls	Crude Oil	Soil; possible groundwater	Valve to above ground tank left unattended

ATTACHMENT 2

Section 9. No person shall: (a) Cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as to cause or tend to cause air pollution in Illinois, either alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Board under this Act; (b) Construct, install, or operate any equipment, facility, vehicle, vessel, or aircraft capable of causing or contributing to air pollution or designed to prevent air pollution, of any type designated by Board regulations, without a permit granted by the Agency, or in violation of any conditions imposed by such permit; (c) Cause or allow the open burning of refuse, conduct any salvage operation by open burning, or cause or allow the burning of any refuse in any chamber not specifically designed for the purpose and approved by the Agency pursuant to regulations adopted by the Board under this Act; except that the Board may adopt regulations permitting open burning of refuse in certain cases upon a finding that no harm will result from such burning, or that any alternative method of disposing of such refuse would create a safety hazard so extreme as to justify the pollution that would result from such burning; (d) Sell, offer, or use any fuel or other article in any areas in which the Board may by regulation forbid its sale, offer, or use for reasons of air-pollution control; (e) Use, cause or allow the spraying of loose asbestos for the purpose of fireproofing or insulating any building or building material or other constructions, or otherwise use asbestos in such unconfined manner as to permit asbestos fibers or particles to pollute the air; (f) Commencing July 1, 1985, sell any used oil for burning or incineration in any incinerator, boiler, furnace, burner or other equipment unless such oil meets standards based on virgin fuel oil or re-refined oil, as defined in ASTM D-396 or specifications under VV-F-815C promulgated pursuant to the federal Energy Policy and Conservation Act, and meets the manufacturer's and current NFDA code standards for which such incinerator, boiler, furnace, burner or other equipment was approved, except that this prohibition does not apply to a sale to a permitted used oil re-refining or reprocessing facility or sale to a facility permitted by the Agency to burn or incinerate such oil. Nothing herein shall limit the effect of any section of this Title with respect to any form of asbestos, or the spraying of any form of asbestos, or limit the power of the Board under this Title to adopt additional and further regulations with respect to any form of asbestos, or the spraying of any form of asbestos. This Section shall not limit the burning of landscape waste upon the premises where it is produced or at sites provided and supervised by any unit of local government, except within any county having a population of more than 400,000. (Source: P.A. 84-705.)

Section 12. No person shall: (a) Cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act. (b) Construct, install, or operate any equipment,

facility, vessel, or aircraft capable of causing or contributing to water pollution, or designed to prevent water pollution, of any type designated by Board regulations, without a permit granted by the Agency, or in violation of any conditions imposed by such permit. (c) Increase the quantity or strength of any discharge of contaminants into the waters, or construct or install any sewer or sewage treatment facility or any new outlet for contaminants into the waters of this State, without a permit granted by the Agency. (d) Deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard. (e) Sell, offer, or use any article in any area in which the Board has by regulation forbidden its sale, offer, or use for reasons of water pollution control. (f) Cause, threaten or allow the discharge of any contaminant into the waters of the State, as defined herein, including but not limited to, waters to any sewage works, or into any well or from any point source within the State, without an NPDES permit for point source discharges issued by the Agency under Section 39(b) of this Act, or in violation of any term or condition imposed by such permit, or in violation of any NPDES permit filing requirement established under Section 39(b), or in violation of any regulations adopted by the Board or of any order adopted by the Board with respect to the NPDES program. No permit shall be required under this subsection and under Section 39(b) of this Act for any discharge for which a permit is not required under the Federal Water Pollution Control Act, as now or hereafter amended, and regulations pursuant thereto. For all purposes of this Act, a permit issued by the Administrator of the United States Environmental Protection Agency under Section 402 of the Federal Water Pollution Control Act, as now or hereafter amended, shall be deemed to be a permit issued by the Agency pursuant to Section 39(b) of this Act. However, this shall not apply to the exclusion from the requirement of an operating permit provided under Section 13(b) (i). Compliance with the terms and conditions of any permit issued under Section 39(b) of this Act shall be deemed compliance with this subsection except that it shall not be deemed compliance with any standard or effluent limitation imposed for a toxic pollutant injurious to human health. In any case where a permit has been timely applied for pursuant to Section 39(b) of this Act but final administrative disposition of such application has not been made, it shall not be a violation of this subsection to discharge without such permit unless the complainant proves that final administrative disposition has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For purposes of this provision, until implementing requirements have been established by the Board and the Agency, all applications deemed filed with the Administrator of the United States Environmental Protection Agency pursuant to the provisions of the Federal Water Pollution Control Act, as now or hereafter amended, shall be deemed filed with the Agency. (g) Cause, threaten or allow the underground injection of contaminants without a UIC permit issued by the Agency under Section 39(d) of this Act, or in violation of any term or condition imposed by such permit, or in violation of any regulations or standards adopted by the Board or of any order adopted by the Board with respect to the UIC program. No permit shall

be required under this subsection and under Section 39(d) of this Act for any underground injection of contaminants for which a permit is not required under Part C of the Safe Drinking Water Act (P.L. 93-523), as amended, unless a permit is authorized or required under regulations adopted by the Board pursuant to Section 13 of this Act. (h) Introduce contaminants into a sewage works from any nondomestic source except in compliance with the regulations and standards adopted by the Board under this Act. (Source: P.A. 86-671.)

Section 21. No person shall: (a) Cause or allow the open dumping of any waste. (b) Abandon, dump, or deposit any waste upon the public highways or other public property, except in a sanitary landfill approved by the Agency pursuant to regulations adopted by the Board. (c) Abandon any vehicle in violation of the "Abandoned Vehicles Amendment to the Illinois Vehicle Code", as enacted by the 76th General Assembly. (d) Conduct any waste-storage, waste-treatment, or waste-disposal operation: (1) without a permit granted by the Agency or in violation of any conditions imposed by such permit, including periodic reports and full access to adequate records and the inspection of facilities, as may be necessary to assure compliance with this Act and with regulations and standards adopted thereunder; provided, however, that no permit shall be required for (i) any person conducting a waste-storage, waste-treatment, or waste-disposal operation for wastes generated by such person's own activities which are stored, treated, or disposed within the site where such wastes are generated, or (ii) for a corporation organized under the General Not For Profit Corporation Act of 1986, as now or hereafter amended, or a predecessor Act, constructing a land form in conformance with local zoning provisions, within a municipality having a population of more than 1,000,000 inhabitants, with clean construction or demolition debris generated within the municipality, provided that the corporation has contracts for economic development planning with the municipality; or (2) in violation of any regulations or standards adopted by the Board under this Act; or (3) which receives waste after August 31, 1988, does not have a permit issued by the Agency, and is (i) a landfill used exclusively for the disposal of waste generated at the site, (ii) a surface impoundment receiving special waste not listed in an NPDES permit, (iii) a waste pile in which the total volume of waste is greater than 100 cubic yards or the waste is stored for over one year, or (iv) a land treatment facility receiving special waste generated at the site; without giving notice of the operation to the Agency by January 1, 1989, or 30 days after the date on which the operation commences, whichever is later, and every 3 years thereafter. The form for such notification shall be specified by the Agency, and shall be limited to information regarding: the name and address of the location of the operation; the type of operation; the types and amounts of waste stored, treated or disposed of on an annual basis; the remaining capacity of the operation; and the remaining expected life of the operation. Paragraph (3) of this subsection (d) shall not apply to any person engaged in agricultural activity who is disposing of a substance that

constitutes solid waste, if the substance was acquired for use by that person on his own property, and the substance is disposed of on his own property in accordance with regulations or standards adopted by the Board. This subsection (d) shall not apply to hazardous waste. (e) Dispose, treat, store or abandon any waste, or transport any waste into this State for disposal, treatment, storage or abandonment, except at a site or facility which meets the requirements of this Act and of regulations and standards thereunder. (f) Conduct any hazardous waste-storage, hazardous waste-treatment or hazardous waste-disposal operation: (1) without a RCRA permit for the site issued by the Agency under subsection (d) of Section 39 of this Act, or in violation of any condition imposed by such permit, including periodic reports and full access to adequate records and the inspection of facilities, as may be necessary to assure compliance with this Act and with regulations and standards adopted thereunder; or (2) in violation of any regulations or standards adopted by the Board under this Act; or (3) in violation of any RCRA permit filing requirement established under standards adopted by the Board under this Act; or (4) in violation of any order adopted by the Board under this Act. Notwithstanding the above, no RCRA permit shall be required under this subsection or subsection (d) of Section 39 of this Act for any person engaged in agricultural activity who is disposing of a substance which has been identified as a hazardous waste, and which has been designated by Board regulations as being subject to this exception, if the substance was acquired for use by that person on his own property and the substance is disposed of on his own property in accordance with regulations or standards adopted by the Board. (g) Conduct any hazardous waste-transportation operation: (1) without a permit issued by the Agency or in violation of any conditions imposed by such permit, including periodic reports and full access to adequate records and the inspection of facilities, as may be necessary to assure compliance with this Act and with regulations or standards adopted thereunder; or (2) in violation of any regulations or standards adopted by the Board under this Act. (h) Conduct any hazardous waste-recycling or hazardous waste-reclamation or hazardous waste-reuse operation in violation of any regulations, standards or permit requirements adopted by the Board under this Act. (i) Conduct any process or engage in any act which produces hazardous waste in violation of any regulations or standards adopted by the Board under subsections (a) and (c) of Section 22.4 of this Act. (j) Conduct any special waste transportation operation in violation of any regulations, standards or permit requirements adopted by the Board under this Act. However, sludge from a water or sewage treatment plant owned and operated by a unit of local government which (1) is subject to a sludge management plan approved by the Agency or a permit granted by the Agency, and (2) has been tested and determined not to be a hazardous waste as required by applicable State and federal laws and regulations, may be transported in this State without a special waste hauling permit, and the preparation and carrying of a manifest shall not be required for such sludge under the rules of the Pollution Control Board. The unit of local government which operates the treatment plant producing such sludge shall file a semiannual report

/C

with the Agency identifying the volume of such sludge transported during the reporting period, the hauler of the sludge, and the disposal sites to which it was transported. This subsection (j) shall not apply to hazardous waste. (k) Fail or refuse to pay any fee imposed under this Act. (l) Locate a hazardous waste disposal site above an active or inactive shaft or tunneled mine or within 2 miles of an active fault in the earth's crust. In counties of population less than 225,000 no hazardous waste disposal site shall be located (1) within 1 1/2 miles of the corporate limits as defined on June 30, 1978, of any municipality without the approval of the governing body of the municipality in an official action; or (2) within 1000 feet of an existing private well or the existing source of a public water supply measured from the boundary of the actual active permitted site and excluding existing private wells on the property of the permit applicant. The provisions of this subsection do not apply to publicly-owned sewage works or the disposal or utilization of sludge from publicly-owned sewage works. (m) Transfer interest in any land which has been used as a hazardous waste disposal site without written notification to the Agency of the transfer and to the transferee of the conditions imposed by the Agency upon its use under subsection (g) of Section 39. (n) Use any land which has been used as a hazardous waste disposal site except in compliance with conditions imposed by the Agency under subsection (g) of Section 39. (o) Conduct a sanitary landfill operation which is required to have a permit under subsection (d) of this Section, in a manner which results in any of the following conditions: (1) refuse in standing or flowing waters; (2) leachate flows entering waters of the State; (3) leachate flows exiting the landfill confines (as determined by the boundaries established for the landfill by a permit issued by the Agency); (4) open burning of refuse in violation of Section 9 of this Act; (5) uncovered refuse remaining from any previous operating day or at the conclusion of any operating day, unless authorized by permit; (6) failure to provide final cover within time limits established by Board regulations; (7) acceptance of wastes without necessary permits; (8) scavenging as defined by Board regulations; (9) deposition of refuse in any unpermitted portion of the landfill; (10) acceptance of a special waste without a required manifest; (11) failure to submit reports required by permits or Board regulations; (12) failure to collect and contain litter from the site by the end of each operating day. The prohibitions specified in this subsection (o) shall be enforceable by the Agency either by administrative citation under Section 31.1 of this Act or as otherwise provided by this Act. The specific prohibitions in this subsection do not limit the power of the Board to establish regulations or standards applicable to sanitary landfills. (p) In violation of subdivision (a) of this Section, cause or allow the open dumping of any

prohibitions in this subsection do not limit the power of the Board to establish regulations or standards applicable to open dumping. (q) Conduct a landscape waste composting operation without an Agency permit, provided, however, that no permit shall be required for any person: (1) conducting a landscape waste composting operation for landscape wastes generated by such person's own activities which are stored, treated or disposed of within the site where such wastes are generated; or (2) applying landscape waste or composted landscape waste at agronomic rates; or (3) operating a landscape waste composting facility on a farm, if the facility meets all of the following criteria: (A) the composting facility is operated by the farmer on property on which the composting material is utilized, and the composting facility constitutes no more than 2% of the property's total acreage, except that the Agency may allow a higher percentage for individual sites where the owner or operator has demonstrated to the Agency that the site's soil characteristics or crop needs require a higher rate; (B) the property on which the composting facility is located, and any associated property on which the compost is used, is principally and diligently devoted to the production of agricultural crops and is not owned, leased or otherwise controlled by any waste hauler or generator of nonagricultural compost materials, and the operator of the composting facility is not an employee, partner, shareholder, or in any way connected with or controlled by any such waste hauler or generator; (C) all compost generated by the composting facility is applied at agronomic rates and used as mulch, fertilizer or soil conditioner on land actually farmed by the person operating the composting facility, and the finished compost is not stored at the composting site for a period longer than 18 months prior to its application as mulch, fertilizer, or soil conditioner; (D) the owner or operator, by January 1, 1990 (or the January 1 following commencement of operation, whichever is later) and January 1 of each year thereafter, (i) registers the site with the Agency, (ii) reports to the Agency on the volume of composting material received and used at the site, (iii) certifies to the Agency that the site complies with the requirements set forth in subparagraphs (A), (B) and (C) of this paragraph (q)(3), and (iv) certifies to the Agency that all composting material was placed more than 200 feet from the nearest potable water supply well, was placed outside the boundary of the 10-year floodplain or on a part of the site that is floodproofed, was placed at least 1/4 mile from the nearest residence (other than a residence located on the same property as the facility) and there are not more than 10 occupied non-farm residences within 1/2 mile of the boundaries of the site on the date of application, and was placed more than 5 feet above the water table. For the purposes of this subsection (q), "agronomic rates" means the application of not more than 20 tons per acre per year, except that the Agency may allow a higher rate for individual sites where the owner or operator has demonstrated to the Agency that the site's soil characteristics or crop needs require a higher rate. (r) Cause or allow the storage or disposal of coal combustion waste unless: (1) such waste is stored or disposed of at a site or facility for which a permit has been obtained or is not otherwise required under subsection (d) of this Section; or (2) such waste is

stored or disposed of as a part of the design and reclamation of a site or facility which is an abandoned mine site in accordance with the Abandoned Mined Lands and Water Reclamation Act; or (3) such waste is stored or disposed of at a site or facility which is operating under NPDES and Subtitle D permits issued by the Agency pursuant to regulations adopted by the Board for mine-related water pollution and permits issued pursuant to the Federal Surface Mining Control and Reclamation Act of 1977 (P.L. 95-87) or the rules and regulations thereunder or any law or rule or regulation adopted by the State of Illinois pursuant thereto, and the owner or operator of the facility agrees to accept the waste; and either (i) such waste is stored or disposed of in accordance with requirements applicable to refuse disposal under regulations adopted by the Board for mine-related water pollution and pursuant to NPDES and Subtitle D permits issued by the Agency under such regulations; or (ii) the owner or operator of the facility demonstrates all of the following to the Agency, and the facility is operated in accordance with the demonstration as approved by the Agency: (1) the disposal area will be covered in a manner that will support continuous vegetation, (2) the facility will be adequately protected from wind and water erosion, (3) the pH will be maintained so as to prevent excessive leaching of metal ions, and (4) adequate containment or other measures will be provided to protect surface water and groundwater from contamination at levels prohibited by this Act, the Illinois Groundwater Protection Act, or regulations adopted pursuant thereto. Notwithstanding any other provision of this Title, the disposal of coal combustion waste pursuant to item (2) or (3) of this subdivision (r) shall be exempt from the other provisions of this Title V, and notwithstanding the provisions of Title X of this Act, the Agency is authorized to grant experimental permits which include provision for the disposal of wastes from the combustion of coal and other materials pursuant to items (2) and (3) of this subdivision (r). (s) After April 1, 1989, offer for transportation, transport, deliver, receive or accept special waste for which a manifest is required, unless the manifest indicates that the fee required under Section 22.8 of this Act has been paid. (Source: P.A. 86-364; 86-633; 86-671; 86-820; 86-1028; 86-1195; 87-608; 87-752; 87-895.)

Title 35
Environmental Protection
Subtitle C: Water Pollution
Chapter I: Pollution Control Board

Section 302.203 Offensive Conditions

Waters of the State shall be free from sludge or bottom deposits, floating debris, visible oil, odor, plant or algal growth, color or turbidity of other than natural origin. The allowed mixing provisions ofSection 302.102 shall not be used to comply with the provisions of this Section.

(Source: Amended at 14 Ill. Reg. 2899, effective February 13, 1990)

CLARK

1170500002
Clark Oil
REFINING & MARKETING, INC.
SF/Tech
Source: IEPA BOL

4070 South First Street
St. Louis, Missouri 63118
ph 314-752-0144 fx 314-752-3182

January 9, 1996

Mr. John Sherrill
Remedial Project Management Section
Division of Remediation Management
2200 Churchill Road
Springfield, IL 62794

RECEIVED
JAN 10 1996
IEPA/DLPC

RE: Hartford Dock Site Assessment

Dear John:

Clark has completed the site assessment for the Hartford Dock area and is enclosing one copy for your review. I am also sending a copy of the report to Jim O'Brien, Tom Powell and John Waligore. The site assessment is based on the Work Plan for Incident #941701 that was submitted to IEPA in June, 1995.

I have relocated my office and the new number is (314)752-0533. Please contact me if you have any questions regarding the assessment.

Sincerely,

Johnna S. Van Keuren

Johnna S. Van Keuren
Environmental Manager - Terminals

cc: R. Eggert, Mayer, Brown & Platt (w/o attachment)
B. Burmaster, Clark Refining & Marketing (w/o attachment)
F. Lauher, Clark Refining & Marketing (w/o attachment)
J. O'Brien, IEPA
T. Powell, IEPA
J. Waligore, IEPA

ORIGINAL

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JAN 13 1996
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CLARK

SITE ASSESSMENT REPORT
HARTFORD RIVER TERMINAL

FOR

CLARK REFINING & MARKETING, INC.
HARTFORD, ILLINOIS

RECEIVED
JAN 10 1996
IEPA/DLPC

DECEMBER 1995

PROJECT NO.
94-155-4-032

ORIGINAL

Burns & McDonnell Waste Consultants, Inc.
Engineers-Geologists-Scientists
St. Louis, Missouri

SCREENED
JAN 13 1996
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EXECUTIVE SUMMARY

As a result of an August 1994 gasoline release, an April 1995 diesel fuel release, and suspected historical releases from previous river dock facility owners/operators, Clark Refining & Marketing, Inc. contracted Burns & McDonnell Waste Consultants, Inc. to conduct a site assessment at their Hartford River Terminal.

The site assessment results indicate that no free petroleum product was present on the groundwater surface. Two groundwater samples exceeded the State of Illinois Class I standards of 0.05 mg/L benzene for releases of gasoline or diesel fuel. Several subsurface soil samples exceeded State of Illinois leaking underground storage tank Type A soil cleanup objectives for benzene, carcinogenic PNAs, or non-carcinogenic PNAs.

* * * * *

1.0 INTRODUCTION

The purpose of this report is to summarize the results of a site assessment conducted for Clark Refining & Marketing, Inc. (Clark). The assessment was conducted at Clark's Hartford River Terminal (Site) in Hartford, Illinois, located at Milepost 197.3, on the east bank of the upper Mississippi River in Madison County, Illinois. The facility consists of a floating dock and supporting shore facilities. Figure 1 shows the location of the river dock facilty. Wood River Oil Company built and operated the original dock facility in the early 1940s. Subsequent owners and operators of the dock have been Sinclair Oil Company, Apex, Clark Oil Company, and currently Clark Refining & Marketing, Inc. The existing dock structure was constructed in the early 1980s. Clark has operated the dock facility since November 1993. Prior to Clark assuming the operations of the facility, Petroleum Fuel and Terminal Company, a subsidiary of Apex, had been the operator for several years.

On August 1, 1994, an overfill spill of approximately 200 gallons of unleaded gasoline occurred at Tank T-7-2, located on the elevated dock platform. Clark personnel immediately placed absorbent booms in the Mississippi River and notified the appropriate agencies. Clark personnel excavated and properly disposed of 200 cubic yards of impacted soil. A detailed description of the release and confirmation sampling is contained in the Burns & McDonnell Waste Consultants, Inc. (BMWCI) report, Summary of River Dock Sampling, August 1994. On April 11, 1995, a rupture occurred in a 10-inch line, at Tank T-7-2. A total of 84 gallons of diesel fuel was released with 5 to 10 gallons reaching the river. Clark personnel deployed containment and absorbent booms into the river, while using absorbent pads to capture the product on the ground. Ten cubic yards of impacted soil was removed and properly disposed. On May 1, 1995, Clark personnel observed a sheen on the Mississippi River near the dock facility. Absorbent booms were deployed into the river and appropriate agencies notified.

* * * * *

2.0 HYDROGEOLOGY

2.1 REGIONAL HYDROGEOLOGY

The Site lies within the Alluvial Valleys Region as defined in United States Geological Survey Water-Supply Paper 2242, 1984. The Alluvial Valleys Region is commonly underlain by sand and gravel as well as silt and clay. The surficial deposit of sand and gravel is commonly underlain by interbedded silt and clay in turn underlain by a basal layer of sand and gravel. Locally, these units are collectively known as Cahokia Alluvium. The subsurface material in the Site area consists of Quarternary Alluvium, which is made up of modern river floodplain deposits of poorly-sorted sands, silts, and clays with some sandy gravel. The alluvium ranges in thickness from 50 to 200 feet below the ground surface (bgs).

The sequence of deposits in the Alluvial Valleys Region is dependant on the depositional history. The sands and gravels in the valleys of major streams, such as the Mississippi River, are commonly overlain by deposits of clay and other fine-grained alluvium deposited during floods following the end of the glacial period.

The alluvial deposits are recharged by precipitation on the valleys, groundwater moving from the adjacent and underlying aquifers, and overbank flooding of the streams. Water in the alluvial deposits discharges to the streams in the valleys.

The underlying bedrock in the Hartford area is composed of Mississippian age interbedded limestones, sandstones, and shales of the Lower Chesterian Series. Regionally, these units dip east toward the center of the Illinois Basin. The Illinois Basin is the major geologic structure in the region.

2.2 LOCAL HYDROGEOLOGY

The eight soil borings drilled for this project (Figure 2) penetrated unconsolidated materials to depths of 23 to 45 feet bgs. The subsurface materials encountered were predominantly silt and clay from ground surface to approximately 20 feet bgs, and sand from approximately 20 to 45 feet bgs. A gray, moist silt was encountered within the upper 6 feet of each boring. A

gray clay was then encountered from depths of 6 to 25 feet bgs. The clay was characterized as being moist to wet, medium to high plasticity, and a soft to medium consistency. Underlying the clay, a gray medium grained, wet sand was encountered from approximately 20 feet to total depth in each of the deep borings. Soil boring logs are included in Appendix A of this report.

Saturated materials were encountered at the top of the lower sand unit in each soil boring, with groundwater rising to approximately 16 to 19 feet bgs in the newly constructed monitoring wells within 24 hours after installation. The eight newly installed monitoring wells were gauged with an oil/water interface probe on October 24, 1995. In addition, the six black oil line monitoring wells that were installed as a result of the March 1994 release were gauged the same day. The black oil line monitoring wells are located approximately 400 feet east of the river terminal. No measurable free product was recorded in any of the wells. Water elevations are recorded on the monitoring well construction diagrams in Appendix B.

The four deep monitoring wells (MW-1D, MW-2D, MW-3D, and MW-4D) had groundwater elevations ranging from 400.58 feet above mean sea level (MSL) in MW-4D to 402.60 feet above MSL in MW-3D. The piezometric surface resulting from the deep monitoring well groundwater data is illustrated in Figure 3. The data indicates that the groundwater flow in the deep monitoring zone is in a northerly direction which is contradictory to what is normally expected next to a southerly flowing river.

The four shallow river terminal monitoring wells (MW-1, MW-2, MW-3, and MW-4) and the six shallow black oil line monitoring wells had groundwater elevations ranging from 401.57 feet above MSL to 411.64 feet above MSL. The shallow groundwater elevation data was used to generate the piezometric surface map illustrated in Figure 4. The shallow horizontal groundwater flow direction is southwest with an average horizontal hydraulic gradient of 0.02 foot/foot. The local shallow groundwater flow direction is influenced by the Mississippi River stage and may differ greatly at different times in the year.

* * * * *

3.0 FIELD INVESTIGATION ACTIVITIES

To determine the approximate vertical and horizontal extent of petroleum hydrocarbons at the Site, sixteen surface soil samples were collected and four soil boring clusters (one shallow boring and one deep boring at four locations) were drilled, sampled, and converted to groundwater monitoring wells. One soil sample was collected from each hollow stem auger segment (approximately 5-foot intervals) for the total depth drilled at each boring/monitoring well cluster. One groundwater sample was also collected from each newly installed monitoring well. The locations of the monitoring wells are illustrated on Figure 2.

3.1 SURFACE SOIL SAMPLE COLLECTION

To determine the presence of surface contaminants in the vicinity of the river terminal, surface soil samples were collected and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8020 and Polynuclear Aromatic Hydrocarbons (PNAs) by EPA Method 8310. Sampling locations were determined by the grid interval calculation specified in 35 Illinois Administrative Code (IAC) 725.211. Based on a 10,000-square-foot area, the equation yields a grid interval of 28 feet. Grid interval calculations are presented in Table 1. Figure 5 illustrates the approximate surface sampling locations. Sample location RD-16 required a movement of 12 feet to the east due to the presence of steel supports and concrete footings beneath the river dock.

3.2 DRILLING AND SUBSURFACE SOIL SAMPLE COLLECTION

Four soil boring clusters (subsequently completed as monitoring wells) were drilled in the vicinity of the river terminal. Each cluster contains two soil borings drilled at varying depths depending on field conditions such as water level and the vertical extent of impact as indicated by field screening. United States Corps of Engineers data indicates the record low level of the Mississippi River in St. Louis to be 373.74 feet above mean sea level(MSL). The approximate ground elevation at the river terminal is 416 feet above MSL. Based on this data, a well depth of approximately 42 feet should ensure that groundwater samples can be collected during low river levels.

The shallow soil boring of each cluster was drilled to an average depth of 24 feet below grade to assess the vertical extent of soil contamination, verify proper placement of the surface casing for the deep soil boring, and determine the total depth of the deep boring/monitoring well. Detailed completion procedures are discussed in Section 3.3, Groundwater Monitoring Well Installation. The deep soil boring of each cluster was drilled to an average depth of 43 feet below grade to obtain groundwater samples for evaluation of the vertical extent of dissolved phase constituent concentrations in the groundwater of the deeper zone.

During drilling and sampling activities, the work area was monitored using a PID for the presence of volatile organic compounds (VOCs) and with an explosimeter to monitor potentially explosive atmospheres.

Each boring was drilled using a truck-mounted drill rig with hollow stem augers. A continuous log of the subsurface materials encountered in each boring was recorded by a Burns & McDonnell Waste Consultants, Inc. (BMWCI) geologist. Soil samples were obtained continuously using split spoon samplers. Soil cuttings from the borings were placed in Department of Transportation (DOT)-approved 55-gallon drums pending proper disposal.

One soil sample was collected for laboratory analysis from each 5-foot soil interval in each soil boring. The soil samples were field screened utilizing a photoionization detector (PID) and by visual inspection. Soil samples from each 2-foot interval were placed in clean jars for headspace analyses. PID readings were recorded on the soil boring logs (see Appendix A of this report). A representative portion of the soil sample obtained was placed in laboratory-cleansed glass sample bottles. The samples were removed from the sampler with minimal disturbance. The sample bottles were labeled indicating sample number, boring number, and sampling intervals, and stored in an ice chest at approximately 4 degrees Celsius (°C) prior to shipment to the laboratory. The soil samples were shipped via Federal Express to Inchcape Testing Services of Richardson, Texas, for BTEX analysis by EPA Method 8020 and PNA analysis by EPA Method 8310.

3.3 GROUNDWATER MONITORING WELL INSTALLATION

Groundwater monitoring well risers and screens were constructed of 2-inch diameter, Schedule 40 polyvinyl chloride (PVC). Well screens have a slot size of 0.010 inches. A 5-foot long section of well screen with a bottom cap was installed at the bottom of each deep monitoring well (MW-1D, MW-2D, MW-3D, and MW-4D). A 15-foot long section of well screen with a bottom cap was installed at the bottom of each shallow monitoring well (MW-1, MW-2, MW-3, and MW-4) in the cluster. Solid PVC risers extend from the top of each well screen to approximately 2.5 feet above the ground surface.

The following sequence was followed for installation of the well clusters. The shallow boring in the cluster was utilized to determine the vertical extent of soil contamination, verify proper placement of the surface casing, and determine the screened interval in the deep boring/monitoring well. Installation of each shallow monitoring well occurred in the following order:

1. 8-inch diameter hollow stem augers were utilized to drill and sample to a total depth of 5 feet below the point where PID readings reached 0 ppm.
2. The soil boring was backfilled with a bentonite slurry to 20 feet below grade.
3. Set 2-inch diameter PVC well material (15 feet of screen and 7.5 feet of riser) at 20 feet below grade to 2.5 feet above grade.

A filter pack of clean silica sand was installed in the annular space to a level approximately 1 foot above the screened interval. A hydrated bentonite seal consisting of at least 3 feet of bentonite chips or pellets were installed above the filter pack. The remaining annular space was filled with concrete grout to the ground surface.

A steel protective cover was installed over the well and set in concrete. The riser pipe was cut off at approximately 2.5 feet above grade and a watertight, locking cap placed on top of the riser.

The deep monitoring well in the cluster was installed in the following order:

1. 10¼-inch hollow stem augers were utilized to advance the boring 5 feet below the point where PID readings in the shallow well reached 0 ppm.
2. A 10-inch diameter PVC surface casing was placed inside the boring and grouted in place to prevent hydraulic communication between geologic units.
3. Plugged 8-inch diameter hollow stem augers were utilized to advance the boring to an additional 15 feet beneath the surface casing.
4. 2-inch diameter well materials (5 feet of screen and riser pipe) were installed at total depth (approximately 43 feet bgs) to 2.5 feet above grade.

Actual depths were determined in the field during drilling activities.

A filter pack of clean silica sand was installed in the annular space to a level approximately 1 foot above the screened interval. A hydrated bentonite seal consisting of at least 3 feet of bentonite chips or pellets were installed above the filter pack. The remaining annular space was filled with concrete grout to the ground surface.

A steel protective cover was installed over the well and set in concrete. The blank riser pipe was cut off at approximately 2.5 feet above grade and a watertight, locking cap placed on top of the riser. Appendix B contains the groundwater monitoring well construction diagrams.

3.4 GROUNDWATER SAMPLE COLLECTION

Groundwater samples were collected for laboratory analysis. Upon opening each monitoring well cap, the air near the cap and in the monitoring well casing was monitored with a PID. Results of this monitoring were recorded in the field logbook and used to determine the level of respiratory protection required during sampling.

The monitoring wells were purged prior to collection of groundwater samples. A minimum of three well casing volumes were purged from each well prior to sampling. The volume of water in the monitoring well was calculated based on the internal diameter of the monitoring well and the height of the water column. If a monitoring well was purged dry prior to removing three well volumes, the well was allowed to recharge and then sampled within 24 hours after purging. All fluids generated during monitoring well purging were placed in 55-gallon, DOT-approved drums for subsequent disposal. Disposable, polyethylene bailers were used to purge the monitoring wells.

After the monitoring wells were purged, sampling was performed within 24 hours. Samples were collected using disposable, polyethylene bailers. Samples that required analysis for volatile constituents were collected first. No monitoring wells contained measurable amounts of free phase hydrocarbon. The following procedure was used to collect groundwater samples:

1. Lowered the bailer slowly until it contacted the water surface.
2. Allowed the bailer to sink and fill with minimal surface disturbance.
3. Slowly raised the bailer to the surface.
4. Tipped the bailer to allow a slow discharge from the top to flow gently down the side of the sample bottle with minimal entry turbulence.
5. Repeated Steps 1 through 4 as needed to acquire sufficient volume to fill all appropriate containers for the required analyses.
6. Properly discarded the disposable bailer and the rope immediately following sampling.

3.5 SAMPLE COLLECTION PROTOCOL

Personnel responsible for activities associated with collection of soil and groundwater samples followed standard procedures to reduce the possibility of contamination and cross-contamination of the samples prior to delivery to the laboratory. Drilling equipment was steam-cleaned prior to the advancement of each soil boring. Split spoons and sampling knives were washed with a Liquinox (detergent) solution between each sample. Disposable, polyethylene

bailers and nitrile gloves were used in handling and collecting samples to avoid possible cross-contamination. Soil and groundwater samples were cooled to approximately 4°C and promptly shipped to the analytical laboratory using chain-of-custody procedures. All laboratory analyses were performed in accordance with EPA methodology by Inchcape Testing Services of Richardson, Texas. The laboratory results and chain-of-custody forms for surface soil samples, subsurface soil samples, and groundwater samples are included in Appendices C, D, and E, respectively.

* * * * *

4.0 CONTAMINANT OCCURRENCE

Twenty-four subsurface soil samples and sixteen surface soil samples were collected and submitted for laboratory chemical analysis to delineate the approximate horizontal and vertical extent of soil impacted by petroleum hydrocarbons at the site. Nine groundwater samples were also collected and submitted for chemical analysis to determine levels of dissolved phase petroleum hydrocarbons in the groundwater at the site.

4.1 SURFACE SOIL SAMPLES

None of the sixteen surface soil samples collected indicated any BTEX constituents above the method detection limits. Five of the sixteen surface soil samples collected did not yield any detectable levels of PNAs. Eleven soil samples did indicate some carcinogenic PNAs above the Type A soil cleanup guidelines. Results of laboratory chemical analysis for all sixteen soil samples are summarized in Table 2. The analytical laboratory reports are contained in Appendix C.

4.2 SUBSURFACE SOIL SAMPLES

Six soil samples were collected and submitted for chemical analysis from soil boring MW-1. Soil sample MW-1/28'-30', from the terminus of the boring, yielded no PNAs or BTEX constituents above the respective method detection limits. Soil samples MW-1/15'-17' and MW-1/22'-24' did not yield any detectable levels of PNAs. Soil samples MW-1/2'-4', MW-1/6'-8', MW-1/12'-14', MW-1/15'-17', and MW-1/22'-24' yielded benzene levels that exceed the Type A soil cleanup objectives for underground storage tank (UST) sites in Illinois. Soil samples MW-1/2'-4', MW-1/6'-8', and MW-1/12'-14' yielded several carcinogenic and non-carcinogenic PNAs in excess of the Type A soil cleanup objectives.

Six soil samples were collected and submitted for laboratory chemical analysis from soil boring MW-2. Soil sample MW-2/26'-28', collected from the terminus of this boring yielded only one PNA constituent, Benzo(b)fluoranthene, at 0.0236 mg/kg. No other PNAs or BTEX constituents were detected in soil sample MW-2/26'-28'. Soil sample MW-2/20'-22' did not yield any detectable levels of PNAs or BTEX. Soil sample MW-2/8'-10' did not yield any detectable levels of

PNAs. Soil samples MW-2/3'-5', MW-2/10'-12', and MW-2/15'-17' yielded several carcinogenic and non-carcinogenic PNAs in excess of the Type A soil cleanup objectives.

Six soil samples were collected and submitted for chemical analysis from soil boring MW-3. Soil samples MW-3/18'-20', MW-3/23'-25', and MW-3/26'-28' did not yield any detectable levels of PNAs or BTEX constituents. Soil sample MW-3/2'-4', MW-3/5'-7', and MW-3/10'-12' yielded benzene levels in excess of the Type A soil cleanup objectives. Benzo(a)anthracene Type A soil cleanup objectives were exceeded in soil samples MW-3/2'-4', MW-3/5'-7', and MW-3/10'-12'. Napthalene Type A soil cleanup objectives were exceeded in soil sample MW-3/2'-4'.

Six soil samples were submitted for chemical analysis from soil boring MW-4. Soil sample MW-4/22'-24' did not yield any detectable levels of PNAs or BTEX constituents. Soil sample MW-4/26'-28' yielded 8.6 μg/kg benzene, which is slightly in excess of the 5 μg/kg Type A soil cleanup objective. Soil samples MW-4/2'-4' and MW-4/6'-8' both exceeded the Type A soil cleanup objective for benzene. Soil samples MW-4/2'-4', MW-4/6'-8', and MW-4/10'-12' exceeded the Type A soil cleanup objectives for Benzo(a)anthracene. Soil sample MW-4/18'-20' exceeded Type A soil cleanup objectives for Benzo(b)fluoranthene.

The analytical laboratory results for the subsurface soil samples are summarized in Table 3. The laboratory reports are contained in Appendix B.

4.3 GROUNDWATER SAMPLES

A total of nine groundwater samples were collected and submitted for laboratory chemical analysis. Groundwater samples MW-1D and MW-4D did not indicate any PNAs or BTEX constituents above the respective method detection limits. Several of the nine groundwater samples did not indicate any PNAs above the method detection limit. Groundwater samples MW-1 and MW-3 exceeded the Illinois Class I Groundwater Standard of 0.005 mg/L for benzene. Groundwater sample results are summarized in Table 4. The groundwater sample laboratory reports are contained in Appendix E.

* * * * *

5.0 CONCLUSIONS

- No free petroleum product was encountered in the monitoring wells. No petroleum hydrocarbon saturated soil was encountered in the soil borings.

- Groundwater samples MW-1 and MW-3 exceeded the Class I standards for releases of gasoline and diesel fuel of 0.005 mg/L for benzene.

- Several subsurface soil samples exceeded Type A soil cleanup objectives for benzene, carcinogenic PNAs, and non-carcinogenic PNAs.

- Several surface soil samples exceeded Type A soil cleanup objectives for carcinogenic PNAs.

- The shallow groundwater flow direction was to the southeast with a horizontal hydraulic gradient of 0.020 foot/foot during the site assessment field activities.

* * * * *

TABLES

Table 1
Hartford River Terminal
Summary of Grid Interval Calculations
Clark Refining and Marketing, Inc.

Location	Length (ft)	Width (ft)	Area (ft^2)	Grid[1] Interval (ft)
River Dock Extended	100	100	10,000	
Total			10,000	28.21

[1] - Grid Interval from 35 IAC 725.211; GI = [(Area/3.14)^0.5]/2

Table 2
Hartford River Terminal
Summary of Surface Soil Sample Results
Clark Refining and Marketing, Inc.

Soil Sample:		RD-1		RD-2		RD-3		RD-4		RD-5		RD-6		RD-7		RD-8		IEPA LUST TYPE A SOIL CLEANUP OBJECTIVES (Feb. 1993)
Depth:		Surface		Surface		Surface		Surface		Surface		Surface		Surface		Surface		
Date Collected:		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	
VOLATILES																		
Benzene	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	5
Toluene	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	
Ethylbenzene	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	
Total Xylenes	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	
Total BTEX	µg/kg		ND		ND		ND		ND		ND		ND		ND		ND	11,705
PNAs																		
Acenapthene	mg/kg	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	8.4
Acenapththylene	mg/kg	1.54	ND	1.54	ND	1.54	ND	1.54	ND	1.54	ND	1.54	ND	1.54	ND	1.54	ND	
Anthracene	mg/kg	0.442	ND	0.442	ND	0.442	ND	0.442	ND	0.442	ND	0.442	ND	0.442	ND	0.442	ND	42.0
Benzo(a)anthracene	mg/kg	0.00871	0.017	0.00871	0.0525	0.00871	0.0289	0.00871	ND	0.00871	0.0107	0.00871	ND	0.00871	0.0307	0.00871	0.0382	0.0087*
Benzo(b)fluoranthene	mg/kg	0.0121	ND	0.0121	0.0542	0.0121	0.0387	0.0121	0.0308	0.0121	ND	0.0121	ND	0.0121	ND	0.0121	0.0411	0.012*
Benzo(k)fluoranthene	mg/kg	0.0114	0.126	0.0114	0.0373	0.0114	ND	0.0114	ND	0.0114	ND	0.0114	ND	0.0114	0.0179	0.0114	0.0881	0.011*
Benzo(g,h,i)perylene	mg/kg	0.0509	ND	0.0509	.0182J	0.0509	ND	0.0509	ND	0.0509	ND	0.0509	ND	0.0509	ND	0.0509	ND	
Benzo(a)pyrene	mg/kg	0.0154	0.0198	0.0154	0.0648	0.0154	0.0335	0.0154	0.0256	0.0154	.0117J	0.0154	ND	0.0154	0.0207	0.0154	0.0222	0.015*
Chrysene	mg/kg	0.101	ND	0.101	ND	0.101	ND	0.101	ND	0.101	ND	0.101	ND	0.101	0.0594J	0.101	ND	0.10*
Dibenzo(a,h)anthracene	mg/kg	0.0201	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.02*
Fluoranthene	mg/kg	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	0.039J	0.141	ND	5.6
Fluorene	mg/kg	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	0.154	0.141	ND	5.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.028*
Napthalene	mg/kg	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	0.660*
Phenanthrene	mg/kg	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	0.66	0.429	ND	
Pyrene	mg/kg	0.181	ND	0.181	ND	0.181	ND	0.181	ND	0.181	ND	0.181	ND	0.181	0.105J	0.181	ND	4.2

DL - Detection Limit
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
* - Acceptable Detection Limits (ADL) are listed where Type A objective was below the ADL
J - Indicates an estimated value - the compound was detected but is below the Detection Limit.

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Table 2 (continued)
Hartford River Terminal
Summary of Surface Soil Sample Results
Clark Refining and Marketing, Inc.

Soil Sample:		RD-9		RD-10		RD-11		RD-12		RD-13		RD-14		RD-15		RD-16		IEPA LUST TYPE A SOIL CLEANUP OBJECTIVES (Feb. 1993)
Depth:		Surface		Surface		Surface		Surface		Surface		Surface		Surface		Surface		
Date Collected:		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	
VOLATILES																		
Benzene	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	5
Toluene	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	
Ethylbenzene	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	
Total Xylenes	µg/kg	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	
Total BTEX	µg/kg		ND		ND		ND		ND		ND		ND		ND		ND	11,705
PNAs																		
Acenapthene	mg/kg	1.21	ND	1.21	ND	12.10	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	1.21	ND	8.4
Acenapththylene	mg/kg	1.64	ND	1.64	ND	15.40	ND	1.54	ND	1.54	ND	1.64	ND	1.64	ND	1.64	ND	
Anthracene	mg/kg	0.442	ND	0.442	ND	4.42	ND	0.442	ND	0.442	ND	0.442	ND	0.442	ND	0.442	ND	42.0
Benzo(a)anthracene	mg/kg	0.00871	ND	0.00871	ND	0.0871	1.47	0.00871	0.0287	0.00871	ND	0.00871	ND	0.00871	0.0345	0.00871	0.0255	0.0087*
Benzo(b)fluoranthene	mg/kg	0.0121	ND	0.0121	ND	0.121	ND	0.0121	0.0251	0.0121	ND	0.0121	ND	0.0121	ND	0.0121	0.0209	0.012*
Benzo(k)fluoranthene	mg/kg	0.0114	ND	0.0114	ND	0.114	ND	0.0114	0.0893	0.0114	ND	0.0114	ND	0.0114	ND	0.0114	0.0126	0.011*
Benzo(g,h,i)perylene	mg/kg	0.0509	ND	0.0509	ND	0.509	ND	0.0509	ND	0.0509	ND	0.0509	ND	0.0509	ND	0.0509	ND	
Benzo(a)pyrene	mg/kg	0.0154	ND	0.0154	ND	0.154	ND	0.0154	0.0302	0.0154	ND	0.0154	ND	0.0154	0.0297	0.0154	0.0181	0.015*
Chrysene	mg/kg	0.101	ND	0.101	ND	1.01	0.224J	0.101	ND	0.101	ND	0.101	ND	0.101	0.0565J	0.101	ND	0.10*
Dibenzo(a,h)anthracene	mg/kg	0.0201	ND	0.0201	ND	0.201	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.0201	0.0126J	0.0201	ND	0.02*
Fluoranthene	mg/kg	0.141	ND	0.141	ND	1.41	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	5.6
Fluorene	mg/kg	0.141	ND	0.141	ND	1.41	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	0.141	ND	5.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.0288	ND	0.0288	ND	0.288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.029*
Napthalene	mg/kg	0.66	ND	0.66	ND	12.10	ND	0.66	ND	0.66	ND	0.66	ND	0.66	ND	0.66	ND	0.660*
Phenanthrene	mg/kg	0.429	ND	0.429	ND	4.29	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	
Pyrene	mg/kg	0.181	ND	0.181	ND	1.81	ND	0.181	ND	0.181	ND	0.181	ND	0.181	ND	0.181	ND	4.2

DL - Detection Limit
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
* - Acceptable Detection Limits (ADL) are listed where Type A objective was below the ADL
J - Indicates an estimated value - the compound was detected but is below the Detection Limit.

Table 3
Hartford River Terminal
Summary of Subsurface Soil Sample Results - Monitoring Well 1
Clark Refining and Marketing, Inc.

	Soil Sample:	MW-1		MW-1		MW-1		MW-1		MW-1		MW-1		IEPA LUST TYPE A SOIL CLEANUP OBJECTIVES (Feb. 1993)
	Depth:	2-4'		6-8'		12-14'		16-17'		22-24'		28-30'		
	Date Collected:	10/10/95		10/10/95		10/10/95		10/10/95		10/10/95		10/10/95		
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	
VOLATILES														
Benzene	µg/kg	200	350	100	428	100	473	2.0	9.9	2.0	11.3	2.0	ND	6
Toluene	µg/kg	200	ND	100	ND	100	ND	2.0	ND	2.0	ND	2.0	ND	
Ethylbenzene	µg/kg	200	ND	100	134	100	ND	2.0	ND	2.0	ND	2.0	ND	
Total Xylenes	µg/kg	200	290	100	296	100	344	2.0	ND	2.0	ND	2.0	ND	
Total BTEX	µg/kg		640		858		817		9.9		11.3		ND	11,705
PNAs														
Acenapthene	mg/kg	3.62	ND	3.62	ND	3.62	ND	1.21	ND	1.21	ND	1.21	ND	8.4
Acenapththylene	mg/kg	4.62	ND	4.62	ND	4.62	ND	1.54	ND	1.54	ND	1.54	ND	
Anthracene	mg/kg	1.33	2.24	1.33	1.62	1.33	2.00	0.442	ND	0.442	ND	0.442	ND	42.0
Benzo(a)anthracene	mg/kg	0.0261	11.40	0.0261	7.53	0.0261	8.58	0.00871	ND	0.00871	ND	0.00871	ND	0.0087*
Benzo(b)fluoranthene	mg/kg	0.0362	ND	0.0362	0.216	0.0362	ND	0.0121	ND	0.0121	ND	0.0121	ND	0.012*
Benzo(k)fluoranthene	mg/kg	0.0342	1.81	0.0342	0.31	0.0342	0.312	0.0114	ND	0.0114	ND	0.0114	ND	0.011*
Benzo(g,h,i)perylene	mg/kg	0.153	ND	0.153	ND	0.153	0.36	0.0509	ND	0.0509	ND	0.0509	ND	
Benzo(a)pyrene	mg/kg	0.0462	0.102	0.0462	0.0643	0.0462	0.075	0.0154	ND	0.0154	ND	0.0154	ND	0.015*
Chrysene	mg/kg	0.302	2.53	0.302	ND	0.302	1.78	0.101	ND	0.101	ND	0.101	ND	0.10*
Dibenzo(a,h)anthracene	mg/kg	0.0603	0.525	0.0603	0.574	0.0603	0.645	0.0201	ND	0.0201	ND	0.0201	ND	0.02*
Fluoranthene	mg/kg	0.422	6.92	0.422	4.91	0.422	6.29	0.14	ND	0.141	ND	0.141	ND	5.6
Fluorene	mg/kg	0.422	3.18	0.422	2.19	0.422	2.96	0.14	ND	0.141	ND	0.141	ND	5.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.0864	0.276	0.0864	0.174	0.0864	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.029*
Napthalene	mg/kg	3.62	ND	3.62	ND	3.62	ND	0.66	ND	0.66	ND	0.66	ND	0.660*
Phenanthrene	mg/kg	1.29	4.56	1.29	3.24	1.29	4.37	0.429	ND	0.429	ND	0.429	ND	
Pyrene	mg/kg	0.543	4.17	0.543	2.90	0.543	3.74	0.181	ND	0.181	ND	0.181	ND	4.2

DL - Detection Limit
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
* - Acceptable Detection Limits (ADL) are listed where Type A objective was below the ADL
J - Indicates an estimated value - the compound was detected but is below the Detection Limit

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Table 3 (continued)
Hartford River Terminal
Summary of Subsurface Soil Sample Results - Monitoring Well 2
Clark Refining and Marketing, Inc.

	Soil Sample:	MW-2		MW-2		MW-2		MW-2		MW-2		MW-2		IEPA LUST TYPE A SOIL CLEANUP OBJECTIVES (Feb. 1993)
	Depth:	3-5'		8-10'		10-12'		15-17'		20-22'		26-28'		
	Date Collected:	10/12/95		10/12/95		10/12/95		10/12/95		10/12/95		10/12/95		
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	
VOLATILES														
Benzene	µg/kg	2.0	7.3	2.0	5.5	500	740	2.0	3.7	2.0	ND	2.0	ND	5
Toluene	µg/kg	2.0	ND	2.0	3.1	500	ND	2.0	ND	2.0	ND	2.0	ND	
Ethylbenzene	µg/kg	2.0	3.8	2.0	3.8	500	890	2.0	ND	2.0	ND	2.0	ND	
Total Xylenes	µg/kg	2.0	3.6	2.0	10.4	500	680	2.0	3.8	2.0	ND	2.0	ND	
Total BTEX	µg/kg		14.7		22.8		2310		7.5		ND		ND	11,705
PNAs														
Acenapthene	mg/kg	1.21	ND	1.21	ND	12.1	ND	1.21	ND	1.21	ND	1.21	ND	8.4
Acenapththylene	mg/kg	1.54	ND	1.54	ND	15.4	ND	1.54	ND	1.54	ND	1.54	ND	
Anthracene	mg/kg	0.442	ND	0.442	ND	4.42	ND	0.442	ND	0.442	ND	0.442	ND	42.0
Benzo(a)anthracene	mg/kg	0.00871	ND	0.00871	ND	0.0871	12.8	0.00871	0.0413	0.00871	ND	0.00871	ND	0.0087*
Benzo(b)fluoranthene	mg/kg	0.0121	ND	0.0121	ND	0.121	ND	0.0121	ND	0.0121	ND	0.0121	0.0236	0.012*
Benzo(k)fluoranthene	mg/kg	0.0114	ND	0.0114	ND	0.114	ND	0.0114	ND	0.0114	ND	0.0114	ND	0.011*
Benzo(g,h,i)perylene	mg/kg	0.0509	0.0533	0.0509	ND	0.509	ND	0.0509	ND	0.0509	ND	0.0509	ND	
Benzo(a)pyrene	mg/kg	0.0154	0.0284	0.0154	ND	0.154	ND	0.0154	ND	0.0154	ND	0.0154	ND	0.015*
Chrysene	mg/kg	0.101	ND	0.101	ND	1.01	ND	0.101	ND	0.101	ND	0.101	ND	0.10*
Dibenzo(a,h)anthracene	mg/kg	0.0201	ND	0.0201	ND	0.201	ND	0.0201	0.0251	0.0201	ND	0.0201	ND	0.02*
Fluoranthene	mg/kg	0.141	ND	0.141	ND	1.41	6.34	0.141	ND	0.141	ND	0.141	ND	5.6
Fluorene	mg/kg	0.141	ND	0.141	ND	1.41	ND	0.141	ND	0.141	ND	0.141	ND	5.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.0288	ND	0.0288	ND	0.288	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.029*
Napthalene	mg/kg	1.21	ND	0.66	ND	12.1	ND	1.21	ND	0.66	ND	1.21	ND	0.660*
Phenanthrene	mg/kg	0.429	ND	0.429	ND	4.29	8.27	0.429	ND	0.429	ND	0.429	ND	
Pyrene	mg/kg	0.181	ND	0.181	ND	1.81	4.84	0.181	ND	0.181	ND	0.181	ND	4.2

DL - Detection Limit
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
* - Acceptable Detection Limits (ADL) are listed where Type A objective was below the ADL
J - Indicates an estimated value - the compound was detected but is below the Detection Limit.

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Table 3 (continued)
Hartford River Terminal
Summary of Subsurface Soil Sample Results - Monitoring Well 3
Clark Refining and Marketing, Inc.

	Soil Sample:	MW-3		MW-3		MW-3		MW-3		MW-3		MW-3		IEPA LUST
	Depth:	2-4'		5-7'		10-12'		18-20'		23-25'		26-28'		TYPE A
	Date Collected:	10/13/95		10/13/95		10/13/95		10/13/95		10/13/95		10/13/95		SOIL CLEANUP
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	OBJECTIVES (Feb. 1993)
VOLATILES														
Benzene	µg/kg	1000	2290	10.0	43.3	100	676	2.0	ND	2.0	ND	2.0	ND	5
Toluene	µg/kg	1000	14400	10.0	62.7	100	236	2.0	ND	2.0	ND	2.0	ND	
Ethylbenzene	µg/kg	1000	4780	10.0	87.8	100	ND	2.0	ND	2.0	ND	2.0	ND	
Total Xylenes	µg/kg	1000	28600	10.0	164	100	599	2.0	ND	2.0	ND	2.0	ND	
Total BTEX	µg/kg		50070		347.8		1512		ND		ND		ND	11,705
PNAs														
Acenapthene	mg/kg	3.62	1.07	3.62	ND	3.62	ND	1.21	ND	1.21	ND	1.21	ND	8.4
Acenapththylene	mg/kg	4.62	ND	4.62	ND	4.62	ND	1.54	ND	1.54	ND	1.54	ND	
Anthracene	mg/kg	1.33	ND	1.33	ND	1.33	ND	0.442	ND	0.442	ND	0.442	ND	42.0
Benzo(a)anthracene	mg/kg	0.0261	0.475	0.0261	0.213	0.0261	0.0976	0.00871	ND	0.00871	ND	0.00871	ND	0.0087*
Benzo(b)fluoranthene	mg/kg	0.0362	ND	0.0362	ND	0.0362	ND	0.0121	ND	0.0121	ND	0.0121	ND	0.012*
Benzo(k)fluoranthene	mg/kg	0.0342	ND	0.0342	ND	0.0342	ND	0.0114	ND	0.0114	ND	0.0114	ND	0.011*
Benzo(g,h,i)perylene	mg/kg	0.163	ND	0.163	ND	0.163	ND	0.0509	ND	0.0509	ND	0.0509	ND	
Benzo(a)pyrene	mg/kg	0.0462	ND	0.0462	ND	0.0462	ND	0.0164	ND	0.0164	ND	0.0164	ND	0.016*
Chrysene	mg/kg	0.302	ND	0.302	ND	0.302	0.0805J	0.101	ND	0.101	ND	0.101	ND	0.10*
Dibenzo(a,h)anthracene	mg/kg	0.0603	ND	0.0603	ND	0.0603	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.02*
Fluoranthene	mg/kg	0.422	0.288J	0.422	0.0794J	0.422	ND	0.14	ND	0.141	ND	0.141	ND	5.6
Fluorene	mg/kg	0.422	1.97	0.422	0.535	0.422	0.589	0.14	ND	0.141	ND	0.141	ND	5.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.0864	ND	0.0864	ND	0.0864	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.029*
Napthalene	mg/kg	3.62	17.0	3.62	ND	3.62	ND	0.660	ND	0.660	ND	0.660	ND	0.660*
Phenanthrene	mg/kg	1.29	1.54	1.29	ND	1.29	ND	0.429	ND	0.429	ND	0.429	ND	
Pyrene	mg/kg	0.543	1.42	0.543	0.674	0.543	0.12J	0.181	ND	0.181	ND	0.181	ND	4.2

DL - Detection Limit
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
* - Acceptable Detection Limits (ADL) are listed where Type A objective was below the ADL
J - Indicates an estimated value - the compound was detected but is below the Detection Limit.

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Table 3 (continued)
Hartford River Terminal
Summary of Subsurface Soil Sample Results - Monitoring Well 4
Clark Refining and Marketing, Inc.

	Soil Sample:	MW-4		MW-4		MW-4		MW-4		MW-4		MW-4		IEPA LUST
	Depth:	2-4'		6-8'		10-12'		18-20'		22-24'		26-28'		TYPE A
	Date Collected:	10/11/95		10/11/95		10/11/95		10/11/95		10/11/95		10/11/95		SOIL CLEANUP
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	OBJECTIVES (Feb. 1993)
VOLATILES														
Benzene	µg/kg	10.0	281	200	240	500	ND	2.0	ND	2.0	ND	2.0	8.6	5
Toluene	µg/kg	10.0	23.7	200	ND	500	ND	2.0	ND	2.0	ND	2.0	ND	
Ethylbenzene	µg/kg	10.0	98.7	200	ND	500	ND	2.0	ND	2.0	ND	2.0	ND	
Total Xylenes	µg/kg	10.0	512	200	660	500	1490	2.0	ND	2.0	ND	2.0	ND	
Total BTEX	µg/kg		915.40		900		1490		ND		ND		8.6	11,705
PNAs														
Acenapthene	mg/kg	3.62	ND	3.62	ND	3.62	ND	1.21	ND	1.21	ND	1.21	ND	8.4
Acenapththylene	mg/kg	4.62	ND	4.62	ND	4.62	ND	1.54	ND	1.54	ND	1.54	ND	
Anthracene	mg/kg	1.33	ND	1.33	ND	1.33	ND	0.442	ND	0.442	ND	0.442	ND	42.0
Benzo(a)anthracene	mg/kg	0.0261	0.153	0.0261	0.548	0.0261	0.917	0.00871	ND	0.00871	ND	0.00871	ND	0.0087*
Benzo(b)fluoranthene	mg/kg	0.0362	ND	0.0362	ND	0.0362	ND	0.0121	0.0335	0.0121	ND	0.0121	ND	0.012*
Benzo(k)fluoranthene	mg/kg	0.0342	ND	0.0342	ND	0.0342	ND	0.0114	ND	0.0114	ND	0.0114	ND	0.011*
Benzo(g,h,i)perylene	mg/kg	0.153	ND	0.153	ND	0.153	0.0406	0.0509	ND	0.0509	ND	0.0509	ND	
Benzo(a)pyrene	mg/kg	0.0462	0.0476	0.0462	ND	0.0462	0.134	0.0154	ND	0.0154	ND	0.0154	ND	0.015*
Chrysene	mg/kg	0.302	ND	0.302	ND	0.302	ND	0.101	ND	0.101	ND	0.101	ND	0.10*
Dibenzo(a,h)anthracene	mg/kg	0.0603	ND	0.0603	ND	0.0603	ND	0.0201	ND	0.0201	ND	0.0201	ND	0.02*
Fluoranthene	mg/kg	0.422	.292J	0.422	.217J	0.422	0.527	0.141	ND	0.141	ND	0.141	ND	5.6
Fluorene	mg/kg	0.422	2.08	0.422	ND	0.422	3.33	0.141	ND	0.141	ND	0.141	ND	5.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.0864	ND	0.0864	ND	0.0864	ND	0.0288	ND	0.0288	ND	0.0288	ND	0.029*
Napthalene	mg/kg	3.62	ND	3.62	ND	3.62	ND	1.21	ND	0.660	ND	0.660	ND	0.660*
Phenanthrene	mg/kg	1.29	2.80	1.29	1.76	2.67	9.26	0.429	ND	0.429	ND	0.429	ND	
Pyrene	mg/kg	0.543	1.32	0.543	1.90	0.543	ND	0.181	ND	0.181	ND	0.181	ND	4.2

DL - Detection Limit
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
* - Acceptable Detection Limits (ADL) are listed where Type A objective was below the ADL
J - Indicates an estimated value - the compound was detected but is below the Detection Limit.

Table 4
Hartford River Terminal
Summary of Groundwater Sample Results
Clark Refining and Marketing, Inc.

Groundwater Sample:		MW1		MW1D		MW2		MW2D		MW3		MW3Dup.		MW3D		MW4		MW4D		ILLINOIS CLASS I GROUNDWATER STANDARD
Date Collected:		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		10/24/95		
PARAMETER	Units	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	
VOLATILES																				
Benzene	µg/L	1.0	200	1.0	ND	1.0	2.5	1.0	ND	1.0	8.4	1.0	1.5	1.0	1.6	1.0	5.0	1.0	ND	5
Toluene	µg/L	1.0	2.5	1.0	ND	1.0	0.6	1.0	10.3	1.0	17.7	1.0	1.3	1.0	1.4	1.0	2.0	1.0	ND	
Ethylbenzene	µg/L	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	4.0	1.0	ND	1.0	ND	1.0	ND	1.0	ND	
Total Xylenes	µg/L	1.0	0.7	1.0	ND	1.0	ND	1.0	ND	1.0	20.2	1.0	0.5 J	1.0	0.5 J	1.0	1.0 J	1.0	ND	
Total BTEX	µg/L		203.2		ND		3.1		10.3		50.3		3.3		3.4		8.0		ND	11,705
PNAs																				
Acenapthene	mg/L	0.0360	ND	0.0180	ND	0.0180	ND	0.0180	ND	0.0180	ND	0.0180	ND	0.0180	ND	0.0360	ND	0.0180	ND	
Acenapththylene	mg/L	0.0200	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0200	ND	0.0100	ND	
Anthracene	mg/L	0.0132	ND	0.00660	ND	0.00660	ND	0.00660	ND	0.00660	ND	0.00660	ND	0.00660	ND	0.0132	ND	0.00660	ND	
Benzo(a)anthracene	mg/L	0.000260	ND	0.000130	ND	0.000130	ND	0.000130	ND	0.000130	ND	0.000130	ND	0.000130	ND	0.000260	ND	0.000130	ND	
Benzo(b)fluoranthene	mg/L	0.000360	ND	0.000180	ND	0.000180	ND	0.000180	ND	0.000180	ND	0.000180	ND	0.000180	ND	0.000360	ND	0.000180	ND	
Benzo(k)fluoranthene	mg/L	0.000340	ND	0.000170	ND	0.000170	ND	0.000170	ND	0.000170	ND	0.000170	ND	0.000170	ND	0.000340	ND	0.000170	ND	
Benzo(g,h,i)perylene	mg/L	0.00152	ND	0.000760	ND	0.000760	ND	0.000760	ND	0.000760	ND	0.000760	ND	0.000760	ND	0.00152	ND	0.000760	ND	
Benzo(a)pyrene	mg/L	0.000460	ND	0.000230	ND	0.000230	ND	0.000230	ND	0.000230	ND	0.000230	ND	0.000230	ND	0.000460	ND	0.000230	ND	
Chrysene	mg/L	0.00300	ND	0.00150	ND	0.00150	ND	0.00150	ND	0.00150	ND	0.00150	ND	0.00150	ND	0.00300	ND	0.00150	ND	
Dibenzo(a,h)anthracene	mg/L	0.000600	ND	0.000300	ND	0.000300	ND	0.000300	ND	0.000300	ND	0.000300	ND	0.000300	ND	0.000600	ND	0.000300	ND	
Fluoranthene	mg/L	0.00420	ND	0.00210	ND	0.00210	ND	0.00210	ND	0.00210	ND	0.00210	ND	0.00210	ND	0.00420	ND	0.00210	ND	
Fluorene	mg/L	0.00420	ND	0.00210	ND	0.00210	ND	0.00210	ND	0.00210	ND	0.00210	0.00427	0.00210	0.00438	0.00420	ND	0.00210	ND	
Indeno(1,2,3-cd)pyrene	mg/L	0.000860	ND	0.000430	ND	0.000430	ND	0.000430	ND	0.000430	ND	0.000430	ND	0.000430	ND	0.000860	ND	0.000430	ND	
Napthalene	mg/L	0.0200	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0100	ND	0.0200	ND	0.0100	ND	
Phenanthrene	mg/L	0.0128	ND	0.00640	ND	0.00640	ND	0.00640	ND	0.00640	ND	0.00640	ND	0.00640	ND	0.0128	ND	0.00640	ND	
Pyrene	mg/L	0.00540	ND	0.00270	ND	0.00270	ND	0.00270	ND	0.00270	ND	0.00270	ND	0.00270	ND	0.00540	ND	0.00270	ND	

DL - Detection Limit
mg/L - Milligrams per Liter
µg/L - Micrograms per Liter
ND - Non-Detect
PNAs - Polynuclear aromatic hydrocarbons
J - Indicates an estimated value - the compound was detected but is below the Detection Limit.

I:\projects\94155\4031\work\tbl-6.wk4

FIGURES

GEND

- State Route
- Town, Small City
- County Boundary
- Population Center
- Street, Road
- Hwy Ramp
- Major Street/Road
- State Route
- Railroad
- River
- Land Mass
- Open Water

Scale 1:31,250 (at center)

2000 Feet

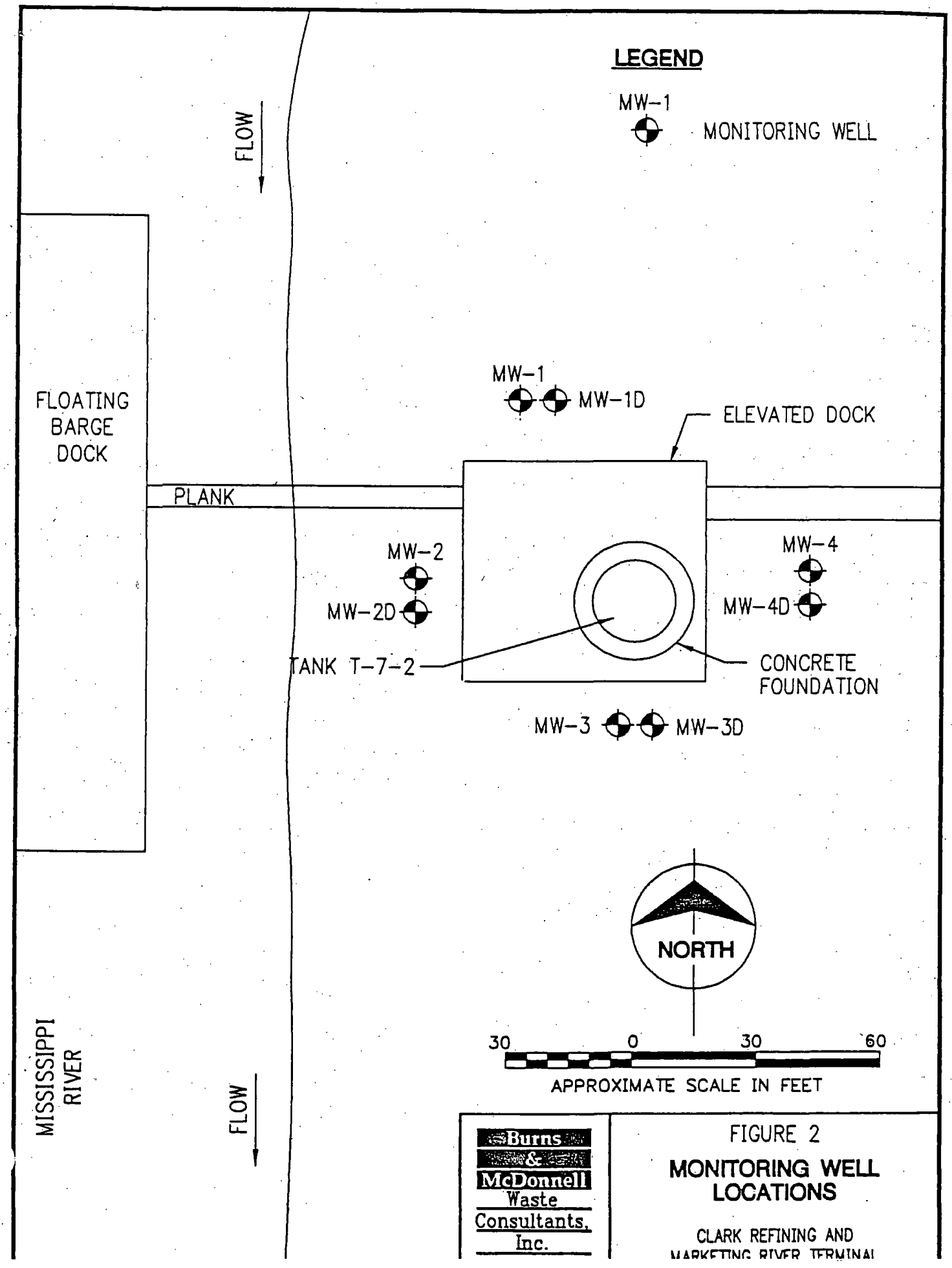
Mag 14.00
Wed Oct 18 09:45:22 1995

Burns & McDonnell Waste Consultants, Inc.

FIGURE 1

SITE LOCATION MAP

CLARK REFINING AND



Burns & McDonnell Waste Consultants, Inc.

FIGURE 2

MONITORING WELL LOCATIONS

CLARK REFINING AND MARKETING RIVER TERMINAL

4155\4051\CADD\FIGURE2.DWG 12-29-1995 11:04 CEM

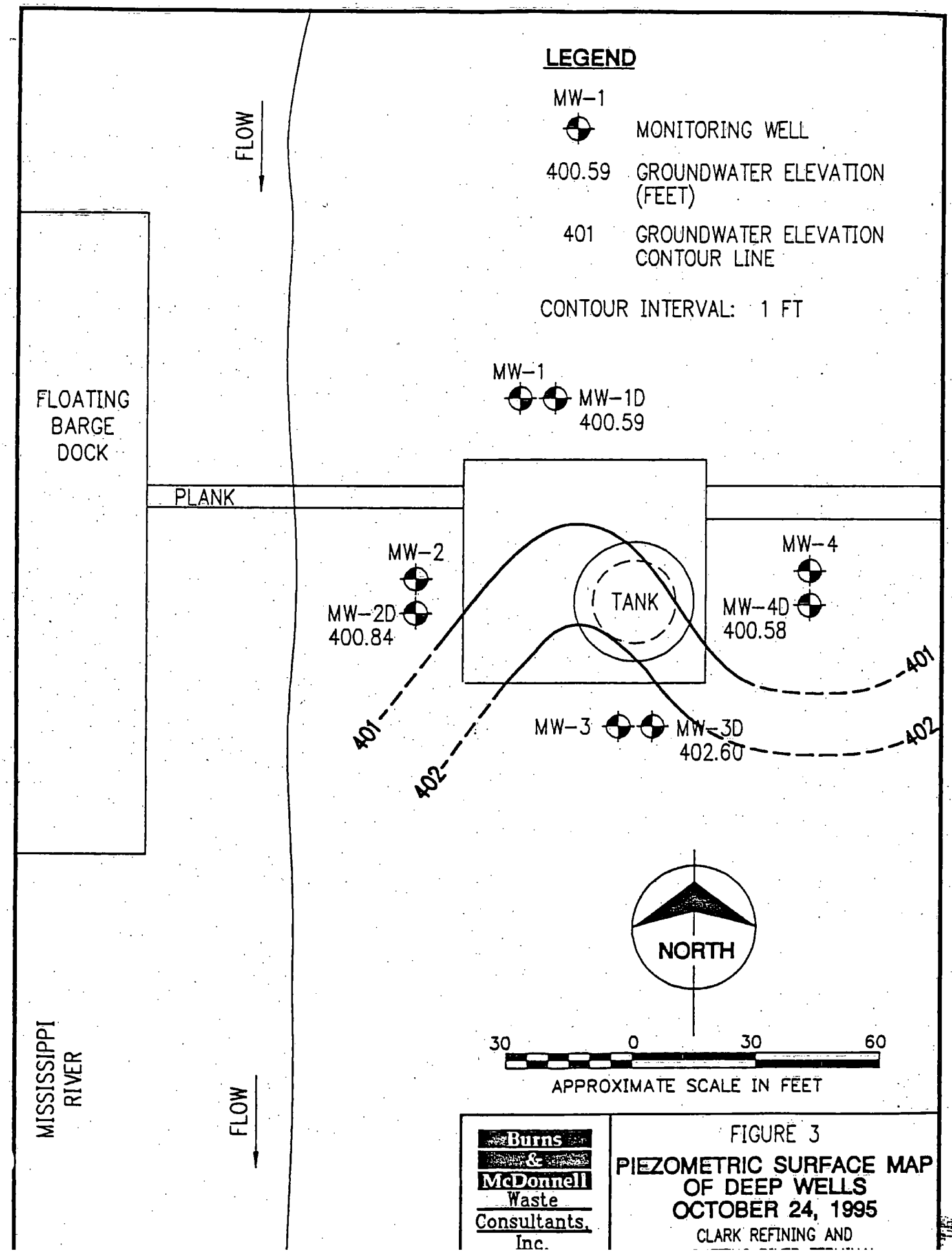
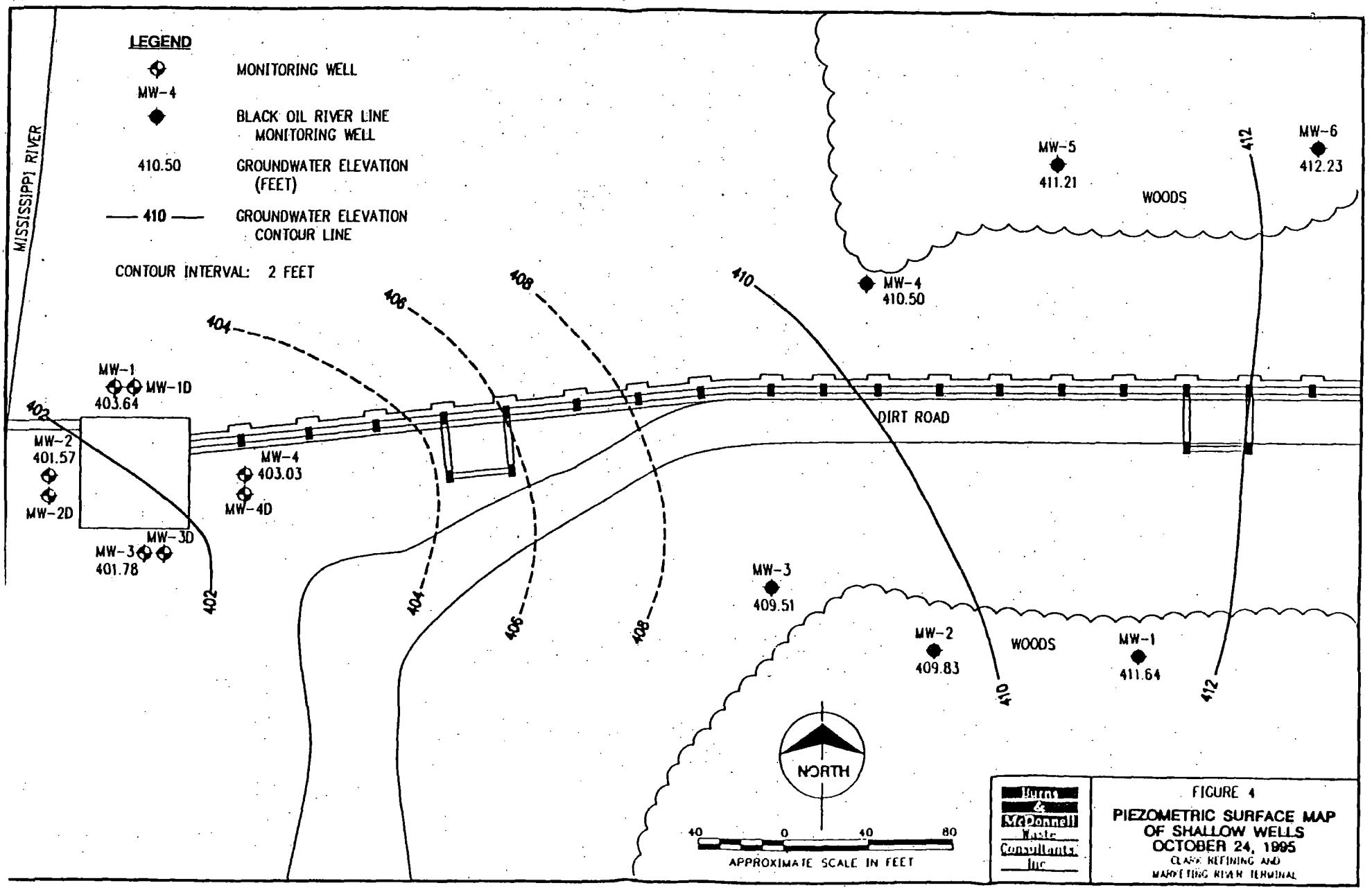
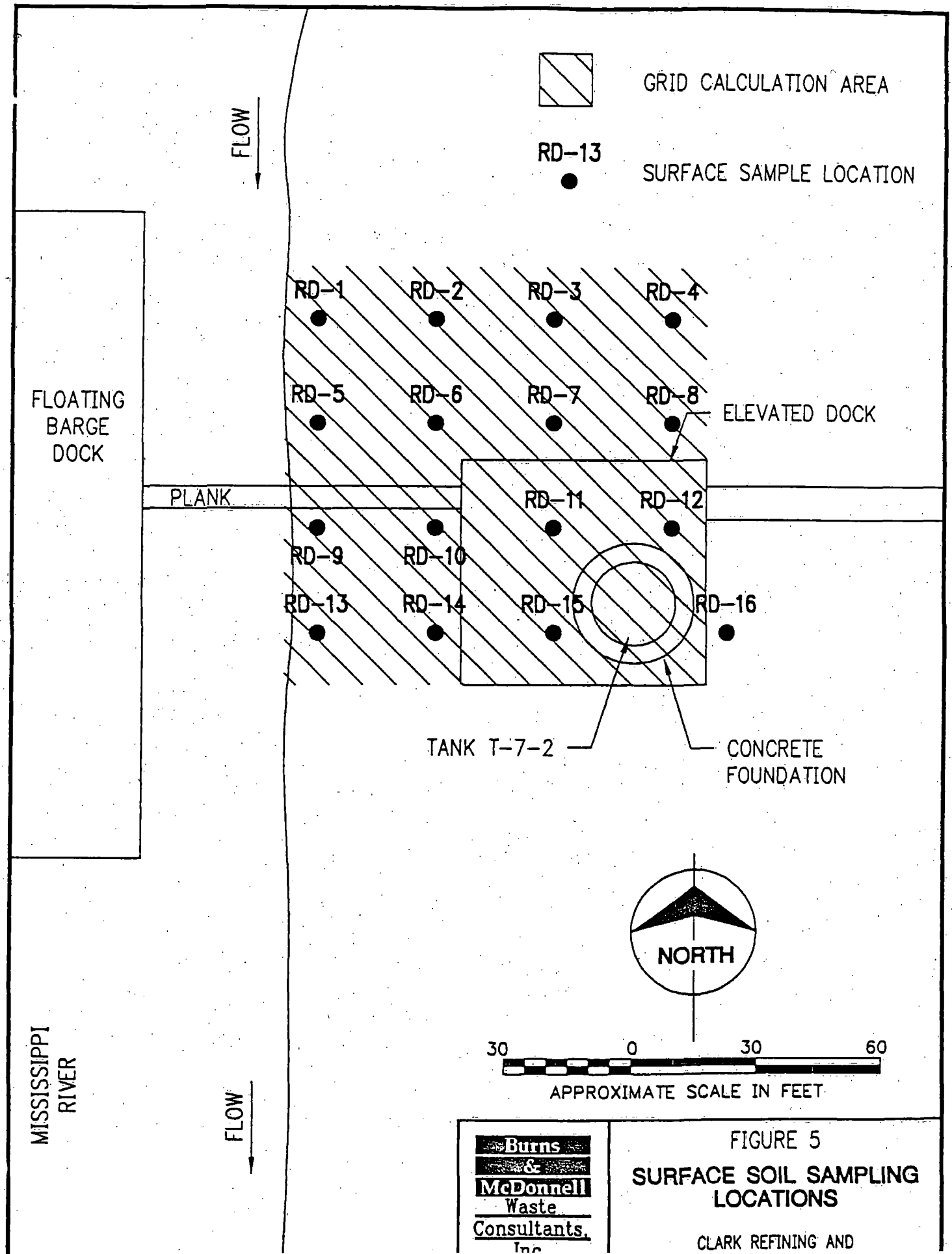


FIGURE 3

PIEZOMETRIC SURFACE MAP OF DEEP WELLS OCTOBER 24, 1995

CLARK REFINING AND


LEGEND
MW-4
MONITORING WELL
BLACK OIL RIVER LINE MONITORING WELL
410.50
GROUNDWATER ELEVATION (FEET)
410
GROUNDWATER ELEVATION CONTOUR LINE
CONTOUR INTERVAL: 2 FEET
MISSISSIPPI RIVER
MW-1
403.64
MW-1D
MW-2
401.57
MW-2D
MW-3
401.78
MW-3D
MW-4
403.03
MW-4D
MW-4
410.50
MW-5
411.21
MW-6
412.23
MW-3
409.51
MW-2
409.83
MW-1
411.64
WOODS
WOODS
DIRT ROAD
402
404
406
408
410
412
NORTH
40
0
40
80
APPROXIMATE SCALE IN FEET
Burns & McDonnell Waste Consultants Inc
FIGURE 4
PIEZOMETRIC SURFACE MAP OF SHALLOW WELLS
OCTOBER 24, 1995
CLARK REFINING AND MARKETING RIVER TERMINAL



Burns & McDonnell Waste Consultants, Inc.

FIGURE 5

SURFACE SOIL SAMPLING LOCATIONS

CLARK REFINING AND

OFFICE OF THE ATTORNEY GENERAL
STATE OF ILLINOIS

March 11, 1996

Jim Ryan
ATTORNEY GENERAL

Pat Sharkey
Mayer, Brown and Platt
190 South LaSalle Street
Chicago, IL 60603-3441

RE: Clark Hartford / Spill Sampling Plan Revision Approvals

Dear Ms. Sharkey:

I am writing to confirm the Agency's acceptance of the plan for sampling that was discussed at a meeting held on February 27, 1996 between representatives of the State and Clark. Initially, Burns & McDonnell had prepared a Sampling and Analysis Plan for Areas B, C, D, F, H, and J. In my letter dated January 16, 1996, to you we proposed additional sampling in Areas A, E, and G as well as groundwater sampling in Areas K and L. At the February 27, 1996, meeting, representatives of Clark presented the State with a two page table of proposals for sampling at the various areas in response to the issues raised in my letter. Further discussions at that meeting resulted in an apparent agreement regarding a sampling plan acceptable to all parties. Following are the specifics of that plan as it is understood by the Illinois EPA representatives.

Area A -- representing spill #940851 Asphalt spill Northwest of Bio Unit	Surface samples (one foot below post-cleanup fill interface) <u>VOC: 4 samples for BTEX</u> <u>PNAs: 3 samples for analysis:</u> One from S-1, a composite of S-2 and S-3, and one from S-4. S-1 and S-4 are intended to be collected just outside the previously remediated area to the south and north respectively.

Area B -- representing spill #941772 Gasoline spill from mixer failure at Tank 35-2 Tank Area 35-1 & -2	Surface samples (6" to 12" depth) VOC: 7 samples for BTEX (SB-1 thru SB-5 as proposed, and two more north and south of SB-3 in line with SB-2, SB-5 and SB-1, SB-4 respectively) Subsurface samples (two samples each, collected from the highest PID reading, and at 5 foot depth or groundwater interface for each boring) VOC: 5 borings each for BTEX (at proposed SB-1 thru SB-5)
Area B -- representing spill #941772 Gasoline spill from mixer failure at Tank 35-2 5 Tank Area 35-3	Surface samples (6" to 12" depth) VOC: 7 samples for BTEX (5 samples in area affected in east ½ of Tank Area and 2 samples from that part not apparently impacted within the tank dike area) Subsurface samples (two samples each ,collected from the highest PID reading, and at 5 foot depth or groundwater interface for each boring) VOC: 2 borings for BTEX (both in area affected in East ½ of Tank Area)
Area B -- representing spill #941772 Gasoline spill from mixer failure at Tank 35-2 Tank Area 55-1	Consolidated with requirements for Area C, since same tank farm affected.
Area C -- representing spills #942837 and #941772 Gasoil overfill of Tank 55-1 and overflow of gasoline spill from drainage from Tank Area mixer failure at Tank 35-2 Tank Area 55-1	Surface samples (6" to 12" depth) VOC: 7 samples for BTEX (4 at SB-1 thru SB-4 and three others: one located between SB-3 and SB-4, one collected between the pipe rack and tank 55-1 adjacent to the easternmost aspect of that tank, and one collected between SB-1 and SB-2) PNAs: 4 composite samples, each of 5 discrete sampling points, as indicated in proposal diagram. Subsurface samples (two samples each boring, at highest PID reading, and at 5 foot depth or groundwater interface for each boring) BTEX and PNAs: 4 borings (at SB-1 thru SB-4 as indicated in the proposal diagram)

Area D – representing spill #941526 Naphtha and toluene Tank Area 10-5	Surface samples (6" to 12" depth) VOC: 4 samples for BTEX and Naphthalene (2 at five to ten feet on either side [east & west] of SB-3 and 2 more collected between east-center of tank and dike wall) Subsurface samples (two samples collected from each boring, at highest PID reading, and at 5 foot depth or groundwater interface for each boring) VOC: 4 borings for BTEX and Naphthalene (at SB-1 thru SB-4 as proposed)
Area E – representing spill #930211 Crude oil Tank Area 120-2	Surface samples (6" to 12" depth) VOC: 10 samples for BTEX (at SB-1 thru SB-10) PNAs: 4 composite samples, each of 5 discrete sampling points as indicated in proposal diagram. Subsurface samples (one sample each boring at highest PID reading) BTEX and PNAs: 10 borings (at SB-1 thru SB-10 as indicated in the proposal diagram)
Area F – representing spills #942288, #941873, #942855, and #951217 Crude oil and gasoline Tank Area 200-1	Surface samples (6" to 12" depth) VOC: 10 samples for BTEX (as indicated in proposal diagram) PNAs: 4 composite samples (each of 5 discrete sampling points as indicated in proposal diagram). Subsurface samples (two samples each boring, at highest PID reading, and at 5 foot depth or groundwater interface for each boring). BTEX and PNAs: 8 borings (at SB-1 thru SB-8 as indicated in the proposal diagram).
Area G – representing spill #931160 Sulfuric acid Cooling Tower #5 Area	Surface samples (0-12") pH: 4 composite samples (each of 5 discrete sampling points as indicated in proposal diagram).

Area H -- representing spill #941913, #942188 Gasoil Area adjacent to Hawthorn Avenue where feed supply lines cross to connect with Tank 120-7	Surface samples (6" to 12" depth) VOC: 10 samples for BTEX (as indicated in proposal diagram) PNAs: 4 composite samples (of 5 discrete sampling points each as indicated in proposal diagram). Subsurface samples (two samples each boring, at highest PID reading, and at 5 foot depth or groundwater interface for each boring). BTEX and PNAs: 10 borings (at SB-1 thru SB-10 as indicated in the proposal diagram).
Area J -- representing spill #942432	Surface samples (6" to 12" depth) VOC: 4 samples for BTEX (only SB-1 thru SB-4 as indicated in proposal diagram) PNAs: 2 composite samples (of 2 discrete sampling points each as indicated in proposal diagram, SB-1 thru SB-4). Subsurface samples (two samples each boring, at highest PID reading, and at 5 foot depth or groundwater interface for each boring). BTEX and PNAs: 6 borings (at SB-1 thru SB-6 as indicated in the proposal diagram).

As for Area K (representing spill #940515 (asphalt)) and Area L (representing Spills #941701, #950726 and #950893 (gasoil, fuel oil and petroleum leaching)), the Agency has received and reviewed the "Field Investigation Workplan for Groundwater Sampling at Clark Refining and Marketing, Inc. Black Oil River Line Release area" dated June 1995 pertaining to Area K and the "Site Assessment Report - Hartford River Terminal for Clark Refining and Marketing, Inc. Hartford, Illinois" dated December 1995 pertaining to Area L. Pursuant to Clark's proposed field investigation workplan and site assessment report for sites "K" and "L", the Agency requests that the wells from each of these sites be sampled and monitored for at least three years. The sampling and monitoring frequency for the first year shall be on a quarterly basis, the second year on a semi-annual basis, and annually thereafter. Sampling shall continue until three consecutive sets of sample data show levels below groundwater quality standards or groundwater cleanup objectives approved by the Agency. The sample parameters proposed by Clark's consultant are acceptable.

In addition, soil boring and sampling results from Area L taken from the December 1995 site assessment report have indicated that volatile samples from selected soil borings are in excess of the TACO Class I soil cleanup objectives. Clark shall provide the Agency with a workplan to address these soils at Area L (River Terminal Location).

The agreed schedule is that Clark shall send final plans for Agency approval two weeks after receipt of this letter. The Agency shall in one week following its receipt of the plans. The plans should be sent to Jim O'Brien with a copy to me. If you have any questions, please do not hesitate to call.

Very truly yours,

James L Morgan

James L. Morgan
Senior Assistant Attorney General
Environmental Bureau, Springfield

enc.

pc: Jim O'Brien

John Waligore

JLM:jm

OFFICE OF THE ATTORNEY GENERAL
STATE OF ILLINOIS

Jim Ryan
ATTORNEY GENERAL

March 4, 1996

Pat Sharkey
Mayer, Brown and Platt
190 South LaSalle Street
Chicago, IL 60603-3441

RE: Clark Hartford / Area L

Dear Pat:

I have reviewed your letter of June 5, 1996 and attached report from Burns & McDonnell. Clark may now proceed with the preparation of the work plan for implementation of the proposed biosparging alternative. As stated in my letter of April 29th, the work plan must address a number of specific questions.

If you have any questions, please call me at 217-524-7506.

Sincerely,

Jim

James L. Morgan
Assistant Attorney General
Environmental Bureau/Springfield

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100 West Randolph Street, Chicago, Illinois 60601 (312) 814-3000 • TTY: (312) 814-3374 • FAX: (312) 814-3806
1001 East Main, Carbondale, Illinois 62901 (618) 457-3505 • TTY: (618) 457-4421 • FAX: (618) 457-5509

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Transmitter: Michelle Evans-Brown (95-20120-8)

REMEDIAL ACTION PLAN
FOR
CLARK REFINING AND MARKETING CO.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

AUGUST 1996

PROJECT NO.
94-155-4-054

Burns & McDonnell Waste Consultants, Inc.
Engineers - Geologists - Scientists
St. Louis, Missouri

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Figure 2	Site Map
Figure 3	Process and Instrumentation Diagram
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EXECUTIVE SUMMARY

A Site Investigation conducted in December 1995 indicates that soil and groundwater impacts in the vicinity of the Clark Refining and Marketing, Inc. (Clark) river dock facility (Site) are in excess of the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Cleanup Objectives (TACO) Table B, Soil Cleanup Objectives for Industrial/Commercial Properties and Table E, Groundwater Cleanup Objectives for Industrial/Commercial Properties. A review of remedial technologies available suggests that biosparging is the most appropriate approach for this Site. In this Remedial Action Plan, the biosparge system proposed is composed of a 10 horsepower, 460 volt, 3 phase (ϕ) air compressor and tank manifolded to four existing deep monitoring wells with individual flow meters and valves. This will permit the controlled injection of air at approximately 40 feet below ground surface. As oxygen is often the limiting factor in the development of hydrocarbon-degrading bacteria, injection of air into the subsurface encourages biodegradation. The effects of the biosparge wells will be monitored in two ways; as reduction of petroleum hydrocarbon impact and as stimulation of biodegradation. Groundwater and soil vapor conditions will be evaluated quarterly and the results will be presented as letter reports to Clark. System operation and function will be evaluated in Site visits every other week. A final evaluation of the project will be submitted to Clark when remediation goals are met.

1.0 INTRODUCTION

1.1 Project Overview and Objectives

The following Remedial Action Plan (RAP) contains information gathered during the drilling and soil sampling activities conducted at the Clark Refining and Marketing Hartford River Terminal (Site) in Hartford, Illinois. The purpose of this RAP is to present the proposed corrective action for remediation of soil and groundwater, which have been impacted by the reported release of petroleum hydrocarbons from the aboveground storage tank (AST) located on Site. This RAP includes a proposed system design, plans for operation and maintenance of the system, monitoring deliverables, and a project schedule. A Site location map of the facility and surrounding area is presented in Figure 1. A more detailed map of the Site itself is presented in Figure 2.

1.2 Site History

Located at Milepost 197.3 on the east bank of the upper Mississippi River in Madison County, Illinois, the facility consists of a floating dock and supporting shore facilities. Figure 1 shows the location of the river dock facility. Wood River Oil Company built and operated the original dock facility in the early 1940s. Subsequent owners and operators of the dock have been Sinclair Oil Company, Apex, Clark Oil Company, and currently Clark Refining & Marketing, Inc. The existing dock structure was constructed in the early 1980s. Clark has operated the dock facility since November 1993. Prior to Clark assuming the operations of the facility, Petroleum Fuel and Terminal Company, a subsidiary of Apex, had been the operator for several years.

On August 1, 1994, an overfill spill of approximately 200 gallons of unleaded gasoline occurred at Tank T-7-2, located on the elevated dock platform. Clark personnel immediately placed absorbent booms in the Mississippi River and notified the appropriate agencies. Clark personnel excavated and properly disposed of 200 cubic yards of impacted soil. A detailed description of the release and confirmation sampling is contained in the Burns & McDonnell Waste Consultants, Inc. (BMWCI) report, Summary of River Dock Sampling, August 1994. On April 11, 1995, a rupture occurred in a 10-inch line, at Tank T-7-2. A total of approximately 84 gallons of diesel fuel was released with 5 to 10 gallons reaching the river. Clark personnel deployed containment and absorbent booms into the river, while using absorbent pads to capture the product on the ground. Ten cubic yards of impacted soil were removed and properly disposed. On May 1, 1995,

Clark personnel observed a sheen on the Mississippi River near the dock facility. Absorbent booms were deployed into the river and appropriate agencies notified.

1.3 Previous Investigations

In October 1995, a subsurface investigation was conducted at the Site to estimate the extent of petroleum hydrocarbon impact (BMWCI, 1995). Sixteen surface soil samples were collected and four soil boring clusters (one shallow boring and one deep boring at each location) were drilled, sampled, and converted to groundwater monitoring wells. One soil sample was collected from each hollow stem auger segment (approximately 5-foot intervals) for the total depth drilled at each boring/monitoring well cluster. One groundwater sample was also collected from each newly installed monitoring well. The locations of the surface samples and monitoring wells are illustrated in Figure 2.

To determine the presence of petroleum hydrocarbons in the vicinity of the river terminal, soil samples were collected and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8020 and Polynuclear Aromatic Hydrocarbons (PNAs) by EPA Method 8310. Analyses of the surface soil samples indicate BTEX concentrations below the detection limits in all samples, but detectable concentrations of PNAs in eleven of sixteen samples. With the exception of sample RD-11, these concentrations do not exceed the Illinois EPA (IEPA) Tiered Approach to Cleanup Objectives (TACO) Table B, Soil Cleanup Objectives for Industrial/Commercial Properties. Subsurface soil samples indicate that benzene concentrations exceed TACO Table B values in all four monitoring wells and PNA concentrations exceed TACO Table B values in all monitoring wells except MW-3.

Groundwater samples were also analyzed for BTEX by EPA Method 8020 and PNAs by EPA Method 8310. Results indicate benzene concentrations equal to or in excess of TACO Table E values for shallow monitoring wells MW-1, MW-3, and MW-4. Shallow monitoring wells MW-1, MW-3, and MW-4 are below TACO Table E values for toluene, ethylbenzene, and total xylenes. Shallow monitoring well MW-2 and the four deep monitoring wells are below TACO values for all BTEX constituents. All monitoring wells are below TACO Table E values for PNAs.

2.0 SITE CHARACTERIZATION

2.1 Contaminant Nature and Extent

The Site Assessment discussed in Section 1.3 evaluated vertical and lateral extent of contamination at the Site. Gasoline constituents are present in the surface and subsurface soil, contained in the upper 14 feet of the profile. No soil samples taken below 14 feet bgs indicate hydrocarbon impact above TACO Table B values. The surface soil samples were collected at a 6 inch depth, and represent a grid covering a 10,000 square foot area including the river dock, which encompasses the southeastern quarter of the grid. The only area that indicates surface contamination above TACO Table B values is near sample RD-11, located under the northwestern corner of the dock.

Subsurface samples indicate the presence of benzene in all four monitoring well locations at depths varying from 0 to 14 feet below ground surface (bgs). Soil samples from monitoring wells MW-1 and MW-2 indicate the highest concentrations of benzene in the interval of 10 to 14 feet bgs. Soil samples from monitoring wells MW-3 and MW-4 indicate the highest concentrations of benzene in the interval of 0 to 5 feet bgs. The highest benzene concentration overall was measured in the upper section of monitoring well MW-3 on the south side of the dock.

Subsurface soil samples indicate limited presence of PNAs. Monitoring well MW-1 indicates PNAs in excess of TACO Table B values from 2 to 14 feet bgs. Monitoring wells MW-2 and MW-4 indicate a single PNA compound in the 10 to 12 foot bgs depth interval. Monitoring well MW-3 indicates no PNAs above TACO Table B values.

Groundwater samples from the Site indicate that petroleum hydrocarbon contamination is contained mainly in the upper portion of the aquifer. No measurable free phase hydrocarbon was present in any of the monitoring wells. Groundwater samples exceed TACO Table E values for benzene (the primary compound detected) by 3.4 parts per billion (ppb) or less, with the exception of MW-1 (200 ppb benzene).

2.2 Geology/Hydrology

Regionally, the Site lies within the Alluvial Valleys Region as defined in United States Geological Survey Water-Supply Paper 2242, 1984. The Alluvial Valleys Region is commonly underlain by sand and gravel as well as silt and clay. The surficial deposit of sand and gravel is commonly underlain by interbedded silt and

clay in turn underlain by a basal layer of sand and gravel. Locally, these units are collectively known as Cahokia Alluvium. The subsurface material in the Site area consists of Quarternary Alluvium, which is made up of modern river floodplain deposits of poorly-sorted sands, silts, and clays with some sandy gravel. The alluvium ranges in thickness from 50 to 200 feet below the ground surface (bgs).

The subsurface materials encountered at the Site during monitoring well installation were predominantly silt and clay from ground surface to approximately 20 feet bgs, and sand from approximately 20 to 45 feet bgs. A gray, moist silt was encountered within the upper 6 feet of each boring. A gray clay was then encountered from depths of 6 to 25 feet bgs. The clay was characterized as being moist to wet, medium to high plasticity, and a soft to medium consistency. Underlying the clay, a gray, medium grained, wet sand was encountered from approximately 20 feet to total depth in each of the deep borings.

Saturated materials were encountered at the top of the lower sand unit in each soil boring, with groundwater rising to approximately 16 to 19 feet bgs in the newly constructed monitoring wells within 24 hours after installation. The shallow horizontal groundwater flow direction is southwest with an average horizontal hydraulic gradient of 0.02 foot/foot. The local shallow groundwater flow direction is influenced by the Mississippi River stage and may differ greatly at different times in the year.

* * * * *

3.0 REMEDIAL SYSTEM

3.1 Biosparge Technology and Process Description

Biosparging is the process of enhancing natural biodegradation through the injection of oxygen into the subsurface. As oxygen is often the primary limiting factor for the bacteria that aerobically degrade petroleum hydrocarbons, augmentation of the natural oxygen supply can greatly increase the intrinsic biodegradation of these contaminants. Studies (e.g., Davis *et al.*, 1994) have shown that, under aerobic conditions, benzene at concentrations of 1 to 10 mg/kg in soil and groundwater can be completely degraded in 35 days or less. In addition, the mostly low to moderate molecular weight compounds that comprise gasoline appear to be the most easily degraded hydrocarbons (Borden *et al.*, 1995). Given the composition of the contamination at the Site and the sandy aquifer at depth, biosparging can be a safe, natural, and highly effective remedial solution.

The system that is proposed for this Site utilizes the existing deep monitoring wells as biosparging wells and the existing shallow monitoring wells as monitoring points for the system. The biosparge wells each have 5 feet of 0.01 inch slotted screen installed, beginning from 37.64 to 39.31 feet bgs. A small equipment box, located on the river dock, will contain an air compressor and flow meters to deliver a controlled supply of air to each of the four biosparge wells. This air will be injected at a rate of approximately 1 to 3 cubic feet per minute (cfm) to enhance biodegradation without encouraging contaminant volatilization. Given the low flow rate and the depth of the injection, it is not anticipated that any hazardous vapors will vent at the surface.

The shallow monitoring wells each have 15 feet of screen installed, beginning from 8.42 to 9.50 feet bgs, that allows access to both the water table and the vadose zone.

3.2 System Design

The proposed system will be comprised of one positive displacement air compressor, electrical controls, a coalescing filter, an activated carbon filter, flow meters, control valves and gauges, the existing four deep monitoring wells (to be used as biosparge wells), and flexible hoses connecting the wells to the compressor manifold piping. A process and instrumentation diagram is included as Figure 3. Subsurface detail is depicted in Figure 4.

The air compressor will be a 10 horsepower, 460 volt, 3 Φ compressor designed to operate at approximately 48 cfm and 125 pounds per square inch (psi). The compressor is oversized for the biosparging system to allow the compressor to simultaneously provide compressed air for other tasks at the facility. Manufacturer's data describing the air compressor, as well as the other equipment, is included in Appendix B. Each well will be metered and valved separately to allow for control and re-distribution of air flow as the remediation progresses. The compressor and all equipment items other than flexible hoses and biosparge wells will be mounted on the elevated river dock at the Site. Since the dock is used for the transport of potentially flammable substances, electrical controls will meet the requirements set for Class I Division II hazardous locations. Electrical controls will include a magnetic motor starter for the compressor, a pressure switch to control compressor operation, overload protection, and a fused disconnect switch.

3.3 Permits

No permits are believed to be required for the proposed system.

4.0 OPERATION AND MAINTENANCE

4.1 Initial Evaluation and System Operation

An initial evaluation of the system will be conducted before full-scale operation begins. This evaluation will consist of observing and recording conditions at four monitoring points while a single biosparge well is operated at several flow rates. The monitoring points will consist of the monitoring well immediately adjacent to the injection point as well as three small monitoring points to be installed prior to start-up. These points will consist of 3/4 inch diameter polyvinyl chloride (PVC) screen and will extend to 10 feet bgs. Monitoring the dissolved oxygen content in the aquifer at the well and the soil vapor pressure at all four monitoring points will allow for an estimation of the radius of influence at each flow rate. The system will then be adjusted as necessary to create the biosparging effect without encouraging volatilization.

The system will be operated at a flow rate, based on results of the initial evaluation, of approximately 4 to 12 cfm, 24 hours per day, 365 days per year. The equipment box will be located on the dock itself, as discussed previously, which minimizes contact with heavy rains and flooding. The Mississippi River is prone to seasonal flooding which would render most remedial systems temporarily incapacitated. Maintaining the electrical equipment above flood stage, however, allows this system to remain functional throughout high water stands.

4.2 Maintenance

The majority of the system maintenance will be conducted by Burns & McDonnell, Waste Consultants Inc. (BMWCI) personnel. Clark personnel will also be trained in basic system operation procedures. Operation and maintenance records will be kept on file at BMWCI, including a log of days in operation, injection flow rates, injection pressures, system upsets, and maintenance activities. Observation of system operation will be performed every other week.

5.0 MONITORING AND REPORTING

5.1 Cleanup Objectives and Monitoring

Soil and groundwater monitoring will be conducted to confirm areas impacted from the two documented releases referenced in Section 1.2 of this report, have been remediated to levels below Illinois EPA Tiered Approach to Cleanup Objectives (TACO) Tier 1 objectives for industrial/commercial property.

Groundwater monitoring will be conducted quarterly for the first year of operation. Monitoring for subsequent years of operation, if required, will be conducted semi-annually. Groundwater samples will be collected from the monitoring wells by BMWCI personnel using standard techniques. Disposable bailers will be used to avoid cross-contamination and samples will be collected in laboratory-cleansed bottles. These samples will be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8020.

Soil sampling will be conducted to confirm compliance with TACO when the groundwater monitoring demonstrates that groundwater remediation is complete,. Two soil borings will be vertically composited per the IEPA TACO Section 742.230. Two discreet samples will also be collected from each soil boring. The composite samples will be analyzed for polynuclear aromatic hydrocarbons (PNAs) by EPA Method 8310 and discreet samples will be analyzed for BTEX by EPA Method 8020.

Results of groundwater sample analysis will be compared with the Illinois EPA TACO Tier 1, Table E, Groundwater Cleanup Objectives for Industrial/Commercial Properties. Results of soil sample analysis will be compared with the Illinois EPA TACO Tier 1, Table B, Soil Cleanup Objectives for Industrial/Commercial Properties. Indicator compounds for soil will be benzene, benzo(a)anthracene, and chrysene (the only compounds detected in samples above TACO limits). Indicator compounds for groundwater will consist exclusively of benzene due to the lack of PNAs detected in groundwater samples. The TACO Tier 1 Cleanup Objectives are listed in Appendix A.

5.2 Groundwater Characterization for Bioremediation

In addition to being analyzed for petroleum hydrocarbons, groundwater samples will also be monitored for conditions that influence biodegradation. Groundwater samples, including initial baseline samples, will be analyzed for Nitrogen, Phosphorus, pH, and microbial biomass. These characteristics will be tracked to

monitor for biolimiting conditions. If trends in laboratory results indicate that the subsurface is depleted in necessary nutrients or biomass, the project will be reevaluated and options for improving the subsurface environment will be implemented as appropriate.

5.3 Measuring Biodegradation-vs-Vaporization

The intent of the biosparge system is to encourage bioremediation without significantly increasing contaminant volatilization. It is therefore important that the relative effects of the two processes are monitored. This will be accomplished through initial and quarterly evaluation of the soil vapor in the four monitoring wells. Each well will be evacuated and then monitored with both a photoionization detector (PID), to evaluate the concentration of volatilized contaminants, and a carbon dioxide meter, to evaluate the biological activity. Oxygen concentrations will also be monitored. Volatilized contaminant concentrations should remain relatively constant or decrease, whereas carbon dioxide conditions should increase initially and then plateau. Trends in oxygen concentrations could indicate the need for system flow rate adjustments. These factors will be monitored more frequently during the initial operation of the system. Flow rate adjustments will be possible throughout system operation.

5.4 Reporting

In addition to quarterly groundwater monitoring of contamination and biodegradation, bi-weekly monitoring of flow rates to biosparge wells will be performed by BMWCI personnel. The groundwater monitoring will be summarized in quarterly reports to Clark generated by BMWCI. The system will be evaluated with respect to the following parameters: groundwater analytical results, soil vapor monitoring results, microbial analystical results, and system operation and maintenance events. The reports will also include conclusions relating to progress toward remediation goals, stability of biodegradation environment, effect of biodegradation relative to contaminant volatilization, system operation, and recommendations for future activities. These reports will be submitted at the end of the first month following the completion of a quarter.

When remediation goals are met and petroleum hydrocarbon concentrations in soil and groundwater are below the TACO Tier 1 values, a Remedial Action Completion Report will be generated by BMWCI detailing the remediation project as a whole.

6.0 SCHEDULE AND SHUTDOWN

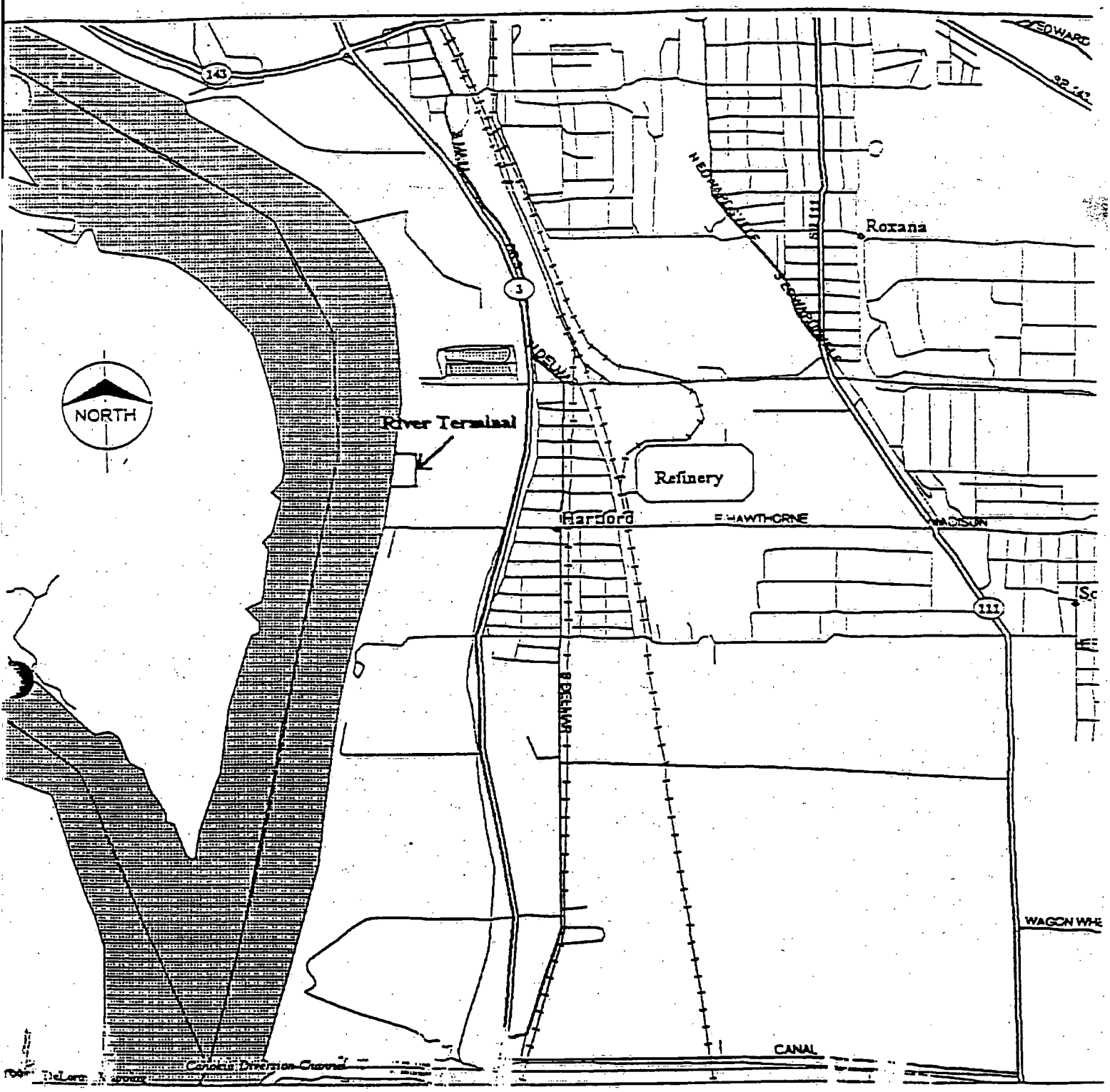
The schedule for implementation of this RAP is included in Appendix C. The system is currently projected to be operational for approximately one year but the final schedule will depend on progress toward remediation goals. When remediation goals have been met, the system will be shutdown and monitoring and remediation wells at the Site will be abandoned per Illinois Department of Health regulations.

REFERENCES

Borden, Robert C., Carlos A. Gomez, and Mark T. Becker, Geochemical Indicators of Intrinsic Bioremediation. Ground Water 33 (1995): 180-189.

Burns & McDonnell Waste Consultants, Inc. (BMWCI), Site Assessment Report, Hartford River Terminal. December 1995.

Davis, John W., Nancy J. Klier, and Constance L. Carpenter, Natural Biological Attenuation of Benzene in Ground Water Beneath a Manufacturing Facility. Ground Water 32 (1994): 215-226.



GEND

- State Route
- Town, Small City
- County Boundary
- Population Center
- Street, Road
- Hwy Ramp
- Major Street/Road
- State Route
- Railroad
- River
- Land Mass
- Open Water

Scale 1:31,250 (at center)

2000 Feet

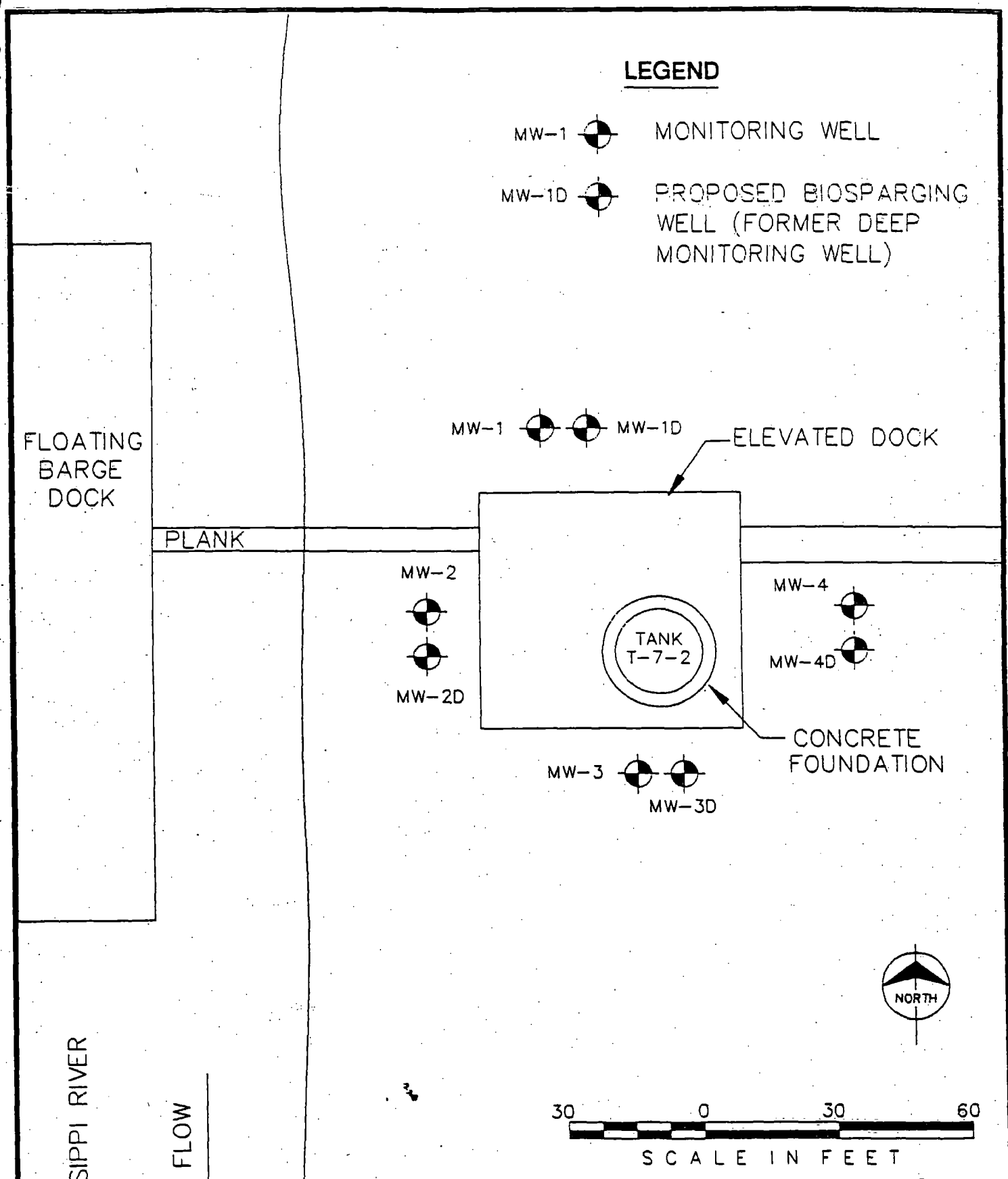
Mag 14.00

Wed Oct 18 09:45:22 1995

Burns & McDonnell Waste Consultants, Inc.

Figure 1

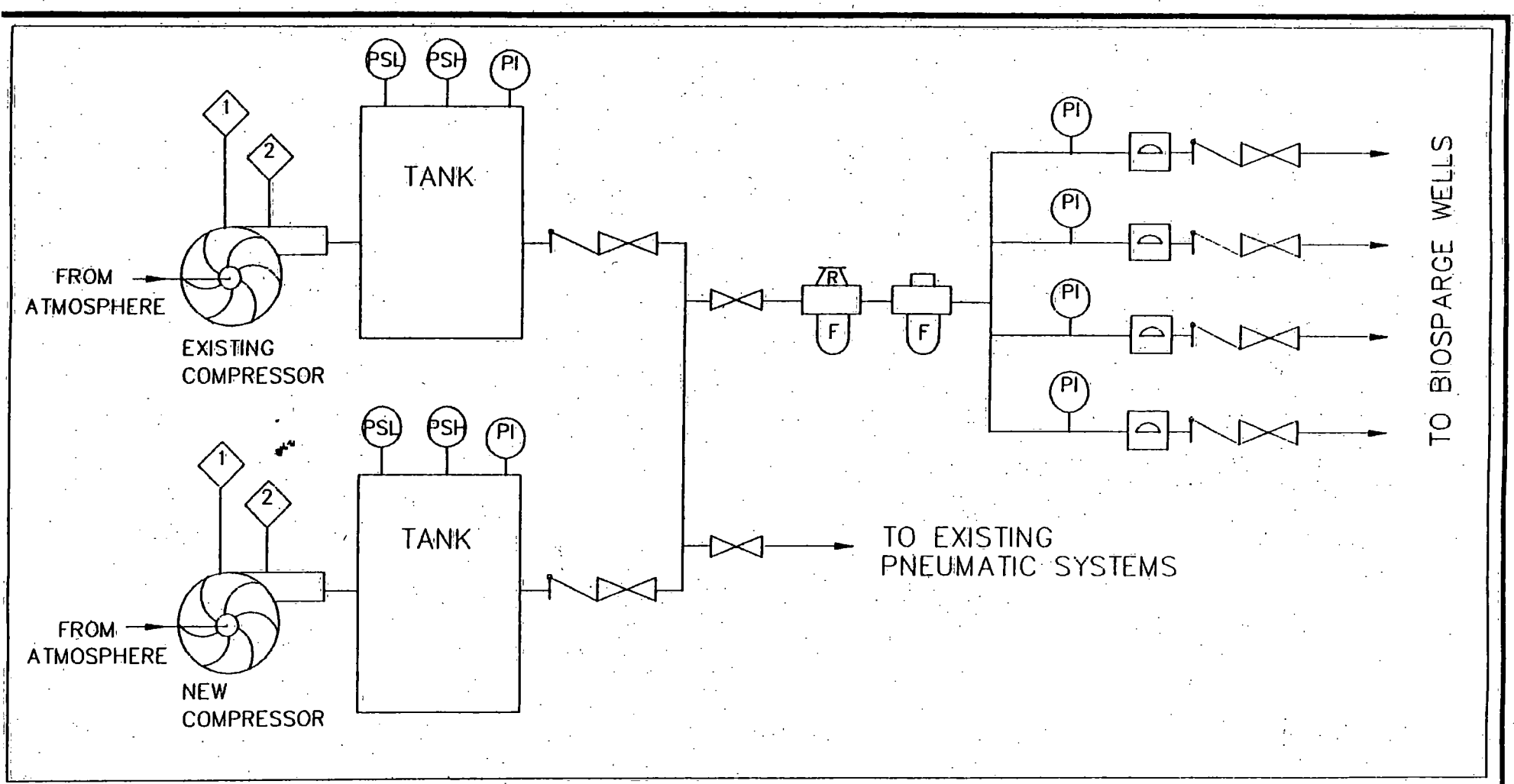
SITE LOCATION MAP
RIVER DOCK SITE
CLARK REFINING & MKTC
HARTFORD, ILLINOIS



Burns & McDonnell Waste Consultants, Inc.

Figure 2

SITE MAP
RIVER DOCK SITE
CLARK REFINING & MKTG.
HARTFORD, ILLINOIS



COMPRESSOR ON AT PSL AND OFF AT PSH

EXISTING COMPRESSOR ON, NEW COMPRESSOR OFF AT MANUAL SWITCH 1

EXISTING COMPRESSOR OFF, NEW COMPRESSOR ON AT MANUAL SWITCH 2

AIR FILTER

AIR COMPRESSOR

COMBINATION AIR FILTER/ REGULATOR WITH GAUGE

PRESSURE INDICATOR

PRESSURE SWITCH LOW/HIGH

CHECK VALVE

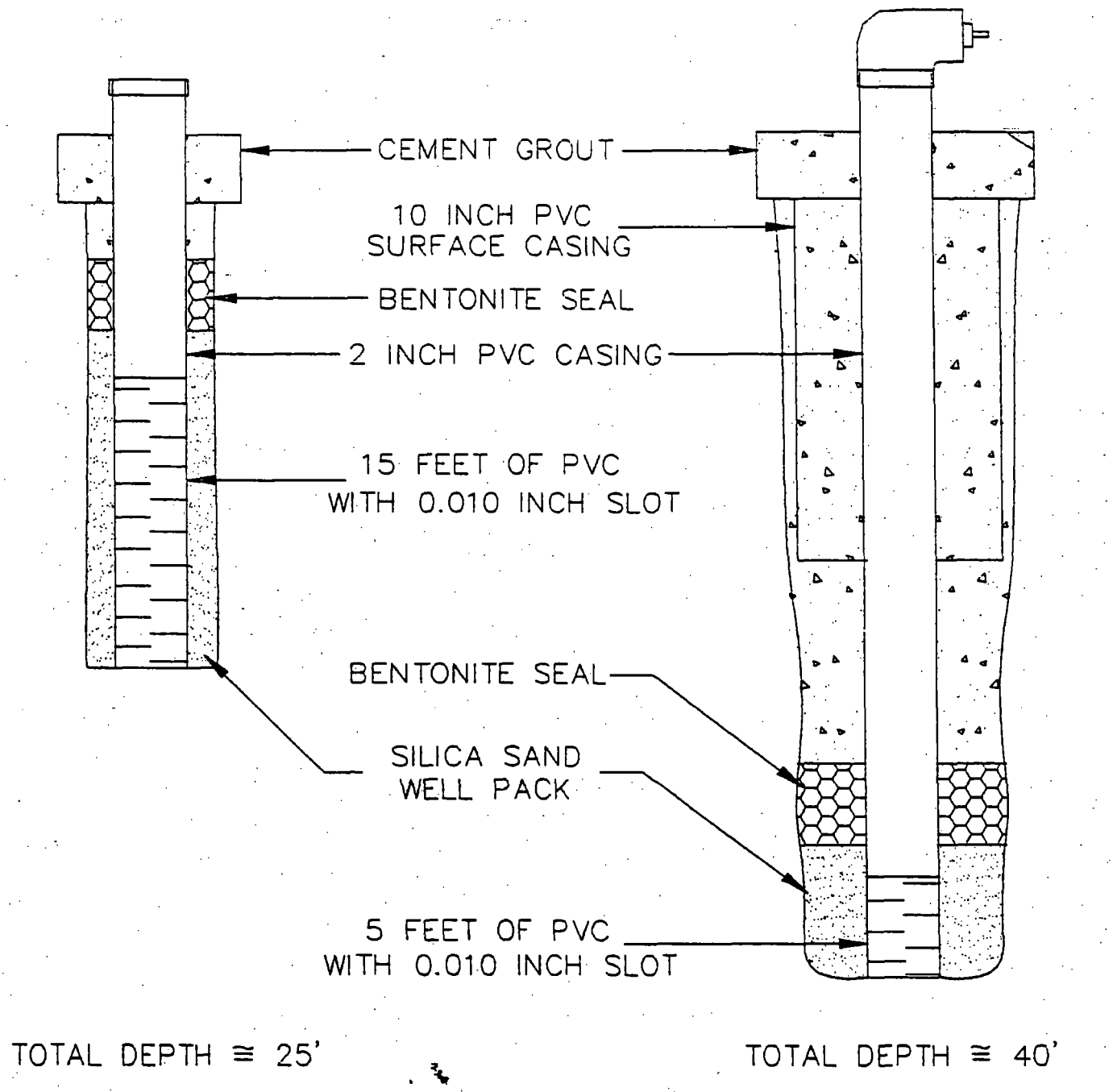
GATE VALVE

FLOW METER

Burns & McDonnell Waste Consultants, Inc.

Figure 3

PROCESS AND INSTRUMENTATION DIAGRAM REMEDIATION SYSTEM CLARK REFINING & MKTG. HARTFORD, ILLINOIS



7.5 0 7.5 15

APPROXIMATE VERTICAL SCALE IN FEET

Burns & McDonnell Waste Consultants, Inc.

Figure 4

SUBSURFACE DETAIL
RIVER DOCK SITE
CLARK REFINING & MKTG.
HARTFORD, ILLINOIS

REFERENCES

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Burns & McDonnell | Waste Consultants, Inc.

October 21, 1996

Ms. Johnna Van Keuren
Clark Refining & Marketing, Inc.
4070 South First Street
St. Louis, Missouri 63118

Proposed Modification of the Clark Refining & Marketing, Inc.
Remedial Action Plan for the Hartford Riverdock Facility - August 1996

Dear Ms. Van Keuren:
In response to discussions with Jim O'Brien, Office of Chemical Safety (OCS), and Jim Morgan, Assistant Attorney General, Burns & McDonnell Waste Consultants, Inc. (BMWCI) has generated proposed modifications to the Remedial Action Plan (RAP) indicated above. Attached are modified RAP sections 5.2 and 5.3 for inclusion in the original document, pending acceptance by the OCS.

Please review these modified sections and contact me at (618) 286-0456 with any questions or comments. Thank You.

Sincerely,

Amy Shanaberook for

Paul Christian
Project Manager

attachment

17 Cassens Court, St. Louis, Missouri 63026
Phone (314) 305-0077 Fax (314) 326-8295

5.2 Groundwater Characterization for Bioremediation

5.2.1 Threshold Values

In addition to being analyzed for petroleum hydrocarbons, groundwater samples will also be monitored for conditions that influence biodegradation. These conditions will be evaluated relative to the threshold values and used to indicate system performance and guide any system modifications. Groundwater samples, including initial baseline samples, will be analyzed for nitrogen (N), phosphorus (P), pH, dissolved oxygen (DO), and microbial biomass. The optimal ratio of hydrocarbons to nutrients reported in the literature ranges from C:N:P ratios of 100:1:0.5 to 30:5:1, with the most commonly reported value being 100:10:1. Using this ratio, biodegradation of the low concentrations of petroleum hydrocarbons present would only require that very low concentrations of N and P be present (e.g., 200 ppb of petroleum hydrocarbons require only 20 ppb of N and 2 ppb of P for optimum biodegradation. These values are below the normal detection limits for N and P). Therefore, detection of N and P in the groundwater would suggest that they are not limiting factors and could be used as thresholds for nutrient addition. The optimal pH range is 6 to 8 so adjustments will not be attempted unless the pH is ≤ 5 or ≥ 9. DO in a normal groundwater system is generally 4 to 6 ppm, but often falls to <1 ppm in an impacted environment. The biosparge flow rate will be adjusted if DO concentrations in the groundwater fall below 2 ppm. Microbial biomass is expected to be >1000 colony forming units per milliliter in the groundwater but these values could also be expected to increase initially and then decrease during system operation as the already small amount of petroleum hydrocarbons present is consumed by bacteria . Microbial biomass will therefore be monitored without specific threshold values.

5.2.2 System Modifications

The three groundwater characteristics that may indicate the need for system modification, as discussed in Section 5.2.1, are nutrients, pH, and DO. Low DO concentrations will be amended by adjusting the flow rate of the biosparge system. Nutrient supplementation and pH adjustment, however, will be accomplished by either the injection of additional gaseous components into the system, or surface application of a liquid phase nutrient mixture. Gaseous nutrient supplementation would consist of injecting nitrous oxide and/or triethyl phosphate at concentrations dictated by the amount of hydrocarbon detected in the wells and the theoretical ratio given above. Liquid nutrient supplementation would consist of spraying the ground surface with a liquid fertilizer mixture that has an N:P ratio of 10:1. Adjustment of pH will rely on carbonate buffering by adding carbon dioxide to the groundwater. Nutrient and pH adjustment, if necessary, will be performed once per week and will be discontinued when quarterly monitoring indicates a return to acceptable conditions.

5.2.3 Monitoring and Modification Schedule

Initial groundwater samples will be collected prior to system start-up and will be analyzed for N, P, pH, DO, and microbial biomass. Sampling will then be conducted quarterly with the exception of the first

quarter, in which samples will be collected monthly. Samples will be analyzed for N, P, pH, DO, microbial biomass, and benzene. Quarterly monitoring will continue as scheduled unless:

- N and P are below detection levels or pH is outside the acceptable range (5 - 9) in at least 2 wells,
- Benzene concentrations in those wells have not decreased by at least 20% from the previous quarter, and
- Benzene concentrations in those wells exceed TACO Tier 1 Cleanup Values.

If these three criteria are met, groundwater will be resampled in one month to confirm results. If results are confirmed, surface application of liquid phase nutrients will be initiated. If subsequent quarterly monitoring indicates that nutrients are not being replenished via surface application, the underground injection control (UIC) permit application process will be initiated immediately and subsurface nutrient supplementation will begin following receipt of an UIC permit. Throughout the application process the biosparge system will remain operational and quarterly monitoring will continue as scheduled.

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Burns & McDonnell Waste Consultants, Inc.

October 21, 1996

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Paul Christian
Project Manager

attachment

17 Cassens Court, St. Louis, Missouri 63026
Phone (314) 305-0077 Fax (314) 326-8295
ESTABLISHED 1898

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MAYER, BROWN & PLATT

190 SOUTH LA SALLE STREET

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PATRICIA F. SHARKEY
DIRECT DIAL (312) 701-7952
DIRECT FAX (312) 706-9113
psharkey@mayerbrown.com

MAIN TELEPHONE
312-782-0600
MAIN FAX
312-701-7711

April 11, 2000

VIA UPS OVERNIGHT DELIVERY
Richard A. Keffer, Senior Attorney
Clark Refining & Marketing, Inc.
8182 Maryland Avenue
St. Louis, MO 63105

APR 17 2000

Re: People v. Clark Refining & Marketing, Inc.; PCB 95-163

Dear Rich:

I enclose the final Opinion and Order of the Illinois Pollution Control Board accepting the Final Stipulation and Settlement in the above referenced matter. You will recall that we also filed a motion to modify the previous Partial Stipulation and Settlement on March 1, 2000. The Board granted that Motion on March 16, 2000. (See enclosed order.) Board action on the Final Stipulation and Settlement was delayed due to the requirement for a 20 day public notice on the waiver of hearing on the settlement.

This is the final Board action in this matter. Please note that the settlement payment of $37,500 is due on May 6, 2000. The instructions for making out the check and mailing in the payment are specified in the Order. Please call me if you would like to discuss these.

Best wishes and congratulations on the completion of this matter.

Sincerely,

Patricia F. Sharkey

FILE NUMBER 070.58.49

RETAIN IN FILE UNTIL _____

PFS/gd
Enclosures

cc: Jeffrey Quinn
Forrest Lauher
Bill Irwin
John Berghoff
Russell Eggert

ILLINOIS POLLUTION CONTROL BOARD
April 6, 2000

PEOPLE OF THE STATE OF ILLINOIS,	)	
	)	
Complainant,	)	
	)	
v.	)	PCB 95-163
	)	(Enforcement - Air, Water, RCRA)
CLARK REFINING AND MARKETING, INC.,	)	
	)	
	)	
Respondent.	)	

OPINION AND ORDER OF THE BOARD (by R.C. Flemal):

On March 1, 2000, the parties filed a final stipulation and proposal for settlement accompanied by a motion requesting relief from the hearing requirement pursuant to Section 31(c)(2) of the Environmental Protection Act (Act) (415 ILCS 5/31(c)(2) (1998)). The Board accepts the final stipulation and proposal for settlement filed by the parties in this matter. The amended complaint alleged that respondent violated Section 9(b) of the Act (415 ILCS 5/9(b) (1998)) and 35 Ill. Adm. Code 201.142 and 201.143 by constructing and operating air pollution control equipment without a permit.[1]

Pursuant to Section 31(c)(2) of the Act (415 ILCS 5/31(c)(2) (1998)), the Board caused publication of the required newspaper notice of the stipulation and proposal for settlement and request for relief from the hearing requirement. The notice appeared in the *The Telegraph* on March 10, 2000. The Board did not receive any requests for hearing. Accordingly, the Board grants a waiver from the hearing requirement.

The stipulation and proposal for settlement sets forth the facts relating to the nature, operations, and circumstances surrounding the allegations in the complaint. Respondent admits the alleged violations and agrees to pay a civil penalty of $37,500. Respondent must continue to comply with any federal, State, or local regulations including, but not limited to, the Act and the Board's regulations.

This opinion constitutes the Board's findings of fact and conclusions of law in this matter.

---

[1] The other allegations in the amended complaint were resolved in orders issued by the Board on January 23, 1997, and September 17, 1998.

ORDER

1. The Board hereby accepts the final stipulation and settlement agreement executed by the People of the State of Illinois and Clark Refining & Marketing, Inc., a Delaware corporation, regarding its facility located in Hartford, Madison County, Illinois. The final stipulation and settlement agreement is incorporated by reference as though fully set forth herein.

2. The respondent shall pay the sum of $37,500 within 30 days of the date of this order. Such payment shall be made by corporate or certified check payable to the Treasurer of the State of Illinois, designated to the Environmental Protection Trust Fund. The case number, case name, and the respondent's federal employer identification number 43-1491230 shall also be included on the check and should clearly indicate that payment is directed to the Environmental Protection Trust Fund.

3. The check shall be sent by first class mail to:

   Illinois Environmental Protection Agency
   Fiscal Services Division
   1021 North Grand Avenue East
   P.O. Box 19276
   Springfield, Illinois 62794-9276

   A copy of the payment transmittal and check shall be simultaneously submitted to:

   Donna Lutes
   Office of the Attorney General
   Environmental Bureau
   500 South Second Street
   Springfield, Illinois 62706

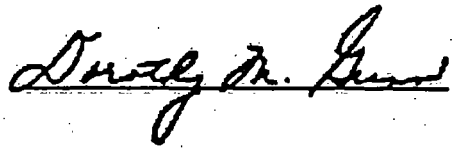
4. Any such penalty not paid within the time prescribed shall incur interest at the rate set forth in subsection (a) of Section 1003 of the Illinois Income Tax Act, (35 ILCS 5/1003 (1998)), as now or hereafter amended, from the date payment is due until the date payment is received. Interest shall not accrue during the pendency of an appeal during which payment of the penalty has been stayed.

5. Respondent shall cease and desist from the alleged violations.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1998)) provides for the appeal of final Board orders to the Illinois Appellate Court within 35 days of the date of service of this order. Illinois Supreme Court Rule 335 establish such filing requirements. See 172 Ill. 2d R. 335; see also Ill. Adm. Code 101.246, Motions for Reconsideration.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 6th day of April 2000 by a vote of 7-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

emcor

Premier People,
Products and Services

The Premcor Refining Group
Hartford Refinery
201 East Hawthorne
Hartford, Illinois 62048-0007
618-254-7301
618-254-6064 fax

November 28, 2001

Mr. James O'Brien
Manager, Office of Chemical Safety
1021 North Grand Avenue East
PO Box 19276
Springfield, IL 62794-9276

CERTIFIED MAIL: 7011 1140 0001 7384 6131

Re: Proposed Remedial Action Plan Modifications
Premcor Refining Group, Inc.
Hartford River Dock at Hartford, Illinois

Dear Mr. O'Brien:

This letter of understanding is in response to telephone conversations between Mr. Yeric Yarrington of the Illinois Office of Chemical Safety (OCS) and myself. On November 13, 2001, Premcor Refining Group, Inc. (Premcor) submitted a letter to the OCS which outlined proposed changes to the Remedial Action Plan (Plan) at the above-referenced Premcor facility.

In response, an agreement of Plan Modifications was reached verbally between Mr. Yarrington and myself. The following are the proposed modifications, as Premcor understands them:

1) The Bio-Sparge system will be shut down immediately;
2) The four ground water monitoring wells will be monitored for two periods on a quarterly basis (the first and second quarter, 2002) and every six months thereafter until the cleanup objectives are met. Benzene has been the only constituent exceeding the cleanup objective since the release, therefore, Premcor proposes to analyze and report for this constituent only. Due to the Bio-Sparge system being shut down, there is no longer a need to monitor dissolved oxygen levels; therefore this will also be discontinued.

If you should have any questions or comments on these proposed changes, please contact either Mr. Bill Irwin or myself at the below listed telephone numbers. Premcor appreciates the quick response OCS has shown in this matter.

Bill Irwin 618-254-7301 x266
Dave Fulbright 618-254-7301 x575

Sincerely,

David L. Fulbright
Environmental Specialist

rvrdckltr.1101

Premcor

Premier People,
Products and Services

The Premcor Refining Group
Hartford Refinery
201 East Hawthorne
Hartford, Illinois 62048-0007
618-254-7301
618-254-6064 fax

November 13, 2001

Mr. James O'Brien
Manager, Office of Chemical Safety
1021 North Grand Avenue East
PO Box 19276
Springfield, IL 62794-9276

CERTIFIED MAIL: 7001 1140 0001 7384 6100

RE: Proposed Remedial Action Plan Modifications
Premcor Refining Group, Inc.
Hartford River Dock at Hartford, Illinois

Dear Mr. O'Brien:

In August, 1996 Premcor Refining Group (formerly Clark Refining and Marketing Co.) submitted a Remedial Action Plan (Plan) to the Office of Chemical Safety (OCS) in response to a release of petroleum hydrocarbons from an aboveground storage tank located at the above-referenced facility. The Plan proposed an air Bio-Sparge system whereby air would be injected into the soil to aid in the remediation of this site. In addition, 4 groundwater wells were installed and quarterly groundwater monitoring and analysis would be conducted for the first year and semi-annually for any subsequent year(s).

Premcor has exceeded the Plan requirements by conducting quarterly ground water monitoring as well as continuously operating the Bio-Sparge system since 1996 with mixed results in achieving the cleanup objectives. Only one constituent of concern, benzene, has shown levels in exceedence of the cleanup guidelines. Monitoring wells MW-2, MW-3 and MW-4 have exhibited benzene levels in exceedence of the 5.0 parts per billion (ppb) cleanup level only 9 times out of 69 sampling events, with the most recent sampling events showing non-detect for benzene at 0.5 ppb for these three wells. MW-2 has never had an exceedence of any cleanup parameter.

FILE NUMBER 255.67

RETAIN IN FILE UNTIL

For these reasons, Premcor is proposing the following changes in the Plan. Premcor believes that the cleanup objectives have been met in monitoring wells MW-2, MW-3 and MW-4 and therefore proposes to stop monitoring and properly seal and abandon these wells entirely.

In addition, Premcor is proposing to temporarily shut down the Bio-Sparge system and cease associated dissolved oxygen and flow rate monitoring to determine if it is aiding in attaining the site remediation cleanup goal. Monitoring well MW-1 will be monitored for benzene only on a semi-annual basis to determine if benzene levels decrease or increase in response to this change. There have been no cleanup level exceedences for any constituent, other than benzene, in any wells since monitoring of this site has commenced.

If benzene levels increase in monitoring well MW-1 after two successive sampling events, the Bio-Sparge system will be restarted and MW-1 monitored on a semi-annual basis to again determine if the benzene levels decrease. If the Bio-Sparge system is found to be beneficial, it will be operated until benzene cleanup levels are achieved in MW-1. If benzene levels stay the same or increase, Premcor will petition the OCS to permanently shut down the Bio-Sparge system and continue to monitor MW-1 for benzene on a semi-annual basis until the cleanup objective has been reached and the entire site can be clean closed.

If Premcor has not received a negative response from the OCS within 90 days of receipt this letter, Premcor will implement these proposed modifications. If you have any questions concerning this matter, please contact either Bill Irwin or Dave Fulbright at the following telephone numbers.

Premcor Refining Group Inc.	(618) 254-7301	
Bill Irwin	Ex. 266	Environmental Manager
Dave Fulbright	Ex. 575	Environmental Specialist

Sincerely,

David L. Fulbright
Environmental Specialist

rvrdckchngreq.let

Premcor

Premier People,
Products and Services

Premcor Alsip Distribution Center
3600 West 131st Street
Alsip, Illinois 60803-1535

January 28, 2003

Mr. James O'Brien
Manager, Office of Chemical Safety
Illinois Environmental Protection Agency
1021 North Grand Avenue East
PO Box 19276
Springfield, IL 62794-9276

CERTIFIED MAIL # 7001 2510 0008 9243 4925

RE: Remedial Action Report
Hartford River Terminal in Hartford, Illinois

Dear Mr. O'Brien

Enclosed you will find three copies of the Remedial Action Report for the Hartford River Terminal in Hartford, Illinois. The report summarizes the results of the semi-annual groundwater monitoring activities conducted during December 2002.

If you have any questions please contact me at (708) 385-5000 ext. 257.

Sincerely

Thomas F. Mroz
Site Manager

Enclosures

CC: File
Becky Malloy (Cover Letter Only)
Steve Haug (Cover Letter Only)

Burns & McDonnell
SINCE 1898

January 17, 2003

Mr. Tom Mroz
Site Manager
The Premcor Refining Group, Inc.
201 E. Hawthorne
Hartford, Illinois 62048

Re: Remedial Action Report (July 1, 2002 through December 31, 2002)
The Premcor Refining Group, Inc.
Hartford River Terminal, in Hartford, Illinois

Dear Mr. Mroz:

Burns & McDonnell Engineering Company, Inc. (BMcD) has prepared this summary of remedial action activities at The Premcor Refining Group, Inc. (Premcor) Hartford River Terminal (Site) for the period from July 1, 2002 through December 31, 2002. This report summarizes the results of the semi-annual groundwater monitoring activities conducted at the Site on December 5 and 6, 2002. A site map is included as Figure 1.

BMcD personnel were on-site on December 5, 2002 to record depth to groundwater and total depth in Monitoring Wells MW-1 through MW-4, and purge each monitoring well for sampling. BMcD personnel returned to the Site on December 6, 2002, to collect groundwater samples from Monitoring Wells MW-1 through MW-4. Due to the tendency of the monitoring wells to become dry during purging, the wells are allowed to recharge overnight prior to sampling.

GROUNDWATER GAUGING

Groundwater levels were measured in Monitoring Wells MW-1 through MW-4 on December 5, 2002. Depth to groundwater in the monitoring wells on December 5, 2002 ranged from 21.55 feet below top of casing in Monitoring Well MW-1 to 23.82 feet below top of casing in Monitoring Well MW-4. Water levels are locally affected by the stage of the Mississippi River and are highly variable. Groundwater level data from December 5, 2002, and historical data, is summarized in Table 1, and the groundwater elevations at the monitoring wells on December 5, 2002 are illustrated on Figure 2.

GROUNDWATER SAMPLE COLLECTION

Monitoring Wells are purged of at least three well volumes, or until dry, prior to sample collection. On December 5, 2002, Monitoring Wells MW-1 through MW-4 all became dry during purging. Groundwater samples were collected from Monitoring Wells MW-1 through MW-4 on December 6, 2002, within 24 hours of purging, and placed in laboratory-cleansed sample containers. Water quality parameters of temperature, pH, and

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www.burnsmcd.com

specific conductivity were measured and recorded in the field logbook during purging and prior to sample collection. A copy of the field notes is included as Attachment 1.

New, disposable, polyethylene bailers and new, polypropylene rope were used at each well during purging and sampling to prevent cross-contamination. After collection, samples were immediately placed in a cooler containing ice and were delivered under proper chain-of-custody procedures to Teklab, Inc. (Teklab) of Collinsville, Illinois, for laboratory analysis.

The groundwater samples were analyzed for benzene using Environmental Protection Agency (EPA) Method 8260.

GROUNDWATER SAMPLE ANALYTICAL RESULTS

Groundwater sample analytical results from the December 2002 semi-annual groundwater sampling event indicated that only one of the four monitoring wells at the Site exceeded the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO) Tier 1 Class I Groundwater Remediation Objective for benzene of 5 micrograms per liter (µg/L). The laboratory analytical results indicated that Monitoring Wells MW-1 and MW-3 contained benzene at concentrations of 168 and 2.4 µg/L, respectively. The laboratory analytical results for Monitoring Wells MW-2 and MW-4 indicated that benzene concentrations were below the laboratory detection limit of 2.0 µg/L. Laboratory analytical results are summarized in Table 2 and are illustrated on Figure 3. A copy of the laboratory analytical report from Teklab is included as Attachment 2.

REMEDIATION SYSTEM PERFORMANCE

As stated in a letter of understanding, dated November 28, 2001, sent to Mr. James O'Brien of the Illinois Office of Chemical Safety (OCS) by Mr. David Fulbright of Premcor, the biosparge system was shut down on November 29, 2001. The biosparge system remained shutdown throughout the July 1, 2002 through December 31, 2002 monitoring period.

FUTURE ACTIVITIES

As agreed to by the Illinois OCS, the biosparge system will remain shut down and the groundwater monitoring activities will be conducted on a semi-annual basis. The next semi-annual groundwater sampling event is scheduled for June 2003.

If you have any questions or comments concerning this report, please contact me at (636) 305-0077, extension 236.

Sincerely,

John Hesemann
Project Manager

Attachments

Tables

Table 1
SUMMARY OF WATER AND HYDROCARBON LEVEL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

WELL	DATE	(A) Casing Rim Elevation (feet)	(B) Depth to Hydrocarbon (feet)	(C) Depth to Water (feet)	(A)-(B) Hydrocarbon Surf. Elevation (feet)	(A)-(C) Water Surface Elevation (feet)	(C)-(B) Hydrocarbon Thickness (feet)	Piezometric Surface Elevation* (feet)
MW-1	05/14/97	422.08	NA	8.16	NA	413.92	NA	413.92
	10/02/97	422.08	NA	18.40	NA	403.68	NA	403.68
	12/11/97	422.08	NA	17.69	NA	404.39	NA	404.39
	06/16/98	422.08	NA	7.92	NA	414.16	NA	414.16
	09/30/98	422.08	NA	17.10	NA	404.98	NA	404.98
	12/31/98	422.08	NA	18.55	NA	403.53	NA	403.53
	02/15/99	422.08	NA	9.73	NA	412.35	NA	412.35
	06/11/99	422.08	NA	7.88	NA	414.20	NA	414.20
	09/29/99	422.08	NA	16.32	NA	405.76	NA	405.76
	12/13/99	422.08	NA	17.65	NA	404.43	NA	404.43
	03/21/00	422.08	NA	14.65	NA	407.43	NA	407.43
	06/20/00	422.08	NA	15.35	NA	406.73	NA	406.73
	09/27/00	422.08	NA	16.41	NA	405.67	NA	405.67
	12/26/00	422.08	NA	20.26	NA	401.82	NA	401.82
	03/28/01	422.08	NA	9.07	NA	413.01	NA	413.01
	06/28/01	422.08	NA	3.98	NA	418.10	NA	418.10
	09/24/01	422.08	NA	16.26	NA	405.82	NA	405.82
	11/27/01	422.08	NA	17.97	NA	404.11	NA	404.11
	03/27/02	422.08	NA	17.57	NA	404.51	NA	404.51
	06/20/02	422.08	NA	8.59	NA	413.49	NA	413.49
	12/05/02	422.08	NA	21.55	NA	400.53	NA	400.53
MW-2	05/14/97	421.41	NA	9.15	NA	412.26	NA	412.26
	10/02/97	421.41	NA	20.00	NA	401.41	NA	401.41
	12/11/97	421.41	NA	18.76	NA	402.65	NA	402.65
	06/16/98	421.41	NA	9.10	NA	412.31	NA	412.31
	09/30/98	421.41	NA	16.72	NA	404.69	NA	404.69
	12/31/98	421.41	NA	16.65	NA	404.76	NA	404.76
	02/15/99	421.41	NA	10.33	NA	411.08	NA	411.08
	06/11/99	421.41	NA	8.38	NA	413.03	NA	413.03
	09/29/99	421.41	NA	15.95	NA	405.46	NA	405.46
	12/13/99	421.41	NA	17.83	NA	403.58	NA	403.58
	03/21/00	421.41	NA	18.50	NA	402.91	NA	402.91
	06/20/00	421.41	NA	12.30	NA	409.11	NA	409.11
	09/27/00	421.41	NA	20.20	NA	401.21	NA	401.21
	12/26/00	421.41	NA	22.71	NA	398.70	NA	398.70
	03/28/01	421.41	NA	10.37	NA	411.04	NA	411.04
	06/28/01	421.41	NA	6.41	NA	415.00	NA	415.00
	09/24/01	421.41	NA	18.39	NA	403.02	NA	403.02
	11/27/01	421.41	NA	18.39	NA	403.02	NA	403.02
	03/27/02	421.41	NA	18.96	NA	402.45	NA	402.45
	06/20/02	421.41	NA	8.41	NA	413.00	NA	413.00
	12/05/02	421.41	NA	21.65	NA	399.76	NA	399.76

Table 1 (continued)
SUMMARY OF WATER AND HYDROCARBON LEVEL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

WELL	DATE	(A) Casing Rim Elevation (feet)	(B) Depth to Hydrocarbon (feet)	(C) Depth to Water (feet)	(A)-(B) Hydrocarbon Surf. Elevation (feet)	(A)-(C) Water Surface Elevation (feet)	(C)-(B) Hydrocarbon Thickness (feet)	Piezometric Surface Elevation* (feet)
MW-3	05/14/97	422.98	NA	10.35	NA	412.63	NA	412.63
	10/02/97	422.98	NA	23.70	NA	399.28	NA	399.28
	12/11/97	422.98	NA	20.52	NA	402.46	NA	402.46
	06/16/98	422.98	NA	17.05	NA	405.93	NA	405.93
	09/30/98	422.98	NA	16.83	NA	406.15	NA	406.15
	12/31/98	422.98	NA	17.90	NA	405.08	NA	405.08
	02/15/99	422.98	NA	16.22	NA	406.76	NA	406.76
	06/11/99	422.98	NA	8.71	NA	414.27	NA	414.27
	09/29/99	422.98	NA	16.02	NA	406.96	NA	406.96
	12/13/99	422.98	NA	16.20	NA	406.78	NA	406.78
	03/21/00	422.98	NA	Silted In	NA	Silted In	NA	Silted In
	06/20/00	422.98	NA	15.59	NA	407.39	NA	407.39
	09/27/00	422.98	NA	15.93	NA	407.05	NA	407.05
	12/26/00	422.98	NA	24.91	NA	398.07	NA	398.07
	03/28/01	422.98	NA	10.01	NA	412.97	NA	412.97
	06/28/01	422.98	NA	8.20	NA	414.78	NA	414.78
	09/24/01	422.98	NA	16.63	NA	406.35	NA	406.35
	11/27/01	422.98	NA	17.97	NA	405.01	NA	405.01
	03/27/02	422.98	NA	17.21	NA	405.77	NA	405.77
	06/20/02	422.98	NA	8.46	NA	414.52	NA	414.52
	12/05/02	422.98	NA	22.65	NA	400.33	NA	400.33
MW-4	05/14/97	423.02	NA	11.17	NA	411.85	NA	411.85
	10/02/97	423.02	NA	21.70	NA	401.32	NA	401.32
	12/11/97	423.02	NA	20.80	NA	402.22	NA	402.22
	06/16/98	423.02	NA	8.81	NA	414.21	NA	414.21
	09/30/98	423.02	NA	17.33	NA	405.69	NA	405.69
	12/31/98	423.02	NA	19.16	NA	403.86	NA	403.86
	02/15/99	423.02	NA	10.52	NA	412.50	NA	412.50
	06/11/99	423.02	NA	8.62	NA	414.40	NA	414.40
	09/29/99	423.02	NA	20.30	NA	402.72	NA	402.72
	12/13/99	423.02	NA	21.48	NA	401.54	NA	401.54
	03/21/00	423.02	NA	18.71	NA	404.31	NA	404.31
	06/20/00	423.02	NA	16.32	NA	406.70	NA	406.70
	09/27/00	423.02	NA	19.16	NA	403.86	NA	403.86
	12/26/00	423.02	NA	22.03	NA	400.99	NA	400.99
	03/28/01	423.02	NA	10.17	NA	412.85	NA	412.85
	06/28/01	423.02	NA	8.41	NA	414.61	NA	414.61
	09/24/01	423.02	NA	16.43	NA	406.59	NA	406.59
	11/27/01	423.02	NA	19.86	NA	403.16	NA	403.16
	03/27/02	423.02	NA	18.99	NA	404.03	NA	404.03
	06/20/02	423.02	NA	9.55	NA	413.47	NA	413.47
	12/05/02	423.02	NA	23.82	NA	399.20	NA	399.20

*Piezometric surface elevation = [(A)-(C)]+S.G.[(C)-(B)]

S.G. = Specific gravity of product

NA = Not Applicable

Table 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

		Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Total Kjeldahl Nitrogen (mg/L)	Phosphorus (mg/L)	pH (SU)	Heterotrophic Plate Count (count/ml)
Remediation Cleanup Objective		5	1,000	700	10,000				
WELL	DATE								
MW-1	10/24/95	200.0	2.5	ND	0.7	NA	NA	NA	NA
	05/14/97	NA	NA	NA	NA	3.60	7.48	7.10	63,000
	10/02/97	506.0	ND (1.0)	42.8	185.0	1.61	1.88	7.15	410
	12/11/97	480.0	ND (20)	ND (20)	30.1	5.40	3.60	7.04	1,400,000
	06/16/98	190.0	ND (2.0)	2.1	3.7	NA	5.98	6.97	320,000
	09/30/98	374.0	27.4	ND(20)	71.2	9.75	14.20	2.61*	245,000
	12/31/98	326.0	ND (4.0)	ND (4.0)	4.5	5.3	14.3	7.04	17,500
	02/15/99	391.0	ND (20.0)	ND (20.0)	ND (20.0)	11.1	179	6.87	220,000
	06/11/99	323.0	ND (20.0)	ND (20.0)	ND (20.0)	2.23	30.0	7.17	240
	09/29/99	234.0	ND (10.0)	ND (10.0)	ND (20.0)	0.85	9.86	7.10	30,000,000
	12/14/99	312.0	56.6	31.1	1460	2.61	1.34	7.09	470,000,000
	12/14/99	NA	NA	NA	NA	NA	NA	NA	384,000
	03/22/00	217.0	ND (10.0)	ND (10.0)	ND (20.0)	1.34	1.64	7.22	9,000
	03/22/00	NA	NA	NA	NA	NA	NA	NA	120,000
	06/20/00	280.0	ND (5)	ND (5)	ND (5)	ND (2.0)	1.2	6.5	NA
	06/20/00	NA	NA	NA	NA	NA	NA	NA	3.0
	09/28/00	400.0	2J	1J	6	ND (2.0)	2.8	6.7	NA
	09/28/00	NA	NA	NA	NA	NA	NA	NA	2,000
	12/27/00	250	2J	ND (5)	3J	ND (2.0)	0.94	7.0	NA
	12/27/00	NA	NA	NA	NA	NA	NA	NA	6,300
	03/29/01	230.0	2.0	1.1	3.7	0.67	1.0	6.9	13.0
	06/29/01	190.0	ND (25.0)	ND (2.5)	ND (7.5)	1.8	0.63	6.8	65.0
	09/25/01	38.0	ND (5.0)	ND (0.5)	2.5	0.75	1.3	6.6	1,800
	03/28/02	271.0	NA	NA	NA	NA	NA	NA	NA
	06/21/02	271.0	NA	NA	NA	NA	NA	NA	NA
	12/06/02	168.0	NA	NA	NA	NA	NA	NA	NA

Table 2 (continued)
SUMMARY OF GROUNDWATER ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

		Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Total Kjeldahl Nitrogen (mg/L)	Phosphorus (mg/L)	pH (SU)	Heterotrophic Plate Count (count/ml)
Remediation Cleanup Objective		5	1,000	700	10,000				
WELL	DATE								
MW-2	10/24/95	2.5	0.6	ND (1.0)	ND (1.0)	NA	NA	NA	NA
	05/14/97	NA	NA	NA	NA	<1.5	0.103	7.70	13,000
	10/02/97	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.47	0.124	7.77	6
	12/11/97	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	5.7	6.3	7.71	455,000
	06/16/98	ND (2.0)	ND (2.0)	ND (2.0)	3.4	5.1	2.32	7.61	83,000
	09/30/98	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	142	92.8	6.74	67,500
	12/31/98	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	70	33.0	8.07	17,600
	02/15/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	61.5	59.0	7.94	50,000
	06/11/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	129	114	7.90	Spreader
	09/30/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	22.9	24.8	7.75	13,000,000
	12/14/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	0.37	2.92	7.58	14
	12/14/99	NA	NA	NA	NA	NA	NA	NA	2,170
	03/22/00	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	12.7	11.7	7.72	>570,000
	03/22/00	NA	NA	NA	NA	NA	NA	NA	7,900
	06/20/00	ND (5)	ND (5)	ND (5)	ND (5)	12.6	6.3	7.6	NA
	06/20/00	NA	NA	NA	NA	NA	NA	NA	3,400
	09/28/00	ND (5)	ND (5)	ND (5)	ND (5)	77.3	22.7	7.3	NA
	09/28/00	NA	NA	NA	NA	NA	NA	NA	16,000
	12/27/00	ND (5)	ND (5)	ND (5)	ND (5)	11.2	7.2	7.1	NA
	12/27/00	NA	NA	NA	NA	NA	NA	NA	130,000
	03/29/01	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	0.56	0.12	7.2	7.0
	06/29/01	1.2	ND (5.0)	ND (0.5)	ND (1.5)	ND (0.5)	0.91	7.1	27.0
	09/25/01	ND (0.5)	ND (5.0)	ND (0.5)	ND (1.5)	ND (0.5)	0.77	7.8	2,600
	03/28/02	ND (2.0)	NA	NA	NA	NA	NA	NA	NA
	06/21/02	2.0 J	NA	NA	NA	NA	NA	NA	NA
	12/06/02	ND (2.0)	NA	NA	NA	NA	NA	NA	NA

Table 2 (continued)
SUMMARY OF GROUNDWATER ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

		Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Total Kjeldahl Nitrogen (mg/L)	Phosphorus (mg/L)	pH (SU)	Heterotrophic Plate Count (count/ml)
Remediation Cleanup Objective		5	1,000	700	10,000				
WELL	DATE								
MW-3	10/24/95	8.4	17.7	4.0	20.2	NA	NA	NA	NA
	05/14/97	NA	NA	NA	NA	1.8	1.11	7.08	57,000
	10/02/97	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	5.35	3.90	7.88	690
	12/11/97	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	5.5	11.4	7.59	63,000
	06/16/98	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	17.6	21.5	7.58	204,500
	09/30/98	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	127	72.5	6.32	16,500
	12/31/98	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	73	42.5	7.73	43,800
	02/15/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	<0.51	32.2	7.69	26,200
	06/11/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	88.3	133	7.47	Spreader
	09/30/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	9.68	32.0	7.95	300
	12/14/99	ND (2.0)	5.5	ND (2.0)	ND (4.0)	24.0	44.4	8.19	8
	12/14/99	NA	NA	NA	NA	NA	NA	NA	22,600
	03/22/00	Silted In	Silted In	Silted In	Silted In	Silted In	Silted In	Silted In	Silted In
	06/20/00	ND (5)	ND (5)	ND (5)	ND (5)	20.7	5.6	7.4	NA
	06/20/00	NA	NA	NA	NA	NA	NA	NA	380,000
	09/28/00	ND (5)	ND (5)	ND (5)	ND (5)	27.6	17.1	7.3	NA
	09/28/00	NA	NA	NA	NA	NA	NA	NA	76,000
	12/27/00	ND (5)	ND (5)	ND (5)	ND (5)	ND (2.0)	0.54	7.3	NA
	12/27/00	NA	NA	NA	NA	NA	NA	NA	280,000
	03/29/01	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND (0.5)	0.22	7.3	40.0
	06/29/01	7.7	ND (5.0)	ND (0.5)	ND (1.5)	ND (0.5)	1.2	7.1	300 EST (TNTC)
	09/25/01	ND (0.5)	ND (5.0)	ND (0.5)	ND (1.5)	1.40	6.7	7.5	1,100
	03/28/02	19.1	NA	NA	NA	NA	NA	NA	NA
	06/21/02	2.7	NA	NA	NA	NA	NA	NA	NA
	12/06/02	2.4	NA	NA	NA	NA	NA	NA	NA

Table 2 (continued)
SUMMARY OF GROUNDWATER ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

		Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Total Kjeldahl Nitrogen (mg/L)	Phosphorus (mg/L)	pH (SU)	Heterotrophic Plate Count (count/ml)
Remediation Cleanup Objective		5	1,000	700	10,000				
WELL	DATE								
MW-4	10/24/95	**5.0**	2.0	ND (1.0)	1.0 J	NA	NA	NA	NA
	05/14/97	NA	NA	NA	NA	5.10	1.41	7.05	4,000
	10/02/97	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	2.37	2.52	7.27	210
	12/11/97	**141.0**	ND (2.0)	ND (2.0)	ND (2.0)	5.7	10.3	7.41	130,000
	06/16/98	**8.8**	ND (2.0)	ND (2.0)	ND (2.0)	7.57	7.6	7.42	120,000
	09/30/98	**15.7**	ND (2.0)	ND (2.0)	ND (2.0)	9.12	27.2	2.67*	175,000
	12/31/98	**22.0**	ND (2.0)	ND (2.0)	ND (2.0)	5.3	5.72	7.63	12,000
	02/15/99	**70.3**	ND (2.0)	ND (2.0)	ND (2.0)	7.94	36.5	7.31	9,100
	06/11/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	0.36	4.02	7.42	170
	09/29/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	0.33	42.6	7.82	950,000,000
	12/14/99	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	1.53	1.20	7.49	14
	12/14/99	NA	NA	NA	NA	NA	NA	NA	606,000
	03/22/00	ND (2.0)	ND (2.0)	ND (2.0)	ND (4.0)	1.01	1.08	8.12	200
	03/22/00	NA	NA	NA	NA	NA	NA	NA	830,000
	06/20/00	ND (5)	ND (5)	ND (5)	ND (5)	2.8	1.2	7.1	NA
	06/20/00	NA	NA	NA	NA	NA	NA	NA	2,000
	09/28/00	ND (5)	ND (5)	ND (5)	ND (5)	ND (2.0)	3.6	7.2	NA
	09/28/00	NA	NA	NA	NA	NA	NA	NA	17,000
	12/27/00	ND (5)	ND (5)	ND (5)	ND (5)	ND (2.0)	4.3	7.4	NA
	12/27/00	NA	NA	NA	NA	NA	NA	NA	260,000

Table 2 (continued)
SUMMARY OF GROUNDWATER ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
HARTFORD RIVER TERMINAL
HARTFORD, ILLINOIS

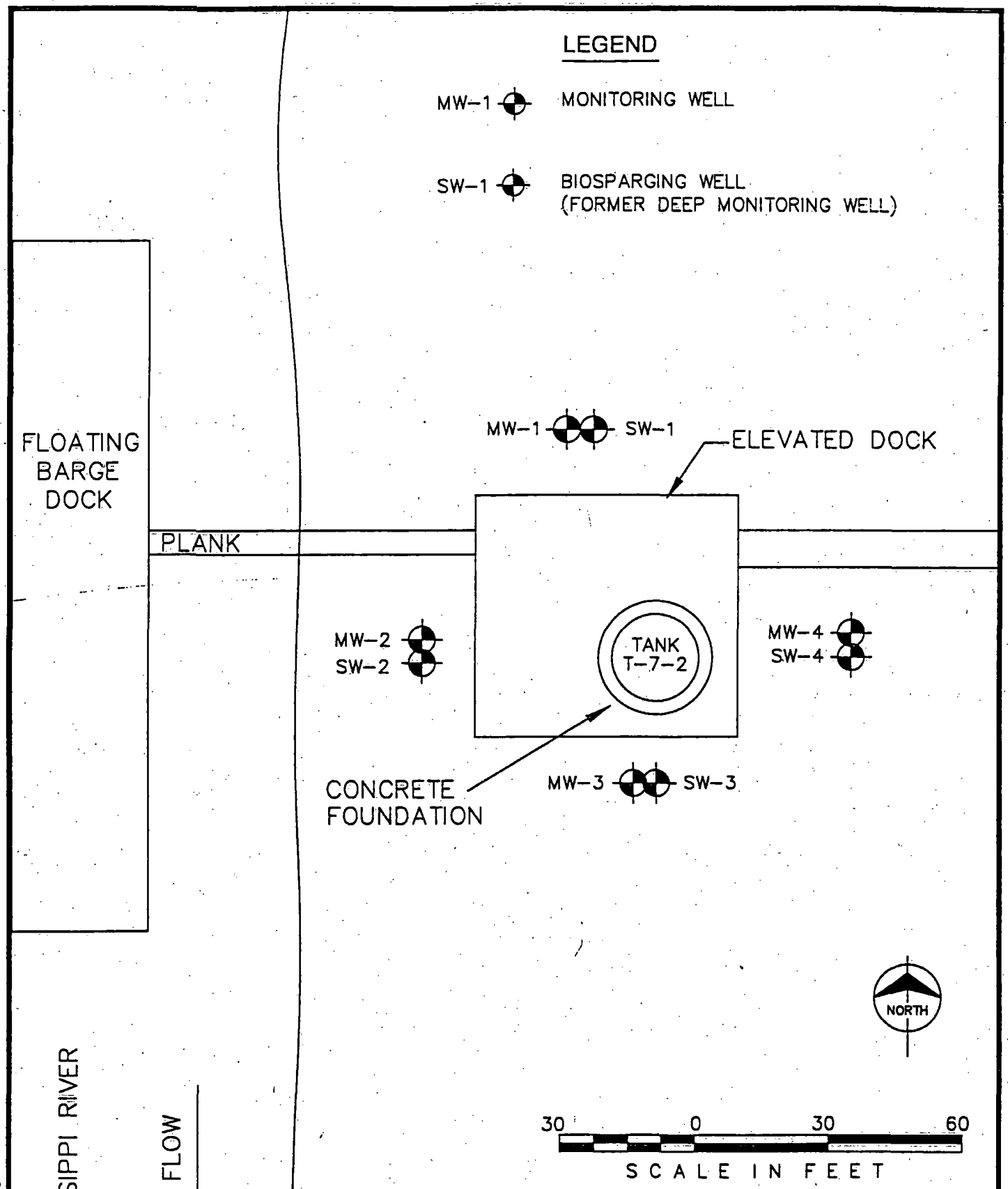
		Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Total Kjeldahl Nitrogen (mg/L)	Phosphorus (mg/L)	pH (SU)	Heterotrophic Plate Count (count/ml)
Remediation Cleanup Objective		5	1,000	700	10,000				
WELL	DATE								
MW-4 (continued)	03/29/01	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND (0.5)	0.26	7.3	56.0
	06/29/01	5.2	ND (5.0)	ND (0.5)	ND (1.5)	0.51	15.0	7.2	300 EST (TNTC)
	09/25/01	ND (0.5)	ND (5.0)	ND (0.5)	ND (1.5)	1.2	4.6	7.2	470
	03/28/02	76.7	NA	NA	NA	NA	NA	NA	NA
	06/21/02	105.0	NA	NA	NA	NA	NA	NA	NA
	12/06/02	ND (2.0)	NA	NA	NA	NA	NA	NA	NA

Indicates concentration above groundwater cleanup objective of 5 µg/L

µg/L = micrograms per liter
mg/L = milligrams per liter
SU = Standard Units
count/ml = Heterotrophic plate count per milliliter groundwater
EST (TNTC) = Estimated count (too numerous to count)
ND (1.0) = Not Detected (detection limit)
NA = Not Analyzed
* = pH analyzed from acid preseved bottle
J = Indicates an estimated value - the compound was detected below the detection limit

Note: BTEX for the Second Quarter 2000 was sampled on July 14, 200

Figures



Burns & McDonnell SINCE 1898

Figure 1
SITE MAP
HARTFORD RIVER TERMINAL
THE PREMCOR REFINING GROUP, INC.

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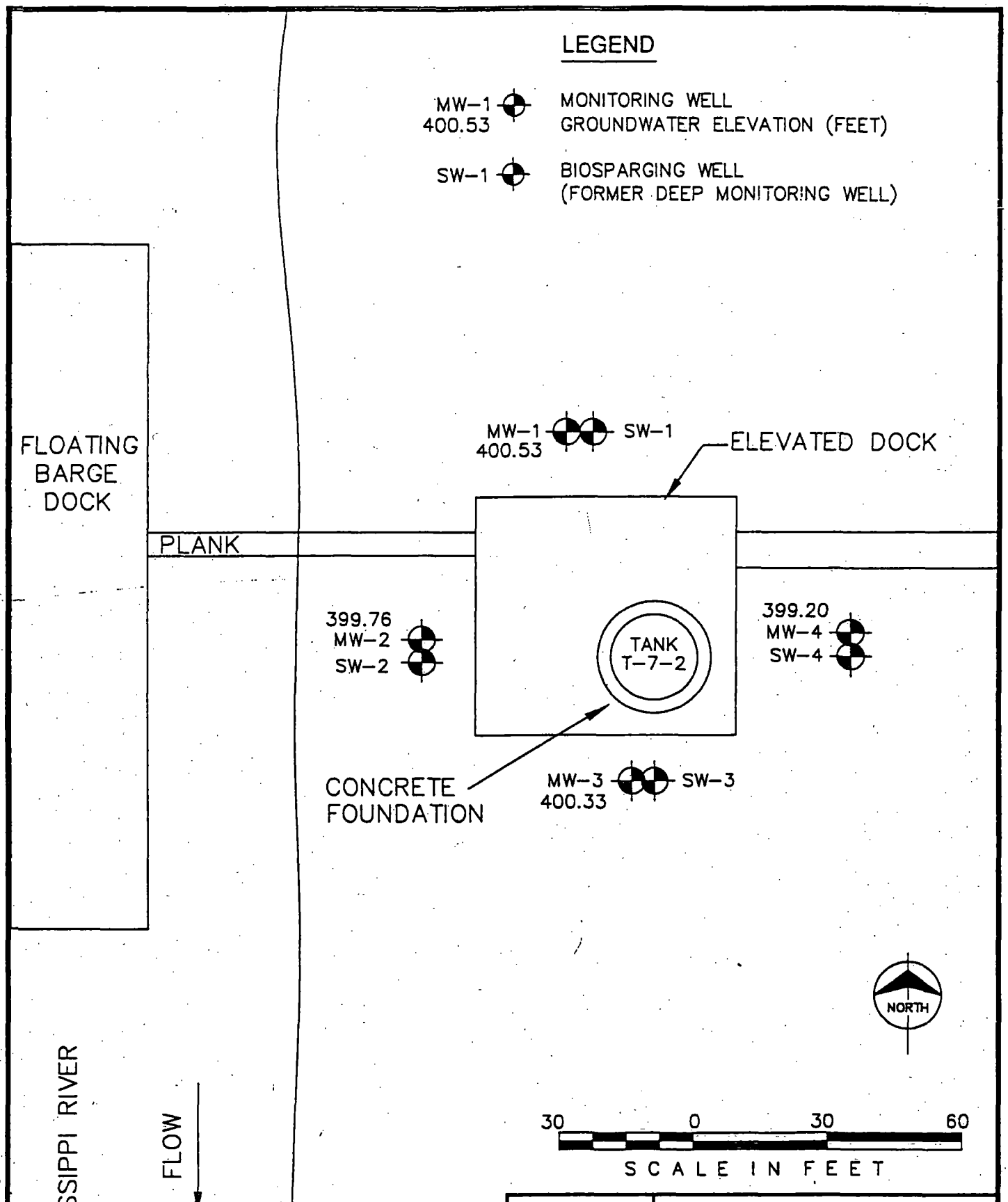

Burns & McDonnell
SINCE 1898

Figure 2
GROUNDWATER ELEVATIONS
DECEMBER 5, 2002
HARTFORD RIVER TERMINAL
THE PREMCOR REFINING GROUP, INC.

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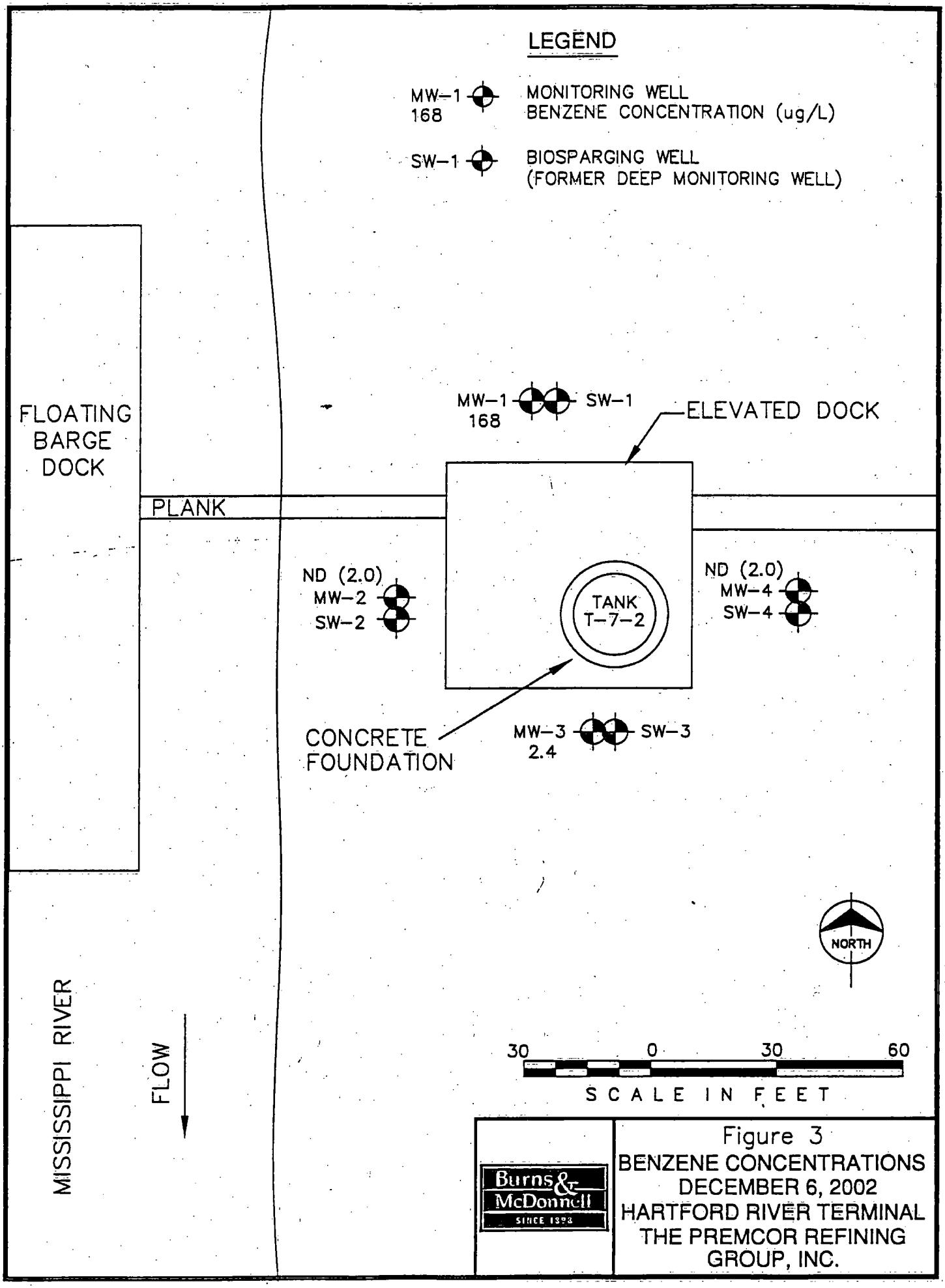

Figure 3
BENZENE CONCENTRATIONS
DECEMBER 6, 2002
HARTFORD RIVER TERMINAL
THE PREMCOR REFINING GROUP, INC.

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Clayton
GROUP SERVICES

APPENDIX J-3

MAJOR DOCUMENTATION RELATED TO LAGOONS AND LANDFILL

CF EPA Permits
Natl Marine CEB
FBE LBE

217-525-6760

April 3, 1974

IN REPLY REFER TO: 11905001
MADISON COUNTY - Land Pollution Control
Hartford/National Marine Service

National Marine Service, Inc.
Post Office Box 38
Hartford, Illinois 62048

and

Clark Oil Company
Hawthorne Street
Hartford, Illinois 62048

Gentlemen:

Your refuse disposal facility located west of Hartford, Illinois, was inspected by P. M. McCarthy on March 19, 1974.

The inspection disclosed that your site is being operated in general compliance with the requirements of this Agency and the Environmental Protection Act.

Your cooperation in this matter is certainly appreciated. If this Agency can be of assistance to you in the future, please feel free to contact us.

Sincerely,

ENVIRONMENTAL PROTECTION AGENCY

C E Clark

C. E. Clark, Manager
Surveillance Section
Division of Land Pollution Control

PMM:me
cc IV

Illinois Environmental Protection Agency
Richard H. Briceland, Director
2200 Churchill Road, Springfield, Illinois 62706

REC'D
1-4-76
SLVP

Telephone:
618/345/0700
115A West Main
Collinsville, Illinois

February 3, 1976

IN REPLY REFER TO: 11905002
MADISON COUNTY - Land Pollution Control
Hartford/Clark Oil

Mr. S. L. Petton
% Clark Oil and Refining Company
P.O. Box 7
Hartford, Illinois 62048

Dear Mr. Van Petton:

An investigation of an alleged violation of the Environmental Protection Act involving your property located west of Hartford, Illinois, south of Hawthorne Avenue was made on January 14, 16, and 23, 1976, by P.M. McCarthy, representing this Agency.

The inspection disclosed the following conditions which may constitute violations of the Illinois Environmental Protection Act and Chapter 7, of the Illinois Pollution Control Board Rules and Regulations on Solid Waste:

A smouldering fire was observed on January 14 and 16, 1976.

Open dumped demolition was observed.

Refuse was not being spread and compacted as received and deposited.

Refuse was not being satisfactorily covered. All refuse should be covered daily with a minimum of six (6) inches of compacted cover material.

The following condition/s are not specific violations of the Act or the Rules and Regulations, but are undesirable operational procedures and may contribute to specific violations:

Refuse was being dumped into standing water. Such areas should be drained prior to filling.

Also, at the time of our meeting and joint inspection on January 16, 1976, we observed an area of yellowish sludge-like material. You indicated that you were unfamiliar with this substance. If you choose to dispose of any hazardous material, you will, according to the revised 21(e) Section of the Rules and Regulations, forfeit your right to the exemption contained in Section 21(e). Also, you should be aware of the fact that by dumping refuse into the body of water on your property, water pollution may result, which is in violation of the Environmental Protection Act.

Sincerely,

ENVIRONMENTAL PROTECTION AGENCY

Dale Montgomery

J. Dale Montgomery
Regional Supervisor
Field Operations Section
Division of Land Pollution Control

PMM:ch
cc Southern Region

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C 0 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. IL9050002
(11) (18)

Madison Co. - L.P.C. Region # 4 (19) Date 011676 (20) (25)

Hartford / Clark Oil
(Location) (Responsible Party)

Letter Sent (Yes or No) N (26)

Samples Taken: Yes (X) No ( ) Time: From 02:00pm To 03:20pm Weather 35°

Ground Water( ) Surface( ) Other( )

Photo. Taken: Yes (X) No ( ) Interviewed Silvan Petten Inspector P M M (27) (29)

Previous Inspection 1/14/76 Previous Correspondence NA Site Open: Yes (X) No ( )

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(X)	Sanitary Landfill	(X)	Storage	( )	E.P.A. Permit	( )
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other _____	( )	A.C.D.	( )	21(e)	(X)
Closed and Covered	( )	Quantity Received Daily(1-6) 1 (30)				Board Order	( )
						Illegal (5)	( ) (31)

SITE EVALUATION

Leachate: Ponded on site (X)	32	
Flowing on site (X)	33	
Seeping (X)	34	
Evidence of past flows (X)	35	
Observed garbage( ) refuse(X) in standing water (X)	36	X
Flow entering surface water (5)	37	
Flow leaving site (1-3)	38	
Open Burning: Observed (5)	39	5
Underground fire (5)	40	
Evidence of recent open burning (5)	41	
Insufficient fire protection equipment provided (2)	42	
Daily Cover: Not provided on previously deposited refuse (5)	43	5
Not provided on previous operating day (4)	44	
Inadequate depth over entire area (3)	45	
Inadequate depth over only a portion of area (1-2)	46	
Intermediate Cover: Inadequate depth in portion(s)( ) or entire( ) required areas(1-3)	47	
Final Cover: Inadequate depth in some areas (1-3)	48	
Inadequate depth over entire area 60 days after area closure (4)	49	
None 60 days after area closure (5)	50	
Unloading not supervised (3)	51	
Refuse not deposited at toe of slope (X) / Inadequate spreading and compacting (X) / Insufficient operable equipment on site as required ( ) / Operational roads unsatisfactory ( ) (2 ea. 2-8)	52	4
Blowing litter( ), dust nuisance observed( ), Odor detected( ) (1 ea. 1-3)	53	
Permit( ) Board Order( ) Violation noted (2 ea. 2-4)	54	
Liquids( ) Solids(X) not permitted (5)	55	5
Inadequate site restriction( ) Site concealment( ) (2 ea. 2-4)	56	
Inadequate: Shelter( ) Sanitary Facilities( ) Emergency Communications( )(1 ea.1-3)	57	
Scavenging by: Operator( ) Others( ) observed (1-3)	58	
Salvaging Observed( ) Improperly conducted in:Location( )Operation( )Storage( )(1-3)	59	
Evidence of vectors observed ( ) (1-3)	60	
Animal feeding observed ( ) (1-3)	61	

RECEIVED
JAN 28 1976
ILL. E.P.A.—D.L.P.C.
STATE OF ILLINOIS

General Compliance ( ) Improvement Needed (X) Improvement Observed ( )

Signature of operator does not necessarily imply agreement with the above noted observations.

Signature _____
Owner/Operator

LPC 5 (Rev. 8-75-500)

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS
INTER-OFFICE CORRESPONDENCE

DATE: 1/16/76

MEMO TO: File

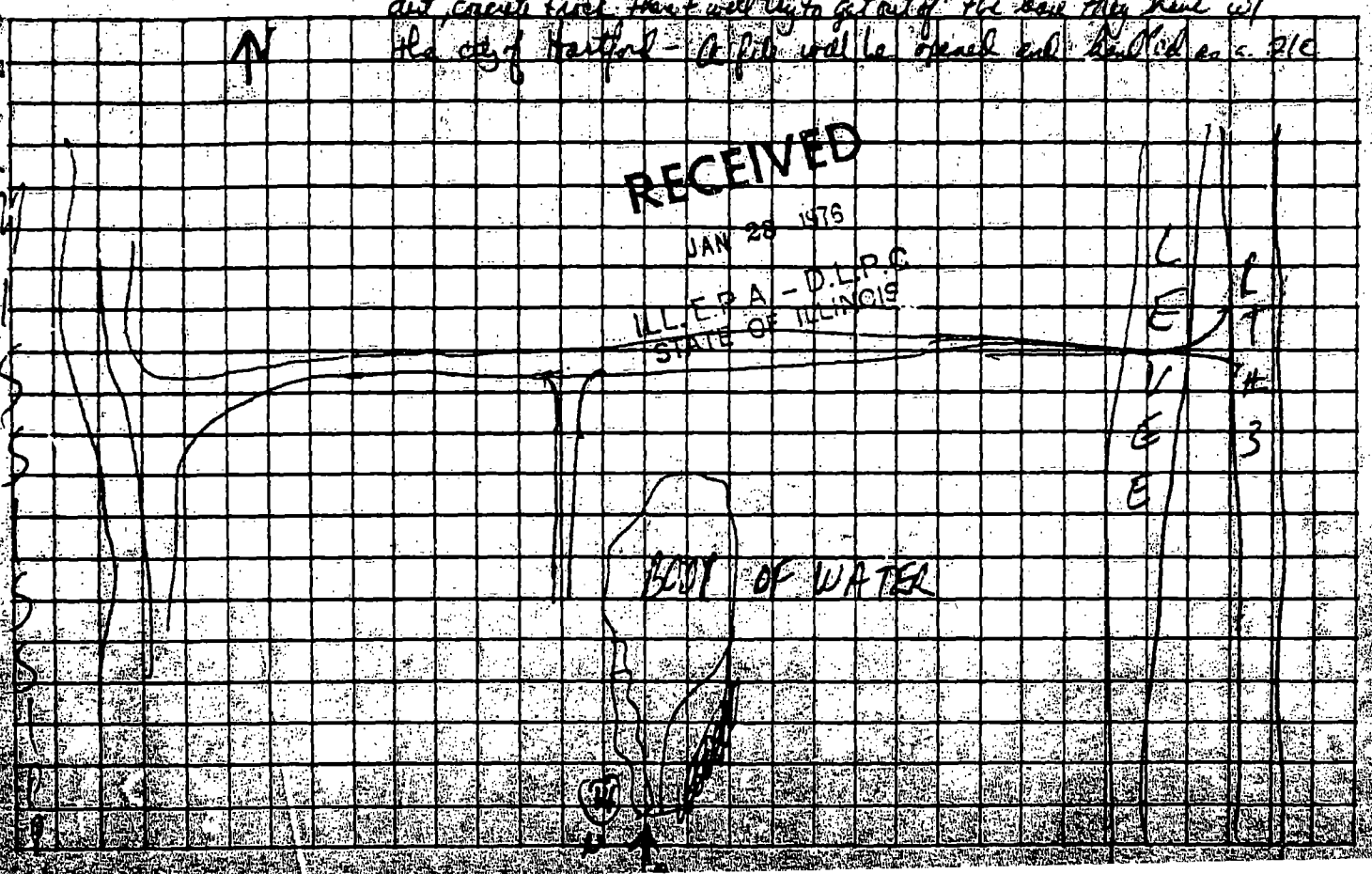
FROM: PMM - Southern

SUBJECT: Madison COUNTY – D.L.P.C. Inspection 11905 002
Hartford / Clark Oil

GENERAL REMARKS: Visit made as joint inspection with Mr. Van Petten a supervisor w/ Clark Oil - I arrived before she, so I made an inspection and found the area still smouldering, however less than on 1/14/76 - the fill fare is ≈ 125 yds long and 1 yd deep. Mr. Van Petten arrived with the Hartford Police + Fire Dept - When I saw the fire department I told Mr. Van Petten that I was doubtful that they could be effective

INTERVIEW: After the firemen surveyed the area they informed us they felt they would be wasting water on the underground fire. I asked Mr. Van Petten about bringing in heavy equipt. and apply dirt. We went to his office and agreed to them starting tomorrow (Sat 17th) They arranged for the contractor who dumped the demolished cooling tower to put out the fire - On 1/19/76 he called Dale Montgomery and said the fire was out - that they will dump dirt, concrete truck, then + well try to "get out of" the base they have w/ the city of Hartford - A file will be opened and handled as a PIC

DIAGRAM:



RECEIVED
JAN 28 1976
ILL. E.P.A. - D.L.P.C.
STATE OF ILLINOIS

7923500 1245

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C 0 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. 1 1 9 0 5 0 0 2
(11) (18)

MADISON Co. - L.P.C. Region # 4 (19) Date 0 1 2 3 7 6 (20) (25)

HARTFORD / CLARK OIL Letter Sent (Yes or No) Y (26)
(Location) (Responsible Party)

Samples Taken: Yes ( ) No (X) Time: From 02 : 35 p m Weather 63° Sunny
Ground Water( ) Surface( ) Other( ) To 03 : 00 p m
Photos Taken: Yes (X) No ( ) Interviewed No One Inspector P M M (27) (29)

Previous Inspection 1/16/76 Previous Correspondence Na Site Open: Yes( ) No(X)

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(X)	Sanitary Landfill	(X)	Storage	( )	E.P.A. Permit	( )
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other _____	( )	A.C.D.	( )	21(e)	(X)
Closed and Covered	( )	Quantity Received Daily(1-6)	1 (30)			Board Order	( )
						Illegal (5)	( ) (31)

SITE EVALUATION

Leachate:	Ponded on site (X)	32	
	Flowing on site (X)	33	
	Seeping (X)	34	
	Evidence of past flows (X)	35	
	Observed garbage( ) refuse(X) in standing water (X)	36	X
	Flow entering surface water (5)	37	
	Flow leaving site (1-3)	38	
Open Burning:	Observed (5)	39	
	Underground fire (5)	40	
	Evidence of recent open burning (5)	41	
	Insufficient fire protection equipment provided (2)	42	
Daily Cover:	Not provided on previously deposited refuse (5)	43	
	Not provided on previous operating day (4)	44	
	Inadequate depth over entire area (3)	45	
	Inadequate depth over only a portion of area (1-2)	46	1
Intermediate Cover:	Inadequate depth in portion(s)( ) or entire( ) required areas(1-3)	47	
Final Cover:	Inadequate depth in some areas (1-3)	48	
	Inadequate depth over entire area 60 days after area closure (4)	49	
	None 60 days after area closure (5)	50	
Unloading not supervised (3)		51	
Refuse not deposited at toe of slope (X); Inadequate spreading and compacting ( ); Insufficient operable equipment on site as required ( ); Operational roads unsatisfactory ( )	(2 ea. 2-8)	52	2
Blowing litter( ), dust nuisance observed( ), Odor detected( )	(1 ea. 1-3)	53	
Permit( ) Board Order( ) Violation noted	(2 ea. 2-4)	54	
Liquids( ) Solids( ) not permitted (5)		55	
Inadequate site restriction( ) Site concealment( )	(2 ea. 2-4)	56	
Inadequate: Shelter( ) Sanitary Facilities( ) Emergency Communications( )	(1 ea.1-3)	57	
Scavenging by: Operator( ) Others( ) observed (1-3)		58	
Salvaging Observed( ):Improperly conducted in:Location( )Operation( )Storage( )	(1-3)	59	
Evidence of vectors observed ( )	(1-3)	60	
Animal feeding observed ( )	(1-3)	61	

RECEIVED
JAN 28 1976
ILL. E.P.A. - D.L.P.C.
STATE OF ILLINOIS

General Compliance ( ) Improvement Needed (X) Improvement Observed ( )

Signature of operator does not necessarily imply agreement with the above noted observations.

Signature _____
Owner/Operator

LPC-6 (Rev. 9-75-500)

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS
INTER-OFFICE CORRESPONDENCE

DATE: 1/23/76

MEMO TO: File

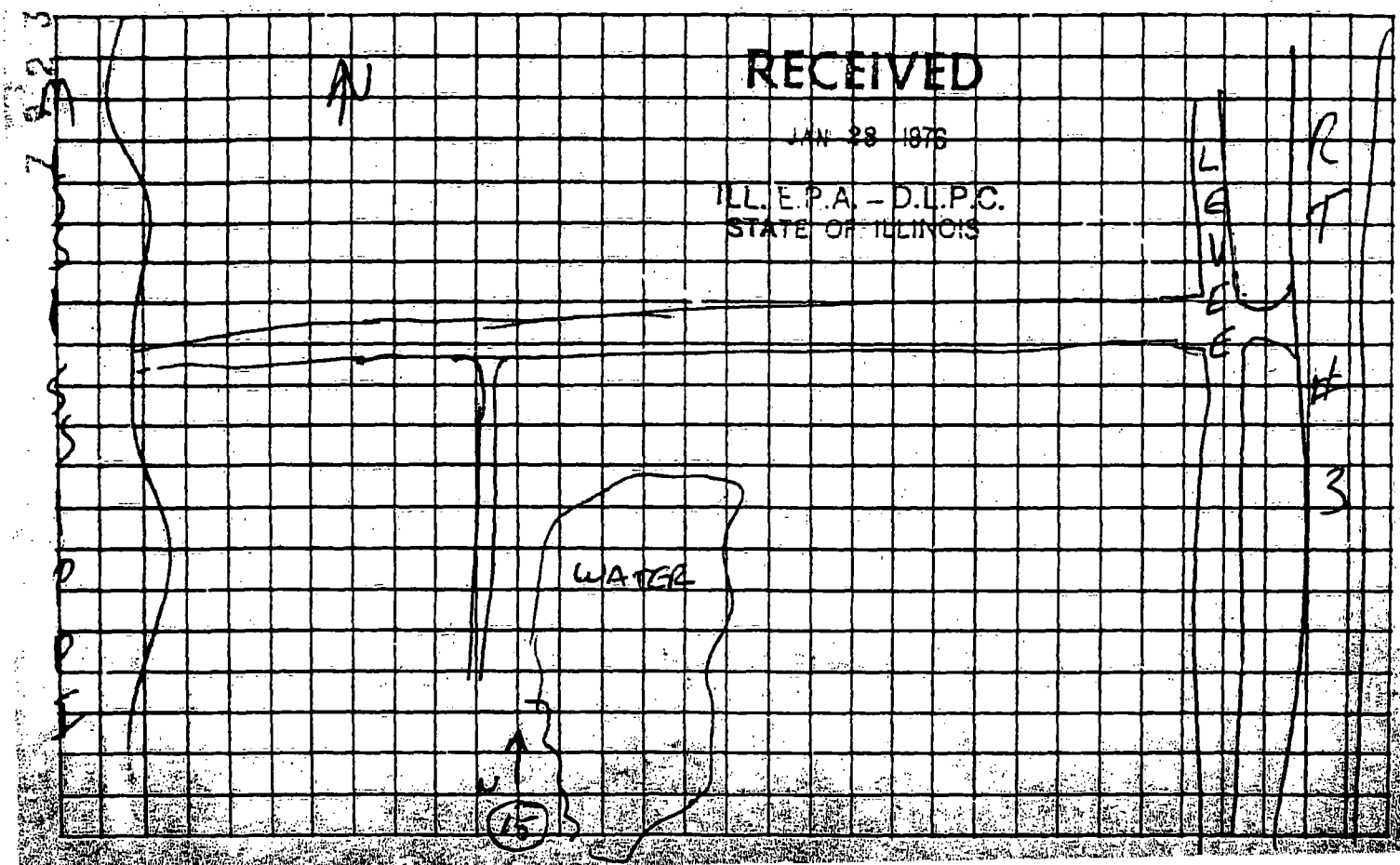
FROM: PMM - South

SUBJECT: S Madison COUNTY - D.L.P.C. Inspection 11905002
Hartford / Clark Oil

GENERAL REMARKS: Inspection to confirm Mr. VanBetten's call of 1-19-76 stating that the fire was out - Was joined by L Easter of DWPC as Clark Oil has several lagoons and Hartford City STP is near [illegible] - Also on my first two visits I observed a few small areas of a yellowish like sludge and was concerned as to its effect on the body of water - Today as

INTERVIEW: the area has been worked there was a only a few very small spots of this substance - The fire is out - no smouldering at all - The job of covering the wood refuse is not satisfactory - A letter is being prepared covering all aspects of this operation

DIAGRAM:



RECEIVED
JAN 28 1976
ILL. E.P.A. - D.L.P.C.
STATE OF ILLINOIS

ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF LAND POLLUTION CONTROL

REC'D
1-28-76
SLVP

Dear Owner/Operator:

Enclosed is the report on our inspection of your facility on January 14, 16 & 23, 1976. You will find items numbered 31 - 61. Items 31 and 37 - 61 represent the standard operating requirements established by the Illinois Solid Waste Rules and Regulations. Any of these items marked with a number indicate specific violations of the Rules and Regulations. Items 32 - ~~36 represent non-violations~~ but when marked with an "X" may represent present or future operational problems at your facility.

If your facility was found to be operating in general compliance at the time of our representative's investigation, you are to be commended. Also, the item designated "General Compliance" will be appropriately marked to indicate this status.

If some operational deficiencies were marked, these items should be corrected at your earliest opportunity in order to place your facility in general compliance.

Should you have any questions regarding this report, please feel free to contact me at: (618) 345-0700

Very truly yours,

Dale Montgomery
Regional Supervisor

DIVISION OF LAND POLLUTION CONTROL
ENVIRONMENTAL PROTECTION AGENCY
115A WEST MAIN
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C 0 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. 1L9050002
(11) (18)

Madison Co. - L.P.C. Region # 4 (19) Date 01 14 76 (20) (25)

Hartford (Location), Clark Oil (Responsible Party) Letter Sent (Yes or No) N (26)

Samples Taken: Yes ( ) No (X) Time: From 11:45 am Weather 33° Sunny
Ground Water( ) Surface( ) Other( ) To 12:15 pm
Photos Taken: Yes (X) No ( ) Interviewed Mr. Van Petten on 1/14/76 by phone Inspector P. M. M (27) (29)

Previous Inspection SNA Previous Correspondence SNA Site Open: Yes( ) No(X)

OPERATIONAL STATUS:		TYPE OF OPERATION:			AUTHORIZATION:	
Operating	X	Sanitary Landfill	X	Storage ( )	E.P.A. Permit	( )
Temporarily Closed	( )	Random Dump	( )	Salvage ( )	Variance	( )
Closed Not Covered	( )	Other _____	( )	A.C.D. ( )	21(e)	X
Closed and Covered	( )	Quantity Received Daily(1-6) 1 (30)			Board Order	( )
					Illegal (5)	( ) (31)

SITE EVALUATION

Leachate: Ponded on site (X)	32	
Flowing on site (X)	33	
Seeping (X)	34	
Evidence of past flows (X)	35	
Observed garbage( ) refuse(X) in standing water (X)	36	X
Flow entering surface water (5)	37	
Flow leaving site (1-3)	38	
Open Burning: Observed (5)	39	5
Underground fire (5)	40	
Evidence of recent open burning (5)	41	
Insufficient fire protection equipment provided (2)	42	
Daily Cover: Not provided on previously deposited refuse (5)	43	5
Not provided on previous operating day (4)	44	
Inadequate depth over entire area (3)	45	
Inadequate depth over only a portion of area (1-2)	46	
Intermediate Cover: Inadequate depth in portion(s)( ) or entire( ) required areas(1-3)	47	
Final Cover: Inadequate depth in some areas (1-3)	48	
Inadequate depth over entire area 60 days after area closure (4)	49	
None 60 days after area closure (5)	50	
Unloading not supervised (3)	51	
- Refuse not deposited at toe of slope (X) / - Inadequate spreading and compacting (X) / Insufficient operable equipment on site as required ( ) / Operational roads unsatisfactory ( ) (2 ea. 2-8)	52	4
Blowing litter( ), dust nuisance observed( ), Odor detected( ) (1 ea. 1-3)	53	
Permit( ) Board Order( ) Violation noted (2 ea. 2-4)	54	
Liquids( ) Solids(X) not permitted (5)	55	5
Inadequate site restriction( ) Site concealment( ) (2 ea. 2-4)	56	
Inadequate: Shelter( ) Sanitary Facilities( ) Emergency Communications( )(1 ea.1-3)	57	
Scavenging by: Operator( ) Others( ) observed (1-3)	58	
Salvaging Observed( ):Improperly conducted in:Location( )Operation( )Storage( )(1-3)	59	
Evidence of vectors observed ( ) (1-3)	60	
Animal feeding observed ( ) (1-3)	61	

RECEIVED JAN 28 1976 I.L.E.P.A. - D.L.P.C. STATE OF ILLINOIS

General Compliance ( ) Improvement Needed (X) Improvement Observed ( )

Signature of operator does not necessarily imply agreement with the above noted observations.

Signature _____ Owner/Operator

LPC-5 (Rev. 6-75-500)

ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL

RECEIVED
JAN 28 1976
ILL. E.P.A. - D.L.P.C.
STATE OF ILLINOIS

TELEPHONE CONVERSATION RECORD

Madison COUNTY - LPC

Hartford, Clark Oil SITE INVENTORY NO. 1190500 2

Re: Burning Dump

Conversation With: S.L. Van Patten - 254-7301

(X) I Called Party ( ) Party Called Me DATE: 1/16/76 TIME: 11:00 am

What I Said:

(1) Informed him that on 11/14/76 I discovered a "burning dump" west of RT #3 near "National Marine Service" which had signs posted as being property of Clark Oil Co - Asked him if he was familiar with the property.

(3) I questioned him about the lease -

(5) I told him that by knowingly letting Hartford dump there, they are "causing or allowing a refuse disposal operation" - I then asked what action they are planning to take concerning the fire -

(7) I then called back 15 min. later and requested a meeting for today

What Other Party Said:

(2) Said yes, they own it, but lease it to the City of Hartford & they use it for a dump - but also said that they (Clark) dump non-combustibles there also -

(4) He said he didn't know if it was a written lease, he thought it was a "gentlemen's lease"

(6) He said someone from his company had notified the Hartford Fire Dept. and thought the fire was out, but he would recheck it

(8) He agreed to meet me at 2:30 at the site today -

P.M. McCarty

Title: EPS II

VILLAGE OF HARTFORD

HARTFORD, ILLINOIS

February 10, 1976

Mr. Berdell McCann
Clark Oil Company
P. O. Box
Hartford, Il. 62048

Dear Sir:

Confirming our recent telephone conversation, this is to advise you of the decision by the village board members to terminate the lease between Clark Oil Company and the Village of Hartford on a tract of land on the west side of Hartford and south of Hawthorne Street, commonly known as the "dump".

Through a poll of the Hartford council members, this lease is being terminated informally as of this date. The Council will take official action to terminate the lease at the Board meeting to be held the 17th day of February 1976.

I want to take this opportunity at this time to thank you and the other officials of the Clark Oil Company for the splendid cooperation you have given the village during the tenure of this lease.

Sincerely,

VILLAGE OF HARTFORD

William H. Maupin

William H. Maupin
Mayor

WHM:i

VILLAGE OF HARTFORD

HARTFORD, ILLINOIS

Feb. 17, 1976

Clark Oil & Refining Corp.
Hartford
Illinois 62048

Dear Mr. McCann:

It was voted at our February 17th board meeting to terminate our lease with Clark Oil Company in response to oral communication received from you.

Yours very truly,

Evelyn Lewis

Evelyn Lewis
Village Clerk

ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF LAND POLLUTION CONTROL

Dear Owner/Operator:

Enclosed is the report on our inspection of your facility on NOV. 5, 1976. You will find items numbered 31 - 61. Items 31 and 37 - 61 represent the standard operating requirements established by the Illinois Solid Waste Rules and Regulations. Any of these items marked with a number indicate specific violations of the Rules and Regulations. Items 32 - 36 represent non-violations but when marked with an "X" may represent present or future operational problems at your facility.

If your facility was found to be operating in general compliance at the time of our representative's investigation, you are to be commended. Also, the item designated "General Compliance" will be appropriately marked to indicate this status.

If some operational deficiencies were marked, these items should be corrected at your earliest opportunity in order to place your facility in general compliance.

Should you have any questions regarding this report, please feel free to contact me at:

618 345-0700

Very truly yours,

Kenneth G. Menzing

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C O 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. 11905002
(11) (18)

Madison Co. - L.P.C. Region # 4 (19) Date 110576 (20) (25)

Hartford / Clark Oil Letter Sent (Yes or No) N (26)
(Location) (Responsible Party)

Samples Taken: Yes ( ) No (X) Time: From 10 : 25 a m Weather 40° Sunny
Ground Water( ) Surface( ) Other( ) To 10 : 45 a m
Photos Taken: Yes (X) No ( ) Interviewed Mr. Van Petten Inspector P m m (27) (29)
by phone on 11/8/76

Previous Inspection 1/23/76 Previous Correspondence 2/3/76 Site Open: Yes (X) No ( )

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(X)	Sanitary Landfill	(X)	Storage	( )	E.P.A. Permit	( )
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other _____	( )	A.C.D.	( )	21(e)	(X)
Closed and Covered	( )	Quantity Received Daily(1-6) 1 (30)				Board Order	( )
						Illegal (5)	( )

SITE EVALUATION (31)

RECEIVED
NOV 18 1976
E.P.A. - D.I.P.C.
STATE OF ILLINOIS

Leachate: Ponded on site (X)	32	
Flowing on site (X)	33	
Seeping (X)	34	
Evidence of past flows (X)	35	
Observed garbage( ) refuse( ) in standing water (X)	36	
Flow entering surface water (5)	37	
Flow leaving site (1-3)	38	
Open Burning: Observed (5)	39	
Underground fire (5)	40	
Evidence of recent open burning (5)	41	
Insufficient fire protection equipment provided (2)	42	
Daily Cover: Not provided on previously deposited refuse (5)	43	5
Not provided on previous operating day (4)	44	
Inadequate depth over entire area (3)	45	
Inadequate depth over only a portion of area (1-2)	46	
Intermediate Cover: Inadequate depth in portion(s)( ) or entire( ) required areas(1-3)	47	
Final Cover: Inadequate depth in some areas (1-3)	48	1
Inadequate depth over entire area 60 days after area closure (4)	49	
None 60 days after area closure (5)	50	
Unloading not supervised (3)	51	
Refuse not deposited at toe of slope (X)		
Inadequate spreading and compacting (X)		
Insufficient operable equipment on site as required ( ) (2 ea. 2-8)	52	4
Operational roads unsatisfactory ( )		
Blowing litter( ), dust nuisance observed( ), Odor detected( ) (1 ea. 1-3)	53	
Permit( ) Board Order( ) Violation noted (2 ea. 2-4)	54	
Liquids( ) Solids( ) not permitted (5)	55	
Inadequate site restriction( ) Site concealment( ) (2 ea. 2-4)	56	
Inadequate: Shelter( ) Sanitary Facilities( ) Emergency Communications( )(1 ea.1-3)	57	
Scavenging by: Operator( ) Others( ) observed (1-3)	58	
Salvaging Observed( ):Improperly conducted in:Location( )Operation( )Storage( )(1-3)	59	
Evidence of vectors observed ( ) (1-3)	60	
Animal feeding observed ( ) (1-3)	61	

General Compliance ( ) Improvement Needed (X) Improvement Observed ( )

Signature of operator does not necessarily imply agreement with the above noted observations.

Signature _____
Owner/Operator

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS
INTER-OFFICE CORRESPONDENCE

RECE[illegible]
NOV 16
E.P.A
STATE OF

DATE: 11/5/76

MEMO TO: File

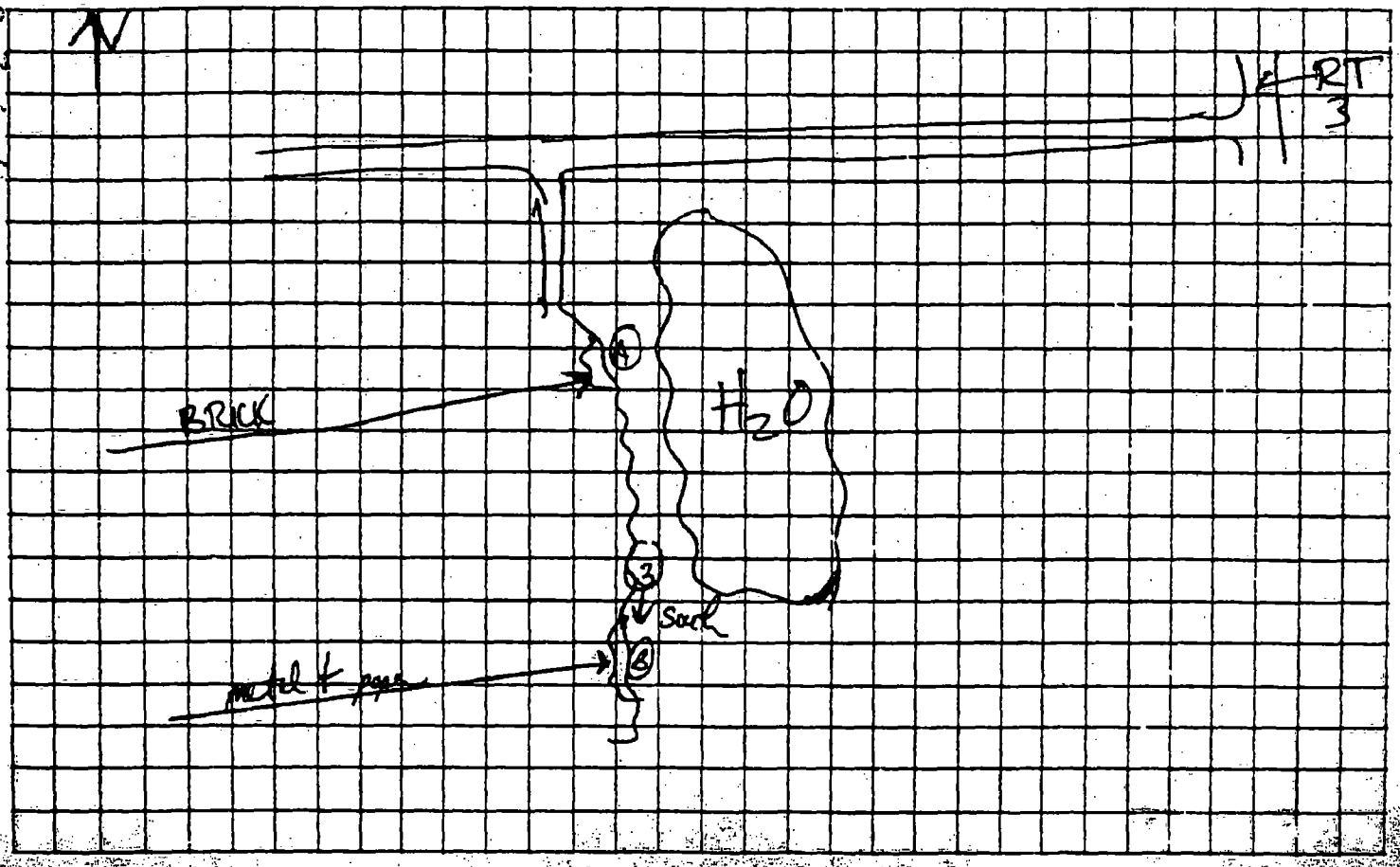
FROM: PMM Southern

SUBJECT: Madison COUNTY – D.L.P.C. Inspection 11905002
Hartford / Clark Oil

GENERAL REMARKS: Someone has dumped (A) 2 loads of 10070 clean bricks but also (B) 2-3 loads of plastic metal + paper – I called Sgt. Vern Petta 11/8/76 – He said that area is to be used for dirt, brick + rock only and that he has been assured that all of his people knew that – said he would go look at it and get back to me today – Called back said that one of the contractors WORKING AT THE REFINERY DUMPED IT, THAT IT WOULD BE COVERED TODAY, AND THAT IT IS TO BE USED FOR DIRT, BRICK & ROCK ONLY

INTERVIEW:

DIAGRAM:



November 5, 1976

10:30 am

Madison Co. LAC - 1190502
Hartford/Clark Oil

Taken To The South

P.M. McCarthy

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C 0 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. LL2050002
(11) (18)

Madison Co. - L.P.C. Region # 5 (19) Date 121478 (20) (25)

Hartford / Clark Oil Letter Sent (Yes or No) Y (26)
(Location) (Responsible Party)

ples Taken: Yes ( ) No (X) Time: From 10:15 am Weather 35° - Damp - Sunny
ound Water( ) Surface( ) Other( ) To 10:40 am
hotos Taken: Yes (X) No ( ) Interviewed No one present Inspector D. L. W. (27) (29)

revious Inspection 11/5/76 Previous Correspondence 2/3/76 Site Open: Yes (X) No ( )

PERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
perating	(X)	~~Sanitary~~ Landfill	(X)	Storage	( )	E.P.A. Permit	( )
emporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
losed Not Covered	( )	Other _____	( )	A.C.D.	( )	21(e)	(X)
losed and Covered	( )	Quantity Received Daily (1-6)	1 (30)			Board Order	( )
						Illegal (5)	(X) 5 (31)

SITE EVALUATION

eachate: Ponded on site (X)	32	
Flowing on site (X)	33	
Seeping (X)	34	
Evidence of past flows (X)	35	
Observed garbage( ) refuse( ) in standing water (X)	36	
Flow entering surface water (5)	37	
Flow leaving site (1-3)	38	
pen Burning: Observed (5)	39	
Underground fire (5)	40	
Evidence of recent open burning (5)	41	
Insufficient fire protection equipment provided (2)	42	
aily Cover: Not provided on previously deposited refuse (5)	43	5
Not provided on previous operating day (4)	44	
Inadequate depth over entire area (3)	45	
Inadequate depth over only a portion of area (1-2)	46	
ntermediate Cover: Inadequate depth in portion(s)( ) or entire( ) required areas (1-3)	47	
inal Cover: Inadequate depth in some areas (1-3)	48	1
Inadequate depth over entire area 60 days after area closure (4)	49	
None 60 days after area closure (5)	50	
nloading not supervised (3)	51	
Refuse not deposited at toe of slope ( ) / Inadequate spreading and compacting (X) / Insufficient operable equipment on site as required ( ) / Operational roads unsatisfactory ( ) — (2 ea. 2-8)	52	2
lowing litter( ), dust nuisance observed( ), Odor detected( ) (1 ea. 1-3)	53	
ermit( ) Board Order( ) Violation noted (2 ea. 2-4)	54	
Liquids( ) Solids (X) not permitted (5)	55	5
Inadequate site restriction (X) Site concealment( ) (2 ea. 2-4)	56	2
nadequate: Shelter( ) Sanitary Facilities( ) Emergency Communications( ) (1 ea. 1-3)	57	
Scavenging by: Operator( ) Others( ) observed (1-3)	58	
Salvaging Observed( ): Improperly conducted in: Location( ) Operation( ) Storage( ) (1-3)	59	
vidence of vectors observed ( ) (1-3)	60	
nimal feeding observed ( ) (1-3)	61	

eneral Compliance ( ) Improvement Needed (X) Improvement Observed ( )

ignature of operator does not necessarily imply agreement with the above noted observations.

Signature _____

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS
INTER–OFFICE CORRESPONDENCE

DATE: 12/14/78

MEMO TO: File

FROM: Dave Wieties-Southern

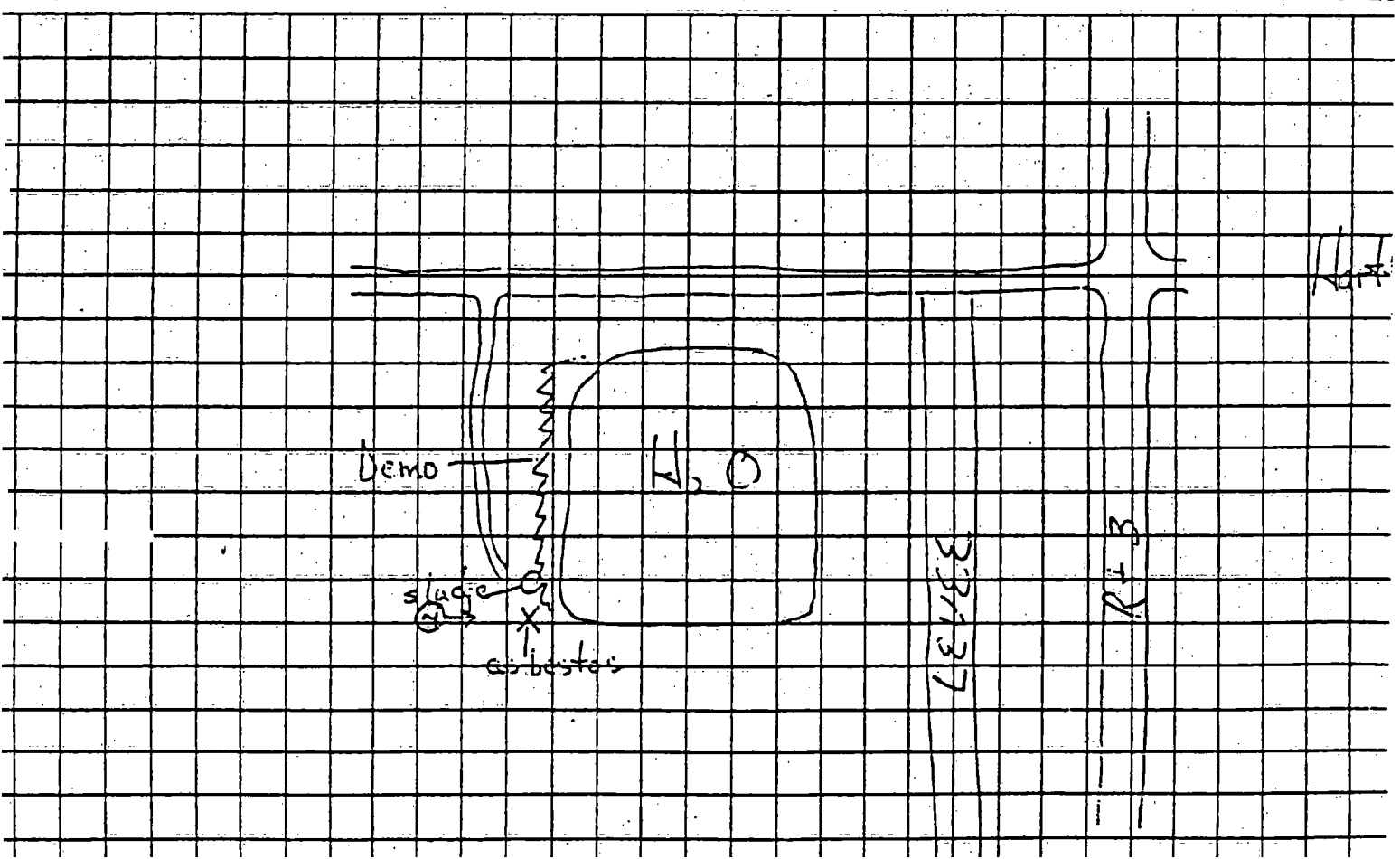
SUBJECT: Madison COUNTY – D.L.P.C. Inspection 1190500 2
Hartford / Clark Oil

GENERAL REMARKS: Exposed demo observed by the west bank of of the ~~see~~ pond on site. Much of this requires final cover. Several fresh piles of refuse unspread and uncompacted. Observed an asbestos like substance and an unidentified sludge-like material. Traffic is driving around restrictive cable at entrance.
Appears that they eventually want to fill pond.

INTERVIEW:

DIAGRAM:

LPC-19



Date: 12/14/78

Time: 10:20 (A.M.) P.M.

Photograph By:

Dave Wieties

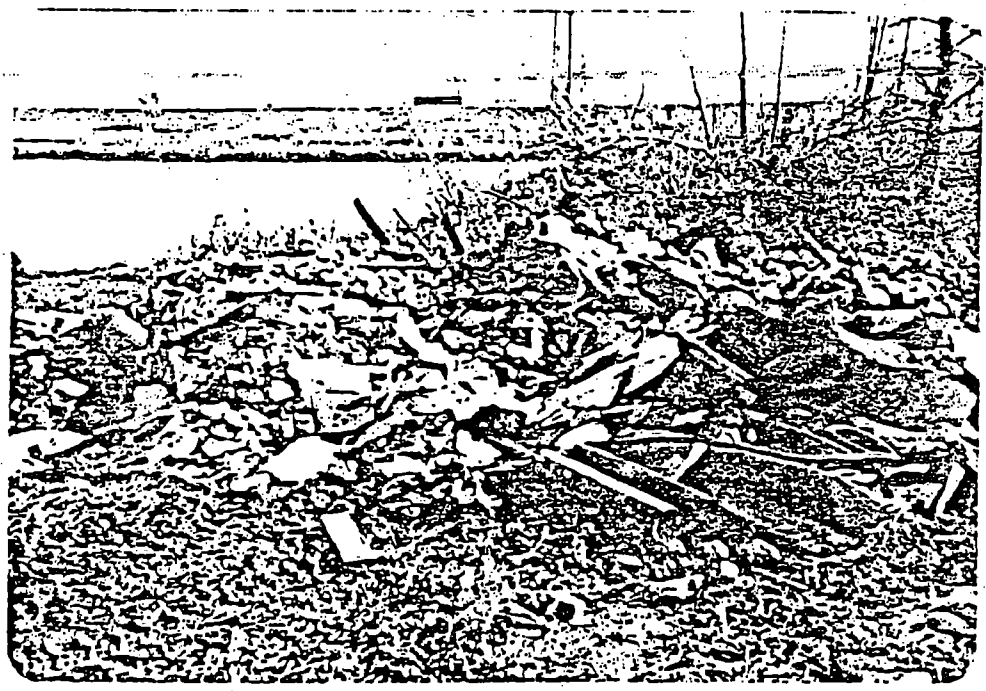
Location: LPC-11905002

Madison Co.

Hartford Clark Oil

Comments: Photograph taken

toward the East



Date:

Time: A.M. P.M.

Photograph By:

Location: LPC-

Co.

Comments: Photograph taken

toward the

Illinois Environmental Protection Agency

DAVE WIETIES

618/345-0700
115A West Main Street
Collinsville, Illinois 62234

Cc'd 12/22/78 SLP

Refer to: Madison County - 11905002 - Hartford/Clark Oil

December 21, 1978

Mr. S. L. Petton
c/o Clark Oil and Refining Company
Post Office Box 7
Hartford, Illinois 62048

LEVELED & 60 TRUCK LOADS OF DIRT ADDED week of 12-25-78 SLP

Dear Mr. Van Petton:

Your solid waste disposal facility located west of Hartford, Illinois, south of Hawthorne Avenue was inspected on December 14, 1978, by Dave Wieties and Pat McCarthy, representing this Agency.

The inspection disclosed the following condition(s) which constitute violations of the Environmental Protection Act and Chapter 7 of the Illinois Pollution Control Board Solid Waste Rules and Regulations:

... Your solid waste disposal site does not have a permit issued by this Agency. Chapter 7 of the Illinois Pollution Control Board Rules and Regulations on Solid Waste provides in substance that, subject to the specific exemption contained in Section 21(e) of the Act, no person shall cause or allow the use or operation of any solid waste management site without an operating permit issued by the Agency.

... Solid Waste received on the previous operating day did not receive cover material. By the end of each operating day, a compacted layer of at least six (6) inches of suitable natural earthen material shall be placed on all exposed solid waste.

... Final cover has not been applied on the completed portions of your fill as prescribed in the Solid Waste Rules and Regulations. A compacted layer of not less than two (2) feet of suitable natural earthen material shall be placed over the entire surface of each portion of the final lift not later than 60 days following the placement of solid waste in the final lift, unless a different schedule has been issued in the operating permit.

... Solid Waste was not being spread and compacted as received and deposited. As rapidly as solid waste is deposited at the toe of the fill, all solid waste must be spread and compacted in layers within the daily cell. Such individual layers should not exceed a depth of two (2) feet. (Note that the daily cell generally consists of several compacted layers.)

... An asbestos-like material and an unidentified sludge were also observed. No more dumping of any refuse should occur until you have obtained proper permits and authorization.

... Also, site restriction is inadequate in that traffic is driving around the restrictive cable at the site entrance.

It is suggested that you take immediate steps to resolve the conditions described above.

We are requesting a reply to this letter indicating your intentions with regard to dumping activities at this site.

Sincerely,

Kenneth G. Mensing

Kenneth G. Mensing, Southern Region Manager
Land Field Operations Section
Division of Land/Noise Pollution Control

KGM:DLW:mad/5774/24-25

Enclosure: Inspection Report
EP Act and SWR & R

cc: Division File
Southern Region

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C 0 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. L1905002
(11) (18)

Madison Co. - L.P.C. Region # 5 (19) Date 121478 (20) (25)

Hartford / Clark Oil (Location) (Responsible Party) Letter Sent (Yes or No) Y (26)

Samples Taken: Yes ( ) No (X) Time: From 10:15 am Weather 35° Damp-Sunny
Ground Water( ) Surface( ) Other( ) To 10:40 am
Photos Taken: Yes (X) No ( ) Interviewed Man on present Inspector D L (27) (29)

Previous Inspection 11/5/76 Previous Correspondence 2/3/76 Site Open: Yes (X) No( )

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(X)	Sanitary Landfill	(X)	Storage	( )	E.P.A. Permit	( )
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other _____	( )	A.C.D.	( )	21(e)	(X)
Closed and Covered	( )	Quantity Received Daily (1-6)	1 (30)			Board Order	( )
						Illegal (5)	(X) 5 (31)

SITE EVALUATION

Leachate: Ponded on site (X)	32	
Flowing on site (X)	33	
Seeping (X)	34	
Evidence of past flows (X)	35	
Observed garbage( ) refuse( ) in standing water (X)	36	
Flow entering surface water (5)	37	
Flow leaving site (1-3)	38	
Open Burning: Observed (5)	39	
Underground fire (5)	40	
Evidence of recent open burning (5)	41	
Insufficient fire protection equipment provided (2)	42	
Daily Cover: Not provided on previously deposited refuse (5)	43	5
Not provided on previous operating day (4)	44	
Inadequate depth over entire area (3)	45	
Inadequate depth over only a portion of area (1-2)	46	
Intermediate Cover: Inadequate depth in portion(s)( ) or entire( ) required areas (1-3)	47	
Final Cover: Inadequate depth in some areas (1-3)	48	1
Inadequate depth over entire area 60 days after area closure (4)	49	
None 60 days after area closure (5)	50	
Unloading not supervised (3)	51	
Refuse not deposited at toe of slope ( ) / Inadequate spreading and compacting (X) / Insufficient operable equipment on site as required ( ) / Operational roads unsatisfactory ( ) — (2 ea. 2-8)	52	2
Blowing litter( ), dust nuisance observed( ), Odor detected( ) (1 ea. 1-3)	53	
Permit( ) Board Order( ) Violation noted (2 ea. 2-4)	54	
Liquids( ) Solids (X) not permitted (5)	55	5
Inadequate site restriction (X) Site concealment( ) (2 ea. 2-4)	56	2
Inadequate: Shelter( ) Sanitary Facilities( ) Emergency Communications( ) (1 ea. 1-3)	57	
Scavenging by: Operator( ) Others( ) observed (1-3)	58	
Salvaging Observed( ): Improperly conducted in: Location( ) Operation( ) Storage( ) (1-3)	59	
Evidence of vectors observed ( ) (1-3)	60	
Animal feeding observed ( ) (1-3)	61	

General Compliance ( ) Improvement Needed (X) Improvement Observed ( )

Signature of operator does not necessarily imply agreement with the above noted observations.

Signature _____
Owner/Operator

LPC-5 (Rev. 6-75-500)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

TO: Division File

DATE: 12/26/78

FROM: Dave Wieties - FOS Southern Region

☒ Information only

SUBJECT: Madison Co. - Hartford / Clark Oil - 1190500 2

☐ Response requested

On this day I met with Mr. Van Petton of Clark Oil to discuss problems at subject dump site. Unspread and uncompacted refuse exists here. Its mostly demo but some random material is also present.

Mr. Van Petton assured me he'd have a contractor in this week or next to correct problems.

I told him he could probably retain 21(e) status if only brick + concrete was dumped. He said he'd make sure of it and also erect more suitable site restriction and notify me on completion. I'll reinspect in near future to observe progress.

RECEIVED
DEC 29 1978
E.P.A. - D.L.P.C.
STATE OF ILLINOIS

Beth

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

L P C F C 0 5 5 C
(1) (8) (9)

INSPECTION REPORT - SITE INVENTORY NO. 1190500 2
(11) (18)

Madison CO. - L.P.C. Region # 5 Date 02/14/80
(20) (25)

Hartford / Clark Oil Letter Sent (Yes or No) N
(Location) (Responsible Party) (26

Samples Taken: Yes ( ) No (X) Time: From 10:15am Weather 32°-Frozen-Cl
Ground Water( ) Surface( ) Other( ) To 10:30am
Photos Taken: Yes ( ) No (X) Interviewed No one Inspector D L H
(27) (29

Previous Inspection 12/14/78 Previous Correspondence 12/21/78 Site Open: Yes(X) No(

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(X)	Landfill	(X)	Storage	( )	E.P.A. Permit	( )
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other _____	( )	A.C.D.	( )	21(e)	(X)
Closed and Covered	( )	Quantity Received Daily(1-6)		1		Board Order	( )
				(30)		Illegal (5)	( ) (3)

RECEIVED

FEB 19 1980

E.P.A. — D.L.P.C.
STATE OF ILLINOIS

IMPROVED

SAME

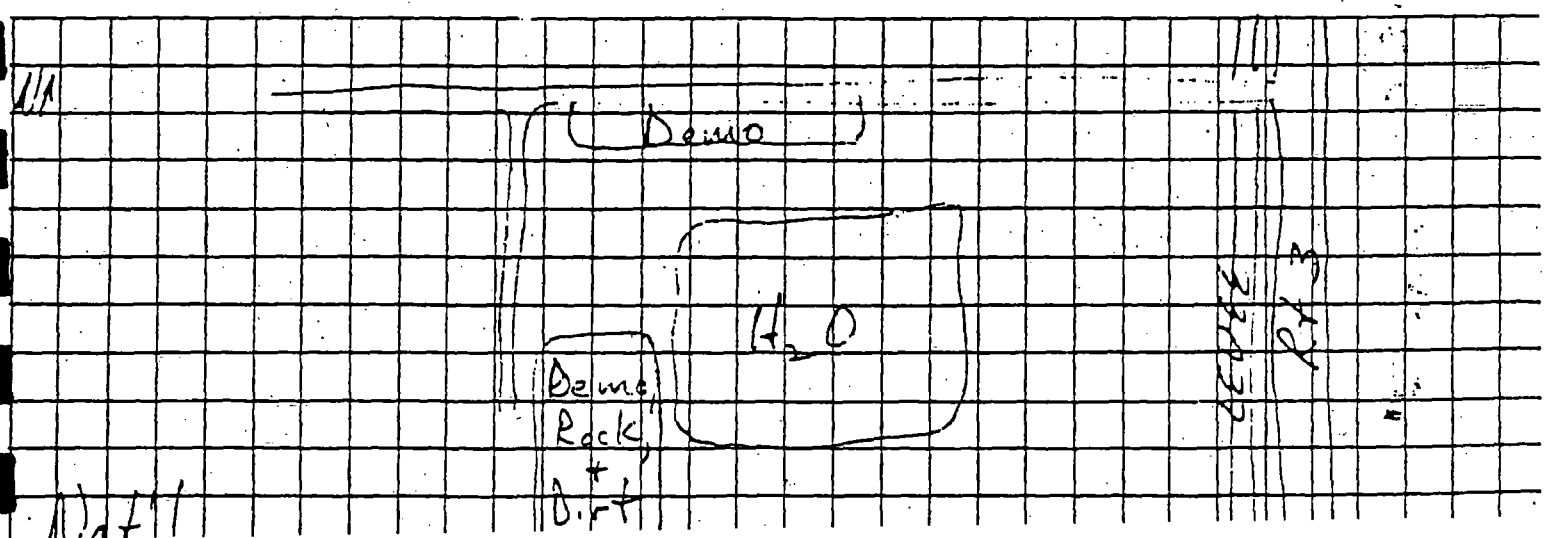
DETERIORATED

(I)S or D I (62)

GENERAL REMARKS: Rock, dirt + brick were all observed at this site today but no special wastes present. One pile of rock + mud had a slight gasoline odor. Filling here is progressing very slowly. Gate was open but no one was present. Tracks in snow indicated recent disposal.
Site is improved due to nature of wastes however, cover is still needed.

INTERVIEW:

DIAGRAM:



S. Preston

CLARK OIL AND REFINING
LPC:1190500002
MADISON COUNTY
ILD:041889023
SUPERFUND/HRS
Date: 2-6-97

CERCLA

SCREENING SITE INSPECTION

FOR

CLARK OIL AND REFINING

[redacted]

CLARK OIL
HAWTHORNE ST
HARTFORD, IL.
62048
MADISON Co.
ILD 041889023
L1190500002

SCREENED
M M

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C CLARK FACILITY MAP

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I. INTRODUCTION

On December 11, 1990, the Illinois Environmental Protection Agency's Pre-Remedial Unit was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a CERCLA Screening Site Inspection (SSI) of the Clark Oil and Refining Corporation/Wood River Refinery, Hartford, Illinois.

The site was initially placed on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) by the U.S. EPA in August of 1980. This action was taken as a result of the concern over possible groundwater and surface water contamination due to operations at the facility.

An initial CERCLA evaluation, in the form of a Preliminary Assessment, was completed by Kenneth L. Page of the IEPA in January of 1986. IEPA's Pre-Remedial Unit prepared an SSI workplan for Clark Oil and Refining that was approved by the U.S. EPA's Region V office in December of 1990. The sampling portion of the Screening Site Inspection was conducted on December 11 and 12, 1990 when the sampling team collected a total of six groundwater and twelve soil samples.

The purpose of a Screening Site Inspection have been stated by the U.S. EPA in a directive that states:

> All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS (Hazard Ranking System) score, 2) establish priorities among sites most likely to qualify for the NPL (National Priorities List), and 3) identify the most critical data requirements for the listing SI

> step. A screening SI will not have rigorous data quality objectives (DQO's). Based on the Preliminary refined HRS score and other technical judgement factors, the site will either be designated as NFRAP (No Further Remedial Action Planned), or carried forward as an NPL listing candidate. A Listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority, such as RCRA [Resource Conservation and Recovery Act]... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.
>
> The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQO's. It may also provide needed data in a format to support remedial investigation workplan development. Only sites that appear to score high enough for listing and have not been deferred by another authority will receive a listing SI (U.S. EPA 1988).

U.S.EPA Region V has also instructed IEPA to identify sites during the SSI that may require removal action to remediate an immediate human health and/or environmental threat.

2. SITE BACKGROUND

2.1 Introduction

This section contains a summary of information gathered from the Preliminary Assessment, Illinois Environmental Protection Agency (IEPA) files, and discussions with site representatives.

2.2 Site Description

The Clark Oil and Refining Corporation, Wood River Refinery is located in the Village of Hartford, Madison County, Illinois (Figures 2-1, 2-2 and 2-3). The refinery operations occupy approximately 253 acres located in the following sections: Sections 34 and 35, Township 5 North, Range 9 West; and Section 3, Township 4 North, Range 9 West. Clark Oil property also includes approximately 142 acres located in Section 33, Township 5 North, Range 9 West; and Section 4, Township 4 North, Range 9 West (See map located in Appendix C for features and property boundaries). A 4-mile radius map of the area surrounding the Clark Oil facility and a 15-mile surface water map can be found in Appendices A and B respectively.

Clark Oil and Refining/Wood River Refinery is an operating petroleum refinery with an approximate plant capacity of 60,000 barrels a day. Process operations include crude desalting, atmospheric crude distillation, fluid catalytic cracking, hydrofluoric acid alkylation, vacuum distillation, hydroprocessing, and catalytic reforming. Products include gasoline (leaded gasoline production has been discontinued), LPG (liquid propane gas), distillate fuels, and coke.

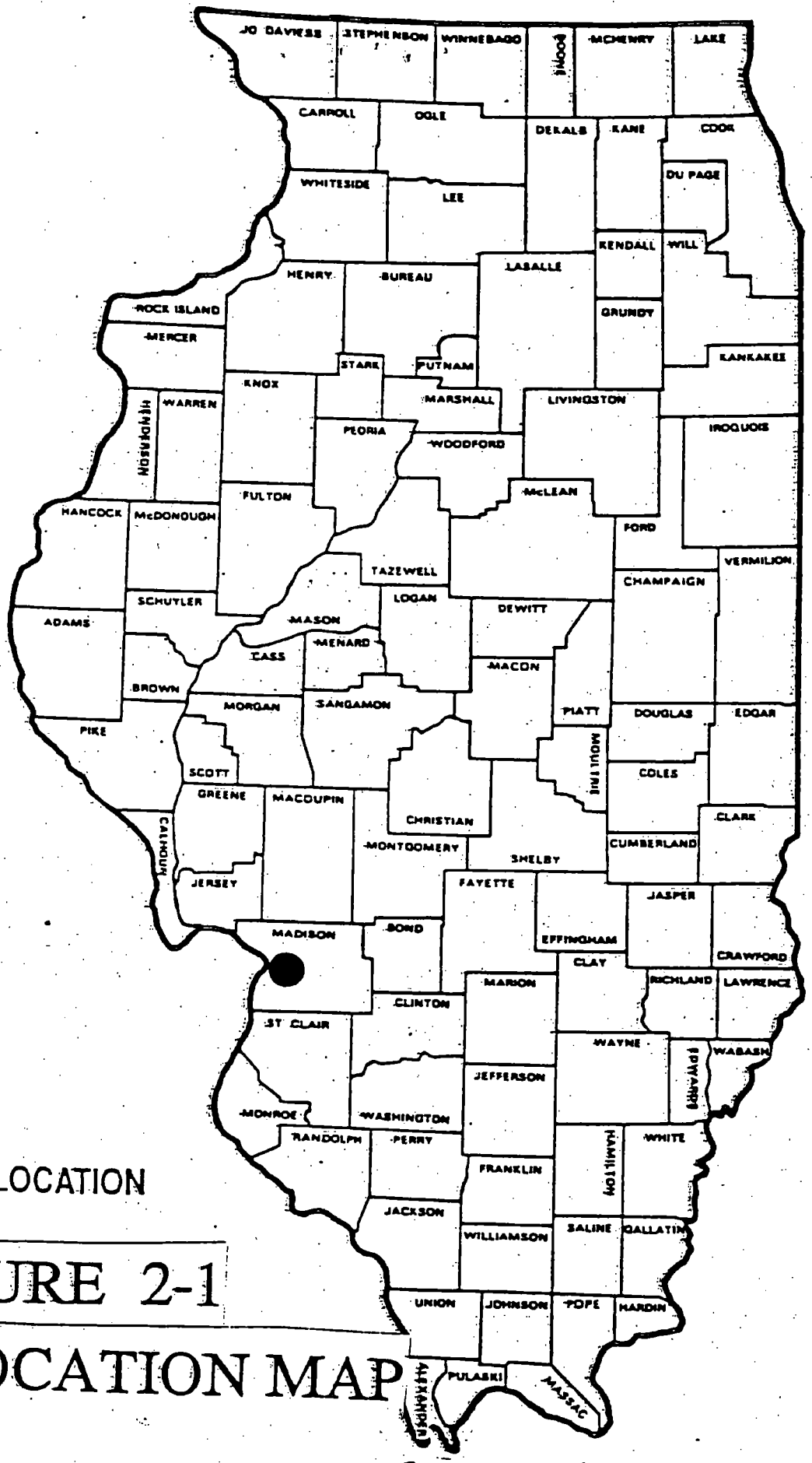
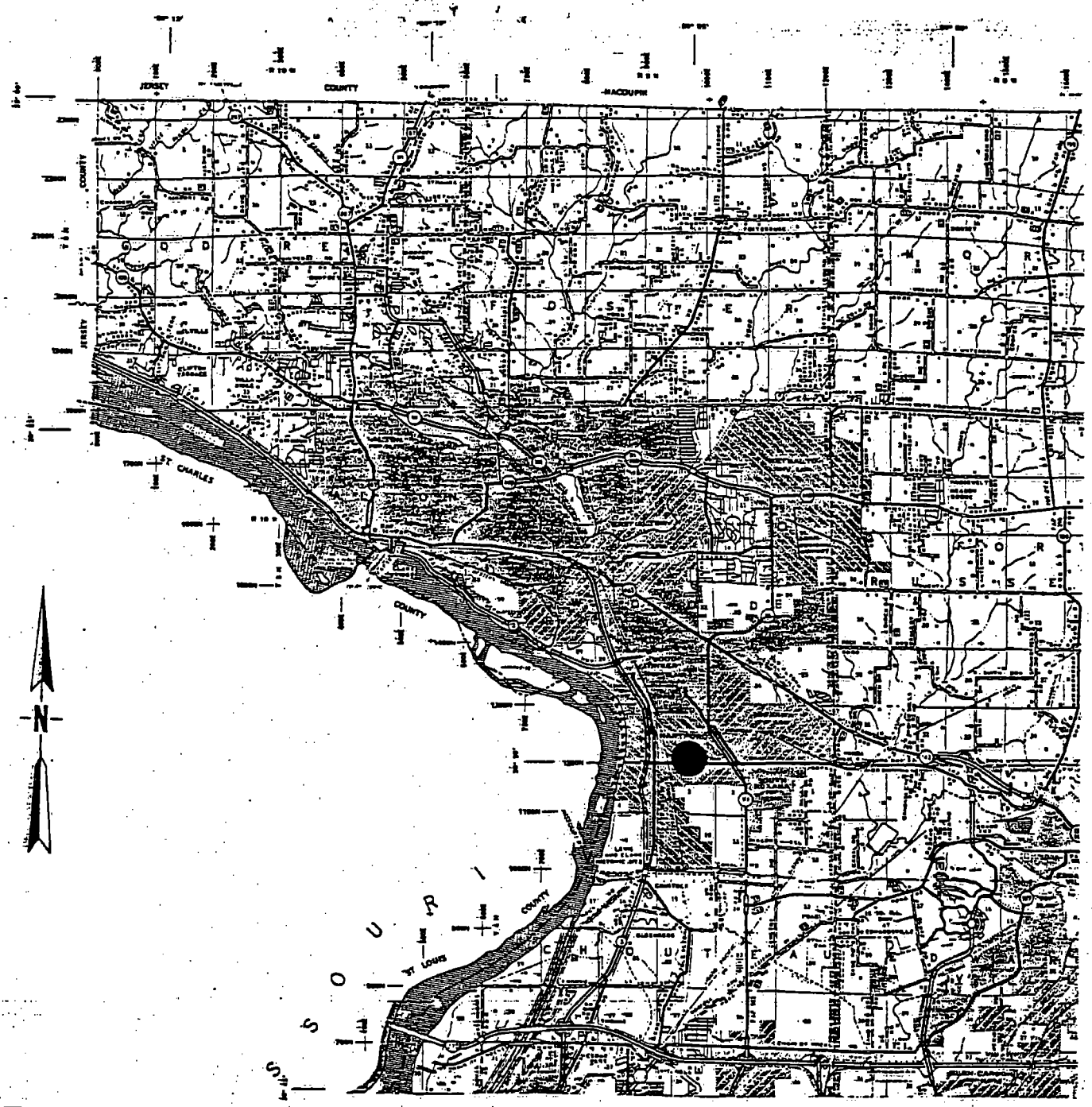
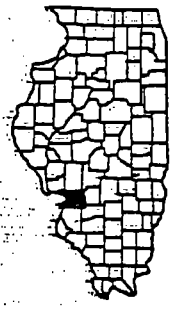


FIGURE 2-1
SITE LOCATION MAP

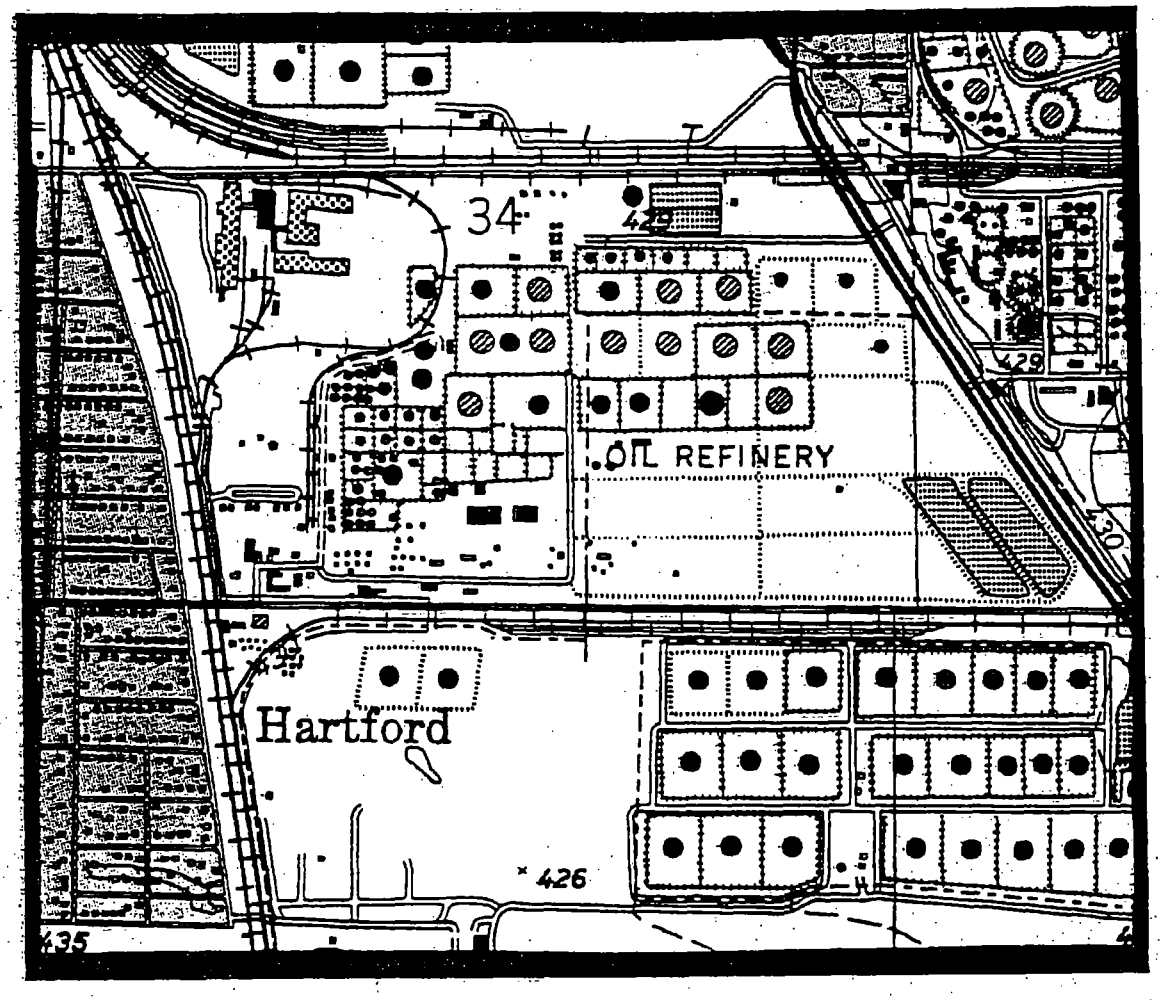
2-2





ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE NAME: Clark Oil & Refining Corp. SITE ILD#: ILD041889023
REGIONAL AREA MAP	
Legend: Site Location Scale	

FIGURE 2-2



Source: IEPA, 1992. Base Map: U.S.G.S. Topographic Map, 1974.

Approximate Scale: 1"= 2000'

Figure 2-3

SITE TOPOGRAPHY

Wastewater generated in the plant passes through various unit oil traps before combining at a master trap and going to an API oil-water separator. Flow then passes through a Dissolved Air Flotation (DAF) tank before entering a single stage extended aeration/nitrification activated sludge system. Effluent is then polished in dual media filters before being discharged into the Mississippi River via IEPA NPDES (National Pollutant Discharge Elimination System) permit #IL0001244.

The following wastestreams are generated as a result of the refinery's processes: DAF Float, Slop Oil Emulsions, Heat Exchanger Bundle Cleaning Sludge, and API Separator Sludge. Heat Exchanger Bundle Cleaning Sludge is processed through the wastewater treatment system described above. DAF Float, Slop Oil Emulsions, and API Separator Sludge are piped to above ground tanks. These wastes are then piped to a coking unit where they are processed into petroleum coke, coker gasoline, coker naphtha, coke fines, and gasoline oils. All of these materials are sold as products by Clark. Two other wastes are generated during routine turnaround periods: spent catalyst and wastewater treatment sludge. These wastes are categorized as non-hazardous. The spent catalyst is shipped to GSX-Barton (SW Permit #841332) and the waste water treatment sludge is shipped to the Peoria Disposal Company (SW Permit #941676).

An unlined lagoon serving as a stormwater retention basin is located at the intersection of Illinois Route 111 and Edwardsville Road. The basin (approximately 125,000 square feet) receives all site surface runoff and was exhibiting

visual signs of hydrocarbon contamination during the October 30, 1990 reconnaissance inspection and the December 11-12, 1990 screening site inspection. An unlined pit containing crude oil tank bottoms is also present on the refinery property.

The refinery operation is bounded on the west by residential properties, on the south by agricultural and industrial property, on the east and north by industrial property (Shell Oil Refinery).

According to the IEPA Office of Chemical Safety and IEPA Technical Compliance files, a documented hydrocarbon plume is present on the groundwater in the City of Hartford and in the vicinity of Shell Oil and Clark Oil properties.

2.3 Site History

Clark Oil and Refining, Wood River Refinery began operations in 1941 as the Wood River Refinery. The facility became part of the Sinclair Oil Corporation in July, 1950. The refinery was purchased by Clark in September of 1960, sold to APEX in September of 1983, and repurchased by Clark on November of 1989.

The facility does not currently produce leaded gasoline and all leaded gasoline has been removed. Tetraethyl lead (TEL) was the anti-knock compound used by Clark in the production of leaded gasoline. All TEL has been removed, but the bulk storage area is still present, and according to Clark

representative Richard Thomas, is currently awaiting contractor removal. Waste generated by the facility containing lead was handled as Leaded Tank Bottoms, and was shipped to an unknown location for off-site disposal. The last documented shipment of Leaded Tank Bottoms was in April, 1988.

Prior to the construction of the current wastewater treatment system, all wastewater passed through various oil traps and a filter system. The effluent was then piped to a 3-stage lagoon system located just west of the levee and north of Hawthorne Street (see Appendix B). The effluent, after passing through the lagoons, was discharged to the Mississippi River.

Clark Oil property west of the levee and south of Hawthorn Street was the site of an illegal dump according to IEPA FOS files. In 1976, an asbestos-like substance and an unidentified sludge-like material was observed at this site.

The DAF Float, Slop Oil Emulsions, and API Separator Sludge wastestreams, reused to produce petroleum coke, were pumped to Tank 10-2 for temporary storage (see facility map located in Appendix C). Tank 10-2 had been in use for approximately 48 years and had been documented by IEPA's Collinsville Field Operations Section in Collinsville personnel lacking adequate secondary containment and exhibiting visual contamination within the earthen berm surrounding the tank. Tank 10-2 underwent closure activities in June, 1989. A total of 297 tons of sludge from tank cleanout and removal and 409 tons of waste/soil from within the earthen berm were fixed and shipped

by Chemical Waste Management to their Emelle, Alabama, landfill. The remaining soil inside the berm was then treated with microbes.

2.4 APPLICABILITY OF OTHER STATUTES

This section discusses the applicability of any other Environmental statutes with regards to Clark Oil and Refining. The Clark Oil facility is considered to be a "full quantity" generator under the Resource Conservation and Recovery Act (RCRA) program according to the Federal listing of RCRA related facilities published by the Region V offices. However, Clark Oil does not hold a permit from the IEPA. Clark filed a "Raw Materials Storage" RCRA part A permit application on November 17, 1980, which Clark then withdrew on November 23, 1982. The withdrawal of the application was approved by the U.S. EPA on December 15, 1983.

With the exception of the DAF Float, Slop Oil Emulsions, Heat Exchanger Bundle Sludge, and API Separator Sludge, products at Clark are exempt from CERCLA due to the Petroleum Exclusion. The groundwater contamination problems in the Hartford area also fall under the Petroleum Exclusion.

3. SITE INSPECTION ACTIVITIES AND ANALYTICAL RESULTS

3.1 Introduction

This section outlines procedures utilized and observations made during the CERCLA Screening Site Inspection conducted at the Clark Oil/Wood River Refinery on December 11 and 12, 1990. Specific portions of this section contain information pertaining to the reconnaissance inspection and sampling procedures. This section also details the analytical results with particular emphasis upon the Key samples.

The Screening Site Inspection for Clark Oil/Wood River Refinery was conducted in accordance with the site inspection workplan which was developed and submitted to the U.S. EPA Region V offices prior to the initiation of sampling activities.

3.2 Reconnaissance Inspection

IEPA personnel conducted a reconnaissance inspection of the Clark Oil and Refining Corporation and the surrounding area on October 30, 1990. The inspection included a walk-through of the refinery operations area and the lagoon area west of the levee to identify potential sampling locations and appropriate health and safety requirements. Mr. Richard Thomas and Mr. Joe Bean accompanied IEPA personnel on the inspection and were able to answer the questions.

Several observations were made by Agency personnel during this visit.

The refinery operations area is enclosed by a chainlink fence with full-time security personnel present at entrance points. The facility is bounded to the west by the Village of Hartford, the north and east by Shell Oil Company, the south by Shell Oil property and agricultural land.

The lagoon area west of the levee does not have restricted access, and Mr. Thomas stated that people have been seen fishing there from time to time. The southwest portion of this area is bounded by NICOR National Shipyard and lagoons, the west by the Mississippi River, the north by Shell Oil property, and the east by the levee and Illinois Rt. 3. Clark Oil also operates a barge loading pipeline transfer station at the west edge of this property on the banks of the river.

3.3 Site Representative Interview

The site representative interview was conducted on October 30, 1990, between Mr. Todd Buchanan of the IEPA and Mr. Joe Bean of Clark Oil and Refining Corporation. The meeting was arranged to explain the Pre-remedial process to the Clark representatives and to confirm the SSI schedule and objectives. During this interview Mr. Buchanan indicated that the inspection would include the collection of ten on-site and two off-site soil/sediment samples and three on-site and three off-site groundwater samples. Mr. Thomas stated that the company wished to split samples at this time.

3.4 Soil/Sediment Sampling

A total of twelve soil/sediment samples were collected during the SSI at Clark Oil (See Figures 3-1 and 3-2 for soil/sediment sampling locations). All samples were collected using stainless steel spoons and hand augers with the soil/sediment being transferred directly to the sample jars and packed in accordance with the U.S. EPA required procedures. Table 3-1 outlines the sampling activity.

Table 3-1

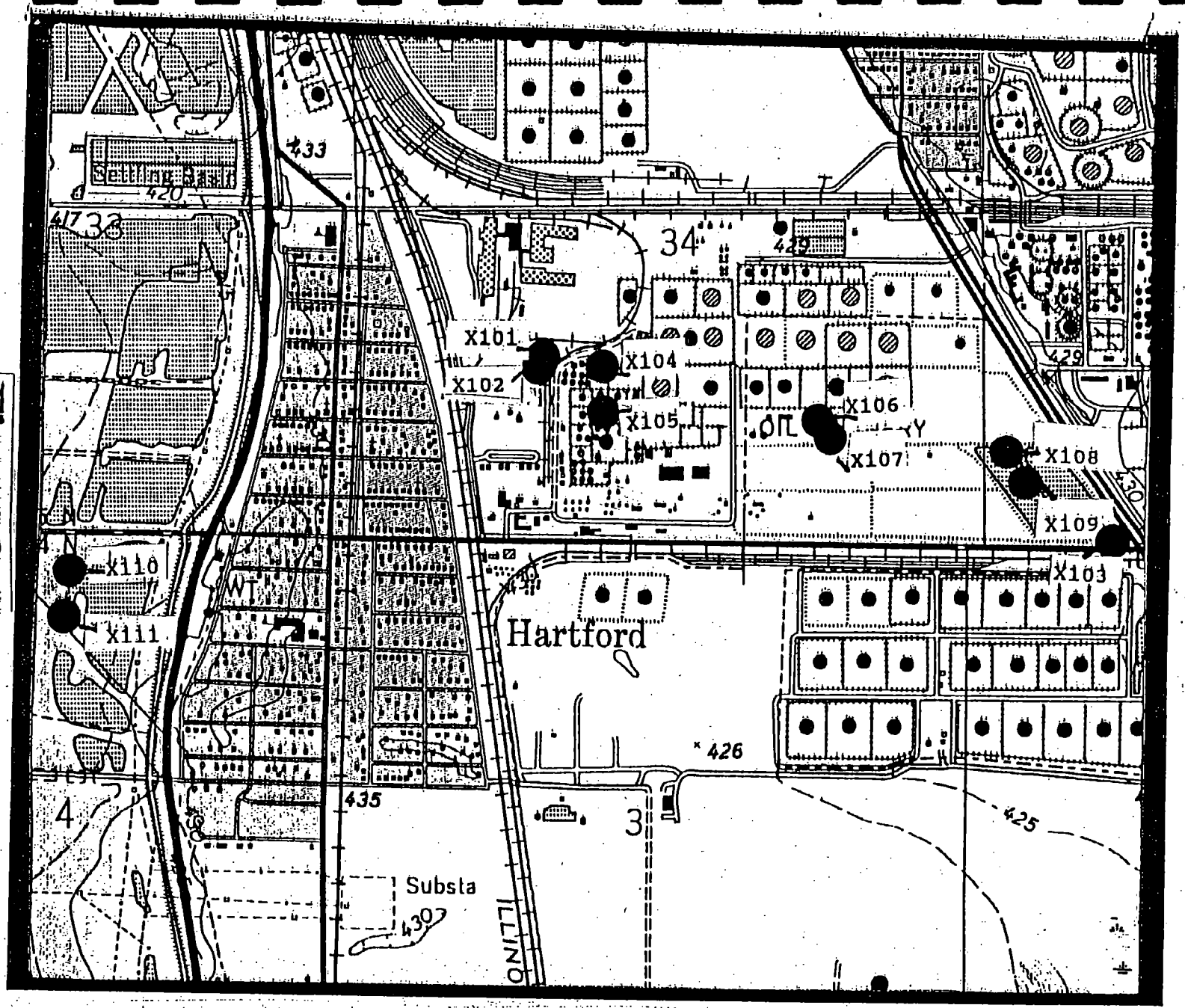
Soil/Sediment Sampling

Soil/Sediment samples collected on December 11, 1990:

Time	Depth	Location
X101		
8:45a	2-3'	N side of TEL storage building, 72.4' S of S corner post of the RR gate and 149' from corner post of site boundary fence.
X102		
9:15a	1-1.5'	SE of TEL bldg., 72.8' W of foam valve and 66.6' NW of RR switch.
X104		
9:55a	0-6"	Inside berm of leaded tanks 35-1 and 35-2, 26.8" SE of tank 35-2 manhole and 48.9' S of tank mixer.
X105		
10:20a	0-6"	NW corner of bermed area former site of 10-2.

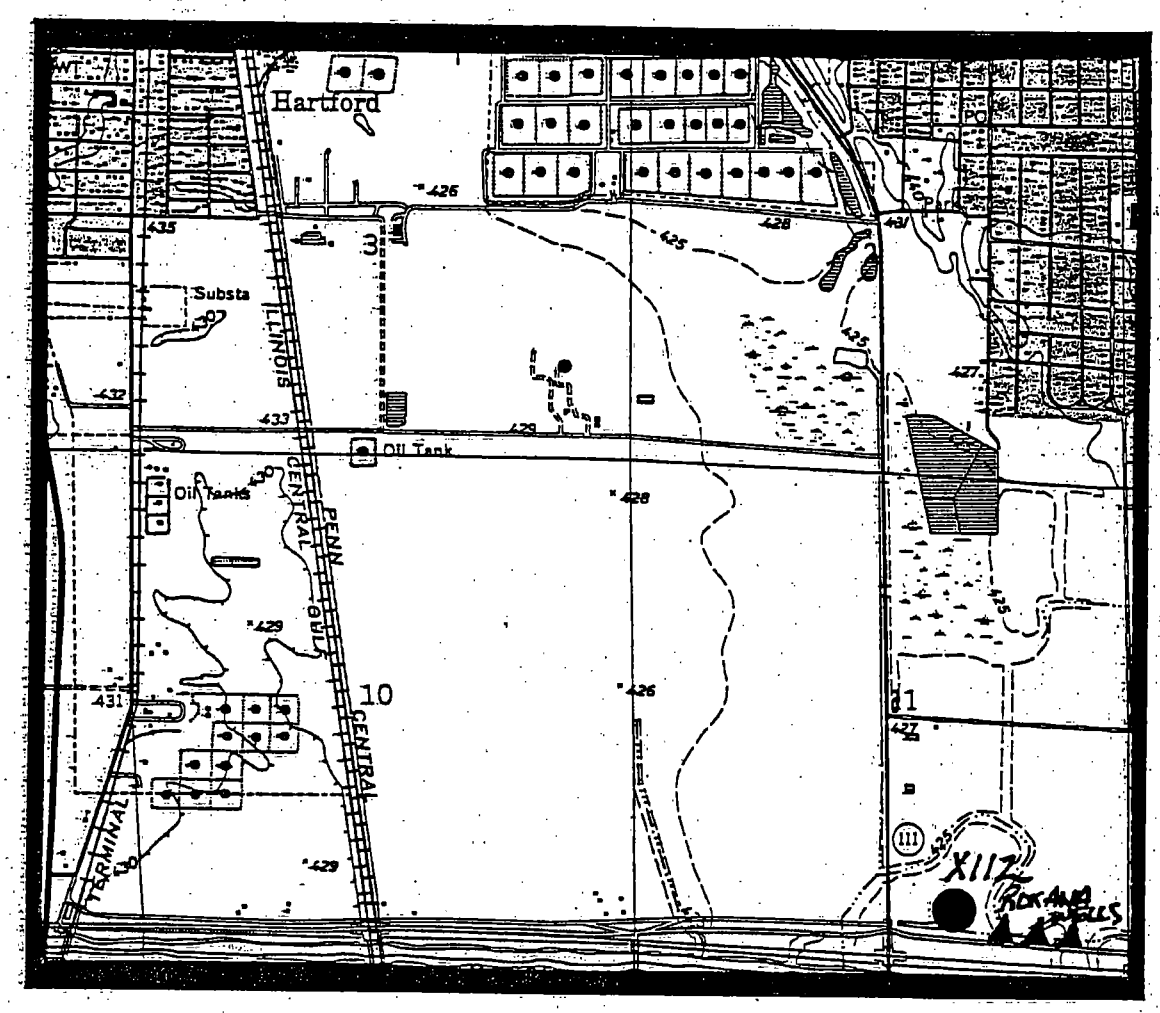
SOIL/SEDIMENT SAMPLING LOCATIONS

Figure 3-1



Source: IEPA, 1992. Base Map: U.S.G.S. Topographic Map, 1974
Approximate Scale: 1"= 1123'

3-4



Source: IEPA, 1992. Base Map: U.S.G.S. Topographic Map, 1974.

Approximate Scale: 1"= 2000'

Figure 3-2
BACKGROUND SOIL SAMPLE

Soil/Sediment samples taken on December 12, 1990:

X103		
2:55p	0-6"	Offsite roadside drainage ditch near junction of Rt. 111 and 11A, 9.8' S of SE site corner post.
X106		
10:25a.	0-6"	8' from SE corner of berm, tank bottoms pit.
X107		
10:50a.	3-3.5'	Along west bank, 40' N of SW corner of tank bottoms pit.
X108		
12:20p	1.5-2'	N bank near inlet pipe of storm water retention basin. 74.5' E of NE corner of concrete skimmer base and 62.5' SW of nearby fire hydrant.
X109		
12:45p	2'	NW point of E bank of retention basin, 8' from bank.
X110		
1:45p	2-2.5'	NE corner of 1st stage lagoon near abandoned effluent discharge pipe 86' SW of SW corner of power line tower 108' W of orange gas line marker.
X111		
2:20p	1'	W of pond S of Hawthorn Street, site of former illegal dump, 139' SW of SW corner of power line tower.
X112		
8:40a	6"	Base of levee, N slope, approx. 300 yds. E of Rt. 111 near Roxana water plant.

Standard IEPA decontamination procedures were followed prior tothe collection of all samples. The procedures included the scrubbing of all equipment (spoons, pans, etc.) with a non-foaming Trisodium Phosphate solution, rinsing with hot tap water, rinsing with acetone, rinsing with hot tap water again, and final rinsed with distilled water. All equipment was air dried, then wrapped and stored in heavy-duty aluminum foil for transport to the field. Field decontamination procedures

included all of the above except the hot tap water rinse.

3.5 Groundwater Sampling

Three on-site monitoring wells and three off-site public wells were sampled to determine if compounds found on the Target Compound List (TCL) have been released to groundwater (See Figure 3-2 for sampling locations). The monitor wells had 3 well volumes purged, with pH, conductivity and temperature measured. Each well was hand sampled with a Teflon bailer using nylon cord and was field filtered for total metals with a Masterflex variable speed peristaltic pump and filter stand with filters. Directly after sampling each point, preservatives were added to appropriate bottles and were packed according to U.S.EPA required procedures.

The three public wells sampled (Identified in Figure 3-2, as G501, G502, and G503) were pumped for a minimum of fifteen minutes prior to sampling with pH, conductivity, and temperature readings taken. The well samples were taken at the respective well heads prior to any treatment or filtering and were field filtered for heavy metals. The following table outlines groundwater sampling activities:

Table 3-2

Groundwater SamplingGroundwater samples collected on December 11, 1990:

G101

Time	Depth	
11:25a	50.5'	NW part of refinery area near TEL storage building (monitor well).

G104
3:35p 100' SE of cooling tower #2 (monitor well).

G501
4:45p 107' Hartford PW #3.

G502
5:05p 106' Hartford PW #4.

Groundwater Samples collected on 12-12-90:

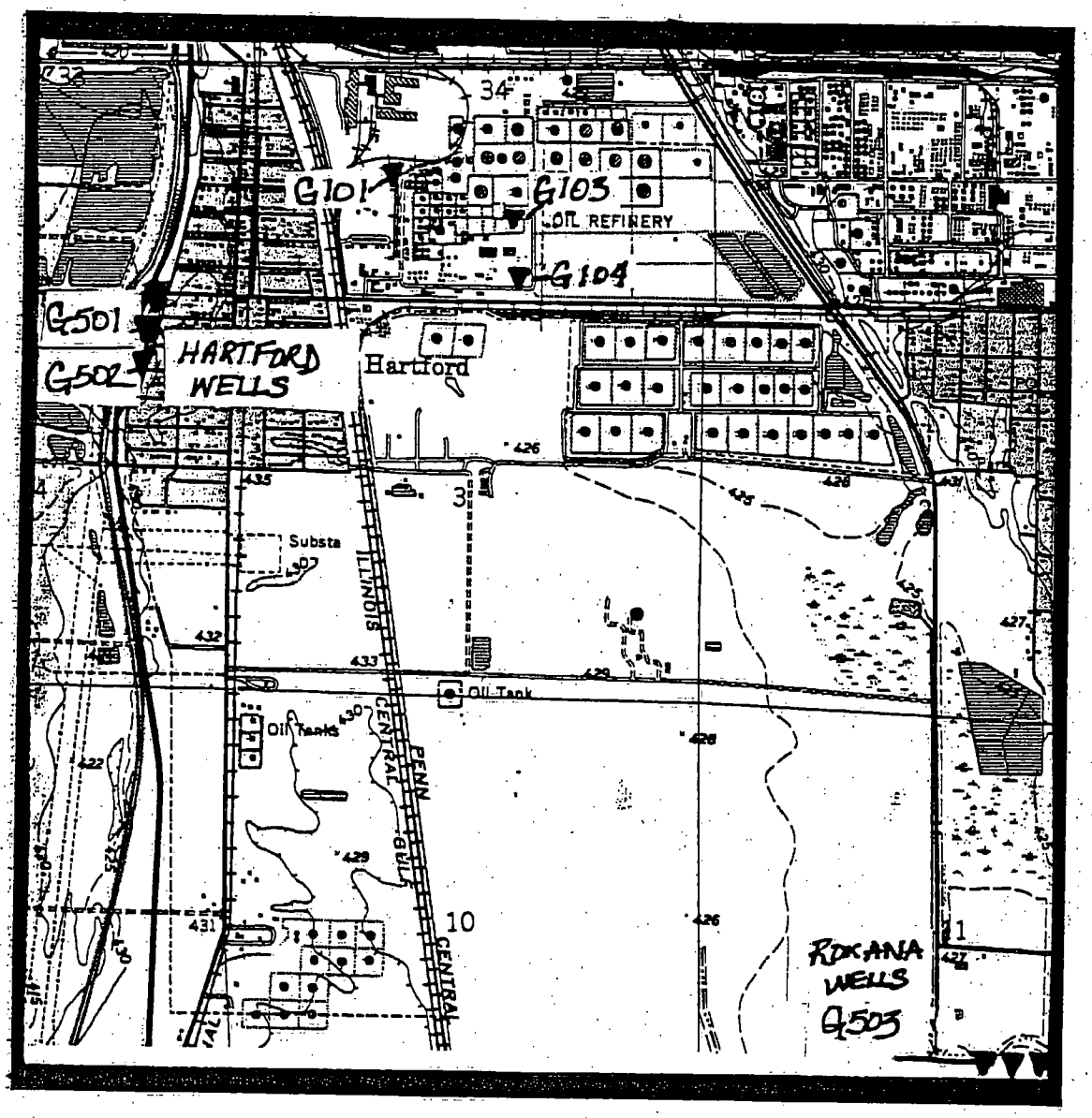
G103
11:30a 97.2' 3' E of valve tower and 4' S of cover of process well #3.

G503
8:45a 110' Roxana PW #8.

Standard IEPA decontamination procedures were followed prior to the collection of all samples. The procedures included the scrubbing of all equipment (bailers, buckets, etc.) with a non-foaming Trisodium Phosphate solution, rinsing with hot tap water, rinsing with acetone, rinsing with hot tap water again, and final rinsed with distilled water. All equipment was air dried, then wrapped and stored in heavy-duty aluminum foil for transport to the field. Field decontamination procedures included all of the above except the hot tap water rinse.

3.6 Analytical Results

Chemical analysis of the twelve soil/sediment samples collected during the inspection revealed the presence of the following substances: volatiles, semi-volatiles, pesticides, metals, suspected laboratory artifacts, and common inorganic soil constituents (See Figure 3-1 for sampling locations). Chemical analysis of the six groundwater samples also showed



Source: IEPA, 1992. Base Map: U.S.G.S. Topographic Map, 1974.

Approximate Scale: 1"= 1992'

Figure 3-3

GROUNDWATER SAMPLING LOCATIONS

the presence of volatiles, semi-volatiles, pesticides, metals, laboratory artifacts, and common inorganic groundwater constituents (See Table 3-2 for sampling locations). Table 3-3 provides a summary of results. Complete results can be found in Volume II of this report.

3.7 Key Samples

Tables 3-4 and 3-5 identify those samples taken during the CERCLA Screening Site Inspection (SSI) which were shown to contain contaminants at levels which were significantly higher than those of background concentrations.

For a review of all contaminants detected in samples taken during the CERCLA SSI, the reader is referred to the Sample Summary Table located in the front of Volume II of this report.

4. IDENTIFICATION OF SOURCES

4.1 Introduction

In this section the author will briefly discuss the various hazardous waste sources which have been identified in the initial stages of the CERCLA site investigation.

Information concerning the size, volume, and waste composition of each source has been derived throughout the initial site assessment, reconnaissance visits, and the screening site inspection sampling action. It should be pointed out, however, that the total number and nature of each of the sources identified below may be subject to change, as the site progresses through the CERCLA site investigation program and receives further investigation.
Figure 4-1 provides a map for source location information.

4.2 TEL Storage Building

Tetra-ethyl lead was used by Clark Oil as an anti-knock compound in the production of leaded gasoline. TEL was stored from this 800 square foot building located in the northwest corner of the facility (see Appendix C). All TEL has been removed, however, the bulk storage area remains and is awaiting removal by a contractor. Storage capacity of the building is unknown. Samples taken from the north and south sides of the building contained analytically significant levels of numerous volatiles, naphthalene, and cobalt (see Table 3-4). Pathways of concern include groundwater and soil exposure.

4.3 Leaded Tanks (35-1 and 35-2)

Leaded tanks 35-1 and 35-2 are located in the northwest corner of the facility approximately 380 feet east of the TEL storage building. The tanks are surrounded by an unlined berm, approximately 500 square feet in area. Sample results from the inspection showed analytically significant levels of numerous volatiles, semi-volatiles, Heptachlor, and metals (see Table 3-4).

4.4 Tank 10-2

Tank 10-2 had been in use for 48 years, and had stored DAF Float, Slop Oil Emulsions, and API Separator Sludge. These wastes had been pumped into Tank 10-2 from the wastewater treatment process, and were reused by Clark in the production of petroleum coke. The field operations office in Collinsville had reported that the bermed area lacked adequate secondary containment. Visable contamination within the bermed area was noted in February of 1989.

Clark stated in a letter to this Agency in March of 1989 that the tank was no longer in operation and that a complete clean-up of the tank and contaminated soil was to be completed in May, 1989.

A sample taken in the northwest corner of the bermed area showed analytically significant levels of Pyrene, Benzo(a)Anthracene, Endosulfan II, Cobalt and Mercury (see Table 3-4). Pathways of concern include: groundwater and soil exposure.

4.5 Tank Bottoms Pit

The tank bottoms pit is unlined and is located near the northeast corner of the facility and is approximately 7000 square feet in area. Analytically significant levels of volatiles, semi-volatiles, Endosulfan II, and metals (see Table 3-4 were detected in the samples.

Pathways of concern include groundwater and soil exposure.

4.6 Stormwater Retention Basin

The stormwater retention basin is located at the eastern boundary of the facility and occupies an area of approximately 125,000 square feet. The unlined basin catches runoff from the facility. Visual signs of hydrocarbon contamination were apparent during the reconnaissance inspection conducted on October 30, 1990.

Analytically significant levels of acetone and metals were detected in the sample taken from the north bank of the retention basin near the inlet pipe. High levels of volatiles, semi-volatiles, and metals were detected in the sample taken at the northwest point of the east bank of the basin (see Table 3-4).

Pathways of concern include: groundwater and soil exposure pathway (workers on-site), and the surface water pathway for the environmental threat (the Illinois Department of Conservation's National Wetland Inventory maps have designated this area, as well as several others at this site as wetlands.

4.7 Former Treatment Lagoons

Clark Oil used three lagoons located west of the levee and south of Hawthorne Street for treatment of wastewater prior to the construction of the current treatment facility. The lagoons received effluent from Clark's oil traps and filter system. Effluent was then discharged to the Mississippi River from these lagoons. Volume of these lagoons is unknown, and is dependent upon the level of the river.

Analytically significant levels of metals were detected in the sample taken from the northeast corner of the first stage lagoon near an abandoned effluent discharge pipe (see Table 3-4).

Pathways of concern is groundwater, and surface water- including the environmental threat that these metals may pose, and also drinking water due to the number of intakes located downstream from these lagoons. The threat to the human food chain is also a potential threat.

4.8 Illegal Dumpsite

Located west of the lagoon system, this area was used by Clark for demolition debris, however, an unknown sludge was reported present by the Collinsville field office on December 14, 1978. Clark Oil was informed by the Agency that they were in violation of Agency regulations.

Analytically significant levels of volatiles, semi-volatiles, and metals were detected in samples collected in December of 1990.

Pathways of concern include: groundwater and surface water.

5.0 MIGRATION PATHWAYS

5.1 Introduction

This section discusses data and information that apply to potential migration pathways and targets of TCL compounds that can be attributed to Clark Oil and Refining Corporation. The pathways of concern are groundwater, surface water, and soil exposure (direct contact). The air migration pathway is also noted.

5.2 Groundwater Pathway

The Groundwater Migration Pathway is of concern at this site due to the potential for the contaminants that have been released during spills and leaks to the soil to find their way into the groundwater system.

Geologic and hydrogeologic information was made available through Illinois State Water Survey (ISWS) well logs, Illinois State Geological Survey reports, and IEPA files.

Clark Oil and Refining Corporation/Wood River Refinery, is located in the Mississippi River Valley of the East St. Louis area commonly referred to as the "American Bottoms". Water-yielding deposits of the area are permeable sands and gravels in unconsolidated valley fill. In the vicinity of the site, the upper 20 to 30 feet consists of silts and clays with discontinuous sand lenses present in some areas, with materials coarsening with depth. The most favorable water-yielding deposits usually occur at depths of 60 to 90 feet. Studies of the aquifer suggest a hydraulic conductivity of

2,000 gallons/day from a saturated thickness of 75 to 100 feet.

The aquifer of concern consists of the entire unconsolidated alluvial deposits overlaying the limestone bedrock of the area.

The direction of groundwater flow in the refinery operations area is to the southeast. Flow in this area is artificially influenced by industrial well withdrawals, with lesser cones of depression located within the regional flow regime. Flow direction in the lagoon areas to the west of the levee is to the east, also artificially induced by pumpage with some recharge expected from the Mississippi River.

There are four public water supply systems utilizing the aquifer of concern within a four mile radius of the site (see Appendix A for public well locations). The Village of Hartford has four municipal wells serving 1,900 people, five Wood River wells supply 12,446 people, three Roxana wells serve 3,873 people and seven Bethalto well serve 22,783 residents. Located less than four miles from the site is East Alton's well field serving 7096 people. The five above mentioned municipalities distribution systems are all interconnected and with the addition of the few area residents using private wells brings the total population potentially affected by groundwater to approximately 62,424. A listing of the number of public wells and approximate number of private wells and users in each distance category are identified below.

Distance	Wells	Private Well Population	Total Population
0-1/4 mile	0	0	0
1/4-1/2 mile	0	0	0
1/2-1 mile	9	8	1918
1-2 miles	21	50	1308
2-3 miles	165	595	40,034
3-4 miles	130	316	20,422

5.3 Surface Water

Clark Oil and Refining's property west of the levee and Hartford is situated in the 30-year floodplain of the Mississippi River between the Mississippi River mile 196 and 198. According to the St. Louis District of the Army Corps of Engineers, the highest river stage on record occurred in April of 1973. During this time the lagoons became a part of the river as the stage crested at 431.3 feet. The predicted 30-year, 100-year, and 500-year flood events would reach a maximum elevation at river mile 197 of 434 feet, 436.8 feet, and 441.5 feet respectively.

Two surface water intakes are located downstream of Clark Oil. Illinois-American Water Company has an intake 4.5 miles downriver near Mississippi River mile 192. The St. Louis intake is located north of river mile 190, 6.2 miles downriver (see Appendix B). Collectively, these intakes supply millions of people with water.

Pool 27 of the Mississippi River is used extensively for

fishing and recreational purposes according to the Illinois State Atlas.

The illegal dump and the former treatment lagoons are sources that could contribute to contaminants entering the surface water pathway. Of concern in this pathway are the drinking water intakes that are located downstream, most notably, those used by the City of St. Louis.

The Environmental threat is also of concern at this source. According to maps by the U.S. Department of the Interior, this lagoon area, located west of the levee, is a noted wetland area. And, as was noted previously, Clark representatives have stated that people have been seen fishing in the lagoon area.

According to maps received from the Illinois Department of Conservation, National Wetlands Inventory, there are also designated wetland areas in the storm water retention ponds, as well as several other areas within the operations area.

5.4 Air

Releases to the air were observed during the SSI while collecting soil/sediment and groundwater samples. Upwind and downwind air samples of the facility failed to document an observed release. A photo-ionization detector (HNU) with an 11.7 eV lamp was used to screen the soil/sediment samples and groundwater samples and monitor for any air releases.

Approximately 34,000 people live within four miles of Clark Oil and Refining.

The following table provides information concerning populations located within a 4-mile radius of the Clark Oil facility.

Distance	Population
Greater than 0-1/4 mile	0
Greater than 1/4-1/2 mile	40
Greater than 1/2-1 mile	3817
Greater than 1-2 miles	10398
Greater than 2-3 miles	10359
Greater than 3-4 miles	13817

5.5 Soil Exposure

The soil exposure threat to the approximately 500 Clark workers within the operations area of the facility at Clark. However, direct exposure by the public is not of concern in the operations area of the facility due to the area being fenced and the security guards located at the entrance. The lagoon areas west of the levee, however, do not have access control and Clark Oil representatives stated that people have been seen fishing in the lagoons on Clark property.

Approximately 2,000 people live within one mile of the lagoon area west of the levee.

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USGS, 1974, Bethalto, IL. Quadrangle, 7.5 Minute Series.

Source: IEPA BOL

L1190500002 – Madison Co.
CLARK OIL & REFINING COMPANY
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(Volume 1 of 2)

CERCLA

Expanded Site Inspection

Illinois Environmental
Protection Agency

RELEASABLE
JAN 07 2003
REVIEWER MI

EXPANDED SITE INSPECTION REPORT
CLARK OIL & REFINING COMPANY

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EXPANDED SITE INSPECTION REPORT

for:

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

ILD 041869023

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FEDERAL SITE REMEDIATION SECTION
SITE ASSESSMENT UNIT

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1.0 SITE BACKGROUND

1.1 INTRODUCTION

On September 30, 2000, the Illinois Environmental Protection Agency's (IEPA) Site Assessment Program was tasked by the U.S. Environmental Protection Agency (U.S. EPA) to conduct an Expanded Site Investigation (ESI) of the Clark Oil & Refining Company (currently named Premcor (The Premcor Refining Group Inc.)) (ILD041869023) site located in Hartford, Illinois. The ESI is performed under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

On August 3, 1991 Clark Oil was placed on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) in response to concerns that past and current site activities may have resulted in the release of chemical substances, associated with oil refining processes, into the environment. The substances had the potential to enter the environment through four environmental pathways; groundwater, surface water, soil exposure and air releases thereby endangering the life and health of wildlife and human populations. The potential for contamination exists both onsite and in nearby offsite locations. This potential stems from a number of factors as follows: The refinery has been active as a refinery for over 60 years; disposal of leaded still bottoms on site in unlined pits; the occurrence of multiple leaks and spills, free product existing on groundwater beneath the site and local residences west of site; disposal of various production wastes in an unlined landfill area on Clark Oil property west of the Army Corp of Engineers flood control levee; two of Hartford's public drinking water wells have been found to be contaminated with various volatile organic

compounds including BTEX constituents.

The Illinois EPA conducted a Preliminary Assessment at the site on June 4, 1992 and a Screening Site Inspection on March 31 and April 1, 1993. Personnel of Illinois EPA's Site Assessment Unit prepared a work plan for ESI field activities, which was submitted to U.S. EPA on October 17, 2000. The field activity portion of the ESI was conducted on November 1, 2, and 9, 2000. The activities of the ESI included a reconnaissance inspection, an internal file review, information collected from external sources and the collection of thirty soil samples. Twenty-eight samples were collected from Clark Oil & Refining property; two (the soil background) were collected on Roxanna Water Department property. No sediment or groundwater samples were collected during the November 1, 2 and 9, 2000 sampling event. However, twenty-four groundwater samples (monitor wells) were collected from plant property on May 21 - 23, 2001 by personnel from the IEPA's Collinsville field office. Samples were collected in conjunction with Clark Oil's quarterly groundwater sampling requirement. Duplicate and background samples of each media are included in the number of samples mentioned above.

The Illinois EPA performed ESI activities at the site to fill information gaps which existed from previous CERCLA investigations and to determine whether, or to what extent, the site poses a threat to human health and the environment. The ESI report presents the results of Illinois EPA's evaluation and summarizes the site conditions and targets of concern to the migration and exposure pathways associated with the site.

1.2 SITE DESCRIPTION

The Clark Oil & Refining site is located at the east corporate boundary of the City of

Hartford, Illinois on property with the address of 201 East Hawthorne South (State Aid Route 11A) Wood River Township, Madison County (Figures 1 & 2). The site is an operating petroleum refinery, which consists of numerous process structures, piping, and holding tanks for crude oil and finished product. Clark Oil & Refining Company is one of three oil refineries in the immediate area east and north of the Village of Hartford. General land use surrounding the residential areas of the Village is industrial. A few commercial businesses are located within Hartford. Refinery property encompasses a total of approximately 420 acres. Refinery operations occupy approximately 270 acres west of Illinois Route 111 and east of the Village of Hartford. Refinery operations are located in Sections 34 and 35 Township 5 North - Range 9 West and Section 3 Township 4 North - Range 9 West. Clark Oil property also includes old wastewater treatment lagoons located on approximately 150 acres west of refinery operations and west of the Corp of Engineers Mississippi River flood control levee. Three and one half of the four lagoons on this property currently contain water. Half of the fourth lagoon has been utilized as a repository for the Village of Hartford's landscape waste and light demolition debris. This property is located in Section 33 Township 5 North - Range 9 West and Section 4 Township 4 North - Range 9 West. The refining processes portion of Clark Oil property is situated in the S 1/2 of Section 34 T.5N. - R.9W. and the SW 1/4, SW 1/4 of Section 35 T.5N. - R.9W. (Figure 2). This portion of the property lies within the eastern corporate limits of Hartford. Bordering the refinery portion of the site to the north is the Illinois Terminal Railroad across which is the Amoco Oil Refinery, south by Hawthorne Street (State Aid Route 11A) across which is one of Shell Oils' tank farms, east by Illinois Route 111 across which is the Shell Oil Refinery and west by the Penn Central, Burlington Northern, and Illinois Central Gulf Railroads beyond which is

the Village of Hartford. The old wastewater treatment lagoons are situated in SW 1/4, SE 1/4 of Section 33 T.5N. - R. 9W. and the W 1/2, NE 1/4 of Section 4 T.4N. - R.9W. (Figure 2). This property lies west of the Hartford corporate limits and west of Route 3. Bordering this portion of Clark property to the north are settling basins who's owner is unknown by this author, south by open ground, east by the Mississippi River flood control levee, and west by the Mississippi River. The Clark Oil & Refinery site is situated in an area that has been used as industrial or commercial since the early 1900's. Residential property exists to the north-northeast (Wood River and Roxana), west and southwest (Hartford), and southeast South Roxana) of the refinery property. Single-family residences make up the majority of the residential property within four miles of Clark Oil. Multi-family dwellings are interspersed within these urban residential areas. Also, some areas near the Clark refinery remain as pasture or farmland, generally south, southwest, and southeast.

Clark Oil & Refining has been active as a refinery since 1941. Current site structures remain in use and considered to be in good operating condition. The company is an operating petroleum refinery with process operations including crude desalting, atmospheric crude distillation, and fluid catalytic cracking, etc. Products include gasoline (formerly producing leaded gasoline), LPG, distillate fuels and coke. Wastewater generated at the plant passes through various settling basins, skimmers and treatment processes prior to being discharged into the Mississippi River. The discharge is regulated by a National Pollutant Discharge Elimination System (NPDES) permit issued by the IEPA. Waste streams generated by the refinery processes are DAF float, slop oil emulsions, heat exchanger bundle cleaning sludge, and API separator sludge. These wastes are then processed into various materials and sold by Clark. Another waste

stream formerly generated by Clark was leaded tank bottoms. During the time period of leaded gasoline production, storage tanks were routinely cleaned when empty. The leaded tank bottom sludge was cleaned from the bottom of these tanks and placed in an unlined pit on refinery property to dewater and dry. The pit remains and consistently contains water.

The majority of the sites ground surface consists of soil, weeds, cinders, white gravel, asphalt and concrete. Soil, grass and white gravel comprise the secondary containment berms surrounding the facility's storage tanks. Landscaping at the main office building consists of a small amount of grass with some bushes and trees. The old wastewater treatment lagoons remain in existence and contain water of unknown depth. Currently these lagoons have approximately four feet of freeboard. Berms are constructed of soil covered with grass, with various areas protected by rock rip-rap at the normal pool elevation.

The nearest individual and occupied structure is located off site. The structure, along with a number of others immediately adjacent to the refinery, is a single-family residence located approximately 300 feet west of the refinery's western property boundary. Additional residential areas exist west, north, and southeast of Clark. The Mississippi River is located approximately 800 feet west of the old lagoons and approximately 4000 feet west of the western property boundary of the refinery process area.

Surface water runoff from the refinery is collected in either area drains or open channels and routed to the Guard Basin at the southeast portion of the facility. Skimmers then remove any grease or oil from the water surface. Water in the Guard Basin is used as the refinery's fire protection reservoir. A 15-mile surface water drainage route map identifying surface water migration is provided in Appendix A. Appendix A also provides a 4-mile radius groundwater

migration map identifying areas of potential impact.

The Clark Oil refinery property is entirely fenced with an eight-foot high chain link fence topped with three strands of barbed wire. An electronic main access gate is actuated by a guard 24 hours a day. The Clark Oil refinery property can be accessed only after a visitor contacts an employee from the main office, the visitor signs in, attends a company safety training class (good for one year), and is escorted throughout the facility.

While walking both Clark property locations, air monitoring was conducted by use of a Foxboro Toxic Vapor Analyzer (TVA) meter. Monitoring of the breathing zone and near the soil surface occasionally registered two or three meter units above background readings (1 - 2 meter units) at the refinery and no readings above background at the old wastewater treatment lagoons. No peculiar or extremely unusual site characteristics were noted during the survey. Further inspection of the old wastewater treatment lagoons revealed signs of recreational use on this property, ie; discarded fishing tackle, deposits of beverage containers, cigarettes, etc. Signs of animals were also present on this property. At this time, consideration of the lagoons as a fishery is speculative. The fill area on the southern most lagoon, as mentioned previously, remains active. Refuse consisted mainly of gravel, broken concrete, and soil.

Surface soil on the refinery property consists of silty clay, silty sand and sandy clay. Gravel and or cinders cover this soil in a number of locations on this property. The soil surface surrounding the lagoon property consists of silty loam, silty clay, silty sand and sandy clay. In some locations gravel had been placed on the soil surface. West of the lagoons and extending approximately six hundred feet west toward the Mississippi River is an area of overgrown vegetation, timber and bushes.

The Clark Oil & Refining Company property is located in an area of southwestern central Illinois where surficial terrain has been shaped by various types of glacial action and deposition, and riverine dynamics and morphology. The land surface has been modified by glacial activity into the gently rolling terrain surrounding the Mississippi River flood plain. Modifying this terrain was the transport of glacial outwash and the meandering of the Mississippi River to form Mississippi River flood plain referred to as the American Bottoms. The refinery property is flat and lies at approximately 428 feet above mean sea level (MSL). The topography surrounding the property is also relatively flat and lies at basically the same distance above MSL. The lagoon property is also flat and lies at approximately 415 feet above MSL. Normal pool elevation of the Mississippi River is 398 feet above MSL. Site slope is basically non-perceptible for the majority of the site. Surface drainage follows minor site slopes to area drains, open channels or pools in place. Although much of the moisture on site does drain to designated locations a large amount also infiltrates into the sandy soil and into area groundwater. As previously mentioned, all site runoff flows into the Guard Basin.

Industry and commercial properties within close proximity of Clark Oil & Refining are Shell Oil Refinery to the north; Amoco Oil Refinery and above ground storage tank farm (tank farm), east and northeast; Shell Oil tank farm, south-southeast; various commercial businesses in South Roxana, southeast; and various commercial businesses in Hartford, west. Overall land use within the four-mile radius of Clark Oil is predominantly rural. However, within 1 mile of the Clark property land use is approximately seventy-five percent industrial.

1.3 SITE HISTORY

Clark Oil & Refining Company began operations in 1941 as the Wood River Refinery. The facility became part of the Sinclair Oil Corporation in July 1950. Clark purchased the refinery property in September 1960. In September 1983 Clark sold the facility to APEX Corporation and then repurchased it in November 1989. In May 2000, the company changed its name and currently, the facility is known as Premcor.

Review of a number of aerial photographs dating from 1954 to 1990 has revealed a number of areas of potential contamination. The photos show areas of various size which, over the years, have been subjected to leaks, spills, surface disposal etc. Since 1970 and the creation of the EPA, Clark has completed necessary remediation of said spills, leaks, etc. However, according to groundwater monitoring well sample results, free product (leaded gasoline) is floating on the water table beneath Clark and the Village of Hartford. The free product has been attributed to Clark through analytical fingerprinting. It remains unclear as to when and how the product migrated from Clark.

According to the State Historical Library's Incorporation Documents, Clark Oil & Refining Company was incorporated to conduct refining of crude oil into gasoline products and to sell such products. As noted previously, Clark has operated as a refinery from 1941 to the present. The Hartford refinery through a series of improvements and expansions, has reached a crude oil throughput capacity of approximately 70,000 barrels per day. Because the refinery includes a coker unit it therefore has the capability to process a high percentage of lower cost, heavy sour crude oil into higher value products such as gasoline and diesel fuel along other with other petroleum products distributed on a wholesale unbranded basis. In addition to heavy sour

crude the refinery units also process light sweet crude oil. The Clark Oil & Refining Company's Hartford facility produces the following motor fuels; conventional gasoline, reformulated gasoline, #1 diesel and #2 diesel fuel. Each product is monitored throughout the production and blending process by obtaining samples and testing for octane (cetane index for diesel), vapor pressure (cold flow properties for diesel), and distillation. Once a refinery tank is full, the batch is mixed for several hours to ensure homogeneity. Composite samples are then pulled and tested for necessary properties. When the product is determined to be "on-test" for all properties, the tank is certified and released for shipment. Clarks' reformulated gasoline is produced by ethanol blending and does not use MTBE in the production of this fuel.

There is no evidence that Clark used any type of containment system to prevent the migration of contaminants into the environment from wastes placed into pits or on the ground surface. Complaints registered by area residents and businesses have been regarding the presence of gasoline fumes in basements and contaminated groundwater.

1.4 REGULATORY STATUS

Clark Oil & Refining Company has had numerous complaints registered against it, mainly due to gasoline fumes in basements. The facility is not subject to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Atomic Energy Act (AEA), or Uranium Mine Tailings Radiation Control Act (UMTRCA).

2.0 EXPANDED SITE INSPECTION ACTIVITIES

2.1 INTRODUCTION

This section contains information gathered during the preparation of the formal CERCLA Expanded Site Inspection and previous Illinois Environmental Protection Agency's activities involving the Clark Oil & Refining Company site. Specific activities included an internal file search, field reconnaissance inspections, site representative interviews, and a sampling visit of the surrounding area and the facility.

2.2 RECONNAISSANCE ACTIVITIES

On October 26, 2000, personnel of Illinois EPA's Site Assessment Unit conducted a reconnaissance inspection of the Clark Oil & Refining Company property and surrounding area. Upon arrival at the main office, located near the southwest corner of the refinery property, contact was made with the plant manager. Introductions took place followed by a short discussion regarding the purpose of the reconnaissance and that the sampling team would be utilizing the Agency's Geoprobe to obtain soil samples on the property. The plant manager and the author then proceeded to tour the refinery. Activity at the refinery was noted to be normal. Three shifts keep the refinery in operation twenty-four hours a day. Employees were noted to be performing routine plant maintenance, monitoring production processes or working in various production process areas. Modes of employee transportation at the refinery other than walking are bicycle or automobile/truck. Hard Hat, steel toe and shank footwear and fire-retardant jumpsuits are required to be worn when on refinery property within the fence line. All fencing around the refinery is well maintained. As the reconnaissance progressed the author and plant

manager placed wooden stakes at potential sample locations throughout the refinery (and later at the old lagoon property). Due to the use of the Geoprobe, once the locations were marked, plant engineering investigated each specific location to assure no underground utilities or piping was present. If the location was deemed clear it was certified and tagged as an acceptable sample location. When the reconnaissance at the refinery property was completed, the plant manager and the author proceeded to the old lagoon property. No fencing exists around the lagoons. The author did not note any unusual characteristics regarding the lagoons. Potential sample locations were marked and handled in the same manner in which the refinery locations were handled. Other areas investigated during the reconnaissance were the surface water drainage routes leading from the property, residential areas near the site, the proximity of the properties to the Mississippi River, and on-site soils. The information attained during the reconnaissance and additional information gathered on November 1, 2 & 9, 2000 is included in the site description in Section 1.2 of this report.

2.3 REPRESENTATIVE INTERVIEWS

Site representative interviews were conducted on various occasions over the telephone between personnel of the IEPA, and the refinery manager of Clark Oil & Refining Company during October and November 2000 prior to the site inspection. Another short interview with an employee of Clark Oil was conducted on November 1, 2000 just prior to the actual site inspection sampling activities. The interviews were conducted to inform the site representatives of IEPA's intentions, to talk about past, present and future activities and problems, explain the CERCLA site assessment process, and to confirm proposed sampling locations. The plans

involved the collection of 30 soil/sediment samples (which includes a duplicate sample) from on and off site. A number of these samples will be described as shallow, others will be described as deep. Samples were to be collected by utilizing IEPA's Geoprobe, a direct push technology; stainless steel bucket auger or stainless steel trowel. The type of equipment used to collect the samples depended on the various sample locations and location characteristics on and off site. Each sample location was chosen to determine if contamination existed in shallow or deep strata or at a specific area on refinery and lagoon property and whether a contaminant was attributable to Clark. The Geoprobe, in addition to obtaining shallow soil samples, was to be used to collect soil samples at depths of between 20'-30' in order to determine if contaminants were present in native soil beneath the refinery and old lagoon property. The Geoprobe was also used to determine if contaminants were present at or near the water table. After confirming the sample locations for the site representative the sampling team was given the company safety training after which began the site sampling process. The plant manager was also asked whether any mishaps occurring on-site. He indicated that various minor incidents have occurred over the past few years. The IEPA inspection team leader and the refinery manager also discussed the various types of contaminants that were potentially present on-site due to past and current refinery operations. He was informed that chemical constituents may include various heavy metal, PNA, PAH and volatile compounds.

2.4 SAMPLING ACTIVITIES AND RESULTS

On November 1, 2 & 9, 2000, Illinois EPA personnel collected thirty samples from within the Clark Oil property and immediate area surrounding the property. Samples collected

consisted of twenty-eight soil samples from within the property boundaries of Clark, and two soil samples off-property. The two off-property samples (one shallow and deep in the same Geoprobe bore hole) serve as background samples. The on-property samples were collected to help determine the type of contaminants present and concentration of the contaminants. The off-property soil background sample was collected to serve as a baseline for constituents which may be common in area soils. Additional discussions concerning the analytical results of these samples and their impact on the various migration pathways may be found in Section 4.0 of this ESI report (Migration Pathways). Figures 4 & 5 illustrate the locations of each soil sample. Table 9 describes each soil sample with its location, depth, and physical appearance. Tables 1 - 4 provide an overall summary of soil samples collected during this ESI investigation. Tables 5 - 8 (Soil Key Sample Summary Tables) provides a summary of key soil samples depicting contaminants detected at concentrations at least three times background levels.

Groundwater samples were not scheduled to be collected at the time of this investigation. Prior to the sampling event discussions within the IEPA determined that IEPA's Collinsville Field Operations Section staff would conduct groundwater sampling which would take place during quarterly sampling of Clarks monitor well system. Previously conducted site investigations have determined groundwater flow direction to be, generally, in a northeasterly direction.

The twenty-eight soil samples collected from Clark Oil property revealed elevated levels of several volatile constituents, a number of semi-volatile constituents, and several pesticide and inorganic constituents. All soil samples were analyzed for the Target Compound List constituents. Samples X125 (shallow) & X126 (deep) were designated as background soil

samples. Due to similar constituent quantities reported by the analytical laboratories in these two samples all comparative analysis of samples will be compared to background sample X125. All samples except X119 and X128 contain various volatile constituents at levels equal to or greater than three times background levels (Tables 5). None of the constituents exceed USEPA designated Removal Action Level (RAL) benchmarks, however, the level of benzene exceeds the Superfund Chemical Data Matrix (SCDM) benchmark in sample X130. Samples X102, X103, X105 - X108, X110, X112, X114 - X120, X122 - X124, and X128 - X130 contain various semi-volatile constituents at levels equal to or greater than three times background levels (Table 6). None of the constituents exceed RAL's, however, the level of benzo(a)pyrene exceeds the SCDM benchmark in samples X103, X110, X112, X114, X116 - X120, and X124. Samples X101 - X104, X107, X108, X110, X112, X114, X116 - X120, X122, X124, and X129 contain various pesticide/PCB constituents at levels equal to or greater than three times background levels (Table 7). None of the constituents exceed RAL's, however, the level of dieldrin, 4'4-DDD, aroclor-1254 in sample X103; aldrin in sample X112; dieldin in sample X114; heptachlor and dieldrin in sample X118; and aroclor-1254 in sample X124 exceeds the SCDM benchmarks. Samples X102 - X104, X106, X107, X110, X112 - X118, X120, X124, X127, X128, and X130 contain various inorganic constituents at levels equal to or greater than three times background levels (Table 8). None of the constituents exceed RAL's except cadmium in sample X112. The SCDM benchmark for beryllium is exceeded by all samples except samples X101 and X112. The SCDM benchmark for manganese is exceeded in sample X113. All other constituents are below SCDM benchmarks.

There were no sediment samples or groundwater samples collected during this sampling

event. Groundwater samples were, however, collected by IEPA's Collinsville FOS staff on March 2001.

Groundwater sampling consisted of collecting samples from twenty-four monitor well locations on the Clark Oil Refinery portion of the property. All groundwater samples were analyzed for the Target Compound List constituents. Monitor wells are distributed throughout the refinery property. Groundwater elevations were also determined during this sampling event, the resultant groundwater flow direction was found to be in a northeast trend. A complete report of groundwater conditions on Clark property including analytical data will be completed in early November, 2001. Initial information supplied by the Collinsville field office indicates most monitor wells contained free hydrocarbon product floating on groundwater. Groundwater static level during the May sampling event was approximately thirty feet below ground surface. Information on contaminants and contaminant levels were not available at the time of this writing.

For a list of semi-volatile compounds considered to be polynuclear aromatic hydrocarbons (PNA's), please refer to the Target Compound List found in Appendix B.

A complete analytical data package for the Clark Oil & Refining Company site is located in Appendix D, under a separate cover in Volume 2 of the ESI report.

Photos of IEPA=s November 2000 sampling event are located in Appendix C of this report.

3.0 SITE SOURCES

3.1 CONTAMINATED SOIL (ON CLARK OIL REFINERY & LAGOON PROPERTY)

During the November 2000 ESI sampling event twenty-eight soil samples were collected from various locations on the Clark Oil & Refining Company property. Analysis of the collected samples indicated various contaminants above background concentrations with some being three or more times above background concentrations (reference Tables 5 - 8). In addition to the 2000 samples, sample analysis from various previous sampling events were utilized to define sources and determine soil contaminant concentrations. Samples utilized for determining the contaminated soil source were collected at various depths within Clark Oil property. According to the HRS definition of a source when referring to contaminated soil, any area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from the migration of a hazardous substance is considered a source. Based on this definition, sample data and measurements from known points of contamination, the source has been calculated to be an area of approximately two hundred acres (8,712,000 square feet).

3.2 SURFACE IMPOUNDMENT (TANK BOTTOM PIT)

The subject surface impoundment is triangular in shape located slightly northeast of the center of the refinery portion of the property. This impoundment is unlined and contains leaded tank bottom sludge from storage tank cleanout. At the time of the November 2000 sampling

event the sludge was covered with approximately six inches to one foot of water. The impoundment was also noted to have approximately two feet of freeboard remaining. During the November 2000 investigation a sample (X114) was collected from the surface of the sludge below six inches of water. Analytical results of the sample indicated the presence of constituents from each, the volatile, semivolatile, pesticide/PCB and inorganic fractions of the TCL. A few of the constituent concentrations are three times above background (reference Tables 5 - 8). This source has been calculated to contain a volume of approximately 34,322 cubic feet. Volume was calculated with the formula 1/2 (Base x Height) x Depth. 1/2 (131' x 131') x 4' = 34,322'.

3.3 SURFACE IMPOUNDMENTS (OLD WASTEWATER TREATMENT LAGOONS)

The subject surface impoundments are rectangular in shape located west of the refinery portion of the property, west of the Corp of Engineers Flood Control Levee on both, the north and south side of Hawthorne Road. The impoundments were once a three-stage lagoon wastewater treatment system for Clark Oil. The impoundments are unlined and contain material which has either been pumped or placed into them by Clark. At the time of the November 2000 sampling event the lagoons contained water, however depth was not determined. The impoundments were also noted to have approximately four to six feet of freeboard remaining. During the November 2000 investigation a samples (X101 - X104 & X127 & X128) were collected from the bermed areas surrounding the lagoons. Analytical results of the samples indicated the presence of constituents from each, the volatile, semivolatile, pesticide/PCB and inorganic fractions of the TCL. A few of the constituent concentrations are three times above background (reference Tables 5 - 8). This source has been calculated to contain a volume of

approximately 150 acres.

3.3 PLUME OF CONTAMINATED GROUNDWATER

According to the HRS definition of characterizing a source when referring to a plume of contaminated groundwater resulting from an unknown source(s), the plume of contamination must be identified by sampling and inference, using observed release criteria along with a level of effort similar to an ESI, to possibly identify the original source(s). Sample data from several site investigations and required quarterly sampling of monitor wells by Clark Oil has indicated that the plume extends from beneath the Clark Oil refinery portion of the property, west and northwest to beneath the Village of Hartford. Based on the definition, sample data available, and measurements from known points of contamination the source has been calculated to cover an area of approximately fifty acres (2,178,000 square feet).

4.0 MIGRATION PATHWAYS

4.1 GROUNDWATER

According to the Illinois State Geological Survey and the Illinois State Water Survey the Clark Oil & Refining facility is situated on what is locally known as the American Bottoms otherwise known as the Cahokia Alluvium. The Cahokia consists of approximately forty-five feet of silt, clay, and silty sand, overlying sixty to ninety feet of sand and gravel glacial outwash of the Mackinaw Member of the Henry Formation. The Mackinaw Member is Wisconsinan in age and is glacial outwash in the form of valley-train deposits. Underlying the alluvium and outwash is Pennsylvanian and Mississippian age limestone and dolomite with lesser amounts of sandstone and shale. The Cahokia Alluvium consists of unconsolidated, poorly sorted, fine-grained materials with some local sand and clay lenses. This material becomes coarser with depth. This material was laid down via flood events, eolian activity, bank slumping, and erosion and deposited material from tributary streams. The Mississippi River has frequently and extensively altered this material. The Mackinaw Member consists of materials which are generally medium to coarse sand and gravel and, as does the Cahokia Alluvium, also increases in grain size with depth. Till and/or boulder zones may be encountered ten to fifteen feet above bedrock. The Ste. Genevieve Limestone, underlying the Mackinaw Member, consists of limestone, dolomite, sandstone and shale. Sandstone and sandy limestone are present mainly in thin beds. This formation is approximately eighty feet thick in the area near the Clark facility. Underlying the Ste. Genevieve Limestone is the St. Louis Limestone consisting mainly of fine-grained, cherty limestone but also containing beds of dolomite, crystalline limestone,

fossiliferous limestone and evaporates. The St. Louis Limestone is approximately two hundred feet thick in the area beneath Clark Oil in Hartford.

All of the Formations and associated Members are hydrologically connected in this area. Groundwater movement beneath the Clark Oil facility and surrounding area tends to reflect the river stage of the Mississippi River. Groundwater has been determined to trend toward the east and northeast when prolonged periods of high river stage exists and toward the west and southwest when the river stage is at normal pool or below. During the May 2001 groundwater investigation at the Clark Oil refinery property, groundwater was encountered at approximately thirty feet below ground surface (BGS) upon initial measurement of monitor wells prior to bailing and sampling. Monitor wells vary in total depth from forty feet to sixty feet below ground surface. Land surface elevation throughout the refinery portion of the property is approximately 428 feet above mean sea level (MSL). Groundwater in the shallow alluvial and sand and gravel outwash aquifer may ultimately discharge into nearby streams and wells with some movement into the deeper bedrock formations. Flow direction of groundwater in local bedrock follows eroded bedrock surfaces at depth, which dip toward the west and along old eroded valleys as indicated by the Illinois State Water Survey Bulletin 60-4.

Records obtained from the Illinois State Water Survey (ISWS) indicate that there are numerous industrial/commercial (I/C) wells pumping groundwater from the alluvial/glacial outwash formation and the limestone/dolomite formation throughout the Hartford, Roxana, and Wood River area, including wells at Clark Oil. The industrial/commercial wells are drawing water from between twenty and one hundred seventy-one feet below ground surface. The shallow I/C wells are older wells drilled during the early 1900's, some of which are no longer in

use. Drinking water in the area is supplied by public and private wells and through the distribution system of the Illinois American Water Company (IAWC). Public and private wells utilize the shallow sand and gravel alluvial and glacial outwash deposits of the American Bottoms for drinking water supplies. IAWC utilizes surface water from the Mississippi River as a source for drinking water. IAWC operates three intakes near the Clark Oil & Refining facility. One upstream at Alton, Ill. (river mile 202); and two downstream, one on Chouteau Island (river mile191.6) and another at East St. Louis (river mile 180.8). The Illinois State Water Survey (ISWS) records indicate that Hartford, Roxana, South Roxana, East Alton, Bethalto, Edwardsville, and Wood River are utilizing groundwater as a source of drinking water. Hartford uses two active and has two standby wells in serving 1680 residents, Roxana and South Roxana use three wells in serving 3560 residents, East Alton uses six wells in serving 7100 residents, Bethalto uses five wells in serving 9500 residents, Edwardsville uses nine wells, located in the community of Poag, in the American Bottoms in serving 20,250 residents and Southern Illinois University's Edwardsville Campus, and Wood River uses four wells in serving 11,900 residents. All of the wells are between seventy-nine and one hundred fifteen feet deep and extracting water from the sand and gravel aquifer. According to Illinois State Water Survey records, there are approximately 161 private wells (serving 423 people) within four miles of the Clark Oil & Refining facility using the alluvial/glacial outwash aquifer. Total population using the sand and gravel aquifer is 54,151. Within a four-mile radius of the Clark facility there are no private drinking water wells penetrating the shallow Pennsylvanian and Mississippian limestone and dolomite aquifer. Although this aquifer is hydraulically connected to the alluvial/glacial outwash sand and gravel aquifer, there are no known individuals within four-miles of the Clark

facility directly utilizing the limestone/dolomite aquifer other than for I/C purposes. The closest private domestic well uses the sand and gravel aquifer of concern and is, according to ISWS well logs, 3500 feet north of the facility with a total depth of ninety-seven feet. Hartford's Well #4 is the closest public well to Clark, being 1600 feet west of the facility's refinery operations. This well, and well #3, has been documented to contain volatile organic and semi-volatile contaminants. In addition to the presence of contamination in the public wells, there have been documented incidents of petroleum odor in basements of a number of residences in the north portion of Hartford. Evacuation of these homes was required while the basements were ventilated. A number of recovery wells have been placed at various locations throughout Hartford to recover petroleum constituents from the surface of area groundwater. Information obtained monthly from recording devices attached to the extraction wells indicate volumes of petroleum constituents in the thousands of gallons recovered from a number of these wells.

A listing of the number of public and private wells and approximate number of users in each distance category are presented below.

Number of wells and users within 4-miles of
Clark Oil & Refining Company

Distance	Groundwater Wells	Private Well Population	Public Well Population
0 - 1/4 mile	0	0	1680 (Hartford)
1/4 - 1/2 mile	0	0	0
2 - 1 mile	2	5	0
1 - 2 miles	18	47	15,460 (Roxana & S. Roxana)
2 - 3 miles	57	150	9,500 (Bethalto)
3 - 4 miles	84	221	27,350 (E. Alton) (Edwardsville)

The private well population was calculated using USGS topographic maps for the area surrounding the facility and 2.63 people per household in Madison County, as established by the U.S. Census Bureau (1990). Public well information obtained from the Illinois State Water Survey.

4.2 SURFACE WATER

As mentioned in Section 1.2, surface water runoff from the Clark Oil & Refining is collected in either area drains or open channels and routed to the Guard Basin at the southeast portion of the refinery facility. Also as mentioned in Section 1.2, skimmers remove any grease or oil from the water surface entering the Guard Basin. Water in the Guard Basin is used as the refinery's fire protection reservoir. Any drainage not collected by the area drains or channel tends to pool and evaporate. There is a limited amount of drainage, which flows off of the property and into roadside ditches east and south of the facility. Drainage patterns viewed on topographic

maps and aerial photographs have been visually verified. Drainage that collects in the roadside ditches flows south and east via overland flow toward the intersection of State Route 111 and Hawthorne St. Drainage then flows south along the west side of Route 111 for two miles at which point it flows into the Cahokia Diversion Channel. The Diversion Channel then flows two and one half miles to the Mississippi River. The point at which the small ditches carrying surface runoff enters the Cahokia Diversion Channel is identified as the probable point of entry (PPE) to surface water for the drainage pattern from the site. The PPE is located four and one half miles from the southeast corner of the site. The 15-mile in-water segment of the surface water pathway begins at the confluence of the Route 111 roadside ditch and the Cahokia Diversion Channel and terminates at Mississippi River mile 182.5. The Illinois American Water Company (IAWC) utilizes surface water from the Mississippi River as a source of drinking water for communities in the Alton, Granite City, Cahokia area. IAWC operates three intakes near the Clark Oil & Refining facility . One upstream at Alton, Ill. (river mile 202); and two downstream, one on Chouteau Island (river mile191.6) and another at East St. Louis (river mile 180.8). Along the 15 - mile in-water segment there is one surface water intake. This intake is located on Chouteau Island. There are no other known intakes along the 15-mile in-water segment of surface water route. The Mississippi River in-water segment, from river mile 195 to river mile 182.5, has been identified as a fishery. Wetlands exist; approximately four thousand feet south of Clark, west of Route 111; along the Cahokia Diversion Channel, and along the Mississippi River. The wetland area south of Clark is described as a palustrian, emergent seasonally flooded environment. The open channel of the Diversion Channel is described as a riverine, lower perennial, unconsolidated bottom, permanently flooded, excavated environment. Along and

outside of both banks of the channel is described as palustrian, emergent/scrub-shrub/forested, persistent or broad-leafed deciduous, temporarily or seasonally flooded environments. Along and beyond the banks of the Mississippi River are environments similar to those described for the Cahokia Diversion Channel.

No surface water or sediment samples were collected during the November 1, 2 & 9, 2000 Expanded Site Investigation of Clark Oil & Refining Company. The focus of this ESI centered on evaluating soil (shallow elevations and at depth) for contamination and its proximity to groundwater.

4.3 SOIL EXPOSURE PATHWAY

Soil sample analytical results indicate observed exposure to the soil exposure pathway by contaminants that are attributable to the sites' former activities and products and are within the top two feet of soil or cover material. Current analytical data compared with previously collected data indicate that qualitatively the site contamination remains the same. Compounds found three times background concentrations or above detection limits from this sampling effort are considered valid as a confirmed release to the soil exposure pathway (reference Tables 5 - 8). Contributing factors to this contamination have been discussed previously.

Activity on site consists of persons working in and around structures and plant process equipment. Activities on site (daily activity, demolition, construction, etc.) result in various degrees of surface disturbance. A number of spills and leaks etc. have occurred during the existence of the company. Remediation efforts were indicated to have been initiated with all mishaps. Clark Oil has always indicated that cleanup efforts were satisfactorily completed

according to appropriate regulations. Clark Oil & Refining employs approximately 150 people. These workers have the potential to contact contaminated waste, soil and/or breathe contaminated air. The same could be said about those individuals (contractors) who have been or are now involved with previous or current site activities, such as demolition or construction. Contact potential may continue depending on future site activity. Analysis of samples collected during the November 2000 ESI indicate contaminants exist on Clark property from surface grade to a depth, below current grade, of up to 11 feet. Within a 4-mile radius of the site the population is calculated to be approximately 27,960 persons. The nearest individual is located in a residential dwelling approximately 300 feet west of the southwest corner of the Clark refinery property. Three persons reside in this dwelling.

There are no schools or day care facilities on-site or within 200 feet of contaminated areas. Nearby population within one mile of Clark has been calculated to be 4,646 and is presented below.

Workers and Near-by population within one mile of the site

Distance	Population
On-site	150
0 - 1/4 mile	919
1/4 - 2 mile	1,269
2 - 1 mile	2,308

The population was calculated using USGS topographic maps for the area surrounding the facility and 2.63 people

per household in Madison County, as established by the U.S. Census Bureau (1990)

4.4 AIR ROUTE

During the November 1, 2, & 9, 2000 Expanded Site Investigation there were no formal air samples collected. A Foxboro TVA was utilized to screen ambient air around the site, air in the breathing zone at each sample point, and the sample as it was taken. This unit was also used during operation of the Geoprobe to screen the breathing zone and sample cores as the core sleeves were opened prior to sampling.

Agency records indicate that Clark Oil & Refining has had a number of air releases and permit violations over the years of operation. With each incident mitigative measures were and have been implemented to correct problems and attempt to avoid future incidents. Air Permits issued to Clark have applied to their various process equipment and storage tanks.

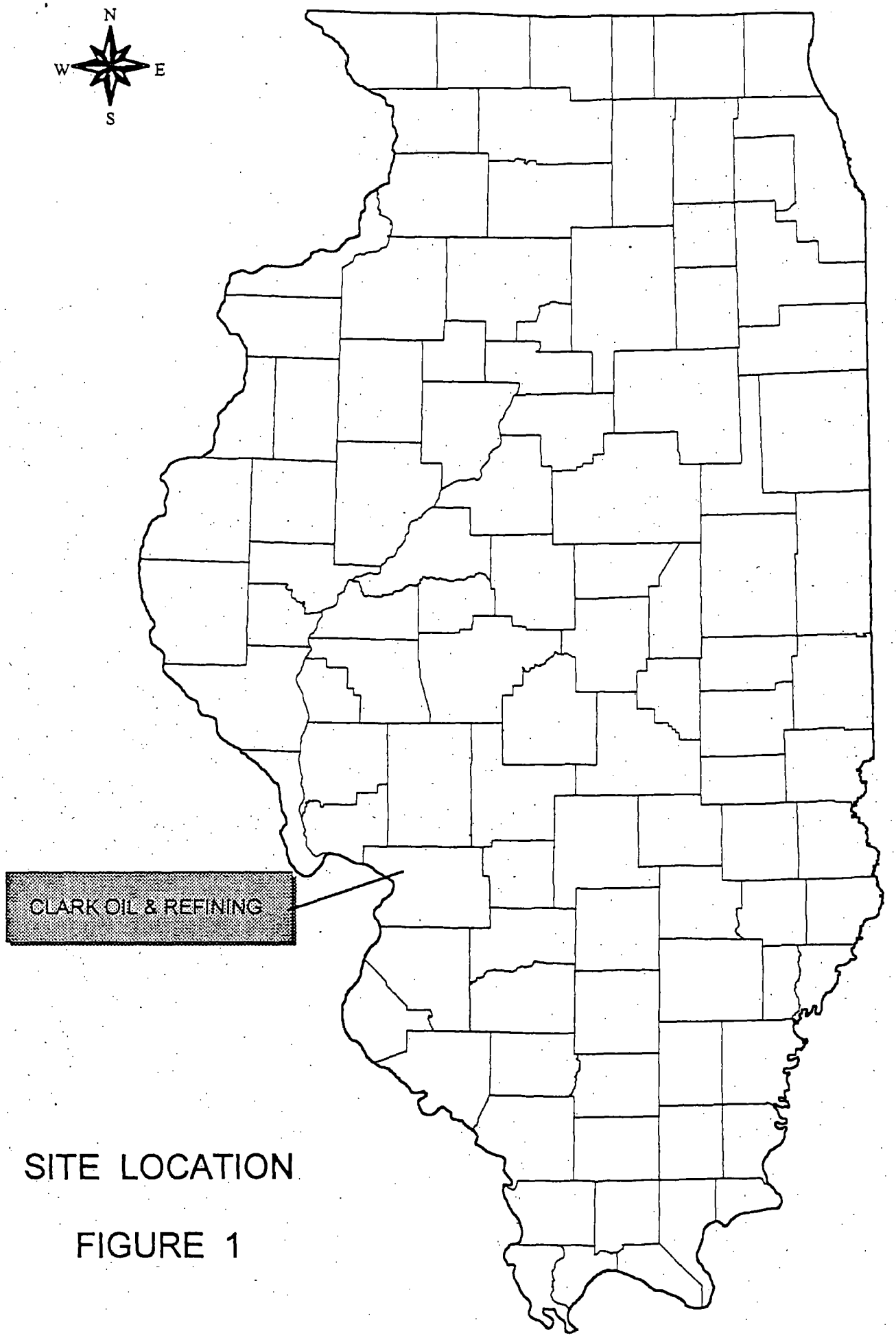
Within a 4-mile radius of the site the population is calculated to be approximately 27,960 persons. The nearest individual (Clark Oil & Refining employees) and regularly occupied building (the buildings on Clark Oil property) is located on-site, situated at various locations on the property. The approximate number of individuals potentially exposed to air-borne particulates is listed below. The potential for wind blown particulates to carry contaminants off-site is possible since these contaminants have been found in the top six inches of soil on-site. Sensitive environments within four miles of Clark Oil property consist of wetlands, which have been described previously in this report.

Individuals potentially exposed to air-borne contaminants

Distance	Population
On-site	150
0 - 1/4 mile	919
1/4 - 1/2 mile	1269
1/2 - 1 mile	2308
1 - 2 miles	7046
2 - 3 miles	8758
3 - 4 miles	7510

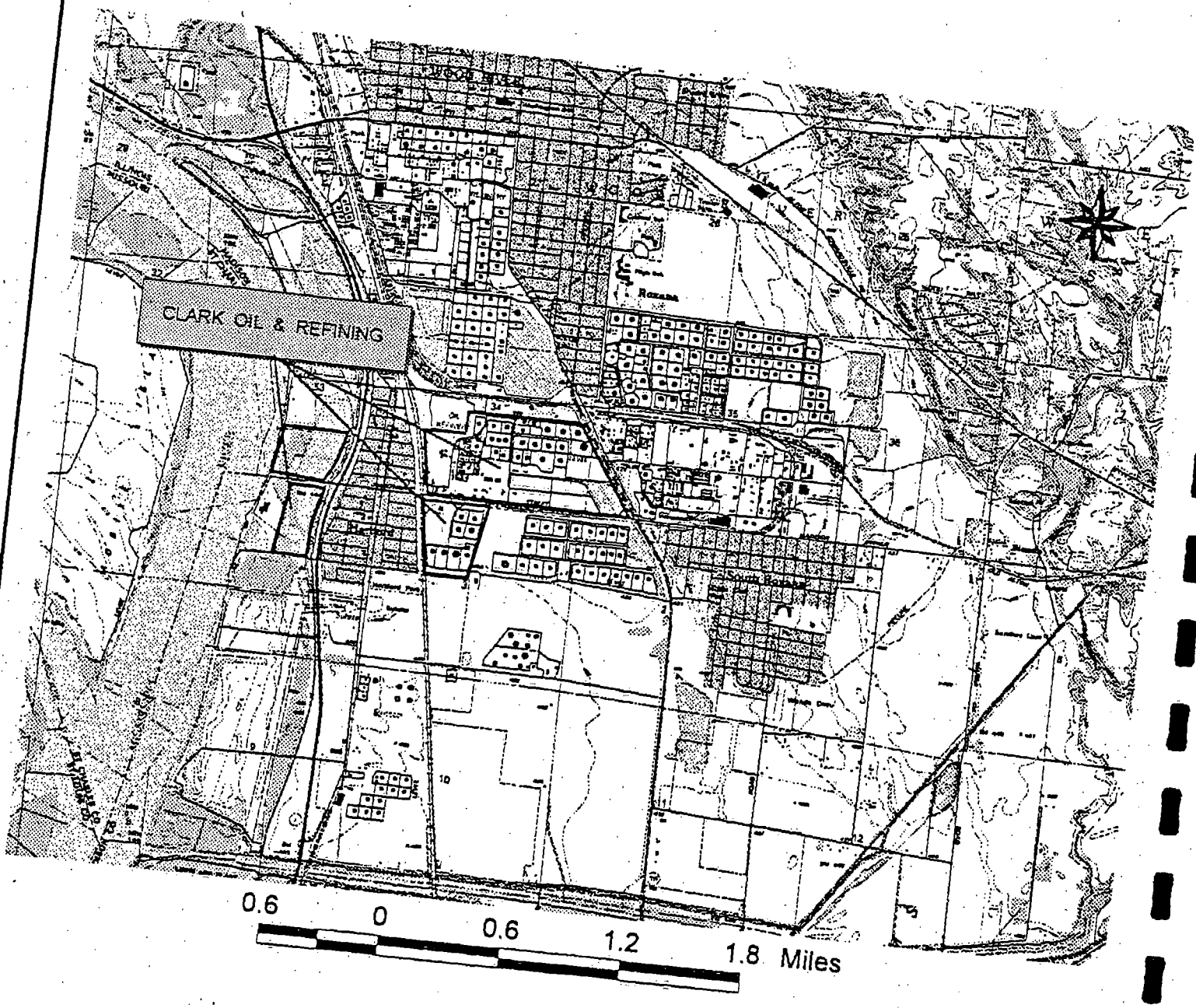
The population was calculated using USGS topographic maps for the area surrounding the facility and 2.63 people per household in Madison County, as established by the U.S. Census Bureau (1990)

5.0 FIGURES AND TABLES



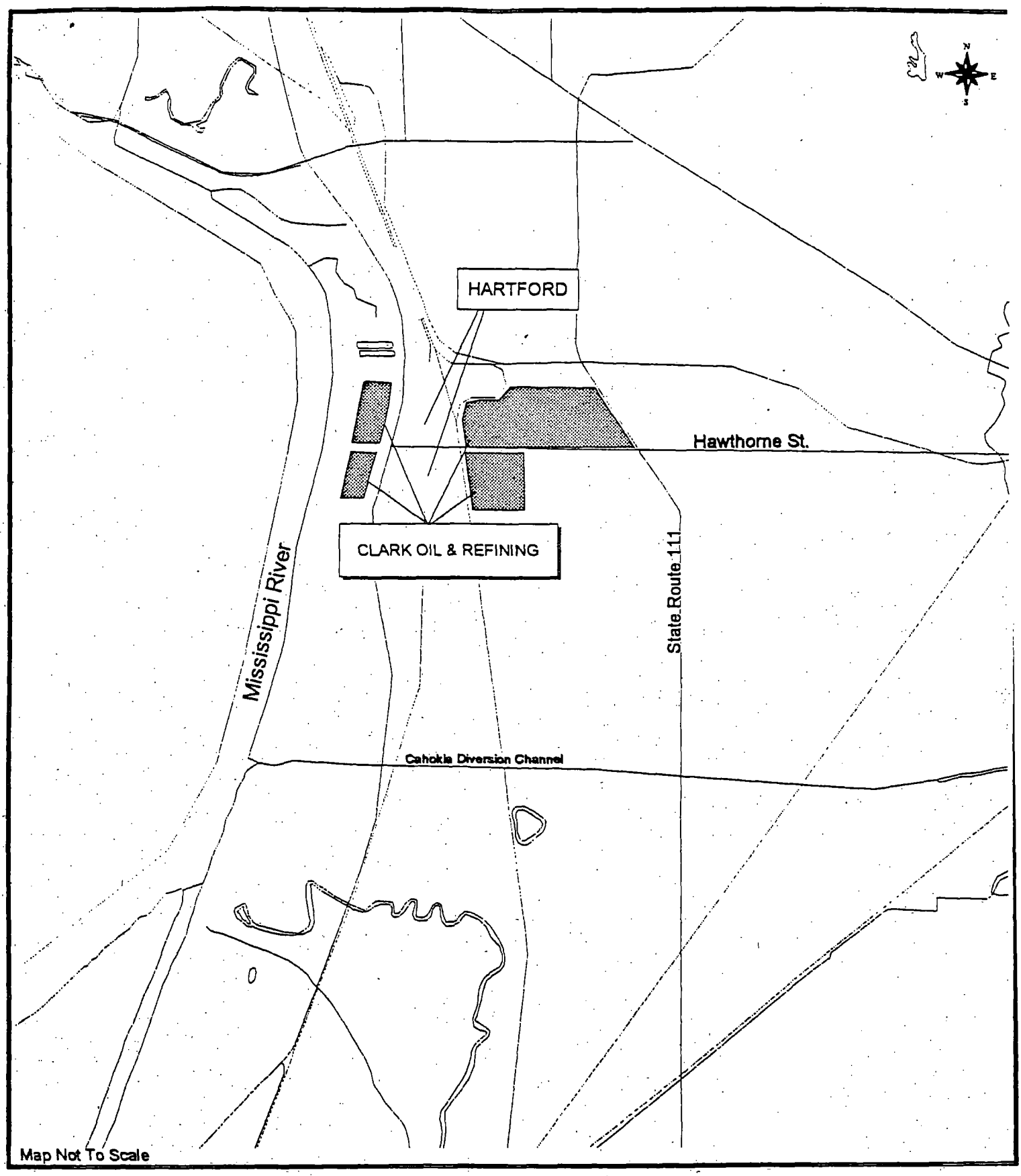
SITE LOCATION

FIGURE 1



TOPOGRAPHIC MAP

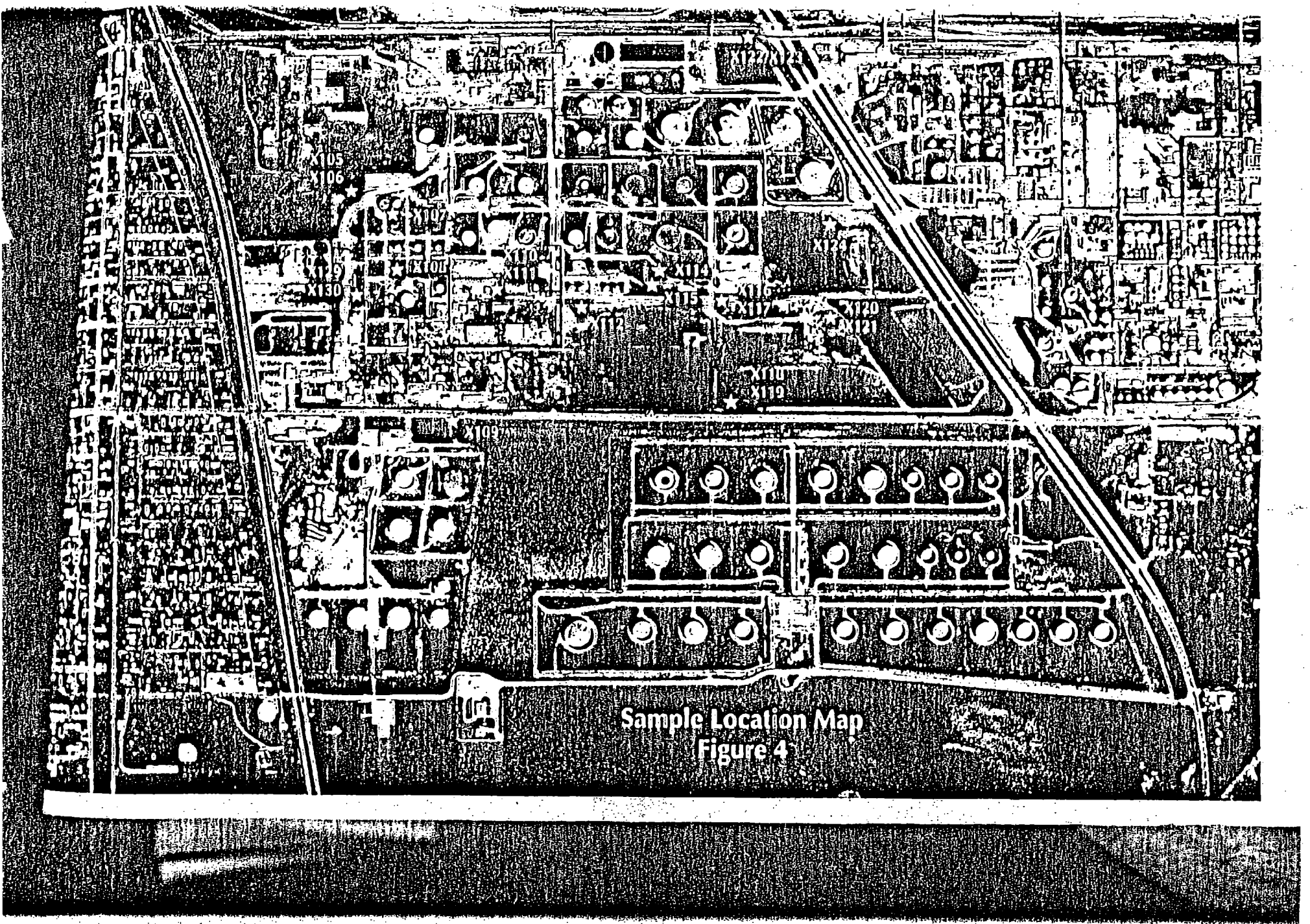
Figure 2



CLARK OIL & REFINING

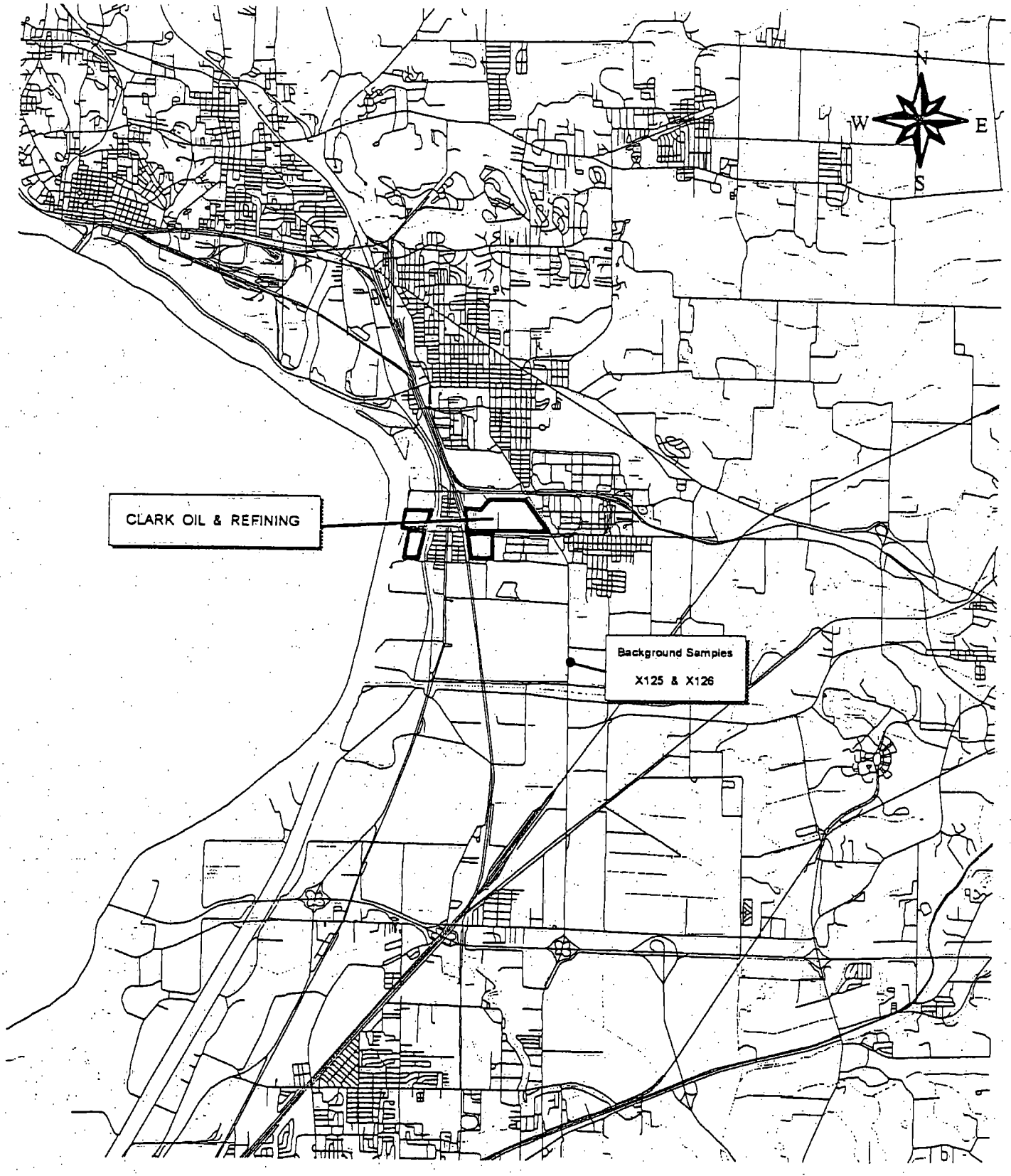
Local Features Map

Figure 3



Sample Location Map
Figure 4

Sample Location Map
Figure 4



OFF - SITE
SAMPLE LOCATION MAP

Figure 5

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 1

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		22		8		21		18		25		20		20	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	UJ	1100	UJ	22	U	12	U	11	U
Chloromethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Vinyl Chloride	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Bromomethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	160	J	22	U	12	U	11	U
Chloroethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Trichlorofluoromethane	19	U	14	UJ	11	U	11	UJ	1	J	1100	UJ	1100	UJ	22	U	12	U	11	U
1,1-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloro-1,2,2-trifluoroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Acetone	110	J	36	UJ	50	J	11	U	200	J	1100	U	1100	U	200	J	11	J	19	UJ
Carbon Disulfide	19	U	2	J	11	U	11	UJ	2	J	1100	U	1100	U	22	U	12	U	11	U
Methyl Acetate	8	J	14	UJ	11	UJ	11	UJ	10	UJ	1100	U	1100	U	22	UJ	6	J	11	UJ
Methylene Chloride	19	U	14	U	11	U	11	U	16	U	1100	U	140	J	22	U	16		11	U
trans-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methyl tert-Butyl Ether	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
2-Butanone	23	J	6	J	9	J	11	UJ	10	UJ	1100	U	1100	U	22	UJ	12	UJ	11	U
Chloroform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
1,1,1-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Cyclohexane	4	J	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
Carbon Tetrachloride	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Benzene	19	U	14	U	11	U	2	J	10	U	200	J	1400	J	6	J	12	U	2	J
1,2-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Trichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methylcyclohexane	4	J	14	U	11	U	4	J	10	U	9100		2800	J	180		12	U	3	J
1,2-Dichloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Bromodichloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
4-Methyl-2-pentanone	12	J	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Toluene	19	U	4	J	2	J	3	J	9	J	1100	U	810	J	22	U	2	J	3	J
trans-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Tetrachloroethene	19	U	1	J	11	U	2	J	2	J	1100	U	1100	U	22	U	2	J	11	U
2-Hexanone	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Dibromochloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromoethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Chlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Ethylbenzene	19	U	14	U	11	U	11	U	5	J	1400		5300	J	22	U	12	U	11	U
Xylenes (total)	19	U	42		11	U	11	U	10		180	J	35000	J	220		12	U	5	J
Styrene	19	U	14	U	11	U	11	U	10	U	1100	U	150	J	22	U	12	U	11	U
Bromoform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Isopropylbenzene	19	U	14	U	11	U	11	U	10		420	J	400	J	13	J	12	U	11	U
1,1,2,2-Tetrachloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,3-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,4-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromo-3-chloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2,4-Trichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 1

Analytical Results (Qualified Data)

Case.#: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
Dichlorodifluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
Chloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Vinyl Chloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromomethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichlorofluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Acetone	43	J	70	UJ	23	J	8000	UJ	34	UJ	49	J	52	J	20	UJ	210	J	130	J
Carbon Disulfide	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl Acetate	12	UJ	70	UJ	14	UJ	8000	U	13	UJ	14	UJ	14	UJ	20	UJ	64	UJ	9	UJ
Methylene Chloride	17		70	U	22		8000	U	14	U	14	U	14	U	20	U	64	U	9	U
trans-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl tert-Butyl Ether	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
2-Butanone	23	J	70	U	5	J	8000	UJ	6	J	9	J	14	U	20	U	33	J	22	
Chloroform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,1-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Cyclohexane	12	U	200		14	U	58000		1	J	14	U	14	U	20	U	64	U	9	U
Carbon Tetrachloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Benzene	12	U	70	U	14	U	7100	J	3	J	14	U	14	U	20	U	64	U	9	U
1,2-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methylcyclohexane	1	J	710		14	U	130000		13	U	14	U	14	U	20	U	64	U	1	J
1,2-Dichloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromodichloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
4-Methyl-2-pentanone	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Toluene	2	J	16	J	3	J	1800	J	2	J	2	J	14	U	20	U	64	U	2	J
trans-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Tetrachloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	1	J	3	J	64	U	9	U
2-Hexanone	12	U	70	UJ	14	U	8000	UJ	13	U	14	U	14	UJ	20	UJ	64	UJ	9	UJ
Dibromochloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromoethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Ethylbenzene	12	U	30	J	14	U	10000		13	U	14	U	14	U	20	U	64	U	9	U
Xylenes (total)	12	U	1000		14	U	34000		2	J	14	U	14	U	20	U	64	U	4	J
Styrene	12	U	20	J	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromoform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Isopropylbenzene	12	U	39	J	14	U	2900	J	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2,2-Tetrachloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,3-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,4-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromo-3-chloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2,4-Trichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 1

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Vinyl Chloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromomethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichlorofluoromethane	12	U	13	U	12	U	10	U	1	J	14	UJ	11	UJ	16	UJ	2	J	16000	U
1,1-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Acetone	23	J	17	J	21	J	24	J	49	J	14	UJ	160	J	29	UJ	49	J	24000	
Carbon Disulfide	12	U	13	U	12	U	10	U	11	UJ	14	UJ	2	J	16	UJ	4	J	16000	U
Methyl Acetate	12	UJ	13	UJ	12	UJ	10	UJ	11	UJ	14	UJ	11	UJ	18	UJ	12	UJ	16000	U
Methylene Chloride	15		13	U	16		10	U	11	U	24	U	18	U	17	U	17	U	4100	J
trans-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methyl tert-Butyl Ether	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
2-Butanone	12	UJ	13	UJ	4	J	10	UJ	4	J	14	UJ	23	J	18	UJ	12	UJ	16000	U
Chloroform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,1-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Cyclohexane	12	U	13	U	12	U	2	J	11	U	14	U	11	U	16	U	12	U	16000	U
Carbon Tetrachloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Benzene	12	U	13	U	12	U	1	J	11	U	14	U	11	U	16	U	53		34000	J
1,2-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methylcyclohexane	12	U	13	U	12	U	3	J	11	U	14	U	11	U	16	U	120		89000	
1,2-Dichloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromodichloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
4-Methyl-2-pentanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Toluene	1	J	13	U	2	J	4	J	11	U	2	J	3	J	16	U	4	J	16000	U
trans-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Tetrachloroethene	2	J	2	J	12	U	1	J	11	U	14	U	11	U	16	U	12	U	16000	U
2-Hexanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Dibromochloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromoethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Ethylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	3	J	110000	
Xylenes (total)	12	U	13	U	12	U	10	U	11	U	4	J	11	U	16	U	8	J	160000	
Styrene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromoform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Isopropylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	18		17000	
1,1,2,2-Tetrachloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,3-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,4-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromo-3-chloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	UJ
1,2,4-Trichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 2

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		8.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	F
Benzaldehyde	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Phenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
bis-(2-Chloroethyl) ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Chlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,2'-oxybis(1-Chloropropane)	9000	UJ	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Acetophenone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
N-Nitroso-di-n-propylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Hexachloroethane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Nitrobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	U
Isophorone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Nitrophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4-Dimethylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
bis(2-Chloroethoxy)methane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4-Dichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Naphthalene	9000	U	460	U	390	U	420	U	250	J	150	J	2500		440	U	410	U	410	U
4-Chloroaniline	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Hexachlorobutadiene	9000	UJ	460	UJ	390	UJ	420	UJ	360	UJ	420	UJ	800	UJ	440	UJ	410	U	410	U
Caprolactam	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Chloro-3-methylphenol	9000	U	460	UJ	390	UJ	420	UJ	360	UJ	420	UJ	800	U	440	UJ	410	U	410	U
2-Methylnaphthalene	9000	U	460	U	110	J	420	U	890		1100		2000		440	U	410	U	73	J
Hexachlorocyclopentadiene	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	U
2,4,6-Trichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4,5-Trichlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
1,1'-Biphenyl	9000	U	460	U	390	U	420	U	360	U	420	U	110	J	440	U	410	U	410	U
2-Chloronaphthalene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Dimethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,6-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Acenaphthylene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
3-Nitroaniline	23000	UJ	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Acenaphthene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	50	J	410	U	200	J
2,4-Dinitrophenol	23000	U	1200	UJ	990	UJ	1100	UJ	900	UJ	1100	UJ	2000	U	1100	UJ	1000	U	1000	U
4-Nitrophenol	23000	UJ	1200	UJ	990	UJ	1100	UJ	900	UJ	1100	UJ	2000	UJ	1100	UJ	1000	U	1000	U
Dibenzofuran	9000	U	460	U	42	J	420	U	360	U	420	U	800	U	47	J	410	U	410	U
2,4-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Diethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Fluorene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	66	J	410	U	100	J
4-Chlorophenyl-phenyl ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	U
4-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
4,6-Dinitro-2-methylphenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
N-Nitrosodiphenylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Bromophenyl-phenylether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Hexachlorobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Atrazine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Pentachlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Phenanthrene	9000	U	460	U	250	J	420	U	360	U	420	U	180	J	69	J	410	U	280	J
Anthracene	9000	U	460	U	50	J	420	U	360	U	420	U	800	U	440	U	410	U	200	J
Carbazole	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Di-n-butylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Fluoranthene	9000	U	460	UJ	260	J	420	UJ	360	UJ	420	UJ	800	U	440	UJ	410	U	410	U
Pyrene	9000	U	200	J	350	J	420	U	360	U	420	U	370	J	46	J	410	U	2000	
Butylbenzylphthalate	9000	UJ	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
3,3'-Dichlorobenzidine	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	U
Benzo(a)anthracene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	410	J
Chrysene	9000	U	96	J	160	J	420	U	360	U	420	U	120	J	440	U	410	U	920	
bis(2-Ethylhexyl)phthalate	9000	U	220	J	52	J	420	U	850		500		800	U	460		410	U	3500	
Di-n-octylphthalate	9000	U	1000		390	U	120	J	360	U	420	U	800	U	440	U	410	U	410	U
Benzo(b)fluoranthene	9000	U	460	U	240	J	420	U	360	U	420	U	800	U	440	U	410	U	180	J
Benzo(k)fluoranthene	9000	U	460	U	190	J	420	U	360	U	420	U	800	UJ	440	U	410	U	160	J
Benzo(a)pyrene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	330	J
Indeno(1,2,3-cd)pyrene	9000	U	460	U	91	J	420	U	360	U	420	U	800	U	440	U	410	U	55	J
Dibenzo(a,h)anthracene	9000	U	460	U	45	J	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Benzo(g,h,i)perylene	9000	U	460	U	100	J	420	U	360	U	420	U	800	U	440	U	410	U	170	J

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 2

Analytical Results (Qualified Data)

Case #: 29678
Site
Lab
Reviewer
Date

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture	16		29		29		4		26		18		19		18		22		4	
pH	7.9		7.9		7.6		7.4		7.1		7.6		6.9		8.0		8.4		8.3	
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	F
Benzaldehyde	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Phenol	390	U	80000	J	460	U	31000	U	450	U	2000		450	J	130000		420	U	84	J
bis-(2-Chloroethyl) ether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Chlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Methylphenol	390	U	2300	J	460	U	31000	U	450	U	800		250	J	4100	J	420	U	52	J
2,2'-oxybis(1-Chloropropane)	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Acetophenone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
4-Methylphenol	390	U	30000		460	U	31000	U	450	U	1600		460	J	51000		46	J	120	J
N-Nitroso-di-n-propylamine	390	U	14000	UJ	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Hexachloroethane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Nitrobenzene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
Isophorone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Nitrophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,4-Dimethylphenol	390	U	2900	J	460	U	31000	U	450	U	380	J	130	J	12000	U	420	U	340	U
bis(2-Chloroethoxy)methane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,4-Dichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Naphthalene	390	U	21000		460	U	31000	U	450	U	2200		960		19000		420	U	450	
4-Chloroaniline	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Hexachlorobutadiene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
Caprolactam	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
4-Chloro-3-methylphenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Methylnaphthalene	390	U	94000		460	U	7000	J	50	J	10000		2800		100000		89	J	1900	
Hexachlorocyclopentadiene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	UJ	12000	U	420	U	340	U
2,4,6-Trichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,4,5-Trichlorophenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
1,1'-Biphenyl	390	U	5500	J	460	U	31000	U	450	U	200	J	110	J	5100	J	420	U	340	U
2-Chloronaphthalene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Dimethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,6-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Acenaphthylene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
3-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Acenaphthene	390	U	6500	J	460	U	31000	U	450	U	140	J	810	U	10000	J	420	U	120	J
2,4-Dinitrophenol	990	U	35000	U	1200	U	78000	UJ	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
4-Nitrophenol	990	U	35000	U	1200	U	78000	UJ	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Dibenzofuran	390	U	14000	U	460	U	31000	U	450	U	420		120	J	12000	U	420	U	340	U
2,4-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Diethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Fluorene	390	U	10000	J	460	U	5500	J	450	U	280	J	85	J	22000		83	J	420	
4-Chlorophenyl-phenyl ether	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
4-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	UJ	1000	U	2000	U	30000	U	1100	UJ	860	U
4,6-Dinitro-2-methylphenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
N-Nitrosodiphenylamine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
4-Bromophenyl-phenylether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Hexachlorobenzene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Atrazine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Pentachlorophenol	990	U	35000	R	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Phenanthrene	390	U	24000		460	U	29000	J	450	U	780		300	J	35000		190	J	1200	
Anthracene	390	U	5300	J	460	U	31000	U	450	U	210	J	110	J	9300	J	420	U	110	J
Carbazole	390	U	14000	U	460	U	31000	U	450	UJ	75	J	810	U	4000	J	420	UJ	340	U
Di-n-butylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Fluoranthene	390	U	3200	J	460	U	31000	U	450	U	78	J	810	U	2100	J	220	J	160	J
Pyrene	390	U	13000	J	460	U	150000		450	U	300	J	200	J	8000	J	990		1100	
Butylbenzylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
3,3'-Dichlorobenzidine	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
Benzo(a)anthracene	390	U	7000	J	460	U	60000		450	U	260	J	160	J	6300	J	310	J	340	J
Chrysene	390	U	9800	J	460	U	120000		450	U	400		280	J	7300	J	550		760	
bis(2-Ethylhexyl)phthalate	390	U	11000	J	460	U	31000	U	450	U	74	J	810	U	12000	U	10000		160	J
Di-n-octylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Benzo(b)fluoranthene	390	U	2800	J	460	U	16000	J	450	U	240	J	130	J	2900	J	110	J	230	J
Benzo(k)fluoranthene	390	U	2900	J	460	U	31000	UJ	450	U	220	J	140	J	3100	J	97	J	210	J
Benzo(a)pyrene	390	U	5700	J	460	U	31000		450	U	330	J	190	J	6600	J	120	J	330	J
Indeno(1,2,3-cd)pyrene	390	U	2000	J	460	U	7500	J	450	U	140	J	87	J	2400	J	420	U	100	J
Dibenzo(a,h)anthracene	390	U	3000	J	460	U	8400	J	450	U	180	J	110	J	4100	J	51	J	91	J
Benzo(g,h,i)perylene	390	U	3100	J	460	U	18000	J	450	U	640		380	J	3800	J	52	J	220	J

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 2

Analytical Results (Qualified Data)

Case #: 28678
Site
Lab.
Reviewer
Date

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture	27		25		6		15		22		21		24		39		25		26	
pH	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	F
Benzaldehyde	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Phenol	450	U	440	U	350	U	100	J	420	UJ	420	U	430	U	540	U	450	U	450	
bis-(2-Chloroethyl) ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Chlorophenol	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
2-Methylphenol	450	U	440	U	350	U	58	J	420	U	420	U	430	U	540	U	450	U	450	
2,2'-oxybis(1-Chloropropane)	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Acetophenone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Methylphenol	450	U	440	U	350	U	110	J	420	U	420	U	430	U	540	U	450	U	450	
N-Nitroso-di-n-propylamine	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
Hexachloroethane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Nitrobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Isophorone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Nitrophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4-Dimethylphenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
bis(2-Chloroethoxy)methane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4-Dichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Naphthalene	450	U	440	U	350	U	180	J	420	U	420	U	430	U	540	U	450	U	650	
4-Chloroaniline	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Hexachlorobutadiene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Caprolactam	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Chloro-3-methylphenol	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
2-Methylnaphthalene	450	U	440	U	350	U	650		420	U	420	U	430	U	540	U	220	J	5100	
Hexachlorocyclopentadiene	450	UJ	440	U	350	UJ	390	UJ	420	U	420	U	430	U	540	U	450	U	450	
2,4,6-Trichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4,5-Trichlorophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
1,1'-Biphenyl	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	86	
2-Chloronaphthalene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Dimethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,6-Dinitrotoluene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Acenaphthylene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
3-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Acenaphthene	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	120	
2,4-Dinitrophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	UJ	1100	UJ	1100	
4-Nitrophenol	1100	U	1100	U	880	U	980	U	1100	UJ	1100	U	1100	U	1400	U	1100	U	1100	
Dibenzofuran	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	140	
2,4-Dinitrotoluene	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
Diethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Fluorene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	270	
4-Chlorophenyl-phenyl ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Nitroaniline	1100	U	1100	UJ	880	U	980	U	1100	U	1100	UJ	1100	UJ	1400	UJ	1100	UJ	1100	
4,6-Dinitro-2-methylphenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
N-Nitrosodiphenylamine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Bromophenyl-phenylether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Hexachlorobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Atrazine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Pentachlorophenol	1100	U	1100	U	880	U	980	U	1100	UJ	1100	UJ	1100	UJ	1400	U	1100	U	1100	
Phenanthrene	450	U	440	U	350	U	160	J	420	U	420	U	430	U	540	U	140	J	770	
Anthracene	450	U	440	U	350	U	70	J	420	U	420	U	430	U	540	U	450	U	66	
Carbazole	450	U	440	UJ	350	U	43	J	420	U	420	UJ	430	UJ	540	UJ	450	UJ	450	
Di-n-butylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Fluoranthene	450	U	440	U	350	U	220	J	420	U	420	U	430	U	540	U	450	U	450	
Pyrene	450	U	110	J	350	U	230	J	420	UJ	420	U	430	U	540	U	450	U	74	
Butylbenzylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
3,3'-Dichlorobenzidine	450	U	440	U	350	U	390	U	420	U	420	UJ	430	UJ	540	U	450	U	450	
Benzo(a)anthracene	450	U	440	U	350	U	160	J	420	U	420	U	430	U	540	U	450	U	450	
Chrysene	450	U	74	J	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	
bis(2-Ethylhexyl)phthalate	450	U	45	J	73	J	69	J	420	U	420	U	430	U	60	J	450	U	450	
Di-n-octylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Benzo(b)fluoranthene	450	U	440	U	350	U	130	J	420	U	420	U	430	U	540	U	450	U	450	
Benzo(k)fluoranthene	450	U	440	U	350	U	120	J	420	U	420	U	430	U	540	U	450	U	450	
Benzo(a)pyrene	450	U	440	U	350	U	100	J	420	U	420	U	430	U	540	U	450	U	450	
Indeno(1,2,3-cd)pyrene	450	U	440	U	350	U	86	J	420	U	420	U	430	U	540	U	450	U	450	
Dibenzo(a,h)anthracene	450	U	440	U	350	U	56	J	420	U	420	U	430	U	540	U	450	U	450	
Benzo(g,h,i)perylene	450	U	440	U	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 3

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		6.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		5.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	0.61	J	2.1	U	2.1	U
beta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	1.4	J	2.3	U	2.1	U	2.1	U
delta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
gamma-BHC (Lindane)	51	U	0.75	J	10	U	2.2	U	1.9	U	2.2	U	0.23	J	2.3	U	2.1	U	1.9	J
Heptachlor	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Aldrin	51	U	2.4	U	18		2.2	U	1.9	U	2.2	U	0.47	J	0.88	J	2.1	U	0.82	J
Heptachlor epoxide	4.3	J	2.4	U	9.8	J	2.2	U	1.9	U	2.2	U	2.1	U	0.055	J	2.1	U	2.1	U
Endosulfan I	1.0	J	2.4	U	3.6	J	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Dieldrin	99	U	4.7	U	680		4.2	U	3.6	U	4.2	U	4.0	U	0.042	J	4.1	U	1.8	J
4,4'-DDE	6.7	J	4.7	U	300	J	4.2	U	3.6	U	4.2	U	4.0	U	0.32	J	4.1	U	3.1	J
Endrin	27	J	2.8	J	20	U	4.2	U	3.6	U	4.2	U	1.0	J	0.41	J	4.1	U	1.2	J
Endosulfan II	99	U	4.7	U	20	U	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.1	U
4,4'-DDD	31	J	2.0	J	3900		4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.0	J
Endosulfan sulfate	99	U	4.7	U	49	J	4.2	U	3.6	U	4.2	U	4.0	U	0.20	J	4.1	U	1.2	J
4,4'-DDT	43	J	4.7	U	60	J	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	2.8	J
Methoxychlor	35	J	24	U	100	U	22	U	18	U	22	U	21	U	1.7	J	21	U	1.5	J
Endrin ketone	7.8	J	1.1	J	6.7	J	4.2	U	3.6	U	4.2	U	1.7	J	0.19	J	4.1	U	4.1	U
Endrin aldehyde	17	J	1.6	J	170		4.2	U	3.6	U	4.2	U	1.4	J	0.28	J	4.1	U	2.5	J
alpha-Chlordane	4.7	J	0.39	J	110	J	0.059	J	1.9	U	2.2	U	2.1	U	0.25	J	2.1	U	3.0	J
gamma-Chlordane	51	U	1.1	J	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	6.8	
Toxaphene	5100	U	240	U	1000	U	220	U	180	U	220	U	210	U	230	U	210	U	210	U
Aroclor-1016	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1221	2000	U	94	U	400	U	85	U	73	U	85	U	82	U	89	U	84	U	84	U
Aroclor-1232	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1242	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1248	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1254	990	U	46	U	4100	J	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1260	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 3

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :	7.9		7.9		7.6		7.4		7.1		7.6		6.9		8.0		8.4		8.3	
Dilution Factor :	1.0		1.0		1.0		2.0		1.0		1.0		1.0		2.0		1.0		2.0	
Pesticide/PCB Compound	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
alpha-BHC	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	67	J	2.2	U	0.87	J
beta-BHC	2.0	U	610	J	2.4	U	3.5	U	2.3	U	12	J	14	J	4.2	R	2.4	J	18	
delta-BHC	2.0	U	190	J	2.4	U	4.8	J	2.3	U	2.1	U	2.1	U	4.2	R	2.2	U	3.5	U
gamma-BHC (Lindane)	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	4.2	R	0.77	J	3.1	J
Heptachlor	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	140	J	2.2	U	3.5	U
Aldrin	2.0	U	100	J	2.4	U	3.5	U	2.3	U	3.8	J	4.6	J	20	J	1.2	J	15	J
Heptachlor epoxide	2.0	U	2.4	U	2.4	U	1.7	J	2.3	U	6.1	J	11	J	20	J	2.2	U	29	J
Endosulfan I	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	8.0	J	2.2	U	3.5	U
Dieldrin	3.9	U	15	J	4.7	U	36	J	4.5	U	12	J	17	J	40	J	4.2	U	58	J
4,4'-DDE	3.9	U	4.7	U	4.7	U	6.5	J	4.5	U	4.0	U	4.1	U	69	J	4.2	U	130	J
Endrin	3.9	U	23	J	4.7	U	5.2	J	4.5	U	23	J	12	J	50	J	3.5	J	110	J
Endosulfan II	3.9	U	6.8	J	4.7	U	4.0	J	4.5	U	4.0	U	4.1	U	8.1	R	4.2	U	6.9	U
4,4'-DDD	3.9	U	19	J	4.7	U	6.9	U	4.5	U	10	J	14	J	17	J	1.6	J	13	J
Endosulfan sulfate	3.9	U	4.7	U	4.7	U	6.9	U	4.5	U	13	J	18	J	8.1	R	4.2	U	66	J
4,4'-DDT	3.9	U	20	J	4.7	U	6.9	U	4.5	U	34	J	47	J	42	J	4.2	U	6.9	U
Methoxychlor	20	U	24	U	24	U	35	U	23	U	21	U	21	U	41	R	22	U	35	U
Endrin ketone	3.9	U	9.8	J	4.7	U	140	J	4.5	U	6.2	J	9.6	J	46	J	4.2	U	150	J
Endrin aldehyde	3.9	U	4.7	U	4.7	U	86	J	4.5	U	22	J	32	J	8.1	R	1.8	J	52	J
alpha-Chlordane	2.0	U	59	J	2.4	U	40	J	2.3	U	6.0	J	9.7	J	4.2	R	2.2	U	150	J
gamma-Chlordane	2.0	U	41	J	2.4	U	1.8	J	2.3	U	6.2	J	9.9	J	28	J	2.2	U	520	
Toxaphene	200	U	240	U	240	U	350	U	230	U	210	U	210	U	410	R	220	U	350	U
Aroclor-1016	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1221	80	U	94	U	94	U	140	U	91	U	82	U	83	U	160	R	86	U	140	U
Aroclor-1232	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1242	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1248	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1254	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1260	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 3

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	2.3	U	2.2	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
beta-BHC	2.3	U	2.3	U	1.8	U	1.6	J	2.2	U	2.2	U	2.2	U	2.8	UJ	0.93	J	2.3	U
delta-BHC	2.3	U	2.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-BHC (Lindane)	2.3	U	4.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Aldrin	2.3	U	1.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor epoxide	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Endosulfan I	2.3	U	2.3	U	1.8	U	0.52	J	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Dieldrin	4.5	U	1.5	J	3.5	U	19	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDE	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin	4.5	U	4.0	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan II	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDD	4.5	U	1.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan sulfate	4.5	U	4.4	U	3.5	U	25	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDT	4.5	U	3.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Methoxychlor	23	U	15	J	18	U	51	J	22	U	22	U	22	U	28	UJ	23	U	23	U
Endrin ketone	4.5	U	3.6	J	3.5	U	84	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin aldehyde	4.5	U	1.7	J	3.5	U	10	J	4.2	U	4.2	U	4.3	U	5.4	UJ	1.7	J	4.5	U
alpha-Chlordane	2.3	U	1.6	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-Chlordane	2.3	U	1.5	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Toxaphene	230	U	230	U	180	U	200	U	220	U	220	U	220	U	280	UJ	230	U	230	U
Aroclor-1016	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1221	92	U	89	U	71	U	79	U	86	U	85	U	88	U	110	UJ	91	U	91	U
Aroclor-1232	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1242	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1248	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1254	45	U	44	U	35	U	1600	J	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1260	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 4

Analytical Results (Qualified Data)

ase #: 28678
ite :
ab. :
eviewer :
ate :

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

Sample Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Solids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
ANTIMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ARSENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
BARIUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
BERYLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
CADMIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
CALCIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
CHROMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
COBALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
COPPER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
IRON	13500		4670		13900		1430		20300		16000		16800		26500		17800		19800	
LEAD	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
MAGNESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
MANGANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
MERCURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
NICKEL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
POTASSIUM	784		120		893		42.2		1290		1180		1490		95.5		1250		874	
SELENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
SILVER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
SODIUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
THALLIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
VANADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
ZINC	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
CYANIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 4

Analytical Results (Qualified Data)

Case #: 28678
Site : CLARK OIL
Lab. : LIBRTY
Reviewer : J. GANZ
Date : DECEMBER 12, 2000

SDG : MEE01B

Sample Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Solids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
ANTIMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ARSENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
BARIUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
BERYLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
CADMIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
CALCIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
CHROMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
COBALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
COPPER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
IRON	13500		4670		13900		1430		20300		16000		16800		26500		17800		19800	
LEAD	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
MAGNESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
MANGANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
MERCURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
NICKEL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
POTASSIUM	784		120		993		42.2		1290		1180		1490		95.6		1250		874	
SELENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
SILVER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
SODIUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
THALLIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
VANADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
ZINC	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
CYANIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 4

Analytical Results (Qualified Data)

ase #: 28678
ite :
ab. :
eviewer :
ate :

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

Sample Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Solids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
ANTIMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ARSENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
BARIUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
BERYLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
CADMIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
CALCIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
CHROMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
COBALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
COPPER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
IRON	13500		4670		13900		1430		20300		16000		16800		26500		17800		19800	
LEAD	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
MAGNESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
MANGANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
MERCURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
NICKEL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
POTASSIUM	784		120		993		42.2		1290		1180		1490		95.5		1250		874	
SELENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
SILVER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
SODIUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
THALLIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
VANADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
ZINC	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
CYANIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 5

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		22		8		21		18		25		20		20	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
Dichlorodifluoromethane	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	UJ	1100	UJ	22	U	12	U	11	U
Chloromethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Vinyl Chloride	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Bromomethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	160	J	22	U	12	U	11	U
Chloroethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Trichlorofluoromethane	19	U	14	UJ	11	U	11	UJ	1	J	1100	UJ	1100	UJ	22	U	12	U	11	U
1,1-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloro-1,2,2-trifluoroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Acetone	110	J	36	UJ	50	J	11	U	200	J	1100	U	1100	U	200	J	11	J	19	UJ
Carbon Disulfide	19	U	2	J	11	U	11	UJ	2	J	1100	U	1100	U	22	U	12	U	11	U
Methyl Acetate	8	J	14	UJ	11	UJ	11	UJ	10	UJ	1100	U	1100	U	22	UJ	6	J	11	UJ
Methylene Chloride	19	U	14	U	11	U	11	U	16	U	1100	U	140	J	22	U	16		11	U
trans-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methyl tert-Butyl Ether	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
2-Butanone	23	J	6	J	9	J	11	UJ	10	UJ	1100	U	1100	U	22	UJ	12	UJ	11	U
Chloroform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
1,1,1-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Cyclohexane	4	J	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
Carbon Tetrachloride	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Benzene	19	U	14	U	11	U	2	J	10	U	200	J	1400	J	6	J	12	U	2	J
1,2-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Trichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methylcyclohexane	4	J	14	U	11	U	4	J	10	U	9100		2800	J	180		12	U	3	J
1,2-Dichloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Bromodichloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
4-Methyl-2-pentanone	12	J	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Toluene	19	U	4	J	2	J	3	J	9	J	1100	U	810	J	22	U	2	J	3	J
trans-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Tetrachloroethene	19	U	1	J	11	U	2	J	2	J	1100	U	1100	U	22	U	2	J	11	U
2-Hexanone	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Dibromochloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromoethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Chlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Ethylbenzene	19	U	14	U	11	U	11	U	5	J	1400		5300	J	22	U	12	U	11	U
Xylenes (total)	19	U	42		11	U	11	U	10		180	J	35000	J	220		12	U	5	J
Styrene	19	U	14	U	11	U	11	U	10	U	1100	U	150	J	22	U	12	U	11	U
Bromoform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Isopropylbenzene	19	U	14	U	11	U	11	U	10		420	J	400	J	13	J	12	U	11	U
1,1,2,2-Tetrachloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,3-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,4-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromo-3-chloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2,4-Trichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 5

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
Dichlorodifluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
Chloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Vinyl Chloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromomethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichlorofluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Acetone	43	J	70	UJ	23	J	8000	UJ	34	UJ	49	J	52	J	20	UJ	210	J	130	J
Carbon Disulfide	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl Acetate	12	UJ	70	UJ	14	UJ	8000	U	13	UJ	14	UJ	14	UJ	20	UJ	64	UJ	9	UJ
Methylene Chloride	17		70	U	22		8000	U	14	U	14	U	14	U	20	U	64	U	9	U
trans-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl tert-Butyl Ether	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
2-Butanone	23	J	70	U	5	J	8000	UJ	6	J	9	J	14	U	20	U	33	J	22	
Chloroform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,1-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Cyclohexane	12	U	200		14	U	58000		1	J	14	U	14	U	20	U	64	U	9	U
Carbon Tetrachloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Benzene	12	U	70	U	14	U	7100	J	3	J	14	U	14	U	20	U	64	U	9	U
1,2-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methylcyclohexane	1	J	710		14	U	130000		13	U	14	U	14	U	20	U	64	U	1	J
1,2-Dichloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromodichloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
4-Methyl-2-pentanone	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Toluene	2	J	16	J	3	J	1800	J	2	J	2	J	14	U	20	U	64	U	2	J
trans-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Tetrachloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	1	J	3	J	64	U	9	U
2-Hexanone	12	U	70	UJ	14	U	8000	UJ	13	U	14	U	14	UJ	20	UJ	64	UJ	9	UJ
Dibromochloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromoethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Ethylbenzene	12	U	30	J	14	U	10000		13	U	14	U	14	U	20	U	64	U	9	U
Xylenes (total)	12	U	1000		14	U	34000		2	J	14	U	14	U	20	U	64	U	4	J
Styrene	12	U	20	J	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromoform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Isopropylbenzene	12	U	39	J	14	U	2900	J	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2,2-Tetrachloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,3-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,4-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromo-3-chloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2,4-Trichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 6

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
									Background											
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Vinyl Chloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromomethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichlorofluoromethane	12	U	13	U	12	U	10	U	1	J	14	UJ	11	UJ	16	UJ	2	J	16000	U
1,1-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Acetone	23	J	17	J	21	J	24	J	49	J	14	UJ	160	J	20	UJ	49	J	24000	
Carbon Disulfide	12	U	13	U	12	U	10	U	11	UJ	14	UJ	2	J	16	UJ	4	J	16000	U
Methyl Acetate	12	UJ	13	UJ	12	UJ	10	UJ	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Methylene Chloride	15		13	U	18		10	U	11	U	24	U	18	U	17	U	17	U	4100	J
trans-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methyl tert-Butyl Ether	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
2-Butanone	12	UJ	13	UJ	4	J	10	UJ	4	J	14	UJ	23	J	16	UJ	12	UJ	16000	U
Chloroform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,1-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Cyclohexane	12	U	13	U	12	U	2	J	11	U	14	U	11	U	16	U	12	U	16000	U
Carbon Tetrachloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Benzene	12	U	13	U	12	U	1	J	11	U	14	U	11	U	16	U	53		34000	J
1,2-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methylcyclohexane	12	U	13	U	12	U	3	J	11	U	14	U	11	U	16	U	120		89000	
1,2-Dichloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromodichloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
4-Methyl-2-pentanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Toluene	1	J	13	U	2	J	4	J	11	U	2	J	3	J	16	U	4	J	16000	U
trans-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Tetrachloroethene	2	J	2	J	12	U	1	J	11	U	14	U	11	U	16	U	12	U	16000	U
2-Hexanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Dibromochloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromoethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Ethylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	3	J	110000	
Xylenes (total)	12	U	13	U	12	U	10	U	11	U	4	J	11	U	16	U	8	J	160000	
Styrene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromoform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Isopropylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	18		17000	
1,1,2,2-Tetrachloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,3-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,4-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromo-3-chloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	UJ
1,2,4-Trichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U

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CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 6

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		6.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	
Benzaldehyde	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Phenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
bis-(2-Chloroethyl) ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2-Chlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2,2'-oxybis(1-Chloropropane)	9000	UJ	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Acetophenone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
4-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
N-Nitroso-di-n-propylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Hexachloroethane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Nitrobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	
Isophorone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2-Nitrophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2,4-Dimethylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
bis(2-Chloroethoxy)methane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2,4-Dichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Naphthalene	9000	U	460	U	390	U	420	U	250	J	150	J	2500		440	U	410	U	410	
4-Chloroaniline	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Hexachlorobutadiene	9000	UJ	460	UJ	390	UJ	420	UJ	360	UJ	420	UJ	800	UJ	440	UJ	410	UJ	410	
Caprolactam	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
4-Chloro-3-methylphenol	9000	U	460	UJ	390	UJ	420	UJ	360	UJ	420	UJ	800	U	440	UJ	410	U	410	
2-Methylnaphthalene	9000	U	460	U	110	J	420	U	890		1100		2000		440	U	410	U	73	
Hexachlorocyclopentadiene	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	
2,4,6-Trichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2,4,5-Trichlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	
1,1'-Biphenyl	9000	U	460	U	390	U	420	U	360	U	420	U	110	J	440	U	410	U	410	
2-Chloronaphthalene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	
Dimethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
2,6-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Acenaphthylene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
3-Nitroaniline	23000	UJ	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	
Acenaphthene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	50	J	410	U	200	
2,4-Dinitrophenol	23000	U	1200	UJ	990	UJ	1100	UJ	900	UJ	1100	UJ	2000	U	1100	UJ	1000	U	1000	
4-Nitrophenol	23000	UJ	1200	UJ	990	UJ	1100	UJ	900	UJ	1100	UJ	2000	UJ	1100	UJ	1000	U	1000	
Dibenzofuran	9000	U	460	U	42	J	420	U	360	U	420	U	800	U	47	J	410	U	410	
2,4-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Diethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Fluorene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	66	J	410	U	100	
4-Chlorophenyl-phenyl ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	
4-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	
4,6-Dinitro-2-methylphenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	
N-Nitrosodiphenylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
4-Bromophenyl-phenylether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Hexachlorobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Atrazine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Pentachlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	
Phenanthrene	9000	U	460	U	250	J	420	U	360	U	420	U	180	J	69	J	410	U	280	
Anthracene	9000	U	460	U	50	J	420	U	360	U	420	U	800	U	440	U	410	U	200	
Carbazole	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Di-n-butylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
Fluoranthene	9000	U	460	UJ	260	J	420	UJ	380	UJ	420	UJ	800	U	440	UJ	410	U	410	
Pyrene	9000	U	200	J	350	J	420	U	360	U	420	U	370	J	46	J	410	U	2000	
Butylbenzylphthalate	9000	UJ	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	
3,3'-Dichlorobenzidine	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410	
Benzo(a)anthracene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	410	
Chrysene	9000	U	96	J	160	J	420	U	360	U	420	U	120	J	440	U	410	U	920	
bis(2-Ethylhexyl)phthalate	9000	U	220	J	52	J	420	U	850		600		800	U	460		410	U	3500	
Di-n-octylphthalate	9000	U	1000		390	U	120	J	360	U	420	U	800	U	440	U	410	U	410	
Benzo(b)fluoranthene	9000	U	460	U	240	J	420	U	360	U	420	U	800	U	440	U	410	U	180	J
Benzo(k)fluoranthene	9000	U	460	U	190	J	420	U	360	U	420	U	800	UJ	440	U	410	U	160	J
Benzo(a)pyrene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	330	J
Indeno(1,2,3-cd)pyrene	9000	U	460	U	91	J	420	U	360	U	420	U	800	U	440	U	410	U	55	J
Dibenzo(a,h)anthracene	9000	U	460	U	45	J	420	U	360	U	420	U	800	U	440	U	410	U	410	
Benzo(g,h,i)perylene	9000	U	460	U	100	J	420	U	360	U	420	U	800	U	440	U	410	U	170	J

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 6

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :	7.9		7.9		7.6		7.4		7.1		7.6		6.9		8.0		8.4		8.3	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	F
Benzaldehyde	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Phenol	390	U	80000	J	460	U	31000	U	450	U	2000		450	J	130000		420	U	84	J
bis-(2-Chloroethyl) ether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Chlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Methylphenol	390	U	2300	J	460	U	31000	U	450	U	800		260	J	4100	J	420	U	52	J
2,2'-oxybis(1-Chloropropane)	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Acetophenone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
4-Methylphenol	390	U	30000		460	U	31000	U	450	U	1600		460	J	51000		46	J	120	J
N-Nitroso-di-n-propylamine	390	U	14000	UJ	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Hexachloroethane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Nitrobenzene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
Isophorone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Nitrophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,4-Dimethylphenol	390	U	2900	J	460	U	31000	U	450	U	380	J	130	J	12000	U	420	U	340	U
bis(2-Chloroethoxy)methane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,4-Dichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Naphthalene	390	U	21000		460	U	31000	U	450	U	2200		960		19000		420	U	450	
4-Chloroaniline	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Hexachlorobutadiene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
Caprolactam	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
4-Chloro-3-methylphenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Methylnaphthalene	390	U	94000		460	U	7000	J	50	J	10000		2800		100000		89	J	1900	
Hexachlorocyclopentadiene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	UJ	12000	U	420	U	340	U
2,4,6-Trichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,4,5-Trichlorophenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
1,1'-Biphenyl	390	U	5500	J	460	U	31000	U	450	U	200	J	110	J	5100	J	420	U	340	U
2-Chloronaphthalene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Dimethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
2,6-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Acenaphthylene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
3-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Acenaphthene	390	U	6500	J	460	U	31000	U	450	U	140	J	810	U	10000	J	420	U	120	J
2,4-Dinitrophenol	990	U	35000	U	1200	U	78000	UJ	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
4-Nitrophenol	990	U	35000	U	1200	U	78000	UJ	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Dibenzofuran	390	U	14000	U	460	U	31000	U	450	U	420		120	J	12000	U	420	U	340	U
2,4-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Diethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Fluorene	390	U	10000	J	460	U	5500	J	450	U	280	J	85	J	22000		83	J	420	
4-Chlorophenyl-phenyl ether	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
4-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	UJ	1000	U	2000	U	30000	U	1100	UJ	860	U
4,6-Dinitro-2-methylphenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
N-Nitrosodiphenylamine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
4-Bromophenyl-phenylether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Hexachlorobenzene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Atrazine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Pentachlorophenol	990	U	35000	R	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860	U
Phenanthrene	390	U	24000		460	U	29000	J	450	U	780		300	J	35000		190	J	1200	
Anthracene	390	U	5300	J	460	U	31000	U	450	U	210	J	110	J	9300	J	420	U	110	J
Carbazole	390	U	14000	U	460	U	31000	U	450	UJ	75	J	810	U	4000	J	420	UJ	340	UJ
Di-n-butylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Fluoranthene	390	U	3200	J	460	U	31000	U	450	U	78	J	810	U	2100	J	220	J	150	J
Pyrene	390	U	13000	J	460	U	150000		450	U	300	J	200	J	8000	J	990		1100	
Butylbenzylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
3,3'-Dichlorobenzidine	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340	U
Benzo(a)anthracene	390	U	7000	J	460	U	60000		450	U	260	J	160	J	8300	J	310	J	340	J
Chrysene	390	U	9800	J	460	U	120000		450	U	400		280	J	7300	J	550		760	
bis(2-Ethylhexyl)phthalate	390	U	11000	J	460	U	31000	U	450	U	74	J	810	U	12000	U	10000		160	J
Di-n-octylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340	U
Benzo(b)fluoranthene	390	U	2800	J	460	U	16000	J	450	U	240	J	130	J	2900	J	110	J	230	J
Benzo(k)fluoranthene	390	U	2900	J	460	U	31000	UJ	450	U	220	J	140	J	3100	J	97	J	210	J
Benzo(a)pyrene	390	U	5700	J	460	U	31000		450	U	330	J	190	J	6600	J	120	J	330	J
Indeno(1,2,3-cd)pyrene	390	U	2000	J	460	U	7500	J	450	U	140	J	87	J	2400	J	820	U	100	J
Dibenzo(a,h)anthracene	390	U	3000	J	460	U	8400	J	450	U	180	J	110	J	4100	J	51	J	91	J
Benzo(g,h,i)perylene	390	U	3100	J	460	U	18000	J	450	U	640		360	J	3800	J	52	J	220	J

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 6

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	19:50		18:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Background Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	
Benzaldehyde	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Phenol	450	U	440	U	350	U	100	J	420	UJ	420	U	430	U	540	U	450	U	450	
bis-(2-Chloroethyl) ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Chlorophenol	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
2-Methylphenol	450	U	440	U	350	U	56	J	420	U	420	U	430	U	540	U	450	U	450	
2,2'-oxybis(1-Chloropropane)	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Acetophenone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Methylphenol	450	U	440	U	350	U	110	J	420	U	420	U	430	U	540	U	450	U	450	
N-Nitroso-di-n-propylamine	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
Hexachloroethane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Nitrobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Isophorone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Nitrophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4-Dimethylphenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
bis(2-Chloroethoxy)methane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4-Dichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Naphthalene	450	U	440	U	350	U	180	J	420	U	420	U	430	U	540	U	450	U	860	
4-Chloroaniline	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Hexachlorobutadiene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Caprolactam	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Chloro-3-methylphenol	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	
2-Methylnaphthalene	450	U	440	U	350	U	650		420	U	420	U	430	U	540	U	220	J	5100	
Hexachlorocyclopentadiene	450	UJ	440	U	350	UJ	390	UJ	420	U	420	U	430	U	540	U	450	U	450	
2,4,6-Trichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4,5-Trichlorophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
1,1'-Biphenyl	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	86	J
2-Chloronaphthalene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Dimethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,6-Dinitrotoluene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Acenaphthylene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
3-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Acenaphthene	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	120	J
2,4-Dinitrophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	UJ	1100	UJ	1100	U
4-Nitrophenol	1100	U	1100	U	880	U	980	U	1100	UJ	1100	U	1100	U	1400	U	1100	U	1100	U
Dibenzofuran	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	140	J
2,4-Dinitrotoluene	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	U
Diethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Fluorene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	270	J
4-Chlorophenyl-phenyl ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
4-Nitroaniline	1100	U	1100	UJ	880	U	980	U	1100	U	1100	UJ	1100	UJ	1400	UJ	1100	UJ	1100	U
4,6-Dinitro-2-methylphenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	U
N-Nitrosodiphenylamine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
4-Bromophenyl-phenylether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Hexachlorobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Atrazine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Pentachlorophenol	1100	U	1100	U	880	U	980	U	1100	UJ	1100	UJ	1100	UJ	1400	U	1100	U	1100	U
Phenanthrene	450	U	440	U	350	U	180	J	420	U	420	U	430	U	540	U	140	J	770	
Anthracene	450	U	440	U	350	U	70	J	420	U	420	U	430	U	540	U	450	U	86	J
Carbazole	450	U	440	UJ	350	U	43	J	420	U	420	UJ	430	UJ	540	UJ	450	UJ	450	U
Di-n-butylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Fluoranthene	450	U	440	U	350	U	220	J	420	U	420	U	430	U	540	U	450	U	450	U
Pyrene	450	U	110	J	350	U	230	J	420	UJ	420	U	430	U	540	U	450	U	74	J
Butylbenzylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
3,3'-Dichlorobenzidine	450	U	440	U	350	U	390	U	420	U	420	UJ	430	UJ	540	U	450	U	450	U
Benzo(a)anthracene	450	U	440	U	350	U	180	J	420	U	420	U	430	U	540	U	450	U	450	U
Chrysene	450	U	74	J	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	U
bis(2-Ethylhexyl)phthalate	450	U	45	J	73	J	89	J	420	U	420	U	430	U	60	J	450	U	450	U
Di-n-octylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(b)fluoranthene	450	U	440	U	350	U	130	J	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(k)fluoranthene	450	U	440	U	350	U	120	J	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(a)pyrene	450	U	440	U	350	U	100	J	420	U	420	U	430	U	540	U	450	U	450	U
Indeno(1,2,3-cd)pyrene	450	U	440	U	350	U	86	J	420	U	420	U	430	U	540	U	450	U	450	U
Dibenzo(a,h)anthracene	450	U	440	U	350	U	56	J	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(g,h,i)perylene	450	U	440	U	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 7

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		6.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		5.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	0.61	J	2.1	U	2.1	U
beta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	1.4	J	2.3	U	2.1	U	2.1	U
delta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
gamma-BHC (Lindane)	51	U	0.75	J	10	U	2.2	U	1.9	U	2.2	U	0.23	J	2.3	U	2.1	U	1.9	J
Heptachlor	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Aldrin	51	U	2.4	U	18		2.2	U	1.9	U	2.2	U	0.47	J	0.88	J	2.1	U	0.82	J
Heptachlor epoxide	4.3	J	2.4	U	9.8	J	2.2	U	1.9	U	2.2	U	2.1	U	0.055	J	2.1	U	2.1	U
Endosulfan I	1.0	J	2.4	U	3.6	J	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Dieldrin	99	U	4.7	U	680		4.2	U	3.6	U	4.2	U	4.0	U	0.042	J	4.1	U	1.8	J
4,4'-DDE	6.7	J	4.7	U	300	J	4.2	U	3.6	U	4.2	U	4.0	U	0.32	J	4.1	U	3.1	J
Endrin	27	J	2.8	J	20	U	4.2	U	3.6	U	4.2	U	1.0	J	0.41	J	4.1	U	1.2	J
Endosulfan II	99	U	4.7	U	20	U	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.1	U
4,4'-DDD	31	J	2.0	J	3900		4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.0	J
Endosulfan sulfate	99	U	4.7	U	49	J	4.2	U	3.6	U	4.2	U	4.0	U	0.20	J	4.1	U	1.2	J
4,4'-DDT	43	J	4.7	U	60	J	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	2.8	J
Methoxychlor	35	J	24	U	100	U	22	U	18	U	22	U	21	U	1.7	J	21	U	1.5	J
Endrin ketone	7.8	J	1.1	J	6.7	J	4.2	U	3.6	U	4.2	U	1.7	J	0.19	J	4.1	U	4.1	U
Endrin aldehyde	17	J	1.6	J	170		4.2	U	3.6	U	4.2	U	1.4	J	0.28	J	4.1	U	2.5	J
alpha-Chlordane	4.7	J	0.39	J	110	J	0.059	J	1.9	U	2.2	U	2.1	U	0.25	J	2.1	U	3.0	J
gamma-Chlordane	51	U	1.1	J	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	6.8	
Toxaphene	5100	U	240	U	1000	U	220	U	180	U	220	U	210	U	230	U	210	U	210	U
Aroclor-1016	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1221	2000	U	94	U	400	U	85	U	73	U	86	U	82	U	89	U	84	U	84	U
Aroclor-1232	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1242	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1248	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1254	990	U	46	U	4100	J	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1260	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 7

Analytical Results (Qualified Data)

Case #: 28678
Site : SDG : EE01K
Lab. : CLARK OIL
Reviewer : LIBRTY
Date :

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :	7.9		7.9		7.6		7.4		7.1		7.6		6.9		8.0		8.4		8.3	
Dilution Factor :	1.0		1.0		1.0		2.0		1.0		1.0		1.0		2.0		1.0		2.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	67	J	2.2	U	0.87	J
beta-BHC	2.0	U	610	J	2.4	U	3.5	U	2.3	U	12	J	14	J	4.2	R	2.4	J	18	
delta-BHC	2.0	U	190	J	2.4	U	4.6	J	2.3	U	2.1	U	2.1	U	4.2	R	2.2	U	3.8	U
gamma-BHC (Lindane)	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	4.2	R	0.77	J	3.1	J
Heptachlor	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	140	J	2.2	U	3.5	U
Aldrin	2.0	U	100	J	2.4	U	3.5	U	2.3	U	3.8	J	4.6	J	20	J	1.2	J	15	J
Heptachlor epoxide	2.0	U	2.4	U	2.4	U	1.7	J	2.3	U	6.1	J	11	J	20	J	2.2	U	29	J
Endosulfan I	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	8.0	J	2.2	U	3.5	U
Dieldrin	3.9	U	15	J	4.7	U	36	J	4.5	U	12	J	17	J	40	J	4.2	U	58	J
4,4'-DDE	3.9	U	4.7	U	4.7	U	6.5	J	4.5	U	4.0	U	4.1	U	69	J	4.2	U	130	J
Endrin	3.9	U	23	J	4.7	U	5.2	J	4.5	U	23	J	12	J	50	J	3.5	J	110	J
Endosulfan II	3.9	U	6.8	J	4.7	U	4.0	J	4.5	U	4.0	U	4.1	U	8.1	R	4.2	U	6.9	U
4,4'-DDD	3.9	U	19	J	4.7	U	6.9	U	4.5	U	10	J	14	J	17	J	1.6	J	13	J
Endosulfan sulfate	3.9	U	4.7	U	4.7	U	6.9	U	4.5	U	13	J	18	J	8.1	R	4.2	U	66	J
4,4'-DDT	3.9	U	20	J	4.7	U	6.9	U	4.5	U	34	J	47	J	42	J	4.2	U	6.9	U
Methoxychlor	20	U	24	U	24	U	35	U	23	U	21	U	21	U	41	R	22	U	35	U
Endrin ketone	3.9	U	9.8	J	4.7	U	140	J	4.5	U	6.2	J	9.6	J	46	J	4.2	U	150	J
Endrin aldehyde	3.9	U	4.7	U	4.7	U	86	J	4.5	U	22	J	32	J	8.1	R	1.8	J	52	J
alpha-Chlordane	2.0	U	59	J	2.4	U	40	J	2.3	U	6.0	J	9.7	J	4.2	R	2.2	U	150	J
gamma-Chlordane	2.0	U	41	J	2.4	U	1.8	J	2.3	U	6.2	J	9.9	J	28	J	2.2	U	520	
Toxaphene	200	U	240	U	240	U	350	U	230	U	210	U	210	U	410	R	220	U	350	U
Aroclor-1016	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1221	80	U	94	U	94	U	140	U	91	U	82	U	83	U	160	R	86	U	140	U
Aroclor-1232	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1242	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1248	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1254	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
Aroclor-1260	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 7

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
									Background											
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	2.3	U	2.2	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
beta-BHC	2.3	U	2.3	U	1.8	U	1.6	J	2.2	U	2.2	U	2.2	U	2.8	UJ	0.93	J	2.3	U
delta-BHC	2.3	U	2.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-BHC (Lindane)	2.3	U	4.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Aldrin	2.3	U	1.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor epoxide	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Endosulfan I	2.3	U	2.3	U	1.8	U	0.52	J	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Dieldrin	4.5	U	1.5	J	3.5	U	19	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDE	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin	4.5	U	4.0	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan II	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDD	4.5	U	1.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan sulfate	4.5	U	4.4	U	3.5	U	25	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDT	4.5	U	3.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Methoxychlor	23	U	15	J	18	U	51	J	22	U	22	U	22	U	28	UJ	23	U	23	U
Endrin ketone	4.5	U	3.6	J	3.5	U	84	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin aldehyde	4.5	U	1.7	J	3.5	U	10	J	4.2	U	4.2	U	4.3	U	5.4	UJ	1.7	J	4.5	U
alpha-Chlordane	2.3	U	1.6	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-Chlordane	2.3	U	1.5	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Toxaphene	230	U	230	U	180	U	200	U	220	U	220	U	220	U	280	UJ	230	U	230	U
Aroclor-1016	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1221	92	U	89	U	71	U	79	U	86	U	86	U	88	U	110	UJ	91	U	91	U
Aroclor-1232	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1242	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1248	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1254	45	U	44	U	35	U	1600	J	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1260	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

Analytical Results (Qualified Data)

ase #: 28678
e :
b. :
eviewer :
ate :

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

ample Number :	MEE01B		MEE01C		MEE01D		MEE01E		MEE01F		MEE01G		MEE01H		MEE01J		MEE01K		MEE01L	
ampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
atrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
nits :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
ate Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/2/00		11/2/00	
ime Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
Solids :	99.1		66.9		84.4		77.2		73.4		76.6		81.1		75.9		74.4		83.2	
ilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
LUMINUM	192		12200		9410		4020		12700		9280		7860		8660		12600		9740	
NTIMONY	0.44	UJ	0.65	UJ	1.6	J	0.59	UJ	0.62	UJ	0.56	UJ	0.57	J	0.96	J	0.68	J	0.78	J
RSENIC	0.85	UJ	6.0	J	8.3	J	1.8	J	5.8	J	4.2	J	7.5	J	7.8	J	5.9	J	8.4	J
ARIUM	5.3		164		300		235		213		269		157		184		157		276	
ERYLLIUM	0.038	U	1.0		0.96		0.28	J	0.81		0.72		0.60		0.60		0.83		0.72	
ADMIUM	0.057	U	0.31	J	0.70		0.077	U	0.081	U	0.20	J	0.45	J	0.078	U	0.075	U	0.097	J
ALCIUM	1810	J	7260	J	51700	J	18600	J	5410	J	4480	J	3610	J	4520	J	4940	J	6280	J
HROMIUM	1.8	J	17.5	J	190	J	7.6	J	14.3	J	14.8	J	12.4	J	14.7	J	14.8	J	15.1	J
OBALT	0.20		7.3		6.1		5.4		8.7		7.4		9.7		8.8		13.5		6.2	
OPPER	4.2		36.0		73.9		10.1		23.1		22.0		22.9		22.3		22.3		179	
ON	447		16200		31400		8320		18300		13900		17200		19800		17500		14400	
EAD	2.7	J	21.7	J	111	J	7.5	J	13.5	J	23.8	J	15.5	J	13.1	J	17.9	J	375	J
AGNESIUM	209		3960		6930		6890		3170		2600		3150		3920		3280		2850	
ANGANESE	49.7	J	334	J	2110	J	271	J	646	J	481	J	699	J	167	J	615	J	429	J
ERCURY	0.058	J	0.21	J	0.13	J	0.088	J	0.10	J	0.097	J	0.070	J	0.091	J	0.090	J	0.14	J
ICKEL	1.6	J	21.8	J	70.4	J	14.7	J	20.5	J	16.1	J	31.1	J	27.6	J	20.4	J	16.6	J
OTASSIUM	44.2		1950		1680		1100		1130		1480		930		935		1130		1280	
ELENIUM	0.82	UJ	1.2	J	0.99	UJ	1.1	UJ	1.2	UJ	1.0	UJ	0.98	UJ	2.1	J	1.1	UJ	1.7	J
LVER	0.076	U	0.11	U	0.33		0.10	U	0.11	U	0.098	U	0.091	U	0.10	U	0.10	U	0.094	U
ODIUM	115	J	553	J	479	J	269	J	232	J	260	J	209	J	253	J	283	J	346	J
HALLIUM	1.1	UJ	9.3	J	12.9	J	4.3	J	9.7	J	8.6	J	11.2	J	13.4	J	9.7	J	8.1	J
ANADIUM	7.0		29.1		57.2		14.9		21.8		27.3		25.1		27.4		25.1		26.2	
NC	6.4	J	83.7	J	580	J	35.2	J	58.8	J	64.4	J	55.1	J	59.2	J	57.8	J	66.8	J
YANIDE	0.045	U	0.11	J	0.23	J	0.056	U	0.060	J	0.057	U	0.076	J	0.058	U	0.10	J	0.12	J

ghlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

Sample Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Solids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
ANTIMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ARSENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
BARIUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
BERYLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
CADMIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
CALCIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
CHROMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
COBALT	6.1		2.8		37.0		0.98		9.0		9.1		8.9		1.8		6.5		32.0	
COPPER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
IRON	13500		4670		13900		1430		20300		16000		16800		26500		17800		19800	
LEAD	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
MAGNESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
MANGANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
MERCURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
NICKEL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
POTASSIUM	784		120		993		42.2		1290		1160		1490		95.5		1250		874	
SELENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
SILVER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
SODIUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
THALLIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
VANADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
ZINC	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
CYANIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

Analytical Results (Qualified Data)

ase #: 28678
ite :
ab. :
eviewer :
ate :

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

ample Number :	MEE01Z		MEE020		MEE021		MEE022		MEE025		MEE026		MEE027		MEE028		MEE029		MEE02A	
ampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
latrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Inits :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Iate Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Ime Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
Solids :	88.0		83.2		95.2		74.8		76.2		83.8		75.6		70.8		76.9		74.1	
ilution Factor :	1.0		1.0		1.0		1.0		1.0		1:0		1.0		1.0		1.0		1.0	
									Background											
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
LUMINUM	3950		5200		1630		5620		11400		4280		14400		14100		14700		6860	
NTIMONY	0.52	UJ	0.53	UJ	0.45	UJ	0.58	UJ	0.61	J	0.51	R	0.64	J	0.65	R	0.60	R	0.65	J
RSENIC	0.77	U	0.78	U	0.66	U	4.0	J	3.3		0.75	U	7.4		7.8		5.3		5.0	
ARIUM	40.6		56.5		26.6		125		171		50.1		187		322		256		161	
ERYLLIUM	0.17	J	0.24	J	0.090	J	0.59		0.83		0.35	J	0.93		1.0		0.87		0.51	J
ADMIUM	0.070	U	0.070	U	0.060	U	0.43	J	0.080	U	0.070	U	0.16	J	0.15	J	0.080	U	0.080	U
ALCIUM	879		2320		556		149000		4230		1560		11300		9900		7750		23900	
HROMIUM	6.9		9.3		5.7		47.1		15.8		7.8		86.0		18.1		17.3		11.4	
OBALT	2.9		3.6		3.0		7.1		5.8		3.8		9.1		8.6		8.1		8.4	
OPPER	7.3		9.9		4.0		45.1		20.1		8.1		25.2		26.9		25.4		16.3	
ON	4690		7740		3480		12500		16400		7740		23300		21900		19900		17300	
EAD	4.3		7.4		2.7		73.7		20.6		5.9		45.2		18.7		21.5		13.8	
AGNESIUM	972		1400		833		7220		2630		1470		3860		5190		4130		8360	
ANGANESE	30.6		228		34.9		418		372		48.4		825		473		601		516	
ERCURY	0.090	J	0.10	J	0.070	J	0.18	J	0.10	J	0.050	J	0.18	J	0.10	J	0.070	J	0.090	J
CKEL	7.9		10.8		8.1		19.8		14.9	J	9.9	J	22.3	J	23.3	J	21.7	J	21.6	J
OTASSIUM	372		643		140		1180		1090	J	422	J	1420	J	2370	J	1470	J	1320	J
ELENIUM	0.98	UJ	0.98	UJ	0.84	UJ	1.1	UJ	1.5	J	1.6	J	1.8	J	1.2	UJ	1.1	UJ	1.2	UJ
ILVER	0.090	U	0.090	U	0.080	U	0.10	U	0.10	U	0.090	U	0.10	U	0.11	U	0.10	U	0.11	U
ODIUM	207	J	344	J	167	J	353	J	195	J	206	J	346	J	354	J	377	J	443	J
HALLIUM	3.3	J	5.3		2.0	J	3.0	J	11.7		5.0	J	15.4		13.3		13.2		9.9	
ANADIUM	12.2		12.0		10.4		25.2		25.8		13.3		34.9		34.7		30.5		21.7	
INC	16.3		27.8		10.2		427		66.7		25.1		92.4		70.5		62.1		48.3	
YANIDE	0.050	U	0.050	U	0.050	U	0.060	U	•		•		•		•		•		•	

– No results reported from Laboratory.
ghlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY
SAMPLE DESCRIPTIONS
Table 9

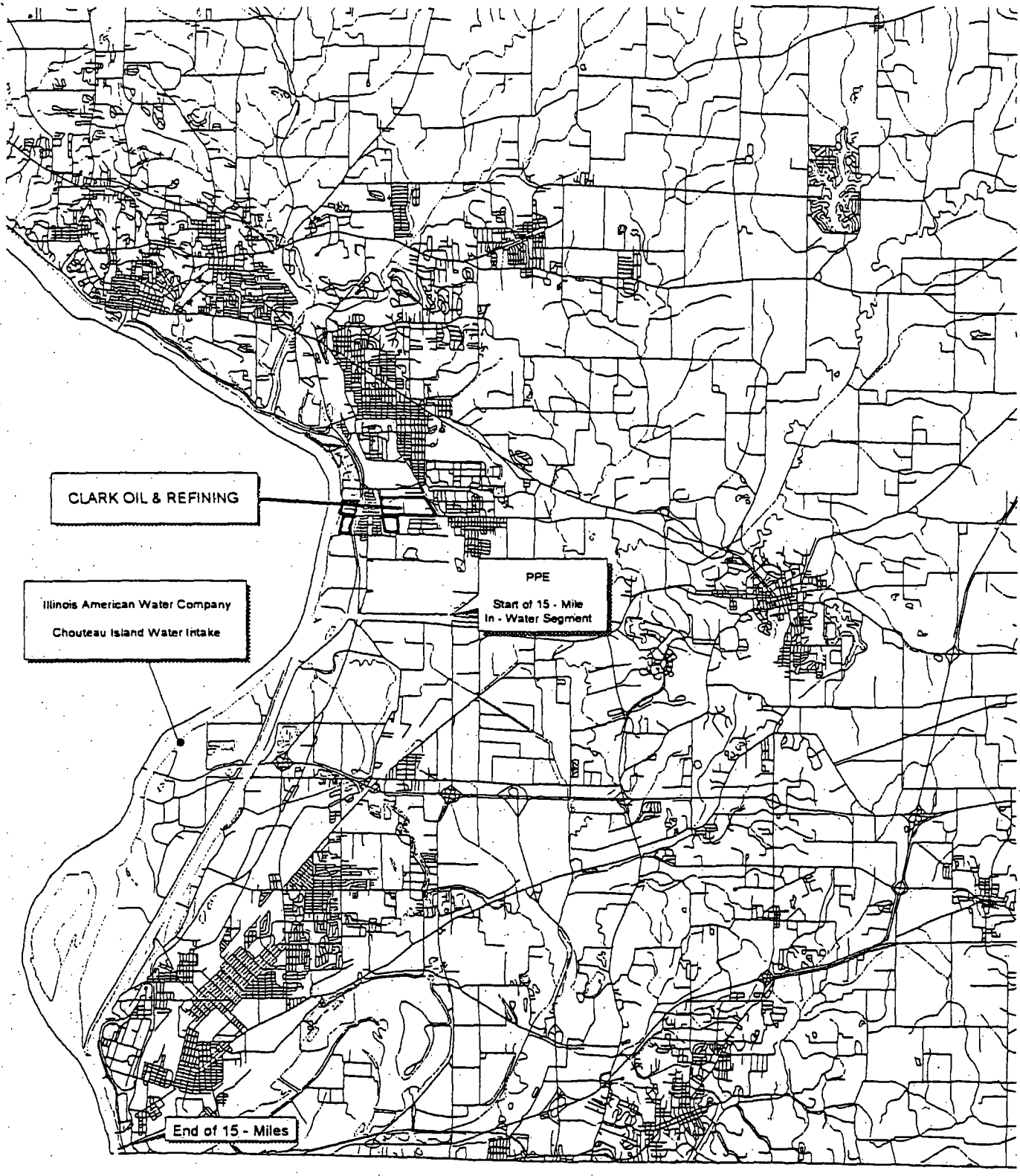
SAMPLE	DEPTH	APPEARANCE	TVA READINGS (units) PID	FID	LOCATION
X101	0.0' - 0.5'	Tar like substance.	9	25	Hawthorne St. west of levee just south of old waste water lagoon #1.
X102	9' - 11'	Med. tan silty clay, hydrcarbon odor.	8	44	Deep sample in above location.
X103	1' - 3'	Lt. tan, sandy, silty loam w/ gravel	1	3	Center of old Clark Oil dump, now used by Hartford for dirt, rock, concrete, etc.
X104	13' - 15'	Med. grey, clayey, silt.	12.5	51	Deep sample in above location.
X105	1' - 2.5'	Cinders at top, then black clay w/ some silt.	3.5	22	North of former TEL building
X106	9' - 11'	Dk. grey-green grey silt w/ v. f. sand.	92	900	Deep sample in above location.
X107	1' - 2.5'	Dk. grey - black, silty clay	20	1400	Within bermed containment area of tank 35-1 & 35-2.
X108	4' - 6'	Med. grey silty clay	11	315	Within bermed containment area of tank 162 (formerly 10-2).
X109	1' - 3'	Dk. brown-Dk. grey silty clay	4	570	Near NE corner of south tank farm south of Hawthorne St.
			Ambient air in bore hole		
X110	1' - 3'	Med.-Dk. grey clay.	42	50	North of drum accumulation/storage area in central portion of site.
X111	9' - 11'	Grey green silt w/clay.	20	150	Deep sample in above location.
X112	0.5' - 1'	Black stained, oily, silty clay.	17	7	Outside of SW corner of concrete containment wall of tank Ti-18.
X113	1' - 3'	Med. grey clay w/ some silt.	12	2	NE corner of bermed containment area of tank 120-2.
X114	0.0' - 0.5'	Leaded Tank Bottom material Black, stiff, slightly oily.	NA	NA	SE corner of leaded tank bottom pit.
X115	6' - 8'	Med. grey-greenish grey silt.	40	12	South of leaded tank bottom pit.

CLARK OIL & REFINING COMPANY

SAMPLE DESCRIPTIONS (cont.)

Table 9

SAMPLE	DEPTH	APPEARANCE	TVA READINGS (units) PID	FID	LOCATION
X116/X117 (Dup of X116)	0.0' - 0.5'	Med.-Dk. brown silty, sandy clay.	NA	NA	In drainage accumulation ditch SE of old (short) flare stack.
X118	1' - 3'	Black fines of petroleum coke.	19	NA	SW corner of unused area east of coking area.
X119	8' - 10'	Med. grey clay mixed w/ yellow brown clay.	46	NA	Deep sample in above location.
X120	1' - 4'	Fill & gravel to 3', then black silty clay.	39	NA	Just west of NW corner of Guard Basin in SE corner of site.
X121	14' - 16'	Olive brown clay to 14.5', then grey brown, med.-fine, sand w/ silt.	18	NA	Deep sample in above location.
X122	8' - 10'	Tan sand at top, then olive brown clay.	NA	NA	NE corner of site.
X123	18' - 20'	Med.-course brown sand.	NA	NA	Deep sample in above location.
X124	0.0' - 0.5'	Med. brown, sandy, silty loam. very fine silty sand. Moist.	NA	NA	Adjacent to NE corner of old API separator north of guard basin.
X125	1' - 3'	Med.-Dk. brown, silty, clay	NA Too wet & humid for TVA	NA	East of Roxana Water treatment Bldg. east of Route 111.
X126	13' - 15'	Fine sandy silt from 12' - 14.5', then med.-course tan sand.	NA	NA	Deep sample in above location.
X127	2' - 4'	Dk. brown-Dk. grey clay.	NA Too wet & humid for TVA	NA	West of levee, west of old waste water lagoon #2, north of Hawthorne St.
X128	14.5' - 16'	Dk. grey clay, petroleum odor & stain.	NA	NA	Deep sample in above location.
X129	2' - 4'	Gravel from 0.0'-3.0', then Dk. brown-Dk. grey clay.	NA Too wet & humid for TVA	NA	Immediately west of Bio-unit/API separator, west side of site.
X130	14' - 16'	Dk. grey-black,silty clay, petroleum odor and stains.	NA	NA	Deep sample in above location



15 - MILE

SURFACE WATER MAP

Clayton
GROUP SERVICES

APPENDIX J-4

MAJOR DOCUMENTATION RELATED TO NICOR BACKGROUND SOIL INVESTIGATION

FILE NUMBER 076116

RETAIN IN FILE UNTIL _____

NICOR NATIONAL ILLINOIS INC.

BACKGROUND SOIL INVESTIGATION

CLARK OIL and REFINING CORPORATION PROPERTY

Quaternary Resource Investigations, Inc.

STRATIGRAPHY • ENVIRONMENTAL GEOLOGY • GEOPHYSICS

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NICOR NATIONAL ILLINOIS INC.

BACKGROUND SOIL INVESTIGATION

CLARK OIL and REFINING CORPORATION PROPERTY

Presented to:

Mr. Joseph H. Snyder

NICOR NATIONAL ILLINOIS INC.
P.O. BOX 3014
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SEPTEMBER 12, 1995

by:

QUATERNARY RESOURCE INVESTIGATIONS
4117 Rhoda Drive
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Ph: (504) 292-5119

Q.R.I.

NICOR NATIONAL ILLINOIS INC.

BACKGROUND SOIL INVESTIGATION

CLARK OIL AND REFINING CORPORATION PROPERTY

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3.0	QUALITY ASSURANCE AND QUALITY CONTROL	2
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FIGURE 3. BG 9 PARTICLE-SIZE ANALYSIS

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Appendix B. QRI Quality Assurance & Quality Control

Appendix C. AccuLab Quality Assurance & Quality Control

Appendix D. Boring Logs

Appendix E. Certificates of Analysis & Chain of Custody Forms

TEXT

TEXT

NICOR NATIONAL ILLINOIS INC.

BACKGROUND SOIL INVESTIGATION

CLARK OIL and REFINING CORPORATION PROPERTY

Q.R.I.

BACKGROUND SOIL INVESTIGATION

CLARK OIL AND REFINING CORPORATION PROPERTY

1.0 INTRODUCTION

Background soil samples representative of undisturbed or natural soil quality were collected on January 10 and 11, 1995, on Clark Oil and Refining Corporation (Clark Oil) property adjacent to the NICOR National Illinois Inc. (NICOR) property near the Mississippi River in Hartford, Illinois (see Figure 1). These samples were collected as part of an effort to develop soil cleanup objectives for closure of four surface impoundments on the NICOR site. Similar background soil sampling of the Clark Oil property was performed between April 16 and April 21, 1992. A report on the April 1992 sampling was submitted to Clark Oil by ERM-North Central, Inc. on July 24, 1992. A report discussing the results of the January, 1995 background sampling was prepared by Quaternary Resource Investigations, Inc. (QRI) and submitted to the Illinois Environmental Protection Agency (IEPA). The following report is a modified version of the report submitted to the IEPA. The modifications were made to maintain the confidentiality of data from background sampling performed on nearby properties.

2.0 TECHNICAL APPROACH

To collect the samples necessary to meet the goals of the assessment of the background soils, QRI collected borings using Hard to Access Sampling (HTAS[1]) techniques. An explanation of the HTAS technology and the manner in which the data is generated is located in *APPENDIX A*. In addition to a description of the HTAS technology, this appendix provides the methodologies employed for:

- Core Description,
- Field Methodology, and
- Office Methodology.

[1]HTAS is a registered Trademark of QRI.

3.0 QUALITY ASSURANCE AND QUALITY CONTROL

The quality assurance and quality control plans used by QRI and AccuLab[2] during the assessment of the background soils are detailed in *APPENDIX B* and APPENDIX *C*, respectively. These appendices address:

- Sample Collection,
- Sample Custody, and
- Laboratory QA/QC.

4.0 SOIL SAMPLING AND ANALYSIS

Eight sample locations were selected to coincide with the previous background soil assessment[3]. The locations of the previous borings and the current sampling locations are displayed on *FIGURE 1*.

The background samples were obtained January 10 and 11, 1995 and consisted of eight continuous cores, each extending to an approximate depth of 7.5 feet. The logs of these borings are provided as *APPENDIX D*.

The length of each core was sampled in one foot increments for analysis to determine the content of:

- Oil and grease,
- Total petroleum hydrocarbons (TPH),
- Natural organic material (Total Volatile Solids [TVS]), and
- Total polynuclear aromatic hydrocarbon content on the interval with the highest oil and grease content.

Each core was composited and then sampled for:

- Total polynuclear aromatic hydrocarbon content,
- Total metals, and

[2]AccuLab, Inc. 1732 Fourth St., Harvey, Louisiana 70058
[3] *Ibid.*, 2

- Natural organic material.

5.0 ANALYTICAL RESULTS

The results of the analyses performed on the samples are presented in the following *TABLES* and *FIGURES*:

- PHYSICAL PROPERTIES
  - Unit Weights and Moisture Contents — *TABLE 1*
  - PARTICLE-SIZE ANALYSES — *FIGURES 2 & 3*
- HYDROCARBON AND NATURAL ORGANIC CONTENT
  - Oil and Grease — *TABLE 2*
  - Total Petroleum Hydrocarbons — *TABLE 2*
  - Total Volatile Solids — *TABLE 2*
  - Polynuclear Aromatic Hydrocarbons — *TABLE 3*
- METALS — *TABLE 4*

The certificates of analysis and chain of custody forms are presented in *APPENDIX E*.

6.0 DISCUSSION OF RESULTS

6.1 PHYSICAL PROPERTIES OF BACKGROUND SOILS

The assessment of the physical properties of the background soils consisted of 16 soil samples being analyzed for natural moisture content plus the determination of the wet and dry density of the soils. The averages of these soil properties are presented in the following table.

AVERAGE PHYSICAL PROPERTIES OF SOIL SAMPLES				
Moisture (%)	Wet Density (lbs/cu ft)	Dry Density (lbs/cu ft)	Wet Density (gm/cc)	Dry Density (gm/cc)
35.0	112.4	83.5	1.8	1.3

The particle-size analyses performed on soils from BG 3 and BG 9 indicated that soils from BG 3 are a lean clay (CL) and the soils from BG 9 are a fat clay (CH).

6.2 TOTAL VOLATILE SOLIDS

Sixty-nine samples were submitted for determination of the natural organic content or total volatile soils (TVS) of the soils. The median value for all of these analyses was 8.0% natural organic material.

6.3 OIL & GREASE AND TOTAL PETROLEUM HYDROCARBONS

The analysis for oil and grease content does not distinguish between the various types of oils which may be present in a soil sample. Total Petroleum Hydrocarbon (TPH) values will quantify the fraction of the oil and grease content in a soil which can be attributed to petroleum hydrocarbon sources. The remaining fraction may consist of a variety of oils some of which may be naturally occurring, e.g., vegetable oils.

Results of analyses for oil and grease content indicate a wide range of values in the background soils from a high of 11,914 ppm for sample interval 413.25 - 412.5 in BG 7 to less than 10 ppm for a number of sample intervals. Oil and grease content generally decreases with depth for all borings, as does TPH content, suggesting a possible surface source of contamination. Highest oil and grease and corresponding TPH values occurred in borings BG 6 and BG 7. Boring BG-7 was taken near an existing pipeline right-of-way. The highest oil and grease values occurred about two feet below ground surface. This may represent a natural zone of accumulation for downward moving contamination or it may represent the ground surface from an earlier 'contaminating incident'. Oil and grease contents decrease with depth from the point of these sample interval suggesting its presence is not from a lower source.

6.4 POLYNUCLEAR AROMATIC HYDROCARBONS

Low concentrations of Polynuclear Aromatics (PNAs) were detected in four of the ten borings. In BG 6 and BG 7 detection of PNAs corresponds to elevated oil and grease content in the respective sample intervals. In BG 5 and BG 9 there is a less dramatic correlation between oil and grease content and PNA detection. All PNAs were detected in the upper most sample interval for their respective cores with the exception of BG 7 in which PNAs were detected in the composite sample representing the entire

length of the core. The most interesting PNA compound detected in the BG 7 composite sample, was napthalene. This compound was not detected in any of the other samples. At a concentration of 1.6 ppm, it is not likely that this detection was a laboratory artifact.

6.5 METALS

Analytical values determined for metals content of the soils are consistent for all borings and indicate elevated levels for barium, chromium and lead as shown in the following table.

Parameter	Maximum (ppm)	Boring No.	Minimum (ppm)	Boring No.	Average (ppm)	Median (ppm)
Barium				BG8	111.4	107.0
Chromium	26.7	BG6	12.3	BG7	18.1	16.3
Lead	532.0	BG7	12.1	BG3	17.4	18.9

The analysis of the soil composite from BG 7 resulted in a concentration of lead at 532.0 ppm; a value 15 times the highest lead value for the other cores. The source of this deviation from the background concentrations determined in the other borings is unknown. This value was not used in the calculation of the average and median values for lead in the soils.

7.0 CONCLUSIONS

The physical properties of the background soils are consistent with the depositional environment of the area. The trace concentrations of PNAs, and those areas of elevated TPH and oil and grease in the surface and near surface soils are indicative of surface contamination from some activity not associated with the operation of the NICOR surface impoundments. BG 7 is the exception to these conclusions. Due to the unique detections of high lead and napthalene, it appears that the soils obtained from this boring have been strongly influenced by some other source.

The elevated levels of barium in the soils can be attributed to naturally occurring clays resulting from the weathering of barium feldspars. The somewhat even concentrations of chromium and lead across the site are indicative of airborne pollution. Whatever the source of these two metals, their occurrence can not be associated with the barge cleaning operations conducted by NICOR.

FIGURES

FIGURES

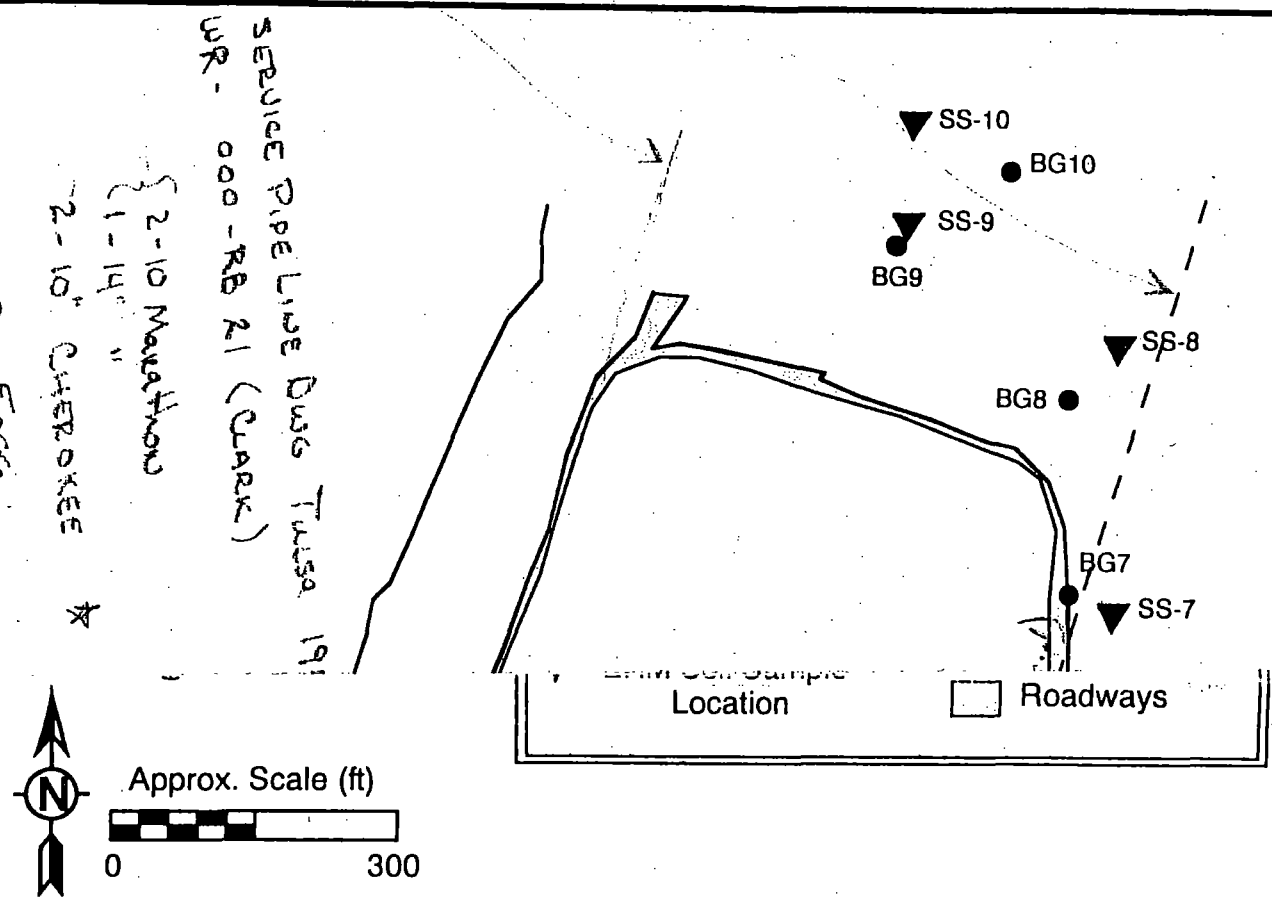
NICOR NATIONAL ILLINOIS INC.

BACKGROUND SOIL INVESTIGATION

CLARK OIL and REFINING
CORPORATION PROPERTY

Q.R.I.

Q.R.I.



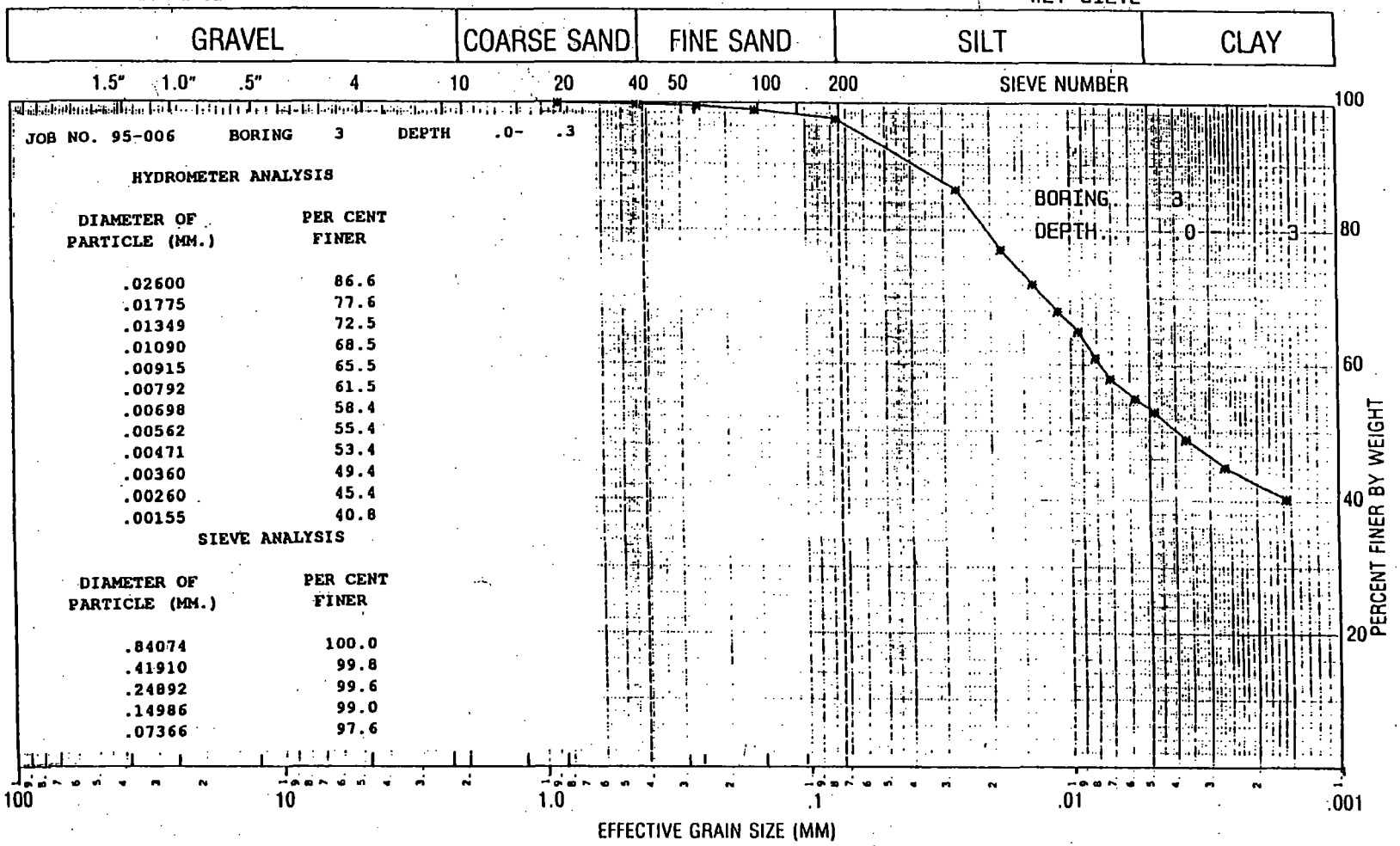
Date: 1/23/95	**FIGURE 1**	**QUATERNARY RESOURCE INVESTIGATIONS, INC.**
Drawn By: QRI	1995 BACKGROUND BORINGS AT HARTFORD FACILITY	4117 Rhoda Dr., Baton Rouge, LA 70816
Client: NICOR National Illinois		PH (504) 292-5119; FAX (504) 292-0318

Q.R.I.

18JAN95

GRAIN SIZE CURVE

WET SIEVE



HYDROMETER ANALYSIS

DIAMETER OF PARTICLE (MM.)	PER CENT FINER
.02600	86.6
.01775	77.6
.01349	72.5
.01090	68.5
.00915	65.5
.00792	61.5
.00698	58.4
.00562	55.4
.00471	53.4
.00360	49.4
.00260	45.4
.00155	40.8

SIEVE ANALYSIS

DIAMETER OF PARTICLE (MM.)	PER CENT FINER
.84074	100.0
.41910	99.8
.24892	99.6
.14986	99.0
.07366	97.6

FILE 95- 6
FIGURE . .

Louis J. Capozzoli and Associates, Inc.
Geotechnical Engineers

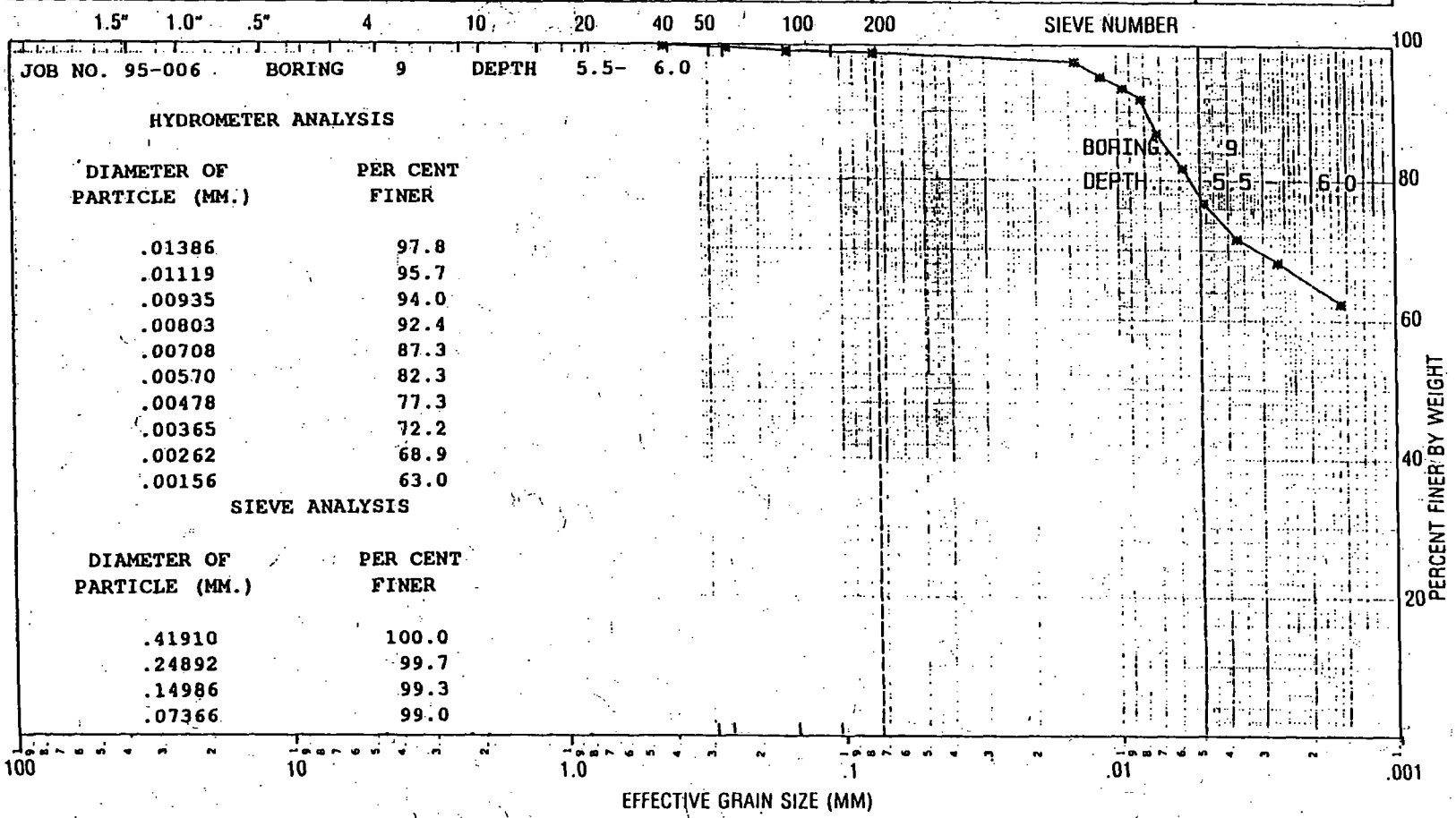
Date: 3/15/94	*FIGURE 2*	QUATERNARY RESOURCE INVESTIGATIONS, INC.
Drawn By: QRI	BORING 3 - GRAIN SIZE CURVE	4117 Rhoda Dr., Baton Rouge, LA 70816
Client: NICOR NATIONAL		PH (504) 292-5119; FAX (504) 292-0318

Q.R.I.

18JAN95

GRAIN SIZE CURVE

WET SIEVE



HYDROMETER ANALYSIS

DIAMETER OF PARTICLE (MM.)	PER CENT FINER
.01386	97.8
.01119	95.7
.00935	94.0
.00803	92.4
.00708	87.3
.00570	82.3
.00478	77.3
.00365	72.2
.00262	68.9
.00156	63.0

SIEVE ANALYSIS

DIAMETER OF PARTICLE (MM.)	PER CENT FINER
.41910	100.0
.24892	99.7
.14986	99.3
.07366	99.0

FILE 95- 6

FIGURE . .

Louis J. Capozzoli and Associates, Inc.
Geotechnical Engineers

Date: 3/15/94	**FIGURE 3**	QUATERNARY RESOURCE INVESTIGATIONS, INC.
Drawn By: QRI	BORING 9 - GRAIN SIZE CURVE	4117 Rhoda Dr., Baton Rouge, LA 70816
Client: NICOR NATIONAL		PH (504) 292-5119; FAX (504) 292-0318

TABLES

TABLES

NICOR NATIONAL ILLINOIS INC.

BACKGROUND SOIL INVESTIGATION

CLARK OIL and REFINING
CORPORATION PROPERTY

PHYSICAL PROPERTIES OF BACKGROUND SOIL SAMPLES						
Core Number	Elevation (ft-msl)	Moisture (%)	Wet Density (lbs/cu ft)	Dry Density (lbs/cu ft)	Wet Density (gm/cc)	Dry Density (gm/cc)
BG 3	415.5 - 412.5	41.0	101.9	72.3	1.632	1.157
BG 3	409.5	35.7	115.4	85.0	1.849	1.363
BG 4	413.0	34.2	113.2	84.4	1.813	1.351
BG 4	409.5	30.4	114.1	87.5	1.828	1.402
BG 5	413.5	31.3	112.2	85.5	1.797	1.369
BG 5	410.5	31.8	111.2	84.4	1.782	1.352
BG 6	413.5	31.4	115.6	88.0	1.852	1.409
BG 6	411.5	30.4	116.4	89.3	1.865	1.430
BG 7	413.5	33.7	113.5	84.9	1.818	1.360
BG 7	410.5	41.7	113.3	80.0	1.815	1.281
BG 8	413.5	29.0	116.7	90.5	1.870	1.450
BG 8	409.0	38.7	112.4	81.0	1.800	1.298
BG 9	412.5	30.1	114.6	88.1	1.836	1.411
BG 9	410.0	43.7	108.9	75.8	1.745	1.214
BG 10	414.0	32.5	112.3	84.8	1.799	1.358
BG 10	409.0	44.5	107.4	74.3	1.721	1.191

Date: 2/17/95	***TABLE 1***	**QUATERNARY RESOURCE**
Drawn By: QRI	Unit Weights and Moisture Content of Background Soil Samples	**INVESTIGATIONS, INC.**
Client: NICOR NATIONAL		**Q.R.I.**

Core Number	Elevation (ft-msl)	Moisture (%)	TVS (%)	O & G (ppm)	TPH (ppm)
BG 3	415.5 - 414.0	26.0	9.3	106	45
BG 3	414.0 - 412.5	21.5	6.1	<10	<10
BG 3	412.5 - 411.5	25.7	6.1	36	<10
BG 3	411.5 - 410.5	22.2	5.0	116	<10
BG 3	410.5 - 409.5	24.8	3.5	31	<10
BG 3	409.5 - 408.0	25.2	4.6	58	<10
BG 4	415.0 - 414.0	28.0	10.2	42	<10
BG 4	414.0 - 413.0	25.5	4.8	76	<10
BG 4	413.0 - 412.0	28.0	9.0	137	<10
BG 4	412.0 - 411.0	25.6	6.7	23	<10
BG 4	411.0 - 410.0	27.2	5.1	11	<10
BG 4	410.0 - 409.0	24.6	6.2	11	<10
BG 4	409.0 - 408.0	23.9	4.4	15	<10
BG 5	415.5 - 414.5	25.9	9.4	128	<10
BG 5	414.5 - 413.5	24.5	8.7	<10	<10
BG 5	413.5 - 412.5	24.6	8.3	<10	<10
BG 5	412.5 - 411.5	24.6	8.8	60	<10
BG 5	411.5 - 410.5	24.7	4.0	21	<10
BG 5	410.5 - 409.5	23.4	4.0	22	<10
BG 5	409.5 - 408.0	24.1	3.8	10	<10
BG 6	415.5 - 414.5	26.5	9.8	1,946	296
BG 6	414.5 - 413.5	23.8	8.8	70	<10
BG 6	413.5 - 412.5	23.9	8.1	11	<10
BG 6	412.5 - 411.5	23.6	5.2	11	<10
BG 6	411.5 - 410.5	24.2	4.4	<10	<10
BG 6	410.5 - 409.5	22.7	2.7	<10	<10
BG 6	409.5 - 408.0	22.4	4.5	<10	<10
BG 7	415.5 - 414.5	25.4	8.5	239	61
BG 7	414.5 - 413.25	23.4	8.5	114	<10
BG 7	413.25 - 412.5	24.7	5.2	11,914	4,911
BG 7	412.5 - 411.5	23.3	4.4	5,328	1,960
BG 7	411.5 - 410.5	29.2	6.1	1,132	582
BG 7	410.5 - 409.5	25.4	6.2	1,379	707
BG 7	409.5 - 408.5	26.4	8.5	1,145	760
BG 8	415.0 - 414.0	24.8	9.1	385	52
BG 8	414.0 - 413.0	22.3	9.0	426	188
BG 8	413.0 - 412.0	24.4	8.4	<10	<10
BG 8	412.0 - 411.0	22.2	7.0	<10	<10
BG 8	411.0 - 410.0	29.3	9.0	<10	<10
BG 8	410.0 - 409.0	26.6	8.0	11	<10
BG 8	409.0 - 408.0	26.4	7.2	<10	<10
BG 9	415.5 - 414.5	29.8	6.1	166	<10
BG 9	414.5 - 413.5	22.1	6.5	52	<10
BG 9	413.5 - 412.5	23.6	6.5	101	<10
BG 9	412.5 - 411.5	26.3	8.0	<10	<10
BG 9	411.5 - 410.5	31.1	9.2	<10	<10
BG 9	410.5 - 409.5	27.8	8.4	66	<10
BG 9	409.5 - 408.0	27.9	8.5	<10	<10
BG 10	415.0 - 414.0	26.8	10.8	236	115
BG 10	414.0 - 413.0	23.7	8.6	178	58
BG 10	413.0 - 412.0	22.9	7.2	140	40
BG 10	412.0 - 410.5	26.5	8.9	98	11
BG 10	410.5 - 409.0	31.4	9.8	12	<10
BG 10	409.0 - 408.0	28.2	9.3	<10	<10

TPH - Total Petroleum Hydrocarbons
TVS - Total Volatile Solids (Organic carbon content)

Date: 2/17/95	***TABLE 2***	**QUATERNARY RESOURCE**
Drawn By: QRI	Oil and Grease, TPH and TVS Results	**INVESTIGATIONS, INC.**
Client: NICOR NATIONAL		**Q.R.I.**

TOTAL POLYNUCLEAR AROMATICS	Regulatory Threshold Limits	BG 3		BG 4		BG 5		BG 6	
		A95-212-21	A95-212-24	A95-212-35	A95-212-40	A95-212-25	A95-212-32	A95-212-42	A95-212-41
		411.5-410.5'	415.5-408' C.	413-412'	415-408' C.	415.5-414.5'	415.5-408' C.	415.5-414.5'	415.5-408' C.
Benzo(a)anthracene	0.013 mg/Kg	BQL	BQL	BQL	BQL	0.032	BQL	0.027	BQL
Benzo(a)pyrene	0.023 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	0.030	BQL
Benzo(b)fluoranthene	0.018 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	0.020	BQL
Benzo(k)fluoranthene	0.017 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	0.018	BQL
Chrysene	0.15 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Diabenzo(a,h)anthracene	0.03 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Indeno(1,2,3-cd)pyrene	0.043 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Other Non-carcinogenic PNA's (the sum of the 3 PNA's below)	21 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenapthylene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(g,h,i)perylene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenapthene	42 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Anthracene	210 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	28 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	28 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Napthalene	0.039 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	21 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

TOTAL POLYNUCLEAR AROMATICS	Regulatory Threshold Limits	BG 7		BG 8		BG 9		BG 10	
		A95-240-4	A95-240-1	A95-212-51	A95-212-49	A95-212-58	A95-212-57	A95-212-75	A95-212-74
		413.25-412.5'	413.25-408.5' C.	414-413'	415-408' C.	415.5-414.5'	415.5-408' C.	415-414'	415-408' C.
Benzo(a)anthracene	0.013 mg/Kg	3.4	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(a)pyrene	0.023 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(b)fluoranthene	0.018 mg/Kg	BQL	BQL	BQL	BQL	0.026	BQL	BQL	BQL
Benzo(k)fluoranthene	0.017 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	0.15 mg/Kg	BQL	5.0	BQL	BQL	BQL	BQL	BQL	BQL
Diabenzo(a,h)anthracene	0.03 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Indeno(1,2,3-cd)pyrene	0.043 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Other Non-carcinogenic PNA's (the sum of the 3 PNA's below)	21 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenapthylene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(g,h,i)perylene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenanthrene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenapthene	42 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Anthracene	210 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	28 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	28 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Napthalene	0.039 mg/Kg	BQL	1.6	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	21 mg/Kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

Date: 2/7/95

Drawn By: QRI

Client: NICOR NATIONAL

TABLE 3

Total Polynuclear Aromatic Hydrocarbon Content Results

QUATERNARY RESOURCE INVESTIGATIONS, INC.
4117 Rhoda Dr., Baton Rouge, LA 70816
PH (504) 292-5119; FAX (504) 292-0318

Q.R.I.

Metals	Regulatory Threshold Limits	BG3 A95-212-24 0-7.5' Comp.	BG4 A95-212-40 0-7' Comp.	BG5 A95-212-32 0-7.5' Comp.	BG6 A95-212-41 0-7.5' Comp.
Arsenic	5 mg/L	1.2	1.1	1.3	1.7
Barium	100 mg/L	107	107	107	95.2
Cadmium	1 mg/L	0.2	0.6	0.2	0.2
Chromium	5 mg/L	14.1	14.8	16.2	26.7
Lead	5 mg/L	12.1	12.2	18.9	17.5
Mercury	0.2 mg/L	<0.10	0.14	<0.10	<0.10
Selenium	1 mg/L	<0.5	<0.5	<0.5	<0.5
Silver	5 mg/L	<0.4	<0.4	<0.4	<0.4
Metals	**Regulatory Threshold Limits**	**BG7 A95-240-1 2.25-7.5' Comp.**	**BG8 A95-212-49 0-7' Comp.**	**BG9 A95-212-57 0-7.5' Comp.**	**BG10 A95-212-74 0-7' Comp.**
Arsenic	5 mg/L	2.9	0.7	1	1.6
Barium	100 mg/L	115	94.9	107	114
Cadmium	1 mg/L	0.3	0.3	0.2	0.3
Chromium	5 mg/L	12.3	16.3	21.4	19.7
Lead	5 mg/L	532	19.9	19.7	22.7
Mercury	0.2 mg/L	0.12	<0.10	<0.10	<0.10
Selenium	1 mg/L	<0.5	<0.5	<0.5	<0.5
Silver	5 mg/L	<0.4	<0.4	<0.4	<0.4

Date: 2/13/95	*TABLE 4*	QUATERNARY RESOURCE
Drawn By: QRI	Background Soils Metals Results	INVESTIGATIONS, INC.
Client: NICOR NATIONAL		Q.R.I.

Clayton
GROUP SERVICES

APPENDIX J-5

MAJOR DOCUMENTATION RELATED TO BARREL STORAGE AREA

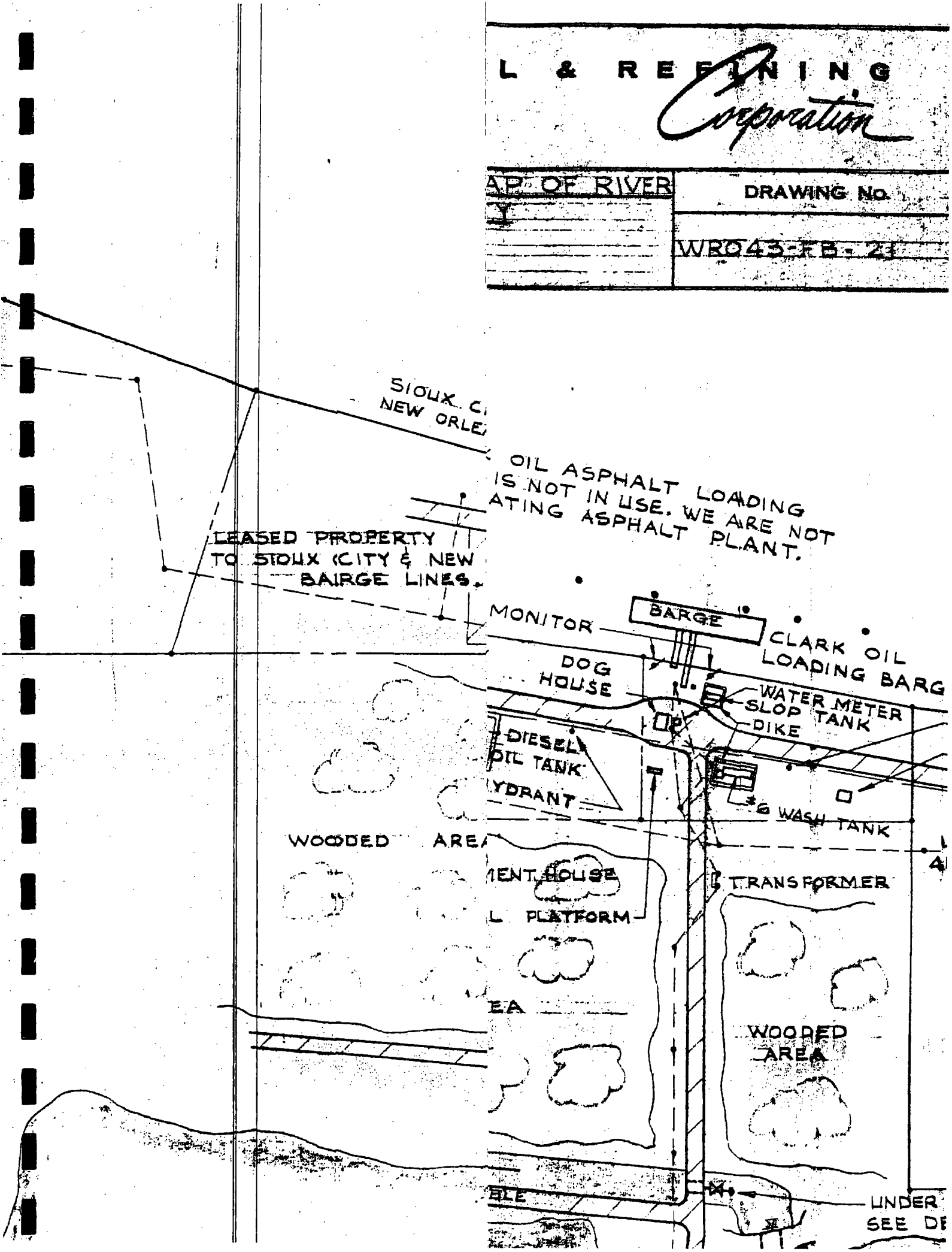
SPCC PLAN
CLARK OIL & REFINING CORPORATION
WOOD RIVER REFINERY, HARTFORD, ILLINOIS

SPILL PREVENTION CONTROL & COUNTERMEASURE
PLAN
FEDERAL EPA REGULATIONS ON OIL POLLUTION
PREVENTION 40 CFR 112, 38 FR 34164
DECEMBER 11, 1973

7/10/74

L & REFINING Corporation

AP OF RIVER Y	DRAWING No.
	WR043-FB-21



APPENDIX K

APPENDIX K

DOCUMENTS RELATED TO THE UNDERGROUND PRODUCT LINES

Clayton GROUP SERVICES

APPENDIX K-1

ILLINOIS EPA MEMORANDUM
OCTOBER 16, 1978

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY Source; IEPA ERW MEMORANI

TO: Division File DATE: 10/16/7

FROM: Dave Wieties - FOS Southern Region ☒ Information o

SUBJECT: Hartford : Pipeline Leakage ☐ Response requ

At 7:03 am a citizen of Hartford informed Chief Ande (of Hartford Police) that a liquid believed to be gasol was surfacing at the corner of Olive and Elm. Chief Anderson contacted John Rooks of the EPA who in turn c tacted D.L.P.C. and D.W.P.C. in Collinsville, and request to visit the area and determine where the gasoline is goin who generated it, and if an emergency situation existed Clarence Beck and myself arrived at the scene at appro 10:30 am. Gasoline was pooled in a hole dug directly over a pipeline. The gasoline had flowed down side ditches approx 15 yds. to both north and south. The pool of gasoline was actively percolating. Shortly after we arrived a recovery truck from Clark Oil arrived and began sucki up the liquid. The level in the pool was lowered to a point where one pipeline could be observed. Gasoline was surfacing from underneath the visible pipe. The re covery truck operator said two other lines were located under ~~under~~ the uncovered line but he couldn't de termine which was leaking. ~~All three lines belong to Clark and they accepted responsibility~~ for the leak. We then went and spoke with Chief Anderson who informe that the lines were supposed to have only H_2O in the The gasoline in the line reportedly resulted from a leaky va at the refinery. Water and air were to be circulated

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORAN

TO: DATE:

FROM: ☐ Information o

SUBJECT: ☐ Response requ

the blinding procedure of the line plus the leaky valve a the refinery allowed the line to fill with gasoline and the subject leak resulted. The main problem which presently exists is a fire hazard at the point of discharge. Secondly, some more hydrocarbo on top of the water table may have resulted from the leak but I cannot confirm this. Chief Ander expressed his belief that this leaky pipeline was the cause of the original Hydrocarbon problem in Hart ford. He has no proof of this.

10/17/78 - I called Chief Anderson. He said everything was cleaned up and there was no more flowage of gas line. He doesn't know what follow-up action will be taken by Clark.

RECEIVED

OCT 29 1986

IEPA-DLPC

Clayton
GROUP SERVICES

APPENDIX K-2

ILLINOIS EPA INCIDENT CONTROL SHEET
JANUARY 8, 1981

810008 Source: IEPA ERU

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
EMERGENCY RESPONSE UNIT

INCIDENT CONTROL SHEET

NOTIFICATION INFORMATION

DATE: 1/8/81	TIME: 3:45 PM	DUTY OFFICER: LANGLEY
TYPE OF INCIDENT: SPILL		REFERENCE CITY: ~~[illegible]~~ HARTFORD
COUNTY: MADISON	LOCATION: MISSISSIPPI RIVER ↓ ELMC DELMACE.	
CALLER: Cary BECHTOLT - Envir Emer Services		RELAY FROM: KAREN McKENNA
CALL BACK NUMBER: 314/532-7660	CONTACT PERSON:	

GENERAL INFORMATION

MATERIAL INVOLVED: #6 Fuel Oil		PHYSICAL STATE: LIQUID
AMT. RELEASED: 400 GALS	RATE OF DISCHARGE: —	AMT. RECOVERED: 400 GALS
CONTAINER AND SIZE: PIPELINE		
LIABLE PARTY: CLARK OIL	CONTACT PERSON:	
ON SCENE COORDINATOR: MSO - ST. LOUIS	CONTACT NUMBER:	

NATURE OF EMERGENCY

FIRE ☐ EXPLOSION ☐ HUMAN HAZARDS ☐ ENV. PROBLEMS: WATER ☐ AIR ☐ LAND ☐ PWS ☐

ACTION TAKEN: USCG responded 9:25 AM this morning. Hired Env. Emer. Services to clean-up. / Clark determined to be responsible / will take over contract / DLPC will issue permit

ASSISTANCE NEEDED, RECOMMENDATIONS, AND COMMENTS:

NOTIFICATION: ESDA ■ SFM ☐ CONSERVATION ☐ MINES & MINERALS ☐ PUBLIC HEALTH ☐ ISP ☐ MSD ☐
COOK CO DEC ☐ USEPA ☐ USCG ■ USFW ☐ ORSANCO ☐
LOCAL FIRE DEPT ☐ LOCAL POLICE DEPT ☐ BORDERING STATE(S) _____ OTHER

IEPA NOTIFICATION

IEPA DAPC ☐ DWPC ■ DLPC ☐ DPWS ☐ ENF ☐ MPC ☐ DLS ☐ ERU ☐ DIR OFF ☐

NAME: ~~[illegible]~~ IRA MATHENY	NAME:
NAME:	NAME:
NAME:	NAME:
NAME:	NAME:

FOLLOW UP INVESTIGATION YES ☐ NO ☐ NAME OF INVESTIGATOR:

WRITTEN REPORT NEEDED YES ☐ NO ☐ DATE REPORT REC'D:

IEPA/OTHER PERSONNEL ON SCENE

APC-191 4/80

Source: LEPA ERW

0

EPA SGF

USACC C FTSH
PTTUZYUW RUCIHLA8913 0100047-UUUU--RUCISER-
ZNR UUUUU
P 160011Z JAN 81
FM COGARD MSO ST LOUIS MO
TO ZEN/CCGDTWO ST LOUIS MO
INFO RUEBJGA/COGARD NATIONAL RESPONSE CENTER WASHINGTON DC
RUEDEEA/COMLANTAREA COGARD NEW YORK NY
ZEN/EPA REGION FIVE CHICAGO IL
RUCISER/EPA SPRINGFIELD IL
RUCHMCR/U S FISH AND WILDLIFE SERVICE FORT SNELLING MN
CG GRMC
BT
UNCLAS //N16465//
TO MEP
PDEMEP TWO, LIGHT CYCLE OIL, MINOR SPILL, CLARK OIL COMPANY, MILE 196.
UPPER MISSISSIPPI RIVER, LEFT DESCENDING BANK, JCN 2P11802.
1. SITUATION:
A. CLEANUP RESUMED MORNING OF 09 JAN 81.
2. ACTION TAKEN
A. MSO POLLUTION INVESTIGATOR MONITORING CLEANUP EFFORTS THROUGHOUT DAY.
B. 0914025 JAN 81 POLLUTION INVESTIGATOR WITNESSED HYDROSTATIC TEST

PAGE 2 RUCIHLA8913 UNCLAS
OF PIPE REPAIR. TEST SATISFACTORY.
C. 0914325 JAN 81 CLEANUP EFFORTS SECURED FOR DAY WITH ALL FREE OIL RECOVERED. OIL CONTINUES TO SURFACE SLOWLY FROM UNDER BARGES IN THE AB AND IS COLLECTING IN CONTAINMENT BOOM. NO EVIDENCE OF PRODUCT ESCAPING.
3. FUTURE PLANS AND RECOMMENDATIONS:
A. CONTRACTOR TO RESUME CLEANUP MONDAY 12 JAN 81.
B. MSO POLLUTION INVESTIGATOR TO CHECK SITUATION DAILY AND MONITOR REMAINDER OF CLEANUP.
C. MSO TO SUBMIT WATER POLLUTION VIOLATION REPORT.
4. CASE PENDS.
BT
#2813

EPA SGF 0 1 3 2 0 0 0 0 0 3 1

USACC C FTSH
PTTUZYUW RUCIHLA9887 0290052-UUUU--RUCISER.
ZNR UUUUU
P 262325Z JAN 81
FM COGARD MSO ST LOUIS MO
TO ZEN/CCGDTWO ST LOUIS MO
INFO RUEBJGA/COGARD NATIONAL RESPONSE CENTER WASHINGTON DC
RUEDEEA/COMLANTAREA COGARD NEW YORK NY
ZEN/EPA REGION FIVE CHICAGO IL
RUCISER/EPA SPRINGFIELD IL
RUCHMCR/U S FISH AND WILDLIFE SERVICE FORT SNELLING MN
BT
UNCLAS //N16465//
TO MEP
POERER ONE, LIGHT CYCLE OIL, MINOR OIL SPILL, CLARK OIL COMPANY,
MILE 196.6 UPPER MISSISSIPPI RIVER, LEFT DESCENDING BANK, UCN 2P11C2P
PROJECT NO. 110016
1. SITUATION
A. 080815S JAN 81 MARINE INSPECTOR REPORTS ACCUMULATION OF OVER A HUNDRED GALS BLACK WASTE OIL AROUND SCNO OFFICE BARGE. WORK FLAT AND TOWBOAT MOORED TO OFFICE BARGE. PRODUCT POCKETING NATURALLY IN POOLS. DEBRIS BETWEEN VESSELS AND ALONG SHORE CONTAMINATED. MARINE INSPECTOR TO MAKE INITIAL INVESTIGATION.

PAGE 2 RUCIHLA9887 UNCLAS
2. ACTION TAKEN
A. 080820S JAN 81 POLLUTION INVESTIGATOR DISPATCHED TO SCENE.
B. 080830S JAN 81 MARINE INSPECTOR REPORTS SEWER OUTFALL 50 FT UPSTREAM WITH TRACES OF SIMILAR OIL FLOWING OUT.
C. 080905S JAN 81 POLLUTION INVESTIGATORS ONSCENE. APPX. 400 GALS OIL IN WATER.
D. 080920S JAN 81 ONE INVESTIGATOR REMAINED ONSCENE AT SCNO. OTHER INVESTIGATORS TRACING SEWER LINE. PRODUCT REMAINED NATURALLY CONTAINED BY BARGES.
E. 080934S JAN 81 OBTAINED PROJECT NUMBER 110016 WITH AUTHORIZATION OF 9000 DOLLARS CONTRACTOR AND 1000 DOLLARS ADMIN. HIRED ENVIRONMENTAL EMERGENCY SERVICES TO CONDUCT CLEANUP.
F. 081030S INVESTIGATORS REPORT OIL LEACHING FROM UNDER PAVEMENT ON ELM STREET, HARTFORD, ILLINOIS AND DIRECTLY ENTERING SEWER LINE APPROX THREE QUARTERS OF A MILE FROM THE RIVER. HARTFORD CITY HALL SUSPECTED THAT PIPELINE BETWEEN CLARK REFINERY AND CLARK WATERFRONT FACILITY HAD RUPTURED.
G. 081035S MEP OFFICER CALLED MR. LEO ELLER AT CLARK REFINERY (618) 254-7301 AND REQUESTED SHUTDOWN OF SUBJECT PIPELINE. MR. ELLER WAS ALG INFORMED OF CLARK OIL COMPANYS POSSIBLE FINANCIAL RESPONSIBILITY FOR

PAGE 3 RUCIHLA9887 UNCLAS
SPILL AND WAS OFFERED THE OPTION OF ASSUMING CLEANUP RESPONSIBILITY.
H. 081050S ENVIRONMENTAL EMERGENCY SERVICES ONSCENE COMMENCING CLEA
I. 081115S CLARK OIL COMPANY ASSUMED FINANCIAL RESPONSIBILITY AND AGREED TO ASSUME COAST GUARD CONTRACT WITH ENVIRONMENTAL EMERGENCY SER RELIEVING FEDERAL GOVERNMENT OF ALL FINANCIAL LIABILITY UNDER THAT CON CONTRACTOR AGREED TO THE ARRANGEMENT.
J. CLEANUP CONTINUED WITH BOOM ACROSS SEWER OUTFALL, AND LEAKING PIPELINE SECURED. COLLECTION BOOM ACROSS DOWNSTREAM SIDE OF SCNO BARGE WITH PRODUCT BEING FLUSHED BETWEEN BARGES FOR COLLECTION.
K. 081430S RESPONSIBLE PARTY, CONTRACTOR AND OSC REPRESENTATIVE COMPLETED EXECUTION OF FORM, (ASSUMPTION OF FINANCIAL RESPONSIBILITY FOR FEDERAL CLEANUP ACTIVITY), OFFICIALLY CLOSING OUT PROJECT NUMBER 110016. NO COAST GUARD EQUIPMENT EXPENDED.
3. FUTURE PLANS AND RECOMMENDATIONS

EPA SGF 0 1 3 2 0 0 0 0 0 3 1

QSAGC C FISH
PTTUZYUW RUCIHLA9867 0020252-UUUU--RUCTSEP.
ZNR UUUUU
P 262325Z JAN 81
FM COGARD MSO ST LOUIS MO
TO ZEN/COGDTWO ST LOUIS MO
INFO RUERUSA/COGARD NATIONAL RESPONSE CENTER WASHINGTON DC
RUEDEEA/COMLANTAREA COGARD NEW YORK NY
ZEN/EPA REGION FIVE CHICAGO IL
RUCTSER/EPA SPRINGFIELD IL
RUCHMCF/U S FISH AND WILDLIFE SERVICE FORT SNELLING MN
BT
UNCLAS //N16465//
TO MEP
POLREP ONE, LIGHT CYCLE OIL, MINOR OIL SPILL, CLARK OIL COMPANY,
MILE 196.6 UPPER MISSISSIPPI RIVER, LEFT DESCENDING BANK, HOM 2P1U6P
PROJECT NO. 110016
1. SITUATION
A. 0808155 JAN 81 MARINE INSPECTOR REPORTS ACCUMULATION OF OVER A HUNDRED GALS BLACK WASTE OIL AROUND SUMO OFFICE BARGE, WORK FLAT AND TOWBOAT MOORED TO OFFICE BARGE. PRODUCT BUCKETING NATURALLY IN POOLS. DEBRIS BETWEEN VESSELS AND ALONG SHORE CONTAMINATED. MARINE INSPECTOR TO MAKE INITIAL INVESTIGATION.

PAGE 2 RUCIHLA9867 UNCLAS
2. ACTION TAKEN
A. 0808205 JAN 81 POLLUTION INVESTIGATOR DISPATCHED TO SCENE.
B. 0808305 JAN 81 MARINE INSPECTOR REPORTS SEWER OUTFALL 50 FT UPSTREAM WITH TRACES OF SIMILAR OIL FLOWING OUT.
C. 0809055 JAN 81 POLLUTION INVESTIGATORS ONSCENE. APPX. [illegible] GALS OIL IN WATER.
D. 0809205 JAN 81 ONE INVESTIGATOR REMAINED ONSCENE AT SUMO. OTHER INVESTIGATORS TRACING SEWER LINE. PRODUCT REMAINED NATURALLY CONTAINED BY BARGES.
E. 0809345 JAN 81 OBTAINED PROJECT NUMBER 110016 WITH AUTHORIZATION OF 9000 DOLLARS CONTRACTOR AND 1000 DOLLARS ADMIN. HIRED ENVIRONMENTAL EMERGENCY SERVICES TO CONDUCT CLEANUP.
F. 0810305 INVESTIGATORS REPORT OIL LEACHING FROM UNDER PAVEMENT ON ELM STREET, HARTFORD, ILLINOIS AND DIRECTLY ENTERING SEWER LINE APPROX THREE QUARTERS OF A MILE FROM THE RIVER. HARTFORD CITY HALL SUSPECTED THAT PIPELINE BETWEEN CLARK REFINERY AND CLARK WATERFRONT FACILITY HAD RUPTURED.
G. 0810355 MEP OFFICER CALLED MR. LEO ELLER AT CLARK REFINERY (618). 254-7301 AND REQUESTED SHUTDOWN OF SUBJECT PIPELINE. MR. ELLER WAS ALS INFORMED OF CLARK OIL COMPANYS POSSIBLE FINANCIAL RESPONSIBILITY FOR

PAGE 3 RUCIHLA9867 UNCLAS
SPILL AND WAS OFFERED THE OPTION OF ASSUMING CLEANUP RESPONSIBILITY.
H. 0810505 ENVIRONMENTAL EMERGENCY SERVICES ONSCENE COMMENCING CLEA
I. 0811155 CLARK OIL COMPANY ASSUMED FINANCIAL RESPONSIBILITY AND AGREED TO ASSUME COAST GUARD CONTRACT WITH ENVIRONMENTAL EMERGENCY SER RELIEVING FEDERAL GOVERNMENT OF ALL FINANCIAL LIABILITY UNDER THAT CON CONTRACTOR AGREED TO THE ARRANGEMENT.
J. CLEANUP CONTINUED WITH BOOM ACROSS SEWER OUTFALL AND LEAKING PIPELINE SECURED. COLLECTION BOOM ACROSS DOWNSTREAM SIDE OF SUMO BARGE WITH PRODUCT BEING FLUSHED BETWEEN BARGES FOR COLLECTION.
K. 0814305 RESPONSIBLE PARTY, CONTRACTOR AND OSC REPRESENTATIVE COMPLETED EXECUTION OF FORM (ASSUMPTION OF FINANCIAL RESPONSIBILITY FOR FEDERAL CLEANUP ACTIVITY), OFFICIALLY CLOSING OUT PROJECT NUMBER 110016. NO COAST GUARD EQUIPMENT EXPENDED.
3. FUTURE PLANS AND RECOMMENDATIONS
A. CONTRACTOR TO SECURE CLEANUP AT SUNSET 08 JAN 81 AND RESUME CLEA AT 0800 09 JAN 81. PRODUCT COMPLETELY CONTAINED IN NATURAL COLLECTION AREA AND CONTAINMENT BOOMS, NO OIL ESCAPING.
B. MSO TO CONTINUE TO MONITOR CLEANUP AND WITNESS HYDROSTATIC TEST OF LEAKING PIPE.
C. MSO TO SUBMIT WATER POLLUTION VIOLATION REPORT.

PAGE 4 RUCIHLA9867 UNCLAS
4. CASE PENDS.
BT
#9867

Clayton
GROUP SERVICES

APPENDIX K-3

ILLINOIS EPA INCIDENT CONTROL SHEET
NOVEMBER 20, 1984

119050002 - Madison
Clark Oil
Compliance

Source: IEPA BOL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
EMERGENCY RESPONSE UNIT

INCIDENT CONTROL SHEET

NOTIFICATION INFORMATION

DATE: 11/20/84	TIME: 5:00 P.M.	DUTY OFFICER:
TYPE OF INCIDENT:		REFERENCE CITY: Hartford
COUNTY: Madison	LOCATION: 100 Block of East Elm Also 100 Block of West Elm.	
CALLER: Mayor Charles Hendricks - Hartford		RELAY FROM:
CALL BACK NUMBER:		CONTACT PERSON:

GENERAL INFORMATION

MATERIAL INVOLVED: "light cycle oil"		PHYSICAL STATE: liquid
AMT. RELEASED: N/A	RATE OF DISCHARGE: N/A	AMT. RECOVERED:
CONTAINER AND SIZE: pipeline		
LIABLE PARTY: Apex Oil Co.		CONTACT PERSON:
ON SCENE COORDINATOR:		CONTACT NUMBER:

NATURE OF EMERGENCY

FIRE ☐ EXPLOSION ☐ HUMAN HAZARDS ☐ ENV. PROBLEMS: WATER ☐ AIR ☐ LAND ☐ PWS ☐

ACTION TAKEN:

ASSISTANCE NEEDED, RECOMMENDATIONS, AND COMMENTS:

NOTIFICATION: ESDA ☐ SFM ☐ CONSERVATION ☐ MINES & MINERALS ☐ PUBLIC HEALTH ☐ ISP ☐ MSD ☐

COOK CO DEC ☐ USEPA ☐ USCG ☐ USFW ☐ ORSANCO ☐

LOCAL FIRE DEPT ☐ LOCAL POLICE DEPT ☐ BORDERING STATE(S)_____ OTHER

IEPA NOTIFICATION

IEPA DAPC ☐ DWPC ☐ DLPC ☐ DPWS ☐ ENF ☐ MPC ☐ DLS ☐ ERU ☐ DIR OFF ☐

NAME:	NAME:
NAME:	NAME:
NAME:	NAME:
NAME:	NAME:

FOLLOW UP INVESTIGATION YES ☐ NO ☐ NAME OF INVESTIGATOR:

WRITTEN REPORT NEEDED YES ☐ NO ☐ DATE REPORT REC'D:

IEPA/OTHER PERSONNEL ON SCENE

IL 532-0235

SCREENED BF

MISC. PERSONNEL INVOLVED

NAME	ORGANIZATION	POSITION	PHONE

ENVIRONMENTAL ASSESSMENT/RESPONSE

MATERIAL INVOLVED:

DANGEROUS PROPERTIES:

HUMAN HAZARDS:

ENVIRONMENTAL HAZARDS:

AREA AFFECTED:

PROTECTIVE CLOTHING:

SAMPLING PROCEDURES:

MONITORING SCHEDULE:

CONTAINMENT METHODS:

CLEAN-UP METHODS:

DISPOSAL PLANS:

LOG OF EVENTS

TIME 11/20/84	
5:00 PM	Mayor Hendricks called this regional office to report that a transmission line of Apex Oil ruptured - Oil surfacing on both East + West Elm streets oil reported to be 4-5 inches deep within some areas of street - fire dept. presently flushing oil into storm sewers - (Hartford has combined sewers, sanitary & storm, which flow to Imhoff Tank - primary treatment to decant solids)
5:10 PM	- This writer called ESDA to inquire if they had any reports of spills - Gave what info I had to ESDA Dispatcher
5:12	Called Bob Schleuger - told of flushing of sewers - said on vacation
5:18 PM	Called Coast Guard, Captain of Port MSO St. Louis - spoke with Chief Petty Officer Connell told him of situation - Also reported that oil would possibly be showing up in River due to Hartford's flushing of sewer lines Requested site visit by Coast Guard - Connell asked me if oil was in river; said I didn't know - But only a matter of time - He said no one would be sent until oil is in River.
5:20 PM	Called N.R.C. - spoke w/ Mr. Plowman.
5:30 PM	- Called Mayor Hendricks Back - said I would respond ≈ 1/2 hour travel time - Mayor said oil first discovered ≈ 4:30 - City started flushing sewers immediately
6:05 pm	- Arrived on scene - spoke with Mayor Hendricks & Super of Public Works James Spann, City still flushing sewers - Oil surfaced in two areas - 100 Block of East Elm + 100 Block of West Elm. Mr. Spann said city is holding samples of oil - told him to hold onto them until further notice. - NO Citizen Complaints thus far - City stated that Apex (Clark Oil Refinery) installed 3 new lines a little over a year ago 2 10 inch lines and 1 14 inch insulated line - Village thi

LOG OF EVENTS

TIME	
	- Site visit of Hartford outfall w/ Jim Spann. Clark is using old lines that should be out of service. - Told them that I would look into it. - City seems to think material is either #2 Heating Oil or a #6 Black Oil -
7:05	7:01 - Called ESAA - Talked to duty officer Roger Selburg - reported what info I had thus far.
7:15	Called Jack Barnette - USEPA Region V Emergency Response to report - Jack said they would get involved if Spiller don't take action - Told him to stand-by (for a few days) to see what develop. -
7:20	Called Coast Guard - spoke with Chief Milne - told him since Hartford flushed sewers - only a matter of time before oil is in river - He asked if we saw oil in river said - visited outfall but too dark - Coast Guard should be aware - Said they would not respond until - oil is sited in river
7:30	Left City Hall - drove through city - oil had been flush into sewers - sand had been applied on roads & side walks as an absorbent Jim Spann said City would collect sand with street sweeper the next day -
8:30	left site -
11/21/84 9:00AM	Called John Perry to report findings inquired if any additional info has been forthcoming
9:30	Called Apex Oil Co Offices in St. Louis (314 889-960 Asking for someone with info on spill - spoke with John Samsel - Mr Samsel gave me two names - Tom Kniestedt - General Manager of Petroleum, Fuel and Terminal Co Inc. 314 889-0214 - Mr. Kniestedt has physical responsibility for pipeline Company. and George Burkhart of the Clark Oil Refinery - Who heads the refinery from an operational standpoint.

LOG OF EVENTS

11/21/84

TIME	
9:41AM	Called Tom Nestadt Wood River dock 618/251-2083
	office 314/889-0214
	3 new lines in ground
	A 3" wash line abandoned in place - not disconnected
	And it is under pressure with "light cycle oil"
	- flash pt ~ 200° specific gravity 24-25 APT
	Red Lewis of Granite City 618/452-4175 given as a
	contact.
	S/V conducted 250-300 feet of East Elm impacted
	in front of 116 E. Elm
	75-100 feet of West Elm impacted
	in front of 108 West Elm.
	- Oil stain in street (West Elm is an asphalt
	road with concrete curbs gutters + sidewalks)
	14" hot asphalt line - when not in use is filled
	with light cycle oil - light cycle oil
	is reused - continually recycled into/out of
	pipelines Apex has holding tank at river terminal
	14" asphalt line is filled with light cycle oil after
	→ Apparently old 3" pipeline was opened at refinery
	Complex - under pressure - thus resulting in
	surface contamination along Elm Street - Oil su
	- pipelines reported by ≈ 3' beneath surface of street -
	"Several hundred gallons lost - not able to eval Elm -
	Manifold connected up wrong in refinery pumping"
	oil in old 3" pipeline that should be out of s
11/21/84	with Jim Creel Machinist Tech I and Ron Schleis
3:30 S/V	Machinist Tech III of Coast Guard
	≈ 60 BBL recoverable.
	- Sorbent booms deployed in 2 areas of river
	(1) At storm water out fall
	(2) Down stream of 2nd wood jam
	Most oil ≈ 200' downstream from outfall
	between National Marine "Blue office barge"
	More oil Farther down stream ≈ 250'-300'
	Between river bank and dry dock barge

LOG OF EVENTS

TIME

11/22/84 Site Visit w/ Red Lewis.
8:30AM to river collection site.
Sorbent booms not effective. (very little collected over night

VAC Truck worked 8-11:00 pm with one load recovered from within drift wood AREA - slight evidence of collection activities
Powell told Red Lewis to work all tomorrow and place more booms - contaminated driftwood a problem - leaching of oil.

+ Met Mark DeVries of Coast Guard - will talk of clean-up tomorrow -

11/23/84 8:45AM DeVries of Coast Guard called said VAC truck not working well in river. must do a better job - remove contaminated driftwood.
DeVries said to contact Tom Plestead to order more recovery work. - Coast Guard says IEPA has authority to oversee clean-up

11:07 Powell called DeVries
Coast Guard noted more oil flushing into river last even more at outfall within boomed area.
Crain will be needed to recover contaminated driftwood
DeVries spoke to Jack Barnett - Per Barnett Feds will get involved

NOON w/ Phil Lyles Clark "Oil Movements" → 254-7301
Site visit + Tony De Stefano Forman

Don Barton trackhoe + semi dump on scene. Recovering drift wood from river - dumping near terminal.
Fire dept flushing sewers
Dynamic Hydroblasting VAC truck recovering in Boomed area up stream of River boat → "Mr. Cole" (At out 8
Containment Booms now deployed. up stream of "Mr Cole"
→ Trash that is being recovered is to be temp. stored by their terminal until disposal in Landfill next.

LOG OF EVENTS

TIME	
11/23/84	VAC trucks continue working at outfall - Flushing of sewers continue.
	Containment booms moved downstream below area being cleaned of drift wood
	Red Lewis left for the day replaced by Tom.
	Red Lewis will be here tomorrow (saturday @ 8:00 AM)
	Will continue recovery tomorrow
3:55	Spoke to Mark Belvieu. - he stated oil collecting at Dry Bros. Marine Mile Post 196.4
	- will check out tomorrow -
	Tom called my home at 5:45 pm.
	→ 3 more booms deployed downstream
	Most drift wood removed. - will wash with high pressure ho
	- at outfall - upstream - VAC truck collected most of the o
11/24/84	Site Visit - with Red Lewis -
	Most drift wood removed.
	2 booms upstream (1) Absorbent }
	(2) Containment } oil within both.
	Visited Dry Bros Marine w/ Red -
	No collectable oil only ribbons + sheen, nothing
	upstream outfall full of oil (phone call from Tom last evening not co
	VAC truck working at downstream of Nat Marine barge (1st barg
	oil is getting past booms
	Now pooling at 2 points
	1) 150' downstream - 1st log jam near steel piling
	2) 300' downstream 2nd log jam
	near Nat. Marine trailers - more severe accum
	Driftwood to be raked to bank where VAC truck can colle
	at end of Nat Marine Barge.
	- Area upstream of "Mr Cole" needs to be addressed"
	and the two areas of driftwood at Nat Marin
	that is collecting oil
11/25/84	No site visit.

LOG OF EVENTS

TIME / /	
11/26/84	Dollins called wasting update @ 9:00AM
	S/U @ 10:30 AM
	- Vac Tank removing at outfall not much within boom
	- Sheen visible near river boat "Mr. Cole"
	- Strong wind from South @ 10-15mph causing difficul in recovery pushing sheen & scum all over.
	A) 1st point downstream near Blue Nat Marine barge drift wood all out of river only scum noted no collectable amount.
	B) 1st log jam 15'x10' area accumulation of oil don't look like this areas been touched since Saturday (11/24)
	C) 2nd log jam. 20'x10' area of accumulation don't look like this area has been touched (Scum noted between points B + C)
	Told Red Lewis about the 2 log jam areas and oil upstream of "Mr. Cole" I showed him two areas of log jams.
	Left site @ 11:30 to stop by Lewis + Clark state park
	→ oil droplets - ribbons + sheen still noticable at the state park.
11/26	Hartford Mayor called concerned of oil stains in Elm street - also concerned of soil contamination

LOG OF EVENTS

TIME	
11/27/84 11:45	Site Visit (Rained heavy last evening - 1st rain since spill) 1) Stormwater outfall - 2 booms - slight sheen only 2) Upstream Point #1 - Behind Nat. Marine Bank - Stamps vac truck working area (3) Midstream Point #2 2 labors working this area Nearly as much oil as yesterday truck more scum (4) downstream Point #3 Heavy Accumulation of milky scu Both of these areas were worked yesterday x Stamps vac truck brought in today 1:40 Mark Kellries provided update - joint visit tomorro
11/28/84 1st visit 11:15	1) outfall area looks ok - containment boom in pla 2) point #1 driftwood that was washed down because of rain being removed - nearly all driftwood 3) Point #2 looks ok all driftwood removed - 4) Point #3 Vac truck still working - still oily residue - still drift wood to be removed. All wood will have to be removed from banks each location looks alright except for Point #3 removal still needed.
11/28/84 2nd visit 4:40pm	1) outfall looks ok - River Boat Mr. Cola slight ribbons - National Marine bank slop. 10'x3' of oily soil 2) - Wood all on shore 3) 1st log jam all clear. slight sheen. wood on bank 4) 2nd log jam removing work still needs to be done 10-15' x 10 wide area -

LOG OF EVENTS

TIME	
12/6/84 12:30	1) outfall looks ok.
	2) no oil All drift wood on shore.
	3) 1st log jam all clean drift wood removed
	4) 2nd log jam still needs slight work very noticable improvement.
	All wood → 2 areas at river and near Clark farm need to be landfilled.

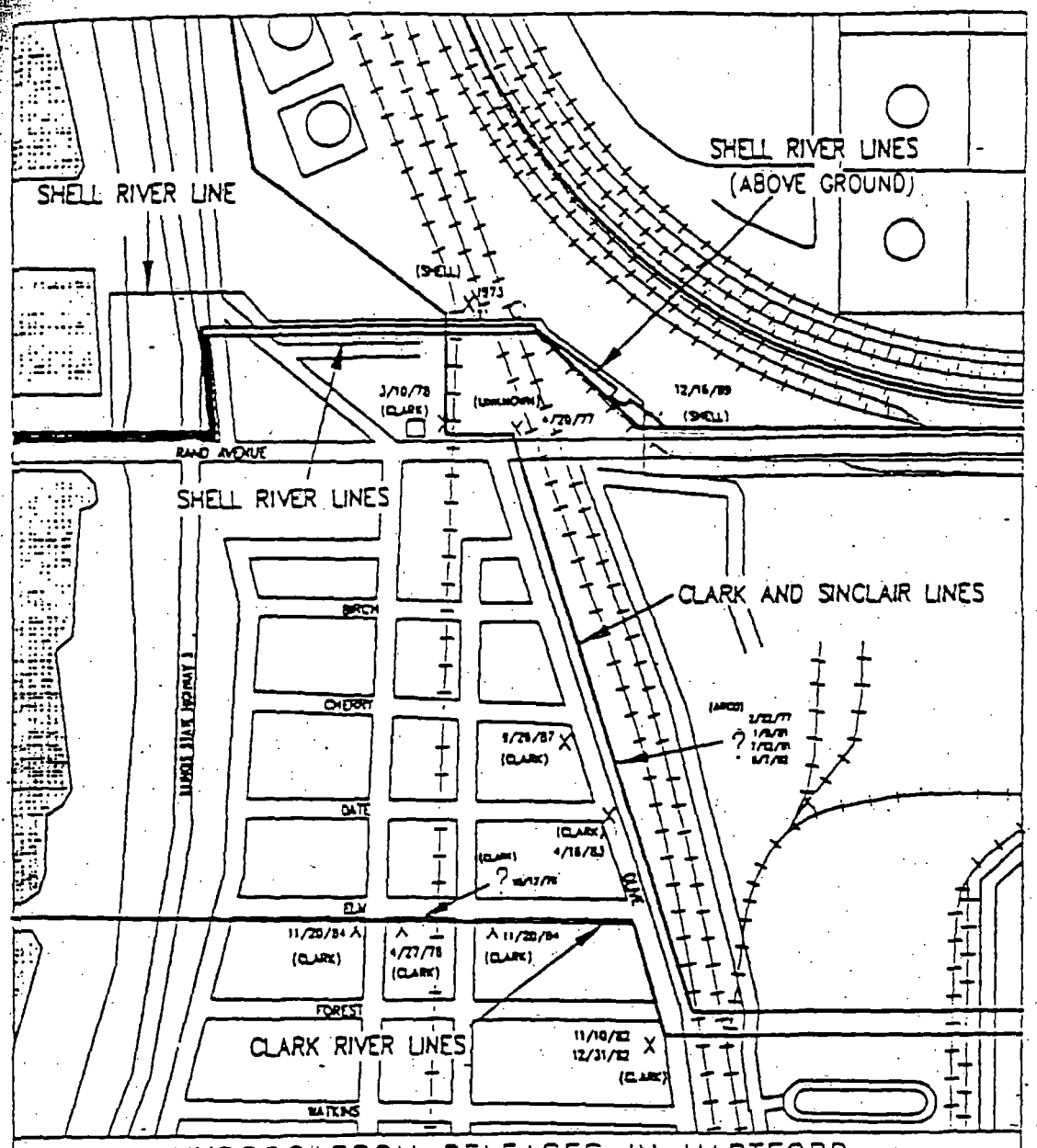
Clayton
GROUP SERVICES

APPENDIX K-4

HISTORY OF HYDROCARBON RELEASES
VILLAGE OF HARTFORD REPORT
MARCH 1992

Figure 4

Product Release Map



HYDROCARBON RELEASES IN HARTFORD

DATE	OWNER/OPERATOR	PRODUCT	VOLUME
5/23/73	SHELL	BENZENE	NOT DETERMINED
2/22/77	ARCO	GASOLINE	NOT DETERMINED
4/20/77	NOT DETERMINED	NOT DETERMINED	NOT DETERMINED
3/10/78	CLARK	FUEL OIL	NOT DETERMINED
4/27/78	CLARK	GASOLINE	NOT DETERMINED
10/17/78	CLARK	GASOLINE	NOT DETERMINED
1/8/81	ARCO	GASOLINE	5 BBL
7/12/81	ARCO	GASOLINE	24 BBL
6/7/82	ARCO	FUEL OIL	9 BBL
11/10/82	CLARK	DIESEL OIL	NOT DETERMINED
12/31/82	CLARK	NOT DETERMINED	NOT DETERMINED
4/16/83	CLARK	NOT DETERMINED	NOT DETERMINED
11/20/84	CLARK	LIGHT CYCLE OIL	NOT DETERMINED
9/26/87	CLARK	NOT DETERMINED	NOT DETERMINED
12/16/89	SHELL	UNLEADED GASOLINE	NOT DETERMINED

0 SCALE 1000

FEET

X = DOCUMENTED RELEASE AND LOCATION

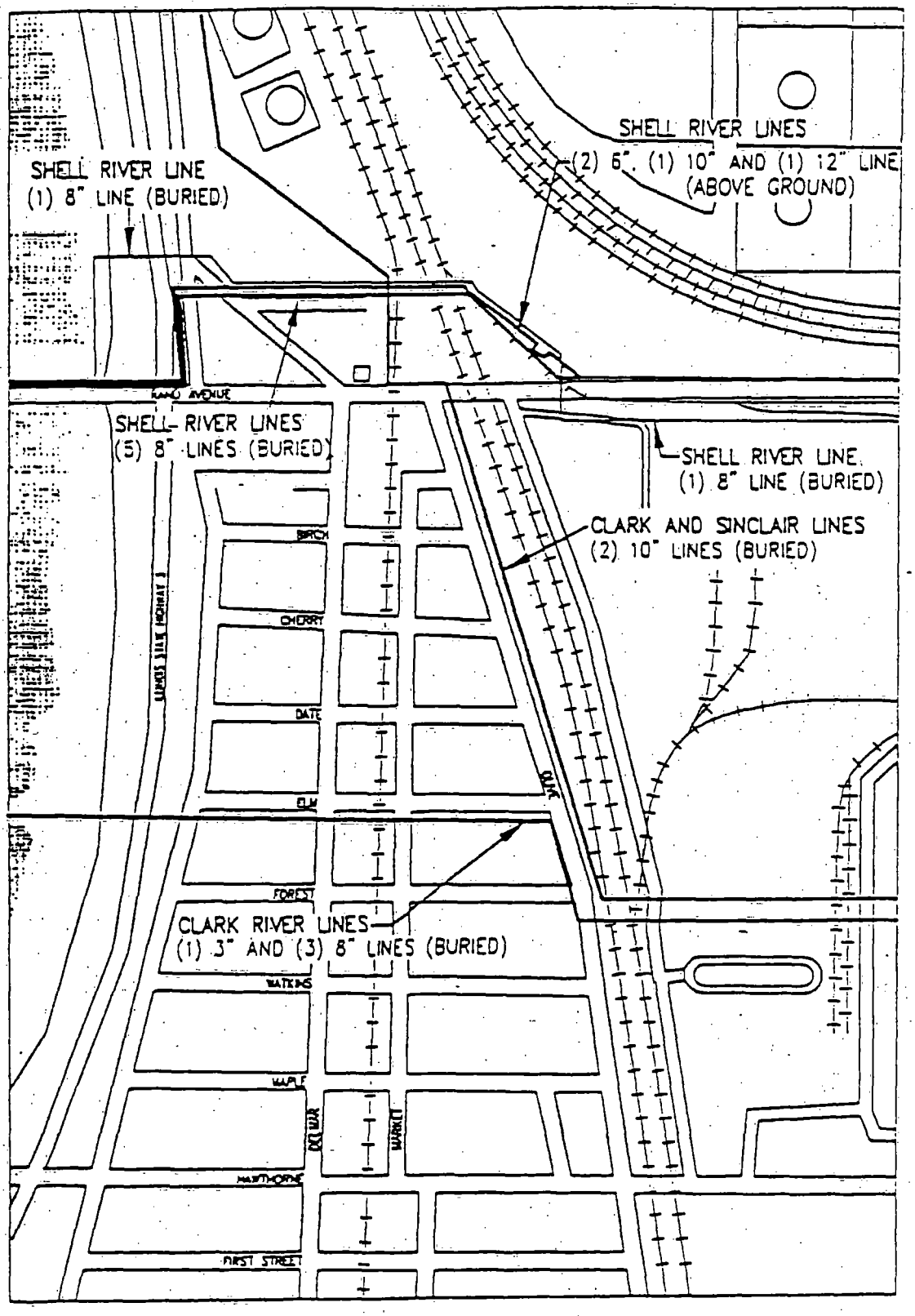
DOCUMENTED RELEASE

? = AT UNDETERMINED LOCATION

FROM:
IEPA NOVEMBER 1990 REPORT,
1968 SHELL OIL PIPELINE MAP SK-5385,
AND DRAWINGS SK-8202-2, E-14288-1, AND E-14289-2

Figure 3

Product Lines Near Hartford



SCALE 0 1000 FEET

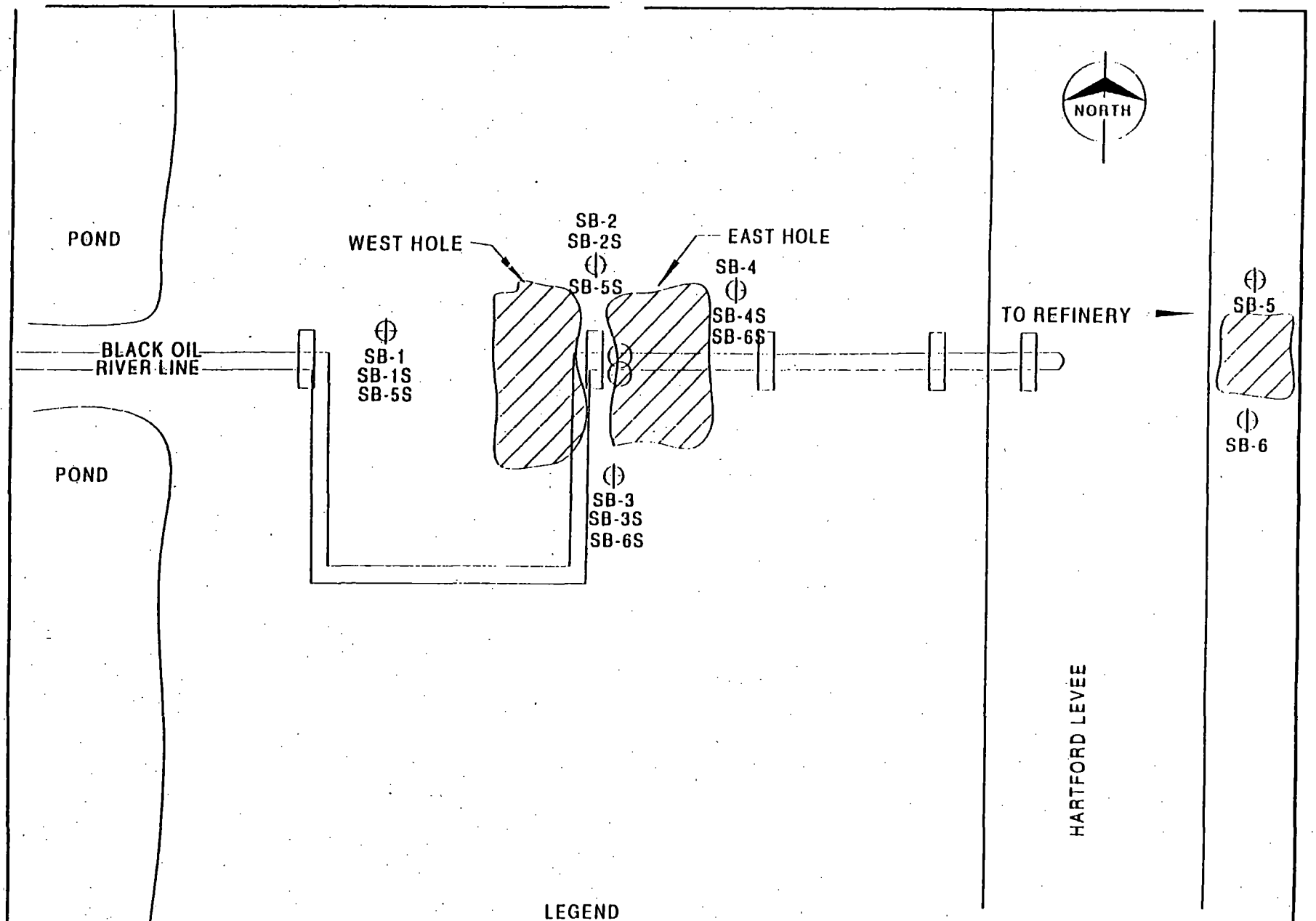
FROM:
IEPA NOVEMBER 1990 REPORT,
1968 SHELL OIL PIPELINE MAP SK-5385,
AND DRAWINGS SK-8202-2, E-14288-1, AND E-14289-2

FIG3

Clayton
GROUP SERVICES

APPENDIX K-5

IEMA INCIDENT 942432
OCTOBER 28, 1994



Burns & McDonnell Waste Consultants, Inc.

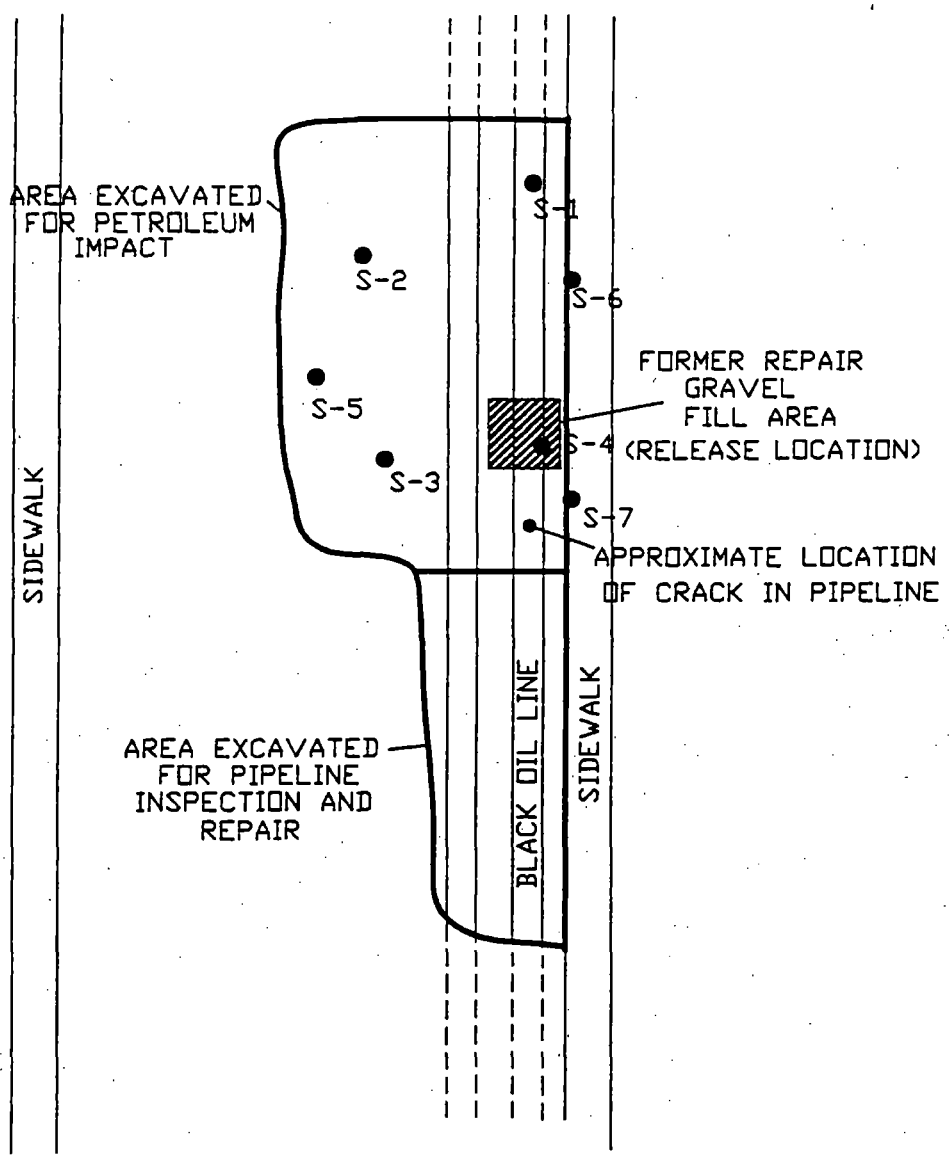
FIGURE 2
Soil Boring and Sampling Locations
Route 3 Levee
Release #942432
Clark Refining & Marketing, Inc.

I:\PROJECTS\9415\4031\WORK\RT3SB.DW2

Clayton
GROUP SERVICES

APPENDIX K-6

IEMA INCIDENT 992199
SEPTEMBER 26, 1999



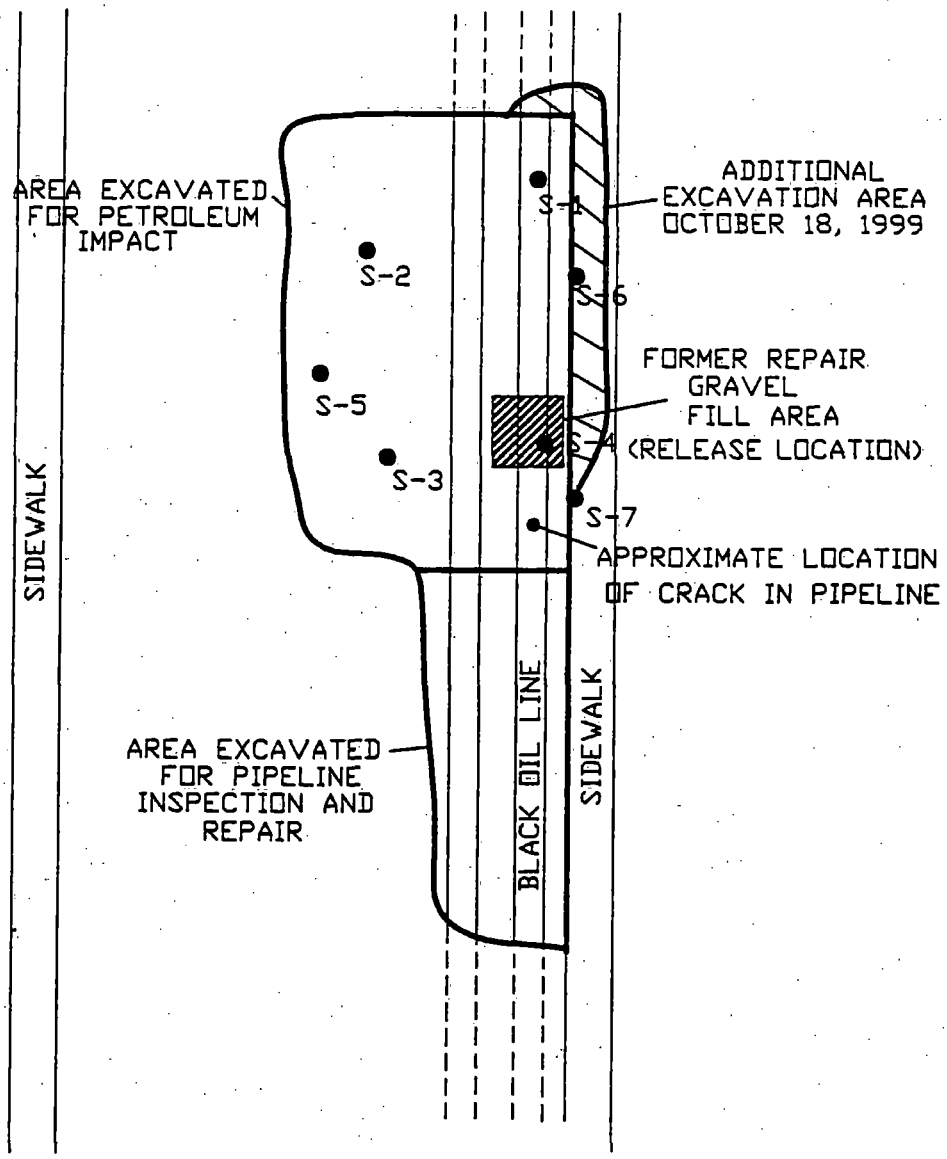
S-1 TO S-4 - BOTTOM SAMPLES
S-5 TO S-7 - SIDE SAMPLES

10 0 10 20
SCALE IN FEET

Burns & McDonnell

Figure 2
SOIL SAMPLING LOCATIONS
CLARK REFINING & MKTG
EAST ELM STREET
HARTFORD, IL

TITAN/94155/4090/CADD/HARTFORDEXC.DWG



S-1 TO S-4 - BOTTOM SAMPLES
S-5 TO S-7 - SIDE SAMPLES

10 0 10 20
SCALE IN FEET

Burns & McDonnell

Figure 3
OCTOBER 18, 1999
EXCAVATION
CLARK REFINING & MKTG
EAST ELM STREET

ITAN/94155/4090/CADD/HARTFORDEXC.DWG

Table 1
SUMMARY OF SOIL ANALYTICAL DATA
CLARK REFINING & MARKETING, INC.
EAST ELM STREET
HARTFORD, ILLINOIS

Sample Number:		S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-2B	S-4B	S-4C	
Sample Date:		10/01/1999	10/01/1999	10/01/1999	10/01/1999	10/01/1999	10/01/1999	10/01/1999	10/12/1999	10/12/1999	10/14/1999	IEPA
Sample Depth:		3.5'	3.5'	5'	10'	Side(4')	Side(5.5')	Side(6')	6.5'	11'	12.5'	TACO
PARAMETER	UNITS											Tier 1
Benzene	µg/kg	ND(2)	ND(20)	ND(2.0)	ND(10.0)	ND(2.0)	ND(2.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(4)	30
Ethylbenzene	µg/kg	ND(2)	22.2	ND(2.0)	34.2	ND(2.0)	ND(2.0)	ND(10.0)	14.2	19	ND(4)	13,000
Toluene	µg/kg	ND(2)	35.6	2.8	ND(10.0)	ND(2)	ND(2)	ND(10.0)	ND(10)	59.2	ND(4)	12,000
Total Xylenes	µg/kg	ND(2)	143	7.7	67	3.9	3.6	ND(10.0)	87.9	1,620	ND(4)	150,000
PNAs												
Naphthalene	mg/kg	0.11	1.5	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	0.01	1.8	3.2	ND(0.01)	84
Acenaphthylene	mg/kg	0.16	5.3	0.52	1.4	ND(0.01)	ND(0.01)	0.02	4.7	3.8	0.02	--
Acenaphthene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	0.43	ND(0.01)	570
Fluorene	mg/kg	0.24	2	0.34	0.66	ND(0.01)	ND(0.01)	ND(0.01)	0.5	4	0.01	560
Phenanthrene	mg/kg	0.45	4	0.96	2.1	ND(0.01)	ND(0.01)	ND(0.01)	0.43	10	0.06	--
Anthracene	mg/kg	0.05	0.12	ND(0.1)	0.15	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	1	ND(0.01)	12,000
Fluoranthene	mg/kg	0.44	3	1.3	1.3	ND(0.01)	ND(0.01)	ND(0.01)	2.1	8.8	0.1	3100
Pyrene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	1.6	16	0.05	2300
Benzo(a)anthracene	mg/kg	0.51	2.9*	ND(0.077)	0.85	ND(0.008)	ND(0.008)	ND(0.008)	ND(0.25)	3.4*	0.071	0.9
Chrysene	mg/kg	0.13	1	ND(0.1)	0.57	ND(0.01)	ND(0.01)	ND(0.01)	1.3	2.9	0.05	88
Benzo(b)fluoranthene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	0.76	0.44	0.01	0.9
Benzo(k)fluoranthene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	ND(0.25)	ND(0.01)	9
Benzo(a)pyrene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	ND(0.25)	ND(0.01)	0.09
Dibenzo(a,h)anthracene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	ND(0.25)	ND(0.01)	0.09
Benzo(g,h,i) perylene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	ND(0.25)	ND(0.01)	--
Indeno(1,2,3-cd)pyrene	mg/kg	ND(0.01)	ND(0.05)	ND(0.1)	ND(0.05)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.25)	ND(0.25)	ND(0.01)	0.9

IEPA TACO Tier 1 = Most stringent of Tier 1 residential exposure pathways from the Illinois Environmental Protection Agency Title 35 Subtitle G, Chapter I, subchapter f, PART 742; Tiered Approach to Corrective Action Objectives

µg/kg = Micrograms per liter

mg/kg = Milligrams per kilogram

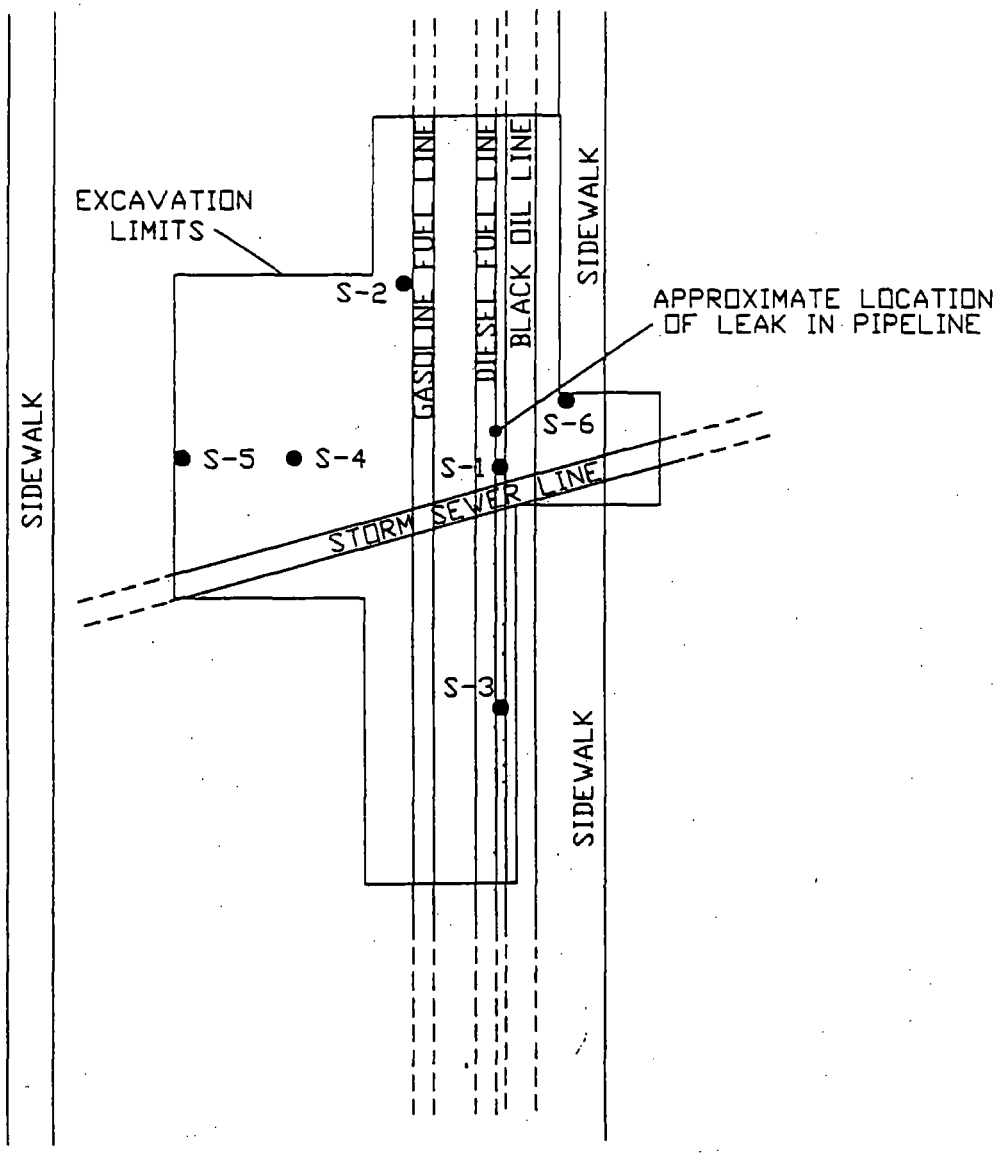
ND(0.600) = Not detected (detection limit)

* = Result excedes IEPA TACO Tier1 corrective action objective

Clayton
GROUP SERVICES

APPENDIX K-7

IEMA INCIDENT H20002148
NOVEMBER 8, 2000



E-1 TO E-4 - BOTTOM SAMPLES
E-5 TO E-6 - SIDE SAMPLES

10 0 10 20
SCALE IN FEET

Burns & McDonnell

Figure 2
SOIL SAMPLING LOCATIONS
PREMCOR REFINING GROUP INC.
EAST ELM STREET
HARTFORD, IL

TITAN/94155/4090/CADD/HARTFORDEXC.DWG

Table 1
SUMMARY OF SOIL ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
ELM STREET RELEASE
HARTFORD, ILLINOIS

Sample Number:		E-1	E-2	E-3	E-4	E-5	E-6	
Sample Date:		11/17/2000	11/17/2000	11/17/2000	11/17/2000	11/17/2000	11/17/2000	IEPA
Sample Location:		Bottom Center	Bottom East	Bottom West	Bottom North	Side South	Side North	TACO
PARAMETERS	UNITS							Tier 1
Benzene	µg/kg	6.6	16.7	3.8	ND (2.5)	ND (2.3)	2.5	30
Toluene	µg/kg	143	97.0	12.7	ND (6.2)	ND (5.7)	ND (6.2)	13,000
Ethylbenzene	µg/kg	63.9	212	7.0	ND (6.2)	ND (5.7)	ND (6.2)	12,000
Xylenes	µg/kg	471	320	41.7	ND (6.2)	ND (5.7)	ND (6.2)	150,000
PNA Constituents								
Naphthalene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	84
Acenaphthalene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	--
Acenaphthene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	570
Fluorene	mg/kg	0.45	0.21	0.53	ND (0.010)	ND (0.013)	ND (0.010)	560
Phenanthrene	mg/kg	2.1	0.92	0.86	0.015	ND (0.013)	ND (0.010)	--
Anthracene	mg/kg	0.25	0.17	0.30	ND (0.010)	ND (0.013)	ND (0.010)	12,000
Fluoranthene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	3,100
Pyrene	mg/kg	0.32	0.18	0.37	ND (0.010)	ND (0.013)	ND (0.010)	2,300
Benzo(a)anthracene	mg/kg	0.26	0.14	0.15	ND (0.008)	ND (0.010)	ND (0.008)	0.9
Chrysene	mg/kg	0.27	0.17	0.36	ND (0.010)	ND (0.010)	ND (0.010)	88
Benzo(b)fluoranthene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	0.9
Benzo(k)fluoranthene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	9
Benzo(a)pyrene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	0.09
Dibenzo(a,h)anthracene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	0.09
Benzo(g,h,i)perylene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	--
Indeno(1,2,3-cd)pryene	mg/kg	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.010)	ND (0.013)	ND (0.010)	0.9

IEPA TACO Tier 1 = Most stringent of Tier 1 residential exposure pathways from the Illinois Environmental Protection Agency Title 35 Subtitle G, Chapter I, subchapter f, PART 742; Tiered Approach to Corrective Action Objectives

µg/kg = Micrograms per liter

mg/kg = Milligrams per kilogram

ND (0.013 = Not detected (detection limit)

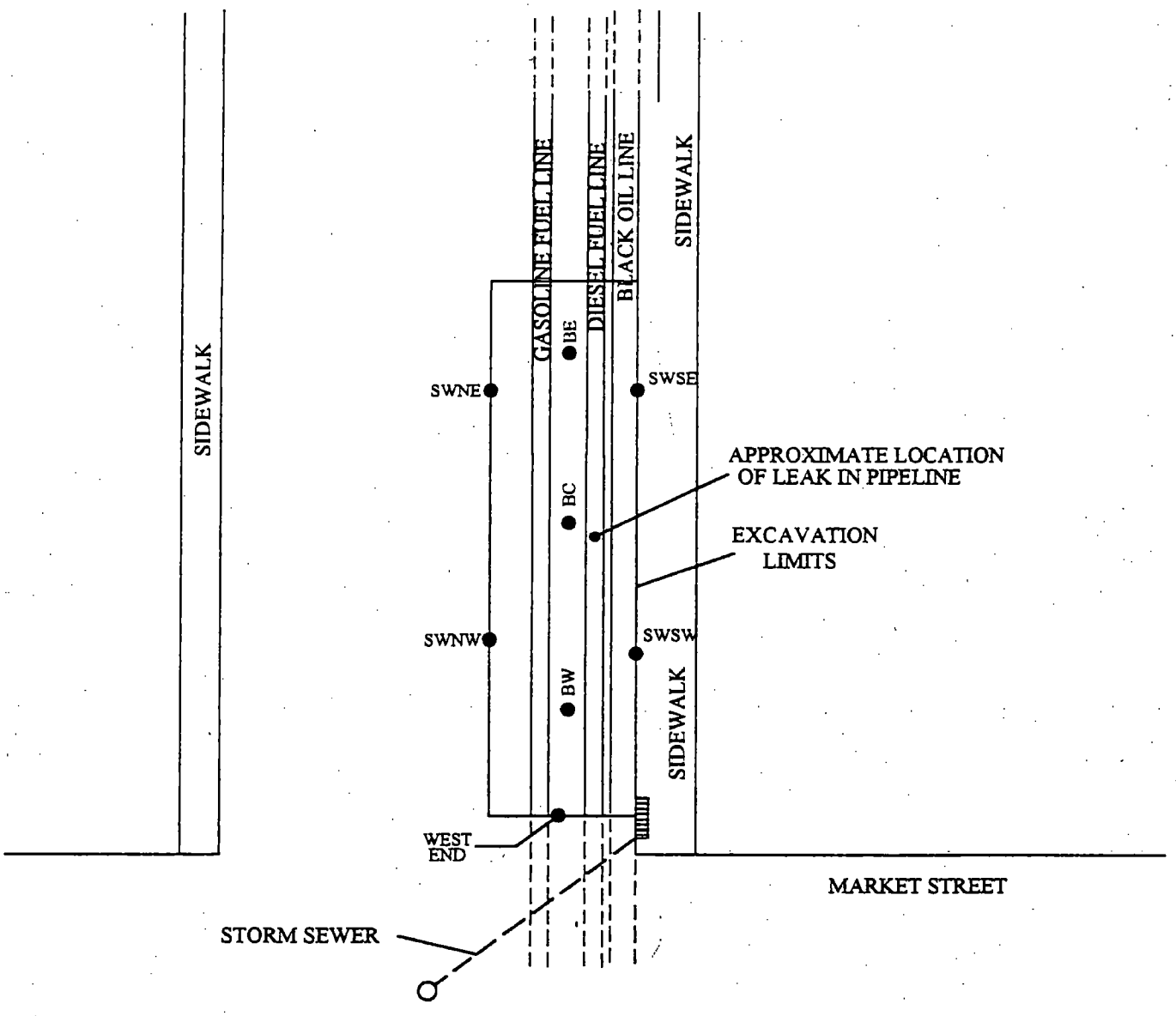
* = Result exceeds IEPA TACO Tier 1 correctives action objective

elmlab.xls

Clayton
GROUP SERVICES

APPENDIX K-8

IEMA INCIDENT H2001-1741
OCTOBER 18, 2001



● SOIL SAMPLE LOCATION

BW, BC, BE - BOTTOM SAMPLES

SWNE, SWNW, SWSE
SWSW, & WEST END - SIDE SAMPLES

10 0 10 20

SCALE IN FEET

Burns & McDonnell

Figure 2
SOIL SAMPLING LOCATIONS
PREMCOR REFINING GROUP INC.
EAST ELM STREET
HARTFORD, IL

TITAN/94155/4090/CADD/HARTFORDEXC.DWG

Table 1
SUMMARY OF SOIL ANALYTICAL DATA
THE PREMCOR REFINING GROUP, INC.
2001 ELM STREET RELEASE
HARTFORD, ILLINOIS

Sample Number:		SWNE	SWNW	SWSE	SWSW	BW	BC	BE	West End	
Sample Date:		11/16/2001	11/16/2001	11/16/2001	11/16/2001	11/16/2001	11/16/2001	11/16/2001	11/16/2001	IEPA
Sample Location:		Northeast Side	Northwest Side	Southeast Side	Southwest Side	Bottom west	Bottom Center	Bottom East	West Side	TACO
PARAMETERS	UNITS									Tier 1
Benzene	µg/kg	82.6	ND(54.3)	11.7	23J	68J	883	10.4	113	30
Toluene	µg/kg	64.9	ND(136)	3.1J	472	1040	2800	7	117	13,000
Ethylbenzene	µg/kg	29.9	ND(136)	1.9J	1030	1670	3890	11.5	81.9	12,000
Xylenes	µg/kg	116	1410	7.3	5040	7050	17600	80.1	334	150,000
PNA Constituents										
Naphthalene	mg/kg	0.065	4.5	ND(0.060)	3.2	2	11	ND(0.060)	0.036	84
Acenaphthylene	mg/kg	0.042	ND(0.063)	ND(0.060)	ND(0.013)	4.8	ND(0.062)	ND(0.060)	ND(0.013)	--
Acenaphthene	mg/kg	ND(0.012)	ND(0.063)	ND(0.060)	ND(0.013)	ND(0.013)	ND(0.062)	ND(0.060)	ND(0.013)	570
Fluorene	mg/kg	0.13	6.7	ND(0.060)	3.1	1.9	5.7	0.11	0.042	560
Phenanthrene	mg/kg	0.76	50	ND(0.060)	17	11	55	0.82	0.45	--
Anthracene	mg/kg	ND(0.012)	ND(3.1)	ND(0.060)	ND(0.64)	0.6J	ND(3.1)	ND(0.060)	ND(0.013)	12,000
Fluoranthene	mg/kg	0.13	39	ND(0.060)	14	7.6	45	0.86	0.55	3,100
Pyrene	mg/kg	0.17	ND(3.1)	ND(0.060)	ND(0.64)	11	2J	0.48	0.74	2,300
Benzo(a)anthracene	mg/kg	0.29	ND(2.5)	ND(0.060)	2.2	0.61	ND(2.5)	0.51	0.099	0.9
Chrysene	mg/kg	0.5	ND(3.1)	0.095	3.1	2.7	7.5	0.83	0.1	88
Benzo(b)fluoranthene	mg/kg	0.21	ND(0.063)	ND(0.060)	ND(0.64)	ND(0.013)	ND(0.062)	0.34	0.038	0.9
Benzo(k)fluoranthene	mg/kg	ND(0.012)	ND(0.063)	ND(0.060)	ND(0.64)	0.15	ND(0.062)	0.22	ND(0.013)	9
Benzo(a)pyrene	mg/kg	0.14	ND(0.063)	ND(0.060)	ND(0.013)	ND(0.013)	ND(0.062)	ND(0.060)	ND(0.013)	0.09
Dibenzo(a,h)anthracene	mg/kg	ND(0.012)	ND(0.063)	ND(0.060)	ND(0.013)	ND(0.013)	ND(0.062)	ND(0.060)	ND(0.013)	0.09
Benzo(g,h,i)perylene	mg/kg	ND(0.012)	ND(0.063)	ND(0.060)	ND(0.013)	ND(0.013)	ND(0.062)	ND(0.060)	ND(0.013)	--
Indeno(1,2,3-cd)pryene	mg/kg	ND(0.012)	ND(0.063)	ND(0.060)	ND(0.013)	ND(0.013)	ND(0.062)	ND(0.060)	ND(0.013)	0.9

IEPA TACO Tier 1 = Most stringent of Tier 1 residential exposure pathways from the Illinois Environmental Protection Agency Title 35 Subtitle G, Chapter I, subchapter f, PART 742; Tiered Approach to Corrective Action Objectives

µg/kg = *Micrograms per liter*

mg/kg = Milligrams per kilogram

ND (0.013) = Not detected (detection limit)

82.6 = Result exceeds IEPA TACO Tier 1 correctives action objective

elmlab2001.xls

APPENDIX L

APPENDIX L

APPENDIX L

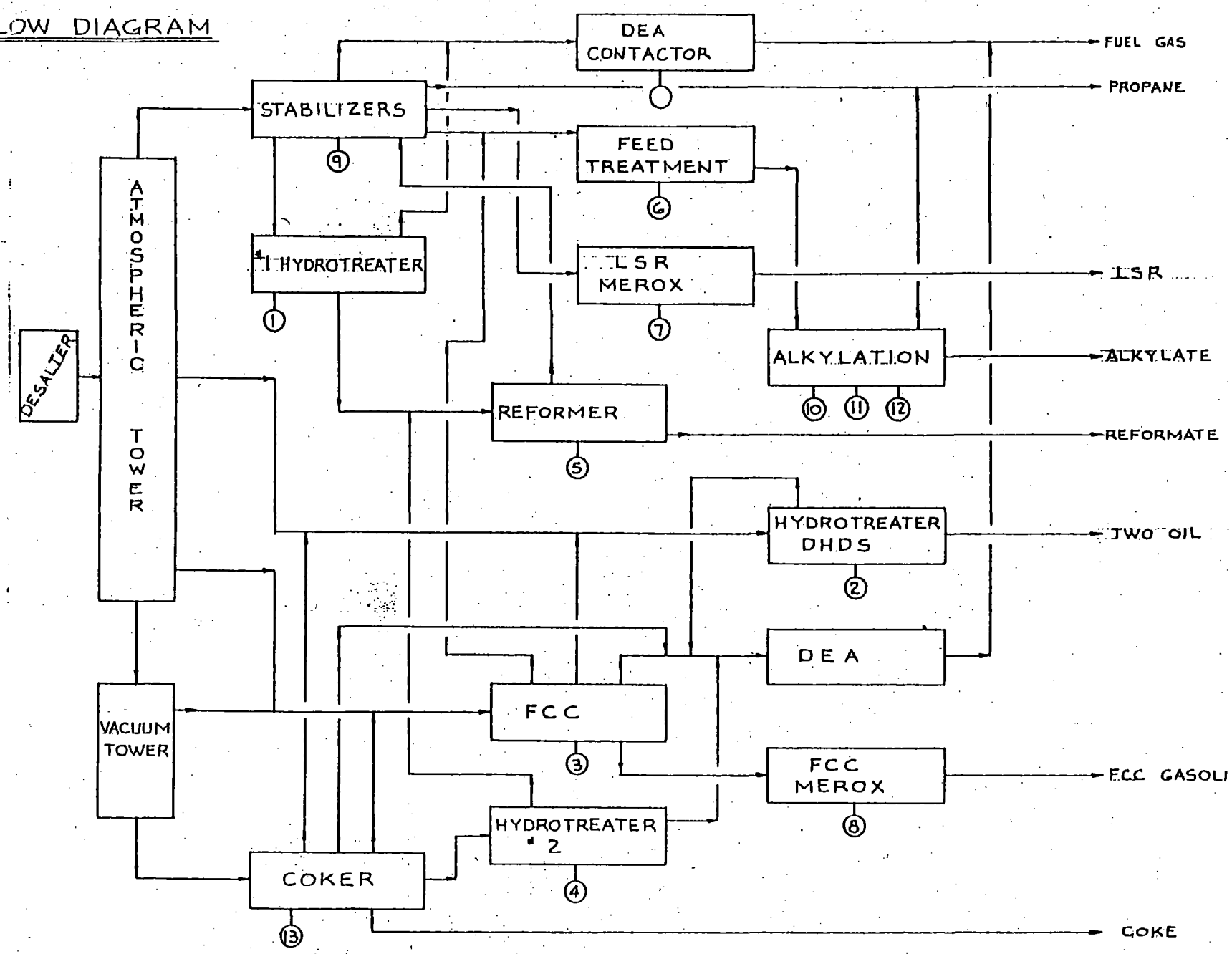
DOCUMENTS RELATED TO THE REFINERY PROCESS I AREA

Clayton
GROUP SERVICES

APPENDIX L-1

REFINING PROCESS DIAGRAM

REFINERY FLOW DIAGRAM



1, 2, 3, 4 Spent Catalyst
5, 6, 7, 8, 9 Spent Caustic
10 Spent Alumina from Propane Treater
11 Mole Sieves (Feed Drying)
12 Neutralization Pit Sludge
13 Off Spec Coke

Clayton
GROUP SERVICES

APPENDIX L-2

REFINING UNIT INFORMATION SHEETS

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY
PLANT I.D. NO. 119050AAA
HARTFORD ILLINOIS

CATALYTIC REFORMER

The Reformer originally built in 1953 and revamped in 1969 and 1979 converts approximately 12,000 BPD of low octane Crude and Coker naphthas into high octane reformate. Reforming also known as platforming combines desulfurized, vaporized naphtha with hydrogen and passes it through a series of reactors containing platinum impregnated catalyst.

Naphtha feed from the Crude, Coker and/or storage is first treated in the HDS section. The feed is combined with excess hydrogen from the platinum side, heated to around 650 degrees and passes through a catalyst filled reactor which converts the sulfur to H2S. The H2S rich hydrogen and naphtha are separated in the product separator. The H2S rich hydrogen(called once-through) is scrubbed in a contactor with amine then diverted to downstream consumers. The HDS operates at pressures in excess of 350#.

Reforming produces approximately 10 million scfd of hydrogen as a by-product. The hydrogen is used in the process and is exported to the various Hydrogen Desulfurization Units(HDS) throughout the plant (including the one upstream of the Reformer itself).

The Reformer is the distribution point for Nitrogen to the various satellite nitrogen headers throughout the plant.

PERMIT INFO.	UNIT INFORMATION	CAPACITY INFO.
STATE: 7211054O EXPIRES: February 26, 1995 REQS: H-14,15,16,17-35 IL Adm. Code 214.162 H-23-NSPS 40 CFR 60 Subpart A and J LICENSE PROCESS NAME: CATALYTIC REFORMING UNIT	TYPE: CATALYTIC REFORMING DESIGN: UOP HEATER: H-14,15,16,17,23 CHARGE: CRUDE AND COKER NAPHTHA PRODUCT: REFORMATE(GASOLINE), HYDROGEN	DESIGN: 12,000 BPD CURRENT: 14,000 BPD

EMISSIONS INFORMATION	
POLLUTANT	PERMIT ALLOWED
SO2(H-14,15,16,17)	1.0 LB/MMBTU
H2S(H-23)NSPS	0.1 GRAINS/DSCF

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY
PLANT I.D. NO. 119050AAA
HARTFORD ILLINOIS

CRUDE UNIT

The Crude unit at Hartford is a 60,000 BPD sour crude facility. It is located near the east end of the refinery just west of the Coker. Brought on line in 1975, it replaced the 1940's vintage Winkler-Koch (WK) Pipe Still. For this reason it is sometimes referred to as the #2 crude or CU2.

The atmospheric tower operates at approximately 15# of pressure, while the vacuum tower operates at approximately negative 10#. Vacuum distillation allows the reduced crude to be boiled at almost 100 degrees less than would be required at atmospheric pressure. The ability to boil the reduced crude at these temperatures avoids thermal cracking of the material. Thermal cracking produces coke(a solid-coal like material) that can cause piping and equipment fouling and a unprofitable increase in a noncondensible (light) gas production.

The Crude Unit backend separates gasolines from liquified petroleum gas (LPG) and then splits the gasoline according to preferred range specifications.

In addition to the atmospheric(total crude), vacuum(reduced crude) units and the back-end(gasoline separation), the Crude Unit also contains the Sats Gas Plant. The Sats Gas collects and stabilizes non-olefinic(not-cracked) propane and butane from both within and outside the battery limits.

The Crude Heat Medium System heats and circulates oil that provides the temperature necessary for many Crude Unit processed. In addition this system can be lined up to provide heat medium for other refinery needs outside of the Crude.

PERMIT INFO.	UNIT INFORMATION	CAPACITY INFO.
STATE: 77050044 EXPIRES: JUNE 6, 1999 REQ.: 35 IL Adm. Code 214.162 LICENSE PROCESS NAME: NO.2 CRUDE	TYPE: CRUDE-VACUUM DISTILLATION DESIGN: LITWIN CORP. HEATERS: H-24,H-25, H28 CHARGE STOCK: RAW SOUR CRUDE PRODUCTS: GAS OIL, DISTILLATE, NAPTHA LIGHT STRAIGHT RUN, PROPANE, BUTANE	DESIGN: 60,000 BPD CURRENT: 65,000 BPD PURPOSED AT: 70,000 BPD

EMISSIONS INFORMATION	
POLLUTANT	PERMIT ALLOWED
SO2	1.0 lb./million btu heat input

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY
PLANT I.D. NO. 119050AAA
HARTFORD ILLINOIS

FLUID CATALYTIC CRACKER

The FCC or Fluid Unit, built in 1971 around the existing cat cracker (while the former continued to run) is the major contributor to the Clark-Hartford gasoline pool. The FCC converts approximately 25,000 BPD of gasoil from the Crude and Coker units into LPG, distillate, slurry and gasoline. Fluid gasoline, termed Full Range, constitutes 40-45% of the total finished gasoline production.

The Fluid Unit Backend or Gas Con is a stabilization unit similar to the Crude Sats Gas and Back End. However, the Fluid Back End is the preferred collection point for olefins(cracked hydrocarbons). As a result, any pentanes or lighter from the Coker are directed to the FCC.

The FCC's Summer Blend Project is a unit designed to allow the refinery to profitably meet the more stringent EPA vapor pressure specifications (butane content of retail gasoline. LPG streams from the ALKY and Crude Units are directed to the Summer Blend. Isobutane, a valuable Alky feed stock, is separated from the normal butane and redirected back to the Alky.. The butane is sent to storage and any heavier hydrocarbons are returned to the Crude unit.

The Fluid Unit Splitter is used to separate olefin rich LPG streams which would have normally been routed directly to the Alky. This is necessary when the Alky is down or on reduced charge rates. Splitting the butane/butylene from the propane/propylene allows these products to be stored without contaminating established inventories.

PERMIT INFO.	UNIT INFORMATION	CAPACITY INFO.
STATE: FCCU: 75120010 FCC C3-C4 SPLITTER: 75030160 REQ.: 35 IL Adm. Code 212.123, 214.162, 217.301 EXPIRES: FCC- PENDING FCC C3-C4 -January 25, 1995 LICENSE PROCESS NAME: FLUID CATALYTIC CRACKER UNIT, FCC C3-C4 SPLITTER	TYPE: FLUID CATALYTIC CRACKING UNIT, C3-C4 SPLITTER DESIGN BY: UOP CHARGE STOCK: CRUDE ATMOSPHERIC AND VACUUM GAS OIL, COKER GAS OIL. PRODUCTS: FULL RANGE GASOLINE, FLUID LIGHT CYCLE, LPG, SLURRY	DESIGN: 24,000 BPD CURRENT: 26,000 BPD

EMISSION INFORMATION	
POLLUTANT	PERMIT ALLOWED
SO2	1.0 lb./ MMBTU
NOX	0.3 LB/MMBTU
PM	80 LB/hr

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY
PLANT I.D. NO. 119050AAA
HARTFORD ILLINOIS

BOILER HOUSE

The Boiler house produces boiler feed water(BFW) and high pressure steam (220#) for refinery use. Steam is used as an energy source to power pumps and compressors, to heat products, buildings and equipment and as a stripping medium to remove undesirable substances in certain applications. Boiler feed water is used in the Boiler house to produce steam and is distributed to the refinery for waste heat recover through steam production. (Heat that would otherwise escape is converted to steam). In addition, BFW is injected directly into process streams to wash away harmful deposits from process equipment and is often used as the dilution water in a variety of chemical mixes.

There are four boilers in the Boiler house complex, they are; #2, #3, #4, #5. Number 2,3,5 are located in the complex and the smaller #4 is located across the road, north of the Boiler house. The number of boilers that are in operation at a given time depends on demand, but is generally two or more. This allows flexibility in meeting fluctuating steam requirements.

PERMIT INFO.	UNIT INFORMATION	CAPACITY INFO.
STATE: 72110541 EXPIRES: February 26, 1995 BOILERS 4 AND 5 REQ.: 35 IL Adm. Code 214.162 BOILER 2, 3 AND 6(72110684) NSPS: 40 CFR 60 Subpart A and J 40 CFR 60.105(a)(3) or (a)(4)	TYPE: BOILER HOUSE (STEAM PRODUCTION) FEED: PLANT WELL WATER PRODUCT: BOILER FEED WATER , STEAM	BOILER: #2-55,000 LB/HR #3 100,000 LB/HR #4 70,000 LB/HR #5 70,000 LB/HR #6 2500 LB/HR

EMISSION INFORMATION	
SO2	0.1 GR/DSCF

Clayton
GROUP SERVICES

APPENDIX L-3

IEMA INCIDENT 970598

Source: IEPA EW

Illinois Emergency Management Agency

Incident Number 9 7 0 5 9 8

FIELD REPORT

Date: 04/08/97
Time: 1013
Received by: IMD

Notify: ILLINOIS EMERGENCY MANAGEMENT AGENCY
1 – 800 / 782 – 7860 or 217 / 782 – 7860

1. Caller: MARK SCHOENLEDER
Call back phone#: 618/254-7301
3. Caller represents: CLARK REFINING AND MARKETING, INC.
Type of incident: [ ] Fire [x] Leak [ ] Explosion [ ] Water Involvement
[x] Gas or Vapor cloud [ ] Other
Incident Location:
Street 201 E. HAWTHORNE
City HARTFORD 050 [x] In [ ] Near
County MADISON 119
Milepost [ ] RR [ ] River [ ] Highway
Sec. Twp. Range
Area Involved: [ ] Highway [ ] Rail [x] Fixed Facility
[ ] Waterway [ ] Air [ ] Other
7. Material (s) Involved: HYDROCARBON MIXTURE
[x] Gas [ ] Liquid [ ] Semi-Solid [ ] Solid
[ ] Pesticide [ ] Radioactive
CAS #: 000000023
UN/NA #:
Is this a 302 (a) Extremely Hazardous Substance? [ ] Yes [ ] No [ ] Unknown
Is this a RCRA Hazardous Waste? [ ] Yes [ ] No [ ] Unknown
If Yes, is this a RCRA regulated facility? [ ] Yes [ ] No
Container: [ ] Truck [ ] RR car [ ] Drum
[ ] Aboveground tank [ ] Pipeline
[ ] Underground tank [x] Other PROCESS UNIT LINE
container size:
Amount released: 12,240 PDS ESTIMATED- OF WHICH 92 PDS WERE BELIEVED TO BE BENZENE COMPONANT
Rate of release: / min.
9. Cause of release: WELD FAILURE
11. Estimated spill extent: 3 FT. VAPOR
[ ] square feet [ ] square yards
[x] Occurred Date: 03 /19 /97 Time: 1530
[x] Discovered Date 03 /19 / 97 Time: 1530

14. On Scene Contact: #1
On Scene Phone#: #2
injured: -0- [ ] Haz-mat related
Where taken:
16. Public health risks and/or precautions taken, including # evacuated:
NONE
17. Assistance needed from State Agencies:
NONE
18. Containment/cleanup actions and plans:
1030 03/21/97 LINE WAS REPAIRED/A SPECIAL CLAMP WAS NEEDED
19: Weather: [ ] sunny [ ] overcast [ ] night [ ] pdy. cldy. [ ] rain [ ] snow
Temp. F wind dir. speed mph.
20: Responsible Party: #3
Contact person: #1
Phone #: #2
Mailing address: #5 62048
Notifications: IEPA/IDPH/REGION 8

Emergency units contacted NONE
[ ] Fire
[ ] Sheriff
[ ] Police
[ ] ESDA
[ ] Other

On scene NONE
[ ] Fire
[ ] Sheriff
[ ] Police
[ ] ESDA
[ ] Other

Report of Oil and Hazardous Substances Release

Report Number

Reporting Company: CLARK REFINING	☑ Spill/Release	Date of Release or Discovery: 3/19/97
Department/Division: ENVIRONMENTAL	☐ Discovery of Underground Contamination	Time: 3:30 ☐AM ☑PM
Facility Location: HARTFORD, ILLINOIS	Receiving Medium(s): ☑ Air ☐ Deck ☐ Subsurface	Release confined to Company Property
Incident Location: CRUDE UNIT	☐ Land ☐ Surface Water ☐ Line Impoundment	
Material Spilled/Released/Leaked: OVERHEAD PROD.	☐ Paving ☐ Ground Water ☐ Unlined Impoundment	☐ Yes ☐ No

Reported to the Following Government Agencies:	Name of Person Reported to	Name of Company Person Who Made Report	Date and Time Reported
☐ National Response Center			
☐ US Coast Guard			
☑ Illinois EPA	J. BENBENIK	M. SCHOENLEBER	3/20/97
☐ Other:			
☐ Not Reported to a Government Agency			

Quantity Released as:			Quantity Recovered*
Crude	____ Gal.	____ Bbl.	____
Produced Water	____ Gal.	____ Bbl.	____
Refined Product	____ Gal.	____ Bbl.	____
Produced/Natural Gas	____ MSCF		____
Hazardous Substance	✓ Lbs.	92	0
(☐ CERCLA "Reportable Quantity")			*Removed from the Environment

Notice of Violation: ☐ Yes ☐ No ☑ Not Known at this Time

Estimated Cleanup Costs $

Estimated Damages $

Cause(s) Check all appropriate boxes:

☐ Human Error ☑ Corrosion
☐ Faulty Procedure ☐ Pipe Connection
☐ Mechanical Failure ☐ Act of God
☐ Design Malfunction ☐ Non-Company
☐ Unknown ☐ Other

Source: CRUDE OVERHEAD VAPOR LINE

Vessel/Barge - Name

Pipeline - Name or Number

Equipment - Number

☐ Tank Aboveground ☐ Hull Leak ☐ Process or Pumping Equipment
☐ Tank Underground ☐ Sump ☐ Stack, Flare ☐ Well
☐ Tank Truck ☐ Pipeline/Flowline ☐ Unknown
☐ Tank Car ☑ Piping ☐ Other:

Describe how release occurred or how it was discovered and any effect it may have had on other's property. Discuss the degree of public, press or regulatory attention. Identify the company or contractor involved in non-company releases.

LEAK WAS DISCOVERED BY THE OPERATOR ON THE SHIFT, DURING HIS ROUND.
THERE WAS NO PUBLIC INVOLVEMENT.

Describe assessment and remedial action taken and planned, and the disposal method of recovered material (if any).

THERE WAS NO DISPOSAL ACTIVITY NECESSARY, THE ~~LEAK~~ HOLE IN THE LINE WAS STOPPED BY APPLICATION OF A CLAMP.

Action Taken to prevent Recurrence (if applicable)

EQUIPMENT INSPECTION PROGRAM.

Witness(es) to Spill - Name(s)	Company	Address (~~of Non-Chevron~~ Witnesses)
	Clark Refining and Marketing, Inc.	

Report Prepared by	Date	Report Approved by	Date
M. MODARRES	4/22/97		

Clayton
GROUP SERVICES

APPENDIX L-4

IEMA INCIDENT 971746

Source: IEPA ERW

Illinois Emergency Management Agency

Incident Number 9 7 1 7 4 6

FIELD REPORT

Date: 09 / 18 / 97
Time: 0901
Received by: JMC

Notify: ILLINOIS EMERGENCY MANAGEMENT AGENCY
1 - 800 / 782 - 7860 or 217 / 782 - 7860

1. Caller: MASSOOD MODARRES
2. Call back phone#: 618/254-7301 X218
3. Caller represents: CLARK REFINING & MARKETING INC
4. Type of incident: [ ] Fire [ ] Leak or Spill
[ ] Explosion [ ] Water Involvement
[ ] Gas or Vapor cloud [X] Other SPENT CATALYST RELEASE
5. Incident Location:
Street 201 EAST HAWTHORN STREET
City HARTFORD [X] In [ ] Near
County MADISON
Milepost ___ [ ] RR [ ] River [ ] Highway
Sec. ___ Twp. ___ Range ___
6. Area Involved: [ ] Highway [ ] Rail [X] Fixed Facility
[ ] Waterway [ ] Air [ ] Other ___
7. Material (s) Involved: SPENT CATALYST
[ ] Gas [ ] Liquid [ ] Semi-Solid [X] Solid
[ ] Pesticide [ ] Radioactive
CAS #: ___
UN/NA #: ___
Is this a 302 (a) Extremely Hazardous Substance?
[ ] Yes [X] No [ ] Unknown
Is this a RCRA Hazardous Waste?
[ ] Yes [ ] No [ ] Unknown
If Yes, is this a RCRA regulated facility?
[ ] Yes [ ] No
8. Container: [ ] Truck [ ] RR car [ ] Drum
[ ] Aboveground tank [ ] Pipeline
[ ] Underground tank [X] Other PROCESS UNIT
container size: 30,000 BARRELS UNIT
9. Amount released: UNKNOWN
Rate of release: ___ / min.
10. Cause of release: LOSS OF BLOWER
11. Estimated spill extent: UNKNOWN
[ ] square feet [ ] square yards
12. [X] Occurred Date: 09 / 18 / 97 Time: 0630
[X] Discovered Date: 09 / 18 / 97 Time: 0630

14. On Scene Contact: #1
On Scene Phone#: #2
15. No. injured: -0- [ ] Haz-mat related
Where taken: ___
16.- Public health risks and/or precautions taken, including # evacuated:
NONE
17. Assistance needed from State Agencies:
NOT AT THIS TIME
18. Containment/cleanup actions and plans:
CLARK REFINING WILL DO THE CLEAN UP
19: Weather: [ ] sunny [ ] overcast [ ] night
[ ] ptly. cldy. [ ] rain [ ] snow
Temp. ___ F wind dir. ___ speed ___ mph.
20: Responsible Party: CLARK REFINING & MARKETING INC
Contact person: #1
Phone # #2
Mailing address: 201 EAST HAWTHORN STREET
HARTFORD, IL 62048

Notifications: FAXED TO EPA, SFM, IDPH, REG.3

13. Emergency units contacted NONE
[ ] Fire ___
[ ] Sheriff ___
[ ] Police ___
[ ] ESDA ___
[ ] Other ___

On scene
[ ] Fire ___
[ ] Sheriff ___
[ ] Police ___
[ ] ESDA ___
[ ] Other ___

Source: IEPA ERU

CLARK

REFINING & MARKETING, INC.
201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

September 23, 1997

Mr. Charles W. Brutlag
Illinois Environmental Protection Agency
Incident Coordinator Emergency Response Unit
Office of Chemical Safety
2200 Churchill Road
Springfield, IL 62794-9276

Dear Mr. Brutlag,

The Fluid Catalytic Cracking Unit experienced an operational problem on Thursday, September 18, 1997 at approximately 6:30 a.m. Weather conditions at that time were a very dense fog and a south wind at 15-20 mph. Initial investigation indicates that the vane positioner on the blower, which controls the supply of air to the regenerator, failed to stay in open mode and consequently, the supply of air to the regenerator was interrupted for about two minutes.

This interruption of the air caused a surge and overloaded the regenerator cyclones. This resulted in a release of catalyst into the environment. Clark has estimated about 25 tons of catalyst lost. The unit was put on circulation until 3:00 p.m. of the same day to make sure of the reliability of the equipment prior to resumption of on-stream operation. Additionally, the vane positioner has been placed in manual mode to minimize the risk of electrical malfunction.

Clark's Risk Management group has been actively responding to the community's needs and concerns. Results from the Catalyst Wipe Test collected from downtown Wood River, Illinois shows contaminants to be below the concentration level of concern set by OSHA. A copy of the test is provided for your files.

Please call me at 618-254-7301 extension 218 if you have any other questions or concerns..

Sincerely,

Massood Modarres
Environmental Engineer

RECEIVED
IEPA
SEP 24 1997
COLLINSVILLE OFFICE

cc: Tom Powell
File

Source: 1 EPA ERU

MEMORANDUM

DATE: October 24, 1997

TO: John Justice, BOA/FOS/Region III Manager

FROM: Jeff Benbenek, BOA/FOS Inspector ID 119 050 AAA

SUBJECT: CLARK REFINING & MARKETING, INC. - Fluid Catalytic Cracking Unit

On September 18, 1997, upon returning to the regional office, I noted that two telephone calls had been received from citizens in Wood River and from the Mayor of East Alton. Returning these calls, I found that the two citizens were complaining about the fallout of a white, powdery substance on their cars. Copies of the complaint forms are attached. Although I was unable to reach the Mayor of East Alton on that date, his message indicated that there was white dust getting all over houses and cars in East Alton and was coming from a refinery. The Mayor's call had been received at the office at 0910 hours.

I had contacted the Environmental Supervisor's Office at Shell Wood River Refinery Company by telephone at 1605 hours and informed Jim Houseman at that office of the complaints. He indicated that they had had to curtail activities of their workers outside their sulfur recovery unit due to the fallout of the material, which he stated, came from Clark's fluid catalytic cracking unit. According to him, Shell personnel observed the fallout at 0745 hours, and it stopped at approximately 0815 hours.

I left a message at Clark for a return call. Mo Modarres, environmental engineer at that refinery, telephoned me at 1618 hours. He confirmed that they had had a problem with the fluid catalytic cracking unit (FCCU) in the morning. He estimated the time frame as from 0630 hours to 0700 hours. The air blower on the regenerator shut off for a very short time, then came back into operation at a higher rate overwhelming that vessel's cyclones. This resulted in an emission of catalyst from its exhaust stack. At the time, he did not have an estimate of the amount of catalyst released. He indicated that the FCCU was stable at the time of our conversation. They had received numerous telephone calls from citizens concerning the catalyst being deposited on their cars and Clark had contacted Unique Car Wash in East Alton to wash vehicles. He indicated that approximately five hundred had been washed so far. I asked him if there had been any report to the regional office about this catalyst release after its occurrence. He responded that he had telephoned the regional office at 0900 hours, but no one from the BOA was available. He added that he had contacted Springfield at the toll-free number. I told him that he could have sent a report in via FAX, in order to comply with the malfunction/breakdown provisions of the operating permit for the FCCU, #75120010 (attached).

On September 19, I received a telephone call from Mayor Bright of East Alton. He informed me that his office had received four telephone calls concerning the deposition. One person had just had her house painted and was concerned about the effects of the material on the fresh paint. He provided her name and address. A copy of the complaint form is attached.

Also attached is a copy of the IEMA incident report form completed based on Mr. Modarres' telephone report at 0901 hours on September 18. This was provided by Tom Powell of the Office of Chemical Safety in the regional office. In essence, there was no additional information on this report that was provided by Mr. Modarres compared to what he had told me later on that day.

On September 19, 1997, Mr. Powell and myself conducted a follow-up investigation with respect to this release.

We initially went to the area of Rand Avenue in Hartford near Shell Wood river Refinery Company's sulfur recovery unit (SRU). Just west of that unit on Rand Avenue, a white dust was visible on the sides of the street, so we stopped in that area. The locations of Clark's FCCU, Shell's SRU, and this area are shown on the attached map. After taking a closer look at this material, there was no doubt that it was catalyst. Between two sets of railroad tracks west of the SRU, there was a large accumulation. It had also collected along the set of tracks next to Rand and on vegetation in that area. It had also collected on surfaces underneath the above-ground piping on the north side of Rand. Mr. Powell took several photographs of this, which are attached to this memo. A sample of the material was taken from the north side of the street at 1125 hours. Photograph #9, depicts the actual location. It was a composite of the material in the empty cardboard box and on the paper bag.

We next proceeded to the Wood River Police Department, and spoke with Commander David Downs. He indicated that his Department had received telephone calls concerning the fallout, but no names and addresses were taken down because there was no apparent damage to anyone's health or property. To his knowledge, the deposition of the catalyst was widespread in Wood River. He, himself, lives five to six blocks east of the location of the Department, which is at 111 North Wood River Avenue. A dispatcher lives in the northern part of the city on Cedar Drive and it was noted in that area and on Ash Avenue and Poplar Street. This would have been expected, since East Alton is north of Wood River and there were reports of it in that municipality. They also got telephone calls from the 9th Street area which is on the eastern side of the city. The material was also noticed on cars at Wood River High School at 777 Wood River Avenue and at Lewis & Clark Elementary School at 501 Lorena Avenue.

After leaving the Wood River Police Department, a visit was made to the above elementary school. We noted several cars parked in front of it on Lorena that appeared to have the material on them, most notably collected on the edges of molding, seams and the glass areas. Mr. Powell took a photograph of a black Buick, license #RIVES 3, which is attached, and the deposition is obvious. In conversations with several of the staff at the school, it was indicated that the catalyst could be seen falling down through the air on the morning of September 18.

The investigation continued with a visit to the refinery itself. Upon our arrival at 1335 hours, we met with Mr. Modarres and with Bill Irwin, the environmental manager at the facility.

First discussed was the reporting mechanism for malfunctions/breakdowns. Mr. Irwin stated that they would utilize the FAX machine if no one from the BOA was available at the regional office when they attempt to initially notify by telephone.

A discussions was then held concerning the subject release. Mr. Modarres informed us that the estimated amount of catalyst lost, based on their inventory, was between 25 and 26 tons. He, again, indicated that the regenerator air blower shut down, its adjustable vanes closing, along with its motor. Personnel in the FCCU's control room observed this on the control board's monitors for that piece of equipment. After being off-line for a very short time (approximately 2 minutes) the blower came back on and the resulting pressure and air velocity overwhelmed the regenerators' cyclones. Feed was cut off at 0630 hours, and was not reintroduced until the afternoon. At that time the blower was in manual control because the problem was determined to be somewhere in the blower's automatic control system for the vanes. There was no damage to the unit itself that they were aware of. Mr. Irwin stated that an internal incident investigation was underway. I asked to review the run sheet for the FCCU for the day. This was provided by Mr. Modarres. The feed rate to the unit prior to the problem was 1059 barrels/hr. This is within the limit of 1220 barrels/hr. in the operating permit. The air flow to the regenerator was at 49,000 scfm. Mr. Modarres provided a block flow diagram of the FCCU, which is attached.

We then went to the FCCU control room. The unit was operating at a feed rate of 986 barrels/hr. Regenerator air flow was at 49,000 scfm and its pressure at 36.1 psig. The opacity meter was indicated 8.6%. This is a typical level for this unit's regenerator exhaust stack. The blower control was tagged and on manual. We discussed the release with Rich Carach, operator, in the control room. As was previously indicated by Mr. Modarres, he estimated that the amount of time between the blower shutting down and coming back on was around two minutes. I asked if there was any indication of a power failure at the unit and he responded that there was not. The subject blower is the primary source of air for combustion for the regenerator. When the shutdown occurred, it also caused the main slide valve on the unit's reactor to close. The loss in pressure at the regenerator also caused oil to back up into it from the reactor, soaking some of the catalyst. Mr. Carach went on to inform us that they then had to intermittently burn this off for approximately one hour once every ten minutes of that hour. This also caused visible emissions out of the regenerator exhaust stack.

We then returned to Mr. Irwin's office. Mark Schoenleber, Environmental Air Specialist at Clark, provided me with a copy of a printout of the instances and six-minute average opacity readings for the time frame from just prior to the shutdown to after the restart. This is also attached. Note that this printout was generated by accessing the data kept on disk by the recording unit in the FCCU's control room. Instantaneous levels of opacity went to the maximum of 100%. Also note that Mr. Modarres had indicated to me earlier that the release had caused an accumulation of dust to deposited on the lenses of the monitor, which they had to clean. However, even with that, the monitor was still indicating that very high levels of visible emissions were occurring well after

0800 hours. Even though feed was shut off to the reactor, the regenerator air flow was not shut down. Recall that the FCCU personnel informed us that they were burning off the oil that had backed up into the regenerator for at least an hour after shutdown. The peak shown later in the day was during the restart. After that the monitor readings were at normal levels (approximately 12% and decreasing).

A brief discussion was then held with Forrest Lauher, associate vice-president for refinery operations. Mr. Lauher confirmed that the blower vane control would remain on manual until the source of the problem with the automatic system was found. He stated that if they are not able to find it, they may rewire the entire system. They had attempted to locate the source by duplicating the event (i.e. closing the vanes and checking the blower's motor currents), but were unsuccessful.

We left the facility at 1515 hours.

On September 24, 1997, the regional office received a copy (attached) of a follow-up letter submitted to the Emergency Response Unit of the Agency's Office of Chemical Safety. Nothing in the letter contradicted the findings of this investigation.

[redacted]

JJB:pbo/clark
Attachments

cc: BOA - Central File
cc: BOA - CASM
cc: DLC - Jim O'Donnell
cc: OCS/ERU - Tom Powell

Report of Oil and Hazardous Substances Release

Report Number

Reporting Company: CLARK REFINING & MARKETING	☑ Spill/Release	Date of Release or Discovery: SEPT 18, 97
Department/Division: OPERATION	☐ Discovery of Underground Contamination	Time: 6:30 ☑ AM ☐ PM
Facility Location: HARTFORD REFINERY	Receiving Medium(s): ☑ Air ☐ Deck ☐ Subsurface	Release confined to Company Property
Incident Location: FCCU	☑ Land ☐ Surface Water ☐ Line Impoundment	
Material Spilled/Released/Leaked: SPENT CATALYST	☐ Paving ☐ Ground Water ☐ Unlined Impoundment	☐ Yes ☑ No

Reported to the Following Government Agencies:	Incident Number	Name of Person Reported to	Name of Company Person Who Made Report	Date and Time Reported
☐ National Response Center				
☐ US Coast Guard				
☑ Illinois EPA	971746	JACKIE	MASSOOD MODARES	9:00A 9/18/97
☐ Other:				
☐ Not Reported to a Government Agency				

Quantity Released as:			Quantity Recovered*
Crude	____ Gal.	____ Bbl.	____
Produced Water	____ Gal.	____ Bbl.	____
Refined Product	____ Gal.	____ Bbl.	____
Produced/Natural Gas	____ MSCF		____
Hazardous Substance	____ Gal.	____ Bbl.	____
(☐ CERCLA "Reportable Quantity")			*Removed from the Environment

Notice of Violation: ☐ Yes ☐ No ☑ Not Known at this Time

Estimated Cleanup Costs $

Estimated Damages $

Cause(s) Check all appropriate boxes:

☐ Human Error ☐ Corrosion
☐ Faulty Procedure ☐ Pipe Connection
☑ Mechanical Failure ☐ Act of God
☐ Design Malfunction ☐ Non-Company
☐ Unknown ☐ Other

Source

Vessel/Barge - Name

Pipeline - Name or Number

Equipment - Number

☐ Tank Aboveground ☐ Hull Leak ☑ Process or Pumping Equipment
☐ Tank Underground ☐ Sump ☑ Stack, Flare ☐ Well
☐ Tank Truck ☐ Pipeline/Flowline ☐ Unknown
☐ Tank Car ☐ Piping ☑ Other: REGENERATOR

Describe how release occurred or how it was discovered and any effect it may have had on others' property. Discuss the degree of public, press or regulatory attention. Identify the company or contractor involved in non-company releases.

AIR BLOWER MALFUNCTION. CATALYST WAS RELEASED TO THE AIR CITY OF INDUS RIVER WAS IMPACTED MANY COMPLAINTS. CAR WERE WASHED BY CLARK.

Describe assessment and remedial action taken and planned, and the disposal method of recovered material (if any).

NO REMEDIAL ACTION TAKEN AT THIS TIME ALMOST NOT PRACTICAL.

Action Taken to prevent Recurrence (if applicable)

BLOWER VANE POSITIONER IS ON MANUAL MODE AS OF THE INCIDENT.

Facility Latitude	Degrees (38)	Minutes (50)	Seconds (08)
Facility Longitude	Degrees (90)	Minutes (06)	Seconds (20)
River Mile	Mile (197.3)		

Report Prepared by	Date	Report Approved by	Date
MASSOOD MODARES	9/18/97	[illegible]	9/18/97

FCC AIR BLOWER MALFUNCTION
09/18/97 6:30AM.

Description:

- A reportable environmental incident on Thursday morning, 9/18/97. The malfunctioning of the FCC air blower created a surge on the regenerator which consequently resulted in the lost of catalyst. This incident impacted our neighboring communities. We are in a process of addressing all concerns of the public and our employees. An investigation is under way to find the cause of the equipment malfunction.
- 9/18/97 8:30am Massood notified IEPA
- 9/18/97 10am Gene Spickler (Risk Management) and Gallagher Bassett (Karen Johnson and Cathy Renk) investigated numerous complaints and made on-site visits (with Massood Modarres) to the Wood River Police station, etc.
- 9/18/97 Gallagher Bassett set up 'consumer complaint' stations to respond to the phone calls. People were directed:
    - Make an appointment at Unique Car Wash (258-7055) - an account has been set up with Unique to handle the expenses
    - If people chose another company, they were told to mail their receipts to Gallagher Bassett for reimbursement.
- 9/19/97 Joe Hutchings (Gallagher Bassett) handled the 'conumer complaint' lines (all calls were directed to Massood

KEMPER.

LABORATORY ANALYSIS REPORT

LABORATORY, K-2 NATLSCO
1 Kemper Drive • Long Grove, IL 60049-0075 • (847) 320-2488
Fax (847) 320-4331 Toll Free (800) 323-9505

NEW TOLL FREE # (888)576-7522

REPORT DATE SEP 22, 1997
SAMPLES REC'D. SEP 19, 1997
REQUEST NUMBER 289752
PAGE NUMBER 1 OF REQUEST.

TO: MATTHEW SORRELLS CIH CSP
CLARK OIL AND REFINING CO
201 E. HAWTHORNE
HARTFORD IL 620480007

Sample Number	Analysis Requested	Results
		micrograms
S-1	VANADIUM	0.5
	NICKEL	0.4
	COPPER	1.2
	ANTIMONY	<1.0
	ALUMINIUM	56
	IRON	6.0
	LEAD	<0.5
	TITANIUM	<1.0
S-2	VANADIUM	0.6
	NICKEL	0.2
	COPPER	0.7
	ANTIMONY	<1.0
	ALUMINIUM	81
	IRON	6.2
	LEAD	<0.5
	TITANIUM	<1.0
S-3	VANADIUM	0.7
	NICKEL	0.2
	COPPER	0.6
	ANTIMONY	<1.0
	ALUMINIUM	69
	IRON	15
	LEAD	<0.5
	TITANIUM	<1.0
S-4	VANADIUM	1.2
	NICKEL	0.5
	COPPER	0.9
	ANTIMONY	<1.0
	ALUMINIUM	220

COMMENTS:
IF PRESENT, DE MEANS DESORPTION EFFICIENCY < MEANS LESS THAN

Respectfully submitted,

UNIT IS MICROGRAMS/100 SQ CENTIMETER

William M. Walsh, CIH, ROH
Manager of Operations
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

KEMPER.

LABORATORY ANALYSIS REPORT

LABORATORY, K-2 NATLSCO
1 Kemper Drive • Long Grove, IL 60049-0075 • (847) 320-2488
Fax (847) 320-4331 Toll Free (800) 323-9585

NEW TOLL FREE # (888)576-7522

REPORT DATE SEP 22, 1997
SAMPLES REC'D. SEP 19, 1997
REQUEST NUMBER 289752
PAGE NUMBER 2 OF REQUEST.

TO: MATTHEW SORRELLS CIH CSP
CLARK OIL AND REFINING CO
201 E. HAWTHORNE
HARTFORD IL 620480007

Sample Number	Analysis Requested	Results
		micrograms
S-4	IRON	16
	LEAD	<0.5
	TITANIUM	<1.0
S-5	VANADIUM	18
	NICKEL	5.4
	COPPER	1.5
	ANTIMONY	<1.0
	ALUMINIUM	4000
	IRON	130
	LEAD	2.6
	TITANIUM	6.3
S-6	VANADIUM	5.9
	NICKEL	1.8
	COPPER	0.9
	ANTIMONY	18
	ALUMINIUM	1200
	IRON	49
	LEAD	0.7
	TITANIUM	2.5
S-7	VANADIUM (BLANK)	<0.1
		AVG. & SUBTRACTED
	NICKEL (BLANK)	0.05
		AVG. & SUBTRACTED
	COPPER (BLANK)	0.2
		AVG. & SUBTRACTED
	ANTIMONY (BLANK)	<1.0
		AVG. & SUBTRACTED

COMMENTS:
IF PRESENT, DE MEANS DESORPTION EFFICIENCY < MEANS LESS THAN

Respectfully submitted,

William M. Walsh, CIH, ROH
Manager of Operations
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Kemper.

LABORATORY ANALYSIS REPORT

LABORATORY, K-2 NATLSCO
1 Kemper Drive • Long Grove, IL 60049-0075 • (847) 320-2488
Fax (847) 320-4331 Toll Free (800) 323-9585

NEW TOLL FREE # (888)576-7522

REPORT DATE SEP 22, 1997
SAMPLES REC'D. SEP 19, 1997
REQUEST NUMBER 289752
PAGE NUMBER 3 OF REQUEST.

TO: MATTHEW SORRELLS CIH CSP
CLARK OIL AND REFINING CO
261 E. HAWTHORNE
HARTFORD IL 62048-0007

Sample Number	Analysis Requested	Results
		micrograms
S-7	ALUMINIUM (BLANK)	3.4
		AVG. & SUBTRACTED 0.8
	IRON (BLANK)	
		AVG. & SUBTRACTED <0.25
	LEAD (BLANK)	
		AVG. & SUBTRACTED 0.1
	TITANIUM (BLANK)	
		AVG. & SUBTRACTED <0.1
S-8	VANADIUM (BLANK)	
		AVG. & SUBTRACTED <0.05
	NICKEL (BLANK)	
		AVG. & SUBTRACTED 0.2
	COPPER (BLANK)	
		AVG. & SUBTRACTED <1.0
	ANTIMONY (BLANK)	
		AVG. & SUBTRACTED <0.5
	ALUMINIUM (BLANK)	
		AVG. & SUBTRACTED 0.8
	IRON (BLANK)	
		AVG. & SUBTRACTED <0.25
	LEAD (BLANK)	
		AVG. & SUBTRACTED

COMMENTS:
IF PRESENT, DE MEANS DESORPTION EFFICIENCY < MEANS LESS THAN

Respectfully submitted,

William M. Walsh, CIH, ROH
Manager of Operations
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

NC3614-1 30M 10-96

KEMPER.

LABORATORY, K-2 NATLSCO

1 Kemper Drive • Long Grove, IL 60049-0075 • (847) 320-2488
Fax (847) 320-4331 Toll Free (800) 323-9585

NEW TOLL FREE # (888)576-7522

LABORATORY ANALYSIS REPORT

REPORT DATE SEP 22, 1997
SAMPLES REC'D. SEP 19, 1997
REQUEST NUMBER 289752
PAGE NUMBER 4 OF REQUEST.

TO: MATTHEW SORRELLS CIH CSP
CLARK OIL AND REFINING CO
201 E. HAWTHORNE
HARTFORD IL 620480007

Sample Number	Analysis Requested	Results
		micrograms
S-8	TITANIUM (BLANK)	0.3
		AVG. & SUBTRACTED
S-9	VANADIUM (BLANK)	<0.1
		AVG. & SUBTRACTED
	NICKEL (BLANK)	0.09
		AVG. & SUBTRACTED
	COPPER (BLANK)	0.2
		AVG. & SUBTRACTED
	ANTIMONY (BLANK)	<1.0
		AVG. & SUBTRACTED
	ALUMINIUM (BLANK)	0.6
		AVG. & SUBTRACTED
	IRON (BLANK)	0.7
		AVG. & SUBTRACTED
	LEAD (BLANK)	1.8
		AVG. & SUBTRACTED
	TITANIUM (BLANK)	<0.1
		AVG. & SUBTRACTED

COMMENTS:
IF PRESENT, DE MEANS DESORPTION EFFICIENCY < MEANS LESS THAN

Respectfully submitted,

William M. Walsh, CIH, ROH
Manager of Operations
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Kemper.

LABORATORY ANALYSIS REPORT

LABORATORY, K-2 NATLSCO
1 Kemper Drive • Long Grove, IL 60049-0075 • (847) 320-2488
Fax (847) 320-4331 Toll Free (800) 323-9585

NEW TOLL FREE # (888)576-7522

REPORT DATE SEP 22, 1997
SAMPLES REC'D. SEP 19, 1997
REQUEST NUMBER 289752
PAGE NUMBER 5 OF REQUEST.

TO: MATTHEW SORRELLS CIH CSP
CLARK OIL AND REFINING CO
201 E. HAWTHORNE
HARTFORD IL 620480007

LLD *	ANALYSIS REQUESTED	METHODOLOGY	CAS #
0.1	VANADIUM SW	OSHA ID-121/OSHA ID-125G	7440-62-2
0.05	NICKEL SW	OSHA ID-121/OSHA ID-125G	7440-2-0
0.05	COPPER SW	OSHA ID-121/OSHA ID-125G	7440-48-4
1	ANTIMONY SW	OSHA ID-121/OSHA ID-125G	7440-36-0
0.5	ALUMINIUM SW	OSHA ID-121/OSHA ID-125G	7429-90-5
0.1	IRON SW	OSHA ID-121/OSHA ID-125G	7439-89-6
0.25	LEAD SW	OSHA ID-121/OSHA ID-125G	7439-92-1
0.1	TITANIUM SW	OSHA ID-121/OSHA ID-125G	7440-32-6

COMMENTS:
CONCENTRATIONS CALCULATED USING AIR VOLUMES SUPPLIED BY CLIENT
* LLD REPORTED IN MICROGRAMS
* PASSIVE MONITORS ARE NOT CORRECTED FOR DESORPTION EFFICIENCY
* MODIFICATIONS MAY BE MADE TO ABOVE METHODS TO OPTIMIZE RESULTS

Respectfully submitted,

William M. Walsh, CIH, ROH
Manager of Operations
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Kemper

LABORATORY ANALYSIS REPORT

LABORATORY, K-2 NATLSCO
1 Kemper Drive • Long Grove, IL 60049-0075 • (847) 320-2488
Fax (847) 320-4331 Toll Free (800) 323-9585

NEW TOLL FREE # (888)576-7522

REPORT DATE SEP 22, 1997
SAMPLES REC'D. SEP 19, 1997
REQUEST NUMBER 389752
PAGE NUMBER 6 OF REQUEST.

TO: MATTHEW SORRELLS CIH CSP
CLARK OIL AND REFINING CO
201 E. HAWTHORNE
HARTFORD IL 620480007

	REQUEST CLIENT COMMENTS:	
		FAX RESULTS, FCC SPENT CATALYST RESIDUES

Respectfully submitted,

William M. Walsh, CIH, ROH
Manager of Operations
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

APPENDIX M

APPENDIX M

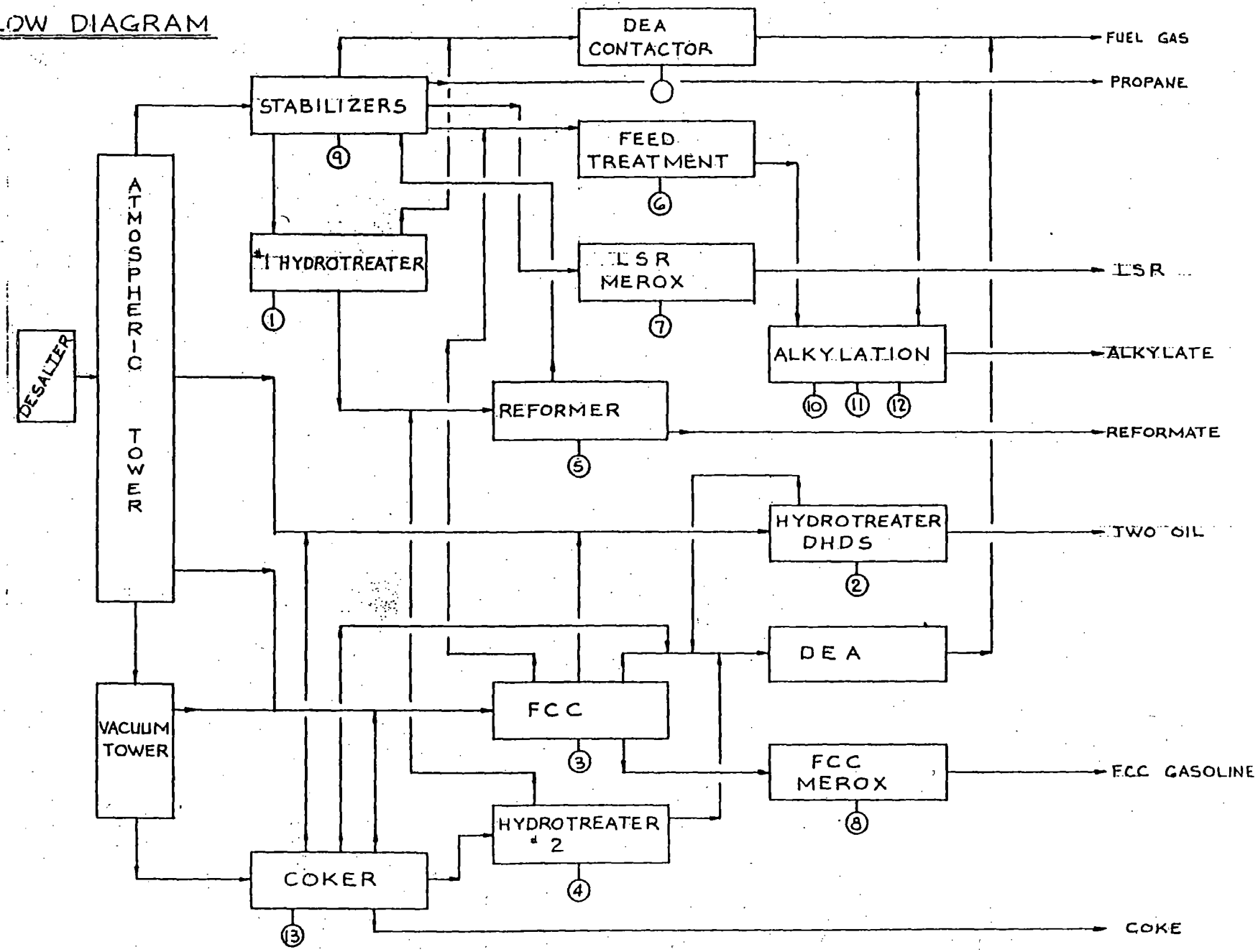
APPENDIX M

DOCUMENTS RELATED TO THE REFINERY PROCESS II AREA

APPENDIX M-1

REFINING PROCESS DIAGRAM

REFINERY FLOW DIAGRAM



1, 2, 3, 4 Spent Catayist
5, 6, 7, 8, 9 Spent Caustic
10 Spent Alumina from Propane Treater
11 Mole Sieves (Feed Drying)
12 Neutralization Pit Sludge
13 Off Spec Coke

Clayton
GROUP SERVICES

APPENDIX M-2

REFINING UNIT INFORMATION SHEETS

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY
PLANT I.D. NO. 119050AAA
HARTFORD ILLINOIS

ALKYLATION UNIT

The Alky was brought on line in 1969, it combines 6500 BPD of olefinic LPG with 3000 BPD of isobutane in the presence of a Hydro-flouric acid to produce over 6000 BPD of high octane gasoline termed alkylate. This production accounts for approximately 20% of the finished gasoline pool.

The Alky serves as a purifier for the LPG streams by removing the olefins (propylene and butylene) and allowing the propane and butane to pass through to storage. The unit contains a flare gas-lime scrubber to neutralize any venting of acidic materials that might occur.

Alky personnel dilute 50 baume' caustic into 5 and 20 baume' mixes. They also monitor the distribution of the caustic to the Crude and Fluid units.

PERMIT INFO.	UNIT INFORMATION	CAPACITY INFO.
STATE I.D. NO.: 72110542 **EXPIRES:** APRIL 29, 1999 **REQS:** 35 IL Adm. Code 214.162 **LICENSE PROCESS NAME:** HF ALKYLATION	**TYPE:** HYDRO-FLOURIC ALKYLATION UNIT **DESIGN BY:** UOP **HEATER:** H-19 **CHARGE TANKS:** 10-24+25 **CHARGE STOCK:** OLEFIN-RICH LPG, ISOBUTANE. **PRODUCT:** HIGH OCTANE GAS, PROPANE, NORMAL BUTANE	**DESIGN:** 8000 BBL/DAY **CURRENT:** 6342 BBL/DAY

EMISSIONS INFORMATION	
POLLUTANT	PERMIT ALLOWED
SO2	1.0 LB/million btu heat input

CLARK REFINING AND MARKETING, INC.
HARTFORD REFINERY
PLANT I.D. NO. 119050AAA
HARTFORD ILLINOIS

TOTAL ISOMERIZATION PROCESS

The TIP was brought on line in late 1987, the unit converts approximately 2000 BPD of low-octane LSR into higher octane insomerate, contributing between 5-10% of the finished gasoline pool. The TIP employs a system of adsorbers that capture low octane molecules and return them to the system while rejecting high octane molecules that are redirected to stabilization and storage.
The TIP also contains a HDS Unifiner that desulfurizes the LSR prior to introduction in the TIP itself. The adsorption process requires a nearly pure supply which is produced in the Steam Methane Reformer (SMR). The SMR produces hydrogen from DHDS waste gas or olefin free propane. This hydrogen is purified in the Pressure Swing Adsorbers(different from, but similar to the TIP adsorbers). Any hydrogen produced that is not needed in the TIP or TIP Unifiner is exported to the Reformer.

PERMIT INFO.	UNIT INFORMATION	CAPACITY INFO.
STATE: 86060036 LICENSE PROCESS NAME: LSR NAPHTHA HYDROTREATER STATE: 86060037 LICENSE PROCESS NAME: HYDROGEN PLANT STATE: 86060038 LICENSE PROCESS NAME: ISOMERIZATION UNIT EXPIRES: June 19, 1997 NSPS: 40 CFR 60 Subpart A, J and GGG	TYPE: TOTAL ISOMERIZATION UNIT DESIGN:UOP HEATERS: H-30,31,32,32 CHARGE STCCK: CRUDE LSR, DHDS TAIL GAS PRODUCT: ISOMERATE(GASOLINE), HYDROGEN, PROPANE , BUTANE	DESIGN: 2000 BPD CURRENT: 2400 BPD

Clayton
GROUP SERVICES

APPENDIX M-3

RELEASE INCIDENT 931160

AREA G
ILLINOIS EPA SPILL NO. 931160

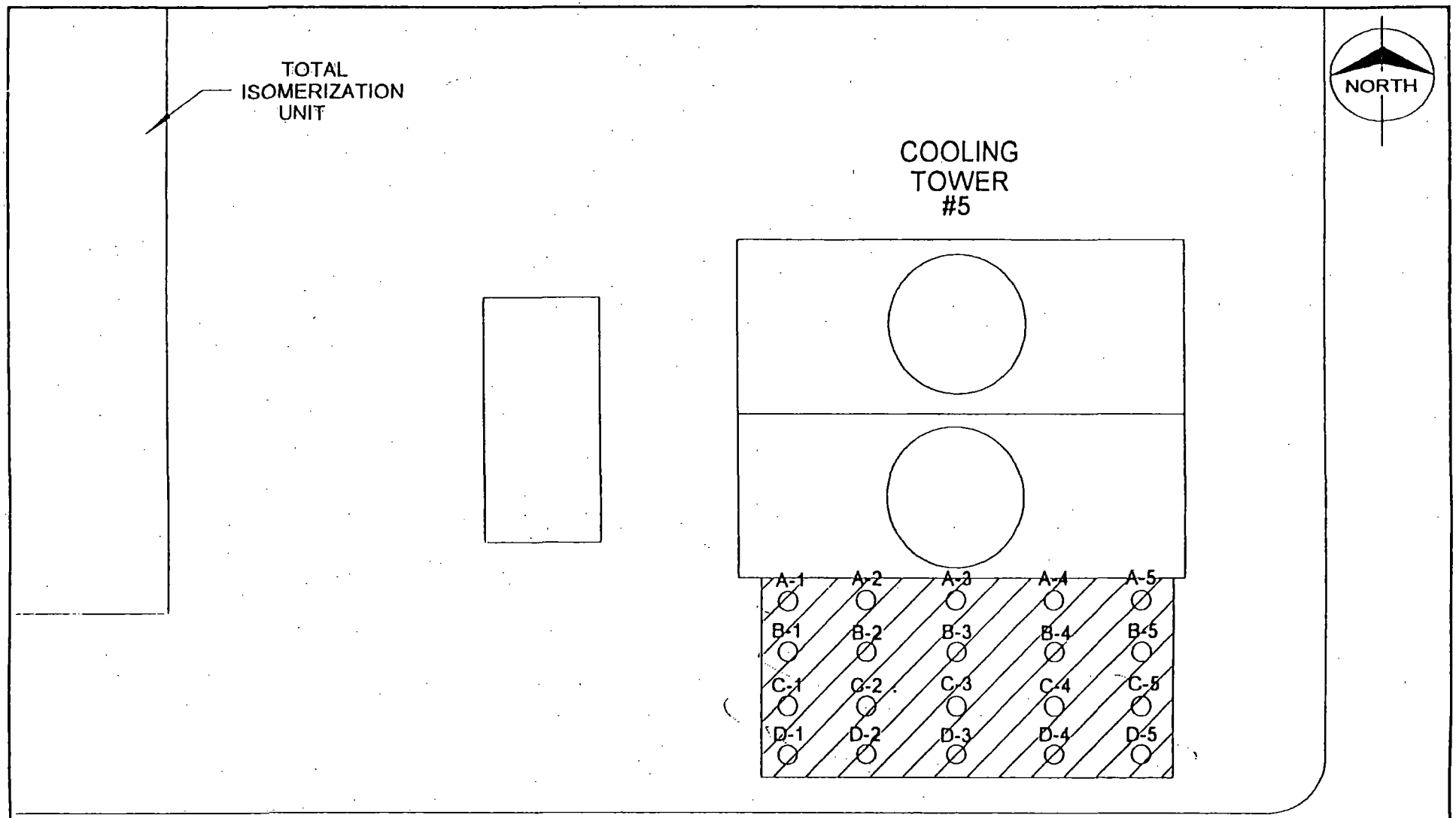
SPILL #931160 - SULFURIC ACID

Incident Summary

This event resulted in the release of approximately 2,000 gallons of sulfuric acid when a small pipe which connected the storage tank to the sulfuric acid feed pumps broke. Figure 1 shows the location of the release (Area G). All appropriate agencies were contacted.

Remediation Effort

Clark personnel applied 200 bags of lime to the area to neutralize the acid that was not diluted in the water spray. Water was collected and treated in the aggressive biological wastewater treatment process. Three or four twenty cubic yard roll-offs were used to contain the soil excavated from this area.



LEGEND

A-1 - COMPOSTE SAMPLE LOCATION

- RELEASE AREA

15 0 40

SCALE IN FEET

Burns & McDonnell Waste Consultants, Inc.

Figure 2
Composite Sample Locations
Sulfuric Acid Release
Release #931160

Clark Refining & Marketing, Inc.

SAMPLING AND ANALYSIS PLAN
FOR
AREA G
SULFURIC ACID SPILL
ILLINOIS EPA SPILL NO. 931160
CLARK REFINING AND MARKETING, INC.
HARTFORD, ILLINOIS

MARCH 1996

94-155-4-045

Burns & McDonnell Waste Consultants, Inc.
Engineers - Geologists - Scientists
St. Louis, Missouri

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APPENDIX B - Chain-of-Custody Report	

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Figure No.	Title
1	Site Location Map
2	Composite Sample Locations, Sulfuric Acid Release

Note: Figures immediately follow the text.

* * * * *

1.0 INTRODUCTION

1.1 GENERAL

The following sampling and analysis plan describes the activities intended to further characterize the impact of the sulfuric acid spill, for Clark Refining & Marketing, Inc. (Clark) in Hartford, Illinois. The results of this characterization will be used by Clark to determine the approximate extent (if any) of contamination at the Site. This sampling and analysis plan provides a description of the work to be performed as part of the field investigation and the methods, procedures, and analyses to be used. The location of the Site is illustrated on Figure 1.

1.2 SITE HISTORY AND DESCRIPTION

This area was impacted by a release of approximately 2,000 gallons of sulfuric acid when a small pipe which connected the storage tank to the sulfuric acid feed pumps broke. All appropriate agencies were contacted. Clark personnel applied 200 bags of lime to the area to neutralize the acid that was not diluted in the water spray. Water was collected and treated in the aggressive biological wastewater treatment process. Three or four twenty cubic yard roll-offs were used to contain the soil excavated from this area.

* * * * *

2.0 FIELD INVESTIGATION ACTIVITIES

To determine the extent (if any) of contamination at the Site, twenty surface soil samples will be collected to a depth of 12 inches. These twenty aliquots shall be composited into four sample containers and submitted to the laboratory for pH analysis. A sampling grid will be used to select the sampling locations. Figure 2 indicates the grid sampling locations. Some sample locations may be modified due to the presence of above or underground structures.

2.1 SURFACE SOIL SAMPLING FOR CHEMICAL ANALYSIS

To determine the presence of contaminants at the Site, surface soil samples will be collected and analyzed for pH. Samples will be collected at a depth of approximately 12 inches at the twenty locations utilizing a stainless steel hand auger. A representative portion of the soil sample obtained will be placed in laboratory-cleansed glass sample bottles. The samples will be removed from the auger with a minimum of disturbance. The twenty sample aliquots shall be composited to form four samples. Samples A-1 through A-5 shall be composited into sample A, samples B-1 through B-5 shall be composited into sample B, etc. The sample bottles will be labeled indicating sample number, boring number, and sampling interval and stored in an ice chest at approximately 4 degrees Celsius prior to shipment to the laboratory.

2.2 DECONTAMINATION OF SAMPLING EQUIPMENT

Prior to the collection of each sample, sampling equipment that will contact the samples will be washed with a liquinox solution and rinsed with potable water, then with distilled water. This equipment will include hand augers, split barrel samplers, and sampling knives.

* * * * *

3.0 ANALYTICAL PROCEDURES AND QUALITY ASSURANCE/QUALITY CONTROL

3.1 SOIL CHEMICAL ANALYSIS

Each soil sample selected for chemical analysis will be analyzed for pH. The laboratory will retain the samples in the event that additional analyses are required. This need will be determined after a review of the chemical analysis results.

Immediately after sampling, the soil samples will be placed on ice and kept cool. The ice will be replaced before the ice chest is sealed and shipped or delivered to the laboratory.

3.2 QUALITY ASSURANCE/QUALITY CONTROL

3.2.1 Documentation and Chain-of-Custody Procedures

The Chain-of-Custody program will provide tracking of possession and handling of the samples from field collection to laboratory analyses.

3.2.1.1 Sample Labels

Sample labels will be affixed to the sample containers at the time of sampling. They will contain the following information:

- Sample identification
- Date and time of collection
- Place of collection
- Type of analysis (if applicable)

3.2.1.2 Custody Seal

When the samples leave the custody of the sample collector (i.e., when the ice chest is shipped to the laboratory), the ice chest will be closed and sealed with evidence tape to ensure that the samples have not been tampered with during transportation. A custody seal will be placed across the opening of the sample shipping container (see Appendix A of this report). The seal will include the sampler's signature, time, and date. The laboratory will note if the sample seal has been broken before arrival at the laboratory.

3.2.1.3 Field Logbook

A field logbook will be maintained with the following information:

- Identification of sample

- Type of sample
- Location of sample
- Depth of sample
- Sample withdrawal procedures and equipment
- Date and time of collection
- Types of sample containers and sample identification numbers
- Parameters requested for analysis
- Calibration record of field test equipment
- Field test equipment analysis data and methods
- Sample shipment method
- Field observations on sampling event
- Name of sample collectors
- Weather conditions
- Sample description (color, odor, etc.)

3.2.1.4 Chain-of-Custody Record

The Chain-of-Custody Record will trace sample possession from the time of collection and include the following information:

- Sample numbers
- Signature of collectors
- Date and time of collection
- Sample type
- Identification of sampling point
- Number of containers
- Signature of persons involved in the chain of possession
- Inclusive dates and times of possession

A carbon copy of the Chain-of-Custody Record will be retained by the sampling personnel before sealing it in the ice chest to provide a record of shipments to the laboratory.

3.2.2 Laboratory Quality Assurance/Quality Control Plan

It is important to verify that laboratory data is reliable, therefore, a qualified analytical laboratory will perform all chemical analyses according to the following publications:

- "Handbook of Analytical Quality Control in Water and Wastewater Laboratories" (EPA-600/4-79-019)

- "Test Methods for Evaluation of Solid Waste," SW-846, 3rd Edition.

- "Standard Methods for the Examination of Water and Wastewater," 16th Edition

The internal laboratory quality assurance/quality control (QA/QC) will be performed according to these methods. The sample bottles will be new, thus eliminating any chance of cross-contamination from previous sampling events.

* * * * *

4.0 INVESTIGATION REPORT

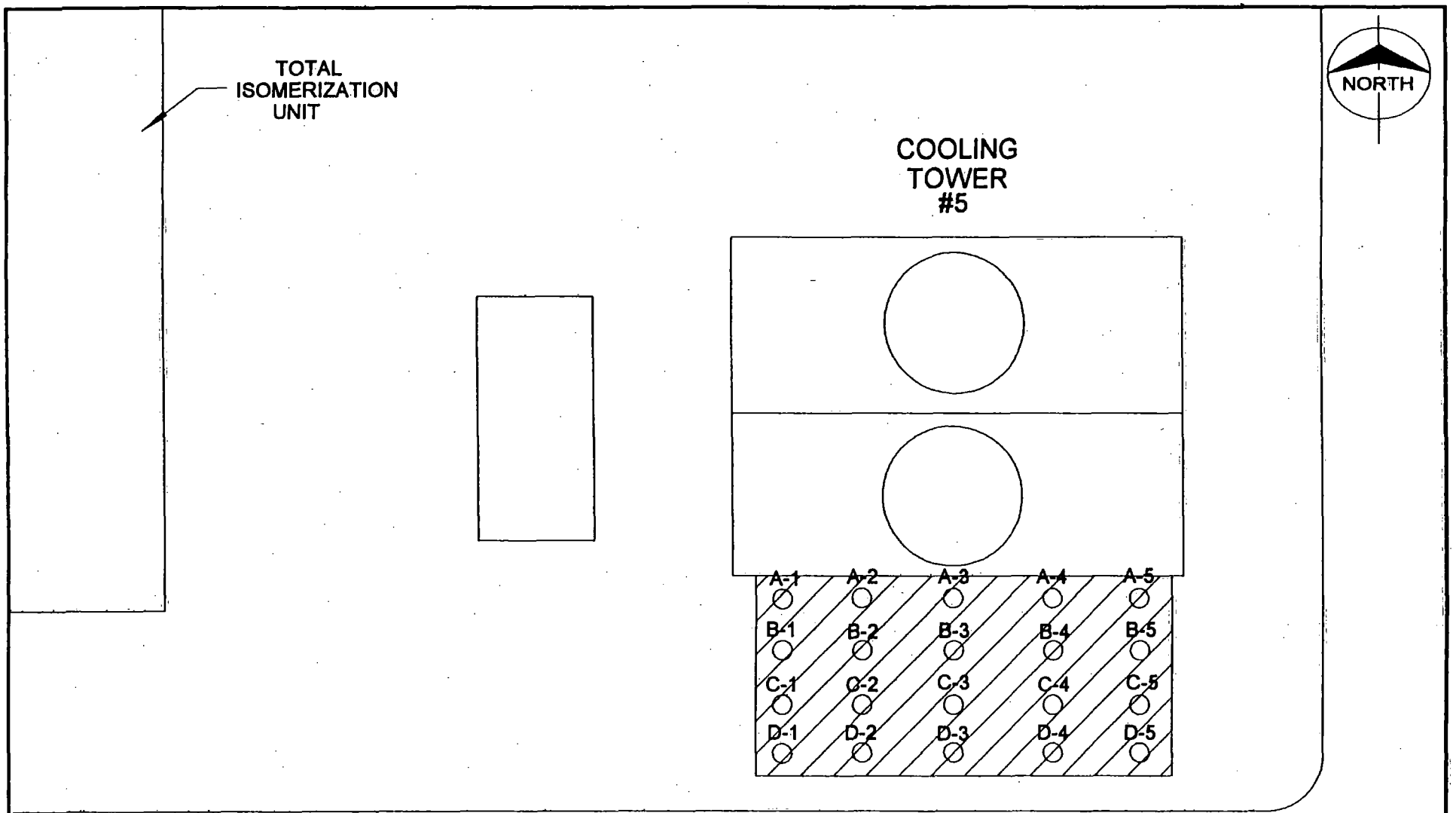
Upon the completion of the field and laboratory activities under this sampling and analysis plan, a Characterization Report will be prepared. This report will present all information pertaining to the Site, as well as interpretations and conclusions. The report will include, as a minimum the following information:

- A physical description of the Site
- Field and laboratory test results
- A summary of data gathering procedures
- An interpretation of data
- Evaluation of hydrocarbon occurrences
- Conclusions

The report, subsequent to incorporation of client comments and approval, will be submitted to the Illinois Environmental Protection Agency.

* * * * *

FIGURES



LEGEND

A-1 - COMPOSTE SAMPLE LOCATION

- RELEASE AREA

15 0 40

SCALE IN FEET

Burns & McDonnell Waste Consultants, Inc.

Figure 2
Composite Sample Locations
Sulfuric Acid Release
Release #931160

Clark Refining & Marketing, Inc.

I:\94155\4031\work\h2so4.dwg

LOCATION:	Area G - Sulfuric Acid Spill Area
MEDIA:	Soil
CLASSIFICATION:	Industrial/Commercial with no full time workers and no structures.
COCs - SURFACE:	NA
COCs - SUBSURFACE:	NA
LIMITING SCENARIO:	NA

TIER II ASSESSMENT:

Surface soil samples were analyzed for pH and found to be within the normal limits for soil acidity.

Clayton
GROUP SERVICES

APPENDIX M-4

RELEASE INCIDENT 962322

This is a follow up letter to the spill reported on December17,1996. The spill occured when a reinforced 3 inch rubber hose connected to a frac tank develpped a leak. The spilled material was from tank 161(WWTP) classified as F037- F038. Amount of spill was estimamted at about 82 gallons(2 Barrels). The impacted area was about 2500 square feet.

Frozen ground minimized the vertical contamination of the impacted area. Water was utilized to remove the contaminant and vacuum trucks were used to transport the water and sludge mixture back to the original tank(tank 161). All other hoses and connections were inspected to assure proper protection against possible leaks.

This leak was confined to our property and there was no danger to the public nor to the ground or surface water.

Spill - Tank 161 (WWTP)/F037-F038

December 17, 1996

962322

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

December 26, 1996

Mr. Charles W. Brutlag
Illinois Environmental Protection Agency
Incident Coordinator Emergency Response Unit
Office of Chemical Safety
2200 Churchill Road
Springfield, IL 62794-9276

Re: Incident 962322

Dear Mr. Brutlag,

This is a follow-up letter to the incident reported on December 17, 1996.. The spill occurred when a reinforced 3-inch rubber hose connected to a frac tank developed a leak. The spilled material was from tank 161 (WWTP) classified as F037-F038. Amount of the spill was estimated at about 82 gallons (2 barrels). The impacted area was about 2500 square feet.

Frozen ground minimized the vertical contamination of the impacted area. Water was utilized to remove the contaminant and vacuum trucks were used to transport the water and sludge mixture back to the original tank (tank 161) All other hoses and connections were inspected to assure proper protection against possible leaks.

This leak was confined to our property and there was no danger to the public nor to the ground or surface water.

Please contact me at 618-254-7301 extension 218 if you need additional information.

Sincerely,

M. Modarres

Massood Modarres
Environmental Engineer

lls

CLARK

Report of Oil and Hazardous Substances Release

Report Number

Reporting Company	Clark Refining & Mktg.Inc	☒ Spill/Release	Date of Release or Discovery 12/17/96
Department/Division	Hartford, Illinois	☐ Discovery of Underground Contamination	Time 1:00 ☐AM☒PM
Facility Location	Hartford, Ilinois	Receiving Medium(s) ☐ Air ☐ Deck ☐ Subsurface	Release confined to Company Property
Incident Location	West Side of Alky	☒ Land ☐ Surface Water ☐ Line Impoundment	
Material Spilled/Released/Leaked	F037 (TK161)	☐ Paving ☐ Ground Water ☐ Unlined Impoundment	☒ Yes ☐ No

Reported to the Following Government Agencies:	Incident Number	Name of Person Reported to	Name of Company Person Who Made Report	Date and Time Reported
☒National Response Center	370742	Ms. Ebner	Modarres	12/17/96 2:16pm
☐US Coast Guard				
☒Illinois EPA	962322	Jackie	Modarres	12/17/96 2:30pm
☐Other:				
☐Not Reported to a Government Agency				

Quantity Released as:			Quantity Recovered*
Crude	____ Gal.	____ Bbl.	_____
Produced Water	____ Gal.	____ Bbl.	_____
Refined Product	____ Gal.	____ Bbl.	_____
Produced/Natural Gas	____ MSCF		_____
Hazardous Substance	82 Gal.	____ Bbl.	_____
(☐ CERCLA "Reportable Quantity")			*Removed from the Environment

Source Frac Tank Hose
Vessel/Barge - Name
Pipeline - Name or Number
Equipment - Number

☒Tank Aboveground ☐Hull Leak ☐Process or Pumping Equipment
☐Tank Underground ☐Sump ☐Stack, Flare ☐Well
☐Tank Truck ☐Pipeline/Flowline ☐Unknown
☐Tank Car ☒Piping ☐Other:

Notice of Violation
☐Yes ☐No ☐Not Known at this Time
Estimated Cleanup Costs $
Estimated Damages $
Cause(s) Check all appropriate boxes:
☐Human Error ☐Corrosion
☐Faulty Procedure ☒Pipe Connection
☐Mechanical Failure ☐Act of God
☐Design Malfunction ☐Non-Company
☐Unknown ☐Other

Describe how release occurred or how it was discovered and any effect it may have had on others' property. Discuss the degree of public, press or regulatory attention. Identify the company or contractor involved in non-company releases.

3" reinforced rubber hose from pump discharge developed a leak. Material sprayed the area. It was found by the Alky operator and the pump was shut down. Area impacted 50' x 50'.

Describe assessment and remedial action taken and planned, and the disposal method of recovered material (if any).

Our vaccuum truck (Frank Graham) and a truck from Odesco were used while ground was being washed to collect the material and discharged back to 161.

Action Taken to prevent Recurrence (if applicable)

New hose was installed; other hoses were inspected.

Report Prepared by	Date	Report Approved by	Date

DEC-17-96 TUE 15:16

Source: IEPA EPW

Illinois Emergency Management Agency

Incident Number 9 6 2 3 2 2

FIELD REPORT

Date: 12 / 17 / 96
Time: 1432
Received by: JMC

Notify: ILLINOIS EMERGENCY MANAGEMENT AGENCY
1 – 800 / 782 – 7860 or 217 / 782 – 7860

Caller: MASSOOD MODARRES
Call back phone#: 618/254-7301 X218
Caller represents: CLARK REFINING & MARKETING INC
Type of incident: [ ] Fire [x] ~~Leaks~~ Spill
[ ] Explosion [ ] Water Involvement
[ ] Gas or Vapor cloud [ ] Other
Incident Location:
Street 201 EAST HAWTHORNE AVENUE
City HARTFORD [x] In [ ] Near
County MADISON
Milepost [ ] RR [ ] River [ ] Highway
Sec. Twp. Range
Area Involved: [ ] Highway [ ] Rail [x] Fixed Facility
[ ] Waterway [ ] Air [ ] Other
Material (s) Involved: F037/WASTE OIL

[ ] Gas [x] Liquid [ ] Semi-Solid [ ] Solid
[ ] Pesticide [ ] Radioactive
CAS #:
UN/NA #:
Is this a 302 (a) Extremely Hazardous Substance?
[ ] Yes [ ] No [ ] Unknown
Is this a RCRA Hazardous Waste?
[ ] Yes [ ] No [ ] Unknown
If Yes, is this a RCRA regulated facility?
[ ] Yes [ ] No
Container: [ ] Truck [ ] RR car [ ] Drum
[x] Aboveground tank [ ] Pipeline
[ ] Underground tank [ ] Other
container size: 20,000 GALS
Amount released: 82 GALS
Rate of release: ---------- / min.
Cause of release: RUPTURED RUBBER HOSE

Estimated spill extent: 2500
[x] square feet [ ] square yards
[x] Occurred Date: 12 / 17 / 96 Time: 1300
[x] Discovered Date: 12 / 17 / 96 Time: 1300

14. On Scene Contact: #1
On Scene Phone#: #2
15. No. injured: -0- [ ] Haz-mat related
Where taken:
16. Public health risks and/or precautions taken, including # evacuated:
NONE
17. Assistance needed from State Agencies:
NONE
18. Containment/cleanup actions and plans:
CLARK DOING THEIR OWN CLEAN UP/DID HIRE A CONTRACTOR/ODESCO CLARK USING THEIR VAC TRUCK
19: Weather: [ ] sunny [ ] overcast [ ] night
[ ] ptly. cldy. [ ] rain [ ] snow
Temp. F wind dir. speed mph.
20: Responsible Party: CLARK REFINING & MARKETING INC
Contact person: #1
Phone # #2
Mailing address: 201 EAST HAWTHORNE AVENUE
HARTFORD, IL 62048

Notifications: FAXED TO EPA, SFM, IDPH, REG. 8

Emergency units contacted NONE
[ ] Fire
[ ] Sheriff
[ ] Police
[ ] ESDA
[ ] Other

On scene
[ ] Fire
[ ] Sheriff
[ ] Police
[ ] ESDA
[ ] Other

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY [redacted] ERH LOG INPUT FORM [redacted] S[redacted]e: IESDA E[redacted]

Madison Co
Hartford

IESDA INCIDENT ID: 962322 PRP Clark Refining & Marketing

TIME: __ : __ DATE: 12/17/96

FROM NAME: T. Powell PHONE ___ / ___ - ____ EXT ____

OCS (Y/N): _ OR REPRESENTS _____

TO NAME: _____ PHONE ___ / ___ - ____ EXT ____

OCS (Y/N): _ OR REPRESENTS _____

TIME WORKED: HOUR __ MIN __ TYPE (SELECT ONE): _ D-DOCUMENT L-LOG

T. Powell spoke to Mo Modarres on 12/31/96 - concerning release. Per Mr Modarres Clark was cleaning tank #161 and pumping contents to a frac tank when a 4 inch discharge hose burst. The material, a listed haz. waste F037, F038, sprayed from the hose to a gravel area approx 50'x50' in size. Clark estimates 2 BBL were spilled. A waste management company (AETES?) was brought in to clean the spillage. The area impacted is adjacent to the WWTP unit at Clark

A contractor (Lanskoo?) was cleaning tank #161, Lanskoo? and Clark personnel were overseeing the pumping when the hose burst.

IL 532 1875
FPA 188 03/90

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Source LEPA ERU

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

December 26, 1996

RECEIVED
DEC
Office of Chemical Safety

Mr. Charles W. Brutlag
Illinois Environmental Protection Agency
Incident Coordinator Emergency Response Unit
Office of Chemical Safety
2200 Churchill Road
Springfield, IL 62794-9276

Re: Incident 962322

Dear Mr. Brutlag,

This is a follow-up letter to the incident reported on December 17, 1996.. The spill occurred when a reinforced 3-inch rubber hose connected to a frac tank developed a leak. The spilled material was from tank 161 (WWTP) classified as F037-F038. Amount of the spill was estimated at about 82 gallons (2 barrels). The impacted area was about 2500 square feet.

Frozen ground minimized the vertical contamination of the impacted area. Water was utilized to remove the contaminant and vacuum trucks were used to transport the water and sludge mixture back to the original tank (tank 161) All other hoses and connections were inspected to assure proper protection against possible leaks.

This leak was confined to our property and there was no danger to the public nor to the ground or surface water.

Please contact me at 618-254-7301 extension 218 if you need additional information.

Sincerely,

M. Modarres

Massood Modarres
Environmental Engineer

lls

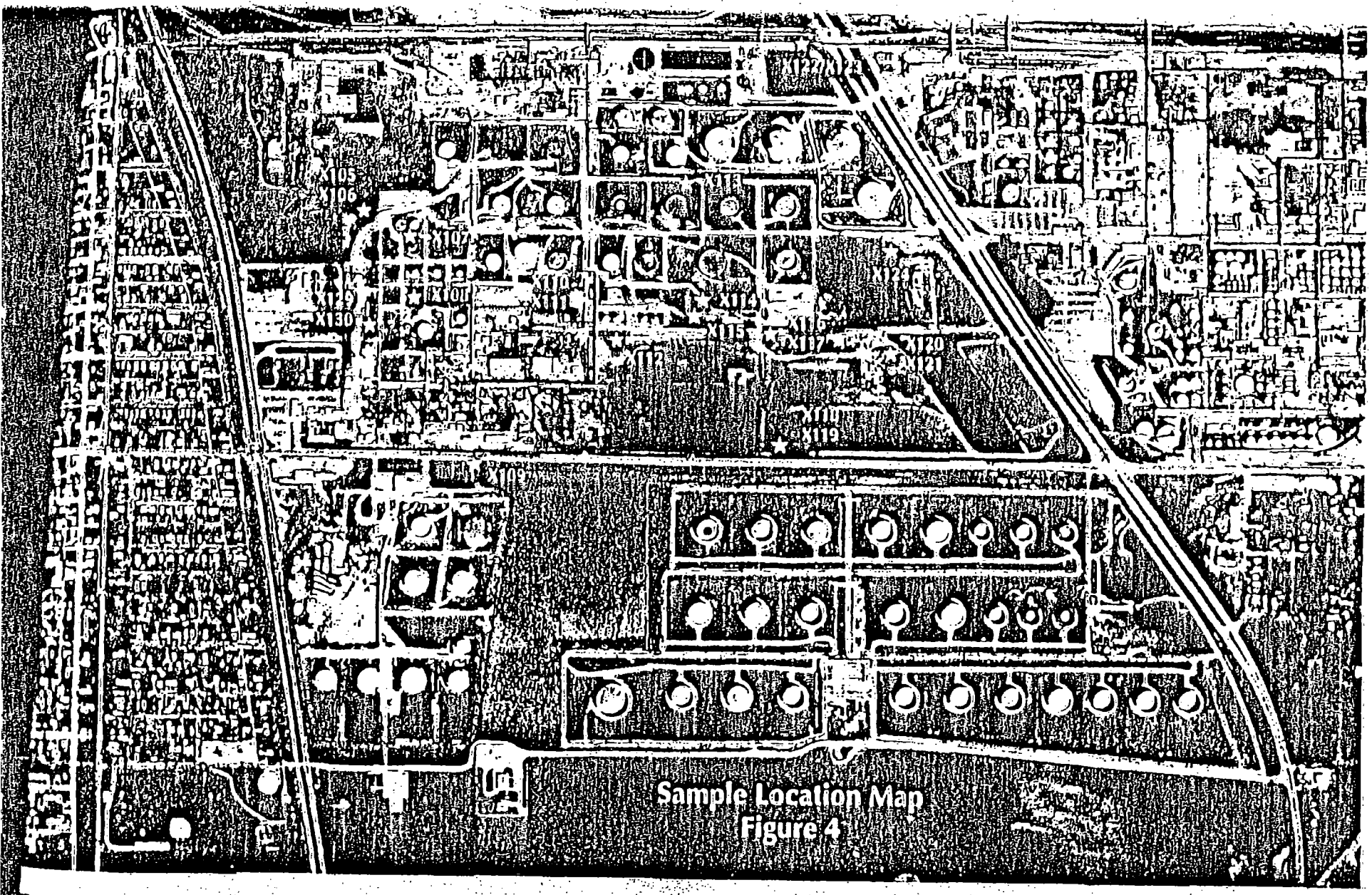
Clayton
GROUP SERVICES

APPENDIX M-5

CERCLA EXPANDED SITE INSPECTION REPORT

samples. Due to similar constituent quantities reported by the analytical laboratories in these two samples all comparative analysis of samples will be compared to background sample X125. All samples except X119 and X128 contain various volatile constituents at levels equal to or greater than three times background levels (Tables 5). None of the constituents exceed USEPA designated Removal Action Level (RAL) benchmarks, however, the level of benzene exceeds the Superfund Chemical Data Matrix (SCDM) benchmark in sample X130. Samples X102, X103, X105 - X108, X110, X112, X114 - X120, X122 - X124, and X128 - X130 contain various semi-volatile constituents at levels equal to or greater than three times background levels (Table 6). None of the constituents exceed RAL's, however, the level of benzo(a)pyrene exceeds the SCDM benchmark in samples X103, X110, X112, X114, X116 - X120, and X124. Samples X101 - X104, X107, X108, X110, X112, X114, X116 - X120, X122, X124, and X129 contain various pesticide/PCB constituents at levels equal to or greater than three times background levels (Table 7). None of the constituents exceed RAL's, however, the level of dieldrin, 4'4-DDD, aroclor-1254 in sample X103; aldrin in sample X112; dieldin in sample X114; heptachlor and dieldrin in sample X118; and aroclor-1254 in sample X124 exceeds the SCDM benchmarks. Samples X102 - X104, X106, X107, X110, X112 - X118, X120, X124, X127, X128, and X130 contain various inorganic constituents at levels equal to or greater than three times background levels (Table 8). None of the constituents exceed RAL's except cadmium in sample X112. The SCDM benchmark for beryllium is exceeded by all samples except samples X101 and X112. The SCDM benchmark for manganese is exceeded in sample X113. All other constituents are below SCDM benchmarks.

There were no sediment samples or groundwater samples collected during this sampling



Sample Location Map
Figure 4

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 1

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		22		8		21		18		25		20		20	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	UJ	1100	UJ	22	U	12	U	11	U
Chloromethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Vinyl Chloride	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Bromomethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	160	J	22	U	12	U	11	U
Chloroethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Trichlorofluoromethane	19	U	14	UJ	11	U	11	UJ	1	J	1100	UJ	1100	UJ	22	U	12	U	11	U
1,1-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloro-1,2,2-trifluoroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Acetone	110	J	36	UJ	50	J	11	U	200	J	1100	U	1100	U	200	J	11	J	19	UJ
Carbon Disulfide	19	U	2	J	11	U	11	UJ	2	J	1100	U	1100	U	22	U	12	U	11	U
Methyl Acetate	8	J	14	UJ	11	UJ	11	UJ	10	UJ	1100	U	1100	U	22	UJ	6	J	11	UJ
Methylene Chloride	19	U	14	U	11	U	11	U	16	U	1100	U	140	J	22	U	16		11	U
trans-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methyl tert-Butyl Ether	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
2-Butanone	23	J	6	J	9	J	11	UJ	10	UJ	1100	U	1100	U	22	UJ	12	UJ	11	U
Chloroform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
1,1,1-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Cyclohexane	4	J	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
Carbon Tetrachloride	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Benzene	19	U	14	U	11	U	2	J	10	U	200	J	1400	J	6	J	12	U	2	J
1,2-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Trichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methylcyclohexane	4	J	14	U	11	U	4	J	10	U	9100		2800	J	180		12	U	3	J
1,2-Dichloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Bromodichloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
4-Methyl-2-pentanone	12	J	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Toluene	19	U	4	J	2	J	3	J	9	J	1100	U	810	J	22	U	2	J	3	J
trans-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Tetrachloroethene	19	U	1	J	11	U	2	J	2	J	1100	U	1100	U	22	U	2	J	11	U
2-Hexanone	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Dibromochloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromoethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Chlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Ethylbenzene	19	U	14	U	11	U	11	U	5	J	1400		5300	J	22	U	12	U	11	U
Xylenes (total)	19	U	42		11	U	11	U	10		180	J	35000	J	220		12	U	5	J
Styrene	19	U	14	U	11	U	11	U	10	U	1100	U	150	J	22	U	12	U	11	U
Bromoform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Isopropylbenzene	19	U	14	U	11	U	11	U	10		420	J	400	J	13	J	12	U	11	U
1,1,2,2-Tetrachloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,3-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,4-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromo-3-chloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2,4-Trichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 1

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
Chloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Vinyl Chloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromomethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichlorofluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Acetone	43	J	70	UJ	23	J	8000	UJ	34	UJ	49	J	52	J	20	UJ	210	J	130	J
Carbon Disulfide	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl Acetate	12	UJ	70	UJ	14	UJ	8000	U	13	UJ	14	UJ	14	UJ	20	UJ	64	UJ	9	UJ
Methylene Chloride	17		70	U	22		8000	U	14	U	14	U	14	U	20	U	64	U	9	U
trans-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl tert-Butyl Ether	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
2-Butanone	23	J	70	U	5	J	8000	UJ	6	J	9	J	14	U	20	U	33	J	22	
Chloroform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,1-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Cyclohexane	12	U	200		14	U	58000		1	J	14	U	14	U	20	U	64	U	9	U
Carbon Tetrachloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Benzene	12	U	70	U	14	U	7100	J	3	J	14	U	14	U	20	U	64	U	9	U
1,2-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methylcyclohexane	1	J	710		14	U	130000		13	U	14	U	14	U	20	U	64	U	1	J
1,2-Dichloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromodichloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
4-Methyl-2-pentanone	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Toluene	2	J	16	J	3	J	1600	J	2	J	2	J	14	U	20	U	64	U	2	J
trans-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Tetrachloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	1	J	3	J	64	U	9	U
2-Hexanone	12	U	70	UJ	14	U	8000	UJ	13	U	14	U	14	UJ	20	UJ	64	UJ	9	UJ
Dibromochloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromoethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Ethylbenzene	12	U	30	J	14	U	10000		13	U	14	U	14	U	20	U	64	U	9	U
Xylenes (total)	12	U	1000		14	U	34000		2	J	14	U	14	U	20	U	64	U	4	J
Styrene	12	U	20	J	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromoform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Isopropylbenzene	12	U	39	J	14	U	2900	J	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2,2-Tetrachloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,3-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,4-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromo-3-chloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2,4-Trichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 1

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Vinyl Chloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromomethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichlorofluoromethane	12	U	13	U	12	U	10	U	1	J	14	UJ	11	UJ	16	UJ	2	J	16000	U
1,1-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Acetone	23	J	17	J	21	J	24	J	49	J	14	UJ	160	J	29	UJ	49	J	24000	
Carbon Disulfide	12	U	13	U	12	U	10	U	11	UJ	14	UJ	2	J	16	UJ	4	J	16000	U
Methyl Acetate	12	UJ	13	UJ	12	UJ	10	UJ	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Methylene Chloride	15		13	U	16		10	U	11	U	24	U	18	U	17	U	17	U	4100	J
trans-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methyl tert-Butyl Ether	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
2-Butanone	12	UJ	13	UJ	4	J	10	UJ	4	J	14	UJ	23	J	16	UJ	12	UJ	16000	U
Chloroform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,1-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Cyclohexane	12	U	13	U	12	U	2	J	11	U	14	U	11	U	16	U	12	U	16000	U
Carbon Tetrachloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Benzene	12	U	13	U	12	U	1	J	11	U	14	U	11	U	16	U	53		34000	J
1,2-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methylcyclohexane	12	U	13	U	12	U	3	J	11	U	14	U	11	U	16	U	120		89000	
1,2-Dichloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromodichloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
4-Methyl-2-pentanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Toluene	1	J	13	U	2	J	4	J	11	U	2	J	3	J	16	U	4	J	16000	U
trans-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Tetrachloroethene	2	J	2	J	12	U	1	J	11	U	14	U	11	U	16	U	12	U	16000	U
2-Hexanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Dibromochloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromoethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Ethylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	3	J	110000	
Xylenes (total)	12	U	13	U	12	U	10	U	11	U	4	J	11	U	16	U	8	J	160000	
Styrene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromoform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Isopropylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	18		17000	
1,1,2,2-Tetrachloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,3-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,4-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromo-3-chloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	UJ
1,2,4-Trichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 2

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab :
Reviewer :
Date

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		6.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	F
Benzaldehyde	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Phenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
bis-(2-Chloroethyl) ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Chlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,2'-oxybis(1-Chloropropane)	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Acetophenone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
N-Nitroso-di-n-propylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Hexachloroethane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Nitrobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Isophorone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Nitrophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4-Dimethylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
bis(2-Chloroethoxy)methane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4-Dichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Naphthalene	9000	U	460	U	390	U	420	U	250	J	150	J	2500		440	U	410	U	410	U
4-Chloroaniline	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Hexachlorobutadiene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Caprolactam	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Chloro-3-methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Methylnaphthalene	9000	U	460	U	110	J	420	U	890		1100		2000		440	U	410	U	73	J
Hexachlorocyclopentadiene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4,6-Trichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,4,5-Trichlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
1,1'-Biphenyl	9000	U	460	U	390	U	420	U	360	U	420	U	110	J	440	U	410	U	410	U
2-Chloronaphthalene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Dimethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
2,6-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Acenaphthylene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
3-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Acenaphthene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	50	J	410	U	200	J
2,4-Dinitrophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
4-Nitrophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Dibenzofuran	9000	U	460	U	42	J	420	U	360	U	420	U	800	U	47	J	410	U	410	U
2,4-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Diethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Fluorene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	66	J	410	U	100	J
4-Chlorophenyl-phenyl ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
4,6-Dinitro-2-methylphenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
N-Nitrosodiphenylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
4-Bromophenyl-phenylether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Hexachlorobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Atrazine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Pentachlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000	U
Phenanthrene	9000	U	460	U	250	J	420	U	360	U	420	U	180	J	69	J	410	U	280	J
Anthracene	9000	U	460	U	50	J	420	U	360	U	420	U	800	U	440	U	410	U	200	J
Carbazole	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Di-n-butylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Fluoranthene	9000	U	460	U	260	J	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Pyrene	9000	U	200	J	350	J	420	U	360	U	420	U	370	J	46	J	410	U	2000	
Butylbenzylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
3,3'-Dichlorobenzidine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Benzo(a)anthracene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	410	J
Chrysene	9000	U	96	J	160	J	420	U	360	U	420	U	120	J	440	U	410	U	520	
bis(2-Ethylhexyl)phthalate	9000	U	220	J	52	J	420	U	850		800		800	U	460		410	U	3500	
Di-n-octylphthalate	9000	U	1000		390	U	120	J	360	U	420	U	800	U	440	U	410	U	410	U
Benzo(b)fluoranthene	9000	U	460	U	240	J	420	U	360	U	420	U	800	U	440	U	410	U	180	J
Benzo(k)fluoranthene	9000	U	460	U	190	J	420	U	360	U	420	U	800	U	440	U	410	U	160	J
Benzo(a)pyrene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	330	J
Indeno(1,2,3-cd)pyrene	9000	U	460	U	91	J	420	U	360	U	420	U	800	U	440	U	410	U	55	J
Dibenzo(a,h)anthracene	9000	U	460	U	45	J	420	U	360	U	420	U	800	U	440	U	410	U	410	U
Benzo(g,h,i)perylene	9000	U	460	U	100	J	420	U	360	U	420	U	800	U	440	U	410	U	170	J

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 2

Analytical Results (Qualified Data)

Case #: 28678
Site
Lab
Reviewer
Date

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y
Sampling Location	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil
Units	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg
Date Sampled	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000
Time Sampled	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40
%Moisture	16		29		29		4		26		18		19		18		22		4
pH	7.9		7.9		7.5		7.4		7.1		7.5		6.9		8.0		8.4		8.3
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result
Benzaldehyde	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Phenol	390	U	80000	J	460	U	31000	U	450	U	2000		450	J	130000		420	U	84
bis-(2-Chloroethyl) ether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Chlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Methylphenol	390	U	2300	J	460	U	31000	U	450	U	800		260	J	4100	J	420	U	52
2,2'-oxybis(1-Chloropropane)	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Acetophenone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
4-Methylphenol	390	U	30000		460	U	31000	U	450	U	1600		460	J	51000		46	J	120
N-Nitroso-di-n-propylamine	390	U	14000	EJ	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Hexachloroethane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Nitrobenzene	390	U	14000	U	460	U	31000	EJ	450	U	400	U	810	U	12000	U	420	U	340
Isophorone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Nitrophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,4-Dimethylphenol	390	U	2900	J	460	U	31000	U	450	U	380	J	130	J	12000	U	420	U	340
bis(2-Chloroethoxy)methane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,4-Dichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Naphthalene	390	U	21000		460	U	31000	U	450	U	2200		960		19000		420	U	450
4-Chloroaniline	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Hexachlorobutadiene	390	U	14000	U	460	U	31000	EJ	450	U	400	U	810	U	12000	U	420	U	340
Caprolactam	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
4-Chloro-3-methylphenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Methylnaphthalene	390	U	94000		460	U	7000	J	50	J	10000		2800		100000		89	J	1900
Hexachlorocyclopentadiene	390	U	14000	U	460	U	31000	EJ	450	U	400	U	810	UJ	12000	U	420	U	340
2,4,6-Trichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,4,5-Trichlorophenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
1,1'-Biphenyl	390	U	5500	J	460	U	31000	U	450	U	200	J	110	J	5100	J	420	U	340
2-Chloronaphthalene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	UJ	12000	U	420	U	340
2-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
Dimethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,6-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Acenaphthylene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
3-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
Acenaphthene	390	U	6500	J	460	U	31000	U	450	U	140	J	810	U	10000	J	420	U	120
2,4-Dinitrophenol	990	U	35000	U	1200	U	78000	EJ	1100	U	1000	U	2000	U	30000	U	1100	U	860
4-Nitrophenol	990	U	35000	U	1200	U	78000	EJ	1100	U	1000	U	2000	U	30000	U	1100	U	860
Dibenzofuran	390	U	14000	U	460	U	31000	U	450	U	420		120	J	12000	U	420	U	340
2,4-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Diethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Fluorene	390	U	10000	J	460	U	5500	J	450	U	280	J	85	J	22000		83	J	420
4-Chlorophenyl-phenyl ether	390	U	14000	U	460	U	31000	EJ	450	U	400	U	810	U	12000	U	420	U	340
4-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	EJ	1000	U	2000	U	30000	U	1100	UJ	860
4,6-Dinitro-2-methylphenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
N-Nitrosodiphenylamine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
4-Bromophenyl-phenylether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Hexachlorobenzene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Atrazine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Pentachlorophenol	990	U	35000	R	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
Phenanthrene	390	U	24000		460	U	29000	J	450	U	780		300	J	35000		190	J	1200
Anthracene	390	U	5300	J	460	U	31000	U	450	U	210	J	110	J	9300	J	420	U	110
Carbazole	390	U	14000	U	460	U	31000	U	450	EJ	75	J	810	U	4000	J	420	UJ	340
Di-n-butylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Fluoranthene	390	U	3200	J	460	U	31000	U	450	U	78	J	810	U	2100	J	220	J	160
Pyrene	390	U	13000	J	460	U	150000		450	U	300	J	1200	J	8000	J	990		1100
Butylbenzylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
3,3'-Dichlorobenzidine	390	U	14000	U	460	U	31000	EJ	450	U	400	U	810	U	12000	U	420	U	340
Benzo(a)anthracene	390	U	7000	J	460	U	60000		450	U	260	J	160	J	6300	J	310	J	340
Chrysene	390	U	9800	J	460	U	120000		450	U	400		280	J	7300	J	550		760
bis(2-Ethylhexyl)phthalate	390	U	11000	J	460	U	31000	U	450	U	74	J	810	U	12000	U	10000		160
Di-n-octylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	UJ	340
Benzo(b)fluoranthene	390	U	2800	J	460	U	16000	J	450	U	240	J	130	J	2900	J	110	J	230
Benzo(k)fluoranthene	390	U	2900	J	460	U	31000	EJ	450	U	220	J	140	J	3100	J	97	J	210
Benzo(a)pyrene	390	U	5700	J	460	U	31000		450	U	330	J	190	J	6600	J	120	J	330
Indeno(1,2,3-cd)pyrene	390	U	2000	J	460	U	7500	J	450	U	140	J	87	J	2400	J	420	U	100
Dibenzo(a,h)anthracene	390	U	3000	J	460	U	8400	J	450	U	180	J	110	J	4100	J	51	J	91
Benzo(g,h,i)perylene	390	U	3100	J	460	U	18000	J	450	U	640		380	J	3800	J	52	J	220

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

TABLE 2

Analytical Results (Qualified Data)

Case #: 28678
Site
Lab.
Reviewer
Date

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture	27		25		6		15		22		21		24		39		28		26	
pH	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	F
Benzaldehyde	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Phenol	450	U	440	U	350	U	100	J	420	UJ	420	U	430	U	540	U	450	U	450	U
bis-(2-Chloroethyl) ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2-Chlorophenol	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	U
2-Methylphenol	450	U	440	U	350	U	58	J	420	U	420	U	430	U	540	U	450	U	450	U
2,2'-oxybis(1-Chloropropane)	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Acetophenone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
4-Methylphenol	450	U	440	U	350	U	110	J	420	U	420	U	430	U	540	U	450	U	450	U
N-Nitroso-di-n-propylamine	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	U
Hexachloroethane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Nitrobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Isophorone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2-Nitrophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2,4-Dimethylphenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
bis(2-Chloroethoxy)methane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2,4-Dichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Naphthalene	450	U	440	U	350	U	180	J	420	U	420	U	430	U	540	U	450	U	660	J
4-Chloroaniline	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Hexachlorobutadiene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Caprolactam	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
4-Chloro-3-methylphenol	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	U
2-Methylnaphthalene	450	U	440	U	350	U	650		420	U	420	U	430	U	540	U	220	J	5100	
Hexachlorocyclopentadiene	450	UJ	440	U	350	UJ	390	UJ	420	U	420	U	430	U	540	U	450	U	450	U
2,4,6-Trichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2,4,5-Trichlorophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	U
1,1'-Biphenyl	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	86	J
2-Chloronaphthalene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	U
Dimethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
2,6-Dinitrotoluene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Acenaphthylene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
3-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	U
Acenaphthene	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	120	J
2,4-Dinitrophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	UJ	1100	UJ	1100	U
4-Nitrophenol	1100	U	1100	U	880	U	980	U	1100	UJ	1100	U	1100	U	1400	U	1100	U	1100	U
Dibenzofuran	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	140	J
2,4-Dinitrotoluene	450	U	440	U	350	U	390	U	420	UJ	420	U	430	U	540	U	450	U	450	U
Diethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Fluorene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	270	J
4-Chlorophenyl-phenyl ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
4-Nitroaniline	1100	U	1100	UJ	880	U	980	U	1100	U	1100	UJ	1100	UJ	1400	UJ	1100	UJ	1100	U
4,6-Dinitro-2-methylphenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	U
N-Nitrosodiphenylamine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
4-Bromophenyl-phenylether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Hexachlorobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Atrazine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Pentachlorophenol	1100	U	1100	U	880	U	980	U	1100	UJ	1100	UJ	1100	UJ	1400	U	1100	U	1100	U
Phenanthrene	450	U	440	U	350	U	150	J	420	U	420	U	430	U	540	U	140	J	770	
Anthracene	450	U	440	U	350	U	70	J	420	U	420	U	430	U	540	U	450	U	68	J
Carbazole	450	U	440	UJ	350	U	43	J	420	U	420	UJ	430	UJ	540	UJ	450	UJ	450	U
Di-n-butylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Fluoranthene	450	U	440	U	350	U	220	J	420	U	420	U	430	U	540	U	450	U	450	U
Pyrene	450	U	110	J	350	U	230	J	420	UJ	420	U	430	U	540	U	450	U	74	J
Butylbenzylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
3,3'-Dichlorobenzidine	450	U	440	U	350	U	390	U	420	U	420	UJ	430	UJ	540	U	450	U	450	U
Benzo(a)anthracene	450	U	440	U	350	U	160	J	420	U	420	U	430	U	540	U	450	U	450	U
Chrysene	450	U	74	J	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	U
bis(2-Ethylhexyl)phthalate	450	U	45	J	73	J	69	J	420	U	420	U	430	U	60	J	450	U	450	U
Di-n-octylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(b)fluoranthene	450	U	440	U	350	U	130	J	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(k)fluoranthene	450	U	440	U	350	U	120	J	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(a)pyrene	450	U	440	U	350	U	100	J	420	U	420	U	430	U	540	U	450	U	450	U
Indeno(1,2,3-cd)pyrene	450	U	440	U	350	U	85	J	420	U	420	U	430	U	540	U	450	U	450	U
Dibenzo(a,h)anthracene	450	U	440	U	350	U	56	J	420	U	420	U	430	U	540	U	450	U	450	U
Benzo(g,h,i)perylene	450	U	440	U	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 3

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		6.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		5.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	0.61	J	2.1	U	2.1	U
beta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	1.4	J	2.3	U	2.1	U	2.1	U
delta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
gamma-BHC (Lindane)	51	U	0.75	J	10	U	2.2	U	1.9	U	2.2	U	0.23	J	2.3	U	2.1	U	1.9	J
Heptachlor	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Aldrin	51	U	2.4	U	18		2.2	U	1.9	U	2.2	U	0.47	J	0.88	J	2.1	U	0.82	J
Heptachlor epoxide	4.3	J	2.4	U	9.8	J	2.2	U	1.9	U	2.2	U	2.1	U	0.055	J	2.1	U	2.1	U
Endosulfan I	1.0	J	2.4	U	3.6	J	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Dieldrin	99	U	4.7	U	680		4.2	U	3.6	U	4.2	U	4.0	U	0.042	J	4.1	U	1.8	J
4,4'-DDE	6.7	J	4.7	U	300	J	4.2	U	3.6	U	4.2	U	4.0	U	0.32	J	4.1	U	3.1	J
Endrin	27	J	2.8	J	20	U	4.2	U	3.6	U	4.2	U	1.0	J	0.41	J	4.1	U	1.2	J
Endosulfan II	99	U	4.7	U	20	U	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.1	U
4,4'-DDD	31	J	2.0	J	3900		4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.0	J
Endosulfan sulfate	99	U	4.7	U	49	J	4.2	U	3.6	U	4.2	U	4.0	U	0.20	J	4.1	U	1.2	J
4,4'-DDT	43	J	4.7	U	60	J	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	2.8	J
Methoxychlor	35	J	24	U	100	U	22	U	18	U	22	U	21	U	1.7	J	21	U	1.5	J
Endrin ketone	7.8	J	1.1	J	6.7	J	4.2	U	3.6	U	4.2	U	1.7	J	0.19	J	4.1	U	4.1	U
Endrin aldehyde	17	J	1.6	J	170		4.2	U	3.6	U	4.2	U	1.4	J	0.28	J	4.1	U	2.5	J
alpha-Chlordane	4.7	J	0.39	J	110	J	0.059	J	1.9	U	2.2	U	2.1	U	0.25	J	2.1	U	3.0	J
gamma-Chlordane	51	U	1.1	J	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	6.8	
Toxaphene	5100	U	240	U	1000	U	220	U	180	U	220	U	210	U	230	U	210	U	210	U
Aroclor-1016	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1221	2000	U	84	U	400	U	85	U	73	U	85	U	82	U	89	U	84	U	84	U
Aroclor-1232	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1242	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1248	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1254	990	U	46	U	4100	J	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1260	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 3

nalytical Results (Qualified Data)

se #: 28678
e :
b. :
eviewer :
te :

SDG : EE01K
CLARK OIL
LIBRTY

ample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
ampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
atrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
nits :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
ate Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
me Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
Moisture :	16		29		29		4		26		18		19		18		22		4	
H :	7.9		7.9		7.6		7.4		7.1		7.6		6.9		8.0		8.4		8.3	
lution Factor :	1.0		1.0		1.0		2.0		1.0		1.0		1.0		2.0		1.0		2.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
pha-BHC	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	67	J	2.2	U	0.87	J
ta-BHC	2.0	U	610	J	2.4	U	3.5	U	2.3	U	12	J	14	J	4.2	R	2.4	J	18	
lta-BHC	2.0	U	190	J	2.4	U	4.6	J	2.3	U	2.1	U	2.1	U	4.2	R	2.2	U	3.5	U
mma-BHC (Lindane)	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	4.2	R	0.77	J	3.1	J
eptachlor	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	140	J	2.2	U	3.5	U
drin	2.0	U	100	J	2.4	U	3.5	U	2.3	U	3.8	J	4.6	J	20	J	1.2	J	15	J
eptachlor epoxide	2.0	U	2.4	U	2.4	U	1.7	J	2.3	U	6.1	J	11	J	20	J	2.2	U	29	J
ndosulfan I	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	8.0	J	2.2	U	3.5	U
eldrin	3.9	U	15	J	4.7	U	36	J	4.5	U	12	J	17	J	40	J	4.2	U	58	J
4'-DDE	3.9	U	4.7	U	4.7	U	6.5	J	4.5	U	4.0	U	4.1	U	69	J	4.2	U	130	J
ndrin	3.9	U	23	J	4.7	U	5.2	J	4.5	U	23	J	12	J	50	J	3.5	J	110	J
ndosulfan II	3.9	U	6.8	J	4.7	U	4.0	J	4.5	U	4.0	U	4.1	U	8.1	R	4.2	U	6.9	U
4'-DDD	3.9	U	19	J	4.7	U	6.9	U	4.5	U	10	J	14	J	17	J	1.6	J	13	J
ndosulfan sulfate	3.9	U	4.7	U	4.7	U	6.9	U	4.5	U	13	J	18	J	8.1	R	4.2	U	66	J
4'-DDT	3.9	U	20	J	4.7	U	6.9	U	4.5	U	34	J	47	J	42	J	4.2	U	6.9	U
ethoxychlor	20	U	24	U	24	U	35	U	23	U	21	U	21	U	41	R	22	U	35	U
ndrin ketone	3.9	U	9.8	J	4.7	U	140	J	4.5	U	6.2	J	9.6	J	46	J	4.2	U	150	J
ndrin aldehyde	3.9	U	4.7	U	4.7	U	86	J	4.5	U	22	J	32	J	8.1	R	1.8	J	52	J
pha-Chlordane	2.0	U	59	J	2.4	U	40	J	2.3	U	6.0	J	9.7	J	4.2	R	2.2	U	150	J
mma-Chlordane	2.0	U	41	J	2.4	U	1.8	J	2.3	U	6.2	J	9.9	J	28	J	2.2	U	520	
oxaphene	200	U	240	U	240	U	350	U	230	U	210	U	210	U	410	R	220	U	350	U
oclor-1016	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
oclor-1221	80	U	94	U	94	U	140	U	91	U	82	U	83	U	160	R	86	U	140	U
oclor-1232	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
oclor-1242	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
oclor-1248	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
oclor-1254	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
oclor-1260	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 3

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
alpha-BHC	2.3	U	2.2	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
beta-BHC	2.3	U	2.3	U	1.8	U	1.6	J	2.2	U	2.2	U	2.2	U	2.8	UJ	0.93	J	2.3	U
delta-BHC	2.3	U	2.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-BHC (Lindane)	2.3	U	4.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Aldrin	2.3	U	1.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor epoxide	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Endosulfan I	2.3	U	2.3	U	1.8	U	0.52	J	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Dieldrin	4.5	U	1.5	J	3.5	U	19	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDE	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin	4.5	U	4.0	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan II	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDD	4.5	U	1.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan sulfate	4.5	U	4.4	U	3.5	U	25	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDT	4.5	U	3.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Methoxychlor	23	U	15	J	18	U	51	J	22	U	22	U	22	U	28	UJ	23	U	23	U
Endrin ketone	4.5	U	3.6	J	3.5	U	84	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin aldehyde	4.5	U	1.7	J	3.5	U	10	J	4.2	U	4.2	U	4.3	U	5.4	UJ	1.7	J	4.5	U
alpha-Chlordane	2.3	U	1.6	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-Chlordane	2.3	U	1.5	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Toxaphene	230	U	230	U	180	U	200	U	220	U	220	U	220	U	280	UJ	230	U	230	U
Aroclor-1016	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1221	92	U	89	U	71	U	79	U	86	U	85	U	88	U	110	UJ	91	U	91	U
Aroclor-1232	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1242	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1248	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1254	45	U	44	U	35	U	1600	J	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1260	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 4

lytical Results (Qualified Data)

#: 28678

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wer :

:

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

ple Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
pling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
ix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
s :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
lids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
ion Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
MINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
IMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
IUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
YLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
MIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
CIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
OMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
ALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
PER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
I	13500		4670		13900		1430		20300		16000		16800		28500		17800		19800	
D	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
NESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
GANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
CURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
EL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
ASSIUM	784		120		993		42.2		1290		1180		1490		95.5		1250		874	
ENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
ER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.16		0.099	U	0.10	U
IUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
LIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
ADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
NIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 4

nalytical Results (Qualified Data)

se #: 28678
SDG : MEE01B
CLARK OIL
LIBRTY
viewer : J. GANZ
le : DECEMBER 12, 2000

mple Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
mpling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
trix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
its :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
te Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
ne Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
Solids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
ution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
UMINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
ITIMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ISENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
RIUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
RYLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
DMIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
LCIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
IROMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
OBALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
OPPER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
ON	13500		4670		13900		1430		20300		16000		16800		26500		17800		19800	
AD	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
AGNESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
ANGANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
ERCURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
CKEL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
OTASSIUM	784		120		993		42.2		1290		1180		1490		95.5		1250		874	
LENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
VER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
DIUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
ALLIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
NADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
IC	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
ANIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

TABLE 4

lytical Results (Qualified Data)

#: 28678

SDG : MEE01B
CLARK OIL
LIBRTY

wer :
J. GANZ

:
DECEMBER 12, 2000

ple Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
pling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
x :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
:	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
lids :	81.3		62.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
on Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
MINUM	6840		952		11800		193		15100		9460		24600		448		11000		8240	
MONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
ENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
UM	164		34.4		842		66.0		247		238		197		14.6		317		155	
YLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
MIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
CIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
OMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
ALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
PER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
I	13500		4670		13900		1430		20300		16000		16800		26500		17800		19800	
)	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
NESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
GANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
CURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
EL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
ASSIUM	784		120		993		42.2		1290		1180		1490		95.5		1250		874	
NIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
ER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
UM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
LIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
DIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
IIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 5

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		22		8		21		18		25		20		20	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	UJ	1100	UJ	22	U	12	U	11	U
Chloromethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Vinyl Chloride	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Bromomethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	160	J	22	U	12	U	11	U
Chloroethane	19	U	14	U	11	U	11	U	10	U	1100	UJ	1100	UJ	22	U	12	U	11	U
Trichlorofluoromethane	19	U	14	UJ	11	U	11	UJ	1	J	1100	UJ	1100	UJ	22	U	12	U	11	U
1,1-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloro-1,2,2-trifluoroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Acetone	110	J	36	UJ	50	J	11	U	200	J	1100	U	1100	U	200	J	11	J	19	UJ
Carbon Disulfide	19	U	2	J	11	U	11	UJ	2	J	1100	U	1100	U	22	U	12	U	11	U
Methyl Acetate	8	J	14	UJ	11	UJ	11	UJ	10	UJ	1100	U	1100	U	22	UJ	8	J	11	UJ
Methylene Chloride	19	U	14	U	11	U	11	U	16	U	1100	U	140	J	22	U	16		11	U
trans-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methyl tert-Butyl Ether	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,2-Dichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
2-Butanone	23	J	6	J	8	J	11	UJ	10	UJ	1100	U	1100	U	22	UJ	12	UJ	11	U
Chloroform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
1,1,1-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Cyclohexane	4	J	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	1	J
Carbon Tetrachloride	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Benzene	19	U	14	U	11	U	2	J	10	U	200	J	1400	J	6	J	12	U	2	J
1,2-Dichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Trichloroethene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Methylcyclohexane	4	J	14	U	11	U	4	J	10	U	9100		2800	J	180		12	U	3	J
1,2-Dichloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Bromodichloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
cis-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
4-Methyl-2-pentanone	12	J	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Toluene	19	U	4	J	2	J	3	J	9	J	1100	U	810	J	22	U	2	J	3	J
trans-1,3-Dichloropropene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,1,2-Trichloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Tetrachloroethene	19	U	1	J	11	U	2	J	2	J	1100	U	1100	U	22	U	2	J	11	U
2-Hexanone	19	U	14	UJ	11	U	11	UJ	10	UJ	1100	U	1100	U	22	U	12	U	11	U
Dibromochloromethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromoethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Chlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Ethylbenzene	19	U	14	U	11	U	11	U	5	J	1400		5300	J	22	U	12	U	11	U
Xylenes (total)	19	U	42		11	U	11	U	10		180	J	35000	J	220		12	U	5	J
Styrene	19	U	14	U	11	U	11	U	10	U	1100	U	150	J	22	U	12	U	11	U
Bromoform	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
Isopropylbenzene	19	U	14	U	11	U	11	U	10		420	J	400	J	13	J	12	U	11	U
1,1,2,2-Tetrachloroethane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,3-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,4-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2-Dibromo-3-chloropropane	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U
1,2,4-Trichlorobenzene	19	U	14	U	11	U	11	U	10	U	1100	U	1100	U	22	U	12	U	11	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 6

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	12	U	70	U	14	U	8000	UJ	15	U	14	U	14	U	20	U	64	U	9	U
Chloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Vinyl Chloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromomethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichlorofluoromethane	12	U	70	U	14	U	8000	UJ	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Acetone	43	J	70	UJ	23	J	8000	UJ	34	UJ	49	J	52	J	20	UJ	210	J	130	J
Carbon Disulfide	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl Acetate	12	UJ	70	UJ	14	UJ	8000	U	13	UJ	14	UJ	14	UJ	20	UJ	64	UJ	9	UJ
Methylene Chloride	17		70	U	22		8000	U	14	U	14	U	14	U	20	U	64	U	9	U
trans-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methyl tert-Butyl Ether	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,2-Dichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
2-Butanone	23	J	70	U	5	J	8000	UJ	6	J	9	J	14	U	20	U	33	J	22	
Chloroform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,1-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Cyclohexane	12	U	200		14	U	56000		1	J	14	U	14	U	20	U	64	U	9	U
Carbon Tetrachloride	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Benzene	12	U	70	U	14	U	7100	J	3	J	14	U	14	U	20	U	64	U	9	U
1,2-Dichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Trichloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Methylcyclohexane	1	J	710		14	U	130000		13	U	14	U	14	U	20	U	64	U	1	J
1,2-Dichloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromodichloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
cis-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
4-Methyl-2-pentanone	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Toluene	2	J	16	J	3	J	1800	J	2	J	2	J	14	U	20	U	64	U	2	J
trans-1,3-Dichloropropene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2-Trichloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Tetrachloroethene	12	U	70	U	14	U	8000	U	13	U	14	U	1	J	3	J	64	U	9	U
2-Hexanone	12	U	70	UJ	14	U	8000	UJ	13	U	14	U	14	UJ	20	UJ	64	UJ	9	UJ
Dibromochloromethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromoethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Chlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Ethylbenzene	12	U	30	J	14	U	10000		13	U	14	U	14	U	20	U	64	U	9	U
Xylenes (total)	12	U	1000		14	U	34000		2	J	14	U	14	U	20	U	64	U	4	J
Styrene	12	U	20	J	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Bromoform	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
Isopropylbenzene	12	U	39	J	14	U	2900	J	13	U	14	U	14	U	20	U	64	U	9	U
1,1,2,2-Tetrachloroethane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,3-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,4-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2-Dibromo-3-chloropropane	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U
1,2,4-Trichlorobenzene	12	U	70	U	14	U	8000	U	13	U	14	U	14	U	20	U	64	U	9	U

Highlighted entries are at least three times background, some will be ten times backgroundif background level is estimated

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 5

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :																				
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
									Background											
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Vinyl Chloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromomethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichlorofluoromethane	12	U	13	U	12	U	10	U	1	J	14	UJ	11	UJ	16	UJ	2	J	16000	U
1,1-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Acetone	23	J	17	J	21	J	24	J	49	J	14	UJ	180	J	29	UJ	49	J	24000	
Carbon Disulfide	12	U	13	U	12	U	10	U	11	UJ	14	UJ	2	J	16	UJ	4	J	16000	U
Methyl Acetate	12	UJ	13	UJ	12	UJ	10	UJ	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Methylene Chloride	15		13	U	16		10	U	11	U	24	U	18	U	17	U	17	U	4100	J
trans-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methyl tert-Butyl Ether	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,2-Dichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
2-Butanone	12	UJ	13	UJ	4	J	10	UJ	4	J	14	UJ	23	J	16	UJ	12	UJ	16000	U
Chloroform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,1-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Cyclohexane	12	U	13	U	12	U	2	J	11	U	14	U	11	U	16	U	12	U	16000	U
Carbon Tetrachloride	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Benzene	12	U	13	U	12	U	1	J	11	U	14	U	11	U	16	U	63		34000	J
1,2-Dichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Trichloroethene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Methylcyclohexane	12	U	13	U	12	U	3	J	11	U	14	U	11	U	16	U	120		89000	
1,2-Dichloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromodichloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
cis-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
4-Methyl-2-pentanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Toluene	1	J	13	U	2	J	4	J	11	U	2	J	3	J	16	U	4	J	16000	U
trans-1,3-Dichloropropene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,1,2-Trichloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Tetrachloroethene	2	J	2	J	12	U	1	J	11	U	14	U	11	U	16	U	12	U	16000	U
2-Hexanone	12	U	13	U	12	U	10	U	11	UJ	14	UJ	11	UJ	16	UJ	12	UJ	16000	U
Dibromochloromethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromoethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Chlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Ethylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	3	J	110000	
Xylenes (total)	12	U	13	U	12	U	10	U	11	U	4	J	11	U	16	U	8	J	160000	
Styrene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Bromoform	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
Isopropylbenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	18		17000	
1,1,2,2-Tetrachloroethane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,3-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,4-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U
1,2-Dibromo-3-chloropropane	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	UJ
1,2,4-Trichlorobenzene	12	U	13	U	12	U	10	U	11	U	14	U	11	U	16	U	12	U	16000	U

Highlighted entries are at least three times background, some will be ten times backround if background level is estimated

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES

TABLE 4

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B	EE01C	EE01D	EE01E	EE01F	EE01G	EE01H	EE01J	EE01K	EE01L
Sampling Location :	X101	X102	X103	X104	X105	X106	X107	X108	X109	X110
Matrix :	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Date Sampled :	11/1/00	11/1/00	11/1/00	11/1/00	11/1/00	11/1/00	11/1/00	11/1/00	11/02/2000	11/02/2000
Time Sampled :	11:30	11:30	12:50	13:10	15:00	15:20	16:00	16:45	08:15	09:25
%Moisture :	0	29	16	21	8	21	18	25	20	20
pH :	0.0	7.7	7.7	8.0	6.8	7.9	7.7	8.4	5.8	8.5
Dilution Factor :	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0

Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result
Benzaldehyde	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Phenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
bis-(2-Chloroethyl) ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2-Chlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2,2'-oxybis(1-Chloropropane)	9000	UJ	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Acetophenone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
4-Methylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
N-Nitroso-di-n-propylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Hexachloroethane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Nitrobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410
Isophorone	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2-Nitrophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2,4-Dimethylphenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
bis(2-Chloroethoxy)methane	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2,4-Dichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Naphthalene	9000	U	460	U	390	U	420	U	250	J	150	J	2500		440	U	410	U	410
4-Chloroaniline	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Hexachlorobutadiene	9000	UJ	460	UJ	390	UJ	420	UJ	360	UJ	420	UJ	800	UJ	440	UJ	410	U	410
Caprolactam	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
4-Chloro-3-methylphenol	9000	U	460	UJ	390	UJ	420	UJ	360	UJ	420	UJ	800	U	440	UJ	410	U	410
2-Methylnaphthalene	9000	U	460	U	110	J	420	U	890		1100		2000		440	U	410	U	73
Hexachlorocyclopentadiene	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410
2,4,6-Trichlorophenol	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2,4,5-Trichlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000
1,1'-Biphenyl	9000	U	460	U	390	U	420	U	360	U	420	U	110	J	440	U	410	U	410
2-Chloronaphthalene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000
Dimethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
2,6-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Acenaphthylene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
3-Nitroaniline	23000	UJ	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000
Acenaphthene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	50	J	410	U	200
2,4-Dinitrophenol	23000	U	1200	UJ	990	UJ	1100	UJ	900	UJ	1100	UJ	2000	U	1100	UJ	1000	U	1000
4-Nitrophenol	23000	UJ	1200	UJ	990	UJ	1100	UJ	900	UJ	1100	UJ	2000	UJ	1100	UJ	1000	U	1000
Dibenzofuran	9000	U	460	U	42	J	420	U	360	U	420	U	800	U	47	J	410	U	410
2,4-Dinitrotoluene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Diethylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Fluorene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	66	J	410	U	100
4-Chlorophenyl-phenyl ether	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410
4-Nitroaniline	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000
4,6-Dinitro-2-methylphenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000
N-Nitrosodiphenylamine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
4-Bromophenyl-phenylether	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Hexachlorobenzene	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Atrazine	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Pentachlorophenol	23000	U	1200	U	990	U	1100	U	900	U	1100	U	2000	U	1100	U	1000	U	1000
Phenanthrene	9000	U	460	U	250	J	420	U	360	U	420	U	180	J	69	J	410	U	280
Anthracene	9000	U	460	U	50	J	420	U	360	U	420	U	800	U	440	U	410	U	200
Carbazole	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Di-n-butylphthalate	9000	U	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
Fluoranthene	9000	U	460	UJ	260	J	420	UJ	360	UJ	420	UJ	800	U	440	UJ	410	U	410
Pyrene	9000	U	200	J	350	J	420	U	360	U	420	U	370	J	46	J	410	U	2000
Butylbenzylphthalate	9000	UJ	460	U	390	U	420	U	360	U	420	U	800	U	440	U	410	U	410
3,3'-Dichlorobenzidine	9000	U	460	U	390	U	420	U	360	U	420	U	800	UJ	440	U	410	U	410
Benzo(a)anthracene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	410
Chrysene	9000	U	96	J	160	J	420	U	360	U	420	U	120	J	440	U	410	U	920
bis(2-Ethylhexyl)phthalate	9000	U	220	J	52	J	420	U	850		600		800	U	460		410	U	3500
Di-n-octylphthalate	9000	U	1000		390	U	120	J	360	U	420	U	800	U	440	U	410	U	410
Benzo(b)fluoranthene	9000	U	460	U	240	J	420	U	360	U	420	U	800	U	440	U	410	U	160
Benzo(k)fluoranthene	9000	U	460	U	190	J	420	U	360	U	420	U	800	UJ	440	U	410	U	160
Benzo(a)pyrene	9000	U	460	U	130	J	420	U	360	U	420	U	800	U	440	U	410	U	330
Indeno(1,2,3-cd)pyrene	9000	U	460	U	91	J	420	U	360	U	420	U	800	U	440	U	410	U	55
Dibenzo(a,h)anthracene	9000	U	460	U	43	J	420	U	360	U	420	U	800	U	440	U	410	U	410
Benzo(g,h,i)perylene	9000	U	460	U	100	J	420	U	360	U	420	U	800	U	440	U	410	U	170

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY
HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 6

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40
%Moisture :	16		29		29		4		26		18		19		18		22		4
pH :	7.9		7.9		7.8		7.4		7.1		7.6		6.9		8.0		8.4		8.3
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		2.0		1.0		1.0		1.0
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result
Benzaldehyde	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Phenol	390	U	80000	J	460	U	31000	U	450	U	2000		450	J	130000		420	U	84
bis-(2-Chloroethyl) ether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Chlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Methylphenol	390	U	2300	J	460	U	31000	U	450	U	800		260	J	4100	J	420	U	52
2,2'-oxybis(1-Chloropropane)	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Acetophenone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
4-Methylphenol	390	U	30000		460	U	31000	U	450	U	1600		460	J	51000		46	J	120
N-Nitroso-di-n-propylamine	390	U	14000	UJ	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Hexachloroethane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Nitrobenzene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340
Isophorone	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Nitrophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,4-Dimethylphenol	390	U	2900	J	460	U	31000	U	450	U	380	J	130	J	12000	U	420	U	340
bis(2-Chloroethoxy)methane	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,4-Dichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Naphthalene	390	U	21000		460	U	31000	U	450	U	2200		980		19000		420	U	450
4-Chloroaniline	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Hexachlorobutadiene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340
Caprolactam	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
4-Chloro-3-methylphenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Methylnaphthalene	390	U	94000		460	U	7000	J	50	J	10000		2800		100000		89	J	1900
Hexachlorocyclopentadiene	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	UJ	12000	U	420	U	340
2,4,6-Trichlorophenol	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,4,5-Trichlorophenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
1,1'-Biphenyl	390	U	5500	J	460	U	31000	U	450	U	200	J	110	J	5100	J	420	U	340
2-Chloronaphthalene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
Dimethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
2,6-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Acenaphthylene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
3-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
Acenaphthene	390	U	6500	J	460	U	31000	U	450	U	140	J	810	U	10000	J	420	U	120
2,4-Dinitrophenol	990	U	35000	U	1200	U	78000	UJ	1100	U	1000	U	2000	U	30000	U	1100	U	860
4-Nitrophenol	990	U	35000	U	1200	U	78000	UJ	1100	U	1000	U	2000	U	30000	U	1100	U	860
Dibenzofuran	390	U	14000	U	460	U	31000	U	450	U	420		120	J	12000	U	420	U	340
2,4-Dinitrotoluene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Diethylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Fluorene	390	U	10000	J	460	U	5500	J	450	U	280	J	85	J	22000		63	J	420
4-Chlorophenyl-phenyl ether	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340
4-Nitroaniline	990	U	35000	U	1200	U	78000	U	1100	UJ	1000	U	2000	U	30000	U	1100	UJ	860
4,6-Dinitro-2-methylphenol	990	U	35000	U	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
N-Nitrosodiphenylamine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
4-Bromophenyl-phenylether	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Hexachlorobenzene	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Atrazine	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Pentachlorophenol	990	U	35000	R	1200	U	78000	U	1100	U	1000	U	2000	U	30000	U	1100	U	860
Phenanthrene	390	U	24000		460	U	29000	J	450	U	780		300	J	35000		190	J	1200
Anthracene	390	U	5300	J	460	U	31000	U	450	U	210	J	110	J	9300	J	420	U	110
Carbazole	390	U	14000	U	460	U	31000	U	450	UJ	75	J	810	U	4000	J	420	UJ	340
Di-n-butylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Fluoranthene	390	U	3200	J	460	U	31000	U	450	U	78	J	810	U	2100	J	220	J	180
Pyrene	390	U	13000	J	460	U	150000		450	U	300	J	200	J	8000	J	990		1100
Butylbenzylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
3,3'-Dichlorobenzidine	390	U	14000	U	460	U	31000	UJ	450	U	400	U	810	U	12000	U	420	U	340
Benzo(a)anthracene	390	U	7000	J	460	U	60000		450	U	260	J	160	J	6300	J	310	J	340
Chrysene	390	U	9600	J	460	U	120000		450	U	400		260	J	7300	J	550		760
bis(2-Ethylhexyl)phthalate	390	U	11000	J	460	U	31000	U	450	U	74	J	810	U	12000	U	10000		160
Di-n-octylphthalate	390	U	14000	U	460	U	31000	U	450	U	400	U	810	U	12000	U	420	U	340
Benzo(b)fluoranthene	390	U	2800	J	460	U	16000	J	450	U	240	J	130	J	2900	J	110	J	230
Benzo(k)fluoranthene	390	U	2900	J	460	U	31000	UJ	450	U	220	J	140	J	3100	J	97	J	210
Benzo(a)pyrene	390	U	5700	J	460	U	31000		450	U	330	J	190	J	6600	J	120	J	330
Indeno(1,2,3-cd)pyrene	390	U	2000	J	460	U	7500	J	450	U	140	J	87	J	2400	J	620	U	100
Dibenzo(a,h)anthracene	390	U	3000	J	460	U	8400	J	450	U	180	J	110	J	4100	J	51	J	91
Benzo(g,h,i)perylene	390	U	3100	J	460	U	18000	J	450	U	640		380	J	3800	J	52	J	220

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		8		15		22		21		24		39		26		26	
pH :	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
									Background											
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	
Benzaldehyde	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Phenol	450	U	440	U	350	U	100	J	420	U	420	U	430	U	540	U	450	U	450	
bis-(2-Chloroethyl) ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Chlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Methylphenol	450	U	440	U	350	U	54	J	420	U	420	U	430	U	540	U	450	U	450	
2,2'-oxybis(1-Chloropropane)	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Acetophenone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Methylphenol	450	U	440	U	350	U	110	J	420	U	420	U	430	U	540	U	450	U	450	
N-Nitroso-di-n-propylamine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Hexachloroethane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Nitrobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Isophorone	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Nitrophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4-Dimethylphenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
bis(2-Chloroethoxy)methane	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4-Dichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Naphthalene	450	U	440	U	350	U	180	J	420	U	420	U	430	U	540	U	450	U	860	
4-Chloroaniline	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Hexachlorobutadiene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Caprolactam	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Chloro-3-methylphenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Methylnaphthalene	450	U	440	U	350	U	850		420	U	420	U	430	U	540	U	220	J	5100	
Hexachlorocyclopentadiene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4,6-Trichlorophenol	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,4,5-Trichlorophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
1,1'-Biphenyl	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	86	J
2-Chloronaphthalene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Dimethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
2,6-Dinitrotoluene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Acenaphthylene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
3-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Acenaphthene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	120	J
2,4-Dinitrophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
4-Nitrophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Dibenzofuran	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	140	J
2,4-Dinitrotoluene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Diethylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Fluorene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	270	J
4-Chlorophenyl-phenyl ether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Nitroaniline	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
4,6-Dinitro-2-methylphenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
N-Nitrosodiphenylamine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
4-Bromophenyl-phenylether	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Hexachlorobenzene	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Atrazine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Pentachlorophenol	1100	U	1100	U	880	U	980	U	1100	U	1100	U	1100	U	1400	U	1100	U	1100	
Phenanthrene	450	U	440	U	350	U	160	J	420	U	420	U	430	U	540	U	140	J	770	
Anthracene	450	U	440	U	350	U	70	J	420	U	420	U	430	U	540	U	450	U	86	J
Carbazole	450	U	440	U	350	U	43	J	420	U	420	U	430	U	540	U	450	U	450	
Di-n-butylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Fluoranthene	450	U	440	U	350	U	220	J	420	U	420	U	430	U	540	U	450	U	450	
Pyrene	450	U	110	J	350	U	230	J	420	U	420	U	430	U	540	U	450	U	74	J
Butylbenzylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
3,3'-Dichlorobenzidine	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Benzo(a)anthracene	450	U	440	U	350	U	160	J	420	U	420	U	430	U	540	U	450	U	450	
Chrysene	450	U	74	J	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	
bis(2-Ethylhexyl)phthalate	450	U	45	J	73	J	89	J	420	U	420	U	430	U	80	J	450	U	450	
Di-n-octylphthalate	450	U	440	U	350	U	390	U	420	U	420	U	430	U	540	U	450	U	450	
Benzo(b)fluoranthene	450	U	440	U	350	U	130	J	420	U	420	U	430	U	540	U	450	U	450	
Benzo(k)fluoranthene	450	U	440	U	350	U	120	J	420	U	420	U	430	U	540	U	450	U	450	
Benzo(a)pyrene	450	U	440	U	350	U	100	J	420	U	420	U	430	U	540	U	450	U	450	
Indeno(1,2,3-cd)pyrene	450	U	440	U	350	U	86	J	420	U	420	U	430	U	540	U	450	U	450	
Dibenzo(a,h)anthracene	450	U	440	U	350	U	56	J	420	U	420	U	430	U	540	U	450	U	450	
Benzo(g,h,i)perylene	450	U	440	U	350	U	190	J	420	U	420	U	430	U	540	U	450	U	450	

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 7

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01B
CLARK OIL
LIBRTY

Sample Number :	EE01B		EE01C		EE01D		EE01E		EE01F		EE01G		EE01H		EE01J		EE01K		EE01L	
Sampling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/02/2000		11/02/2000	
Time Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
%Moisture :	0		29		16		21		8		21		18		25		20		20	
pH :	0.0		7.7		7.7		8.0		6.6		7.9		7.7		8.4		5.8		8.5	
Dilution Factor :	1.0		1.0		5.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	0.61	J	2.1	U	2.1	U
beta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	1.4	J	2.3	U	2.1	U	2.1	U
delta-BHC	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
gamma-BHC (Lindane)	51	U	0.75	J	10	U	2.2	U	1.9	U	2.2	U	0.23	J	2.3	U	2.1	U	1.9	J
Heptachlor	51	U	2.4	U	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Aldrin	51	U	2.4	U	16		2.2	U	1.9	U	2.2	U	0.47	J	0.88	J	2.1	U	0.82	J
Heptachlor epoxide	4.3	J	2.4	U	9.8	J	2.2	U	1.9	U	2.2	U	2.1	U	0.055	J	2.1	U	2.1	U
Endosulfan I	1.0	J	2.4	U	3.6	J	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	2.1	U
Dieldrin	99	U	4.7	U	680		4.2	U	3.6	U	4.2	U	4.0	U	0.042	J	4.1	U	1.6	J
4,4'-DDE	6.7	J	4.7	U	300	J	4.2	U	3.6	U	4.2	U	4.0	U	0.32	J	4.1	U	3.1	J
Endrin	27	J	2.8	J	20	U	4.2	U	3.6	U	4.2	U	1.0	J	0.41	J	4.1	U	1.2	J
Endosulfan II	99	U	4.7	U	20	U	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.1	U
4,4'-DDD	31	J	2.0	J	3900		4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	4.0	J
Endosulfan sulfate	99	U	4.7	U	49	J	4.2	U	3.6	U	4.2	U	4.0	U	0.20	J	4.1	U	1.2	J
4,4'-DDT	43	J	4.7	U	60	J	4.2	U	3.6	U	4.2	U	4.0	U	4.4	U	4.1	U	2.8	J
Methoxychlor	35	J	24	U	100	U	22	U	18	U	22	U	21	U	1.7	J	21	U	1.5	J
Endrin ketone	7.8	J	1.1	J	6.7	J	4.2	U	3.6	U	4.2	U	1.7	J	0.19	J	4.1	U	4.1	U
Endrin aldehyde	17	J	1.6	J	170		4.2	U	3.6	U	4.2	U	1.4	J	0.28	J	4.1	U	2.5	J
alpha-Chlordane	4.7	J	0.39	J	110	J	0.059	J	1.9	U	2.2	U	2.1	U	0.25	J	2.1	U	3.0	J
gamma-Chlordane	51	U	1.1	J	10	U	2.2	U	1.9	U	2.2	U	2.1	U	2.3	U	2.1	U	6.8	
Toxaphene	5100	U	240	U	1000	U	220	U	180	U	220	U	210	U	230	U	210	U	210	U
Aroclor-1016	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1221	2000	U	84	U	400	U	85	U	73	U	85	U	82	U	89	U	84	U	84	U
Aroclor-1232	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1242	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1248	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1254	990	U	46	U	4100	J	42	U	36	U	42	U	40	U	44	U	41	U	41	U
Aroclor-1260	990	U	46	U	200	U	42	U	36	U	42	U	40	U	44	U	41	U	41	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 7

Analytical Results (Qualified Data)

ase #: 28678
te :
ab. :
eviewer :
ate :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01M		EE01N		EE01P		EE01Q		EE01R		EE01S		EE01T		EE01W		EE01X		EE01Y	
Sampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/02/2000	
Time Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
%Moisture :	16		29		29		4		26		18		19		18		22		4	
pH :	7.9		7.9		7.6		7.4		7.1		7.6		6.9		8.0		8.4		8.3	
Dilution Factor :	1.0		1.0		1.0		2.0		1.0		1.0		1.0		2.0		1.0		2.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
lpha-BHC	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	67	J	2.2	U	0.87	J
eta-BHC	2.0	U	610	J	2.4	U	3.5	U	2.3	U	12	J	14	J	4.2	R	2.4	J	18	
elta-BHC	2.0	U	190	J	2.4	U	4.6	J	2.3	U	2.1	U	2.1	U	4.2	R	2.2	U	3.5	U
amma-BHC (Lindane)	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	4.2	R	0.77	J	3.1	J
eptachlor	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	140	J	2.2	U	3.5	U
ldrin	2.0	U	100	J	2.4	U	3.5	U	2.3	U	3.8	J	4.6	J	20	J	1.2	J	15	J
eptachlor epoxide	2.0	U	2.4	U	2.4	U	1.7	J	2.3	U	6.1	J	11	J	20	J	2.2	U	29	J
ndosulfan I	2.0	U	2.4	U	2.4	U	3.5	U	2.3	U	2.1	U	2.1	U	8.0	J	2.2	U	3.5	U
ieldrin	3.9	U	15	J	4.7	U	36	J	4.5	U	12	J	17	J	40	J	4.2	U	58	J
,4'-DDE	3.9	U	4.7	U	4.7	U	6.5	J	4.5	U	4.0	U	4.1	U	69	J	4.2	U	130	J
ndrin	3.9	U	23	J	4.7	U	5.2	J	4.5	U	23	J	12	J	50	J	3.5	J	110	J
ndosulfan II	3.9	U	6.8	J	4.7	U	4.0	J	4.5	U	4.0	U	4.1	U	8.1	R	4.2	U	6.9	U
,4'-DDD	3.9	U	19	J	4.7	U	6.9	U	4.5	U	10	J	14	J	17	J	1.6	J	13	J
ndosulfan sulfate	3.9	U	4.7	U	4.7	U	6.9	U	4.5	U	13	J	18	J	8.1	R	4.2	U	66	J
,4'-DDT	3.9	U	20	J	4.7	U	6.9	U	4.5	U	34	J	47	J	42	J	4.2	U	6.9	U
ethoxychlor	20	U	24	U	24	U	35	U	23	U	21	U	21	U	41	R	22	U	35	U
ndrin ketone	3.9	U	9.8	J	4.7	U	140	J	4.5	U	6.2	J	9.6	J	46	J	4.2	U	150	J
ndrin aldehyde	3.9	U	4.7	U	4.7	U	86	J	4.5	U	22	J	32	J	8.1	R	1.8	J	52	J
lpha-Chlordane	2.0	U	59	J	2.4	U	40	J	2.3	U	6.0	J	9.7	J	4.2	R	2.2	U	150	J
amma-Chlordane	2.0	U	41	J	2.4	U	1.8	J	2.3	U	6.2	J	9.9	J	28	J	2.2	U	520	
oxaphene	200	U	240	U	240	U	350	U	230	U	210	U	210	U	410	R	220	U	350	U
roclor-1016	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
roclor-1221	80	U	94	U	94	U	140	U	91	U	82	U	83	U	160	R	86	U	140	U
roclor-1232	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
roclor-1242	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
roclor-1248	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
roclor-1254	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U
roclor-1260	39	U	46	U	46	U	69	U	45	U	40	U	41	U	80	R	42	U	69	U

ighlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 7

Analytical Results (Qualified Data)

Case #: 28678
Site :
Lab. :
Reviewer :
Date :

SDG : EE01K
CLARK OIL
LIBRTY

Sample Number :	EE01Z		EE020		EE021		EE022		EE025		EE026		EE027		EE028		EE029		EE02A	
Sampling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Time Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
%Moisture :	27		25		6		15		22		21		24		39		26		26	
pH :	7.0		7.7		7.5		7.9		6.5		7.2		7.7		8.0		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
									Background											
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	2.3	U	2.2	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
beta-BHC	2.3	U	2.3	U	1.8	U	1.6	J	2.2	U	2.2	U	2.2	U	2.8	UJ	0.93	J	2.3	U
delta-BHC	2.3	U	2.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-BHC (Lindane)	2.3	U	4.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Aldrin	2.3	U	1.0	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Heptachlor epoxide	2.3	U	2.3	U	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Endosulfan I	2.3	U	2.3	U	1.8	U	0.52	J	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Dieldrin	4.5	U	1.5	J	3.5	U	19	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDE	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin	4.5	U	4.0	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan II	4.5	U	4.4	U	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDD	4.5	U	1.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endosulfan sulfate	4.5	U	4.4	U	3.5	U	25	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
4,4'-DDT	4.5	U	3.8	J	3.5	U	3.9	U	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Methoxychlor	23	U	15	J	18	U	51	J	22	U	22	U	22	U	28	UJ	23	U	23	U
Endrin ketone	4.5	U	3.6	J	3.5	U	84	J	4.2	U	4.2	U	4.3	U	5.4	UJ	4.5	U	4.5	U
Endrin aldehyde	4.5	U	1.7	J	3.5	U	10	J	4.2	U	4.2	U	4.3	U	5.4	UJ	1.7	J	4.5	U
alpha-Chlordane	2.3	U	1.6	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
gamma-Chlordane	2.3	U	1.5	J	1.8	U	2.0	U	2.2	U	2.2	U	2.2	U	2.8	UJ	2.3	U	2.3	U
Toxaphene	230	U	230	U	180	U	200	U	220	U	220	U	220	U	280	UJ	230	U	230	U
Aroclor-1016	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1221	92	U	89	U	71	U	79	U	86	U	85	U	88	U	110	UJ	91	U	91	U
Aroclor-1232	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1242	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1248	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1254	45	U	44	U	35	U	1600	J	42	U	42	U	43	U	54	UJ	45	U	45	U
Aroclor-1260	45	U	44	U	35	U	39	U	42	U	42	U	43	U	54	UJ	45	U	45	U

Highlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

alytical Results (Qualified Data)

#: 28678

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ower :

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SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

ple Number :	MEE01B		MEE01C		MEE01D		MEE01E		MEE01F		MEE01G		MEE01H		MEE01J		MEE01K		MEE01L	
pling Location :	X101		X102		X103		X104		X105		X106		X107		X108		X109		X110	
ix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
s :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Sampled :	11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/1/00		11/2/00		11/2/00	
e Sampled :	11:30		11:30		12:50		13:10		15:00		15:20		16:00		16:45		08:15		09:25	
lids :	99.1		66.9		84.4		77.2		73.4		76.6		81.1		75.9		74.4		83.2	
ion Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
MINUM	192		12200		9410		4020		12700		9280		7860		8660		12600		8740	
IMONY	0.44	UJ	0.65	UJ	1.6	J	0.59	UJ	0.62	UJ	0.56	UJ	0.57	J	0.96	J	0.68	J	0.78	J
ENIC	0.65	UJ	6.0	J	9.3	J	1.8	J	5.8	J	4.2	J	7.5	J	7.8	J	5.9	J	8.4	J
IUM	5.3		164		300		235		213		269		157		184		157		276	
YLLIUM	0.038	U	1.0		0.96		0.28	J	0.81		0.72		0.60		0.60		0.83		0.72	
MIUM	0.057	U	0.31	J	0.70		0.077	U	0.081	U	0.20	J	0.45	J	0.078	U	0.075	U	0.097	J
CIUM	1810	J	7260	J	51700	J	18600	J	5410	J	4480	J	3610	J	4520	J	4940	J	6280	J
OMIUM	1.8	J	17.5	J	190	J	7.6	J	14.3	J	14.8	J	12.4	J	14.7	J	14.8	J	15.1	J
ALT	0.20		7.3		6.1		5.4		8.7		7.4		9.7		8.8		13.5		6.2	
PER	4.2		36.0		73.9		10.1		23.1		22.0		22.9		22.3		22.3		179	
N	447		16200		31400		8320		18300		13900		17200		19800		17500		14400	
D	2.7	J	21.7	J	111	J	7.5	J	13.5	J	23.8	J	15.5	J	13.1	J	17.9	J	375	J
NESIUM	209		3960		6930		6890		3170		2600		3150		3920		3280		2850	
GANESE	49.7	J	334	J	2110	J	271	J	646	J	481	J	699	J	167	J	615	J	429	J
CURY	0.058	J	0.21	J	0.13	J	0.088	J	0.10	J	0.097	J	0.070	J	0.091	J	0.090	J	0.14	J
EL	1.6	J	21.8	J	70.4	J	14.7	J	20.5	J	16.1	J	31.1	J	27.6	J	20.4	J	16.6	J
ASSIUM	44.2		1950		1680		1100		1130		1480		930		935		1130		1280	
ENIUM	0.82	UJ	1.2	J	0.99	UJ	1.1	UJ	1.2	UJ	1.0	UJ	0.98	UJ	2.1	J	1.1	UJ	1.7	J
ER	0.076	U	0.11	U	0.33		0.10	U	0.11	U	0.098	U	0.091	U	0.10	U	0.10	U	0.094	U
IUM	115	J	553	J	479	J	269	J	232	J	260	J	209	J	253	J	283	J	346	J
LLIUM	1.1	UJ	9.9	J	12.9	J	4.3	J	9.7	J	8.6	J	11.2	J	13.4	J	9.7	J	8.1	J
ADIUM	7.0		29.1		57.2		14.9		21.8		27.3		25.1		27.4		25.1		26.2	
	6.4	J	89.7	J	580	J	35.2	J	58.8	J	64.4	J	55.1	J	59.2	J	57.8	J	66.8	J
NIDE	0.045	U	0.11	J	0.23	J	0.056	U	0.060	J	0.057	U	0.076	J	0.058	U	0.10	J	0.12	J

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CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

Analytical Results (Qualified Data)

ase #: 28678
te :
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eviewer :
ate :

SDG : MEE01B
CLARK OIL
LIBRTY
J. GANZ
DECEMBER 12, 2000

ample Number :	MEE01M		MEE01N		MEE01P		MEE01Q		MEE01R		MEE01S		MEE01T		MEE01W		MEE01X		MEE01Y	
ampling Location :	X111		X112		X113		X114		X115		X116		X117		X118		X119		X120	
latrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
nits :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
ate Sampled :	11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00		11/2/00	
ime Sampled :	09:35		10:05		11:05		12:00		12:15		13:25		13:25		14:20		14:35		15:40	
ıSolids :	81.3		82.4		74.2		80.2		73.9		79.4		78.4		78.5		75.1		76.3	
ilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
LUMINUM	8840		852		11800		193		15100		9460		24600		448		11000		8240	
NTIMONY	0.53	UJ	26.5	J	0.71	J	0.57	UJ	0.65	J	0.64	J	1.2	J	0.83	J	0.57	UJ	1.0	J
RSENIC	5.9	J	2.4	J	3.7	J	1.0	J	5.2	J	5.4	J	14.2	J	2.0	J	6.1	J	9.1	J
ARIUM	164		34.4		842		66.0		247		238		197		14.6		317		155	
ERYLLIUM	0.43		0.10	J	0.77		0.049	U	1.0		0.64		0.76		0.049	U	0.63		0.46	
ADMIUM	0.070	U	26.8		0.17	J	0.074	U	0.080	U	0.10	J	0.076	U	0.074	U	0.074	U	0.079	U
ALCIUM	2950	J	11100	J	4120	J	3150	J	5580	J	23300	J	17600	J	7600	J	3680	J	15900	J
HROMIUM	11.3	J	196	J	14.1	J	5.0	J	16.6	J	126	J	127	J	24.2	J	16.7	J	76.6	J
OBALT	6.1		2.8		37.0		0.96		9.0		9.1		8.9		1.8		6.5		32.0	
OPPER	14.7		333		21.8		12.4		26.0		28.1		39.9		18.1		19.8		57.5	
ON	13500		4670		13900		1430		20300		16000		16800		28500		17800		19800	
EAD	9.0	J	172	J	17.6	J	22.2	J	12.6	J	39.3	J	88.8	J	7.7	J	13.4	J	84.1	J
AGNESIUM	2920		2410		3420		868		3830		3900		6100		875		3720		3160	
ANGANESE	229	J	74.3	J	3900	J	22.7	J	599	J	583	J	544	J	113	J	436	J	316	J
ERCURY	0.098	J	0.37	J	0.073	J	0.081	J	0.069	J	0.11	J	0.13	J	0.092	J	0.11	J	0.21	J
CKEL	18.8	J	70.2	J	29.9	J	3.1	J	21.9	J	24.7	J	26.4	J	24.9	J	20.8	J	65.4	J
OTASSIUM	784		120		993		42.2		1290		1180		1490		95.5		1250		874	
ELENIUM	1.0	UJ	3.0	J	1.1	UJ	1.1	UJ	1.2	UJ	2.6	J	1.5	J	9.6	J	1.1	UJ	1.7	J
LVER	0.093	U	1.0		0.11	U	0.18		0.11	U	0.099	U	0.10	U	0.15		0.099	U	0.10	U
ODIUM	262	J	298	J	1040	J	224	J	260	J	268	J	349	J	246	J	328	J	494	J
HALLIUM	7.8	J	3.1	J	7.0	J	1.4	UJ	9.9	J	7.7	J	7.1	J	14.9	J	10.3	J	11.6	J
ANADIUM	19.2		403		23.4		5.3		29.5		63.6		70.1		334		27.5		53.5	
NC	44.2	J	2480	J	44.5	J	39.1	J	55.0	J	139	J	217	J	33.8	J	62.2	J	95.9	J
YANIDE	0.055	U	0.64		0.082	J	0.49		0.076	J	0.39	J	0.41	J	2.8		0.059	U	3.5	

ghlighted entries are at least three times background, some will be ten times background if background level is estimated.

CLARK OIL & REFINING COMPANY

HARTFORD, ILLINOIS

KEY SAMPLES
TABLE 8

ytical Results (Qualified Data)

#: 28678

SDG : MEE01B
CLARK OIL
LIBRTY

wer :

J. GANZ
DECEMBER 12, 2000

le Number :	MEE01Z		MEE020		MEE021		MEE022		MEE025		MEE026		MEE027		MEE028		MEE029		MEE02A	
ling Location :	X121		X122		X123		X124		X125		X126		X127		X128		X129		X130	
:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
:	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Sampled :	11/02/2000		11/02/2000		11/02/2000		11/02/2000		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00		11/9/00	
Sampled :	15:50		16:50		16:55		17:10		10:00		10:25		12:00		12:15		15:45		16:00	
ds :	88.0		83.2		95.2		74.8		76.2		83.8		75.6		70.8		76.9		74.1	
on Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
									Background											
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
INUM	3950		5200		1630		5620		11400		4280		14400		14100		14700		6860	
MONY	0.52	UJ	0.53	UJ	0.45	UJ	0.58	UJ	0.61	J	0.51	R	0.64	J	0.65	R	0.60	R	0.65	J
NIC	0.77	U	0.78	U	0.66	U	4.0	J	3.3		0.75	U	7.4		7.8		5.3		5.0	
JM	40.6		56.5		26.6		125		171		50.1		187		322		256		161	
LLIUM	0.17	J	0.24	J	0.090	J	0.59		0.83		0.35	J	0.93		1.0		0.87		0.51	J
MIUM	0.070	U	0.070	U	0.060	U	0.43	J	0.080	U	0.070	U	0.16	J	0.15	J	0.080	U	0.080	U
IUM	879		2320		556		149000		4230		1560		11300		9900		7750		23900	
OMIUM	6.9		9.3		5.7		47.1		15.8		7.8		86.0		18.1		17.3		11.4	
LT	2.9		3.6		3.0		7.1		5.8		3.8		9.1		8.6		8.1		8.4	
PER	7.3		9.9		4.0		45.1		20.1		8.1		25.2		26.9		25.4		16.3	
	4690		7740		3480		12500		16400		7740		23300		21900		19900		17300	
	4.3		7.4		2.7		73.7		20.6		5.9		45.2		18.7		21.5		13.8	
NESIUM	972		1400		833		7220		2630		1470		3860		5190		4130		8360	
GANESE	30.6		228		34.9		418		372		48.4		825		473		601		516	
CURY	0.090	J	0.10	J	0.070	J	0.16	J	0.10	J	0.050	J	0.16	J	0.10	J	0.070	J	0.090	J
EL	7.9		10.8		8.1		19.8		14.9	J	9.9	J	22.3	J	23.3	J	21.7	J	21.6	J
SSIUM	372		643		140		1180		1090	J	422	J	1420	J	2370	J	1470	J	1320	J
NIUM	0.98	UJ	0.98	UJ	0.84	UJ	1.1	UJ	1.5	J	1.6	J	1.8	J	1.2	UJ	1.1	UJ	1.2	UJ
R	0.090	U	0.090	U	0.080	U	0.10	U	0.10	U	0.090	U	0.10	U	0.11	U	0.10	U	0.11	U
JM	207	J	344	J	167	J	353	J	195	J	206	J	346	J	354	J	377	J	443	J
LIUM	3.3	J	5.3		2.0	J	3.0	J	11.7		5.0	J	15.4		13.3		13.2		9.9	
DIUM	12.2		12.0		10.4		25.2		25.6		13.3		34.9		34.7		30.5		21.7	
	16.3		27.6		10.2		427		66.7		25.1		92.4		70.5		62.1		48.3	
IDE	0.050	U	0.050	U	0.050	U	0.060	U	•		•		•		•		•		•	

lo results reported from Laboratory.

ihted entries are at least three times background, some will be ten times background if background level is estimated.

APPENDIX N

APPENDIX N

DOCUMENTS RELATED TO THE ASPHALT PLANT AREA

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

RENEE CIPRIANO, DIRECTOR

217/785-8604
TDD 217/782-9143

October 3, 2002

7000 1670 0008 1669 7929
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Premcor Refining Group
Attn: Bill R. Irwin, Environmental Supervisor
201 East Hawthorne
Hartford, Illinois 62048-0007

Received

OCT 0 7 2002

Re: **Violation Notice, M-2002-01036**
1190500002 -- Madison County
Premcor Refining Group
ILD041889023
Compliance Unit

Dear Mr. Irwin:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon an inspection completed on August 20, 2002 by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of violations of environmental statutes, regulations, or permits as set forth in Attachment A to this letter. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified violations, including an estimate of a reasonable time period to complete the necessary activities. Due to the nature and seriousness of the violations cited, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. The response must address each violation specified in Attachment A and include for each an explanation of the activities that will be implemented and the time schedule for the completion of that activity. The written response will constitute a proposed Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt.

If a timely written response to this Violation Notice is not provided, it shall be considered to be a waiver of the opportunity to respond and to meet and the Illinois EPA may proceed with a referral to the prosecutorial authority.

Written communications should be directed to:

Illinois EPA
Attn: Brian White
Bureau of Land #24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

All communications must include reference to this **VIOLATION NOTICE NUMBER, M-2002-01036.**

Questions regarding this matter should be directed to **CHRIS CAHNOVSKY** at **618/346-5120.**

Sincerely,

Paul M. Purseglove, Manager
Field Operations Section
Bureau of Land

PMP:CNC:dv01036

Enclosure

ATTACHMENT A

1. Pursuant to Section 12(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(a)), no person shall cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act.

   A violation of Section 12(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(a)) is alleged for the following reason: **The discharge of contaminates was caused, threatened, or allowed, so as to cause or tend to cause water pollution in Illinois.**

2. Pursuant to Section 12(d) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(d)), no person shall deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

   A violation of Section 12(d) of the [Illinois] Environmental Protection Act (415 ILCS 5/12(d)) is alleged for the following reason: **Contaminates were deposited upon the land in such place and manner so as to create a water pollution hazard.**

3. Pursuant to Section 21(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/21(a)), no person shall cause or allow the open dumping of any waste.

   A violation of Section 21(a) of the [Illinois] Environmental Protection Act (415 ILCS 5/21(a)) is alleged for the following reason: **Evidence of open dumping of asphalt waste was observed during the inspection.**

4. Pursuant to Section 21(e) of the [Illinois] Environmental Protection Act (415 ILCS 5/21(e)), no person shall dispose, treat, store or abandon any waste, or transport any waste into this State for disposal, treatment, storage or abandonment, except at a site or facility which meets the requirements of this Act and of regulations and standards thereunder.

   A violation of Section 21(e) of the [Illinois] Environmental Protection Act (415 ILCS 5/21(e)) is alleged for the following reason: **Waste was disposed at this site, which does not meet the requirements of the Act and regulations thereunder.**

SUGGESTED RESOLUTIONS

1. **IMMEDIATELY cease all open dumping of asphalt waste at the A Tanks - Asphalt Tank Farm.**

2. **The Illinois Environmental Protection Agency expects Premcor to cleanup and dispose of all released asphalt waste. Cleanup criteria are found at 35 Ill. Adm. Code 742 (the Tiered Approach to Corrective Action Objectives or TACO). The complete text of TACO can be found on the internet at *http:www.ipcb.state.il.us/title/#g*.**

3. **Submit a Remedial Action Completion Report within 45 days of the receipt of this letter or propose an alternate date for submittal of a Remedial Action Completion Report. At a minimum, the Remedial Action Completion Report should include the following:**

   1) **Executive Summary. This section of the report should identify the overall objectives of the remedial action that was implemented and the technical approach utilized to meet those objectives, including:**
   a) A brief description of the site and surrounding area affected by the release, including the facts and circumstances about the release.
   b) A statement of the scope of the problem corrected or mitigated by the remedial action.
   c) The anticipated post-remediation uses of the incident site and areas immediately adjacent to the incident site property and any institutional controls that are being relied upon to set TACO objectives for the site.

   2) **Field Activities. This section should provide a narrative description of the:**
   a) Field activities conducted during the remediation;
   b) Remedial actions implemented at the incident site and the performance of each remedial technology utilized; and
   c) A brief description of any unanticipated events that impacted the nature or rate of the remediation activity.

   3) **Confirmation Sampling. This section should demonstrate the effectiveness of the remedial action by comparing the soil and/or groundwater samples results for the chemical parameters given above to the appropriate cleanup criteria from 35 Ill. Adm. Code 742 (TACO). Appropriate sampling and analytical test methods are those promulgated by USEPA in SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" Third Edition, Final update III (Doc. # 955-001-00000-1 available from the U.S. Government Printing Office). The number and location of samples needed to verify cleanup is a site-specific decision. The data should:**

a) Be summarized and presented in a table or graphical format;
b) Include summary tables which should include the appropriate cleanup criteria as a column (or row as applicable);
c) Be referenced to a site map showing the locations of the confirming samples relative to the extent of contamination;

4) Special Conditions. This section should provide a description of the amount and types of material disposed of or treated in response to the incident. This should include name and location of disposal or treatment facility. Disposal manifests or shipping papers are acceptable documentation.

5) Conclusion. This section should evaluate the degree of success of the remedial action in meeting the cleanup criteria.

6) Appendices. References and data sources should be incorporated in the appendices. These would likely include:
a) Photographs,
b) Field logs,
c) geological boring logs,
d) monitoring or recovery well completion reports, and
e) reports of laboratory analyses should be organized and presented logically.

The written response to this Violation Notice must include information in rebuttal, explanation, or justification of each alleged violation. The written response must also include a proposed Compliance Commitment Agreement that commits to specific remedial actions, includes specified times for achieving each commitment, and may include a statement that compliance has been achieved.

APPENDIX O

DOCUMENTS RELATED TO THE COKING UNIT AREA

Clayton
GROUP SERVICES

APPENDIX O-1

JULY 9, 1997 INCIDENT

PER RUSS
8/7/97
S/B CLASSIFIED
AS A SPILL

INCIDENT INVESTIGATION NARRATIVE REPORT

OSHA RECORDABLE INJURY # N/A
NEAR MISS INCIDENT # 9707091
INVESTIGATION # 97007091

PERSON INJURED:	**NONE**
DATE OF INCIDENT:	**7/9/97**
LOCATION:	**COKER C-DRUM 48 FT. LVL.**
TYPE OF INCIDENT:	**ENVIRONMENTAL RELEASE**
NATURE OF INJURY:	**N/A**
ANTICIPATED DISABILITY:	**N/A**
INVESTIGATING COMMITTEE:	**AL BLACK - CHAIRMAN** **RON HINES** **MIKE SHAW** **DUNBAR RORIE**
FOLLOW-UP:	**DUNBAR RORIE**

NARRATIVE REPORT

On 7/9/97 at 8:15 a.m. an environmental release occurred at the Coker Unit. The release occurred when the drain valve on C-drum was mistakenly opened while the drum was in the heat up process. The fire crew put water on the released vapors while the charge was taken out of the unit and steam was used to purge the vapors out. The valve was then closed and the unit restarted without further incident. The operator involved was taken to the doctor for observation, and returned to work without any problems.

The scenario as to the events that occurred is as follows on the attached events and causal factors diagram.

COKER INCIDENT
JULY 9, 1997

- 8:30 a.m. - Fire alarm sounded. Cloud of smoke and oil (heavy gas oil) splattered across Hawthorne (wind out of the N.N.E..)

- Complaints (Oil splattered on vehicles) / Communication::
  - Clark Policy: Gather information and contact Risk Management (314-854-9668) with details.
  - Complaints (regarding oil spots on cars) were relayed to Linda Allison (314-854-9802)
  - Media issues should be directed to Suzanne Lessard (314-854-9804).
  - 07/09/97 8:31 a.m. Ervin Kasting (120 E. Hawthorne, Hartford, IL, 618- 254-6178) Oil spots on right side of car and across windshield.
    07/09/97 8:32 a.m. Elfredia Shimchick (107 Rose, PO Box 636, South Roxana, IL 62087, 618-254-5439/work 618-462-5861) Oil spots on right side of car and on windshield. Elfredia and Joe (son) also complained of nausea.
  - 07/09/97 8:32 a.m. Bill Hlavaty (Clark X372) - Spots on his truck, washed off at car wash (2 cycles)
  - 07/09/97 8:40 a.m. Gave names/addresses to GO Risk Management (Linda Allison (314) 854-9802)
  - 07/09/97 10:00 a.m. - Gentleman walked into main office (indicated that his truck had been sprayed); Massood gave him the GO number to contact. (Still a mystery as to how he got into the building!)
  - 07/09/97 10:00 a.m. - 3:00 p.m. - several more 'walk-ins' - all were given Corporate Number to contact.
  - 07/09/97 11:00 a.m. Per Ray Wesley request - contacted Midwest and ordered two 30-yard dumpsters to be delivered to south side of the Coker.
  - 07/09/97 1:00 p.m. Spoke with Unique Auto Wash Detail (618-258-7055) about costs involved in detailing vehicles ($37.50). Debbie's Car Wash wanted $100.00. Relayed info to Linda Allison.
  - 07/09/97 6:30 p.m. - Voice mail message from James Hendrick (618-644-5922). He was driving by Clark and his car was sprayed with oil. He washed the car yet the paint is pitted. Called Linda Allison with details and name/phone number.
  - 07/09/97 4:30 p.m. - Per Linda Allison - Gallagher Bassett contact is Karen Johnson @ (800-227-1533 x 204).
  - 07/09/97 Note: Mark Stunkel (16 of 35) trucks (hauling dirt) were splattered. Plans are to contract with Scrubby and have the trucks washed at the owner's location (Edwardsville).

- Other related incidents:
  - Oil sheen on Hawthorne; Hawthorne blocked between RR tracks (west) by Hartford and at Route 111 (east) by Illinois State Police
  - 9:15 a.m. Deanna Barnes (Hartford) 251-2681 called to make sure that Hawthorne would be swept.
  - 9:30 a.m. Contacted Barton to spread sand on Hawthorne; Contacted Hines Sweeping to clean the road.

COKER INCIDENT
JULY 9, 1997

- Clark personnel 'hand-swept' the highway - Hines Sweeping's equipment was unavailable.
- Steve walked out into corn field (across Hawthorne) and oil sheen is on the crop (approximately 1/3 of the way out into the field)
- Steve also indicated that there was a sheen on the tracks (east of the Refinery).
- Massood reported situation to IEPA (Tom Powell) at 9:15 a.m.; Tom Powell is expected to make a site visit today.

- Progress:
  - 9:02 a.m. 'All-clear' sounded.
  - Cleanup continues (at site, on Hawthorne)
  - 10:00 a.m Contacted Midwest (618-254-0171)- ordered 2 (30-yard) dumpsters (for special waste) to be delivered to south side of the Coker.
  - 11:00 a.m. Tom Powell and Sheryl Kelly (IEPA) arrived on site. Viewed the incident site and met with Massood Modarres and Steve Haug. Refer to Steve Haug's written summary of meeting.

- <u>July 10, 1997:</u>
  - 07/10/97 8:30 a.m. - Per Linda Allison - 14 complaints (13 vehicles and 1 corn field) to date.
  - 07/10/.97 8:35 a.m. - Rick Thompson (Explorer Pipeline (618-251-0263) called to talk to Environmental and report some of their cars were damaged yesterday (they are located south of the Clark Terminal). He will contact Linda Allison and he also spoke with Massood.
  - 07/10/97 10:35 a.m. - Per Linda, Explorer Pipeline has oil on their equipment, tanks, etc. Steve will investigate.
  - 07/10/97 10:30 a.m. - Questions from Linda Allison:
    - What was the cause of the incident? Fax report to her (314-719-0229)
    - What is the repair cost for Clark property (information needed for their property insurance carrier)
  - 07/10/97 1:00 p.m. - Steve met with Rick Thompson (Explorer Pipeline) on site and surveyed the area. Explorer Pipeline's equipment, tanks, etc. are covered with the oily substance.
  - 07/10/97 1:15 p.m. - Call (forwarded by Security) from Joseph Shimchick (South Roxana (618-254-5439). He was in car with his mother and their car was sprayed with the substance. He complained of nausea yesterday and said he has seen his doctor. Doctor told him to drink plenty of liquids; he has done that, and still feels bad. I called Linda and left detailed message
  - 07/10/97 1:35 p.m. - Linda Allison & Gene Spickler spoke with Steve regarding the extent of damage in the farm land south of the Refinery. Gallagher Basset will send adjusters to the Refinery to investigate. They also need to know the cause of the problem (mechanical or human error) and the exact chemical makeup of the substance. Note: Investigation Team has not released the final report.

COKER INCIDENT
JULY 9, 1997

- 07/10/97 2:30 p.m. - Per Forrest (to Steve Haug) - Jerry Barnhill should be consulted as needed.
- 07/10/97 4:00 p.m. - Per Tom Saxton - the Unit was up and running (although not at full production at midnight (on July 9, 1997). Fire crew response was great - situation was under control in short time. Gary Poe will talk with Craig Kramer to provide information as to the chemical makeup of the substance released.

- July 11, 1997:
  - 07/11/97 8:02 a.m. - Per Gary Poe: Route all questions/calls (regarding the content of the substance) to Craig Kramer.
  - Representatives from an independent testing lab arrived to test the chemical makeup of the substance. (Kramer and Modarres)
  - 07/11/97 9:15 a.m.- Mrs. Zumwalt (300 S. Old St. Louis Road, Hartford, IL 62048, 618-254-0991) reported that her husband had seen the article in the paper and wanted to inform us that his canvas boat cover was damaged by the spray. She did not know if her husband was driving by the Refinery or if the boat was parked at their house. Her husband is at work and will be available after 4pm Friday, 7/11/97. Relayed the information to Linda Allison at GO. Gallagher Basset will investigate.
  - 07/11/97 2:00 p.m. - Karen Johnson (of Gallagher Basset) and Steve made an on-site evaluation of the corn crop (property farmed by Ray Westerhold).

- July 16, 1997:
  - 07/16/97 8:15 a.m. Dean Boren (618-254-4416) and Dave Muelller (618-254-0619) stopped by the Refinery to talk to Karen Johnson (Gallagher Basset). I talked with Karen and she will contact them. They both farm land (south of the Clark property) and in the vicinity of the Explorer Pipeline facility. Mr. Boren leases land from Explorer and Marathon. They both indicated that their crops are showing a blistering affect and that they're 'not mad'!
  - 07/16/97 9:00 a.m.Per Karen Johnson (Gallagher Basset): An independent lab is analyzing the substance that was released and those results should be available on Friday or Monday (7/18 or 7/21). Additional tests will be required on the actual crops at a later date (after the substance analysis is complete) and that information will also be communicated to Mr. Westerhold/Boren/Mueller).
  - 07/16/97 4:00 p.m. Lloyd Wehking (Clark employee) contacted us to inform us that his brother-in-law (Robert Pritzker - (618-377-2805 (home) / 314-235-0305 (work)) drove thru the vapor cloud on 07/09/97 on his way to St. Louis. Mr. Pritzker washed his car but has been unable to remove the spots. Gave information to Debbie Cox (Corporate Risk Management) for follow-up.

POST-INCIDENT REVIEW AT THE COKER (07/09/97)
JULY 14, 1997

Attendees:

Dave Chandler	Jim Murphy
Rick Collins	Stephanie Newton
Mike Fay	Tom Saxton
Steve Haug	Cory Simmons
Randy Holbrook	Kevin Young
Massood Modarres	

Purpose of Meeting: (Chandler)
Review the incident of July 9, 1997 at the Coker and determine what we did right and what areas could be changed or improved upon.

Congregation Area: (Sullivan/Holbrook/Chandler)
Need to set up a congregation area to see what is going on and determine the manner of approach. Need to have an area where we can discuss the game plan. A good location would be where Dave Chandler parks the little red truck or the fire truck.

Piping System May Be Needed in the Area of the Incident: (Sullivan/Haug/Fay/Chandler)
Per Greg Sullivan, it was hard to access water at the site of the incident. Steve Haug asked if a sprinkler system would have helped in the area of the incident. Dave Chandler will look into the possibility of installing some type of fire protection in that area.

Bunker Gear Issue (at the Incident Site): (Fay/Chandler/Saxton/Sullivan/Haug)
In the past, there was a general consensus that everyone should put on bunker gear before going to an incident. The stillman and process foreman (who are the first ones on the scene) will get involved and often do not have the proper equipment. The fire crew is concerned about the health and well-being of all involved. At times, pride in their unit is taking precedence over a safe approach to the incident. It is agreed that the fire crew will contact the supervisor in charge of the area and some members of the crew (in bunker gear) will work closely with the unit operators/supervisors to safely control the situation. That option was logical however it is not feasible to issue bunker gear to everyone (training is also required for the proper usage of the bunker gear).

Positive Reaction to the Handling of the Situation: (Chandler/Newton/Haug)
Dave Chandler was appreciative (on behalf of the Fire Crew, First Response Team, HazMat team, and all Clark employees who were involved) of Tom Saxton's positive comments as to the effectiveness of the fire brigade that responded to the incident.

Improvement of Equipment: (Collins/Chandler/Murphy/Sullivan)
Adequate equipment was a concern. The right size hose was needed for proper suction to the truck (the pressure was cranked up and the suction was down to 50 pounds and close to collapsing) at the scene. Dave will get two 25-foot hoses and that should make it easier to hook up to two trucks.

POST-INCIDENT REVIEW AT THE COKER (07/09/97)
JULY 14, 1997

Sign-Up at Incident Site: (Chandler/Holbrook/Murphy/Newton/Saxton/Simmons)
There was a concern expressed that it is important to account for all who are responding to the scene of the incident. The method should be simple for those involved yet also provide us with a complete list for accountability.. Ideas considered were sign-up sheets, metal card, check-off lists. . For future incidents, Dave will devise a way to track firefighters at the scene.

Environmental Issues of the Incident: Modarres/Haug/Chandler/Young/Saxton
Per Massood Modarres, the safety of people takes precedence over environmental issues. The IEPA was contacted immediately and representatives made an on-site visit. Follow-up communication (and documentation) will occur when the final report of the incident is issued by the Incident Investigation Team.

The road closure was handled quickly and efficiently. Sand was spread on Hawthorne and when it was determined that Hines Street Sweeping equipment would be delayed, approximately 20 Clark personnel 'hand-swept' the highway. The Hartford and South Roxana Police Departments controlled the traffic at the west and east ends of Hawthorne.

There were several reported incidents of cars and trucks being sprayed with an oily substance (when they drove by the site prior to the road closure). Steve Haug investigated the extent of the vapor damage to property south of the refinery. The corn field was affected and Explorer Pipeline tanks, equipment, etc. were sprayed with the oily substance. Clark's Risk and Insurance Department is investigating the reported damage.

POST-INCIDENT REVIEW AT THE COKER (07/09/97)
JULY 14, 1997

Attendees:	Dave Chandler	Jim Murphy
	Rick Collins	Stephanie Newton
	Mike Fay	Tom Saxton
	Steve Haug	Corey Simmons
	Randy Holbrook	Kevin Young
	Massood Modarres	

Chandler:	The purpose of the meeting is to determine what went right and what went wrong at the incident at the coker last Thursday, July 9, 1997.
Sullivan:	We need to set up a congregation area to see what is going on and determine the manner of approach. Lots of people were downwind of the vapors and walking in the oil. We need to get a congregation spot picked out and discuss the game plan.
Holbrook:	The vapors were coming and we went around the back side.
Chandler:	Investigate where the best place to go should be. The fire crew should stay with the truck
Holbrook:	Meet where Dave Chandler parks the truck. We should congregate at the little red truck or at the fire truck.
Haug:	Randy Holbrook was 3 minutes ahead of the truck.
Chandler:	Think safety and take 'two' - take your time!
Fay:	Situation would have been handled differently if there had been a fire. There is a difference in seeing vapors and not fire. People react differently if they see a fire!
Chandler:	Was there a fire?
Saxton:	There was fire. The stillman did see it - the fire was in the chute.
Chandler:	Saw light on Southeast corner at the 48 foot level.
Saxton:	Saw from the unit side - on the north side of the chute.
Chandler:	Is there a side hole to shoot into the bay? A place where you could shoot down into the chute?
Saxton:	No - can't keep the chutes together.
Sulliven:	It's hard to access water there.
Haug	Could we use a piping system in that area? Hook truck and pump water in that area?
Fay:	Did hook into the monitor.
Chandler:	We will look into the possibility of installing some type of fire protection in that area.
Fay:	Could have set up in the other chute - don't put your back against the wall.
Chandler:	Could have pulled into the 'B' Chute. Control vehicle in case the wind did shift.
Fay:	When will people start wearing their bunker gear?!?
Saxton:	We looked the situation over and the visibility was good (there was a smell of oil in the vapors). Nothing was around that valve - but clear air!
Fay:	We have always been told to put bunker gear on before going to an incident. Not trying to judge right or wrong. Poe/Manley/Saxton are getting involved in the incidents and not wearing bunker gear.
Chandler:	What preparation did they take? Going to an unknown situation in bunker gear! We should have requested a couple of guys (in bunker gear) to close that valve.
Saxton:	The vapor line had been closed off!
Chandler:	It was oil soaked and there were quite a bit of heat waves.
Fay:	Variety of people get involved and they do not have proper equipment on. Lots of oil and heat involved someone will get caught.
Chandler:	For future incidents: in case of a fire or release, get with the supervisor in charge of the area and get a couple of guys in bunker gear and stick on the guys like glue. In the incident last week, the guys did it on their own - we should have sent someone up to assist them.

POST-INCIDENT REVIEW AT THE COKER (07/09/97)
JULY 14, 1997

Sullivan:	We asked if they needed lines - they opted not to. Personally, he felt they should have been covered.
Haug:	Pride in the units is taking precedence. We have to remember to put our guys on their tail.
Fay:	Maybe we should carry extra sets of bunker gear to give to Tom.
Saxton:	Cannot put someone in bunker gear if they haven't been properly trained.
Holbrook:	Operators will have to do some things without protection - time issues.
Fay	They had time to put on jackets - we need an answer!
Haug:	Find couple of fire crew members to assist the process foremen. Have a designated rescue crew.
Sullivan	Put the 1st Response team members on every unit.
Saxton:	They were on their way to assist - had not put their bunker gear on.
Haug:	Make sure someone is there in proper gear.
Fay:	Wants Tom to be safe.
Murphy	In the past,. we've had arguments at the site - about proper gear.
Fay:	It will take someone getting hurt.
Collins:	Should respond with bunker gear.
Sulliven	Fire crew is concerned about the health and well-being of all involved. and people not taking time to help themselves.
Chandler:	Everything out there (in the refinery) is a potential for fire. People don't realize what training the fire crew has had to keep everybody safe.
Fay:	It's not just one incident - it happens every time!
Chandler:	He appreciated the CCMAIL that Tom put out - we really looked like a 'fire brigade'!
Saxton:	In past incidents, Tom said the fire crew arrived at the scene in time to save their reputation! This was definitely not the case last week.
Chandler:	Has full confidence in our fire brigade.
Simmons:	A few years ago - a statement was issued that 'no one would fight a fire who is not on the fire crew".
Murphy:	Tom was doing what needed to be done (before the fire crew arrived on the scene). Once the fire crew was there, the fire crew should take over.
Chandler:	Operators should not be there without bunker gear. We had a couple of supervisors there. First ones on the scene should tag the operator/stillman with a fire crew member. Need to oversee to make sure they don't get hurt
Newton:	They're more brave and involved with their unit.
Haug:	They're more knowledgeable of their unit and less knowledgeable in fire-fighting techniques. That's the same man who kept an operator from going into the area.
Sullivan:	We have a plan coming together.
Haug:	At the next incident - tag somebody!
Chandler:	In the past, some people (Poe) will always go into the 'problem' area.
Haug:	It takes some time to teach people the right way.
Holbrook:	Are there hand lines on the truck?
Sullivan:	There are hoses....
Fay:	The response this time worked well (with the vehicles)
Young:	Look at maintaining the unit integrity. The truck he(Young) rode down in went through an open gate that could have been an 'unsafe' area. Dunbar was driving.
Collins:	The question is fire training. Have we discussed teaching process foreman, bosses, etc.? Should everyone show up in bunker gear?
Chandler:	Can't supply 300 sets of bunker gear - it's not feasible.

Collins:	Have bunker gear in each Control Room for the 1st responders
Fay:	Operators will treat/handle the situation (without bunker gear). They're the first ones on the scene. The same people show up every time!
Saxton:	Tom was in the Coker Control Room . Picked up the radio and went out to monitor into the chute . Monitor was on - turned onto the chute. Went to the 48 foot level (knew the operator would be trying to go back into the vapor cloud. After the vapor dispersed - Gary and Tome went up to look at it.
Chandler:	People with bunker gear will have to do what the people (without bunker gear) were doing.
Modarres	All have been operators in the past.
Sullivan"	1st Responders have it under control 90% of the time!
Fay:	Have seen operators do everything they can (without bunker gear). Tunnel vision taking over. What will it take to teach them a lesson?
Haug:	That's a meaningful request - you guys have an excellent idea - now you implement it.
Saxton:	Designate someone for an area.
Chandler:	Works out good on day shift - not at night. Don't have anybody designated on a job - designation would work on day shift.
Young:	Have a congregation point and do assignments.
Chandler:	Try to remind each other - bring it to each other's attention. Designate a man for the process furnace, etc.
Rick Collins	A suggestion - get right size fire hose for suction to the truck. Cranked up the pressure and suction was down to 50 pounds - close to collapsing the hose.
Chandler	Need 5" hose and turn all hydrants where we can use them.
Murphy:	Get a couple of sections
Chandler:	Will get 2 25' hoses
Sullivan	That way - can use two trucks!
Murphy:	That would really help
Chandler	Don't have enough people to man the hose lines.
Newton:	Same people show up every time - some never show
Simmons	Do we need to have some way of knowing who is there (sign-in/clock in/etc. etc.)
Holbrook:	Sign up sheet at the first truck (check your name off!)
Saxton:	Metal card option - carry it with out / drop it at the truck etc.
Murphy:	Write your name on piece of paper, clip board in the truck
Simmons	Use a grease pen
Chandler	We're get a plastic board - write name (with grease pen) when you check in. (A sign-in sheet at the truck).
Newton:	The fire crew members should clean the fire garage every month. Needs to be done every single month. Also need water hook-up in there.
Holbrook:	Lots of 'stuff' is being stored in the fire house.
Chandler:	Work order is being processed to get water in the fire house. We'll work on that (tidy up the fire house).
Modarres	The Environmental issues of the incident take a back burner because of the safety issues (people take precedence)
Newton:	Did the EPA comment on clean-up on the road?
Haug:	We got a lot of pressure to 'open the road". There were 20 Clark people hand-sweeping the road (could not get the street sweeper equipment down there quick enough). They came later.....
Chandler:	Would have more 'people' pressure if incident had occurred at 4 p.m.
Haug:	Everyone was safe - had 20 people out there. Jim Pile has is work done in 15 minutes.
Young:	Hartford Police did a good job - South Roxana (at Route 111) didn't do so good.

POST-INCIDENT REVIEW AT THE COKER (07/09/97)
JULY 14, 1997

Holbrook:	Close the road (no matter what time of day it is?!?)
Haug"	We were probably 5 minutes late in closing the road.
Chandler:	Had problem getting authorization to hose the oil down (under the heater) to the sewer.
Haug:	Should call for vacuum trucks
Saxton	That was runoff oil that got washed in the sewer.
Chandler:	Had quite a few things going on at one time
Haug:	Debris into the sewer is the big problem. Did the best they could considering the limited amount of personnel.
Holbrook:	We'll do what we can!
Haug:	The vapor went further - went as far as the Explorer Pipeline. Walked out into the corn field and damage didn't look extensive; then got a call from Explorer - that area was soaked.
Young:	The cloud went high and then dropped.
Saxton:	Saw black smoke (high)
Haug:	We've gotten a few calls. Boat cover damage in Hartford is questionable. 16 Dump Trucks (out of 35) had some damage. We'll have some money to pay out. Let's not have another one.
Young:	We needed laborers out on the road.
Newton:	Mike Manchak was out there. Wanted the Hazmat team to clean up. Lots of folks pitched in!
Chandler:	There was no labor issue!
Newton:	Phone call after meeting: Wanted to thank Tammie Daniel and Larry Shaefer for bringing Gatorade to incident site. Really helped! Also needs to know what 'work order' number should this be charged to?!?

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

FILE NUMBER 070.05 SPILLS - Incidents 1997

RETAIN IN FILE UNTIL _____

July 21, 1997

Mr. Charles W. Brutlag
Illinois Environmental Protection Agency
Incident Coordinator Emergency Response Unit
Office of Chemical Safety
2200 Churchill Road
Springfield, IL 62794-9276

Re: Incident 971227

Dear Mr. Brutlag,

This is a clarification to the incident reported on July 9, 1997.. On the morning of July 9th at 8:30am, the following incident occurred at our Decoking unit. An operator mistakenly opened up a 12-inch drain valve on a drum which was in the process of heating up for stream switch. Hot vapors were released to the atmosphere. The Clark fire crew was dispatched to the unit and water and steam were applied to the drain valve to eliminate ignition possibility. There was initially a report of fire; but further investigation indicated, in fact, that there was no fire during the entire incident.

The wind direction toward the south carried vapors and steam toward Hawthorne Avenue and Clark personnel decided to block off the road to protect the public safety. Approximately 200 feet of the road had to be cleaned by the application of sand and sweeping. The road shoulder rocks at the same area were removed and will be replaced with new rock.

The Clark Risk Management group is handling the citizen complaints and concerns at this time. The unit operating procedure is being revisited to make sure all precautionary steps are in place to eliminate reoccurrence of a similar incident.

Please contact me at 618-254-7301 extension 218 if you need additional information.

Sincerely,

M. Modarres

Massood Modarres
Environmental Engineer

lls

CLARK

ATTN: Steve

1982

618/ 254-6064

Refinery Emission Results

Steve - Test results as follows per telephone conversation today w/Brian Elledge of Shannon & Wilson. Gene asked me to have you call Brian Elledge to discuss the results. I was writing while he was giving me the results, so hopefully these are correct. He also has a plant person in his office and will ask that person if there will be any problem with the substances being drawn somehow into the soil from the plants and should have an answer by tomorrow.
He does not believe we need to treat the soil. We need to determine whether we should dispose of the crops.
7/24 - recd call from Brian w/Shannon & Wilson re: test results - he took three samples, first from burm by front fence, the second from the ditch outside the front fence, and the third from the farmer's field across the street (Westerholt's). Results as follows:
All samples were taken from a depth of 0-6".

Burm levels were the highest as follows:

Total petroleum hydrocarbons	- 1880 ppm
Nickel	- 106 ppm
Vanadium	- 553 ppm

Volatile organics - nothing of note
Semi-Volatiles:

	Burm	Ditch
naphthalene -	920 ppb	450 ppb
polynuclear aromatics	920 ppb	?
chrysene	1.5 ppm	920 ppb
2, methylacenaphthalene	1.5 ppm	910 ppb
pyrene	1.2 ppm	770 ppb
phenol	650 ppb	
2, methylphenol	550 ppb	410 ppb
4, methylphenol	760 ppb	?
Benzo a anthracene	920 ppb	550 ppb
benzo b fluoranthene	500 ppb	750 ppb
benzo a pyrene	920 ppb	610 ppb
dibenzo a h anthracene	480 ppb	?
Benzo ghi pyrylene	1200 ppb	1300 ppb
indeno 1,2,3 cd pyrene	420 ppb	?

All others - non-detectable

Ditch - 38 ppm tph, 66.8 ppm nickel, 115 vanadium and 13 ppb benzene

Field - 9 ppm tph, 21.3 ppm nickel, 27 ppm vanadium and 8 ppb benzene

2 of 2

Brian Ellcdge - Shannon & Wilson - 314/872-8170

Burns & McDonnell | Waste Consultants, Inc.

MEMORANDUM

DRAFT

Date: July 25, 1997

To: Massood Modarres
Clark Refining & Marketing, Inc.

From: Paul Christian

RE: Coker release

In summarizing our phone conversation earlier today, it appears that due to a vapor release from the Coker Unit at the Hartford refinery, the vapor minimally impacted a neighboring milo field to the south of the Coker. The soil sampling results from Shannon & Wilson, that you had told me are as follows:

Benzene	= 8 ppb
Nickel	= 21.3 ppm
Vanadium	= 27 ppm

A comparison to cleanup objectives listed in the Illinois EPA Tiered Approach to Cleanup Objectives (TACO) Appendix B, Table 1, for residential properties is as follows:

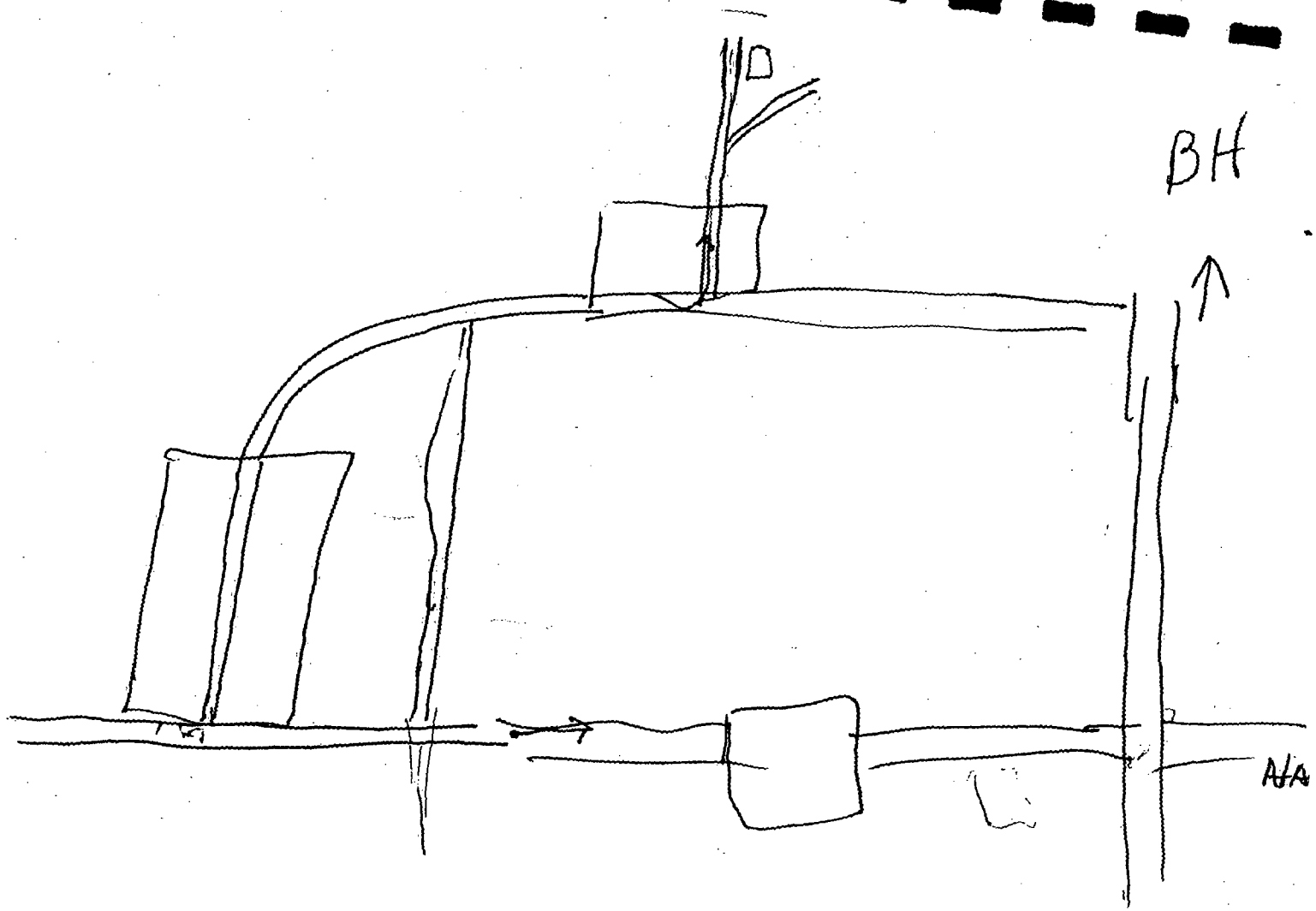
Compound	Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Groundwater
Benzene	22	0.8	0.03
Nickel	1,600	13,000	0.1*
Vanadium	550	--	0.049*

* TCLP analysis

For total metal analysis in soil for migration to groundwater route, cleanup objectives are based on soil pH as follows from TACO Appendix B, Table C: Nickel = 20 - 3,800 mg/kg for pH 4.5 - 8.0 and Vanadium = 980 mg/kg for any pH 4.5 - 8.0.

Background level cleanup objectives from TACO Appendix A, Table G for counties within metropolitan statistical areas are: Nickel = 18.0 mg/kg and Vanadium = 25.2 mg/kg

Background ranges from "A summary of Selected Background Conditions for Inorganics in Soil," IEPA, August 1994 for counties within metropolitan statistical areas are: Nickel = ND - 135 mg/kg and Vanadium = ND - 80 mg/kg.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BH
AA

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

September 3, 1997

FILE NUMBER Coke overspray

RETAIN IN FILE UNTIL

Mr. Tom Powell
Illinois Environmental Protection Agency
2009 Mall Street
Collinsville, IL 62234

Re: Coker Overspray

Dear Mr. Powell,

As you are aware, the Clark Hartford Refinery experienced a coker overspray on July 9, 1997. Clark personnel acted expeditiously and effectively in ensuring the protection of human health and safety and the environment. After containment, Clark acted to properly remediate all affected areas.

However, some concerns remained regarding potential damages to off-site agricultural activities which may have been affected by the incident. Specifically these areas are a milo field directly south of the coker and a soybean field distant from the plant.

Analysis of soil samples collected indicated no elevations of constituents of concern above natural background levels. Visual inspection of the milo field indicated very minor foliar damage, but no damage to seed heads.

As a final measure to determine if any damages occurred to the crops that was not evident, Clark discussed the information with Mr's Dave Fischer and Robert Bellam of the University of Illinois Agricultural Extension Service on August 26, 1997. The purpose of this call was to determine any governmental standards and test procedures necessary for use of the crops in livestock or human consumption.

Mr.'s Fischer and Bellam stated that no specific standards were required. They also stated that in their professional opinion, other than a potential yield loss, no damage occurred. They base this opinion on the following:

- carbon from the coke would be no concern;
- steam, or elevated temperatures, may wilt or burn foliage, however, both milo and soybeans are very resilient to this effect;

CLARK

ATTACHMENT 5

- volatile organics are not absorbed, and would be released through normal plant transpiration. Any burning or wilting of foliage would have no long term effect; and
- metals are not absorbed by the seed head, or transferred from the foliage.

In order to assess if a loss in yield occurred, they suggested that a comparison of potentially affected areas to unaffected could be made by harvesting the potentially damaged area separately and comparing the yield to the unaffected area.

The Clark Risk Management department will discuss this scenario with the potentially affected parties. We trust that this resolves all issues related to the coker overspray incident. Please do not hesitate to call me at 618-254-7301 extension 218 if you have any questions or need additional information.

Sincerely,

Massood Modarres
Environmental Engineer

cc: Forrest Lauher
Gene Spickler

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/785-0830
TDD 217/782-9143

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 5, 1998

Mr. Massood Modarres
Clark Refining & Marketing, Inc.
201 East Hawthorne
Hartford, Illinois 62048-0007

P 344 290 826

Ms. Patricia Sharkey
Attorney for Clark Refining & Marketing, Inc.
Mayer, Brown & Platt
190 South LaSalle Street
Chicago, Illinois 60603-3441
Fax #: 312/706-9113
P 344 290 827

RECEIVED
JAN 07 1998
CLARK REFINING
ENVIRONMENTAL DEPT.

Re: VIOLATION NOTICE E-1998-0001
Incident #971227
Attributable to Clark Refining & Marketing, Inc.
Date Incident Occurred: July 9, 1997
Hartford/Madison County/Illinois

Dear Mr. Modarres and Ms. Sharkey:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon review of available information and investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of violations of environmental statutes, regulations or permits as set forth in Attachment 1 to this letter. Attachment 1 includes an explanation of the activities that Illinois EPA believes may resolve the specified violations, including an estimate of a reasonable time period for completion of the necessary activities. However, due to the nature and seriousness of the violations cited in Attachment 1, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response to this Violation Notice, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. The response must address each violation specified in Attachment 1 and include for each an explanation of the activities that will be implemented and the time schedule for the completion of that activity. The written response will constitute a proposed Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and to meet, and the Illinois EPA may proceed with a referral to a prosecutorial authority.

The Illinois EPA encourages the use of pollution prevention methods to help achieve compliance with environmental requirements. By switching to nonhazardous raw materials, improving housekeeping practices or changing production processes to generate less pollution or waste, you may be able to save money, increase efficiency and possibly reduce regulatory requirements.

Written communications should be directed to the **Office of Chemical Safety/Emergency Response Unit**, at 1021 North Grand Avenue East, Springfield, Illinois 62702. All communications must include reference to this Violation Notice **E-1998-0001**.

Procedural questions regarding this matter should be directed to the **Office of Chemical Safety, Compliance Specialist** at (217) 557-1913.

Sincerely,

James Patrick O'Brien
Manager, Office of Chemical Safety

Attachments

H:\Waligore\clkhtfdVN

Release Incident: 971227
Attributable to Clark Refining & Marketing, Inc.
Date Incident Occurred: July 9, 1997
Hartford/Madison County/Illinois

ATTACHMENT 1

I. Description of Violations

On July 9, 1997, Clark Refining & Marketing, Inc. ("Clark") caused or allowed an unknown amount of kerosene and kerosene vapors to be released at and from its facility located at 201 East Hawthorn Street in Hartford, Madison County, Illinois. According to information provided to Illinois EPA by Clark, the release occurred when an operator opened up a drain valve on a drum of kerosene being heated, releasing hot kerosene vapors into the air. Wind carried the vapors offsite, and an area road was blocked off to protect the public. The release also involved a spill of liquid kerosene which impacted soil and/or groundwater.

Although Illinois EPA is aware that Clark has performed some response actions, Illinois EPA has received no information which confirms that Clark has adequately cleaned up all residual contamination attributable to the release. According to the information and belief of Illinois EPA, residual contamination of soil and/or groundwater remains in the area of the release, constituting an on-going source of releases and threats of release to water of the State (specifically groundwater).

Releases of contaminants to the air constitute violations of Section 9(a) of the Act, which prohibits causing or allowing air pollution. Releases or the threat of releases of contaminants to surface water and/or groundwater constitute violations of Section 12(a) and (d) of the Act, which prohibits causing or allowing the release of contaminants to waters of the State. Releases which impacted soil and land surface may constitute open dumping under Section 21(a) of the Act.

II. Text of Sections 9(a), 12(a) and (d), and 21(a) of the Illinois Environmental Protection Act.

Section 9

No person shall:

a. Cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as to cause or tend to cause air pollution in Illinois, either alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Board under this Act;

Section 12
No person shall:

a. Cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources or so as to violate regulations or standards adopted by the Pollution Control Board under this act.

d. Deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

Section 21(a)
No person shall:

a. Cause or allow the open dumping of any waste.

III. Narrative Description of Activities Recommended by Illinois EPA for Resolution of Violations

The Illinois EPA's Office of Chemical Safety recommends that Clark include all activities described below as part of a proposed Compliance Commitment Agreement relative to the release cited herein. The Office of Chemical Safety believes that activities 1 and 2 described below (conduct of an investigation into cause of the release; conduct of a focused site investigation) can reasonably be completed by Clark with appropriate reports submitted to the Illinois EPA within 45 days of your receipt of this Violation Notice. The Illinois EPA requests that Clark provide an estimated schedule for completion of each activity recommended below. The Illinois EPA recognizes that the schedule for activities 3 through 5 will be dependent on the results of activities 1 and 2, and that adjustments to the time schedule proposed for activities 3 through 5 may be appropriate at a later date.

1. Conduct a thorough investigation by knowledgeable personnel into the cause or causes of the release and how such releases can be prevented or precluded in the future. This investigation may be conducted in accordance with the enclosed "Compliance Documentation Guide I - Criteria for Investigation of Causal Factors and Development of Preventive Responses ("Guide I")," which is provided for your convenience. Illinois EPA recommends that a comprehensive report of that investigation and recommended corrective actions be submitted to the Office of Chemical Safety of the Illinois EPA within 45 days of your receipt of this Violation Notice.

2. Conduct a focused site investigation at the emergency incident site with respect to the material released and any other material or conditions that affect the mobility and enhance the toxicity of the material released. The site investigation may address the criteria cited in the enclosed "Compliance Documentation Guide B-Criteria for focused Site Investigation and Remedial Action Plan at Emergency Incident Sites ("Guide B")", which is provided for your convenience. Illinois EPA recommends that an investigation report be prepared for the site in accordance with Guide B and be submitted to the Office of Chemical Safety within 45 days of your receipt of this Violation Notice.

3. Determine remediation objectives in accordance with Guide B and the documents and regulations cited therein. A remediation objectives report should be prepared in accordance with Guide B and submitted to the Office of Chemical Safety for review. Clark should indicate a proposed date for submission of this report.

4. Prepare a remedial action plan in accordance with Guide B to address contamination at locations where the contamination concentration exceeds the remediation objectives which have been approved by the Office of Chemical Safety for the incident location. The remedial action plan should be submitted to the Office of Chemical Safety for review in advance of implementation. Clark should indicate a proposed date for submission of this remedial action plan. The remedial action plan should also contain an implementation schedule. The Office of Chemical Safety may agree in writing to amendments to portion of the schedule as requested by, if conditions during implementation justify this. [Note: If the remedial action is expected to exceed three months, the plan should include a schedule for detailed quarterly reports of progress. The content of such reports should be proposed in the remedial action plan.]

5. Prepare a remedial action completion report at the completion of the accepted remedial action plan. The remedial action completion report should be submitted to the Office of Chemical Safety by the date proposed in the accepted remedial action plan. The remedial action completion report may by prepared in accordance with "Compliance Documentation Guide C-Criteria for Remedial Action Report at Emergency Incident Sites ("Guide C")", which is provided for your convenience.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 Mary A. Gade, Director

(217) 785-0830

FILE NUMBER 070.20.25

RETAIN IN FILE UNTIL _____

March 18, 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 344 290 850 & P 344 290 851

Mr. Massood Modarres
Clark Refining & Marketing, Inc.
201 East Hawthorne
Hartford, Illinois 62048-0007

Ms. Patricia Sharkey
Attorney for Clark Refining & Marketing, Inc.
190 South LaSalle Street
Chicago, IL 60603-3441
FAX: (312) 706-9113

Re: Compliance Commitment Rejection
Violation Notice E-1998-00001

Dear Mr. Modarres and Ms. Patricia Sharkey:

The Illinois Environmental Protection Agency ("Illinois EPA") rejects the Compliance Commitment Agreement ("CCA") proposed in your letter to me, which was dated February 19, 1998, received by Illinois EPA February 23, 1998, and submitted in response to Violation Notice E-1998-00001 dated January 05, 1998.

The proposed CCA is being rejected due to the fact that Clark Refining & Marketing, Inc. did not sufficiently address recommendations 2 through 5 of Section III cited in the Violation Notice. Specifically, you did not sample the affected area to determine concentration and extent of contamination. A vague reference to a "Shannon and Wilson" soil sample is not further documented as to location and time, nor were original laboratory reports included. Furthermore, one sample, even if it were adequately documented would not show the areal extent of contamination. Contaminants of concern to have been monitored should have included BTEX, PNAs and Vanadium and Nickel. Clark Refining & Marketing, Inc. also did not provide a map of the area affected showing the extent of observed impact nor potential on and off-site exposures.

The fact that this release coated a public roadway with visible oil residue, and the roadway was closed to the public is such a significant effect that referral to a prosecutor for assessment of a penalty may be necessary to resolve these violations.

Because violations cited in E-1998-00001 remain the subject of disagreement between Illinois EPA and Clark Refining & Marketing, Inc., this matter may be referred to the Office of the Attorney General for formal enforcement action and the possible imposition of penalties.

Any further written communications should be directed to Theresa Roof, Compliance Specialist, Office of Chemical Safety, Illinois EPA, P.O. Box 19276, 1021 North Grand Avenue East, Springfield, Illinois 62794-9276, and all such communications should include reference to Violation Notice E-1998-00001.

Sincerely,

James P. O'Brien
Manager, Office of Chemical Safety

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 Mary A. Gade, Director

(217) 782-5544
TDD (217) 782-9143

AUG 3 1 1998

August 27, 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 344 305 222 & P 344 305 223

Mr. Massood Modarres
Clark Refining & Marketing, Inc.
201 East Hawthorne
Hartford, Illinois 62048-0007

Ms. Patricia Sharkey
Attorney for
Clark Refining & Marketing, Inc.
Mayer, Brown & Platt
190 South LaSalle Street
Chicago, IL 60603-3441

Re: Notice of Intent to Pursue Legal Action
Violation Notice E-1998-00001
Attributable to Clark Refining & Marketing, Inc.
Incident Number: 971227
Date Incident Reported: July 9, 1997
Hartford, Madison County, Illinois

Dear Mr. Modarres and Ms. Sharkey:

This Notice of Intent to Pursue Legal Action ("NIPLA") is provided pursuant to Section 31(b) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(b)(1994). The Illinois Environmental Protection Agency ("Illinois EPA") is providing this NIPLA because of the seriousness of the off-site impact of the environmental release incident involved (e.g., the necessity to close off a public road because of kerosene vapors); because Clark Refining & Marketing, Inc. ("Clark") has failed to provide sufficient proof to document that all residual contamination resulting from the release has been removed or remediated; and because Illinois EPA has determined that it may not be possible to satisfactorily resolve this matter without the involvement of the Illinois Attorney General, the Madison County State's Attorney, or USEPA and the possible imposition of penalties.

Illinois EPA is providing this NIPLA because it may pursue formal legal action for violations of environmental laws and regulations, as specified in Attachment A to this letter. This NIPLA provides Clark with the opportunity to schedule a meeting with representatives of Illinois EPA to further discuss the violations specified in Attachment A to this letter. If a meeting is requested, it must be held within thirty (30) days of receipt of this Notice, unless an extension of time is agreed to by Illinois EPA.

Printed on Recycled Paper

Please be advised that Illinois EPA recommends that Clark continue work at the release site. Continuing cooperation with the Agency during the progress of the compliance and enforcement process will be evaluated as a mitigating factor which may reduce the amount of any penalty which may be pursued.

If you wish to schedule a meeting with representatives of Illinois EPA, please contact Theresa Roof, Compliance Specialist at (217) 557-1913 within twenty (20) days of your receipt of this NIPLA.

Sincerely,

John P. Waligore
Assistant Counsel
Environmental Policy
and Chemical Safety
Division of Legal Counsel

attachment

Attachment A

Re: Violation Notice E-1998-00001
Attributable to Clark Refining & Marketing, Inc.
Incident Number: 971227
Date Incident Reported: July 9, 1997
Hartford, Madison County, Illinois

ATTACHMENT A

I. Description of Violations

On July 9, 1997, Clark Refining & Marketing, Inc. ("Clark") caused or allowed an unknown amount of kerosene and kerosene vapors to be released at and from its facility located at 201 East Hawthorn Street in Hartford, Madison County, Illinois. According to information provided to Illinois EPA by Clark, the release occurred when an operator opened up a drain valve on a drum of kerosene being heated, releasing hot kerosene vapors into the air. Wind carried the vapors offsite, and an area road was blocked off to protect the public. The release also involved a spill of liquid kerosene which impacted soil and/or groundwater.

Although Illinois EPA is aware that Clark has performed some response actions, Illinois EPA has received no information which confirms that Clark has adequately cleaned up all residual contamination attributable to the release. According to the information and belief of the Illinois EPA, residual contamination of soil and/or groundwater remains in the area of the release, constituting an on-going source of releases and threats of releases to waters of the State (specifically, groundwater).

Releases or the threats of releases of contaminants to the air, including odors, constitute violations of Section 9(a) of the Act, which prohibits causing or allowing air pollution. Releases or threats of releases of contaminants to surface water and/or groundwater constitute violations of Section 12(a) and (d) of the Act, which prohibit causing or allowing the release of contaminants to waters of the State. Releases which impacted the soil and land surface may constitute open dumping under Section 21(a) of the Act.

II Text of Section 9(a), 12(a) and (d) and 21(a) of the Illinois Environmental Protection Act

Section 9

No person shall:

a Cause or threaten or allow the discharge of any contaminant into the environment in any State so as to cause or tend to cause air pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act;

Section 12
No person shall:

(d) Cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources or so as to violate regulations or standards adopted by the Pollution Control Board under this act.

d. Deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

Section 21
No person shall:
(d) Cause or allow the open dumping of any waste.

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

October 15, 1998

Mr. Tod Rowe, P.G.
Illinois Environmental Protection Agency
1021 North Grand Avenue East
PO Box 19276
Springfield IL 62794-9276

RE: Coker Release Incident Review and Action Items - #971227

Dear Mr. Rowe:

Attached is the incident report for the Coker release that occurred on July 9, 1997. The root cause of the incident was operator error, but the analysis led to system improvements to make the process more fault-tolerant. A key-lock system was implemented, similar to lock-out-tag-out (LOTO), to insure that the operator doesn't inadvertently open the drain valve on the wrong drum as occurred in this case. Further, the head operator (stillman) issues the key to insure that the operator doesn't go to the wrong drum by mistake with a key that would allow him to open the valve.

With the key-lock system and stillman coordination, the likelihood of this type of event occurring in the future is significantly reduced. Further, the area foreman will make periodic checks to insure that the procedural changes are institutionalized.

If you have any questions or concerns on this incident review or follow-up actions, please call.

Sincerely,

Forrest B. Lauher
Plant Manager

cc: Tom Grgurich, Hartford Refinery
Bill Irwin, Hartford Refinery
Randy Lindley, Hartford Refinery

CLARK

INCIDENT INVESTIGATION-NARRATIVE REPORT

OSHA RECORDABLE INJURY # N/A
NEAR MISS INCIDENT # 9707091
INVESTIGATION # 97007091

PERSON INJURED:	NONE
DATE OF INCIDENT:	7/9/97
LOCATION:	COKER C-DRUM 48 FT. LVL.
TYPE OF INCIDENT:	ENVIRONMENTAL RELEASE
NATURE OF INJURY:	N/A
ANTICIPATED DISABILITY:	N/A
INVESTIGATING COMMITTEE:	AL BLACK - CHAIRMAN RON HINES MIKE SHAW DUNBAR RORIE
FOLLOW-UP:	DUNBAR RORIE

NARRATIVE REPORT

On 7/9/97 at 8:15 a.m. an environmental release occurred at the Coker Unit. The release occurred when the drain valve on C-drum was mistakenly opened while the drum was in the heat up process. The fire crew put water on the released vapors while the charge was taken out of the unit and steam was used to purge the vapors out. The valve was then closed and the unit restarted without further incident. The operator involved was taken to the doctor for observation, and returned to work without any problems.

The scenario as to the events that occurred is as follows on the attached events and causal factors diagram.

RECOMMENDATIONS	RESPONSIBLE PARTY	COMPLETION DATE
1. Review awareness of process with employee.	Randy Lindley	(Randy - please estimate completion date) 7-16-97
2. Review LOTO and the execution of this procedure. Implement changes as identified.	Randy Lindley	(Randy - please estimate completion date) 10-1-97
3. Evaluate and consider using a checkoff list for execution of dryout procedure.	Randy Lindley	(Randy - please estimate completion date) 10-1-97
4. Consider periodic audit and evaluation of procedure performance by Stillman / Process Foreman.	Randy Lindley	(Randy - please estimate completion date) CONTINUING

Randy Lindley — Date: 9-16-97

Al Black — Date: 9/15/97

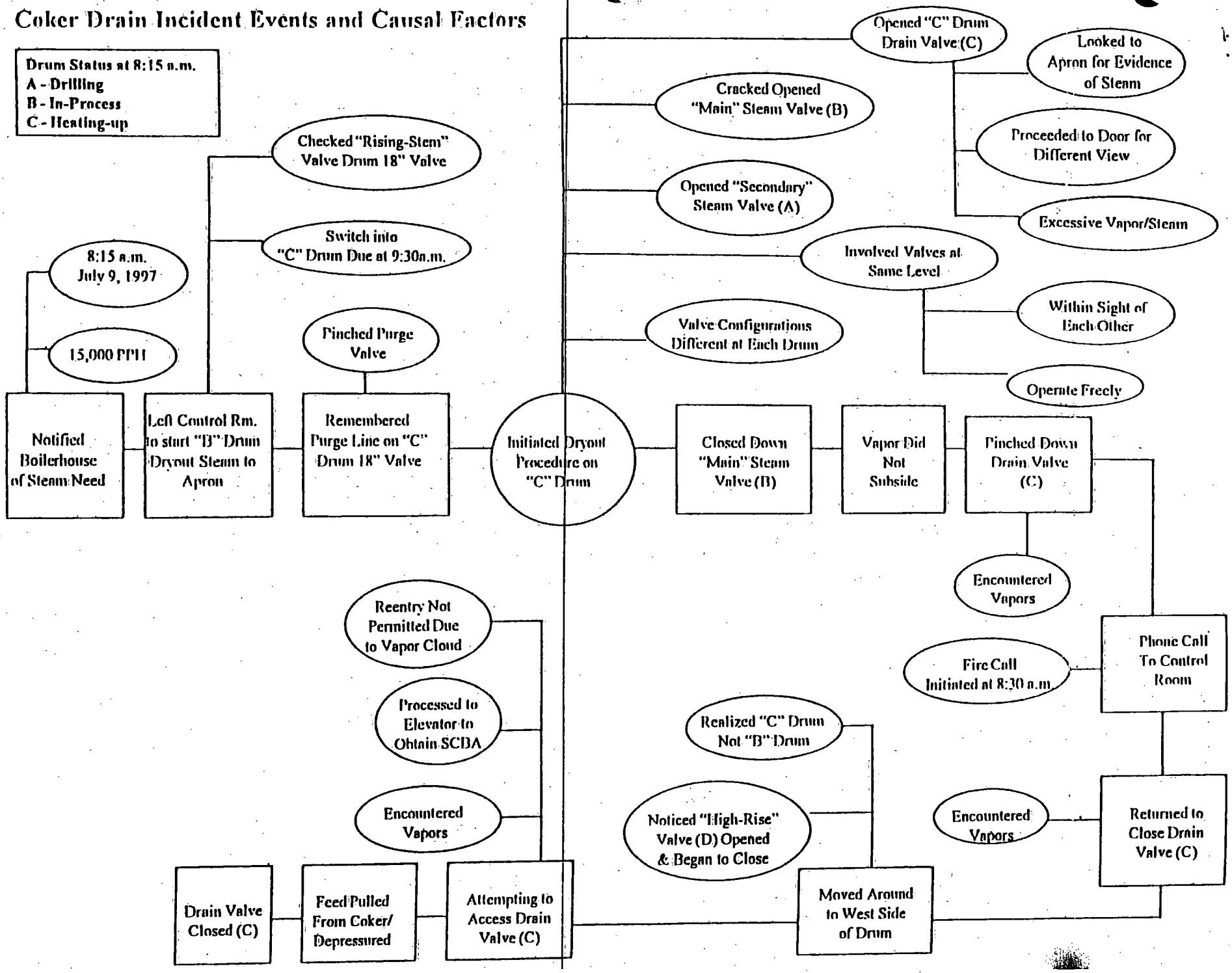
Tom Grgurich — Date: 9/16/97

Paul Drydale — Date: 9/16/97

Forrest Lanher — Date: 9/12/97

COMMENTS: [illegible]

Coker Drain Incident Events and Causal Factors



Analytical Results
for
Milo Field

Tier 1 Soil remediation objectives for Residential Properties migration to groundwater, Class I (mg/kg)

		Sample 1	Sample 2	Sample3
Benzene	0.030	0.004	0.0041	ND
Toluene	12.000	0.0046	0.0044	ND
ethylbenzene	13.000	0.0057	0.0043	ND
Xylenes (total)	190.000	0.0277	0.0192	ND
Naphthalene	84.000	0.83	ND	ND
Acenaphthylene	570.000	0.17	ND	ND
Acenaphthene	570.000	1.4	0.12	0.18
Fluorene	560.000	0.15	0.02	ND
Phenanthrene	*	1.1	ND	0.01
Anthracene	12,000.000	0.13	ND	ND
Fluoranthene	4,300.000	1.2	ND	ND
Pyrene	4,200.000	0.66	0.02	0.02
Benzo(a)anthracene	2.000	0.54	0.031	0.012
Chrysene	160.000	0.59	0.02	0.03
Benzo(b)fluoranthene	5.000	0.32	0.03	0.02
Benzo(k)fluoranthene	49.000	0.34	ND	ND
Benzo(a)pyrene	8.000	0.48	0.030	0.04
Dibenzo(a,h)anthracene	2.000	0.10	0.030	0.05
Benzo(g,h,I)perylene	*	0.23	ND	0.01
Indeno(1,2,3,c,d)pyrene	14.000	0.18	ND	ND
pH		4.97	4.73	4.89
Nickel (pH 4.5-4.74)	20.000		18.8	
Nickel (pH 4.75-5.24)	36.000	19.8		16.8
Vanadium	980.000	48.1	40.2	45.2

* Regulatory levels for these two compounds have not been established.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-1S

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS1 0-6"
Sample Date: 09-29-98/1400

Lab ID: 980929-1222
Report Date: 10-08-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	19.8	mg/kg	10-01-98JF
6010B	Vanadium	48.1	mg/kg	10-05-98JF
9045C	pH (1:1)	4.97	SU	10-07-98TW

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-2S

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS2 0-6"
Sample Date: 09-29-98/1410

Lab ID: 980929-1223
Report Date: 10-08-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	18.8	mg/kg	10-01-98JF
6010B	Vanadium	40.2	mg/kg	10-05-98JF
9045C	pH (1:1)	4.73	SU	10-07-98TW

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27358-3S

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS3 0-6"
Sample Date: 09-29-98/1415

Lab ID: 980929-1224
Report Date: 10-08-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	16.8	mg/kg	10-01-98JF
6010B	Vanadium	45.2	mg/kg	10-05-98JF
9045C	pH (1:1)	4.89	SU	10-07-98TW

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-1

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS1 0-6"
Sample Date: 09-29-98/1400

Lab ID: 980929-1222
Report Date: 10-05-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	19.8	mg/kg	10-01-98JF
6010B	Vanadium	48.1	mg/kg	10-05-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-01

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS1 0-6"
SAMPLE DATE: 09/29/98

LAB I.D.: 980929-1222
REPORT DATE: 10/05/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	4.0	ug/kg
Toluene	4.0	4.6	ug/kg
Ethylbenzene	4.0	5.7	ug/kg
Xylenes (Total)	4.0	27.7	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	115	67	150
1,2-Dichloroethane-d4	121	74	145
Toluene-d8	76	72	132
Bromofluorobenzene	96	70	136

ANALYSIS DATE: 10/05/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 27858-01

Clark Oil & Refining Co.
201 E. Hawthorne Ave
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS1 0-6"
SAMPLE DATE: 09/29/98

Lab I.D.: 980929-1222
Report Date: 10/06/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	0.83	mg/kg
Acenaphthylene	0.01	0.17	mg/kg
Acenaphthene	0.01	1.4	mg/kg
Fluorene	0.01	0.15	mg/kg
Phenanthrene	0.10	1.1 *	mg/kg
Anthracene	0.01	0.13	mg/kg
Fluoranthene	0.01	1.2	mg/kg
Pyrene	0.01	0.66	mg/kg
Benzo(a)anthracene	0.008	0.54	mg/kg
Chrysene	0.01	0.59	mg/kg
Benzo(b)fluoranthene	0.01	0.32	mg/kg
Benzo(k)fluoranthene	0.01	0.34	mg/kg
Benzo(a)pyrene	0.01	0.48	mg/kg
Dibenzo(a,h)anthracene	0.01	0.10	mg/kg
Benzo(g,h,i)perylene	0.01	0.23	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	0.18	mg/kg

ND = Below Detection Limit
*** = Result was quantitated from 10X dilution on 10-05-98.**

Surrogate Standard Recovery

p- Terphenyl-d14 **175 %**

D = Diluted out.

Extraction Date: 10/02/98
Analysis Date: 10/05/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

NVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-2

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS2 0-6"
Sample Date: 09-29-98/1410

Lab ID: 980929-1223
Report Date: 10-05-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	18.8	mg/kg	10-01-98JF
6010B	Vanadium	40.2	mg/kg	10-05-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

for James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-02

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS2 0-6"
SAMPLE DATE: 09/29/98

LAB I.D.: 980929-1223
REPORT DATE: 10/05/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	4.1	ug/kg
Toluene	4.0	4.4	ug/kg
Ethylbenzene	4.0	4.3	ug/kg
Xylenes (Total)	4.0	19.2	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	118	67	150
1,2-Dichloroethane-d4	128	74	145
Toluene-d8	83	72	132
Bromofluorobenzene	90	70	136

ANALYSIS DATE: 10/05/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

IEPA CERTIFICATE #100226 • IDPH REGISTRY #17584

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 27858-02

Clark Oil & Refining Co.
201 E. Hawthorne Ave
Hartford, IL 62046

PROJECT: Soil Testing
Mile Coker Overspray

SAMPLE I.D.: SS2 0-6"
SAMPLE DATE: 09/29/98

Lab I.D.: 980929-1223
Report Date: 10/06/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	0.12	mg/kg
Fluorene	0.01	0.02	mg/kg
Phenanthrene	0.01	ND	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	0.02	mg/kg
Benzo(a)anthracene	0.008	0.031	mg/kg
Chrysene	0.01	0.02	mg/kg
Benzo(b)fluoranthene	0.01	0.03	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	0.03	mg/kg
Dibenzo(a,h)anthracene	0.01	0.03	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

ND = Below Detection Limit

Surrogate Standard Recovery

p- Terphenyl-d14 **98 %**

D = Diluted out.

Extraction Date: 10/02/98
Analysis Date: 10/05/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-3

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS3 0-6"
Sample Date: 09-29-98/1415

Lab ID: 980929-1224
Report Date: 10-05-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	16.8	mg/kg	10-01-98JF
6010B	Vanadium	45.2	mg/kg	10-05-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

for James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-03

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS3 0-6"
SAMPLE DATE: 09/29/98

LAB I.D.: 980929-1224
REPORT DATE: 10/05/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	ND	ug/kg
Toluene	4.0	ND	ug/kg
Ethylbenzene	4.0	ND	ug/kg
Xylenes (Total)	4.0	ND	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	107	67	150
1,2-Dichloroethane-d4	116	74	145
Toluene-d8	86	72	132
Bromofluorobenzene	93	70	136

ANALYSIS DATE: 10/05/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

RONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 27858-03

Clark Oil & Refining Co.
201 E. Hawthorne Ave
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS3 0-6"
SAMPLE DATE: 09/29/98

Lab I.D.: 980929-1224
Report Date: 10/06/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	0.18	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	0.01	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	0.02	mg/kg
Benzo(a)anthracene	0.008	0.012	mg/kg
Chrysene	0.01	0.03	mg/kg
Benzo(b)fluoranthene	0.01	0.02	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	0.04	mg/kg
Dibenzo(a,h)anthracene	0.01	0.05	mg/kg
Benzo(g,h,i)perylene	0.01	0.01	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

ND = Below Detection Limit

Surrogate Standard Recovery

p- Terphenyl-d14 **102 %**

D = Diluted out.

Extraction Date: 10/02/98
Analysis Date: 10/05/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-VBK

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Water Quality Testing
Milo Coker Overspray

SAMPLE I.D.: Method Blank
SAMPLE DATE: 10/04/98

LAB I.D.: VBK-A2181
REPORT DATE: 10/04/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/l
Toluene	2.0	ND	ug/l
Ethylbenzene	2.0	ND	ug/l
Xylenes (Total)	2.0	ND	ug/l

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	96	87	126
1,2-Dichloroethane-d4	104	85	130
Toluene-d8	93	86	125
Bromofluorobenzene	99	89	129

ANALYSIS DATE: 10/04/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

CHAIN OF CUSTODY

DOCUMENT # 2858

CLIENT: Clark Oil

ADDRESS:

CITY/STATE/ZIP Hartford, IL

CONTACT: PHONE:

PROJECT: Hartford overspray resample FAX:

TEKLAB, INC.
5445 Horseshoe Lake Road • Collinsville, IL 62234
(618) 344-1004 • FAX (618) 344-1005

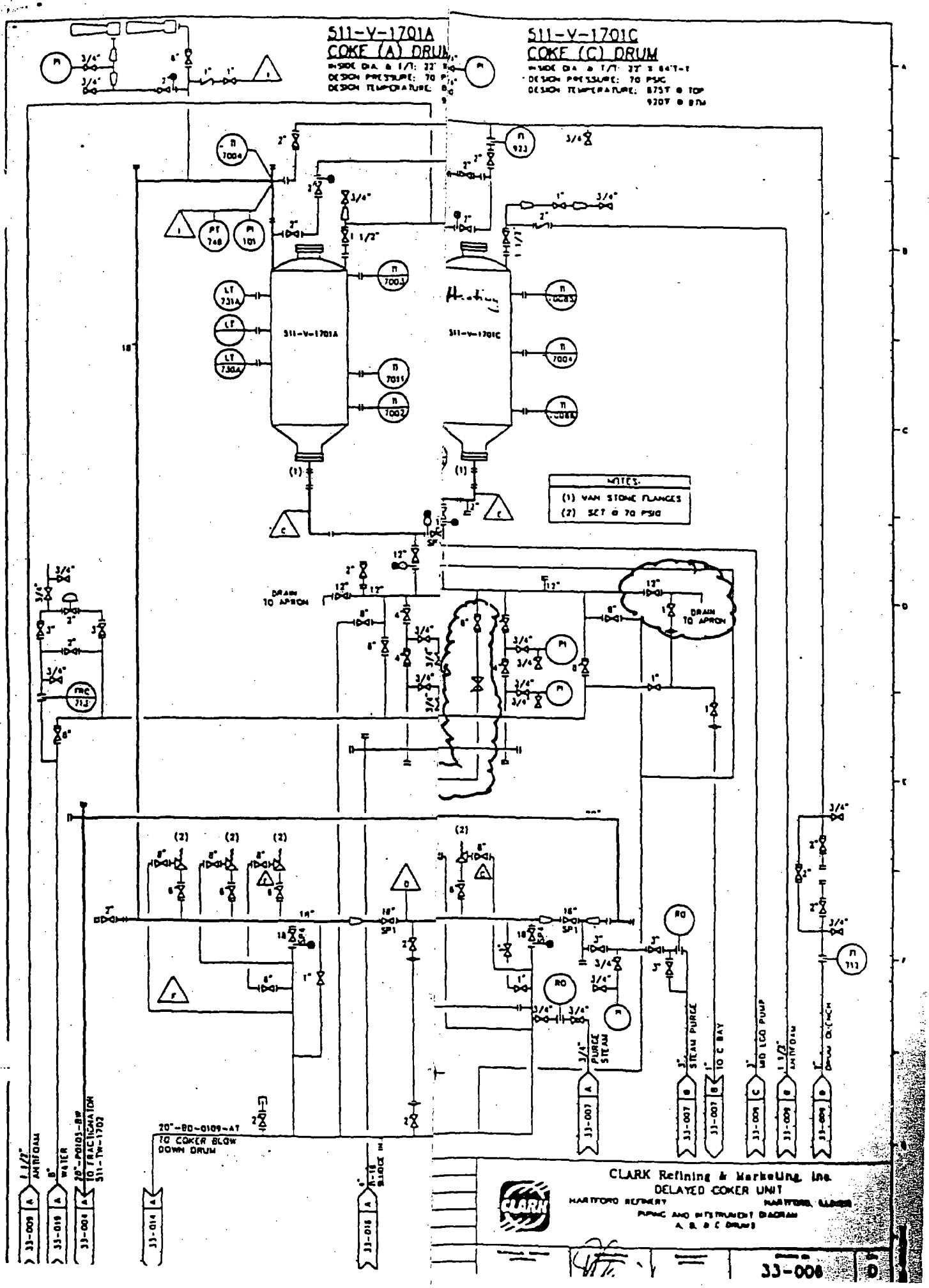
INDICATE ANALYSIS REQUESTED

Lab Use Only	Sample Identification	Date	Time	# BTLS	Pres.	MATRIX: WATER	MATRIX: SOIL	MATRIX: SP. WASTE	BTEX	PNA	Pb	VOC
0929-1222	SS1 0-6"	9/29/98	11:00	2	Cool		✓		✓	✓	✓	✓
1223	SS2 0-6"	9/29/98	14:10	2	Cool		✓		✓	✓	✓	✓
1224	SS3 0-6"	9/29/98	14:15	2	Cool		✓		✓	✓	✓	✓

LAB INSTRUCTIONS:
Requested Due Date 5 day Rush

BILLING INSTRUCTIONS:
P.O.

Relinquished By	Date/Time	Received By	Date/Time
John Kirby	9/29/98 14:15	John Kirby	9/29/98 14:15
John Kirby	9/25/98 14:55	Michelle Epperson	9/29/98 1455



511-V-1701A
COKE (A) DRUM
INSIDE DIA. & T/T: 22' X
DESIGN PRESSURE: 70 P
DESIGN TEMPERATURE:
511-V-1701C
COKE (C) DRUM
INSIDE DIA. & T/T: 22' X 64'T-T
DESIGN PRESSURE: 70 PSIG
DESIGN TEMPERATURE: 875°F @ TOP
920°F @ BTM
511-V-1701A
511-V-1701C
NOTES:
(1) VAN STONE FLANGES
(2) SET @ 70 PSIG
DRAIN TO APRON
DRAIN TO APRON
PURGE STEAM
STEAM PURGE
TO C BAY
MID LGO PUMP
ANTIFOAM
DRUM QUENCH
20"-BD-0109-AT
TO COKER BLOW DOWN DRUM
ANTIFOAM
WATER
20"-P0105-BW
TO FRACTIONATOR 511-TW-1702
CLARK Refining & Marketing, Inc.
DELAYED COKER UNIT
HARTFORD REFINERY
HARTFORD, ILLINOIS
PIPING AND INSTRUMENT DIAGRAM
A, B, & C DRUMS
33-008
D

FILE

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

October 20, 1998

Illinois EPA
Attn: G. Tod Rowe, P.G.
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Re: Follow-up action items from September 28, 1998 meeting

Dear Mr. Rowe:

Clark Refining & Marketing is providing the requested information about incident number 971227, 981246, and 981333. Included with this letter is a write-up of the three incidents, the root cause analysis for each incident, and the analytical data from the sampling event conducted on the 29th of September. Comparing the data to the Tier I parameters indicates that no further remediation is needed.

If you have any questions or concerns, please call (618)254-7301 ext. 266.

Sincerely,

Bill R. Irwin
Environmental Manager

ORIG - ROWE NOVE 1998 -001
cc - Kelly (IEPA)
cc - FORREST LAUNER
cc - JERRY BARNHILL
cc - FILE

CLARK

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

October 15, 1998

Mr. Tod Rowe, P.G.
Illinois Environmental Protection Agency
1021 North Grand Avenue East
PO Box 19276
Springfield IL 62794-9276

RE: Coker Release Incident Review and Action Items - #971227

Dear Mr. Rowe:

Attached is the incident report for the Coker release that occurred on July 9, 1997. The root cause of the incident was operator error, but the analysis led to system improvements to make the process more fault-tolerant. A key-lock system was implemented, similar to lock-out-tag-out (LOTO), to insure that the operator doesn't inadvertently open the drain valve on the wrong drum as occurred in this case. Further, the head operator (stillman) issues the key to insure that the operator doesn't go to the wrong drum by mistake with a key that would allow him to open the valve.

With the key-lock system and stillman coordination, the likelihood of this type of event occurring in the future is significantly reduced. Further, the area foreman will make periodic checks to insure that the procedural changes are institutionalized.

If you have any questions or concerns on this incident review or follow-up actions, please call.

Sincerely,

Forrest B. Lauher
Plant Manager

cc: Tom Grgurich, Hartford Refinery
Bill Irwin, Hartford Refinery
Randy Lindley, Hartford Refinery

CLARK®

INCIDENT INVESTIGATION-NARRATIVE REPORT

OSHA RECORDABLE INJURY # N/A
NEAR MISS INCIDENT # 9707091
INVESTIGATION # 97007091

PERSON INJURED:	NONE
DATE OF INCIDENT:	7/9/97
LOCATION:	COKER C-DRUM 48 FT. LVL.
TYPE OF INCIDENT:	ENVIRONMENTAL RELEASE
NATURE OF INJURY:	N/A
ANTICIPATED DISABILITY:	N/A
INVESTIGATING COMMITTEE:	AL BLACK - CHAIRMAN RON HINES MIKE SHAW DUNBAR RORIE
FOLLOW-UP:	DUNBAR RORIE

NARRATIVE REPORT

On 7/9/97 at 8:15 a.m. an environmental release occurred at the Coker Unit. The release occurred when the drain valve on C-drum was mistakenly opened while the drum was in the heat up process. The fire crew put water on the released vapors while the charge was taken out of the unit and steam was used to purge the vapors out. The valve was then closed and the unit restarted without further incident. The operator involved was taken to the doctor for observation, and returned to work without any problems.

The scenario as to the events that occurred is as follows on the attached events and causal factors diagram.

RECOMMENDATIONS	RESPONSIBLE PARTY	COMPLETION DATE
1. Review awareness of process with employee.	Randy Lindley	(Randy - please estimate completion date) 7-16-97
2. Review LOTO and the execution of this procedure. Implement changes as identified.	Randy Lindley	(Randy - please estimate completion date) 10-1-97
3. Evaluate and consider using a checkoff list for execution of dryout procedure.	Randy Lindley	(Randy - please estimate completion date) 10-1-97
4. Consider periodic audit and evaluation of procedure performance by Stillman / Process Foreman.	Randy Lindley	(Randy - please estimate completion date) CONTINUING

Randy Lindley — Date: 9-16-97

Al Black — Date: 8/15/97

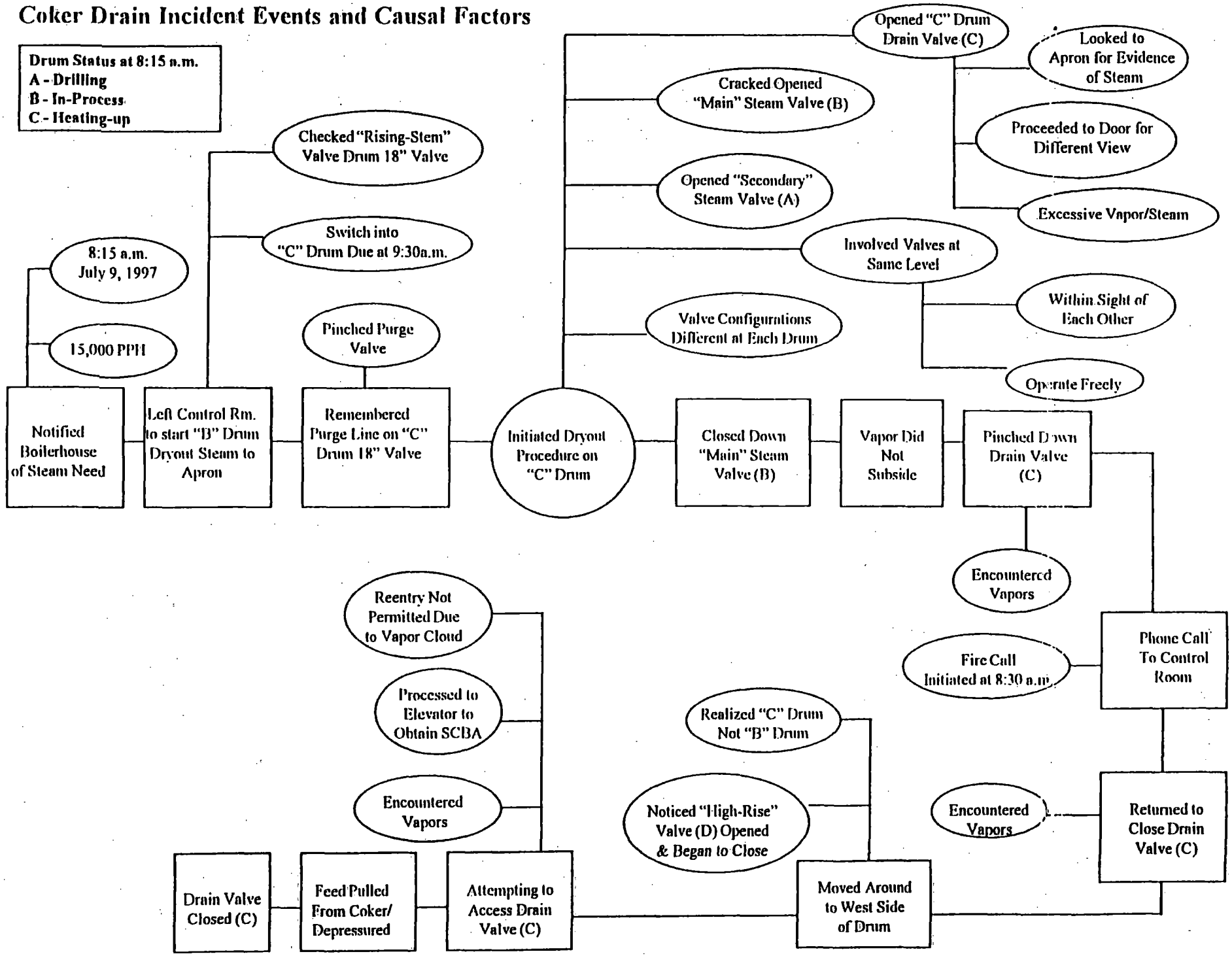
Tom Grgurich — Date: 9/16/97

Paul Drydale — Date: 9/16/97

Forrest Lanher — Date: 9/12/82

COMMENTS: [illegible]

Coker Drain Incident Events and Causal Factors



COKER DRAIN INCIDENT
Date: July 9, 1997

Using the TAPROOT™ Incident Analysis Method, we have identified root causes and provided recommended corrective action as related to the July 9, Coker Incident. The following lists the Level 1-5 categories of failure classification relating to this event:

LEVEL 1: OPERATIONS DIFFICULTY

Level 2: Indication of excessive fatigue, impairment, personal problems or inattentiveness? *Yes*

Level 3: Human Engineering

Level 4: Human - Machine Interface

Level 5: Monitoring Alertness less than adequate

Recommendation: Review awareness of process with employee.

Level 3: Immediate Supervision

Level 4: Preparation

Level 5: Tag out less than adequate

Recommendation: Review LOTO and the execution of this procedure. Implement changes as identified.

Level 2: Was procedure used correctly? *No*

Level 3: Procedures

Level 4: Followed incorrectly

Level 5: No check off used

Recommendation: Evaluate and consider using a checkoff list for execution of dryout procedure.

Level 2: Was this a reoccurring error or was potential for failure known before failure occurred? *Yes, HAZOP*

Level 2: Were administrative controls or policies to prevent/identify/mitigate the error not used or missing? *Yes*

Level 3: Management System

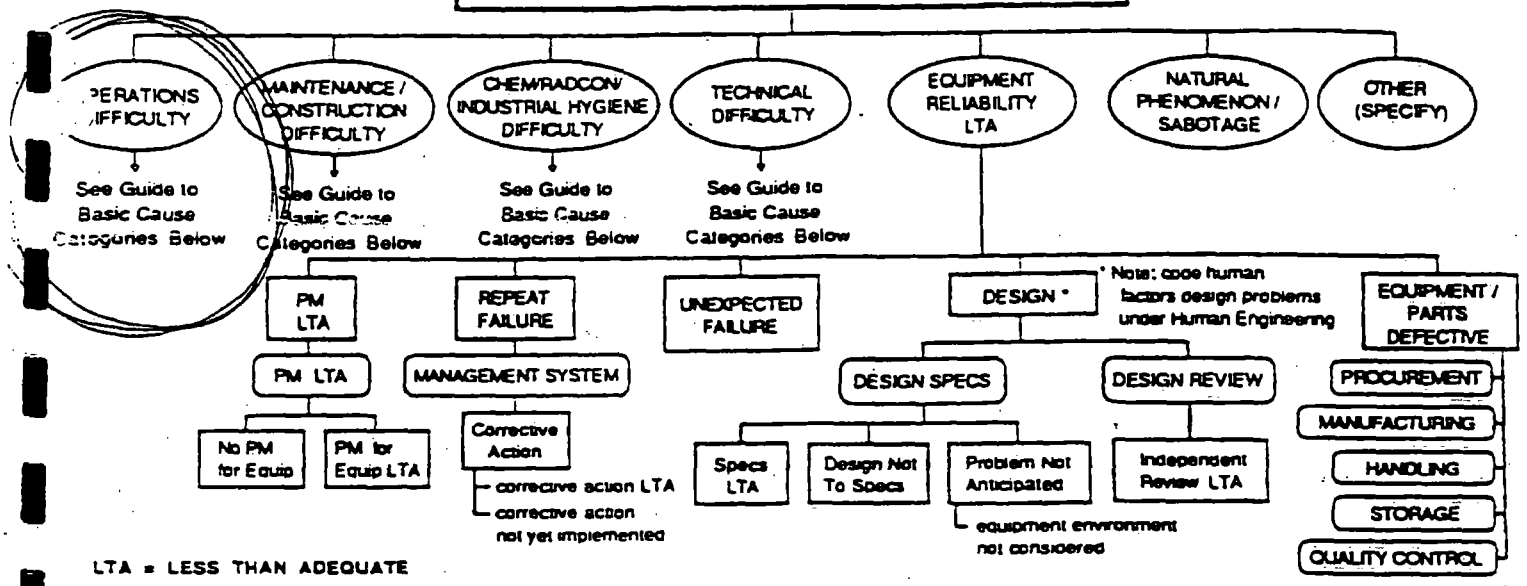
Level 4: Standards, Policies, or Administrative Controls (SPAC) not used.

Level 4: Oversight/Employee Relations

Level 5: Infrequent audits & evaluations

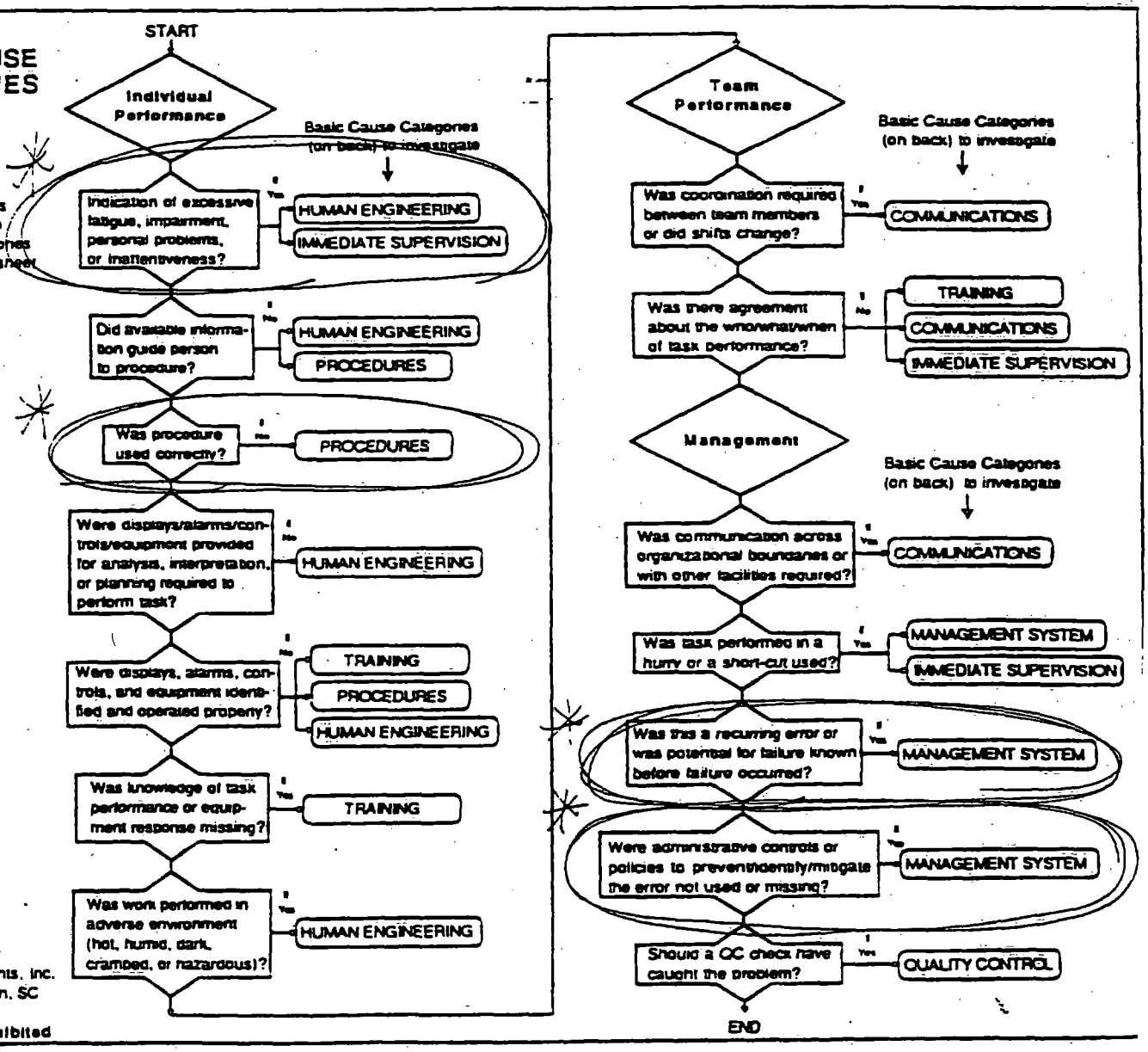
Recommendation: Consider periodic audit and evaluation of procedure performance by Stillman/Process Foreman.

SYSTEM IMPROVEMENTS' ROOT CAUSE TREE™



GUIDE TO BASIC CAUSE CATEGORIES

Directions:
Answer all questions and then refer to the Basic Cause Categories on the back of this sheet to investigate the indicated potential root causes of the incident.



Revised 8/1/92
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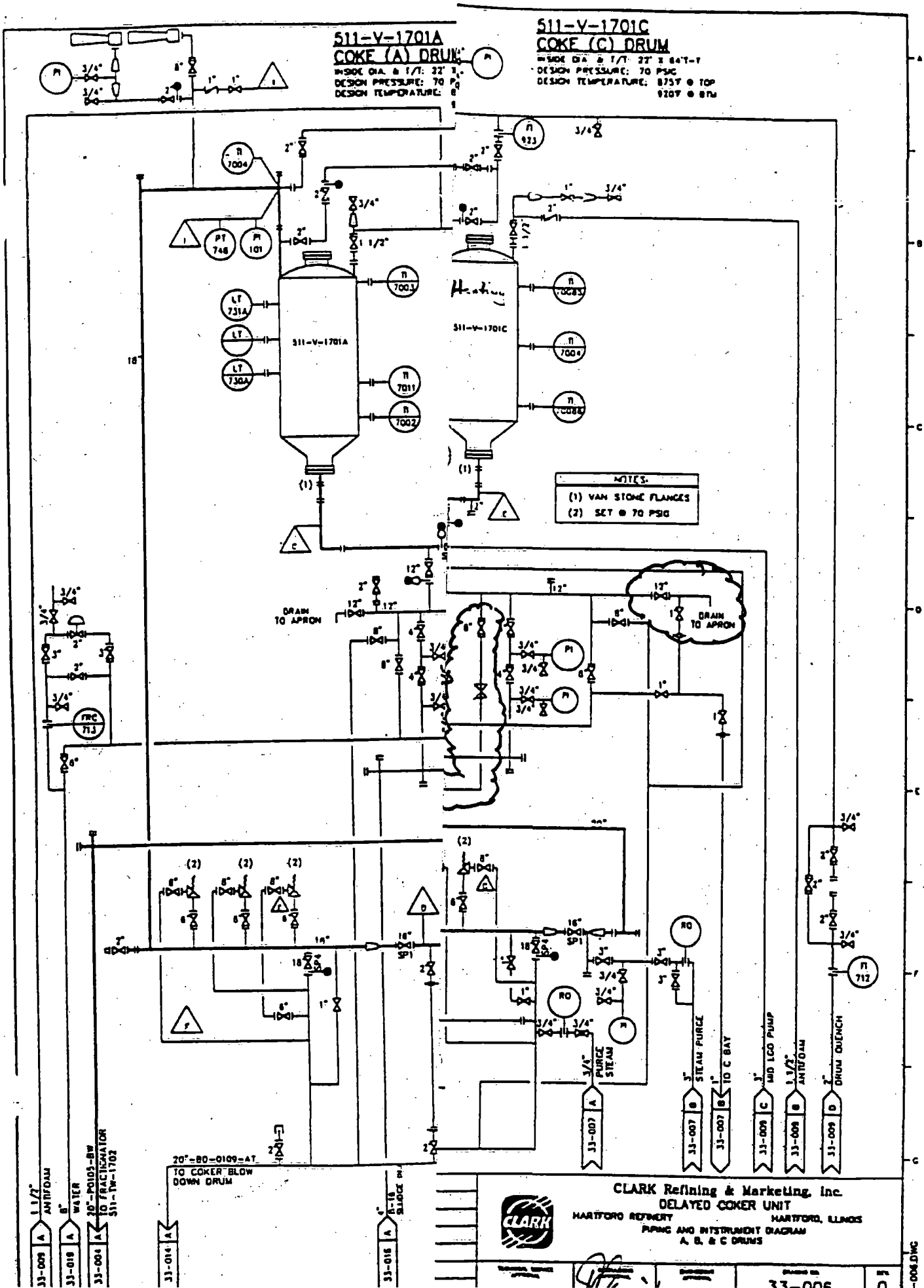

511-V-1701A
COKE (A) DRUM
DESIGN PRESSURE: 70 PSIG
511-V-1701C
COKE (C) DRUM
DESIGN PRESSURE: 70 PSIG
DESIGN TEMPERATURE: 875T @ TOP
920T @ BTM
511-V-1701A
511-V-1701C
NOTES:
(1) VAN STONE FLANGES
(2) SET @ 70 PSIG
DRAIN TO APRON
DRAIN TO APRON
PURGE STEAM
STEAM PURGE
TO C BAY
MID LCO PUMP
ANTIFOAM
DRUM QUENCH
ANTIFOAM
WATER
20"-P0105-BW
TO FRACTIONATOR
511-TW-1702
20"-BD-0109-AT
TO COKER BLOW DOWN DRUM
CLARK Refining & Marketing, Inc.
DELAYED COKER UNIT
HARTFORD REFINERY
HARTFORD, ILLINOIS
PIPING AND INSTRUMENT DIAGRAM
A, B, & C DRUMS
33-006

Analytical Results
for
Milo Field

Tier 1 Soil remediation objectives for Residential Properties migration to groundwater, Class I (mg/kg)

		Sample 1	Sample 2	Sample3
Benzene	0.030	0.004	0.0041	ND
Toluene	12.000	0.0046	0.0044	ND
ethylbenzene	13.000	0.0057	0.0043	ND
Xylenes (total)	190.000	0.0277	0.0192	ND
Naphthalene	84.000	0.83	ND	ND
Acenaphthylene	570.000	0.17	ND	ND
Acenaphthene	570.000	1.4	0.12	0.18
Fluorene	560.000	0.15	0.02	ND
Phenanthrene	*	1.1	ND	0.01
Anthracene	12,000.000	0.13	ND	ND
Fluoranthene	4,300.000	1.2	ND	ND
Pyrene	4,200.000	0.66	0.02	0.02
Benzo(a)anthracene	2.000	0.54	0.031	0.012
Chrysene	160.000	0.59	0.02	0.03
Benzo(b)fluoranthene	5.000	0.32	0.03	0.02
Benzo(k)fluoranthene	49.000	0.34	ND	ND
Benzo(a)pyrene	8.000	0.48	0.030	0.04
Dibenzo(a,h)anthracene	2.000	0.10	0.030	0.05
Benzo(g,h,I)perylene	*	0.23	ND	0.01
Indeno(1,2,3,c,d)pyrene	14.000	0.18	ND	ND
pH		4.97	4.73	4.89
Nickel (pH 4.5-4.74)	20.000		18.8	
Nickel (pH 4.75-5.24)	36.000	19.8		16.8
Vanadium	980.000	48.1	40.2	45.2

* Regulatory levels for these two compounds have not been established.

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-1S

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS1 0-6"
Sample Date: 09-29-98/1400

Lab ID: 980929-1222
Report Date: 10-08-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	19.8	mg/kg	10-01-98JF
6010B	Vanadium	48.1	mg/kg	10-05-98JF
9045C	pH (1:1)	4.97	SU	10-07-98TW

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-2S

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS2 0-6"
Sample Date: 09-29-98/1410

Lab ID: 980929-1223
Report Date: 10-08-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	18.8	mg/kg	10-01-98JF
6010B	Vanadium	40.2	mg/kg	10-05-98JF
9045C	pH (1:1)	4.73	SU	10-07-98TW

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27358-3S

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS3 0-6"
Sample Date: 09-29-98/1415

Lab ID: 980929-1224
Report Date: 10-08-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	16.8	mg/kg	10-01-98JF
6010B	Vanadium	45.2	mg/kg	10-05-98JF
9045C	pH (1:1)	4.89	SU	10-07-98TW

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-1

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS1 0-6"
Sample Date: 09-29-98/1400

Lab ID: 980929-1222
Report Date: 10-05-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	19.8	mg/kg	10-01-98JF
6010B	Vanadium	48.1	mg/kg	10-05-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

for James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-01

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS1 0-6"
SAMPLE DATE: 09/29/98

LAB I.D.: 980929-1222
REPORT DATE: 10/05/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	4.0	ug/kg
Toluene	4.0	4.6	ug/kg
Ethylbenzene	4.0	5.7	ug/kg
Xylenes (Total)	4.0	27.7	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	115	67	150
1,2-Dichloroethane-d4	121	74	145
Toluene-d8	76	72	132
Bromofluorobenzene	96	70	136

ANALYSIS DATE: 10/05/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 27858-01

Clark Oil & Refining Co.
201 E. Hawthorne Ave
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS1 0-6"
SAMPLE DATE: 09/29/98

Lab I.D.: 980929-1222
Report Date: 10/06/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	0.83	mg/kg
Acenaphthylene	0.01	0.17	mg/kg
Acenaphthene	0.01	1.4	mg/kg
Fluorene	0.01	0.15	mg/kg
Phenanthrene	0.10	1.1 *	mg/kg
Anthracene	0.01	0.13	mg/kg
Fluoranthene	0.01	1.2	mg/kg
Pyrene	0.01	0.66	mg/kg
Benzo(a)anthracene	0.008	0.54	mg/kg
Chrysene	0.01	0.59	mg/kg
Benzo(b)fluoranthene	0.01	0.32	mg/kg
Benzo(k)fluoranthene	0.01	0.34	mg/kg
Benzo(a)pyrene	0.01	0.48	mg/kg
Dibenzo(a,h)anthracene	0.01	0.10	mg/kg
Benzo(g,h,i)perylene	0.01	0.23	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	0.18	mg/kg

ND = Below Detection Limit
*** = Result was quantitated from 10X dilution on 10-05-98.**

Surrogate Standard Recovery

p- Terphenyl-d14 **175 %**

D = Diluted out.

Extraction Date: 10/02/98
Analysis Date: 10/05/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

NVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-2

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS2 0-6"
Sample Date: 09-29-98/1410

Lab ID: 980929-1223
Report Date: 10-05-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	18.8	mg/kg	10-01-98JF
6010B	Vanadium	40.2	mg/kg	10-05-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

for James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-02

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS2 0-6"
SAMPLE DATE: 09/29/98

LAB I.D.: 980929-1223
REPORT DATE: 10/05/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	4.1	ug/kg
Toluene	4.0	4.4	ug/kg
Ethylbenzene	4.0	4.3	ug/kg
Xylenes (Total)	4.0	19.2	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	118	67	150
1,2-Dichloroethane-d4	128	74	145
Toluene-d8	83	72	132
Bromofluorobenzene	90	70	136

ANALYSIS DATE: 10/05/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

IEPA CERTIFICATE #100226 • IDPH REGISTRY #17584

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 27858-02

Clark Oil & Refining Co.
201 E. Hawthorne Ave
Hartford, IL 62048

PROJECT: Soil Testing
Mile Coker Overspray

SAMPLE I.D.: SS2 0-6"
SAMPLE DATE: 09/29/98

Lab I.D.: 980929-1223
Report Date: 10/06/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	0.12	mg/kg
Fluorene	0.01	0.02	mg/kg
Phenanthrene	0.01	ND	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	0.02	mg/kg
Benzo(a)anthracene	0.008	0.031	mg/kg
Chrysene	0.01	0.02	mg/kg
Benzo(b)fluoranthene	0.01	0.03	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	0.03	mg/kg
Dibenzo(a,h)anthracene	0.01	0.03	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

ND = Below Detection Limit

Surrogate Standard Recovery

p- Terphenyl-d14 **98 %**

D = Diluted out.

Extraction Date: 10/02/98
Analysis Date: 10/05/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report #27858-3

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing
Milo/Coker Overspray Resample

Sample Received: 09-29-98

Sample ID: SS3 0-6"
Sample Date: 09-29-98/1415

Lab ID: 980929-1224
Report Date: 10-05-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
7520	Nickel	16.8	mg/kg	10-01-98JF
6010B	Vanadium	45.2	mg/kg	10-05-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

for James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-03

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS3 0-6"
SAMPLE DATE: 09/29/98

LAB I.D.: 980929-1224
REPORT DATE: 10/05/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	ND	ug/kg
Toluene	4.0	ND	ug/kg
Ethylbenzene	4.0	ND	ug/kg
Xylenes (Total)	4.0	ND	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	107	67	150
1,2-Dichloroethane-d4	116	74	145
Toluene-d8	86	72	132
Bromofluorobenzene	93	70	136

ANALYSIS DATE: 10/05/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

RONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 27858-03

Clark Oil & Refining Co.
201 E. Hawthorne Ave
Hartford, IL 62048

PROJECT: Soil Testing
Milo Coker Overspray

SAMPLE I.D.: SS3 0-6"
SAMPLE DATE: 09/29/98

Lab I.D.: 980929-1224
Report Date: 10/06/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	0.18	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	0.01	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	0.02	mg/kg
Benzo(a)anthracene	0.008	0.012	mg/kg
Chrysene	0.01	0.03	mg/kg
Benzo(b)fluoranthene	0.01	0.02	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	0.04	mg/kg
Dibenzo(a,h)anthracene	0.01	0.05	mg/kg
Benzo(g,h,i)perylene	0.01	0.01	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

ND = Below Detection Limit

Surrogate Standard Recovery

p- Terphenyl-d14 **102 %**

D = Diluted out.

Extraction Date: 10/02/98
Analysis Date: 10/05/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 27858-VBK

Clark Oil & Refining Company
201 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Water Quality Testing
Milo Coker Overspray

SAMPLE I.D.: Method Blank
SAMPLE DATE: 10/04/98

LAB I.D.: VBK-A2181
REPORT DATE: 10/04/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/l
Toluene	2.0	ND	ug/l
Ethylbenzene	2.0	ND	ug/l
Xylenes (Total)	2.0	ND	ug/l

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	96	87	126
1,2-Dichloroethane-d4	104	85	130
Toluene-d8	93	86	125
Bromofluorobenzene	99	89	129

ANALYSIS DATE: 10/04/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

CHAIN OF CUSTODY

DOCUMENT # 41020

CLIENT: Clark Oil

ADDRESS:

CITY/STATE/ZIP Hartford, IL

CONTACT: PHONE:

PROJECT Hartford overspray resample FAX:

TEKLAB, INC.
5445 Horseshoe Lake Road • Collinsville, IL 62234
(618) 344-1004 • FAX (618) 344-1005

INDICATE ANALYSIS REQUESTED

Lab Use Only	Sample Identification	Date	Time	# BTLS	Pres.	MATRIX: WATER	MATRIX: SOIL	MATRIX: SP. WASTE	BTEX	PNA	Ni	VOC
18 0929-1222	SS1 0-6"	9/29/98	11:00	2	Cool		✓		✓	✓	✓	✓
1223	SS2 0-6"	9/29/98	14:10	2	Cool		✓		✓	✓	✓	✓
1224	SS3 0-6"	9/29/98	14:15	2	Cool		✓		✓	✓	✓	✓

LAB INSTRUCTIONS:
Requested Due Date 5 day Rush

BILLING INSTRUCTIONS:
P.O.

Relinquished By	Date/Time	Received By	Date/Time
John Kelley	9/29/98 14:15	John Kelley	9/29/98 14:1
John Kelley	9/25/98 14:55	Michelle Epperson	9/29/98 14:5

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

November 24, 1998

Mr. Tom Powell
Illinois Environmental Protection Agency
2009 Mall Street
Collinsville, IL 62234

Dear Mr.Powell,

Enclosed please find a copy of resampling results for the first sample point for the Milo field, located on the South side of Hawthorne Avenue.

Please call me at 254-7301, Ext. 218, with other questions you may have.

Sincerely,

Massood Modarres
Environmental Engineer

K:\massood\corres\powell\epa1198.doc 11/24/98 11:11 AM

CLARK

TEKLAB, INC.
ENVIRONMENTAL TESTING LABORATORY

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

TEL: 618-344-1004
FAX: 618-344-1005

Report #28551-1

SECOND SAMPLING FROM MILO FIELD

Mr. Massood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing

Sample Received: 11-04-98

Sample ID: SS-1
Sample Date: 11-04-98/1420

Lab ID: 981104-126
Report Date: 11-13-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
9045C	pH (1:1)	4.82	SU	11-05-98TW
6010B	Nickel	15.8	mg/kg	11-11-98JF
6010B	Vanadium	39.9	mg/kg	11-12-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.
5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234
ENVIRONMENTAL TESTING LABORATORY
TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 28551-01

Clark Refining & Marketing
220 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing

SAMPLE I.D.: SS-1
SAMPLE DATE: 11/04/98

LAB I.D.: 981104-126
REPORT DATE: 11/08/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	ND	ug/kg
Toluene	4.0	ND	ug/kg
Ethylbenzene	4.0	ND	ug/kg
Xylenes (Total)	4.0	ND	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	99	67	150
1,2-Dichloroethane-d4	93	74	145
Toluene-d8	99	72	132
Bromofluorobenzene	94	70	136

ANALYSIS DATE: 11/08/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

IEPA CERTIFICATE #100226 • IDPH REGISTRY #17584

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 28551-01

CLARK OIL & REFINING CO.
201 E. Hawthorne Ave.
Hartford, IL. 62048

PROJECT: Soil Testing

SAMPLE I.D.: SS-1
SAMPLE DATE: 11/04/98

Lab I.D.: 981104-126
Report Date: 11/10/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	0.52	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	0.03	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	0.03	mg/kg
Pyrene	0.01	ND	mg/kg
Benzo(a)anthracene	0.008	0.011	mg/kg
Chrysene	0.01	0.03	mg/kg
Benzo(b)fluoranthene	0.01	ND	mg/kg
Benzo(k)fluoranthene	0.01	0.01	mg/kg
Benzo(a)pyrene	0.01	ND	mg/kg
Dibenzo(a,h)anthracene	0.01	0.05	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

ND = Below Detection Limit

Surrogate Standard Recovery

p- Terphenyl-d14 111 %

Extraction Date: 11/09/98
Analysis Date: 11/09/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.
ENVIRONMENTAL TESTING LABORATORY

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

TEL: 618-344-1004
FAX: 618-344-1005

Report #28551-2

Mr. Mossood Modarres
Clark Oil & Refining Corp.
Hartford Refinery
201 E. Hawthorne Avenue
Hartford, IL 62048

Project: Soil Testing

Sample Received: 11-04-98

Sample ID: SS-1A
Sample Date: 11-04-98/1425

Lab ID: 981104-127
Report Date: 11-13-98

ANALYSIS RESULTS

METHOD	PARAMETER	RESULT	UNIT	DATE OF ANALYSIS
9045C	pH (1:1)	4.65	SU	11-05-98TW
6010B	Nickel	18.2	mg/kg	11-11-98JF
6010B	Vanadium	37.6	mg/kg	11-12-98JF

These tests were conducted in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. Environmental Protection Agency, SW-846 (Revised 1990).

TEKLAB, INC.

James S. Riley
Vice President

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 28551-02

Clark Refining & Marketing
220 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing

SAMPLE I.D.: SS-1A
SAMPLE DATE: 11/04/98

LAB I.D.: 981104-127
REPORT DATE: 11/08/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	4.0	ND	ug/kg
Toluene	4.0	7.0	ug/kg
Ethylbenzene	4.0	ND	ug/kg
Xylenes (Total)	4.0	15.4	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	103	67	150
1,2-Dichloroethane-d4	96	74	145
Toluene-d8	100	72	132
Bromofluorobenzene	91	70	136

ANALYSIS DATE: 11/08/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

IDPH CERTIFICATE #100226 IDPH REGISTRY #17584

TEKLAB, INC.
ENVIRONMENTAL TESTING LABORATORY
5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234
TEL: 618-344-1004
FAX: 618-344-1005

Report # 28551-02

CLARK OIL & REFINING CO.
201 E. Hawthorne Ave.
Hartford, IL. 62048

PROJECT: Soil Testing

SAMPLE I.D.: SS-1A
SAMPLE DATE: 11/04/98

Lab I.D.: 981104-127
Report Date: 11/10/98

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	0.07	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	0.02	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	0.01	mg/kg
Pyrene	0.01	0.01	mg/kg
Benzo(a)anthracene	0.008	0.017	mg/kg
Chrysene	0.01	0.03	mg/kg
Benzo(b)fluoranthene	0.01	0.02	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	0.05	mg/kg
Dibenzo(a,h)anthracene	0.01	ND	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

ND = Below Detection Limit

Surrogate Standard Recovery

p- Terphenyl-d14 **93 %**

Extraction Date: 11/09/98
Analysis Date: 11/09/98
Analyst: J. Forsythe

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 28551-VBK

Clark Refining & Marketing
220 East Hawthorne Avenue
Hartford, IL 62048

PROJECT: Soil Testing

SAMPLE I.D.: Method Blank
SAMPLE DATE: 11/08/98

LAB I.D.: VBK-F0156
REPORT DATE: 11/08/98

VOLATILE ORGANICS
SW-846 METHOD 8260A

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/kg
Toluene	2.0	ND	ug/kg
Ethylbenzene	2.0	ND	ug/kg
Xylenes (Total)	2.0	ND	ug/kg

ND = Not detected at or above the detection limit.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	100	67	150
1,2-Dichloroethane-d4	96	74	145
Toluene-d8	100	72	132
Bromofluorobenzene	97	70	136

ANALYSIS DATE: 11/08/98
ANALYST: Tony Lynn

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34903-001

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-1
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-76
REPORT DATE: 10/05/99

D. K

VOLATILE ORGANICS
SW-846 METHOD 8260B

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/kg
Toluene	2.0	ND	ug/kg
Ethylbenzene	2.0	ND	ug/kg
Xylenes (Total)	2.0	ND	ug/kg

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	108	67	150
1,2-Dichloroethane-d4	107	74	145
Toluene-d8	92	72	132
Bromofluorobenzene	84	70	136

ANALYSIS DATE: 10/05/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-01

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: S. E. BOTTOM
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-076
Report Date: 09/06/99

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

O.K.

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	0.11	mg/kg
Acenaphthylene	0.01	0.16	mg/kg
Acenaphthene	0.01	ND	mg/kg
Fluorene	0.01	0.24	mg/kg
Phenanthrene	0.01	0.45	mg/kg
Anthracene	0.01	0.05	mg/kg
Fluoranthene	0.01	0.44	mg/kg
Pyrene	0.01	ND	mg/kg
Benzo(a)anthracene	0.008	0.51	mg/kg
Chrysene	0.01	0.13	mg/kg
Benzo(b)fluoranthene	0.01	ND	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	ND	mg/kg
Dibenzo(a,h)anthracene	0.01	ND	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

Surrogate Standard Recovery

p- Terphenyl-d14 **MI %**

Notes: **ND = Not detected at or above detection limit.**
Samples are prepared and analyzed on an as received basis.
MI: Matrix Interference.

Extraction Date: 10/05/99
Analysis Date: 10/05/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

for Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34903-002

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-2
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-77
REPORT DATE: 10/05/99

VOLATILE ORGANICS
SW-846 METHOD 8260B

PARAMETER	DET. LIMIT	RESULT	UNIT	
				OK
Benzene	20.0	ND	ug/kg	30
Toluene	20.0	35.6	ug/kg	12,000
Ethylbenzene	20.0	22.2	ug/kg	13,000
Xylenes (Total)	20.0	143.0	ug/kg	150,000

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	101	67	150
1,2-Dichloroethane-d4	100	74	145
Toluene-d8	95	72	132
Bromofluorobenzene	96	70	136

ANALYSIS DATE: 10/05/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

RONMENTAL TESTING LABORATORY
TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-02

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: N. E. BOTTOM
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-077
Report Date: 09/06/99

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT	
Naphthalene	0.05	1.5	mg/kg	84
Acenaphthylene	0.05	5.3	mg/kg	570
Acenaphthene	0.05	ND	mg/kg	570
Fluorene	0.05	2.0	mg/kg	560
Phenanthrene	0.05	4.0	mg/kg	—
Anthracene	0.05	0.12	mg/kg	12,000
Fluoranthene	0.05	3.0	mg/kg	3100
Pyrene	0.05	ND	mg/kg	2300
Benzo(a)anthracene	0.039	2.9	mg/kg	0.9
Chrysene	0.05	1.0	mg/kg	88
Benzo(b)fluoranthene	0.05	ND	mg/kg	0.9
Benzo(k)fluoranthene	0.05	ND	mg/kg	9.0
Benzo(a)pyrene	0.05	ND	mg/kg	0.09
Dibenzo(a,h)anthracene	0.05	ND	mg/kg	0.09
Benzo(g,h,i)perylene	0.05	ND	mg/kg	—
Indeno(1,2,3,c,d)pyrene	0.05	ND	mg/kg	0.9

Surrogate Standard Recovery

p- Terphenyl-d14 MI %

Notes: **ND = Not detected at or above detection limit.**
Samples are prepared and analyzed on an as received basis.
MI: Matrix Interference.

Extraction Date: 10/05/99
Analysis Date: 10/05/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

for Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34903-003

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-3
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-78
REPORT DATE: 10/06/99

VOLATILE ORGANICS
SW-846 METHOD 8260B

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/kg
Toluene	2.0	2.8	ug/kg
Ethylbenzene	2.0	ND	ug/kg
Xylenes (Total)	2.0	7.7	ug/kg

OK

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	98	67	150
1,2-Dichloroethane-d4	102	74	145
Toluene-d8	93	72	132
Bromofluorobenzene	86	70	136

ANALYSIS DATE: 10/06/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-03

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: N. W. BOTTOM
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-078
Report Date: 09/06/99

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.10	ND	mg/kg
Acenaphthylene	0.10	0.52	mg/kg
Acenaphthene	0.10	ND	mg/kg
Fluorene	0.10	0.34	mg/kg
Phenanthrene	0.10	0.96	mg/kg
Anthracene	0.10	ND	mg/kg
Fluoranthene	0.10	1.3	mg/kg
Pyrene	0.10	ND	mg/kg
Benzo(a)anthracene	0.077	ND	mg/kg
Chrysene	0.10	ND	mg/kg
Benzo(b)fluoranthene	0.10	ND	mg/kg
Benzo(k)fluoranthene	0.10	ND	mg/kg
Benzo(a)pyrene	0.10	ND	mg/kg
Dibenzo(a,h)anthracene	0.10	ND	mg/kg
Benzo(g,h,i)perylene	0.10	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.10	ND	mg/kg

O.K.

Surrogate Standard Recovery

p- Terphenyl-d14 MI %

Notes: ND = Not detected at or above detection limit.
Samples are prepared and analyzed on an as received basis.
MI: Matrix Interference.

Extraction Date: 10/05/99
Analysis Date: 10/05/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

for Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34903-004

Burns & McDonnell Waste Consultants, inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-4
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-79
REPORT DATE: 10/05/99

VOLATILE ORGANICS
SW-846 METHOD 8260B

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	10.0	ND	ug/kg
Toluene	10.0	ND	ug/kg
Ethylbenzene	10.0	34.2	ug/kg
Xylenes (Total)	10.0	67.0	ug/kg

O.K.

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	99	67	150
1,2-Dichloroethane-d4	100	74	145
Toluene-d8	92	72	132
Bromofluorobenzene	96	70	136

ANALYSIS DATE: 10/05/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

IRONMENTAL TESTING LABORATORY
TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-04

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: S. W. BOTTOM
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-079
Report Date: 09/06/99

O.K.

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.05	ND	mg/kg
Acenaphthylene	0.05	1.4	mg/kg
Acenaphthene	0.05	ND	mg/kg
Fluorene	0.05	0.66	mg/kg
Phenanthrene	0.05	2.1	mg/kg
Anthracene	0.05	0.15	mg/kg
Fluoranthene	0.05	1.3	mg/kg
Pyrene	0.05	ND	mg/kg
Benzo(a)anthracene	0.040	0.85	mg/kg
Chrysene	0.05	0.57	mg/kg
Benzo(b)fluoranthene	0.05	ND	mg/kg
Benzo(k)fluoranthene	0.05	ND	mg/kg
Benzo(a)pyrene	0.05	ND	mg/kg
Dibenzo(a,h)anthracene	0.05	ND	mg/kg
Benzo(g,h,i)perylene	0.05	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.05	ND	mg/kg

0.9 low

Surrogate Standard Recovery

p- Terphenyl-d14 MI %

Notes: **ND = Not detected at or above detection limit.**
Samples are prepared and analyzed on an as received basis.
MI: Matrix Interference.

Extraction Date: 10/05/99
Analysis Date: 10/06/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

for Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

E. RONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34903-005

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-5
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-80
REPORT DATE: 10/05/99

VOLATILE ORGANICS
SW-846 METHOD 8260B

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/kg
Toluene	2.0	ND	ug/kg
Ethylbenzene	2.0	ND	ug/kg
Xylenes (Total)	2.0	3.9	ug/kg

D.K.

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	105	67	150
1,2-Dichloroethane-d4	100	74	145
Toluene-d8	95	72	132
Bromofluorobenzene	89	70	136

ANALYSIS DATE: 10/05/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-05

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: N. SIDE
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-080
Report Date: 09/06/99

OK

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	ND	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	ND	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	ND	mg/kg
Benzo(a)anthracene	0.008	ND	mg/kg
Chrysene	0.01	ND	mg/kg
Benzo(b)fluoranthene	0.01	ND	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	ND	mg/kg
Dibenzo(a,h)anthracene	0.01	ND	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

Surrogate Standard Recovery

p- Terphenyl-d14 61 %

Notes: **ND = Not detected at or above detection limit.**
Samples are prepared and analyzed on an as received basis.

Extraction Date: 10/05/99
Analysis Date: 10/06/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

For Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34903-006

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-6
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-81
REPORT DATE: 10/05/99

VOLATILE ORGANICS
SW-846 METHOD 8260B

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	2.0	ND	ug/kg
Toluene	2.0	ND	ug/kg
Ethylbenzene	2.0	ND	ug/kg
Xylenes (Total)	2.0	3.6	ug/kg

O.K.

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	99	67	150
1,2-Dichloroethane-d4	93	74	145
Toluene-d8	102	72	132
Bromofluorobenzene	96	70	136

ANALYSIS DATE: 10/05/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-06

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: S. SIDE (EAST)
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-061
Report Date: 09/06/99

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	ND	mg/kg
Acenaphthylene	0.01	ND	mg/kg
Acenaphthene	0.01	ND	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	ND	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	ND	mg/kg
Benzo(a)anthracene	0.008	ND	mg/kg
Chrysene	0.01	ND	mg/kg
Benzo(b)fluoranthene	0.01	ND	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	ND	mg/kg
Dibenzo(a,h)anthracene	0.01	ND	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

Surrogate Standard Recovery

p- Terphenyl-d14 67 %

Notes: **ND = Not detected at or above detection limit.**
Samples are prepared and analyzed on an as received basis.

Extraction Date: 10/05/99
Analysis Date: 10/05/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

for Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

REPORT # 34748-007

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, MO 63026

PROJECT: Soil Testing
941554093/Clark

SAMPLE I.D.: S-7
SAMPLE DATE: 10/01/99

LAB I.D.: 991001-82
REPORT DATE: 10/05/99

VOLATILE ORGANICS
SW-846 METHOD 8260A

O. K.

PARAMETER	DET. LIMIT	RESULT	UNIT
Benzene	10.0	ND	ug/kg
Toluene	10.0	ND	ug/kg
Ethylbenzene	10.0	ND	ug/kg
Xylenes (Total)	10.0	ND	ug/kg

ND = Not detected at or above the detection limit.
Samples are prepared and analyzed on an as received basis.

SURROGATE COMPOUND RECOVERIES

Surrogate	% Recovery	LOWER LIMIT	UPPER LIMIT
Dibromofluoromethane	94	67	150
1,2-Dichloroethane-d4	94	74	145
Toluene-d8	86	72	132
Bromofluorobenzene	96	70	136

ANALYSIS DATE: 10/05/99
ANALYST: Rob Eaton

TEKLAB, INC.

Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Report # 34903-07

Burns & McDonnell Waste Consultants
17 Cassens Ct.
St. Louis, MO. 63026

PROJECT: Soil Testing
941554093
Clark

SAMPLE I.D.: S. SIDE (WEST)
SAMPLE DATE: 10/01/99

Lab I.D.: 991001-082
Report Date: 09/06/99

POLYNUCLEAR AROMATIC HYDROCARBONS
SW-846 METHOD 8310

COMPOUND	DET. LIMIT	RESULT	UNIT
Naphthalene	0.01	0.01	mg/kg
Acenaphthylene	0.01	0.02	mg/kg
Acenaphthene	0.01	ND	mg/kg
Fluorene	0.01	ND	mg/kg
Phenanthrene	0.01	ND	mg/kg
Anthracene	0.01	ND	mg/kg
Fluoranthene	0.01	ND	mg/kg
Pyrene	0.01	ND	mg/kg
Benzo(a)anthracene	0.008	ND	mg/kg
Chrysene	0.01	ND	mg/kg
Benzo(b)fluoranthene	0.01	ND	mg/kg
Benzo(k)fluoranthene	0.01	ND	mg/kg
Benzo(a)pyrene	0.01	ND	mg/kg
Dibenzo(a,h)anthracene	0.01	ND	mg/kg
Benzo(g,h,i)perylene	0.01	ND	mg/kg
Indeno(1,2,3,c,d)pyrene	0.01	ND	mg/kg

O.K.

Surrogate Standard Recovery

p- Terphenyl-d14 71 %

Notes: **ND = Not detected at or above detection limit.**
Samples are prepared and analyzed on an as received basis.

Extraction Date: 10/05/99
Analysis Date: 10/05/99
Analyzed by: J. Forsythe
Reported by: J. Forsythe

TEKLAB, INC.

FOR Tony A. Lynn
Laboratory Director

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

October 5, 1999

Report #34903-1/7

Mr. Paul Christian
Burns & McDonnell Waste Consultants
17 Cassens Court
Fenton, MO 63026

Project: Soil Testing
941554093 /E. Elm St.
Sample Date: 10-01-99
Sample Received: 10-01-99

ANALYSIS RESULTS

LAB ID	SAMPLE ID	TOTAL SOLIDS, %
991001-76	S.E. Bottom/1305	75.7
991001-77	N.E. Bottom/1312	77.4
991001-78	N.W. Bottom/1320	83.0
991001-79	S.W. Bottom/1326	75.6
991001-80	N. Side/1335	78.0
991001-81	S. Side (East)/1330	75.1
991001-82	S. Side (West)/1340	83.4

Analysis Date: 10-04-99AM
Method #2540G

These tests were conducted in accordance with Standard Methods for the Evaluation of Water and Wastewater, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 18th Edition, 1992.

TEKLAB, INC.

Michael L. Austin
Director of Operations

34405

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, Missouri 63028
Phone: (314) 305-0077 Fax: (314) 326-8295

Laboratory: TEK LAB
Address:
City/State/Zip: COLLINSVILLE, IL
Telephone: (618) 344-1004

Document Control No:
Lab. Reference No. or Episode No.:

Attention: PAUL CHAMPION

Project Number: 94155 4093 Project Name: CLARK

Site, Group, or SWMU Name: E. ELM ST.

Sample Number: Sample Point	Sample Number: Sample Designator	Sample Location	Material Sampled	Sample Collected: Date	Sample Collected: Time	Sample Type: Matrix: Liquid	Solid	Gas	Composite	Grab	Parcel Number	Analysis: BTEX 5035/8260	PNAs 8310					Quantity (sq. ft. or linear)
	S-1	S.E. BOTTOM	SOIL.	10/1/99	13:05		X			X	3	X	X					991001-076
	S-2	N.E. BOTTOM			1312							X	X					077
	S-3	N.W. BOTTOM			1320							X	X					078
	S-4	S.W. BOTTOM			1326							X	X					079
	S-5	N. SIDE			1335							X	X					080
	S-6	S. SIDE (EAST)			1330							X	X					TP ~~10~~-081
	S-7	S. SIDE (WEST)			1340							X	X					082

1 DAY

PER PAUL ON HOLD DUE TO EXCEDE BEING COMPLETELY USED
MCA 10/4/99

Sampler (signature): [signature]
Sampler (signature):

Special Instructions: 24 HR TURN

Relinquished By: 1. (signature):	Date/Time	Relinquished By: (signature):	Date/Time	Condition of Shipping Container: Good ☐ Fair ☐ Poor ☐	Ice Present in Container: Yes ☐ No ☐
[signature]	10/1/99 14:20	[signature]	10/1/99 1420		
Relinquished By: 2. (signature):	Date/Time	Relinquished By: (signature):	Date/Time	Comments:	

052396 Form WCI-OP18T

PAGE.17
618 344 1005
OCT 08 '99 11:56

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/782-5811
TDD 217/782-9143

February 10, 2000

Bill Irwin, Environmental Manager
Clark Refining and Marketing, Inc.
P.O. Box 7
Hartford, Illinois 62048

CERTIFIED MAIL # Z 416 148 736
RETURN RECEIPT REQUESTED

Re: Violation Notice A-2000-00020
I.D. 119050AAA

Dear Mr. Irwin:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon review of available information and investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of violations of environmental statutes, regulations or permits as set forth in Attachment A to this letter. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified violations, including an estimate of a reasonable time period to complete the necessary activities. Due to the nature and seriousness of the violations cited, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. The response must address each violation specified in Attachment A and include for each an explanation of the activities that will be implemented and the time schedule for the completion of each activity. The written response will constitute a proposed Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt.

FEB 14 2000

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with a referral to the prosecutorial authority.

Written communications should be directed to KEN EREWELE, Illinois EPA, Bureau of Air, Compliance Unit, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include reference to this Violation Notice number A-2000-00020.

Questions regarding this matter should be directed to JEFF BENBENEK at 618/346-5120.

Sincerely,

David J. Kolaz

David J. Kolaz, Manager
Compliance and Systems Management Section
Bureau of Air

DJK: KE

Attachment

cc: FOS Collinsville Regional Office
Division of Legal Counsel
Permits Section

Clayton
GROUP SERVICES

APPENDIX O-2

AUGUST 15, 1999 INCIDENT

Clark Refining and Marketing, Inc., I.D. 119050AAA
Violation Notice A-2000-00020

ATTACHMENT A

Per observations by Jeff Benbenek on August 23, 1999, and other available information:

VIOLATIONS:

Section 9(a) of the Act and 35 Ill. Adm. Code 201.141:

On August 15, 1999, a fire occurred at heater H-20 in the delayed coker unit. The open combustion of heavy oil, the feed material to the unit, resulted in the emission of air contaminants to the atmosphere.

RECOMMENDATIONS:

The Illinois EPA suggests that Clark Refining and Marketing, Inc. take the following actions in order to address the violations stated above:

1. Initiate a preventative maintenance program to assure that the actuators on the coke drum wedgeplug valves do not fail in future operation of the delayed coker unit. Provide a description of such maintenance program in the response to this Violation Notice.

2. Within 45 days of receipt of this Violation Notice, provide the following information for heater H-20 in the delay coking unit:

   - Description of the components that had to be replaced in order to repair heater H-20.
   - The fixed capital cost of the components replaced and an estimate of the cost of constructing a comparable new heater
   - The estimated life of heater H-20, after completion of repairs.
   - The actual and potential emissions from heater H-20

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

February 24, 2000

Mr. Ken Erewele
Illinois EPA, Bureau of Air
Compliance Unit
P O Box 19276
Springfield, Illinois 62794-9276

FILE NUMBER 070.20.50

RETAIN IN FILE UNTIL _____

Re: A-2000-00020

Dear Sir:

Clark Refining & Marketing, Inc. is in receipt of Violation Notice A-2000-00020 dated February 10, 2000. The Notice contained two recommendations that the Illinois Environmental Protection Agency suggested that Clark take.

1. Initiate a preventative maintenance program to assure that the actuators on the coke drum wedgeplug valves do not fail in future operation of the delayed coker unit. Provide a description of such maintenance program in the response to the Notice.

   Please see enclosed attachment.

2. Within 45 days of receipt of this violation Notice, provide the following information for heater H-20 in the delay coking unit:

   - Description of the components that had to be replaced in order to repair heater H-20.
   - The fixed capital cost of the components replaced and an estimate of the cost of constructing a comparable new heater
   - The estimated life of heater H-20, after completion of repairs.
   - The actual and potential emissions from heater H-20

   The first two items are attached to this letter.

The estimated life of heater H-20 is twenty years. The actual and potential emissions from H-20 are identical to the actual and potential emissions prior to the fire because we reinstalled the burners from the damaged heater into the rebuilt heater. Since we installed the same number of burners, in the same location, with the same piping the emissions from this heater did not change. Further, the absorbed duty before the incident is identical to the absorbed duty after the incident.

I am available to answer any additional questions you have. Please call (618) 254-7301 ext. 266.

Sincerely,

Bill R. Irwin
Environmental Manager

cc: Jeff Benbenek – Collinsville IEPA

CLARK

Gentlemen,

In response to information wanted for a preventative maintenance program for Coker Wedgeplug valves the following procedures are being practiced .

At each coker Shut Down or Turn Around the valves are scheduled for maintenance Routinely this will be about every six months. At this time our valve repair vender comes in and takes each Wedgeplug valve and checks the valve for operation, worn or poor performance in the valve operators. At this time all bad parts are replaced, to put the valve operator back in good condition. Our experience with these valves has shown that if we are to have any problems, it will be in the operator itself. In an effort to up grade the reliability of these valve operators as the valves are pulled out of service for repairs we are replacing the current wedgeplug operators with an improved model that is a heavier and not as prone to failure.

After the pin failure in the A-drum inlet Wedgeplug in August of 1999 the pins in all of out Wedgeplug valves were changed out and replaced with one with an upgraded metallurgy, which will now be a part of our routine inspections. Also an indictor pin has been installed on the stem of the valve showing the position of the stem when it should be in the open position.

It has also been requested from now on when our valve vender is in to do service work that we get a repair sheet on each valve worked on and the work that was performed to return the valve to good condition.

Any question please call

Thanks Mike Shaw

PETRO-CHEM
PROCESS & FIELD SERVICES

PETRO-CHEM BUILDING
8310 East 73rd Street So.
Tulsa, OK 74133
Tel: 918-249-0990
Fax: 918-249-2500

October 11, 1999

Clark Refining & Marketing
Hartford, IL

Attn: Mr. Craig Eden

Re: Coker Charge Heater

Dear Mr. Eden,

The following is the cost for a new Coker heater if purchased in its entirety including steel, refractory, tubes, burners, ladders and platforms based on an eight (8) week delivery.

. . . . . $2,600,000

Pricing does not include the following:

1. Field Erection
2. Foundations
3. Instrumentation
4. External Piping

If you have any questions, please give me a call.

Very Truly Yours,
Petro-Chem Process and Field Services,

Robert L. Gibson/cd

Robert L. Gibson
Vice President Sales

RLG/cd

cc: Clint Nelson

PETRO-CHEM PROCESS & FIELD SERVICES

PETRO-CHEM Building - 8310 East 73rd St. South - Tulsa, OK 74133

(918) 249-0990 Tel. (918) 249-2500 Fax

ORDER ACKNOWLEDGEMENT

AUG 27 RECD

Date: 8/23/99

Customer: Clark Refining & Marketing
201 East Hawthorne
Hartford, IL 62048-0007
Attn: Mr. Al Black

Revision: 0

Ship To: Clark Ref. & Mktg
Same

Purchase Order No.: -

PC-PFS Job No.: RJ-99-316

P.O. Date:	Ship Date:	Ship Via:	Terms Of Payment:
8/20/99	9/16/99	Bestway	Net 30 Days

QUANTITY	DESCRIPTION	PRICE	EXPENSES
1	New Convection Section, Radiant North, East and West Walls and Radiant Roof	$ 904,300.00	NO
	Total for all of the above	$ 904,300.00	NO

cc: WCG, MCB, COM-ENG-PO BOOKS, Hard Copy/Fax Client

8-17-99
Clark
BG

Radiant Tubes (North Side)	$ 76,700
North Wall	$ 133,500
West Wall	$ 42,400
Upper Radiant Supports	$ 58,200
Convection Piping	$ 135,000
Convection Steel, Ins, Paint Including Radiant Roof	$ 263,600
Convectional Supports	$ 84,400
	$ 793,800
Radiant Coil Burners	10,110
Bridge Wall	22,200
Burners	
Burner Tile	
East Wall	
South Wall inspection	

PETRO-CHEM
PROCESS & FIELD SERVICES

PETRO-CHEM BUILDING
8310 East 73rd Street So.
Tulsa, OK 74133
Tel: 918-249-0990
Fax: 918-249-2500

September 24, 1999

Clark Refining & Marketing
201 East Hawthorne
Hartford, IL 62048

Attention: Mr. Denny Goode

Reference: Coker Heater Rebuild
PETRO-CHEM PFS Ref: RJ-99-316

Dear Mr. Goode,

The following are the cost adders for the Coker Heater rebuild.

1. Six (6) TSTC's for convection tubes including welding onto coil $6,250

2. New radiant header boxes for east and west ends $42,600

3. Steel to replace north side corner columns, and misc. plate for tubesheet attachment $5,900

4. 38,000 lbs Greenlite 2600 LI, 10,000 lbs Greenlite 22 and 200 sq. ft. 1" 8 lb ceramic fiber blanket for field installation. $18,600

5. Rework north side tube sheets (east and west end) including new refractory, and 304SS tube Ferrules $6,200

6. Welding north side coil into complete bundles with tube sheets attached and including shipping steel $20,200

7. Material and fabrication to replace new south side 4" Sch. 80 A335 P9 coil including tube sheets, refractory and shipping steel with a ship date of September 8, 1999 ..... $56,900

8. Finish coat of paint $17,800

9.	Ten (10) radiant wall supports	$5,000
10.	South wall fiber repair material	$7,400
11.	Ridigizer on fiber insulation hot face	$8,500
12.	Two (2) uptake ducts with insulation	$18,700
13.	Twelve (12) floor observation doors	$5,400
	TOTAL ADDERS	**$219,450**

If you have any questions, please give me a call.

Very Truly Yours,

Petro-Chem Process & Field Services

Robert L. Gibson
Vice President Sales

RLG/cd

cc: Clint Nelson

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/782-5811
TDD 217/782-9143

March 31, 2000

Bill Irwin, Environmental Manager
Clark Refining and Marketing, Inc.
P.O. Box 7
Hartford, Illinois 62048

CERTIFIED MAIL # Z416 155 653
RETURN RECEIPT REQUESTED

RE: Acceptance of Compliance Commitment Agreement
Violation Notice A-2000-00020
I.D. 119050AAA

Dear Mr. Irwin:

The Illinois Environmental Protection Agency ("Illinois EPA") accepts the proposed Compliance Commitment Agreement ("CCA") submitted by Clark Refining and Marketing dated February 24, 2000, and received by the Illinois EPA on March 3, 2000. This proposed CCA was in response to the Violation Notice dated February 10, 2000.

Failure to fully comply with each of the commitments, modifications and the schedules for achieving each commitment as contained in the CCA may, at the sole discretion of the Illinois EPA, result in referral of this matter to the Office of the Attorney General, the State's Attorney, or the United States Environmental Protection Agency. The CCA does not constitute a waiver or modification of the terms and conditions of any license or permit issued by the Illinois EPA or any other unit or department of local, state or federal government or of any local, state, or federal statute or regulatory requirement. All required permits or licenses necessary to accomplish the commitments stated above to comply with all local, state or federal laws, regulations, licenses or permits must be acquired in a timely manner. The need for acquisition of any licenses or permits does not waive any of the times for achieving each commitment as contained in the CCA.

Written communication should be directed to KEN EREWELE, Illinois EPA, Bureau of Air, Compliance Unit, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include reference to this Violation Notice number A-2000-00020.

Questions regarding this matter should be directed to JEFF BENBEBEK at 618/346-5120.

Sincerely,

David Kolaz/mg

David J. Kolaz, Manager
Compliance and Systems Management Section
Bureau of Air

APR - 4 2000

cc: BOA FOS Collinsville Regional Office
Division of Legal Counsel
Permits Section

EH&S BULLETIN

The Hartford Refinery experienced a fire on the Coker unit at approximately 6 p.m. on Sunday (8/15/99). There were no injuries, but there was extensive damage to the Coker heater. The unit operators, first responders, and fire crew did an excellent job in securing the unit and bringing the fire under control. An investigation is under way to determine the root cause of this incident.

Hartford Refinery
08/20/99

991917

6:50 PM

6:08 PM IEPA - SPRING Field

Paddy

Clayton
GROUP SERVICES

APPENDIX O-3

FEBRUARY 13, 2000 INCIDENT

ILLINOIS EMERGENCY MANAGEMENT AGENCY

GEORGE H. RYAN, GOVERNOR
MICHAEL CHAMNESS, DIRECTOR

February 14, 2000

Clark Marketing & Refining
201 East Hawthorne
Hartford, Illinois 62048

Re: **IEMA Incident Number: None**
Reported on February 13, 2000

To Whom It May Concern:

It was recently reported that your organization was involved in a release at 201 East Hawthorne, Hartford, Madison County, Illinois involving a hazardous material/substance. Pursuant to the authority afforded this Agency by (a) 430 ILCS 100/10 (1993) and 29 Ill. Adm. Code 620.100 (1998); and/or (b) 430 ILCS 50/7 (1997) and 29 Ill. Adm. Code 430.30 (1993), we are requesting that you provide the following information:

1. The chemical name(s) of all material(s) released and the Chemical Abstract Number (CAS).
2. The quantity of material(s) released in pounds (not gallons).
3. The amount of the material(s) stored on-site.
4. Description, ***in detail***, of the on-site and off-site areas affected by the release.
5. Did the release impact or threaten to impact surface waters? This includes drainage ditches and dry stream beds.
6. To what authorities did you make notification of this incident?
7. When did you make the notification(s)?
8. The Standard Industrial Classification (SIC) code for your company/corporation.
9. The Dun & Bradstreet number for your company/corporation.
10. The number of employees in your company/corporation.

Please mail the information to the undersigned at the address below or send by facsimile to (217) 557-2145 by February 28, 2000. Please refer to the IEMA incident number in all correspondence pertaining to this incident. Your response to this request should not be construed as meeting any written follow-up procedures as mandated by federal, state or local regulations.

Should you have any questions in completing this information request, please call the undersigned at (217) 557-4833.

Sincerely,

Tom Goin
Hazardous Materials Specialist

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

February 17, 2000

Mr. Thomas F. Goin, Jr.
Hazardous Materials Specialist
Illinois Emergency Management Agency
110 East Adams Street
Springfield, IL 62701-1109

RE: Incident Number: 519750

Dear Mr. Goin,

Following is the list of responses to your inquiry about the Coker Gasoil release incident in Hartford, Illinois.

1. Coker Heavy Gasoil CAS #64741-81-7.
2. About 300 lbs.
3. Storage tank capacity is about 77,000-80,000 BBLS.
4. East Hawthorne Street about 180 feet long and about 120 feet wide was impacted. An unknown portion of the field (located south of the Refinery) was also impacted There was minimal on-site impact.
5. There was also drainage ditch impact (the ditch was dry) next to the South side of the Refinery.
6. NRC, IEPA, Hartford Police, and Illinois State Police.
7. Within the first hour of the incident.
8. 2911
9. ILD:041889023
10. 289 employees.

If you have any questions or concerns, please contact me at (618) 254-7301 x218.

Sincerely,

Massood Modarres
Environmental Engineer

K:\massood\corres\goin\epa021700.doc 02/18/00 8:29 AM

Modakes

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

February 23, 2000

Mr. James Patrick O'Brien
Manager, Office of Chemical Safety
Illinois Environmental Protection Agency
1201 North Grand Ave. East
Springfield IL 62702

RE: Clark Hartford Coker Hydrocarbon Release – February 13, 2000

Dear Mr. O'Brien:

At approximately 4:45 p.m. on Sunday, February 13, 2000, a hydrocarbon release occurred from the Hartford Coker. An incident investigation was conducted and the cause was found to be a backflow of hydrocarbon from B-Drum, which was in heat-up, through the steam system, and out the drain valve on A-Drum (see attached drawing). The backflow was possible because the 8 inch secondary steam valve on B-Drum was not closed completely following the drilling and testing of B-Drum on the previous cycle. The driller on the previous switch of B-Drum on Saturday afternoon had begun to close the 8" steam valve following the tightness test of the drum, but failed to finish closing the valve. Substance abuse testing was performed on the drillers following the incident and no problems were found.

The Coker drillers were preparing to switch the process from A-Drum to B-Drum. Part of the procedure requires purging the steam header of free water in preparation for steaming the coke-filled A-Drum after it is taken off-line. This procedure is known as "drying out" the steam. B-Drum was being heated with hot vapors from A-Drum in preparation for the switch. When the driller began to purge the steam header at A-Drum, a small quantity of hydrocarbon was released with the steam. The hydrocarbon was carried south by the steam and prevailing wind. Hawthorne Avenue was closed as a precautionary measure while the spill contractor assessed the impact and performed the necessary cleanup. All required notifications were made immediately. Impact to the community was minimal with five cars cleaned to the satisfaction of the owners.

The root cause analysis (attached) found human performance difficulty as the causal factor, and failure to follow procedures as the root cause of the incident. A checklist with driller sign-off may help catch an error, however, checklists for repetitive tasks are not highly effective. Therefore, check valves will be installed on each leg of the 8 inch steam header to help prevent a backflow from occurring if the 8 inch steam valve is not closed completely on an adjacent drum. This equipment change should prevent a reoccurrence of this incident. In addition, the driller who failed to close the 8 inch steam valve completely will be disciplined.

CLARK

A similar incident occurred on July 9, 1997 when a Coker driller was attempting to purge the steam header. The procedures and equipment in place at that time required opening the 12 inch drain valve to purge the steam header. The driller opened the drain valve on the wrong drum (one that was in heat up), resulting in a release of hydrocarbon vapors. In response to this earlier incident, a key-lock system was implemented with keys being issued to the drillers by the head operator (stillman) to insure that the drillers worked on the proper drum. In addition, 2 inch steam purge lines were added to eliminate the need to open the 12 inch drain valve to purge the steam header.

In summary, the release on February 13, 2000 was caused by a different problem than the July 9, 1997 release. Additional equipment modifications will be made to prevent a reoccurrence. Please call if you have any questions or concerns over our response to this incident. We would be happy to meet with you to provide additional explanations.

Sincerely,

Forrest B. Lauher
Refinery Manager

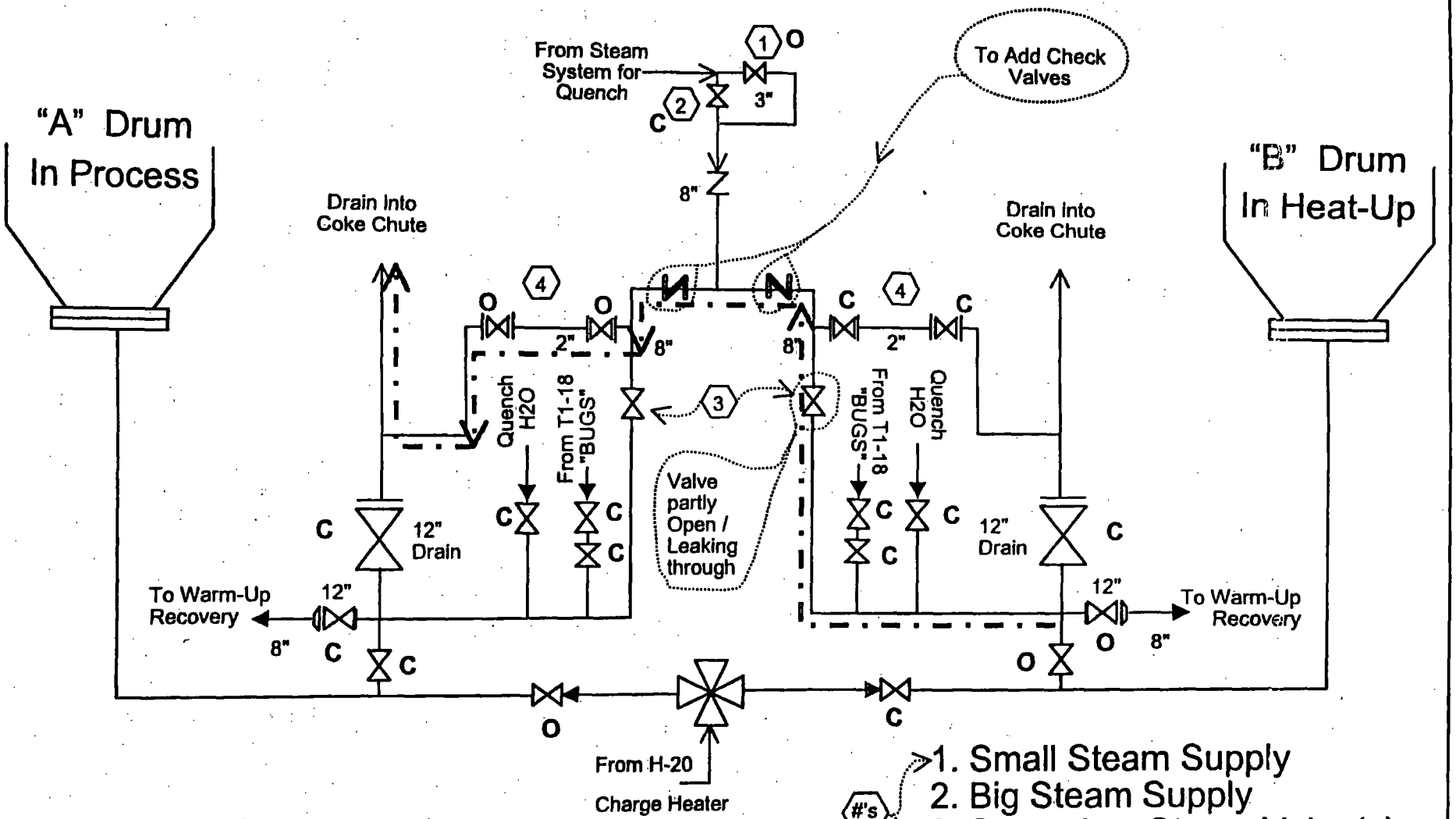
FBL/dma

Enclosures

cc: Charles Brutlag
Cheryl Kelley
Tom Powell

DELAYED COKER -
COKE DRUM DRAIN CONNECTIONS

Showing Line Up, Flows, and New Equipment Location



Hydrocarbon Back Flow

O - Valve Open

C - Valve Closed

JGB
2 / 18 / 00

TapRooT® Root Cause Tree™

Incident: 21300 COKER FIRE PARTIAL OPEN STEAM VALVE

Causal Factor: 01 HUMAN PERFORMANCE DIFFICULTY

START HERE WITH 1 CAUSAL FACTOR AT A TIME TO DETERMINE ROOT CAUSES

- HUMAN PERFORMANCE DIFFICULTY
- EQUIPMENT DIFFICULTY
  - PREVENTIVE / PREDICTIVE MAINTENANCE
    - PM NI
      - No PM for Equip
      - PM for Equip NI
  - REPEAT FAILURE
    - MANAGEMENT SYSTEM
      - Corrective Action
        - corrective action NI
        - corrective action not yet implemented
  - UNEXPECTED FAILURE
  - DESIGN *
    - DESIGN SPECS
      - Specs NI
      - Design Not To Specs
      - Problem Not Anticipated
        - equipment environment not considered
    - DESIGN REVIEW
      - Independent Review NI
  - EQUIPMENT / PARTS DEFECTIVE
    - PROCUREMENT
    - MANUFACTURING
    - HANDLING
    - STORAGE
    - QUALITY CONTROL
- NATURAL PHENOMENON / SABOTAGE
- OTHER (SPECIFY)

*If design causes human performance problem, analyze under Human Performance Difficulty

Human Performance Troubleshooting Guide

Directions: Answer all questions and then refer to the Basic Cause Categories to investigate the indicated potential root causes of the incident.

Individual Performance

- Was there excessive fatigue, impairment, personal problems, or inattentiveness? — Yes → HUMAN ENGINEERING; IMMEDIATE SUPERVISION
- Was there a lack of information to guide a person to a procedure? — Yes → HUMAN ENGINEERING; PROCEDURES
- Was procedure used incorrectly or not used? — Yes → PROCEDURES; IMMEDIATE SUPERVISION
- Were displays/indications to recognize/analyze a task or to respond to a system/equipment condition unavailable or unclear? — Yes → HUMAN ENGINEERING
- Were displays, alarms, controls, and equipment identified or operated improperly? — Yes → TRAINING; PROCEDURES; HUMAN ENGINEERING
- Was knowledge of task performance or equipment response missing? — Yes → TRAINING; IMMEDIATE SUPERVISION
- Was work performed in an adverse environment (such as hot, humid, dark, cramped, or hazardous)? — Yes → HUMAN ENGINEERING
- Did work involve repetitive motion, uncomfortable positions, vibration, or heavy lifting? — Yes → TRAINING; HUMAN ENGINEERING; IMMEDIATE SUPERVISION

Team Performance

- Was coordination required between team members or did shifts change? — Yes → COMMUNICATIONS
- Was there lack of agreement about the who/what/when/where of task performance? — Yes → TRAINING; COMMUNICATIONS; IMMEDIATE SUPERVISION
- Was communication across organizational boundaries or with other facilities required? — Yes → COMMUNICATIONS

Management System

- Was task performed in a hurry or a short-cut used? — Yes → MANAGEMENT SYSTEM; IMMEDIATE SUPERVISION
- Was this a recurring error or was potential for failure known before failure occurred? — Yes → MANAGEMENT SYSTEM
- Were standards, procedures, admin controls, or policies to prevent/identify/mitigate the error not used, missing, or in need of improvement? — Yes → MANAGEMENT SYSTEM; IMMEDIATE SUPERVISION; PROCEDURES
- Should an independent quality check have caught the problem? — Yes → QUALITY CONTROL

Proceed to BASIC CAUSE CATEGORIES →

NI = Needs Improvement May also substitute LTA (Less Than Adequate) or PIO (Potential Improvement Opportunity)

Prepared by TapRooT® software for Clark Refining

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* Indicates a component

TapRooT® Root Cause Tree™

Incident: 21300 COKER FIRE PARTIAL OPEN STEAM VALVE

Causal Factor: 01 HUMAN PERFORMANCE DIFFICULTY

BASIC CAUSE CATEGORIES

PROCEDURES

- Not Used / Not Followed
  - no procedure
  - procedure not available or inconvenient for use
  - procedure difficult to use
  - procedure use not required but should be
- Wrong
  - typo
  - sequence wrong
  - facts wrong
  - situation not covered
  - wrong revision used
  - second checker needed
- Followed Incorrectly
  - format confusing
  - > 1 action / step
  - excess references
  - mult unit references
  - limits NI
  - details NI
  - data/computations wrong or incomplete
  - graphics NI
  - ✓ no checkoff
  - checkoff misused
  - misused second check
  - ambiguous instructions
  - equip identification NI

TRAINING

- No Training
  - task not analyzed
  - decided not to train
  - no learning objective
- Understanding NI
  - learning objective NI
  - lesson plan NI
  - instruction NI
  - practice / repetition NI
  - testing NI
  - continuing training NI

QUALITY CONTROL

- No Inspection
  - inspection not required
  - no hold point
  - hold point not performed
- QC NI
  - inspection instructions NI
  - inspection techniques NI
  - foreign material exclusion during work NI

COMMUNICATIONS

- No Comm. or Not Timely
  - no method available
  - late communication
- Turnover NI
  - no standard turnover process
  - turnover process not used
  - turnover process NI
- Misunderstood Verbal Comm.
  - standard terminology not used
  - repeat back not used
  - long message
  - noisy environment

MANAGEMENT SYSTEM

- Standards, Policies, or Admin Controls (SPAC) NI
  - no SPAC
  - not strict enough
  - confusing or incomplete
  - technical error
  - drawings / prints NI
- SPAC Not Used
  - comm. of SPAC NI
  - recently changed
  - enforcement NI
  - no way to implement
  - accountability NI
- Oversight / Employee Relations
  - infrequent audits & evaluations (a & e)
  - a & e lack depth
  - a & e not independent
  - employee communications NI
  - no employee feedback
- Corrective Action
  - corrective action NI
  - corrective action not yet implemented

HUMAN ENGINEERING

- Human - Machine Interface
  - labels NI
  - arrangement / placement
  - displays NI
  - controls NI
  - monitoring alertness NI
  - plant / unit differences
  - excessive lifting
  - tools / instruments NI
- Work Environment
  - housekeeping NI
  - hot / cold
  - rain / snow
  - lights NI
  - noisy
  - high radiation / contamination
  - cramped quarters
- Complex System
  - knowledge-based decision required
  - monitoring > 3 items at once
- Non-Fault Tolerant System
  - errors not detectable
  - errors not recoverable

IMMEDIATE SUPERVISION

- Preparation
  - no preparation
  - work package NI
  - pre-job briefing NI
  - walk-thru NI
  - lock out / tag out NI
  - scheduling NI
- Selection of Worker
  - not qualified
  - fatigued
  - upset
  - ✓ substance abuse – Pending test results
  - team selection NI
- Supervision During Work
  - no supervision
  - crew teamwork NI

NI = Needs Improvement May also substitute LTA (Less Than Adequate) or PIO (Potential Improvement Opportunity)

Prepared by TapRooT® software for Clark Refining

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* indicates a comment

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

Non-Compliance Advisory Letter THOMAS V. SKINNER, DIRECTOR

217/782-3637

February 25, 2000

Mr. Massood Modarras
Clark Refining and Marketing Inc.
201 East Hawthorne Ave.
Hartford, IL 62048

Re: Complaint # COAD

Dear Mr. Modarras:

On February 13, 2000, this office received information that you or an organization that you represent were involved in an environmental incident which occurred at or near Hartford on or before February 13, 2000. Our records currently indicate the involvement of unknown amount of oil from the coker.

The purpose of this Non-Compliance Advisory Letter is to notify you that the information currently available indicates that violations of environmental laws or regulations may have occurred and may be ongoing. The Illinois Environmental Protection Agency needs further information to evaluate whether compliance has been or will be achieved relative to the above referenced incident or whether to proceed with enforcement. Please address the specific information requested in the enclosed Advisory 1.

A written response to this Non-Compliance Advisory Letter is expected by April 13, 2000. The incident number should be noted in all correspondence about this incident. Please submit one original to the Springfield, Illinois address listed below and one copy to the Collinsville, Illinois address listed below, of your response to this Non-Compliance Advisory Letter to:

Illinois Environmental Protection Agency
Emergency Response Unit, Mail Drop #29
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9276

Illinois Environmental Protection Agency
Emergency Response Unit
2009 Mall Street
Collinsville, Illinois 62234

FEB 28 2000

This Non-compliance Advisory Letter is not a violation notice as specified in Section 31(a)(1) of the Illinois Environmental Protection Act (415 ILCS 5/31(a)(1). However, if you do not adequately respond to this Non-compliance Advisory Letter, the Illinois EPA may issue a formal violation notice pursuant to Section 31(a)(1) of the Act.

If you have any questions regarding any of the above, please contact Cheryl Kelley at 618/346-5120.

Sincerely,

Tom Powell, Senior Emergency Responder
Emergency Response Unit
Office of Chemical Safety

cc: Complaint # COAD
Collinsville ERU
G. Tod Rowe
John Waligore

ADVISORY 1

For releases of crude oil, a petroleum product or petroleum waste to land and/or water

The spillage of any amount of crude oil, petroleum product or petroleum waste, as listed in the cover letter, may result in environmental contamination. Such environmental contamination is a violation of the Illinois Environmental Protection Act, when: into the waters of the state [415 ILCS 5/12(a)]; onto a highway or other public property [415 ILCS 5/21(b)]; or onto land in such a manner so as to create a water pollution hazard [415 ILCS 5/12(d)]. Waters of the state include groundwater, drainage ditches and intermittent streams as well as the more obvious bodies of surface water.

Consequently the Illinois Environmental Protection Agency expects such a spill to be cleaned up by the party who was in control of the material at the time it was spilled. Cleanup criteria are found at 35 Ill. Adm. Code 742 (the Tiered Approach to Corrective Action Objectives or TACO). The complete text of TACO can be found on the internet at *http:www.ipcb.state.il.us/title/#g*. A table of TACO Tier 1 cleanup objectives is provided at the end of this attachment for soil and groundwater. However, other conditions may apply and there are other options allowed by TACO that may be to your advantage in a particular instance.

The contaminates of concern for a crude oil(without saltwater) or other petroleum product release is listed below:
Group 1* : Benzene, Ethylbenzene, Toluene, Xylene (total) [also known as BETX]
Group 2: Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Naphthalene, Pyrene. [also known as PNA's]
* For Gasoline, use these contaminates of concern only

Appropriate sampling and analytical test methods are those promulgated by USEPA as Publication No. SW- 846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". The following methods must be used for BETX, Methods 8021B and 8260B and for PNA's, Methods 8270C and 8310.

The number and location of samples needed to verify cleanup is a site specific decision. You may submit a written sampling plan and site sketch with proposed sample locations to us for our approval or feel free to contact us by phone to discuss what we will accept under specific circumstances. For further guidance consult Table 3 below.

We expect you to:

❑ **Incident Causation Investigation**

A thorough investigation by knowledgeable personnel should be initiated by the responsible party. The scope of the investigation must be sufficient to determine the root cause(s) as well as the

FEB 28 2000

5) Conclusion. This section should:

- ❑ evaluate the degree of success of the remedial action in meeting the cleanup criteria.

6) Appendices. References and data sources should be incorporated in the appendices. These would likely include:

- ❑ Photographs,
- ❑ Field logs,
- ❑ geological boring logs,
- ❑ monitoring or recovery well completion reports, and
- ❑ reports of laboratory analyses should be organized and presented logically.

Table 1

Petroleum Cleanup Objectives for Soil (TACO Tier 1) and Sediment (Tier 3) - Updated December 8, 1999

ALL VALUES (mg/kg)=ppm

	Surface soil (residential)*		Soil component of GW Ingestion*		Sediment - Fishable & Swimable		Sediment - Wildlife only	
Chemical	Ingestion	Inhalation	Class I	Class II	Human	Chronic aquatic	Chronic mamal	Chronic aquatic
Benzene	22	0.8	0.03	0.17	0.006	0.11	0.69	0.11
Toluene	16,000	650	12	29	—	0.11	—	0.11
Ethylbenzene	7,800	400	13	19	—	0.028	—	0.028
Xylenes	160,000	410	150	150	—	0.14	—	0.14
Acenaphthene	4,700	—	570	2,900	—	0.28	—	0.28
Anthracene	23,000	—	12,000	59,000	—	0.085	—	0.085
Benzo(a)anthracene	0.9	—	2	8	0.179	—	15.5	—
Benzo(b)fluoranthene	0.9	—	5	25	0.55	—	8.3	—
Benzo(k)fluoranthene	9	—	49	250	5.5	—	4.4**	—
Benzo(a)pyrene	0.09	—	8	82	0.046	—	3.7	—
Chrysene	88	—	160	800	17.1	0.4	2.9**	0.4
Dibenzo(a,h)anthracene	0.09	—	2	7.6	0.171	0.06	12.6	0.06
Fluoranthene	3,100	—	4,300	21,000	—	1.3	—	1.3
Fluorene	3,100	—	560	2,800	—	0.035	—	0.035
Indeno(1,2,3-c,d)pyrene	0.9	—	14	69	1.56	—	0.34**	—
Naphthalene	3,100	—	84	420	—	0.34	—	0.34
Pyrene	2,300	—	4,200	21,000	—	0.35	—	0.35

*Must also meet soil attenuation capacity TPH<6000 mg/kg in top meter of TPH <2000 mg/kg on 35IAC742.215.

**Sediment objective based on solubility limit.

Table 2
Petroleum Cleanup Objectives for Groundwater
---- TACO Tier I and Groundwater Quality Standards

	Groundwater Remediation Objective / Standard	
Chemical Name	Class I (mg/L)	Class II (mg/L)
Acenaphthene	0.42	2.1
Anthracene	2.1	10.5
Benzene	0.005	0.025
Benzo(*a*)anthracene	0.00013	0.00065
Benzo(*b*)fluoranthene	0.00018	0.0009
Benzo(*k*)fluoranthene	0.00017	0.00085
Benzo(*a*)pyrene	0.0002	0.002
Chrysene	0.0015	0.0075
Dibenzo(*a,h*)anthracene	0.0003	0.0015
Ethylbenzene	0.7	1.0
Fluoranthene	0.28	1.4
Fluorene	0.28	1.4
Indeno(1,2,3-*c,d*)pyrene	0.00043	0.00215
Naphthalene	0.025	0.039
Pyrene	0.21	1.05
Toluene	1.0	2.5
Xylenes (total)	10.0	10.0

Objectives from 35 IAC 742 Appendix B Table E and Stds. From 35 IAC 620 updated to June 1998

ILLINOIS EMERGENCY MANAGEMENT AGENCY

GEORGE H. RYAN, GOVERNOR
MICHAEL CHAMNESS, DIRECTOR

Rec'd 3/13/
cc: Environmental

March 9, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Forrest B. Lauher
Refinery Manager
Clark Refining & Marketing, Inc.
201 E. Hawthorne
Hartford, IL 62048-0007
Z 597 918 482

C. T. Corporation System
Registered Agent for
Clark Refining & Marketing, Inc.
208 S. LaSalle St.
Chicago, IL 60604
Z 597 918 483

Re: Notice of Violation - Madison County
IEMA Case Number: 2000-HM-9900133-8

Dear Mr. Lauher:

This Notice of Violation ("NOV") is provided pursuant to the Hazardous Materials Emergency Act, 430 ILCS 50/7.01 (1998), and is based upon review of available information and investigation by the Illinois Emergency Management Agency ("IEMA"). IEMA hereby provides notice of violations of certain environmental statutes and regulations, and a description of those activities that are the basis for this NOV, set forth in Attachments A and B, respectively. Enclosed also please find a one-page fact sheet that enumerates notification requirements for release incidents.

IEMA has determined that it may not be possible to satisfactorily resolve this matter without the involvement of the Office of the Illinois Attorney General or the Madison County State's Attorney, and the possible imposition of statutory penalties.

Please submit a written response to this NOV via certified mail within thirty (30) days of its receipt. Your response may include a request for a meeting with representatives of IEMA. Failure to respond to this letter within thirty (30) days may result in a referral to a prosecutorial authority. Questions regarding this matter may be directed to the undersigned at (217) 782-8712.

Sincerely,

Julia M. Gentile

Julia M. Gentile
Chief Legal Counsel

Enclosures
cc: Mr. Russ Edgert
Meyer, Brown & Platt
190 S. LaSalle St.
Chicago, IL 60603

J. Waligore, Esq., IEPA
A. Stennett, OCS/IEPA
Madison County LEPC
S. Krushas, IEMA - Region 8

ATTACHMENT A

DESCRIPTION OF ACTIVITY

On February 13, 2000, at 4:55 p.m., Clark Refining and Marketing, Inc. ("Clark") released approximately 300 pounds of coker heavy gas oil from their facility located at 201 E. Hawthorne, Hartford, Madison County, Illinois, causing impact to a drainage ditch. Clark did not report this incident to the Illinois Emergency Management Agency ("IEMA"), and, therefore, did not provide immediate notice to IEMA as statutorily required.

Clark, therefore, violated Sections 7 and 7.01 of the Hazardous Materials Emergency Act, 430 ILCS 50/7 and 7.01 (1998), and 29 Ill. Adm. Code 430.30 (1998).

ATTACHMENT B

STATUTORY AUTHORITIES

The Hazardous Materials Emergency Act, 430 ILCS 50/1 et seq. (1998) provides, in pertinent part as follows:

1. Section 7

> The Illinois Emergency Management Agency may, by rule or regulation, require telephone or written notification of incidents or accidents that involve hazardous materials. The notification may include, but shall not be limited to: information about the name, classification, quantity, chemical and physical properties, and health hazards of the hazardous materials; a description of the incident or accident; precautionary measures to be taken; and the name, address, and telephone number of the reporter.

2. Section 7.01

> It is the responsibility of any person who owns, leases, operates or controls any facilities or equipment for the use, storage, transportation, or manufacture of hazardous materials or his agent or employee to report to the nearest emergency agency and to the Illinois Emergency Management Agency the information required by any rule or regulation promulgated under Section 7.

* * *

29 Ill. Adm. Code Part 430 provides, in pertinent part, as follows:

* * *

1. Section 430.30 Emergency Notification of an Incident or Accident Involving a Reportable Hazardous Substance or Material

   a) If a release of an extremely hazardous substance or a hazardous substance occurs in a reportable quantity from a facility then the responsible party at that facility shall immediately provide notice as described in subsection (c).

   b) If an incident or accident involving a hazardous material occurs which results in any of the occurrences listed in subsections (1)-(6) below, the responsible party at the facility shall immediately provide notice as described in subsection (c)(1).

      1) A member of the general public is killed;

      2) A member of the general public receives injuries requiring hospitalization;

      3) An authorized official of an emergency agency recommends evacuation of an area by the general public;

4) A motor vehicle has overturned on a public highway;

5) Fire, breakage, release or suspected contamination occurs involving an etiologic agent;

6) Any release of oil which meets the reporting requirements in the U.S. Environmental Protection Agency regulations 40 C.F.R. 110. This incorporation does not include any later amendments or editions.

c) Notice Procedures

1) Notice required under subsections (a) and (b) shall be given immediately by the responsible party to the IESDA (which is the SERC) by calling 1-800-782-7860 or 1-217-782-7860;

2) Notice required under subsection (a) shall also be given immediately via the telephone, radio, or in person by the responsible party to the community emergency coordinator for the local emergency planning committee for any area likely to be affected by the release. If there is no local emergency planning committee, notification shall be given to relevant local emergency response personnel. Notice shall also be given to the SERC for any other State likely to be affected by the release. Telephone numbers for the LEPC's and other SERCs may be obtained from the Illinois SERC (524-6887 or 782-4694).

3) A responsible party of a facility from which there is a transportation-related release may meet the requirements of subsection (a) by providing the information required in Section 430.40 to the 911 operator, or in the absence of an 911 emergency telephone number, to the operator.

2. Section 430.40 Contents of Notice

Notice required under Section 430.30 shall include, as a minimum, each of the following to the extent that it is known at the time of notice and provided that it causes no delay in responding to the emergency:

a) The chemical name or identity of any substance involved in the release;

b) An indication of whether the substance is on the list of extremely hazardous substances;

c) An estimate of the quantity in pounds of any such substance that was released into the environment;

d) The time and duration of the release;

e) Specific location of the release;

f) The medium or media (air, water, land) into which the release occurred;

g) Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan);

h) Any known or anticipated acute or chronic health risks or public safety risks associated with the emergency and, where apropriate, advice regarding medical attention necessary for exposed individuals;

i) Name of the reporter and phone number where the reporter may be contacted, as well as the name and telephone numbers of the person or persons to be contacted for further information.

EMERGENCY RELEASE NOTIFICATION FACT SHEET

A. **Immediate telephone notification shall be given by the owner or operator of a facility when a release equal to or exceeding the reportable quantity of an extremely hazardous substance[1] or a CERCLA hazardous substance[2] occurs at the facility.**

In such incidents, notifications are to be made to the following:

1. **Illinois Emergency Management Agency (IEMA)/State Emergency Response Commission (SERC) at 1-800-782-7860** (within state) or (217) 782-7860 (when calling from out-of-state);
2. **Local Emergency Planning Committee (LEPC)** that is likely to be affected by the release. The telephone number(s) can be obtained from IEMA;
3. **National Response Center (NRC) at 1-800-424-8802** (if the substance is a CERCLA hazardous substance).

B. **Immediate telephone notification is also required if an incident or accident involving a hazardous material[3] occurs which results in:**

1) a member of the general public is killed;
2) a member of the general public receives injuries requiring hospitalization;
3) an authorized official of an emergency agency recommends an evacuation of an area by the general public;
4) a motor vehicle has overturned on a public highway;
5) Fire, breakage, release or suspected contamination occurs involving an etiologic agent;
6) Any release of oil that produces a sheen on water and/or threatens navigable waters. (This includes ditches)

In such incidents, notification shall be made as noted in Paragraph A, above, except no notification is required to the NRC, except item 6 (oil that impacts water).

At a minimum, notification shall include:

1) the chemical name or identity of any substance involved in the release;
2) an indication of whether the substance is an extremely hazardous substance;
3) an estimate of the quantity in pounds of any such substance that was released into the environment;
4) the time and duration of the release;
5) the specific location of the release;
6) the medium or media (air, land, water) into which the release occurred;
7) any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals;
8) proper precautions to take as a result of the release, including evacuations;
9) the name and telephone number of the person or persons to be contacted for further information.

WRITTEN FOLLOW-UP NOTICE IS REQUIRED WITH RESPECT TO INCIDENTS AS DESCRIBED IN PARAGRAPH A, ABOVE. As soon as practicable after such release, the owner or operator shall provide a written follow-up emergency notice (or notices, as more information becomes available) to the SERC and the LEPC, updating the information provided in the immediate notification and including additional information with respect to:

1) **Actions taken to respond to and contain the release;**
2) **Any known or anticipated acute or chronic health risks associated with the release;**
3) **Where appropriate, advice regarding medical attention necessary for exposed individuals.**

[1] See 40 CFR 355 for a listing of extremely hazardous substances (EHS)
[2] See 40 CFR 302.4 for a listing of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) hazardous substances
[3] See 49 CFR 172.101 for a list of hazardous materials

(These rules are compiled in 29 IAC 430 and 29 IAC 620)

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CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

March 17, 2000

Ms. Julia Gentile
Chief Legal Counsel
Illinois Emergency Management Agency
110 East Adams Street
Springfield IL 62701-1109

RE: IEMA Case Number 2000-HM-9900133-8

Dear Ms. Gentile:

I received your letter dated March 9 alleging a violation of certain environmental statutes and regulations. We believe this matter involves a miscommunication which can be resolved by more accurate and complete communication. I will attempt to provide that in this letter and we'll look forward to an opportunity to meet with IEMA if this letter does not fully answer your questions and resolve the matter.

On February 13th, Hartford Refinery voluntarily notified substantially all the regulatory community of a non-reportable release resulting from an upset operating condition within our refinery. The release did not exceed any of the applicable thresholds required for reporting. Despite being non-reportable, notifications were made to NRC (Case Number 519750), IEPA Collinsville office, and the local Illinois State Police office in Collinsville. Unfortunately, IEMA was not included in the immediate notification. Full information was provided to IEMA by our February 17th letter from Massood Modarres to Tom Goin.

To insure that IEMA is properly included in any future notices, all environmental duty personnel will be given refresher training on their responsibilities. In addition, the environmental manager will double-check to insure that all appropriate contacts were made following an incident.

Sincerely,

Forrest B. Lauher
Refinery Manager

cc: John Waligore, Esq., IEPA
Jim O'Brien, Mgr.,Office Chemical Safety

CLARK

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

April 10, 2000

FILE NUMBER 070.20.60 NOV

RETAIN IN FILE UNTIL _____

Mr. James Patrick O'Brien
Illinois Environmental Protection Agency
Emergency Response Unit, Mail Drop #29
1021 North Grand Avenue East
PO Box 19276
Springfield, Illinois 62794-9276

Re: Complaint # COAD

Dear Mr. O'Brien:

This letter is being submitted to fulfill our requirement for responding in writing to the aforementioned complaint. The release did not significantly impact the area. The released material was removed from the roadway and was disposed of in an environmentally correct manner. The safeguards previously installed at our facility minimized the impact to the area. We plan to further modify the piping during the next Coker shutdown so as to reduce the possibility of human error causing an adverse environmental impact. I am including the letter sent to the Agency on February 23, 2000. This letter gives a statement as to the cause and includes the root cause analysis performed on this incident. I have also included the letter we sent to Ms. Julia Gentile, Esq., John Waligore, Esq., and to the above addressee on March 17, 2000. The letter in response to Mr. Tom Goin, Illinois Emergency Management Agency is also included with this letter.

As you can see from our immediate response and follow-up, we considered this to be a very serious matter. We have concluded that with the small quantity of oil involved with this incident, further remediation is not warranted at this time.

Please call if you have any other questions or concerns.

Respectfully,

Bill Irwin

Bill Irwin
Environmental Manager

ILLINOIS EMERGENCY MANAGEMENT AGENCY

GEORGE H. RYAN, GOVERNOR
MICHAEL CHAMNESS, DIRECTOR

February 14, 2000

Clark Marketing & Refining
201 East Hawthorne
Hartford, Illinois 62048

Re: **IEMA Incident Number: None**
Reported on February 13, 2000

To Whom It May Concern:

It was recently reported that your organization was involved in a release at 201 East Hawthorne, Hartford, Madison County, Illinois involving a hazardous material/substance. Pursuant to the authority afforded this Agency by (a) 430 ILCS 100/10 (1993) and 29 Ill. Adm. Code 620.100 (1998); and/or (b) 430 ILCS 50/7 (1997) and 29 Ill. Adm. Code 430.30 (1993), we are requesting that you provide the following information:

1. The chemical name(s) of all material(s) released and the Chemical Abstract Number (CAS).
2. The quantity of material(s) released in pounds (not gallons).
3. The amount of the material(s) stored on-site.
4. Description, ***in detail***, of the on-site and off-site areas affected by the release.
5. Did the release impact or threaten to impact surface waters? This includes drainage ditches and dry stream beds.
6. To what authorities did you make notification of this incident?
7. When did you make the notification(s)?
8. The Standard Industrial Classification (SIC) code for your company/corporation.
9. The Dun & Bradstreet number for your company/corporation.
10. The number of employees in your company/corporation.

Please mail the information to the undersigned at the address below or send by facsimile to (217) 557-2145 by February 28, 2000. Please refer to the IEMA incident number in all correspondence pertaining to this incident. Your response to this request should not be construed as meeting any written follow-up procedures as mandated by federal, state or local regulations.

Should you have any questions in completing this information request, please call the undersigned at (217) 557-4833.

Sincerely,

Tom Goin
Hazardous Materials Specialist

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

February 17, 2000

Mr. Thomas F. Goin, Jr.
Hazardous Materials Specialist
Illinois Emergency Management Agency
110 East Adams Street
Springfield, IL 62701-1109

RE: Incident Number: 519750

Dear Mr. Goin,

Following is the list of responses to your inquiry about the Coker Gasoil release incident in Hartford, Illinois.

1. Coker Heavy Gasoil CAS #64741-81-7.
2. About 300 lbs.
3. Storage tank capacity is about 77,000-80,000 BBLS.
4. East Hawthorne Street about 180 feet long and about 120 feet wide was impacted. An unknown portion of the field (located south of the Refinery) was also impacted There was minimal on-site impact.
5. There was also drainage ditch impact (the ditch was dry) next to the South side of the Refinery.
6. NRC, IEPA, Hartford Police, and Illinois State Police.
7. Within the first hour of the incident.
8. 2911
9. ILD:041889023
10. 289 employees.

If you have any questions or concerns, please contact me at (618) 254-7301 x218.

Sincerely,

Massood Modarres
Environmental Engineer

CLARK

K:\massood\corres\goin\epa021700.doc 02/18/00 8:29 AM

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

February 23, 2000

Mr. James Patrick O'Brien
Manager, Office of Chemical Safety
Illinois Environmental Protection Agency
1201 North Grand Ave. East
Springfield IL 62702

RE: Clark Hartford Coker Hydrocarbon Release – February 13, 2000

Dear Mr. O'Brien:

At approximately 4:45 p.m. on Sunday, February 13, 2000, a hydrocarbon release occurred from the Hartford Coker. An incident investigation was conducted and the cause was found to be a backflow of hydrocarbon from B-Drum, which was in heat-up, through the steam system, and out the drain valve on A-Drum (see attached drawing). The backflow was possible because the 8 inch secondary steam valve on B-Drum was not closed completely following the drilling and testing of B-Drum on the previous cycle. The driller on the previous switch of B-Drum on Saturday afternoon had begun to close the 8" steam valve following the tightness test of the drum, but failed to finish closing the valve. Substance abuse testing was performed on the drillers following the incident and no problems were found.

The Coker drillers were preparing to switch the process from A-Drum to B-Drum. Part of the procedure requires purging the steam header of free water in preparation for steaming the coke-filled A-Drum after it is taken off-line. This procedure is known as "drying out" the steam. B-Drum was being heated with hot vapors from A-Drum in preparation for the switch. When the driller began to purge the steam header at A-Drum, a small quantity of hydrocarbon was released with the steam. The hydrocarbon was carried south by the steam and prevailing wind. Hawthorne Avenue was closed as a precautionary measure while the spill contractor assessed the impact and performed the necessary cleanup. All required notifications were made immediately. Impact to the community was minimal with five cars cleaned to the satisfaction of the owners.

The root cause analysis (attached) found human performance difficulty as the causal factor, and failure to follow procedures as the root cause of the incident. A checklist with driller sign-off may help catch an error, however, checklists for repetitive tasks are not highly effective. Therefore, check valves will be installed on each leg of the 8 inch steam header to help prevent a backflow from occurring if the 8 inch steam valve is not closed completely on an adjacent drum. This equipment change should prevent a reoccurrence of this incident. In addition, the driller who failed to close the 8 inch steam valve completely will be disciplined.

CLARK

A similar incident occurred on July 9, 1997 when a Coker driller was attempting to purge the steam header. The procedures and equipment in place at that time required opening the 12 inch drain valve to purge the steam header. The driller opened the drain valve on the wrong drum (one that was in heat up), resulting in a release of hydrocarbon vapors. In response to this earlier incident, a key-lock system was implemented with keys being issued to the drillers by the head operator (stillman) to insure that the drillers worked on the proper drum. In addition, 2 inch steam purge lines were added to eliminate the need to open the 12 inch drain valve to purge the steam header.

In summary, the release on February 13, 2000 was caused by a different problem than the July 9, 1997 release. Additional equipment modifications will be made to prevent a reoccurrence. Please call if you have any questions or concerns over our response to this incident. We would be happy to meet with you to provide additional explanations.

Sincerely,

Forrest B. Lauher
Refinery Manager

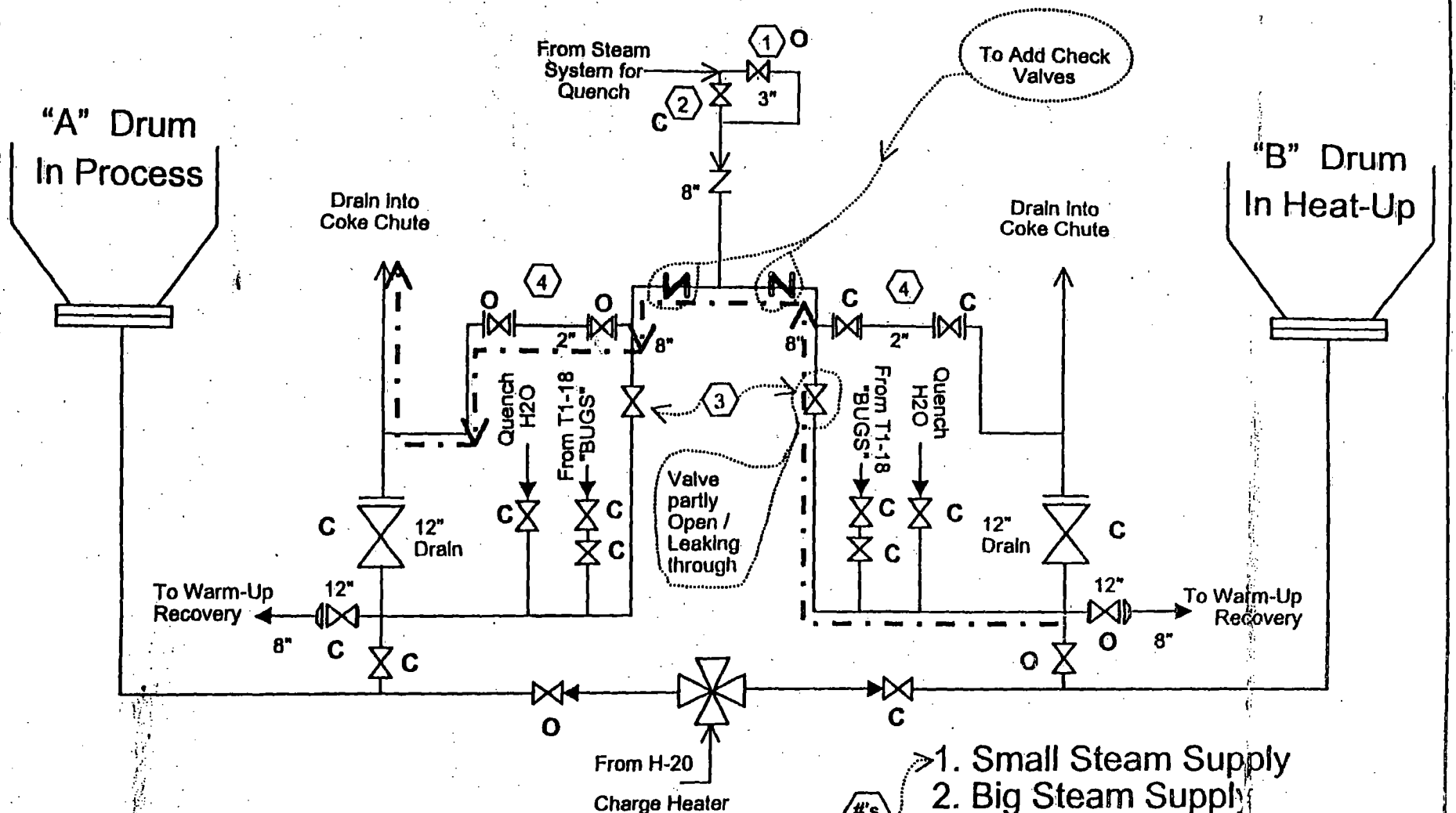
FBL/dma

Enclosures

cc: Charles Brutlag
Cheryl Kelley
Tom Powell

DELAYED COKER - COKE DRUM DRAIN CONNECTIONS

Showing Line Up, Flows, and New Equipment Location



JGB
2 / 18 / 00

TapRoot® Root Cause Tree™

Incident: 21300 COKER FIRE PARTIAL OPEN STEAM VALVE

Causal Factor: 01 HUMAN PERFORMANCE DIFFICULTY

START HERE WITH 1 CAUSAL FACTOR AT A TIME TO DETERMINE ROOT CAUSES

- HUMAN PERFORMANCE DIFFICULTY
- EQUIPMENT DIFFICULTY
- NATURAL PHENOMENON / SABOTAGE
- OTHER (SPECIFY)

- PREVENTIVE / PREDICTIVE MAINTENANCE
  - PM NI
    - No PM for Equip
    - PM for Equip NI
- REPEAT FAILURE
  - MANAGEMENT SYSTEM
    - Corrective Action
      - corrective action NI
      - corrective action not yet implemented
- UNEXPECTED FAILURE
- DESIGN *
  - DESIGN SPECS
    - Specs NI
    - Design Not To Specs
    - Problem Not Anticipated
      - equipment environment not considered
  - DESIGN REVIEW
    - Independent Review NI

* If design causes human performance problem, analyze under Human Performance Difficulty

- EQUIPMENT / PARTS DEFECTIVE
  - PROCUREMENT
  - MANUFACTURING
  - HANDLING
  - STORAGE
  - QUALITY CONTROL

Human Performance Troubleshooting Guide

Directions: Answer all questions and then refer to the Basic Cause Categories to investigate the indicated potential root causes of the incident.

Individual Performance

- Was there excessive fatigue, impairment, personal problems, or inattentiveness? — Yes → HUMAN ENGINEERING; IMMEDIATE SUPERVISION
- Was there a lack of information to guide a person to a procedure? — Yes → HUMAN ENGINEERING; PROCEDURES
- Was procedure used incorrectly or not used? — Yes → PROCEDURES; IMMEDIATE SUPERVISION
- Were displays/indications to recognize/analyze a task or to respond to a system/equipment condition unavailable or unclear? — Yes → HUMAN ENGINEERING
- Were displays, alarms, controls, and equipment identified or operated improperly? — Yes → TRAINING; PROCEDURES; HUMAN ENGINEERING
- Was knowledge of task performance or equipment response missing? — Yes → TRAINING; IMMEDIATE SUPERVISION
- Was work performed in an adverse environment (such as hot, humid, dark, cramped, or hazardous)? — Yes → HUMAN ENGINEERING
- Did work involve repetitive motion, uncomfortable positions, vibration, or heavy lifting? — Yes → TRAINING; HUMAN ENGINEERING; IMMEDIATE SUPERVISION

Team Performance

- Was coordination required between team members or did shifts change? — Yes → COMMUNICATIONS
- Was there lack of agreement about the who/what/when/where of task performance? — Yes → TRAINING; COMMUNICATIONS; IMMEDIATE SUPERVISION
- Was communication across organizational boundaries or with other facilities required? — Yes → COMMUNICATIONS

Management System

- Was task performed in a hurry or a short-cut used? — Yes → MANAGEMENT SYSTEM; IMMEDIATE SUPERVISION
- Was this a recurring error or was potential for failure known before failure occurred? — Yes → MANAGEMENT SYSTEM
- Were standards, procedures, admin controls, or policies to prevent/identify/mitigate the error not used, missing, or in need of improvement? — Yes → MANAGEMENT SYSTEM; IMMEDIATE SUPERVISION; PROCEDURES
- Should an independent quality check have caught the problem? — Yes → QUALITY CONTROL

Proceed to BASIC CAUSE CATEGORIES →

NI = Needs Improvement May also substitute LTA (Less Than Adequate) or PIO (Potential Improvement Opportunity)

Prepared by TapRoot® software for Clark Refining

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* indicates a comment

TapRooT® Root Cause Tree™

Incident: 21300 COKER FIRE PARTIAL OPEN STEAM VALVE

Causal Factor: 01 HUMAN PERFORMANCE DIFFICULTY

BASIC CAUSE CATEGORIES

PROCEDURES

- Not Used / Not Followed
  - no procedure
  - procedure not available or inconvenient for use
  - procedure difficult to use
  - procedure use not required but should be
- Wrong
  - typo
  - sequence wrong
  - facts wrong
  - situation not covered
  - wrong revision used
  - second checker needed
- Followed Incorrectly
  - format confusing
  - > 1 action / step
  - excess references
  - mult unit references
  - limits NI
  - details NI
  - data/computations wrong or incomplete
  - graphics NI
  - ✓ no checkoff
  - checkoff misused
  - misused second check
  - ambiguous instructions
  - equip identification NI

TRAINING

- No Training
  - task not analyzed
  - decided not to train
  - no learning objective
- Understanding NI
  - learning objective NI
  - lesson plan NI
  - instruction NI
  - practice / repetition NI
  - testing NI
  - continuing training NI

QUALITY CONTROL

- No Inspection
  - inspection not required
  - no hold point
  - hold point not performed
- QC NI
  - inspection instructions NI
  - inspection techniques NI
  - foreign material exclusion during work NI

COMMUNICATIONS

- No Comm. or Not Timely
  - no method available
  - late communication
- Turnover NI
  - no standard turnover process
  - turnover process not used
  - turnover process NI
- Misunderstood Verbal Comm.
  - standard terminology not used
  - repeat back not used
  - long message
  - noisy environment

MANAGEMENT SYSTEM

- Standards, Policies, or Admin Controls (SPAC) NI
  - no SPAC
  - not strict enough
  - confusing or incomplete
  - technical error
  - drawings / prints NI
- SPAC Not Used
  - comm. of SPAC NI
  - recently changed
  - enforcement NI
  - no way to implement
  - accountability NI
- Oversight / Employee Relations
  - infrequent audits & evaluations (a & e)
  - a & e lack depth
  - a & e not independent
  - employee communications NI
  - no employee feedback
- Corrective Action
  - corrective action NI
  - corrective action not yet implemented

HUMAN ENGINEERING

- Human - Machine Interface
  - labels NI
  - arrangement / placement
  - displays NI
  - controls NI
  - monitoring alertness NI
  - plant / unit differences
  - excessive lifting
  - tools / instruments NI
- Work Environment
  - housekeeping NI
  - hot / cold
  - rain / snow
  - lights NI
  - noisy
  - high radiation / contamination
  - cramped quarters
- Complex System
  - knowledge-based decision required
  - monitoring > 3 items at once
- Non-Fault Tolerant System
  - errors not detectable
  - errors not recoverable

IMMEDIATE SUPERVISION

- Preparation
  - no preparation
  - work package NI
  - pre-job briefing NI
  - walk-thru NI
  - lock out / tag out NI
  - scheduling NI
- Selection of Worker
  - not qualified
  - fatigued
  - upset
  - ✓ substance abuse — Pending test results
  - team selection NI
- Supervision During Work
  - no supervision
  - crew teamwork NI

NI = Needs Improvement May also substitute LTA (Less Than Adequate) or PIO (Potential Improvement Opportunity)

Prepared by TapRooT® software for Clark Refining

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* indicates a comment

CLARK

REFINING & MARKETING, INC.

201 East Hawthorne
Hartford, Illinois 62048-0007
ph 618-254-7301 fx 618-254-6064

March 17, 2000

Ms. Julia Gentile
Chief Legal Counsel
Illinois Emergency Management Agency
110 East Adams Street
Springfield IL 62701-1109

RE: IEMA Case Number 2000-HM-9900133-8

Dear Ms. Gentile:

I received your letter dated March 9 alleging a violation of certain environmental statutes and regulations. We believe this matter involves a miscommunication which can be resolved by more accurate and complete communication. I will attempt to provide that in this letter and we'll look forward to an opportunity to meet with IEMA if this letter does not fully answer your questions and resolve the matter.

On February 13th, Hartford Refinery voluntarily notified substantially all the regulatory community of a non-reportable release resulting from an upset operating condition within our refinery. The release did not exceed any of the applicable thresholds required for reporting. Despite being non-reportable, notifications were made to NRC (Case Number 519750), IEPA Collinsville office, and the local Illinois State Police office in Collinsville. Unfortunately, IEMA was not included in the immediate notification. Full information was provided to IEMA by our February 17th letter from Massood Modarres to Tom Goin.

To insure that IEMA is properly included in any future notices, all environmental duty personnel will be given refresher training on their responsibilities. In addition, the environmental manager will double-check to insure that all appropriate contacts were made following an incident.

Sincerely,

Forrest B. Lauher
Refinery Manager

cc: John Waligore, Esq., IEPA
Jim O'Brien, Mgr.,Office Chemical Safety

CLARK

Premcor

Premier People,
Products and Services

Premcor Inc.
8182 Maryland Avenue
Suite 600
St. Louis, Missouri 63105-3721
314-854-9696
314-854-1580 fax

June 19, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Julia Gentile
Chief Legal Counsel
Illinois Emergency Management Agency
110 East Adams Street
Springfield, IL 62701-1109

RE: IEMA Case Number 2000-HM-9900133-8

Dear Ms. Gentile:

As a result of our meeting last week, we have enclosed, at your request, a narrative describing the clean-up activities associated with our Coker oil release of February 13 and a copy of our spill response manual detailing our emergency call-out procedures. Please see exhibit 11 for our new call sequence.

It was a pleasure meeting you and Tom Goin. Please do not hesitate to call me at (314) 854-9816 if you have any questions.

Sincerely,

Bill R. Lewis
for
Jerry Barnhill
Vice President – EH&S

JB/ls
Encs.

Narrative: Remediation Activity Around February 13, 2000 Incident

On February 13, 2000 at approximately 5:30 p.m., TRIAD, our spill response contractor, was called in to respond to a release of less than 1 bbl of light oil mist from our Coker unit. Triad responded with service technicians and response equipment.

Light oil mist impacted an area of approximately 180' x 120' including a section of Hawthorne Street. The road was closed for a short period of time where corncob was applied to the pavement, tracked in with the backhoe, and scraped up for disposal. The light mist of oil did not put a visible sheen on any of the puddles of water in and around the ditch area. A vacuum truck was used to suck up all water that could have been possibly impacted. The water was taken to the Hartford Waste Water Treatment Plant where approximately 75 gallons were treated. The corncob was taken to the Clark Hartford Refinery for proper disposal.

At approximately 7:30 p.m., Hawthorne Street was reopened after the cleanup was performed, and upon approval of Clark Personnel.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

(217) 785-0830
TDD (217) 782-9143

Rec'd 8/3/00

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7099 3400 0006 5936 0067
7099 3400 0006 5936 0036

August 1, 2000

Mr. Forrest B. Lauher
The Premcor Refining Group, Inc.
201 East Hawthorne
Hartford, IL 62048-0007

Mr. Russell Eggert
Mayer, Brown & Platt
190 South LaSalle Street
Chicago, IL 60603

Re: VIOLATION NOTICE E-2000-00016
Attributable to The Premcor Refining Group, Inc.
Complaint #COAD
Date Release Occurred: February 13, 2000
Hartford, Madison County, Illinois

Dear Messrs. Lauher and Eggert:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 514 ILCS 5/31(a)(1), and is based upon review of available information and investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of violations of environmental statutes, regulations or permits as set forth in the Attachment to this letter. The Attachment includes an explanation of the activities that Illinois EPA believes may resolve the specified violations, including an estimate of a reasonable time period for completion of the necessary activities. However, due to the nature and seriousness of the violations cited in the Attachment, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response to this Violation Notice, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. The response must address each violation specified in the Attachment and include for each an explanation of the activities that will be implemented and the time schedule for the completion of that activity. The written response will constitute a proposed Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and to meet, and the Illinois EPA may proceed with a referral to a prosecutorial authority.

The Illinois EPA encourages the use of pollution prevention methods to help achieve compliance with environmental requirements. By switching to nonhazardous raw materials, improving housekeeping practices or changing production processes to generate less pollution or waste, you may be able to save money, increase efficiency and possibly reduce regulatory requirements.

Written communications should be directed to James P. O'Brien, Office of Chemical Safety/Emergency Response Unit, at Mail Code # 28, 1021 North Grand Avenue, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include duplicates of all technical reports and/or data and give reference to Violation Notice E-2000-00016.

Sincerely,

James Patrick O'Brien
Manager, Office of Chemical Safety

Complaint #COAD
Attributable to The Premcor Refining Group, Inc.
Date Release Occurred: February 13, 2000
Hartford, Madison County, Illinois

ATTACHMENT

I. Description of Violations

The Premcor Refining Group, Inc. ("Premcor") is in apparent violation of the Illinois Environmental Protection Act ("Act") because it caused or allowed the release of an unknown amount of pressurized hydrocarbon and oil mixture to the ambient air, soil, in both on-site and off-site areas, from their coker unit at Premcor's refinery located at 201 East Hawthorne in Hartford, Madison County, Illinois, on February 13, 2000.

The release occurred when a backflow of hydrocarbon from B-Drum, which was in heat-up, passed through the steam system, and out the drain valve on A-Drum. The backflow was possible because the 8-inch secondary steam valve on B-Drum was not closed completely by an employee or agent of Premcor, following the drilling and testing of B-Drum on the previous cycle. The driller on the previous switch of B-Drum on Saturday afternoon had begun to close the 8" steam valve following the tightness test of the drum, but failed to finish closing the valve. Hydrocarbon was released in steam and carried south by the prevailing wind. Hawthorne Avenue was closed as the result of the release. Five cars had received oily droplets and had to be cleaned.

Although Premcor undertook some response actions after the release, Illinois EPA does not have sufficient information to confirm that a thorough investigation of all possible cause(s) of the release has been undertaken, and all approximate steps taken to prevent recurrence of a similar release.

Releases of contaminants to the air constitute violations of Section 9(a) of the Act and 35 Ill. Adm. Code 201.141 , which prohibit causing or allowing air pollution. Releases to soil and ground surface may also constitute violations of Section 21 (a) of the Act, which prohibits open dumping.

II Text of Sections

Section 9 (415 ILCS 5/9)
No person shall:

a. Cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as to cause or tend to cause air pollution in Illinois, either

alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Board under this Act;

35 Ill. Admin. Code 201.141

No person shall cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as, either alone or in combination with contaminants from other sources, to cause or tend to cause air pollution in Illinois or so as to violate the provisions of this Chapter, or so as to prevent the attainment or maintenance of any applicable ambient air quality standard.

Section 21 (415 ILCS 5/21)

No person shall:

a. Cause or allow the open dumping of any waste.

III. Narrative Description of Activities Recommended by Illinois EPA for Resolution of Violations

The Premcor Refining Group, Inc. has already provided Illinois EPA with a report describing the investigation it conducted into the causes of the release and the procedural changes it has implemented. As a result, Illinois EPA is sending this Violation Notice because it intends to refer this matter for formal enforcement action to the Illinois Attorney General's Office.

cc: VN File
John Waligore
Incident File

SAMPLING AND ANALYSIS PLAN
FOR THE
MILO FIELD AREA
PREMCOR REFINING GROUP
HARTFORD, ILLINOIS

OCTOBER 2000

94-155-4-100

Burns & McDonnell Engineering Company, Inc.
Engineers - Geologists - Scientists
St. Louis, Missouri

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LIST OF FIGURES

Figure No.	Title
1	Proposed Soil Sampling Locations

Note: Figures immediately follow the text.

* * * * *

1.0 INTRODUCTION

1.1 GENERAL

The following sampling and analysis plan describes the activities intended to further characterize the surface conditions at the Premcor Refining Group (Premcor) milo field area (Site) in Hartford, Illinois. The results of this characterization will be used, in addition to prior surface sampling data, to determine the approximate impact of petroleum hydrocarbon contamination at the Site. This sampling and analysis plan provides a description of the work to be performed as part of the field investigation including the methods, procedures, and analyses to be used. The location of the Site is illustrated on Figure 1.

1.2 SITE HISTORY AND DESCRIPTION

On February 13, 2000, Premcor had a hydrocarbon release from the Hartford Coker. The Coker drillers were preparing to switch the process from the A-Drum to B-Drum. Part of the process requires purging the steam header of free water in preparation for steaming the coke-filled A-Drum after it is taken off-line. This procedure is known as "drying out" the steam. B-Drum was being heated with hot vapors from A-Drum in preparation for the switch. When the driller opened the 2" valve to purge the steam header at A-Drum, a small quantity (approximately 300 pounds) of hydrocarbon was released with the steam. The hydrocarbon was carried to the South by the steam and wind, forcing the closure of Hawthorne Avenue for approximately two hours while emergency response contractors cleaned the street. All required notifications were made immediately. Five cars which were impacted by the release were also cleaned to the satisfaction of the owners.

* * * * *

2.0 FIELD INVESTIGATION ACTIVITIES

To determine the impact of petroleum hydrocarbons on the Site, three surface soil samples will be collected and analyzed. The proposed sampling locations are illustrated on Figure 1.

2.1 SURFACE SOIL SAMPLING FOR CHEMICAL ANALYSIS

To determine the presence of contaminants at the Site, surface soil samples will be collected and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260, polynuclear aromatic hydrocarbons (PNAs) by USEPA Method 8270, and Nickel and Vanadium by USEPA Method 6010. Samples will be collected at a depth of approximately 2 to 4 inches below ground surface (bgs) at the three locations indicated in Figure 1 (S-1 through S-3). Surface soil samples will be collected utilizing stainless steel trowels.

2.2 DECONTAMINATION OF SAMPLING EQUIPMENT

Prior to commencing sampling at each location, all sampling equipment that will contact the samples will be washed with a liquinox solution and rinsed with potable water, then with distilled water. Sampling personnel will wear new, dedicated nitrile gloves at each sampling location to prevent cross-contamination.

* * * * *

3.0 ANALYTICAL PROCEDURES

3.1 SOIL CHEMICAL ANALYSIS

Each soil sample selected for chemical analysis will be analyzed for BTEX by USEPA Method 8260, PNAs by USEPA Method 8270, and Nickel and Vanadium by USEPA Method 6010. The laboratory will retain the samples in the event that additional analyses are required. This need will be determined after a review of the chemical analysis results.

3.2 SAMPLE PRESERVATION

Chemical preservatives will be added to the appropriate sample containers by the laboratory prior to shipping the containers. Chemically-preserved sample containers will not be overfilled.

Immediately after sampling, the soil and groundwater samples will be placed on ice and kept cool. The ice will be replaced before the ice chest is sealed and delivered to the laboratory.

* * * * *

4.0 QUALITY ASSURANCE/QUALITY CONTROL

4.1 DOCUMENTATION AND CHAIN-OF-CUSTODY PROCEDURES

The Chain-of-Custody program will provide tracking of possession and handling of the samples from field collection to laboratory analyses (see Appendix A of this report).

4.1.1 Sample Labels

Sample labels will be affixed to the sample containers at the time of sampling. They will contain the following information:

- Sample identification
- Date and time of collection
- Place of collection
- Type of analysis (if applicable)
- Preservatives used (if any)

4.1.2 Custody Seal

When the samples leave the custody of the sample collector (i.e., when the ice chest is shipped to the laboratory), the ice chest will be closed and sealed with evidence tape to ensure that the samples have not been tampered with during transportation. A custody seal will be placed across the opening of the sample shipping container. The seal will include the sampler's signature, time, and date. The laboratory will note if the sample seal has been broken before arrival at the laboratory.

4.1.3 Field Logbook

A field logbook will be maintained with the following information:

- Identification of sample
- Type of sample

- Location of sample
- Depth of sample
- Sample withdrawal procedures and equipment
- Date and time of collection
- Types of sample containers and sample identification numbers
- Preservatives used (if any)
- Parameters requested for analysis
- Calibration record of field test equipment
- Field test equipment analysis data and methods
- Sample shipment method
- Field observations on sampling event
- Name of sample collectors
- Weather conditions
- Sample description (color, odor, etc.)

4.1.4 Chain-of-Custody Record

The Chain-of-Custody Record will trace sample possession from the time of collection and include the following information:

- Sample numbers
- Signature of collectors
- Date and time of collection
- Sample type
- Identification of sampling point
- Number of containers
- Signature of persons involved in the chain of possession
- Inclusive dates and times of possession

A carbon copy of the Chain-of-Custody Record will be retained by the sampling personnel before sealing it in the ice chest to provide a record of shipments to the laboratory.

4.2 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PLAN

It is important to verify that laboratory data is reliable, therefore, a qualified analytical laboratory will perform all chemical analyses according to the following publications:

- "Handbook of Analytical Quality Control in Water and Wastewater Laboratories" (EPA-600/4-79-019)
- "Test Methods for Evaluation of Solid Waste," SW-846, 3rd Edition.
- "Standard Methods for the Examination of Water and Wastewater," 16th Edition

The internal laboratory quality assurance/quality control (QA/QC) will be performed according to these methods. The sample bottles will be new, thus eliminating any chance of cross-contamination from previous sampling events.

* * * * *

5.0 SUMMARY REPORT

Upon the completion of the field and laboratory activities described in this sampling and analysis plan, a Summary Report will be prepared. This report will present all information pertaining to the Site, as well as interpretations and conclusions. The report will include, as a minimum, the following information:

- A physical description of the Site
- Field and laboratory test results
- A summary of data gathering procedures
- An interpretation of data
- Evaluation of hydrocarbon occurrences
- Conclusions

The report, subsequent to incorporation of client comments and approval, will be submitted to the Illinois Environmental Protection Agency.

* * * * *

FIGURE

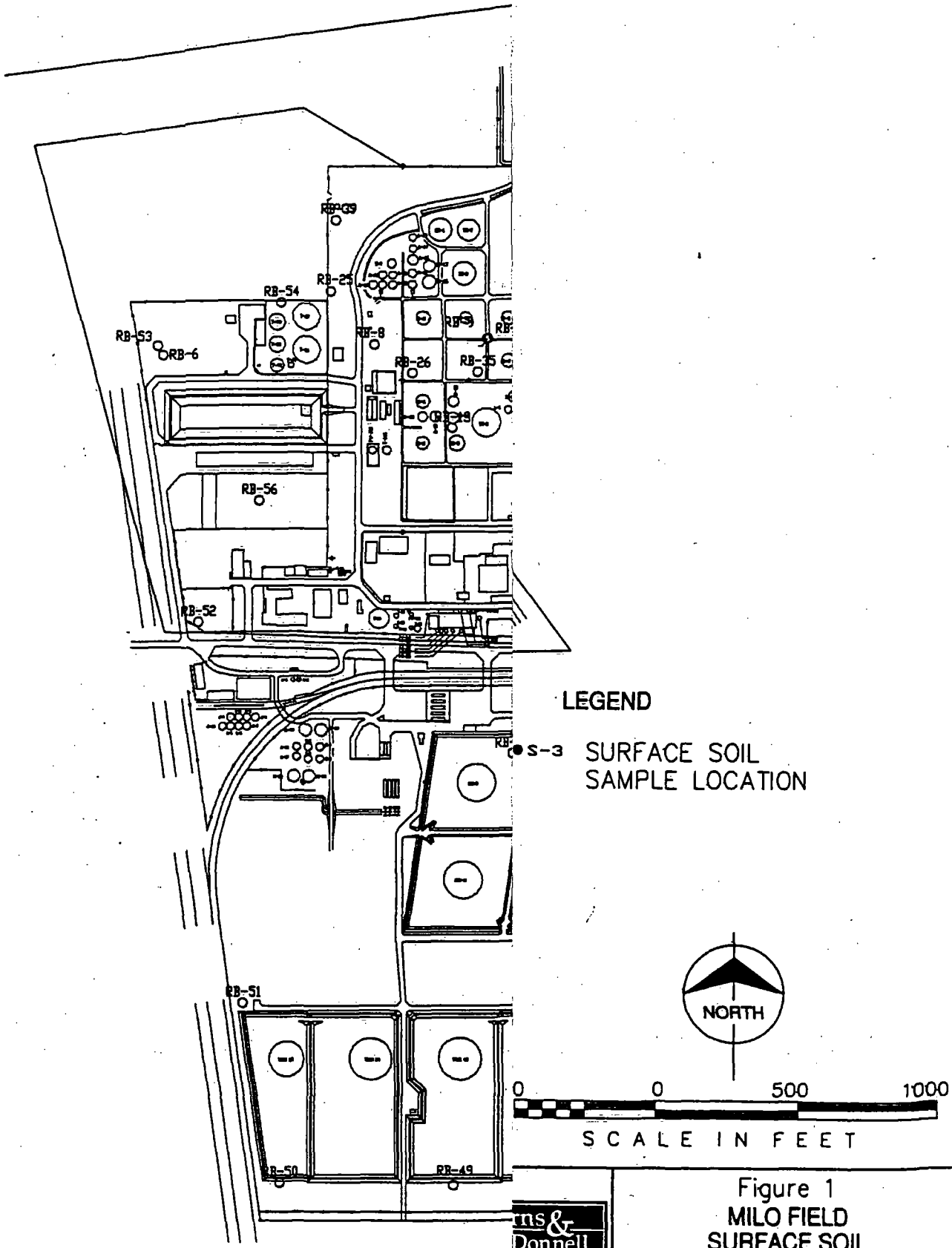

Figure 1
MILO FIELD
SURFACE SOIL
SAMPLE LOCATIONS
PREMCOR REFINING
CORPORATION

K:\P155\4096\CADD\gwcont3.dwg

APPENDIX A
Chain-of-Custody Report

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Waste Consultants, Inc.
17 Cassens Court
St. Louis, Missouri 63026
Phone: (314) 305-0077 Fax: (314) 326-8295

Laboratory
Address
City/State/Zip
Telephone

Document Control No:

Lab. Reference No. or Episode No.:

Attention:

Project Number: Project Name:

Site, Group, or SWMU Name:

Sample Number		Sample Location	Material Sampled	Sample Collected		Sample Type					Parcel Number	Analysis							Quantity (sq. ft. or linear)
						Matrix													
Sample Point	Sample Designator			Date	Time	Liquid	Solid	Gas	Composite	Grab									

Sampler (signature):

Sampler (signature):

Special Instructions:

Relinquished By:	Date/Time	Relinquished By:	Date/Time
1. (signature):		(signature):	
Relinquished By:	Date/Time	Relinquished By:	Date/Time
2. (signature):		(signature):	

Condition of Shipping Container: Good ☐ Fair ☐ Poor ☐

Ice Present in Container: Yes ☐ No ☐

Comments:

052398 Form WCI-OP1ST

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

October 30, 2000

FILE NUMBER 070.17.17

RETAIN IN FILE UNTIL _____

Steve Haug
Premcor, Inc.
201 E. Hawthorne
Hartford, IL 62048
TEL: (618) 254-7301
FAX (618) 254-6064

RE: Premcor-Milo

Order No.: 0010532

Dear Steve Haug:

TEKLAB, INC received 3 samples on 10/26/2000 2:55:00 PM for the analyses presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest that have been tested.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP/Part 186 requirements.

The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Michael L. Austin
Director of Operations

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

CLIENT:	Premcor, Inc.	**Client Project:**	Premcor-Milo
Work Order:	0010532	**Client Sample ID:**	S-1
Lab ID:	0010532-01	**Collection Date:**	10/26/2000 2:22:00 PM
Report Date:	30-Oct-00	**Matrix:**	SOLID

Analyses	RL	Result	Units	DF	Date Analyzed	Analyst
STANDARD METHODS 18TH ED. 2540G						
Total Solids	0.10	**95.9**	%	1	10/26/2000	JLG
SW-846 3050B, ICP METHOD 6010B						
Nickel	0.98	**12**	mg/Kg-dry	1	10/27/2000	SAM
Vanadium	0.98	**13**	mg/Kg-dry	1	10/27/2000	SAM
PERCENT MOISTURE						
Percent Moisture	0.0100	**4.10**	wt%	1	10/26/2000	JLG
POLYNUCLEAR AROMATIC HYDROCARBONS BY SW-846 3550B, METHOD 8310						
Acenaphthene	0.10	**ND**	mg/Kg-dry	10	10/27/2000	DMH
Acenaphthylene	0.10	**ND**	mg/Kg-dry	10	10/27/2000	DMH
Anthracene	0.10	**ND**	mg/Kg-dry	10	10/27/2000	DMH
Benzo(a)anthracene	0.083	**0.19**	mg/Kg-dry	10	10/27/2000	DMH
Benzo(a)pyrene	0.10	**0.65**	mg/Kg-dry	10	10/27/2000	DMH
Benzo(b)fluoranthene	0.10	**0.53**	mg/Kg-dry	10	10/27/2000	DMH
Benzo(g,h,i)perylene	0.10	**0.34**	mg/Kg-dry	10	10/27/2000	DMH
Benzo(k)fluoranthene	0.10	**0.50**	mg/Kg-dry	10	10/27/2000	DMH
Chrysene	0.10	**0.36**	mg/Kg-dry	10	10/27/2000	DMH
Dibenzo(a,h)anthracene	0.10	**ND**	mg/Kg-dry	10	10/27/2000	DMH
Fluoranthene	0.10	**0.38**	mg/Kg-dry	10	10/27/2000	DMH
Fluorene	0.10	**ND**	mg/Kg-dry	10	10/27/2000	DMH
Indeno(1,2,3-cd)pyrene	0.10	**0.30**	mg/Kg-dry	10	10/27/2000	DMH
Naphthalene	0.10	**ND**	mg/Kg-dry	10	10/27/2000	DMH
Phenanthrene	0.10	**0.21**	mg/Kg-dry	10	10/27/2000	DMH
Pyrene	0.10	**0.52**	mg/Kg-dry	10	10/27/2000	DMH
Surr: Terphenyl-d14	12.5-182	**124**	%REC	10	10/27/2000	DMH
VOLATILE ORGANIC COMPOUNDS BY SW-846 METHODS 5035 / 8260B						
Benzene	2.1	**ND**	µg/Kg-dry	1	10/27/2000 11:43:00 AM	RLH
Toluene	5.1	**ND**	µg/Kg-dry	1	10/27/2000 11:43:00 AM	RLH
Ethylbenzene	5.1	**ND**	µg/Kg-dry	1	10/27/2000 11:43:00 AM	RLH
Xylenes, Total	5.1	**ND**	µg/Kg-dry	1	10/27/2000 11:43:00 AM	RLH
Surr: 1,2-Dichloroethane-d4	75-129	**113**	%REC	1	10/27/2000 11:43:00 AM	RLH
Surr: 4-Bromofluorobenzene	63-123	**82.9**	%REC	1	10/27/2000 11:43:00 AM	RLH
Surr: Dibromofluoromethane	70-136	**102**	%REC	1	10/27/2000 11:43:00 AM	RLH
Surr: Toluene-d8	89-116	**92.3**	%REC	1	10/27/2000 11:43:00 AM	RLH

Qualifiers:

DF - Dilution Factor
RL - Reporting Limit
ND - Not Detected at the Reporting Limit
TNTC - Too numerous to count
D - Diluted out of sample
Surr - Surrogate Standard added by lab

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

CLIENT:	Premcor, Inc.	**Client Project:**	Premcor-Milo
Work Order:	0010532	**Client Sample ID:**	S-2
Lab ID:	0010532-02	**Collection Date:**	10/26/2000 2:10:00 PM
Report Date:	30-Oct-00	**Matrix:**	SOLID

Analyses	RL	Result	Units	DF	Date Analyzed	Analyst
STANDARD METHODS 18TH ED. 2540G						
Total Solids	0.10	**69.9**	%	1	10/26/2000	JLG
SW-846 3050B, ICP METHOD 6010B						
Nickel	1.0	**20**	mg/Kg-dry	1	10/27/2000	SAM
Vanadium	1.0	**43**	mg/Kg-dry	1	10/27/2000	SAM
PERCENT MOISTURE						
Percent Moisture	0.0100	**30.1**	wt%	1	10/26/2000	JLG
POLYNUCLEAR AROMATIC HYDROCARBONS BY SW-846 3550B, METHOD 8310						
Acenaphthene	0.014	**0.027**	mg/Kg-dry	1	10/27/2000	DMH
Acenaphthylene	0.014	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Anthracene	0.014	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(a)anthracene	0.011	**0.035**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(a)pyrene	0.014	**0.084**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(b)fluoranthene	0.014	**0.038**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(g,h,i)perylene	0.014	**0.019**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(k)fluoranthene	0.014	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Chrysene	0.014	**0.072**	mg/Kg-dry	1	10/27/2000	DMH
Dibenzo(a,h)anthracene	0.014	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Fluoranthene	0.014	**0.079**	mg/Kg-dry	1	10/27/2000	DMH
Fluorene	0.014	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Indeno(1,2,3-cd)pyrene	0.014	**0.036**	mg/Kg-dry	1	10/27/2000	DMH
Naphthalene	0.014	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Phenanthrene	0.014	**0.055**	mg/Kg-dry	1	10/27/2000	DMH
Pyrene	0.014	**0.066**	mg/Kg-dry	1	10/27/2000	DMH
Surr: Terphenyl-d14	12.5-182	**159**	%REC	1	10/27/2000	DMH
VOLATILE ORGANIC COMPOUNDS BY SW-846 METHODS 5035 / 8260B						
Benzene	2.8	**ND**	µg/Kg-dry	1	10/27/2000 1:35:00 PM	RLH
Toluene	7.0	**ND**	µg/Kg-dry	1	10/27/2000 1:35:00 PM	RLH
Ethylbenzene	7.0	**ND**	µg/Kg-dry	1	10/27/2000 1:35:00 PM	RLH
Xylenes, Total	7.0	**ND**	µg/Kg-dry	1	10/27/2000 1:35:00 PM	RLH
Surr: 1,2-Dichloroethane-d4	75-129	**117**	%REC	1	10/27/2000 1:35:00 PM	RLH
Surr: 4-Bromofluorobenzene	63-123	**96.6**	%REC	1	10/27/2000 1:35:00 PM	RLH
Surr: Dibromofluoromethane	70-136	**106**	%REC	1	10/27/2000 1:35:00 PM	RLH
Surr: Toluene-d8	89-116	**93.4**	%REC	1	10/27/2000 1:35:00 PM	RLH

Qualifiers:
DF - Dilution Factor
RL - Reporting Limit
ND - Not Detected at the Reporting Limit
TNTC - Too numerous to count
D - Diluted out of sample
Surr - Surrogate Standard added by lab

IEPA CERTIFICATE #100226 • IDPH REGISTRY #17584

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

CLIENT:	Premcor, Inc.	**Client Project:**	Premcor-Milo
Work Order:	0010532	**Client Sample ID:**	S-3
Lab ID:	0010532-03	**Collection Date:**	10/26/2000 2:16:00 PM
Report Date:	30-Oct-00	**Matrix:**	SOLID

Analyses	RL	Result	Units	DF	Date Analyzed	Analyst
STANDARD METHODS 18TH ED. 2540G						
Total Solids	0.10	**74.3**	%	1	10/26/2000	JLG
SW-846 3050B, ICP METHOD 6010B						
Nickel	0.98	**21**	mg/Kg-dry	1	10/27/2000	SAM
Vanadium	0.98	**48**	mg/Kg-dry	1	10/27/2000	SAM
PERCENT MOISTURE						
Percent Moisture	0.0100	**25.7**	wt%	1	10/26/2000	JLG
POLYNUCLEAR AROMATIC HYDROCARBONS BY SW-846 3550B, METHOD 8310						
Acenaphthene	0.013	**0.031**	mg/Kg-dry	1	10/27/2000	DMH
Acenaphthylene	0.013	**0.016**	mg/Kg-dry	1	10/27/2000	DMH
Anthracene	0.013	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(a)anthracene	0.011	**0.039**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(a)pyrene	0.013	**0.10**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(b)fluoranthene	0.013	**0.061**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(g,h,i)perylene	0.013	**0.031**	mg/Kg-dry	1	10/27/2000	DMH
Benzo(k)fluoranthene	0.013	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Chrysene	0.013	**0.095**	mg/Kg-dry	1	10/27/2000	DMH
Dibenzo(a,h)anthracene	0.013	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Fluoranthene	0.013	**0.088**	mg/Kg-dry	1	10/27/2000	DMH
Fluorene	0.013	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Indeno(1,2,3-cd)pyrene	0.013	**0.038**	mg/Kg-dry	1	10/27/2000	DMH
Naphthalene	0.013	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Phenanthrene	0.013	**0.092**	mg/Kg-dry	1	10/27/2000	DMH
Pyrene	0.013	**ND**	mg/Kg-dry	1	10/27/2000	DMH
Surr: Terphenyl-d14	12.5-182	**171**	%REC	1	10/27/2000	DMH
VOLATILE ORGANIC COMPOUNDS BY SW-846 METHODS 5035 / 8260B						
Benzene	2.6	**ND**	µg/Kg-dry	1	10/27/2000 2:12:00 PM	RLH
Toluene	6.6	**ND**	µg/Kg-dry	1	10/27/2000 2:12:00 PM	RLH
Ethylbenzene	6.6	**ND**	µg/Kg-dry	1	10/27/2000 2:12:00 PM	RLH
Xylenes, Total	6.6	**ND**	µg/Kg-dry	1	10/27/2000 2:12:00 PM	RLH
Surr: 1,2-Dichloroethane-d4	75-129	**118**	%REC	1	10/27/2000 2:12:00 PM	RLH
Surr: 4-Bromofluorobenzene	63-123	**91.6**	%REC	1	10/27/2000 2:12:00 PM	RLH
Surr: Dibromofluoromethane	70-136	**105**	%REC	1	10/27/2000 2:12:00 PM	RLH
Surr: Toluene-d8	89-116	**94.0**	%REC	1	10/27/2000 2:12:00 PM	RLH

Qualifiers:

DF - Dilution Factor
RL - Reporting Limit
ND - Not Detected at the Reporting Limit
TNTC - Too numerous to count
D - Diluted out of sample
Surr - Surrogate Standard added by lab

CHAIN OF CUSTODY

pg. ___ of ___ Work Order # 10532

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: PREMCOR
Address: 201 E. HAWTHORNE
City / State / Zip: HARTFORD, IL
Contact: STEVE HAUL/PAUL CHRISTIAN Phone: 618 254-7301
E-Mail: Fax:

Are the samples chilled? ☐ NO ☐ YES (Ice or Blue Ice)
Cooler Temperature: 20.3 °C
Preserved in: ☐ Lab ☐ Field
Comments: FAX COPY TO PAUL CHRISTIAN

Project Name / Number: PREMCOR- MILO
Sampler Name: PAUL CHRISTIAN
Requested Due Date: 10-30-00
Billing Instructions: PO# 835635

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNP	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: BTEX	PNAs	Vanadium	Nickel
0010532-01	S-1	10/26/00 1422	X										X			X	X	X	X
02	S-2	10/26/00 1410	X										X			X	X	X	X
03	S-3	10/26/00 1416	X										X			X	X	X	X

RUSH

Relinquished By	Date / Time	Received By	Date / Time
Paul Christian	10/26/00 1455	Kelly Klostermann	10/26/00 14:55

TEKLAB, INC

Sample Receipt Checklist

Client Name PREMCOR

Date and Time Receive 10/26/2000 2:55:00 PM

Work Order Number 0010532

Received by KAK

Checklist completed by Shelly Ostermeier 10/26/00
Signature | Date

Reviewed by _____
Initials | Date

Matrix:

Carrier name: Paul Christian

Shipping container/cooler in good condition?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Invoice

TEKLAB, INC.
5445 HORSESHOE LAKE ROAD
COLLINSVILLE, IL 62234
(618) 344-1004

INVOICE # 46555

DATE 10/30/2000

TERMS NET 30

DUE DATE 11/29/2000

BILL TO:

PREMCOR REFINING GROUP
201 E. HAWTHORNE
HARTFORD, IL 62048

4105

P.O. NO.	SAMPLE REC'D	PROJECT	CONTACT
835635	10-26-00/1455	PREMCOR-MILO	S. HAUG

DESCRIPTION	AMOUNT
00010532-1/3 SOIL TESTING	
[illegible]X 3 @ 54.00	162.00
[illegible]YNUCLEAR AROMATICS 3 @ 150.00	450.00
VANADIUM 3 @ 10.00	30.00
NICKEL 3 @ 10.00	30.00
QUICK QUALITY SERVICE/2 DAY	672.00
TOTAL	$1,344.00

THANK YOU FOR YOUR BUSINESS!!

Safeguard® LITHO USA L99SR5321BM 8/00 2C4-11

Premcor

Premier People,
Products and Services

The Premcor Refining Group
Hartford Refinery
201 East Hawthorne
Hartford, Illinois 62048-0007
618-254-7301
618-254-6064 fax

November 2, 2000

Mr. James Patrick O'Brien
Manager, Office of Emergency Response
Illinois Environmental Protection Agency
1201 North Grand Ave. East
Springfield IL 62702

Re: VN E-2000-00016

Dear Mr. O'Brien:

Thank you for meeting with us on October 13, 2000 to discuss the above referenced incident. The Premcor Refining Group Inc. (Premcor) appreciates the opportunity to discuss with you and your staff the events and our response activities to the Hartford Refinery Coker release of February 13, 2000. In follow up to our meeting, please find enclosed the following information which Premcor was to provide the Agency.

1. All previously submitted documents as they pertain to this incident.
2. The construction drawings of the proposed modifications to the Coker to prevent reoccurrence of the event.
3. The schedule to complete the proposed modifications.
4. The record of operator retraining, with dates.
5. A sampling and analysis plan (SAP) for the affected area.
6. The laboratory analysis of the samples collected in accordance with the SAP.

As we indicated during our meeting, Premcor sought and received verbal approval of the SAP from the Agency through Ms. Cheryl Kelley. Premcor and the Agency have previously agreed to a generic SAP to be used for spill sites. This generic plan was modified to incorporate a narrative of the recent event and to specifically note that we will test for BTEX, PNA's, nickel and vanadium. We completed the SAP sampling on October 26, 2000 and the laboratory results are attached.

Two samples contained benzo(a)pyrene above the regulatory limit which is 0.09 mg/Kg-dry: Sample 1's result was 0.65 mg/Kg-dry and Sample 3's result was slightly above the limit at 0.10 mg/Kg-dry. All other constituents tested were below the applicable regulatory limits. Premcor will submit to the Agency a Corrective Action Plan (CAP) to address the residual contamination detected. We will forward this CAP to the Agency for approval within two weeks and no later than November 24, 2000.

The proposed modifications, two new check valves, will be installed during the next Coker shutdown which is scheduled during March of 2001. Premcor remains committed to the health and safety of our employees, the community, and the environment. If you have any questions or need additional information, please contact Mr. Bill Irwin, the Environmental Supervisor, at (618) 254-7301 ext. 266. Thank you for your time and consideration in this matter.

Sincerely,

Forrest Lauher
Refinery Manager

Cc: Mr. Bill Irwin, Environmental Supervisor, The Premcor Refining Group Inc.
Mr. Jerry Barnhill, Vice-President, The Premcor Refining Group Inc.
Ms. Mary Clair Hayden, In-House Counsel, The Premcor Refining Group Inc.
Mr. Todd Rowe, IEPA, Springfield
Ms. Cheryl Kelley, IEPA, Collinsville

Attachment

Premcor

Premier People,
Products and Services

The Premcor Refining Group
Hartford Refinery
201 East Hawthorne
Hartford, Illinois 62048-0007
618-254-7301
618-254-6064 fax

November 7, 2000

Mr. G. Todd Rowe
Manager, Emergency Response Unit
Office of Emergency Response
1201 North Grand Avenue East
Springfield, IL 62072

RE: VN E-2000-00016
Coker Overspray Incident on February 13, 2000

Dear Mr. Rowe:

This letter is in follow up to a telephone conversion yesterday between you and I concerning the results of soil samples collected as part of The Premcor Refining Group's (Premcor) response to the above referenced incident.

During this conversation, Mr. Paul Christian, of Burns & McDonnell and I asked whether Premcor should submit a Corrective Action Plan (CAP) based on the single sample analysis, benzo(a)pyrene, exceeding the regulatory limit. You advised us to resample the area exceeding the Tiered Approach to Cleanup Objectives (TACO) residential limits. You recommend that we sample to the east and the west of the original sample location, and resample at the original location. Premcor shall sample three additional sites (why 3 since he asked for 2 and which 3 points) and the original location for benzo(a)pyrene. We will submit a plot plan indicating the sample locations along with the analysis of the samples upon receipt.

Premcor indicated in it's November 2, 2000 response letter that we would submit a CAP by November 24, 2000. At this time, we would like to delay submission on a CAP until the results of this sampling plan have been evaluated. We will contact you to determine the appropriate course of action upon receipt of the sample results. Thank you for taking the time to discuss this issue with us. If you have any questions, please contact me at (618) 254-7301 ext. 266.

Sincerely,

Bill R. Irwin

Bill R. Irwin
Environmental Supervisor
Hartford Refinery

Cc: Jerry Barnhill, Vice-President Environmental Health and Safety
Mary Clair Hayden. Esq., In-House Counsel
Cheryl Kelley, IEPA Collinsville
James O'Brien, IEPA Springfield
John Waligore, IEPA Springfield

Premcor

Premier People,
Products and Services

The Premcor Refining Group Inc.
Hartford Refinery
201 East Hawthorne
Hartford, Illinois 62048-0007
618-254-7301
618-254-6064 fax

December 13, 2000

Mr. G. Tod Rowe, P.G.
Manager, Emergency Response Unit
Illinois Environmental Protection Agency
1201 North Grand Avenue East
Springfield, Illinois 62702

Re: The Premcor Refining Group Inc.
Site Investigation for the Milo Field Area
Violation Notice E-2000-00016

Dear Mr. Rowe:

The following is a summary of the sampling and analysis activities associated with the Hartford Refinery's coker overspray release which occurred on February 13, 2000. Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) initially collected three surface soil samples in the release area on October 26, 2000. This sampling followed the sampling and analysis plan titled *Sampling And Analysis Plan For The Milo Field Area, Premcor Refining Group, Hartford, Illinois,* dated October 2000. Soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260 and polynuclear aromatic hydrocarbons (PNAs) by USEPA Method 8310. A summary of the analytical results is included in Table 1. Figure 1 shows the approximate sampling locations.

Soil samples S-2 and S-3, which were collected from inside the Milo field, were below the Illinois EPA Title 35, Subtitle G, Chapter I, Subchapter f, Tiered Approach to Corrective Action Objectives (TACO) tier 1 soil remediation objectives for residential properties for all exposure routes. Soil sample S-1, which was collected between Hawthorne Avenue and the railroad tracks, was above the TACO tier 1 soil remediation objective for residential properties for the ingestion exposure route for one PNA, benzo(a)pyrene.

Pursuant to a telephone conversation between us on November 6, 2000 concerning these sample results, Burns & McDonnell resampled the area on November 9, 2000. During this second sampling event, soil samples S-4 through S-7 were collected from the 4 locations indicated on Figure 1. Samples were analyzed for benzo(a)pyrene, pH, and total organic carbon. A summary of the sampling results is included in Table 1.

Laboratory analytical indicated elevated levels of benzo(a)pyrene in all four soil samples. Soil sample S-5, which was collected from the same location as sample S-1, indicated a benzo(a)pyrene level of 0.82 milligrams per kilogram (mg/kg). Soil samples S-4, S-6, and S-7, which were collected approximately 15 feet north of the railroad tracks, but outside of the impacted area as indicated in Figure 1, had detections of 6.7, 3.5, and 1.2 mg/kg, respectively.

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Based on the results of the additional surface soil sampling, there appears to be elevated background levels of benzo(a)pyrene between Hawthorne Avenue and the railroad tracks, which contributed to the detection of benzo(a)pyrene in soil sample S-1. Since the level of benzo(a)pyrene in all three soil samples collected outside of the coker overspray impacted area were well above the level detected in sample S-1, we do not believe there is any impact to the area above background conditions due to the coker release.

Based on the results of the sampling and analysis performed at the site, Premcor is proposing to IEPA that no further remediation for this site be required. We appreciate your time and assistance in the matter and look forward to your response. If you have any questions concerning this project, please call me at (618) 254-7301 Ext. 266.

Sincerely,

Bill Irwin

Bill Irwin
Environmental Supervisor
Hartford Refinery

Att.

Cc: Jim O'Brien, IEPA
Cheryl Kelley, IEPA
Jerry Barnhill, The Premcor Refining Group
Mary Clair Hayden, The Premcor Refining Group
Forrest Lauher, The Premcor Refining Group
Rich Keffer, The Premcor Refining Group
Paul Christian, Burns and McDonnell
File

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Table 1
SUMMARY OF SOIL ANALYTICAL DATA
PREMCOR REFINING GROUP, INC.
MILO FIELD AREA
HARTFORD, ILLINOIS

Sample Number:		S-1	S-2	S-3	S-4	S-5	S-6	S-7	
Sample Date:		10/26/2000	10/26/2000	10/26/2000	11/9/2000	11/9/2000	11/9/2000	11/9/2000	IEPA
Sample Depth:		2-4"	2-4"	2-4"	2-4"	2-4"	2-4"	2-4"	TACO
PARAMETER	UNITS								Tier 1
Benzene	µg/kg	ND(2.1)	ND(2.8)	ND(2.1)	NA	NA	NA	NA	30
Ethylbenzene	µg/kg	ND(5.1)	ND(7.0)	ND(5.1)	NA	NA	NA	NA	13,000
Toluene	µg/kg	ND(5.1)	ND(7.0)	ND(5.1)	NA	NA	NA	NA	12,000
Total Xylenes	µg/kg	ND(5.1)	ND(7.0)	ND(5.1)	NA	NA	NA	NA	150,000
PNAs									
Naphthalene	mg/kg	ND(0.10)	ND(0.014)	ND(0.013)	NA	NA	NA	NA	84
Acenaphthylene	mg/kg	ND(0.10)	ND(0.014)	0.016	NA	NA	NA	NA	–
Acenaphthene	mg/kg	ND(0.10)	0.027	0.031	NA	NA	NA	NA	570
Fluorene	mg/kg	ND(0.10)	ND(0.014)	ND(0.013)	NA	NA	NA	NA	560
Phenanthrene	mg/kg	0.21	0.055	0.092	NA	NA	NA	NA	–
Anthracene	mg/kg	ND(0.10)	ND(0.014)	ND(0.013)	NA	NA	NA	NA	12,000
Fluoranthene	mg/kg	0.38	0.079	0.088	NA	NA	NA	NA	3,100
Pyrene	mg/kg	0.52	0.066	ND(0.013)	NA	NA	NA	NA	2,300
Benzo(a)anthracene	mg/kg	0.19	0.035	0.039	NA	NA	NA	NA	0.9
Chrysene	mg/kg	0.36	0.072	0.095	NA	NA	NA	NA	88
Benzo(b)fluoranthene	mg/kg	0.53	0.038	0.061	NA	NA	NA	NA	0.9
Benzo(k)fluoranthene	mg/kg	0.5	ND(0.014)	ND(0.013)	NA	NA	NA	NA	9
Benzo(a)pyrene	mg/kg	**0.65***	0.084	**0.1***	**6.7***	**0.82***	**3.5***	**1.2***	0.09
Dibenzo(a,h)anthracene	mg/kg	**ND(0.10)**	ND(0.014)	ND(0.013)	NA	NA	NA	NA	0.09
Benzo (g,h,i) perylene	mg/kg	0.34	0.019	ND(0.013)	NA	NA	NA	NA	–
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	0.036	0.038	NA	NA	NA	NA	0.9
Nickel	mg/kg	12	20	21	NA	NA	NA	NA	130-3,800**
Vanadium	mg/kg	13	43	48	NA	NA	NA	NA	980
Others									
pH		NA	NA	NA	6.75	7.02	6.95	7.87	
TOC	mg/kg	NA	NA	NA	37,000	4,000	13,000	14,000	

IEPA TACO Tier 1 = Most stringent of Tier 1 residential exposure pathways from the Illinois Environmental Protection Agency Title 35 Subtitle G, Chapter I, subchapter f, PART 742; Tiered Approach to Corrective Action Objectives

µg/kg = Micrograms per liter

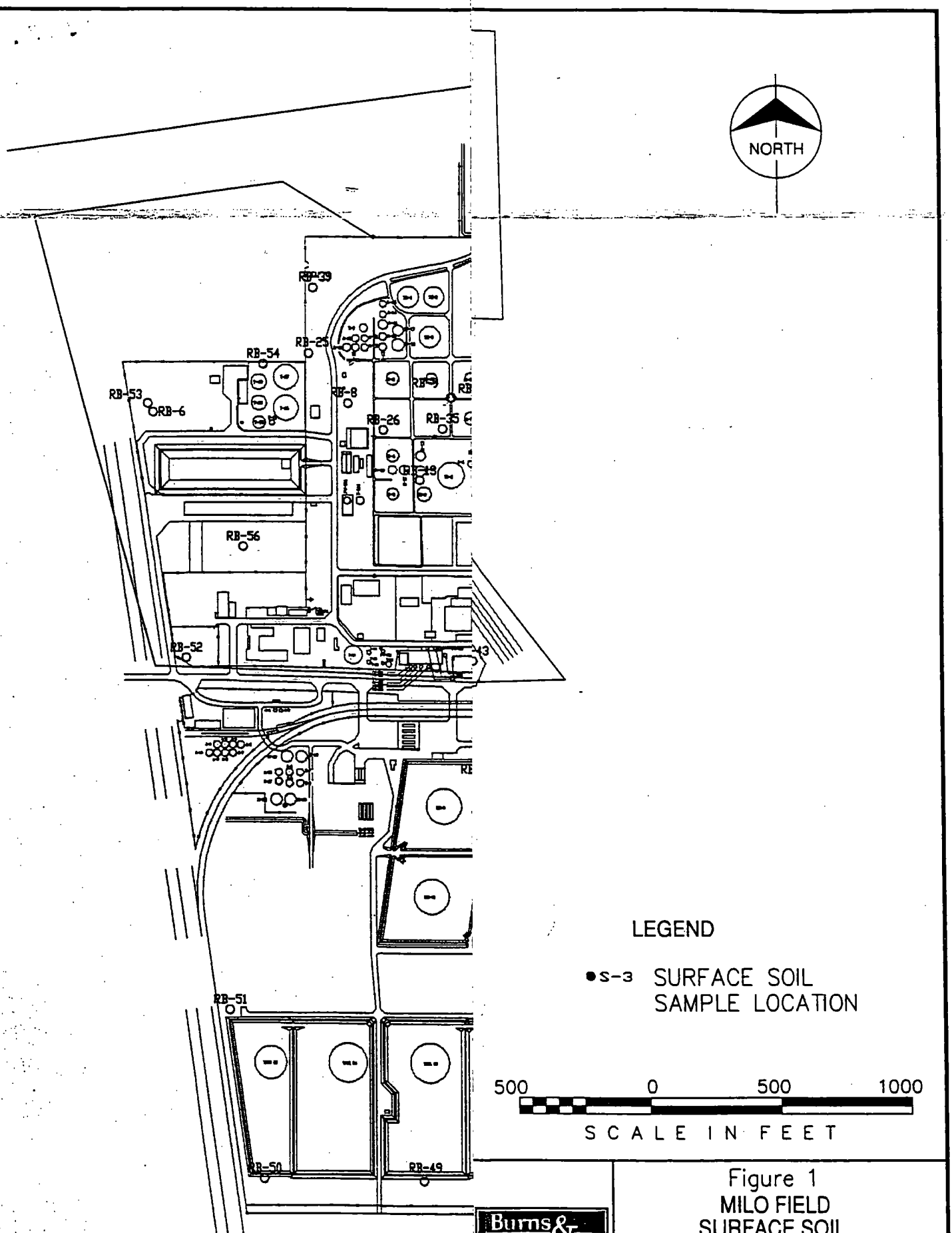
mg/kg = Milligrams per kilogram

ND(0.600) = Not detected (detection limit)

* = Result excedes IEPA TACO Tier1 corrective action objective

** = Depending on soil pH

TOC = Total Organic Carbon



Burns & McDonnell
SINCE 1898

Figure 1
MILO FIELD
SURFACE SOIL
SAMPLE LOCATIONS
PREMCOR REFINING
GROUP, INC.

1

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/782-5544
217/782-9143 (TDD)

December 14, 2000

Mr. Forrest Lauher, Refinery Manager
Premcor Refining Group, Inc.
201 East Hawthorne
Hartford, Illinois 62048-0007

Mr. Russell Eggert
Mayer, Brown & Platt
190 South LaSalle Street
Chicago, IL 60603

Re:Acceptance of Modified Compliance Plan with Conditions
Violation Notice E-2000-00016
Complaint # COAD
Attributable to Premcor Refining Group, Inc.
Date Release Occurred: February 13, 2000
Hartford, Madison County, Illinois

NOV 1 8 2000

Dear Messrs. Lauher and Eggert:

The Illinois Environmental Protection Agency ("Illinois EPA") ACCEPTS the Modified Compliance Plan ("MCP") proposed by Premcor Refining Group, Inc. and dated November 2, 2000, in response to Violation Notice E-2000-00016, dated August 1, 2000, subject to the following condition:

Premcor shall provide certification to the Agency, in writing, once the two new check valves have been installed. This certification shall be provided no later than 15 days after the completion of the next unit turnaround.

Failure to fully comply with each of the commitments and the schedules for achieving each commitment as contained in this MCP with Conditions may, at the sole discretion of the Illinois EPA, result in referral of this matter to the Office of the Attorney General, the States Attorney, or the United States Environmental Protection Agency.

The approval of this MCP with conditions does not constitute a waiver or modification of the terms and conditions of any license or permit issued by the Illinois EPA or any other unit or department of local, state or federal government or of any local, state, or federal statute or regulatory requirement. All required permits or licenses necessary to accomplish the commitments stated above and comply with all local, state or federal laws, regulations, licenses or permits must be acquired in a timely manner. The need for acquisition of any licenses or permits does not waive any of the times for achieving each commitment as contained in the MCP with conditions.

In the event that you do not accept this MCP, as specifically conditioned herein, please write me at the above address within one week of your receipt of this letter.

Written communications should be directed to me at the above address with a duplicate to the Office of Emergency Response at Mail Code #28, 1021 North Grand Avenue, P.O. Box 19276, Springfield, Illinois 62794-9276. Duplicate copies of any technical data and/or reports should also be provided. Any submissions must give reference to the Violation Notice number above.

Sincerely,

John P. Waligore
Assistant Counsel
Environmental Policy
and Emergency Response
Division of Legal Counsel

cc: VN File
Jim O'Brien
Incident File
Cheryl Kelley

Clayton
GROUP SERVICES

APPENDIX O-4

MARCH 9, 2001 INCIDENT

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

(217) 785-0830
TDD (217) 782-9143

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7099 3400 0002 1432 9362
7099 3400 0002 1432 9393

March 30, 2001

Mr. Forrest Lauher
Refinery Manager
Premcor Refining Group, Inc.
201 East Hawthorne
Hartford, IL 62048-0007

Mr. Russell Eggert
Mayer, Brown & Platt
190 South LaSalle Street
Chicago, IL 60603

Re: VIOLATION NOTICE E-2001-00037
Release Incident: 010402
Attributable to Premcor Refining Group, Inc.
Date Release Occurred: March 9, 2001
Date Release Reported: March 9, 2001
Hartford, Madison County, Illinois

Dear Messrs. Lauher and Eggert:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 514 ILCS 5/31(a)(1), and is based upon review of available information and investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of violations of environmental statutes, regulations or permits as set forth in the Attachment to this letter. The Attachment includes an explanation of the activities that Illinois EPA believes may resolve the specified violations, including an estimate of a reasonable time period for completion of the necessary activities. However, due to the nature and seriousness of the violations cited in the Attachment, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response to this Violation Notice, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. The response must address each violation specified in the Attachment and include for each an explanation of the activities that will be implemented and the

time schedule for the completion of that activity. The written response will constitute a proposed Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt. If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and to meet, and the Illinois EPA may proceed with a referral to a prosecutorial authority.

The Illinois EPA encourages the use of pollution prevention methods to help achieve compliance with environmental requirements. By switching to nonhazardous raw materials, improving housekeeping practices or changing production processes to generate less pollution or waste, you may be able to save money, increase efficiency and possibly reduce regulatory requirements.

Written communications should be directed to James P. O'Brien, Office of Emergency Response, at Mail Code # 29, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include duplicates of all technical reports and/or data and give reference to the Violation Notice number above. Should you wish to schedule a meeting, please contact Jennifer Julius at 217-785-6349.

Sincerely,

James Patrick O'Brien
Manager, Office of Emergency Response

Attachment

Violation Notice E-2001-00037
Release Incident: 010402
Attributable to Premcor Refining Group, Inc.
Date Release Occurred: March 9, 2001
Date Release Reported: March 9, 2001
Hartford, Madison County, Illinois

ATTACHMENT

I. Description of Violations

Premcor Refining Group, Inc. – Hartford Refinery is in apparent violation of the Illinois Environmental Protection Act because it caused or allowed a release of liquid gas oil to the ambient air, soil, public highway and right of way, and potentially groundwater, in both on-site and off-site areas from the coker unit at Premcor's refinery located at 201 East Hawthorne in Hartford, Madison County, Illinois.

The release occurred about 8 p.m. on Friday night March 9, 2001, when an unknown amount (Premcor estimated 18 barrels or 756 gallons) of liquid gas oil escaped from the bottom drain valve of a coker drum. The operators were preparing to displace steam in the coker drum with hydrocarbon vapors by opening the bottom drain valve for the steam to escape and opening a gas oil vapor valve. Premcor has indicated that a gas oil liquid valve was opened in error. The liquid gas oil sprayed out the bottom drain valve until the drain valve could be fully closed.

Premcor represented that most of the gas oil went into the coke chute, but acknowledged that some went out as a mist over Hawthorne Avenue, the TOSCO filling rack and an adjacent farm field. Premcor estimated that four to six barrels (168 to 252 gallons) of gas oil went off-site, but has provided no other information to substantiate this estimate. Premcor said the mist covered an employee's car and the company has been notified by citizens of deposits on cars that were driving by. IDOT was called by the Hartford Fire Department to investigate and close off Hawthorne Avenue for about three hours. The release is reported to have come from the drain valve about 40 feet above the ground with the mist covering an area of approximately 300 feet wide by 1,000 feet long.

Although certain response activities were taken to attempt to respond to the release, the company has not provided Illinois EPA with sufficient information to confirm that the cleanup of all residual material has been completed.

The Illinois EPA has not been provided with written information that could confirm that a complete investigation of all cause(s) of the release has been conducted, or that procedures, repairs and/or modifications have been made to prevent future similar releases. Illinois EPA notes that the occurrences surrounding 20010402 are extremely similar to those of Incident 19971227 (July 9, 1997) and company C0AD (February 13, 2000), suggesting a possible systematic problem.

Release of contaminants to the air constitutes violations of Section 9 (a) of the Act and 35 Ill. Adm. Code 201.401, which prohibit causing or allowing air pollution. Releases and threats of releases of contaminants to soil and groundwater constitute violations of Section 12 (a) and 12(d) of the Act, which prohibit causing or allowing water pollution or creating a water pollution hazard. Releases to soil and ground surface may also constitute violations of Section 21 (a) of

the Act, which prohibits open dumping. Releases of contaminants upon the public highways or other public property constitute violations of Section 21 (b) of the Act.

II. Text of Sections

Section 9 (a)

No person shall cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as to cause or tend to cause air pollution in Illinois, either alone or in combination with contaminants from other sources, or so as to violate regulations or standards adopted by the Board under this Act.

35 Ill. Admin. Code 201.141

No person shall cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as, either alone or in combination with contaminants from other sources, to cause or tend to cause air pollution in Illinois or so as to violate the provisions of this Chapter, or so as to prevent the attainment or maintenance of any applicable ambient air quality standard.

Section 12 (a)

No person shall cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources or so as to violate regulations or standards adopted by the Pollution Control Board under this act.

Section 12 (d)

No person shall deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

Section 21 (a)

No person shall cause or allow the open dumping of any waste.

Section21 (b)

No person shall abandon, dump, or deposit any waste upon the public highways or other public property, except in a sanitary landfill approved by the Illinois EPA pursuant to regulations adopted by the Pollution Control Board.

III. Narrative Description of Activities Recommended by Illinois EPA for Resolution of Violations

The Illinois EPA's Office of Emergency Response recommends that all the activities described below be submitted as part of a proposed Compliance Commitment Agreement relative to the release cited herein. An estimated schedule must be provided for completion of each activity. We expect that activities 1 and 2 (an investigation into cause of the release and a focused site investigation) can reasonably be completed and appropriate reports submitted to the Illinois EPA within forty-five (45) days of your receipt of this Violation Notice. The Illinois EPA recognizes that the schedule for activities 3 through 5 will be dependent on the results of activities 1 and 2, and that adjustments to the time schedule proposed for activities 3 through 5 may be appropriate at a later date.

1. Conduct a thorough investigation by knowledgeable personnel into the cause or causes of the release and how such releases can be prevented or precluded in the future. This investigation may be conducted in accordance with the enclosed "Compliance Documentation Guide I - Criteria for Investigation of Causal Factors and Development of Preventive Responses ("Guide I"), which is provided for your convenience.

   Illinois EPA recommends that a comprehensive report of that investigation and recommended corrective actions be submitted to the Office of Emergency Response of the Illinois EPA within forty-five (45) days of your receipt of this Violation Notice.

2. Conduct a focused site investigation at the emergency incident site with respect to the material released and any other material or conditions that affect the mobility and enhance the toxicity of the material released. The site investigation may address the criteria cited in the enclosed "Compliance Documentation Guide B - Criteria for focused Site Investigation and Remedial Action Plan at Emergency Incident Sites ("Guide B"), which is provided for your convenience.

   Illinois EPA recommends that an investigation report be prepared for the site in accordance with Guide B and be submitted to the Office of Emergency Response within forty-five (45) days of your receipt of this Violation Notice.

3. Determine remediation objectives in accordance with Guide B and the documents and regulations cited therein. A remediation objectives report should be prepared in accordance with Guide B and submitted to the Office of Emergency Response for review. A proposed date for submission of this report must be included.

4. Prepare a remedial action plan in accordance with Guide B to address contamination at locations where the contamination concentration exceeds the remediation objectives, which have been approved by the Office of Emergency Response for the incident location. The remedial action plan should be submitted to the Office of Emergency Response for review in advance of implementation and should indicate a proposed date for submission of this remedial action plan. The remedial action plan should also contain an implementation schedule. The Office of Emergency Response may agree in writing to amendments to portions of the schedule as requested by, if conditions during implementation justify this. [Note: If remedial action is expected to exceed three months, the plan should include a schedule for detailed quarterly reports of progress. The content of such reports should be proposed in the remedial action plan.]

5. Prepare a remedial action completion report at the completion of the accepted remedial action plan. The remedial action completion report should be submitted to the Office of Emergency Response by the date proposed in the accepted remedial action plan. The remedial action completion report may be prepared in accordance with "Compliance Documentation Guide C – Criteria for Remedial Action Report at Emergency Incident Sites ("Guide C"), which is provided for your convenience.

cc: John Waligore
Incident File
VN File

File

Premcor

Premier People,
Products and Services

The Premcor Refining Group Inc.
Hartford Refinery
201 East Hawthorne
Hartford, Illinois 62048-0007
618-254-7301
618-254-6064 fax

May 11, 2001

Mr. G. Tod Rowe, P.G.
Manager, Emergency Response Unit
Illinois Environmental Protection Agency
1201 North Grand Avenue East
Springfield, Illinois 62702

Re: The Premcor Refining Group Inc.
Site Investigation for the Milo Field Area
Violation Notice E-2001-00037

Dear Mr. Rowe:

The following is a summary of the sampling and analysis activities associated with the Hartford Refinery's coker release which occurred on March 9, 2001. On April 11, 2001, Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) personnel collected three surface soil samples in the area of the March 9, 2001 coker overspray release. This sampling followed the sampling and analysis plan titled *Sampling And Analysis Plan For The Milo Field Area, Premcor Refining Group, Hartford, Illinois,* dated October 2000.

During this sampling event, soil samples ML-1 through ML-3 were collected from the three locations indicated on Figure 1. Samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260, polynuclear aromatic hydrocarbons (PNAs) by USEPA Method 8310, nickel and vanadium by USEPA Method 6010, and pH USEPA Method 9045. A summary of the analytical results is included in Table 1.

Soil sample ML-1, which was collected between Hawthorne Avenue and the Refinery, and soil sample ML-3, which was collected in the Milo field, were below the Illinois EPA Title 35, Subtitle G, Chapter I, Subchapter f, Tiered Approach to Corrective Action Objectives (TACO) tier 1 soil remediation objectives for residential properties for all exposure routes. Soil sample ML-2, which was collected between Hawthorne Avenue and the railroad tracks, was above the TACO tier 1 soil remediation objective for residential properties for the ingestion exposure route for one PNA, benzo(a)pyrene. However, soil sample ML-2 was well below the tier 1 industrial/commercial ingestion exposure route of 0.8 mg/kg for benzo(a)pyrene.

During a previous investigation, Burns & McDonnell collected three background surface soil samples (S-4, S-6, and S-7) outside of the coker overspray impacted area on November 9, 2000. During this sampling event, soil samples S-4, S-6, and S-7 were collected from three locations between Hawthorne Road and the railroad tracks as indicated on Figure 1. Samples were analyzed for benzo(a)pyrene by USEPA Method 8310, pH by USEPA Method 9045, and total organic carbon. A summary of the sampling results is included in Table 2. Laboratory analytical indicated elevated levels of benzo(a)pyrene in all three background soil samples.

Based on the results of the background surface soil sampling, there appears to be elevated background levels of benzo(a)pyrene between Hawthorne Avenue and the railroad tracks, which appear to have contributed to the detection of benzo(a)pyrene in soil sample ML-2. Since the level of benzo(a)pyrene in all three soil samples collected previously from outside of the coker

overspray impacted area were well above the level detected in sample ML-2, we do not believe there is any impact to the area above background conditions due to the coker release.

Based on the results of the sampling and analysis performed at the site, Premcor is proposing to the IEPA that no further remediation for this site be required. We appreciate your time and assistance in the matter and look forward to your response. If you have any questions concerning this project, please call me at (618) 254-7301 Ext. 266.

Sincerely,

Bill Irwin

Bill Irwin
Environmental Supervisor
Hartford Refinery

Att.

Cc: Jerry Barnhill, The Premcor Refining Group
Mary Clair Hayden, The Premcor Refining Group

Table 1
SUMMARY OF SOIL ANALYTICAL DATA
PREMCOR REFINING GROUP, INC.
MILO FIELD AREA
HARTFORD, ILLINOIS

Sample Number:		ML-1	ML-2	ML-3	
Sample Date:		4/11/01	4/11/01	4/11/01	IEPA
Sample Depth:		2-4"	2-4"	2-4"	TACO
PARAMETER	UNITS				Tier 1
Benzene	µg/kg	ND(2.6)	ND(2.7)	ND(2.6)	30
Ethylbenzene	µg/kg	ND(6.5)	ND(6.8)	ND(6.5)	13,000
Toluene	µg/kg	ND(6.5)	ND(6.8)	ND(6.5)	12,000
Total Xylenes	µg/kg	ND(6.5)	ND(6.8)	ND(6.5)	150,000
PNAs					
Naphthalene	mg/kg	ND(0.013)	ND(0.14)	ND(0.014)	84
Acenaphthylene	mg/kg	0.62	ND(0.14)	ND(0.014)	--
Acenaphthene	mg/kg	ND(0.013)	ND(0.14)	ND(0.014)	570
Fluorene	mg/kg	0.11	ND(0.14)	ND(0.014)	560
Phenanthrene	mg/kg	0.5	0.17	ND(0.014)	--
Anthracene	mg/kg	ND(0.013)	ND(0.14)	ND(0.014)	12,000
Fluoranthene	mg/kg	0.58	0.54	ND(0.014)	3,100
Pyrene	mg/kg	ND(0.013)	0.52	ND(0.014)	2,300
Benzo(a)anthracene	mg/kg	0.16	ND(0.11)	ND(0.011)	0.9
Chrysene	mg/kg	0.44	0.39	0.022	88
Benzo(b)fluoranthene	mg/kg	0.26	0.25	0.015	0.9
Benzo(k)fluoranthene	mg/kg	0.69	ND(0.14)	ND(0.014)	9
Benzo(a)pyrene	mg/kg	ND(0.013)	**0.24***	ND(0.014)	0.09
Dibenzo(a,h)anthracene	mg/kg	ND(0.013)	ND(0.14)	ND(0.014)	0.09
Benzo (g,h,i) perylene	mg/kg	ND(0.013)	0.23	ND(0.014)	--
Indeno(1,2,3-cd)pyrene	mg/kg	ND(0.013)	0.18	ND(0.014)	0.9
Nickel	mg/kg	63	34	31	130-3,800**
Vanadium	mg/kg	190	50	46	980
Others					
pH		7.88	8.03	6.02	

IEPA TACO Tier 1 = Most stringent of Tier 1 residential exposure pathways from the Illinois Environmental Protection Agency Title 35 Subtile G, Chapter I, subchapter f, PART 742; Tiered Approach to Corrective Action Objectives

µg/kg = Micrograms per liter

mg/kg = Milligrams per kilogram

ND(0.600) = Not detected (detection limit)

* = Result excedes IEPA TACO Tier1 corrective action objective

** = Depending on soil pH

Table 2
SUMMARY OF SOIL ANALYTICAL DATA
PREMCOR REFINING GROUP, INC.
MILO FIELD AREA
HARTFORD, ILLINOIS

Sample Number:		S-1	S-2	S-3	S-4	S-5	S-6	S-7	
Sample Date:		10/26/00	10/26/00	10/26/00	11/9/00	11/9/00	11/9/00	11/9/00	IEPA
Sample Depth:		2-4"	2-4"	2-4"	2-4"	2-4"	2-4"	2-4"	TACO
PARAMETER	UNITS								Tier 1
Benzene	µg/kg	ND(2.1)	ND(2.8)	ND(2.1)	NA	NA	NA	NA	30
Ethylbenzene	µg/kg	ND(5.1)	ND(7.0)	ND(5.1)	NA	NA	NA	NA	13,000
Toluene	µg/kg	ND(5.1)	ND(7.0)	ND(5.1)	NA	NA	NA	NA	12,000
Total Xylenes	µg/kg	ND(5.1)	ND(7.0)	ND(5.1)	NA	NA	NA	NA	150,000
PNAs									
Naphthalene	mg/kg	ND(0.10)	ND(0.014)	ND(0.013)	NA	NA	NA	NA	84
Acenaphthylene	mg/kg	ND(0.10)	ND(0.014)	0.016	NA	NA	NA	NA	--
Acenaphthene	mg/kg	ND(0.10)	0.027	0.031	NA	NA	NA	NA	570
Fluorene	mg/kg	ND(0.10)	ND(0.014)	ND(0.013)	NA	NA	NA	NA	560
Phenanthrene	mg/kg	0.21	0.055	0.092	NA	NA	NA	NA	--
Anthracene	mg/kg	ND(0.10)	ND(0.014)	ND(0.013)	NA	NA	NA	NA	12,000
Fluoranthene	mg/kg	0.38	0.079	0.088	NA	NA	NA	NA	3,100
Pyrene	mg/kg	0.52	0.066	ND(0.013)	NA	NA	NA	NA	2,300
Benzo(a)anthracene	mg/kg	0.19	0.035	0.039	NA	NA	NA	NA	0.9
Chrysene	mg/kg	0.36	0.072	0.095	NA	NA	NA	NA	88
Benzo(b)fluoranthene	mg/kg	0.53	0.038	0.061	NA	NA	NA	NA	0.9
zo(k)fluoranthene	mg/kg	0.5	ND(0.014)	ND(0.013)	NA	NA	NA	NA	9
Benzo(a)pyrene	mg/kg	**0.65***	0.084	**0.1***	**6.7***	**0.82***	**3.5***	**1.2***	0.09
Dibenzo(a,h)anthracene	mg/kg	**ND(0.10)**	ND(0.014)	ND(0.013)	NA	NA	NA	NA	0.09
Benzo (g,h,i) perylene	mg/kg	0.34	0.019	ND(0.013)	NA	NA	NA	NA	--
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	0.036	0.038	NA	NA	NA	NA	0.9
Nickel	mg/kg	12	20	21	NA	NA	NA	NA	130-3,800**
Vanadium	mg/kg	13	43	48	NA	NA	NA	NA	980
Others									
pH		NA	NA	NA	6.75	7.02	6.95	7.87	
TOC	mg/kg	NA	NA	NA	37,000	4,000	13,000	14,000	

IEPA TACO Tier 1 = Most stringent of Tier 1 residential exposure pathways from the Illinois Environmental Protection Agency Title 35 Subtitle G, Chapter I, subchapter f, PART 742; Tiered Approach to Corrective Action Objectives

µg/kg = Micrograms per liter

mg/kg = Milligrams per kilogram

ND(0.600) = Not detected (detection limit)

* = Result excedes IEPA TACO Tier1 corrective action objective

** = Depending on soil pH

TOC = Total Organic Carbon

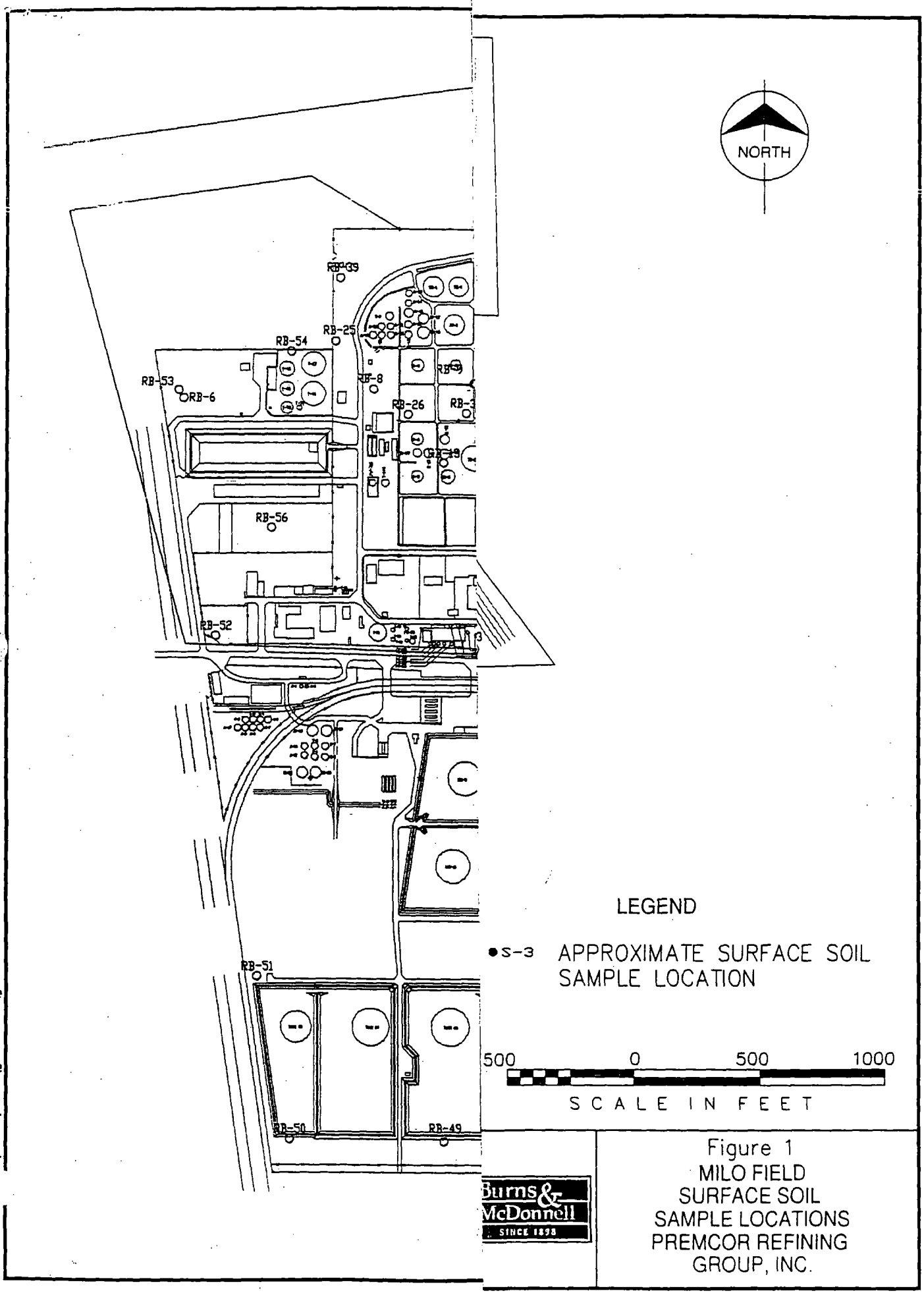


Figure 1
MILO FIELD
SURFACE SOIL
SAMPLE LOCATIONS
PREMCOR REFINING
GROUP, INC.

K:\5\4096\CADD\gwcont3.dwg

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276
THOMAS V. SKINNER, DIRECTOR

217/785-0830
TDD 217/782-9143

Received May 29, 2001

May 23, 2001

Mr. Bill Irwin
Premcor Refining Group
201 E. Hawthorne
Hartford, IL 62048-0007

Mr. Russell Eggert
Mayer, Brown & Platt
190 S. LaSalle Street
Chicago, IL 60603

Re: Site Investigation for the Milo Field Area
Violation Notice E-2001-00037
Release Incident # 20010402
Attributable to Premcor Refining Group, Inc.
Date Release Occurred: March 9, 2001
Date Release Reported: March 9, 2001
Hartford, Madison County, Illinois

Dear Messers Irwin and Eggert:

The Illinois Environmental Protection Agency ("Illinois EPA") has reviewed the Site Investigation Report, dated May 11, 2001 and received by the Agency on May 14, 2001. It was submitted pursuant to the Violation Notice dated March 30, 2001. In order to complete our review for Incident 20010402, the following comments are provided:

The Illinois EPA disagrees with your conclusion that 0.24 mg/Kg of Benzo(a)pyrene detected in sample ML-2 (2-4" on 4/11/01) represents background levels unassociated with this facility. Section 58.2 of the Environmental Protection Act defines "Area Background" as concentrations of regulated substances that are consistently present in the environment in the vicinity of a site that are the result of natural conditions or human activities, and not the result solely of releases at the site. This office has not observed PNA detections along roadways except where spills have been known to occur. We are aware that historic spills have impacted Hawthorn Avenue and do not concur that residual PNA levels there are not related to the refinery.

This issue remains unresolved in that future exposures could occur at unacceptable levels if the Milo field is converted to uses that pose the potential for exposure similar to that assumed when the residential cleanup objectives were adopted.

Because the violations remain the subject of disagreement between the Illinois EPA and Premcor Refining Group, this matter may be considered for referral to the Office of the Attorney General, the State's Attorney or the United States Environmental Protection Agency for formal enforcement action and the imposition of penalties.

All responses and written communications should be directed to James P. O'Brien, Manager, Office of Emergency Response, at Mail Code #29, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include duplicate copies of any technical reports and/or data and give reference to Violation Notice Number identified above.

Sincerely,

James P. O'Brien
Manager, Office of Emergency Response

cc: VN File
John Waligore
Incident File

Clayton
GROUP SERVICES

APPENDIX O-5

OTHER INCIDENTS

CLARK OIL & REFINING CORPORATION

June 26, 1985

Mr. J. N. Mahlandt, P.E.
Environmental Protection Engineer
Field Operations Section
Division of Water Pollution Control
Illinois EPA
2009 Mall Street
Collinsville, IL 62234

Dear Nick:

In accordance with your directive of June 12, 1985, I wish to report the following. All oil in the ditch along the coking facility was cleaned from the ditch by refinery personnel.

A contract was then let to Petro-Chem Corporation to perform the remainder of the work. They removed all contaminated material from the ditch, starting in the Coker area and proceeding east to Highway 111. The ditch was then re-shaped, seeded and straw blown on to hold the seed. We trust this will meet with your approval.

If any other information is desired, please advise.

Sincerely,

CLARK OIL & REFINING CORPORATION

C. E. Knipping

6-12-85

Gene Knipping -

On the way to the refinery this morning I observed a quantity of oil in the ditch along side the coal storage area. The oil appears to be contained by the roadway off of the highway. There also appears to be a contained pool of oil inside the refinery fence, just to the north of the ditch.

Please take appropriate action to pick up the oil, remove oil soaked vegetation, and any contaminated soil/coal fines. Also please send me a written report once the clean-up in completed.

Nick Mahlandt, PE
Div. of Water Pollution Control
IEPA

Illinois Environmental Protection Agency · 2009 Mall Street, Collinsville, Illinois 62234

618/345-6220

JUL 8 1985

MADISON COUNTY - Clark Oil Refinery
Spill Clean-up

Mr. Gene Knipping
Clark Oil & Refining Corporation
P.O. Box 7
Hartford, Illinois 62048

Dear Mr. Knipping:

Receipt is acknowledged of your letter of June 26, 1985 concerning the cleaning of the drainage ditch alongside the coke storage area.

The area of work was viewed on June 27th by J. N. Mahlandt, P.E. of this Agency and after the inspection you were contacted. Based on our representative's report, we conclude that all debris was removed and the ditch was restored to its original configuration. This re-shaping and subsequent seeding appeared to be very satisfactory.

We wish to thank the involved refinery personnel for the prompt action taken in this matter.

Very truly yours,

ENVIRONMENTAL PROTECTION AGENCY

Robert L. Schleuger, P.E.
Regional Manager
Division of Water Pollution Control

RLS:JNM:CAS

cc: DWPC/FOS - [illegible]
cc: DWPC - Region VI
cc: DWPC/CAS - Mike Severns
cc: Clark Oil - R. Patrick

MEMORANDUM

MADISON COUNTY - Clark Oil Refinery
(Hartford) Spill Clean-up

TO: Division of Water Pollution Control/Field Operations & Records Unit

FROM: J. N. Mahlandt, Region VI, Collinsville

DATE: June 12 & 27, 1985

INTERVIEWED: Mr. Gene Knipping, Clark Oil

On June 12th the writer conducted a CSI at the subject facility. On the way to their office it was noted that the road ditch along Hawthorne St. appeared to contain oil. It should be noted that the previous day this area received a 4 in. rainfall in a 2 hr. period. Mr. Knipping accompanied the writer and we checked the ditch at several locations.

Oil pockets were found at approximately 6-7 locations. In addition a portion of the ditch was blocked with coke fines. The refinery coke storage area boarders a portion of the ditch. Mr. Knipping was advised that the oil needs to be picked up and the fines removed. He stated he would get a crew out this afternoon on the oil, but the coke fines may take more time. He asked if I would write him a note to this effect so he could show his superiors. A copy of the handwritten notification is attached.

On June 13th, George Burkhart, Refinery Manager, telephoned. He reported that sorbent and vacuum trucks were employed and all was being picked up. He also stated that he had contacted several contractors for bids on removing the coke and any vegetation. He felt that a contract could be signed early next week and work started immediately thereafter.

On June 19th Mr. Knipping called to report that the contractor is on site. He asked if the removed fines, vegetation, and soil could be placed on the waste coke pile. This seemed like a safe place. Mr. Knipping also stated that once the work was completed we would be notified in writing. A copy of his June 26th letter is attached.

On June 27th the writer stopped by the refinery and viewed the area. The ditch had been cleaned and reshaped from Gate 3 back to Route 111. A greater distance than was really required. The area had been seeded and a straw cover placed. It appears that the clean-up was more than satisfactory and a letter to that affect will be sent to the company.

J. N. Mahlandt

JNM:pbo

Attachments

cc: DWPC Region VI
cc: CAS - Mike Severns

6-12-85

Gene Knipping -

On the way to the refinery this morning I observed a quantity of oil in the ditch along side the coal storage area. The oil appears to be contained by the roadway off of the highway. There also appears to be a contained pool of oil inside the refinery fence, just to the north of the ditch.

Please take appropriate action to pick up the oil, remove oil soaked vegetation, and any contaminated soil/coal fines. Also please send me a written report once the clean-up is completed.

Nick Mahlandt, PE
Div. of Water Pollution Control
IEPA

CLARK OIL & REFINING CORPORATION

June 26, 1985

RECEIVED
IL Environmental Protection Agency

JUN 27 1985

Division of Water Pollution Control
Field Operations Section — Reg. VI

Mr. J. N. Mahlandt, P.E.
Environmental Protection Engineer
Field Operations Section
Division of Water Pollution Control
Illinois EPA
2009 Mall Street
Collinsville, IL 62234

Dear Nick:

In accordance with your directive of June 12, 1985, I wish to report the following. All oil in the ditch along the coking facility was cleaned from the ditch by refinery personnel.

A contract was then let to Petro-Chem Corporation to perform the remainder of the work. They removed all contaminated material from the ditch, starting in the Coker area and proceeding east to Highway 111. The ditch was then re-shaped, seeded and straw blown on to hold the seed. We trust this will meet with your approval.

If any other information is desired, please advise.

Sincerely,

CLARK OIL & REFINING CORPORATION

C. E. Knipping

Source: IEPA ERW

Complaint
no incident

M E M O R A N D U M

RECEIVED
JUL 25 1991
IEPA
OFFICE OF CHEMICAL SAFETY
Madison Co.

DATE: July 22, 1991

TO: OCS/ERU - Springfield

FROM: M.J. Mark Johnson - OCS/ERU - Collinsville

SUBJECT: Clark Oil Refinery Release on July 13, 1991

On Saturday July 13, 1991, at 10:25 a.m., this writer received a phone call from Tom Powell (OCS). The phone call was in regards to a possible release from the Clark Oil Refinery. Mr. Powell had received a phone call from Jeff Funkhouser, Shell's Environmental Supervisor on duty. Mr. Funkhouser stated that Jim Strohbeck, Shell's Environmental Supervisor who was on duty overnight, was driving Shell's Emergency Response van in the general vacinity of the two refineries earlier that morning. At 2:41 a.m., while he was driving the van, the van was impacted with oily droplets. Mr. Strohbeck reported that Clark's ground flare was extinguished with only the flare pilots operating. Mr. Funkhouser told Mr. Powell that the oily material had visibly impacted homes and automobiles in South Roxana. Based on the information we had, Mr. Powell and this writer agreed that a site investigation should be conducted.

At 11:30 a.m., I arrived in South Roxana. This writer observed, at several locations, oily droplets approximately 2-3 millimeters in size, on vehicles and buildings (See attached photos). The locations, at which this material was observed on vehicles, were at the south end of Sinclair St., the corner of Herbert Ave. and Missouri St., the American Legion Hall on Sinclair St., the corner of High St. and Sinclair St., near the corner of Roxana Ave. and Park St., south end of Washington St. and the corner of Wilson St. and Ohio Ave. (See attached street map). The material was also observed on a building located in Dad's Club Park in South Roxana.

This writer contacted Mr. Powell at noon and explained to him my findings and observations. Mr. Powell stated that he had received a phone call from Mr. Funkhouser, in which Mr. Funkhouser had been in contact with Clark Oil and Refining. According to Mr. Funkhouser, Clark Oil and Refining acknowledged that they had a problem overnight, that potentially may have caused the release. Mr. Powell and I agreed that a site visit to Clark Oil and Refining should be conducted.

At 12:40 p.m., I arrived at Clark Oil and Refining. I met with Ed Soyk, Refinery Manager, and Roger Kline, Manager of Industrial Relations. Mr. Soyk stated that they had a problem with the flare system. This problem was related to the coking unit. They were switching from one coke "drum" to another coke "drum". The uncondensables from this process go to the flare and the flare had possibly been overloaded. This occurred between midnight and 3:00 a.m. Mr. Soyk stated that Clark Oil and Refining is taking care of citizens' vehicles that were impacted by the oily material.

The Illinois Emergency Services and Disaster Agency (IESDA) was not notified of this incident.

A follow-up site visit to Clark Oil and Refining was conducted on July 18, 1991 by Jeff Benbenek (DAPC) and this writer. Mr. Benbenek and I met with Ed Soyk. Mr. Soyk stated that there has still been no contact to IESDA or local authorities. Clark Oil and Refining has made arrangements with a car wash in that area to degrease and wash vehicles. Clark Oil and Refining's insurance company is handling damage to homes.

An inspection of the coking unit area was conducted by Mr. Benbenek and I. We were accompanied by Gary Poe, Assistant Operations Manager, and Randy Lindley, Coking Unit Foreman. The following is the chain of events which lead up to the release on the morning of July 13, 1991. A brief power outage Friday morning, caused by a lightning strike in the Hartford area, caused hot oil in coke "drum" A to foam. The oil foamed over into the coke "drum" blowdown system. The "Fin Fans" in the blowdown system became plugged with this oil. While coke "drum" A was cooling down, the operator noticed a significant increase in "drum" pressure. The operator then manually opened a by-pass valve which diverts material around the "Fin Fans". A heavy volume of water vapor (steam) was applied to the process. This action caused the flare to be extinguished. A portion of the oil that was deposited in the blowdown system from the foaming problem, was then stripped by the steam and also went to the flare. The knockout systems could not condense the amount of material in the process, therefore, the release of the oil droplets occurred.

The operators that were on duty struggled with the situation for approximately two hours. They contacted Mr. Lindley for guidance. Mr. Lindley contacted Mr. Poe to inform him of the problem. A phone call was made to the refinery by Mr. Poe at approximately 3:30 a.m. Mr. Poe instructed the operators to get the flare lit.

MFJ:jlr/0088E

cc: DAPC - Collinsville
cc: OCS/ERU - Collinsville
cc: Dennis Ahlberg - OCS/ERU

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