US EPA RECORDS CENTER REGION 5
449967

REFERENCE 2
SITE NAME LoBue #2
SITE ID ILD980503050

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES

REFERENCE
SITE NAME
SITE ID

Fac. No. 016 0720 PUBLIC WATER SUPPLY DATA SHEET

County and Supply EAST CHICAGO HEIGHTS Cook County

Date Inspected March 12, & 22, 1982 Plant phone ----

Certified Operator Amos White 3091 *C* Phone

Other officials (Title) Phone

Saul Beck, Mayor Phone 758-3131 Village Hall

Emergency Address Utility Company Phone 758-1700 Utility Company

Send mail to Village Hall, 1343 Ellis Avenue, East Chicago Heights, Illinois 60411

Interviewed Amos White, Water Supply Operator

Brief description of supply: Water obtained from seven drilled wells (2 wells #1 and #2 maintained as standby (cl_2 and fluoride treatment only) and 3 wells (#3, #6 and #7 pump to Chicago Heights exclusively), chlorinated #3, #4, #5, #6 and #7. Fluoridate all wells except #3. Phosphate added at #3, #6, and #7. One pressure storage tank (at #5 only). One elevated tank floats on the system. Wells #3, #6 and #7 are leased to a Utility Company which in turn sells water to Chicago Heights. Amos White maintains the entire system, both municipal and private.

No. of services: Direct ± 1700 - 3 % metered

Satellite Chicago Heights is % metered

Adequacy of Supply

Annual Pumpage 1225 M* Gal. 1981
Av. Daily pumpage 3.36M Gal. Max. av. Daily Pumpage Gal.
Est. Population Av. Daily per Capita Consumption 172** Gal.
Time Required to Produce Av. Daily Consumption Hrs.
Time Required to Produce Mx. Av. Daily Consumption Hrs.
Large Consumers Av. Gal./Day

Emergency water and Power Sources:

Emergency inter-connection: Chicago Heights
*Including Chicago Heights (883.3M)
**Not including Chicago Heights

CRB:ted
PWS 59 7/79

INVENTORY	Wells & Pumps	Standby Power	Feeder Mains	Add Chlorine	Add Fluoride	Add Phosphate	Exchange	Removal	Flushing hydrants	Backflow preventor	Clear Wells	High Ser. Pumps	Standby Power	Mains - 1000s ft.	Interconnections	Elevated Tanks	Pressure Storage	Ground Storage	Booster Pumps	Standby Power	Distribution Valve	Hydrant Valves	Service Connection
Detail in "CSOM"																							± 1700
Number of Units	7	--	--	7	6	3	--	--	145 +4 under construction		--	--	--		1	1	1	--	--	--	11		

Well Capacity:

#1	200*	gpm
#2	100*	gpm
#3	1000	gpm
#4	500	gpm
#5	550	gpm
#6	730	gpm
#7	850	gpm
#8		gpm
#9		gpm
#10		gpm
#11		gpm
#12		gpm

Total Well Capacity 5.6M gpd.
Total Storage Capacity 115K gal.
Iron Filter Capacity _____ gpd

High Service Pump Capacity _____ gpd
Elevated Storage 100K gal.
Pressure Storage 15K gal.
Ground Storage _____ gal.

*STANDBY

Emergency Power: None

In the course of the evaluation, the following conditions which appear to constitute violations of the Environmental Protection Act or related public water supply rules and regulations were noted:

EQUIPMENT

Well #1 No chlorine scale

Well #2 No chlorine scale. Chlorine not isolated. No exhaust fan.

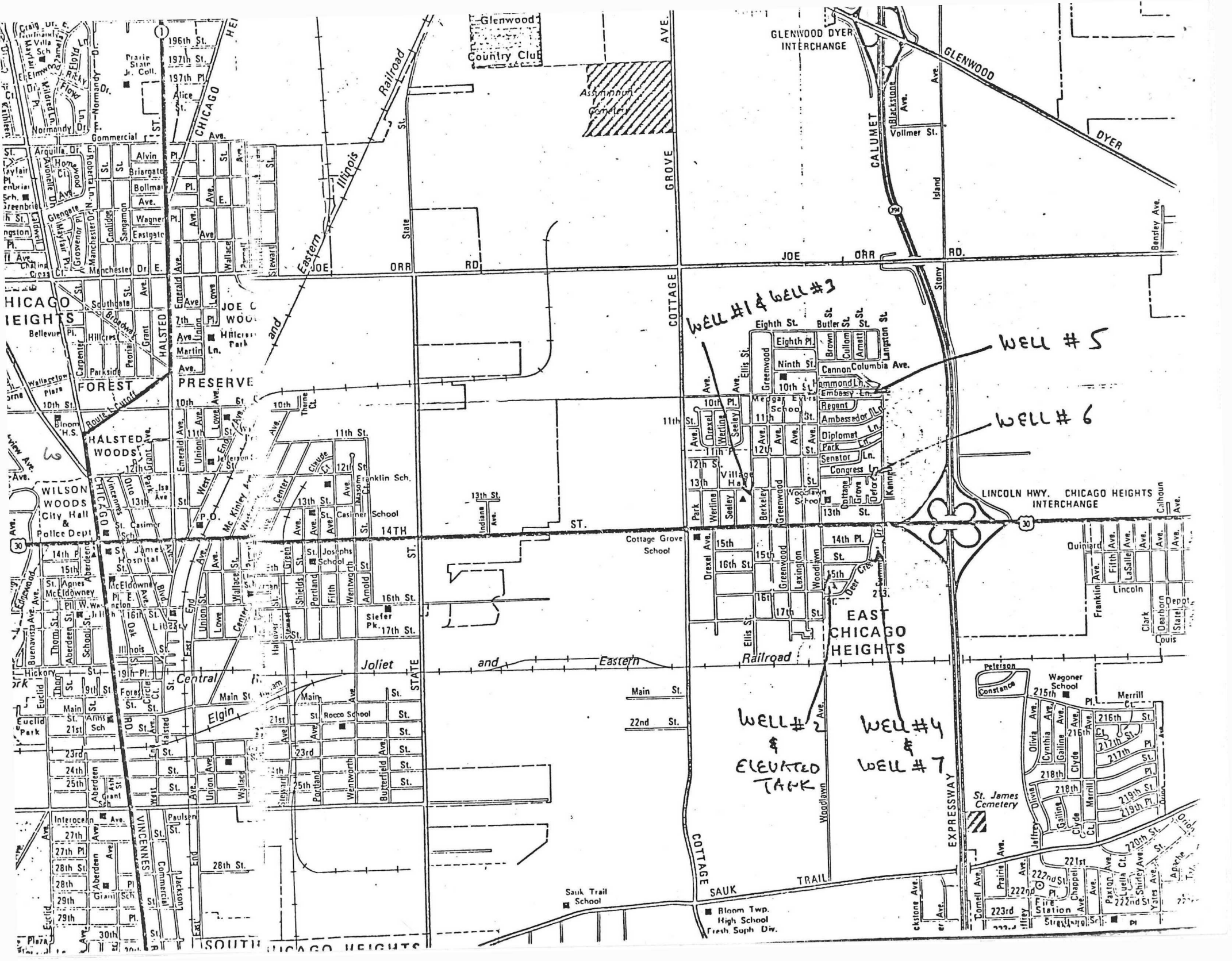
Well #3 Chlorine not totally isolated. No chlorine scale.

Well #4 No exhaust fan.

Well #5 Master meter broken.

MONITORING

1. Operating records are not submitted.
2. Inadequate number of bacteriological samples submitted. Required 6 from distribution, submitted 5.
3. Chlorine residual not tested at the time of bacteriological sample collection.
4. No recent mineral analysis for distribution system.
5. Inconsistent fluoride levels in distribution.
6. No chlorine residual present in distribution on March 22, 1982. Samples taken at Village Hall and Utility office.
7. No bacteriological samples received for sampling period of January 4 to January 31, 1982.


WELL #1 & WELL #3
WELL #5
WELL #6
WELL #2 & ELEVATED TANK
WELL #4 & WELL #7
GLENWOOD DYER INTERCHANGE
LINCOLN HWY. CHICAGO HEIGHTS INTERCHANGE
Glenwood Country Club
Assumption Cemetery
Prairie State Jr. Coll.
CHICAGO HEIGHTS
HALSTED WOODS
FOREST PRESERVE
WILSON WOODS City Hall & Police Dept
EAST CHICAGO HEIGHTS
Joliet and Eastern Railroad
Illinois and Eastern Railroad
Central Elgin
JOE ORR RD.
GLENWOOD DYER
CALUMET
GROVE
COTTAGE
STATE ST.
HALSTED
CHICAGO
EXPRESSWAY
SAUK TRAIL
Cottage Grove School
Franklin Sch.
Casimer School
St. Joseph School
Rocco School
Wagoner School
Sauk Trail School
Bloom Twp. High School Fresh. Soph. Div.
St. James Cemetery
Fire Station
Siefer Pk.
St. James Hospital
Bloom H.S.
Route 1 Cutoff

SUMMARY OF MONITORING East Chicago Heights PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Year	1979	1980				1981			
Quarter	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
				Measurements as feet above sea level					
Well or Intake # 6 Location 1900'S 1400'W/NEC-23-35N-14E Elevations 635'									
Gpm.				730					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	20" set at +560'				T.D +175'				
Specific Capacity									
Well or Intake # 7 Location 2900'S. 1400'W/NEC-23-35N-14E Elevations 635'									
Gpm.				550					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	20" set at +560'				T.D + 175'				
Specific Capacity									
Well or Intake # Location				Elevations					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location				Elevations					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location				Elevations					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									

SUMMARY OF MONITORING East Chicago Heights PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Year	1979	1980				1981			
Quarter	4th	1ST	2nd.	3rd.	4th.	1ST	2nd	3rd	4th
Measurements as feet above sea level									
Well or Intake # 1 Location 2675'S, 1375 E / NW Cor - 23 - 35N - 14E Elevations 667'									
Gpm. 1968 - 60 GPM				200					
Nonpumping Level 1953 - 13'									
Pumping Level 1953 - 80'									
Pump setting									
Casing seat & T.D. 12" Cemented set at + 609' T.D 157' +									
Specific Capacity									
Well or Intake # 2 Location 4150's - 2575'W NE C - 23 - 35N - 14E Elevations 638'									
Gpm.				100					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D. 16" Casing set W + 558' Total Depth + 139'									
Specific Capacity									
Well or Intake # 3 Location 2025 S, 1383 E, NW Cor - 35N - 14E - 23 Elevations 667'									
Gpm.				1000					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D. 16" Set at - 83' Total Depth - 1191'									
Specific Capacity									
Well or Intake # 4 Location 2950' S, 1534' W / NE Cor 23 - 35N - 14 Elevations 635'									
Gpm.				500					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D. 19" set at + 576'									
Specific Capacity									
Well or Intake # 5 Location 50'S, 1440' W of N.E Cor. - 23 - 35N - 14E Elevations 630'									
Gpm.				500					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D. 12" set at + 548' T. D + 164'									
Specific Capacity									

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES

PUBLIC WATER SUPPLY DATA SHEET

County and Supply STEGER Cook County

Date Inspected November 25, 1980 Plant phone 754-4044

Operator Joe Janusek *C* #2190 Phone 755-3888 (P.W. Garage)

Other officials (Title) Phone 754-3395 Village Hall

Louis Sherman, Village President Phone

Emergency Address ---- Phone

Send mail to Village Hall, Steger, Illinois 60475

Interviewed Gilkison, Superintendent of Public Works

Joe Janusek (COIRC)

Brief description of supply: Water obtained from three (3) drilled wells. All wells chlorinated, fluroide fed at #3. Wells discharge to system upon which two (2) elevated tanks float.

No. of services: Direct 2400 - 100 % metered

Satellite ---- - --- % metered

Adequacy of Supply

Annual Pumpage 1979 384.6 M Gal.
Av. Daily pumpage 1.05 M Gal. Max. av. Daily Pumpage ---- Gal.
Est. Population 9500 Av. Daily per Capita Consumption 110 Gal.
Time Required to Produce Av. Daily Consumption --- Hrs.
Time Required to Produce Mx. Av. Daily Consumption --- Hrs.
Large Consumers D'Amico Macaroni 75K Av. Gal./Day

Emergency water and Power Sources: South Chicago Heights - interconnection at 3 different locations.

CRB:ted
PWS 59 7/79

INVENTORY	ells & Pumps	andby Power	eder Mains	d Chlorine	d Fluoride	d Phosphate	xchange	Removal	lushing hydrants	ackflow preventor	ear Wells	igh Ser. Pumps	andby Power	ains - 1000s ft.	nterconnections	evated Tanks	ressure Storage	round Storage	oster Pumps	andby Power	istribution Valve	drants	rvice Connection
Detail in "CSOM"																							
Number of Units	3	1	--	2	1	--	--	--	225	1	--	--	--	99	1	2	--	--	--	--	175	225	2.4

Well Capacity:

#1	325	gpm	#7		gpm
#2	625	gpm	#8		gpm
#3	375	gpm	#9		gpm
#4	---	gpm	#10		gpm
#5	---	gpm	#11		gpm
#6	---	gpm	#12		gpm

Total Well Capacity 1.91 M gpd.
Total Storage Capacity 0.5M gal.
Iron Filter Capacity ---- gpd

High Service Pump Capacity --- gpd
Elevated Storage 0.5M gal.
Pressure Storage --- gal.
Ground Storage --- gal.

Emergency Power: 1 gasoline engine

In the course of the evaluation, the following conditions which appear to constitute violations of the Environmental Protection Act or related public water supply rules and regulations were noted:

1. Fluoride levels out of standard January through September 1980.

2. Fluoride fed not reported on monthly reports of operation.

3. No recent mineral analysis of finished water.

4. Inaccurate reports Sept. & Oct.

Recommendation for improvement:

5. Summarize and report data on customer complaints, main breaks, well water levels, length of mains, etc.

Note: Field tested chlorine residual twice. It was greater than 1.1 mg/1. Village routine sampling reports indicate less than 0.5 mg/1.

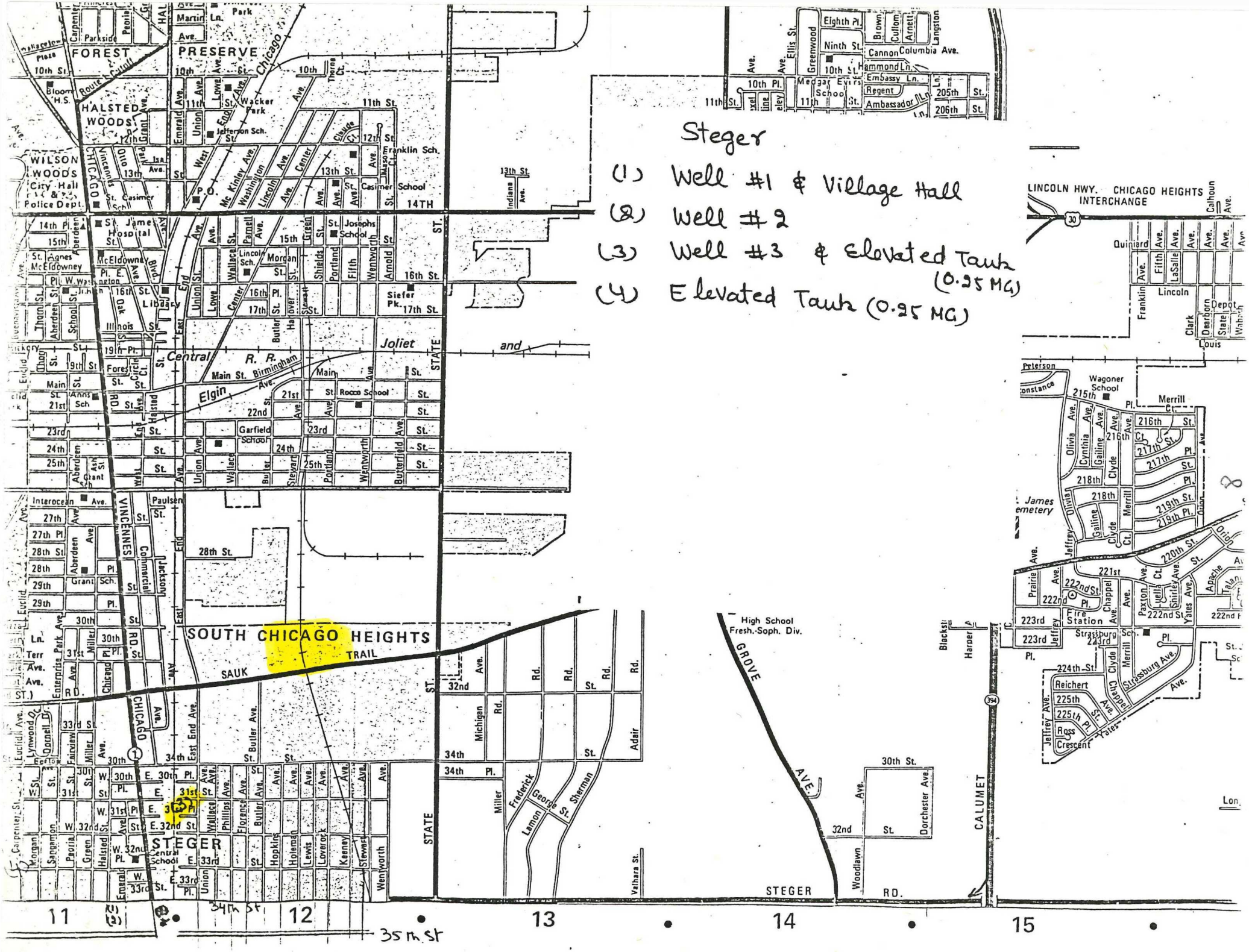
Steger

(1) Well #1 & Village Hall

(2) Well #2

(3) Well #3 & Elevated Tank (0.25 MG)

(4) Elevated Tank (0.25 MG)



SUMMARY OF MONITORING Steger PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Year									
Quarter									
Well or Intake # 1 Location 5.3 9 1 34 N 14 E 200'S 1550'W Measurements as feet ~~above sea level~~ below Elevations 712									
Gpm. 350									
Nonpumping Level 413'									
Pumping Level									
Pump setting									
Casing seat & T.D. 12" set at 147' 318'									
Specific Capacity									
Well or Intake # 2 Location 33.8 C 35 N 14 E 1900'N 430'E Elevations 708'									
Gpm. 618									
Nonpumping Level 65'									
Pumping Level									
Pump setting									
Casing seat & T.D. 16" set at 80' 378'									
Specific Capacity									
Well or Intake # 3 Location 5.3 9 2 34 N 14 E 230'S 1550'W N Elevations									
Gpm. 750									
Nonpumping Level 31'									
Pumping Level									
Pump setting									
Casing seat & T.D. 12" set at 110' 325'									
Specific Capacity									
Well or Intake # Location Elevations									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location Elevations									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									

FY 1981 3 1 0 8 0

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES

Facility No. 016 279 0 PUBLIC WATER SUPPLY DATA SHEET

County and Supply SAUK VILLAGE Cook County

Date Inspected April 17, 1981 Plant phone 758-1936

Operator Ed Nieft, #2560 *B* Phone 758-0430 (office)

Other officials (Title) Phone 758-3330 (village)

Edward Pasel Phone

Emergency Address 2217 - 220 Street Phone 758-5960 (police)

Send mail to Village Hall, 21701 Torrence Avenue, Sauk Village, Illinois 60411

Interviewed Ed Nieft and Dennis Keane

Brief description of supply: Water obtained from two drilled wells, treated with chlorine, fluoride, and polyphosphate, and discharged to one ground reservoir and one elevated tank. Four high service pumps take suction from the reservoir, supply the system and the elevated tank. Well #3 is not in service yet. Scheduled to be in service within the next 30 days.

No. of services: Direct 2800 - 100 % metered

Satellite - % metered

Adequacy of Supply

Annual Pumpage 323 M Gal. 1980
Av. Daily pumpage 0.89 M Gal. Max. av. Daily Pumpage 1.58M Gal.
Est. Population 10,906 Av. Daily per Capita Consumption 82 Gal.
Time Required to Produce Av. Daily Consumption Hrs.
Time Required to Produce Mx. Av. Daily Consumption Hrs.
Large Consumers None Av. Gal./Day

Emergency water and Power Sources: Well No. 2 - Amarillo right Angle Drive, V8 Natural Gas Engine
Well No. 3 - Amarillo right angle drive Diesel engine

CRB:ted
PWS 59 7/79

INVENTORY	Wells & Pumps	Standby Power	Feeder Mains	Add Chlorine	Add Fluoride	Add Phosphate	Exchange	Removal	Flushing hydrants	Backflow preventor	Clear Wells	High Ser. Pumps	Standby Power	Mains - 1000s ft.	Interconnections	Elevated Tanks	Pressure Storage	Ground Storage	Booster Pumps	Standby Power	Distribution Valve	Hydrant Valves	Service Connection	Service Meters
Detail in "CSOM"																								
Number of Units	3	2	--	2	2	3	--	--	423		1	5	1		--	1	--	--	--	--		423	2.8K	2.8K

Well Capacity:

#1 660 gpm
#2 1000 gpm -gasoline engine
#3 1000 gpm -diesel engine
#4 gpm
#5 gpm
#6 gpm

HSP Capacity

#1 150 gpm
#2 250 gpm
#3 660 gpm
#4 1000 gpm gasoline engine
#5 750 gpm
gpm

Total Well Capacity 3.83 M gpd.
Total Storage Capacity 0.7 gal.
Iron Filter Capacity --- gpd

High Service Pump Capacity 4.05 M gpd
Elevated Storage 0.4 M gal.
Pressure Storage -- gal.
Ground Storage 0.3 M gal.

Emergency Power: Auxiliary Power for Well #2, Well #3 and HSP #4.

In the course of the evaluation, the following conditions which appear to constitute violations of the Environmental Protection Act or related public water supply rules and regulations were noted:

1. No screens on
   a. overflow for 0.3 MG reservoir
   b. Well #1 - air vent

2. Fluoride fed not reported on monthly operating reports.

3. Fluoride and chlorine injected at wells #1 and #2 are not flow proportioned.

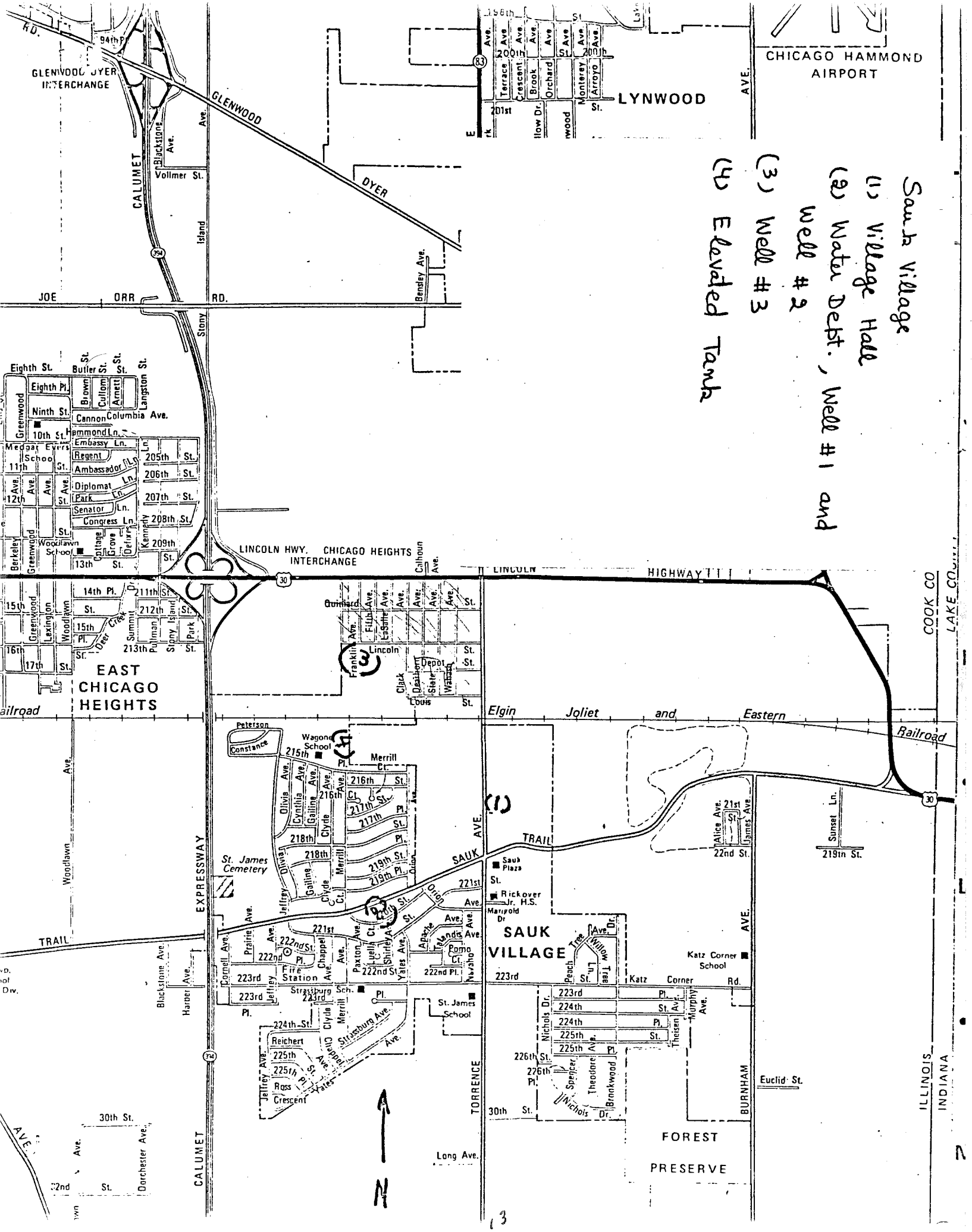
4. Inadequate number of raw samples submitted.

SUMMARY OF MONITORING South Village PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Year	1979				1980		1981		
Quarter	1ST	2nd	3rd	4th	1ST	2nd			
				Measurements as feet ~~above sea level~~					
Well or Intake # 1 Location				Elevations					
Gpm.					660		660		
Nonpumping Level					61'		55'		
Pumping Level					71'		48'		
Pump setting					116		116		
Casing seat & T.D.									
Specific Capacity									
Well or Intake # 2 Location				Elevations					
Gpm.					1000		1000		
Nonpumping Level					66'		73'		
Pumping Level					106'				
Pump setting					140'				
Casing seat & T.D.									
Specific Capacity									
Well or Intake # 3 Location				Elevations					
Gpm.	not in service		not in	service					
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location				Elevations					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location				Elevations					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									

Sauk Village
(1) Village Hall
(2) Water Dept., Well #1 and Well #2
(3) Well #3
(4) Elevated Tank



REFERENCE 30
SITE NAME LaBuc #2
SITE ID ILD980902050

CAL / WATER SURVEYS SECTION. BE SURE TO

(8811—50M—6-69) 14

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 8-27-71

10. Property owner Bloom Township Sanitary District of Well No. 1
Address ~~Lansing~~, Illinois
Driller E. C. Wehling License No. 92-56
11. Permit No. 14229 Date 8-30-71
12. Water from _____ Formation 13. County Cook
at depth ____ to ____ ft. Sec. 28
14. Screen: Diam. ____ in. Twp. 35N
Length: ____ ft. Slot ____ Rge. 14E
491'S 130'W NE NE SE SE Elev. ____

SHOW LOCATION IN SECTION PLAT
491'N line, 130' E line, NE SE SE (Permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6	galv. seamless	0	35

16. Size Hole below casing: 5-7/8 in.
17. Static level ____ ft. below casing top which is ____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Drift	33	33
Rock	167	200

*Commercial operation (Maintenance Bldg.)

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wehling Well Works, Inc. DATE 8-31-71

COOK COUNTY No. 1332 28-35N-14E

Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

Permit issued October 1957	Thickness	Top	Bottom
Total depth			450
Casing: 30" outside diameter 0-32'			
20" outside diameter 0-67'			
Size of hole below casing 20" 67-450'			
Static level 13' on May 8, 1958			
Drawdown 148' after pumping at 435 gallons per minute for 30 hours.			
On April 8, 1960 Static level 15'			
Drawdown 181' after pumping 500 gallons per minute for 3 hours.			
Drift	25	0	25
Limestone	425	25	450

NO ENVELOPE

COMPANY J. P. Miller
FARM City of Chicago Heights NO. 24
DATE DRILLED 1958 COUNTY NO.
AUTHORITY State Water Survey Bulletin #40
ELEVATION 670' G.L.
LOCATION 1160'N line, 100'E line of NE
COUNTY COOK

28-35N-14E

OFFICE BUILDING, SPRINGFIELD,
R SURVEYS SECTION. BE SURE TO

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. _____ Year 1938
11. Property owner American Manganese Well No. 1
Address Chicago Heights
Driller J.P. Miller Artesian Well Co License No. _____
12. Water from Dolomite (Formation) 13. County Cook
at depth ____ to ____ ft. Sec. 21 NE
14. Screen: Diam. ____ in. Twp. 35N
Length: ____ ft. Slot _____ Rng. 14E
Elev. 647

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
12		0	40

SHOW LOCATION IN SECTION PLAT
1900'S, 75'W of NE cor

16. Size Hole below casing: _____ in.
17. Static level ____ ft. below casing top which is _____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Total depth		300'
From SWS file		
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED Robert Vlessman DATE 2/6/85

21-35N-14E

(8811—50M—6-69) 14

Page 1 **ILLINOIS GEOLOGICAL SURVEY, URBANA**

	Thickness	Top	Bottom
Total Depth			235
Static water level 97' Drawdown 18" Well diameter 24"			
This well was cleaned out and deepened by Wehling Well Works in December, 1956.			
Drilled Deeper Total Depth			428
S.S. # 27884			
NO ENVELOPE			

COMPANY
FARM City of Chicago Heights NO. 16
DATE DRILLED 1921 COUNTY NO. 1752
AUTHORITY State Water Survey (Bull. 40)
ELEVATION 657'
LOCATION SW NW 2455'S, 900' E/NW cor
COUNTY COOK

21-35N-14E

RS-8303-16

Strata	Thickness	Top	Bottom
partly mottled dark gray or black, trace glauconitic; siltstone, light gray, weak to tough	35		245
Joliet Formation			
Dolomite, buffish-gray, light gray, very finely to finely crystalline, compact, pyrite	20		265
Dolomite, buff to light gray, very finely to finely crystalline, compact pyrite	15		280
Dolomite, buff, light gray, little dark gray, very finely to finely crystalline, compact, pyrite	70		350
"Brandonbridge" Formation			
Dolomite, silty, buff to gray, very finely crystalline, compact, partly speckled black, partly mottled black and gray	30		380
Alexandrian Series			
Kankakee Formation			
Dolomite, partly slightly cherty, silty, buff, buffish-brown, little buffish-gray, finely crystalline, little medium crystalline, compact, partly speckled black, mottled gray partly, maybe partly argillaceous	20		400
Dolomite, partly calcareous, silty to very silty, light gray, finely crystalline, compact, little porous, pyrite, partly speckled black	25		425
ORDOVICIAN SYSTEM			
Cincinnatian Series			
Maquoketa Formation			
Shale, slightly dolomitic, green,			

COUNTY Wehling Well Works COOK S.S.# 39869 Chicago Heights City Well #27 20-35N-14E

Strata	Thickness	Top	Bottom
Summary Sample Study by F. J. Wobber 6/61			
Pleistocene Series			
Till, buff to brown, orange, partly oxidized, slightly plastic	10		10
Till, calcareous, slightly sandy, gravelly at top, buff, spores	20		30
Sandy, clayey, white	12		42
SILURIAN SYSTEM			
Niagaran Series			
Waukesha Formation			
Dolomite, silty, gray to buffish-gray, very finely crystalline, partly finely crystalline, compact, pyrite; grading to siltstone, dolomitic, partly argillaceous, gray, weak to tough, some silty partings	33		75
Dolomite, partly slightly glauconitic, silty, gray, buff, white, very finely crystalline, compact; interbedded with siltstone, as above	25		100
Dolomite, silty, buff to gray, very finely crystalline, compact partly little pyrite; interbedded siltstone, dolomitic, gray, weak to tough in varying amounts; trace glauconitic	110		210
Dolomite, silty, light gray, little buffish-gray, very finely crystalline, compact, pyrite,			

COMPANY Wehling Well Works
FARM Chicago Heights City Well NO. 27
DATE DRILLED March 1961 COUNTY NO. 412
AUTHORITY F. J. Wobber
ELEVATION ~~660'~~ ETN 640 (SWS)
LOCATION 2700'N line, 2650'W line, of NW
COUNTY COOK S.S.# 39869

20-35N-14

Provided by Geology and environment

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. _____ Year Before 1960
11. Property owner Lincoln-Dixie Theater Well No. 1
    Address Chicago Heights
    Driller _____ License No. _____
12. Water from Dolomite (Formation) 13. County Cook
    at depth ____ to ____ ft. Sec. 20.3B
    Twp. 35N
    Rng. 14E
    Elev. 675
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot _____

SHOW LOCATION IN SECTION PLAT

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

16. Size Hole below casing: _____ in.
17. Static level 84 ft. below casing top which is _____ ft. above ground level. Pumping level 280 ft. when pumping at 198 gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Depth		210
Deepened To		330'
Drift	25	25
Dolomite	52	77
Gray dolomite	13	90
Gray dolomite & shale	14	104
Dolomite, white & gray	3	107
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

From SWS file

SIGNED Robert Bowman DATE 2/7/85

20-35N-14E

Strata	Thickness	Top	Bottom
grayish-green, weak, partly slightly plastic	2		427 TD

Casing record: 30" hole 0 to 61'
0 to 61' - 24" casing cemented in.

Hole record:
0-60' - 30 inch hole
60-425' - 23¼ inch hole
Since 24" Outside Diameter was installed well is actually 23¼" Inside Diameter from top to bottom

Static level - 42'

Pumping level - 114' 6520 gallons per minute

ecology and environment

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COUNTY Wehling Well Works COOK S.S.# 39869 Chicago Heights City Well #27 20-35N-14E

ND MAIL ORIGINAL TO STATE DE-
OFFICE B DING, SPRI IELD,
R SURVEYS CTION. BE E TO

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. _____ Year 1934
11. Property owner United Milk + Ice Cream Well No. 1
Address Chicago Heights
Driller Kramer License No. _____
12. Water from Dolomite (Formation) 13. County Cook
at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot _____
Sec. 20.2B
Twp. 35N
Rng. 14E
Elev. 703

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
8		0	16

SHOW LOCATION IN SECTION PLAT
150'N, 780'W of SE cor

16. Size Hole below casing: _____ in.
17. Static level ____ ft. below casing top which is _____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Rock at 16'		
Total depth		205'
Abandoned about 1947		
From SWS File Bn 35, P55		
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED Robert T Saaman DATE 2/7/85
20-35N-14E

(65600—60M—10-57)

Page 1 ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Casing record: 30" 0-50' 24" 0-57' (cemented)			
Non-P.L. - 53' P.L. - 129' after pumping 700 gpm for 6¼ hrs.			
Depth: 406'			
Sample Interval. 0-400'			

55# 43478

COMPANY Wehling Water Works
FARM City of Chicago Heights NO. #30
DATE DRILLED Dec. 1962 COUNTY NO.
AUTHORITY
ELEVATION 655
LOCATION 500'S, 400'E, NWc
COUNTY Cook

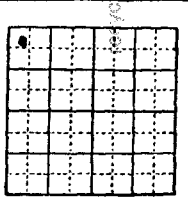
35N.14E.-20.8h

Strata	Thickness	Top	Bottom
above, at top	15	70	85
Siltstone, gray, dolomitic, hard grading to weak, brittle, compact; little dolomite, as above; little shale, light gray, silty, dolomitic, very weak to weak, brittle to slightly plastic	45	85	130
Dolomite, light buff and light gray, very fine and sublithographic, crystalline, silty to very silty, compact, trace glauconite; little siltstone, light gray, dolomitic, brittle	35	130	165
Dolomite, gray, very fine, granular, very silty, compact; little shale, gray, very silty, dolomitic, weak, plastic; little siltstone, gray dolomitic, brittle	10	165	175
Siltstone, gray, hard, brittle, dolomitic; little dolomite, shale, as above	15	175	190
Dolomite, light gray to gray, sublithographic to very fine crystalline, very silty, compact, trace glauconite; little siltstone, as above	35	190	225
Waukesha Formation			
Dolomite, buff and little light gray, sublithographic and little very fine, crystalline, silty, compact to slightly porous	15	225	240
Dolomite, buff, mottled gray, sublithographic to lithographic, crystalline, silty, compact	15	240	255

Strata	Thickness	Top	Bottom
Summary Sample Study by Paul Kraatz 3/26/64.			
Pleistocene Series			
Till, dark brown-yellowish brown, silty, tough, plastic, non-calcareous	10	0	10
Gravel, fine and coarse, angular to subangular, mostly dolomite fragments; little till, as above	20	10	30
Till, pinkish brown, silty, weak calcareous; gravel, medium to coarse, angular to subangular, mostly dolomite fragments	10	30	40
Sand, medium and coarse, rounded and subangular, quarts and dolomite fragments	10	40	50
SILURIAN SYSTEM			
Niagaran Series			
Racine Formation			
Siltstone, gray, dolomitic, brittle, compact; little shale, gray, weak plastic, slightly dolomitic	5	50	55
Dolomite, gray and trace light green, very finely crystalline, very silty, compact; grading to siltstone, gray, dolomitic, weak, brittle, at bottom	15	55	70
Dolomite, light gray, very fine-sublithographic, crystalline, silty-very silty, compact; little siltstone, as			

4

COMPANY Wehling Well Works
FARM City of Chicago Heights NO. 30
DATE DRILLED December 1962 COUNTY NO. 364
AUTHORITY P. Kraatz
ELEVATION 655'
LOCATION 500'N line, 400'W line, NW
COUNTY COOK S.S. #43478



20-35N-14E

Strata	Thickness	Top	Bottom
tough, slightly plastic, dolomitic, at top	15	355	370
Alexandrian Series			
Kankakee Formation			
Dolomite, buff to light pinkish brown, very fine and little fine, crystalline, slightly silty to silty, compact	5	370	375
Dolomite, buff to light grayish brown, sublithographic to very fine, crystalline, slightly silty to silty, compact, trace glauconite; little shale, very light buff, very silty, very weak, slightly plastic	10	375	385
Dolomite, buff to light grayish brown, very fine and little fine, crystalline, slightly silty to silty, compact, trace glauconite, at top	10	385	395
ORDOVICIAN SYSTEM			
Cincinnattian Series			
Maquoketa Group			
Brainard Formation			
Shale, gray, moderately tough, plastic, dolomitic; dolomite fragments, gray-buff, very fine, crystalline, silty, compact	5	395	400
No samples	6	400	406
			TD
Total Depth			406'

Casing: 30" 0-50'
24" 0-57', cemented
Non pumping level - 53'. Pumping level 129' after pumping 700 gallons per minute for 6 3/4 hours.

Wehling Well Works City of Chicago Heights #30
COUNTY COOK S.S. #43478 20-35N-14E

Strata	Thickness	Top	Bottom
Joliet Formation			
Dolomite, very light buff, sublithographic, silty grading to slightly silty, compact; trace to little chert, white	35	255	290
Dolomite, very light gray, sublithographic to very fine, crystalline, silty to slightly silty, compact to slightly porous; little dolomite, gray, finely crystalline, slightly silty, slightly porous	5	290	295
Dolomite, light gray, partly mottled dark gray, very finely crystalline, compact to slightly porous	20	295	315
Dolomite, white to very light buff and very light gray, very fine and sublithographic, crystalline, slightly silty, compact	10	315	325
Dolomite, very light buff to light gray, partly mottled dark gray, very finely crystalline, silty to very silty, compact; little dolomite, light gray, finely crystalline, slightly silty, at top	25	325	350
"Brandon Bridge" Formation			
Dolomite, buff to gray, partly mottled dark gray, very finely crystalline, silty-very silty, compact; little shale, buff, very weak, slightly plastic	5	350	355
Dolomite, as above; shale, gray, very silty, weak to moderately			

Wehling Well Works City of Chicago Heights #30
COUNTY COOK S.S. #43478 20-35N-14E

ecology and environment
recycled paper

(65600—60M—10-57)

Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Summary Sample Study by G. H. Emrich 9/60			
Pleistocene Series			
Till, brown to grayish brown, leached	5		5
Till, yellowish buff, oxidized, calcareous, brittle to tough	5		10
Till, as above, slightly gravelly	8		18
Till, sandy, slightly gravelly, buff to grayish brown, calcareous	7		25
Till, slightly gravelly, buff to brown, calcareous	5		30
Sand, very gravelly, silty to very silty, multicolored, fine to medium, little coarse, calcareous	15		45
Gravel, sandy, multicolored, calcareous	5		50
SILURIAN SYSTEM			
Niagaran Series			
Port Byron-Racine formation			
Dolomite, partly slightly silty, white to light gray to gray, fine to medium, crystalline	45		95
Waukesha formation			
Dolomite, slightly silty, light gray to gray, fine to medium, crystalline	10		105
Dolomite, silty to very silty, grayish buff to gray, little greenish gray, fine to very fine, crystalline	15		120

COMPANY Mehling Well Works
FARM City of Chicago Heights NO. 26
DATE DRILLED 1960 COUNTY NO. 306
AUTHORITY G. H. Emrich
ELEVATION ~~692~~'ETM 690 (SWS)
LOCATION 3073'E line, 897'N line, of section
COUNTY COOK S.S.#35971

29-35N-14E

AND MAIL ORIGINAL TO STATE DE-
OFFICE BUILDING, SPRINGFIELD,
ER SURVEYS SECTION. BE SURE TO

1/67

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. _____ Year 1932?
11. Property owner ~~E J & E RR~~ Well No. 1
Address City of Chicago Heights #19
Driller _____ License No. _____
12. Water from Dolomite (Formation) 13. County Cook
at depth ____ to ____ ft. Sec. 29 JG
14. Screen: Diam. ____ in. Twp. 35 N
Length: ____ ft. Slot _____ Rng. 14 E
Elev. 675

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
12		0	68
10		0	66

SHOW LOCATION IN SECTION PLAT
1320'S, 1000'E of NW cor

16. Size Hole below casing: _____ in.
17. Static level 22 ft. below casing top which is _____ ft. above ground level. Pumping level ____ ft. when pumping at 330 gpm for ____ hours. 1/25/32

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Total depth		330
Plugged by city before 1957		
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED Robert T Sherman DATE 2/7/85

29-35N-14E

Strata	Thickness	Top	Bottom
Dolomite, silty, slightly cherty at top, light grayish buff to light buffish gray, very fine, granular	20		345
No sample	5		350
Dolomite, light gray, little white, little gray, fine to medium, crystalline	25		375
Dolomite, buff to gray, fine to very fine, crystalline, speckled (black)	5		380
Dolomite, slightly silty, grayish buff, little gray, very fine to fine, crystalline, slightly speckled (black)	20		400
Alexandrian Series			
Kankakee formation			
Dolomite, buff to grayish buff, fine, little medium, crystalline	5		405
No sample	10		415
Dolomite, trace glauconite, buff, little grayish buff, fine to medium, crystalline	20		435
ORDOVICIAN SYSTEM			
Cincinnatial Series			
Maquoketa formation			
Shale, gray, weak to brittle; little dolomite, silty, grayish buff to gray, fine to very fine, crystalline, speckled (black)	4		439
			TD
Capacity Report - 24 hour test			
Test 2000 gallons per minute			
Static level 59'			
Pumping level 90'			
Casing: 24" 0-67'			
Hole Record 23" from 0-439'			
			#26

Wehling Well Works City of Chicago Heights

COUNTY COOK S.S.#35971 29-35N-14E

Strata	Thickness	Top	Bottom
Dolomite, very silty, buffish gray, very fine to fine, granular, grading to little shale, dolomitic, light grayish buff to gray, weak to brittle	15		135
Dolomite, very silty, grayish buff to buffish gray, very fine to fine, granular, speckled (black)	5		140
Dolomite, very silty, light greenish gray to grayish buff, very fine to fine, granular	10		150
Dolomite, slightly silty, light buff to grayish buff, fine, crystalline	15		165
Dolomite, silty, slightly cherty at base, buffish gray, buff, very fine to fine, granular	20		185
Dolomite, silty to very sandy, buffish gray to grayish buff, fine to very fine, granular	55		240
Dolomite, silty to slightly silty, grayish buff, fine to very fine, crystalline	25		265
Dolomite, slightly silty, buff to buffish gray, very fine to fine, crystalline	20		285
Dolomite, slightly silty, buff, little gray, very fine to fine, crystalline, mottled	15		300
Joliet formation			
Dolomite, light gray to gray, little buff, very fine to fine, crystalline.	5		305
Dolomite, light buff to buff, fine to very fine, crystalline.	20		325

Wehling Well Works City of Chicago Heights #2

COUNTY COOK S.S.#35971 29-35N-14E

(65600—60M—10-57)

Page 1 ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Drift	30	0	30
Lime and mud	5	30	35
Sand - lime and shale	30	35	65
Broken lime	107	65	172
Lime	286	172	458

Casing record: 30" 0-84'
24" 0-92'

Hole size 23¼" (Below casing)

SS# 52085

COMPANY E. C. Wehling
FARM City of Chicago Heights NO. 33
DATE DRILLED Sept. 1965 COUNTY NO.
AUTHORITY
ELEVATION 695
LOCATION 32' N, 90' E SWc
COUNTY Cook

35N-14E-19.8a

TOWN TOWNSHIP R. 14E
COMPANY Miller Well Co. NO. T. SE
FARM Chicago Hts. City NO. 23
DATE DRILLED 1946 35N 1
AUTHORITY Miller Well Co.
COLLECTOR ELEVATION 671 DF
2160' N. line, 1234' E. line of Sec.

No.	Strata	Thickness Feet	Thickness In.	Depth Feet
	Mud and gravel	0		58
	Lime and shale breaks	9		67
	Lime, gray	136		203
	Lime gray, break	13		216
	Lime, gray	20		236
	Lime	14		250
	White lime	6		256

Size of well:
23" , surface to 78'
30" to 78'

Casing Record:
30" O.D. 67'
24" O.D. 78'

Pumping level 101'
Static level 33.5'
(Casing cemented)
Yield: 1800 g.p.m.

~~No envelope~~

COUNTY Cook 19-35N-14E
SAMPLE SET NO.
(84107—20M—4-45)

ILLINOIS GEOLOGICAL SURVEY, URBANA

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ILLINOIS GEOLOGICAL SURVEY, URBANA

Permit #16710 Deepened from 272'

	Thickness	Top	Bottom
Debris	272	0	272
Lime	166	272	438
Shale and Lime	3	438	441
Shale	84	441	525
Lime and Shale	5	525	530
Shale	120	530	650
Lime	340	650	990
Sand	170	990	1160
Shale	2	1160	1162
Sandy Lime	32	1162	1194
Lime	87	1194	1281
Shale	1	1281	1282
Lime	93	1282	1375
Lime - sand hard	10	1375	1385
Lime	125	1385	1510
Lime and gray shale	62	1510	1572
Lime	30	1572	1602
Lime and sand	53	1602	1655
Sand	100	1655	1755
Sand hard	11	1755	1766
Sand and lime	8	1766	1774
Lime	26	1774	1800
			TD

Casing: 20" Black Steel from 0 to 681'
16" Liner from 1143' to 1183'
Hole Diameter: 20" - 681'
19" - 1183'
15" - 1800'
Size Hole below casing: 15"
Shot Record: 2000# 1680 - 1752'
Pumping level 650' when pumping at 1237 gallons per minute for 24 hours.
Well Test Data filed

P.O. # 58418

COMPANY Wehling Well Works
FARM City of Chicago Heights NO. 22
DATE DRILLED September 22, 1972 COUNTY NO. 4296
AUTHORITY Company
ELEVATION 677 1400'N, 2600'W
LOCATION ~~1160' N line, 85' W line~~, SE cor
COUNTY COOK

19-35N-14E

ILLINOIS GEOLOGICAL SURVEY, URBANA

	Thickness	Top	Bottom
Yellow clay		0	18
Mud and gravel		18	70
Broken lime	5	70	75
Blue lime	13	75	88
Blue lime and shale	93	88	181
Hard lime	9	181	190
Hard white lime	10	190	200
Hard white lime	55	200	255
Lime	18	255	273
			TD

Casing: 33" outside diameter pipe, 2' above ground to 71' below ground surface.
24" outside diameter 2' above to 80' below.
Size hole below casing: 23" from 80-273'
Static water level 26'
Drawdown 21' after pumping at 960 gallons per minute for 22 hours.
Drawdown 46' after pumping at 1500 gallons per minute for one hour.

S.S. #16356

NO ENVELOPE

COMPANY J. P. Miller Artesian Well Co.
FARM Chicago Heights City NO. 22
DATE DRILLED October 1946 COUNTY NO. 1498
AUTHORITY Company & State Water Survey Bull. #40
ELEVATION ~~675'~~ ± G. L. 677
LOCATION 1400'S line, 2600' E line of SE
COUNTY COOK

19-35N-14E

Strata	Thickness	Top	Bottom
Casing: 30" from 0 to 80 feet.			
Water at 52'.			
Water drawdown 28'.			
Yield 2000 gallons per minute.			
S.S.# 30746			

COUNTY COOK J. P. Miller City of Chicago Heights #25 19-35N-14E

Strata	Thickness	Top	Bottom
Soil	5	0	5
Shale, gray	30	5	35
Gravel	20	35	55
Gravel & sand	5	55	60
Sand	5	60	65
Broken lime, dark	5	65	70
Lime, dark & hard	15	70	85
Lime, sandy, dark, hard	10	85	95
Broken sandy dark medium lime	5	95	100
Lime, sandy, dark, hard	40	100	140
Lime, sandy, broken, dark	25	140	165
Lime, sandy, hard, lighter	35	165	200
Lime, dark grey, hard	15	200	215
No record		215	220
Hard gray lime	5	220	225
Gray lime	5	225	230
White lime, hard	10	230	240
Gray lime	10	240	250
White lime, hard	20	250	270
Gray lime, hard	10	270	280
Sand, gray, lime, hard	20	280	300
Light brown lime	5	300	305
White hard lime	15	305	320
Light gray lime, hard	35	320	355
White lime, hard	30	355	390
Gray lime	10	390	400
Brown lime	5	400	405
Brown lime, medium hard	25	405	435
Brown lime, hard	10	430	440
No record		440	450
			TD

COMPANY J. P. Miller
FARM City of Chicago Heights NO. 25
DATE DRILLED Jan. 1958 COUNTY NO. 140
AUTHORITY J. P. Miller
ELEVATION
LOCATION 2060'E line, 580'S line, SE
COUNTY COOK 19-35N-14E

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(68210—20M—4-53) 2

AND MAIL ORIGINAL TO STATE DE-
OFFICE BUILDING, SPRINGFIELD,
ER SURVEYS SECTION. BE SURE TO

1/67

ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Note: Log below 1086' is uncertain and correlations are out of date.			
Drift, glacial	56	0	56
Limestone, Niagara	350	56	406
Shale, Cincinnati	180	406	586
Limestone, Galena and Trenton	300	586	886
Sandstone, St. Peter	200	886	1086
Limestone, Lower Magnesian	350	1086	1436
Sandstone, Madison ?	250	1436	1686
Limestone, Mendota ?	190	1686	1876
Sandstone, Potsdam	624	1876	2500

Water Survey says 2756' deep. Well is locally reported 2500' deep.

The following information from State Water Survey Bulletin # 40

Total depth 2756

Casing: 8" - 60'

August 1918

Static level 42'

August 6-7, 1941.
Static level 65'
Drawdown 51½' when pumping at 285 gallons per minute

COMPANY Gray Brothers
FARM S. Chicago Heights City NO.
DATE DRILLED 1893 COUNTY NO.
AUTHORITY U.S.G.S.Folio 81 (Chicago)
ELEVATION 712' Page 2
LOCATION Ap. 1650'S line, 150'E line of SE
COUNTY COOK

29-35N-14E

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

10. Dept. Mines and Minerals permit No. _____ Year 1932 ?
11. Property owner E J & E RR Well No. _____
Address Chicago Heights
Driller _____ License No. _____
12. Water from Dolomite Formation 13. County Cook
at depth _____ to _____ ft. Sec. 29.7.8
14. Screen: Diam. _____ in. Twp. 35N
Length: _____ ft. Slot _____ Rng. 14E
Elev. _____

SHOW LOCATION IN SECTION PLAT

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
4		0	67

Maint House

16. Size Hole below casing: _____ in.
17. Static level 31.5 ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours. 1/25/32

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Total depth		217
From SWS File		
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED Robert T Sasman DATE 2/7/85

29-35N-14E

(22814—50M—9-55)

3

Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Cinders and fill	3	0	3
Clay and very little gravel	53	3	56
Soft broken rock	7	56	63
Limestone	187	63	250

Finished in 187' of rock at 63' to 250'

Cased with 12" wrought iron casing from 0 to 63'

Size hole below casing 11½"

Static level from surface 82'

Tested capacity 500 gallons per minute

Temperature 52½° F.

Water lowered to 148' in 2 hours 15 minutes

Length of test 3 hours.

COMPANY Wahling Well Works
FARM Village of S. Chicago Heights NO.
DATE DRILLED March 1956 COUNTY NO. 147
AUTHORITY E. C. Wahling
ELEVATION
LOCATION 1650' S line 118' E line of section
COUNTY COOK

29-35N-14E

(65600—60M—10-57)

Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Deepening of well from 252' to 500'			
Driller's log:			
Lime, hard & gray		252	265
Lime, broken, gray		265	275
Lime, hard, gray		275	345
Lime, soft, broken		345	365
Limestone, hard		365	400
Lime, brown, soft		400	410
Limestone, hard		410	475
Limestone, gray, hard		475	490
Shale, blue, soft		490	500
Casing Record: 0-63' 12" Dia			

55# 49984

COMPANY Schoonover-J. P. Miller
FARM Village of S. Chicago Heights NO. 2
DATE DRILLED COUNTY NO.
AUTHORITY
ELEVATION 710' W
LOCATION 118' E, 1650' N Sec
COUNTY Cook

T35N,R14E, Sec. 29

ER SURVEYS SECTION. BE SURE TO

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

Completed 6-30-69

10. Dept. Mines and Minerals permit No. 7755 Year 969
11. Property owner Forest Preserve Dist. Well No. _____
Address River Forest. (OFFICE)
Driller Wehling Well Works, Inc. License No. 92-56
12. Water from _____ (Formation) 13. County Cook
at depth ____ to ____ ft. Sec. 30
14. Screen: Diam. ____ in. Twp. 35N
Length: ____ ft. Slot _____ Rng. 14E
SAUK WOODS #2 LOCATION - Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
10"	~~Screen~~	0	55
6"	Cemented in	0	86

SHOW LOCATION IN SECTION PLAT
300' S line, 50' E line, SE (Permit)

16. Size Hole below casing: 5-7/8 in.
17. Static level ____ ft. below casing top which is _____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Drift	50	50
Sand & Gravel	5	55
Lime	165	220
A. N. 56566		
(CONTINUE ON SEPARATE SHEET IF NECESSARY)		

SIGNED Wehling Well Works, Inc., DATE 7-8-69

COUNTY No. 998

COOK 30-35N-14E

Page 1 **ILLINOIS GEOLOGICAL SURVEY, URBANA** (6)

Strata	Thickness	Top	Bottom
Studied by P.M. Busch 11/50			
PLEISTOCENE SYSTEM			
Till, calcareous, yellowish brown, weak	10		10
Till, calcareous, light yellowish brown, weak	30		40
Gravel to ¼", partly calcareous, gray, sandy & silty at base	15		55
Sand, fine to coarse, gray	5		60
Gravel to ½" (toward base), gray, clean	35		95
SILURIAN SYSTEM			
Niagaran Series			
Dolomite, silty, argillaceous, gray, some greenish gray, friable	110		205
Dolomite, silty, light gray & green, fine	25		230
Dolomite, silty, light gray to light brown, finelycrystalline	20		250
Dolomite, light gray, light yellowish gray at base, fine	50		300 TD

COMPANY Milaeger Drlg. Co. NO.
FARM Park Forest Comm. NO. 2
DATE DRILLED 1947 COUNTY NO.
AUTHORITY Summary Sample Study
ELEVATION 625' T.M.
LOCATION 1275' W. line, 1500' N. line of NW cor.
COOK S.S. #16187 30-35N-14E

(55600—60M—10-57) 2

Page 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

Strata	Thickness	Top	Bottom
Driller's Log:			
Clay		0	10
Yellow clay		10	20
Light shale		20	41
Gravel		41	43
Shale and gravel		43	76.6
Limestone		76.6	107
Sandy limestone		107	113
Limestone		113	148
Blue-green limestone		148	158
Limestone & shale		158	170
Shale & shells		170	187
Limestone		187	377.6

Depth: 377.6

Casing record: 16" 0-83'

Hole record: 15¼" 0-377.6

SWL: 65

DWL: 125 after 23 hrs. @ 618 gpm

RP: top of casing, 2' above LSD

55* 47050

COMPANY L. Cliff Neely
FARM Village of Steger
DATE DRILLED Mar. 1963
AUTHORITY
ELEVATION 710
LOCATION 1900'N, 430'E, SWc
COUNTY Cook

NO.
COUNTY NO. #3

T35N.R14E-33.8c

LOG OF WATER WELL

Property owner Clarence Wetzel Well No. 26

Drilled by E. A. Wehling Year 1950

Formations passed through	Thickness	Depth of Bottom
Glacial Drift	75	
Drilled in Rock	15	90

[Continue on back if necessary]

Finished in 15 ft of rock below 75 to 90 ft.

Cased with 4 inch galv. Well Casing from 0 to 75 ft.

and inch from to ft.

Size hole below casing 3 7/8 inch. Static level from surf. 36 ft.

Tested capacity gal. per min. Temperature 52 °F.

Water lowered to ft. in. in hrs. min.

Length of test 3 hrs. min. Screen

Slot Diam. Length Bottom set at ft.

[Show location in Section Plat]

Township name Elev. Sec. 33

Description of location Lot 4 - Nedstedt Subdiv. - 34th St. Frame - S. of Halt Sel Twp. 35N

Rge. 14E

Signed E. A. Wehling County Cook

Copy for Illinois State Geological Survey Index: 33-35N-14E

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

REFERENCE 19
SITE NAME LoBue #2
SITE ID ILD980902050

Date Received for Review: 10-12-85 Date Review Completed: 10-25-85

To: Dave Curnock

From: Cynthia Pugh

Subject: LoBue #2 (Illinois)
TDD# RS-8303-1F
Sample Description: Case # 4652: Low Soil Organics

Project Data Status: COMPLETE

FIT Data Review Findings:

Data acceptable with qualifications noted on attached review sheet.

Additional Comments:

More QA info. in Rene Hix' file

Book No. 4
Page No. 280

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

1 OF 2

DATE: 10/10/85

SUBJECT: Review of Region V CLP Data
Received for Review on 8/5/85

RECEIVED OCT 12 1985

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory — Francis Thomas

TO: Data User: H.

We have reviewed the data for the following case(s).

SITE NAME: LeBel #2 — SMO Case No. 4652

EPA Data Set No. JF 2401 — No. of Samples: 5 — D.U./Activity Numbers 1905 / C48500

CRL No. 85F510522 - 85F510526

SMO Traffic No. EF394-EF397 ; EF901

CLP Laboratory: Compuchem — Hrs. Required for Review: 6

Following are our findings.

1. Holding Time
2. GC/MS Tuning
3. Volatile, Semi-Volatile (Initial & Continuing Calibration)
4. Reagent Blank (VOA, Pest.)
5. MS/MSD Pesticide
6. Linearity
7. Breakdown
8. RT Shift
9. Pesticide/PCB Standard Evaluation
   pp'-DDE
   pp'-DDT

QC Acceptable

Cont.

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above. 10/4/85 R.H
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

EPA FORM 1320-4 (REV 8-70)

5F2481

COMPUCHEM LABORATORIES

Mr. Richard Thacker
Deputy Project Manager
U.S. Environmental Protection Agency
HWI/Sample Management Office
300 North Lee Street
Post Office Box 818
Alexandria, VA 22313

July 31, 1985

RECEIVED OCT 12 1985

Re: Report of Data - EPA Contract # 68-01-6866

Dear Mr. Thacker:

Enclosed herewith are the results of analytical work performed in accordance with the referenced contract.

This report covers 5 samples and results associated with the analyses of the duplicate matrix spike results, received by CompuChem Laboratories on 7-3-85 identified as EPA Case Number 4652 . An extra copy of the QC Summary Data Package and Sample Summary forms are also enclosed.

If you have any questions regarding this package, please contact me at 1-919-549-8263.

Sincerely,

for A. Marie Daniel

Pamela S. Carrington
Manager, Report Preparation

RECEIVED
AUG 2 1985
U.S. EPA, CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

Enclosures

Note: Quality Control information contained in this report applies to:

EPA Numbers: EF395, EF396, EF397, EF901, EF394.

C/C Numbers: 55480, 55484, 55492, 55493, 55478.

cc: EPA Region
EMSL

DATA RECEIPT ACKNOWLEDGEMENT FOR SMO ONLY - Please sign, date, and return in envelope provided.

Case _____ was received on _____.

Signature _____

Date _____

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EPA CASE SUMMARY NARRATIVE--CASE #4652
Contract No. 68-01-6866

The Quality Assurance Notices associated with Case #4652 are included. This case consisted of 5 solid samples for full analysis. The samples were received intact. The shipping container was properly sealed and the chain of custody and sample tags were in order. A pH determination was made for all the samples and sample EF397 had a pH of 10.26 which is outside the 5-9 range indicated in EPA protocols. Acting in accordance with the technical guidance from CompuChem's DPO, the lab proceeded with the analysis.

In the volatile fractions, HSL compounds found were methylene chloride, acetone, and chloroform. There were a few tentatively identified compounds found in some of the samples. We are reporting and billing for 2 runs each of samples EF395 and EF396 due to a confirmed matrix effect in both samples.

In the semivolatile fractions, sample EF901 contained several late eluting base-neutral HSL compounds. Sample EF397 contained low levels of fluoranthene, pyrene, and bis(2-ethylhexyl)phthalate. Low levels of di-n-butyl phthalate were found in one run of sample EF395. There were some tentatively identified compounds found in each of the samples. The early eluting ones are essentially those seen in the associated method blanks which are inherent in the acetone used, with methylene chloride, as the extracting solvent solution. The laboratory artifact, hexadecyne, was also present. We are reporting and billing for 2 runs each of samples EF395 and EF396 due to a confirmed matrix effect in both samples.

Sample EF901 contained DDE and DDT. There were no pesticide HSL compounds found in any of the other samples.

The QC matrix spike/matrix spike duplicate results for volatiles and pesticides were good. The sample spike data for semivolatiles is acceptable except for the D14-terphenyl surrogate recovery which is low. This same recovery trend was observed in the original sample (EF395) and its reextraction. We have attributed these recoveries to the sample matrix of the original. The recovery for pyrene in both sample spikes was low. The 4-nitrophenol was not detected probably due to the low spiking level.

Janet C. Garrett

Janet C. Garrett 7-31-85
EPA Technical Analyst

DATA QUALIFIERS

RECEIVED OCT 1 2 1985

Contractor: Compu Chem

Case 4652

Below is a summary of the out of control audits and the possible effect on the data for this case:

REAGENT BLANK SV 7/8 TO 7/15/85
7/8/85 ACETONE CONTAMINATION 3500J UG/KG
" HYDROCARBON 590J UG/KG
" LAB ARTIFACT 2900J UG/KG
7/9/85 ESTER 620J UG/KG
" KETONE, ACETONE CONTAMINATION 9300J UG/KG
7/15/85 " " " 2400J UG/KG

Reviewed by: ROBERT HALL

Phone: (312) 886-1970

Date:

RECEIVED OCT 1 2 1985

Case: 4652

Contractor: Compu Chem

TENTATIVELY IDENTIFIED COMPOUNDS
MATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be present in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectrum should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

INTRODUCTION TO DATA TABLES

A SUMMARY OF THE ANALYTICAL RESULTS FOR SAMPLES WHICH WERE TAKEN DURING FIELD ACTIVITIES CAN BE FOUND IN THE FOLOWING TABLES. ONLY DETECTABLE CONCENTRATIONS ARE REPORTED, HOWEVER, IF THE COMPOUND HAS A FOOTNOTE FOLLOWING THE VALUE, CONSULT THE DEFINITION OF THE FOOTNOTE PROVIDED BELOW. ADDITIONAL QA/QC INFORMATION IS PROVIDED IN THE ATTACHED DATA SHEETS.

I) REPORTING UNITS
- A) ORGANICS
  - 1) Water Samples - ug/l or ppb (parts per billion)
  - 2) Soils or Sediments - ug/kg or ppb (parts per billion)
- B) METALS
  - 1) Water Samples - ug/l or ppb
  - 2) Soils or sediments - mg/kg or ppm

II) DEFINITION OF FOOTNOTES TO ANALYTICAL DATA

A) ORGANICS

Footnote	Definition	Interpretation
UJ	Detection Limit (D.L.) is estimated because of a Quality Control (QC) protocol. D.L. is possibly above or below Contract Required Detection Limit (CRDL).	Compound was not detected
UB	Compound found in laboratory blank. No Value above CRDL.	Compound was not detected
UJB	Compound found in laboratory blank, but not detected in sample. CRDL is estimated because of a QC protocol.	Compound was not detected
B	Compound found in blank. Two interpretations are possible:	
	a) If sample value is equivalent to D.L. to 5x blank concentration	Compound value is semi-quantitative.
	b) If sample value is greater than 5x the blank concentration	Compound value is quantitative
JB	Compound found in blank, value is estimated because of QC protocol.	Compound value is semi-quantitative
R	Do Not Use Value. Major Violation of QC Protocol	Compound value is not usable.
C	Value adjusted for blank (an unacceptable procedure)	Compound value is semi-quantitative
J	Value is above CRDL and is an estimated value because of a QC protocol	Compound value is semi-quantitative
Q	No Analytical Result	Compound was not detected
N	Presumptive evidence for the presence of a compound as used for a Tentatively Identified Compound (TIC)	Compound value is semi-quantitative

B) METALS

FOOTNOTE	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Compound or element was not detected or value is semi-quantitative
s	Analysis by Method of Standard Additions (Look for a "+" Footnote)	Value is quantative
R	Spike recoveries outside QC protocols which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semiquantitative
*	Duplicate value outside QC protocols which indicates a possible matrix problem	Value is semiquantitative
+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value is biased
[ ]	Value is real, but is above instrument D.L. and below CRDL	Value may be quantitative or semiquantitative
UJ	D.L. is estimated because of a QC protocol. D.L. is possibly above or below CRDL.	Compound or element was not detected
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value is semiquantitative

85F510522

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF394

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GN055478A13
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6846
Date Sample
Received: 07-03-85

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Volatile Compounds
Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-10-85
Conc/Dil Factor: 1.20
Percent moisture: 19%
Percent moisture (decanted):

pH: 5.98

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	12.	U	78-87-5	1,2-Dichloropropane	6.0	U
74-83-9	Bromomethane	12.	U	10061-02-6	trans-1,3-Dichloropropene	6.0	U
75-01-4	Vinyl Chloride	12.	U	79-01-6	Trichloroethene	6.0	U
75-00-3	Chloroethane	12.	U	124-48-1	Dibromochloromethane	6.0	U
75-09-2	Methylene Chloride	7.0	B	79-00-5	1,1,2-Trichloroethane	6.0	U
67-64-1	Acetone	16.	B	71-43-2	Benzene	6.0	U
75-15-0	Carbon Disulfide	6.0	U	10061-01-5	cis-1,3-Dichloropropene	6.0	U
75-35-4	1,1-Dichloroethene	6.0	U	110-75-8	2-Chloroethyl Vinyl Ether	12.	U
75-35-3	1,1-Dichloroethane	6.0	U	75-25-2	Bromoform	6.0	U
156-60-5	trans-1,2-Dichloroethene	6.0	U	591-78-6	2-Hexanone	12.	U
67-66-3	Chloroform	6.0	U	108-10-1	4-Methyl-2-pentanone	12.	U
107-06-2	1,2-Dichloroethane	6.0	U	127-18-4	Tetrachloroethene	6.0	U
78-93-3	2-Butanone	12.	U	108-88-3	Toluene	6.0	U
71-55-6	1,1,1-Trichloroethane	6.0	U	108-90-7	Chlorobenzene	6.0	U
56-23-5	Carbon Tetrachloride	6.0	U	100-41-4	Ethyl Benzene	6.0	U
108-05-4	Vinyl Acetate	12.	U	100-42-5	Styrene	6.0	U
75-27-4	Bromodichloromethane	6.0	U		Total Xylenes	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF394

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

Laboratory Name: CompuChem

Concentration: -- low
Date extracted/prepared: ~~07-12-85~~ 7-3-85 (gh)
Date analyzed: 07-08-85
Conc/Dil Factor: 40.10

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CAS Number		ug/kg		CAS Number		ug/kg	
62-75-9	N-Nitrosodimethylamine	400	U	99-09-2	3-Nitroaniline	2000	U
108-95-2	Phenol	400	U	83-32-9	Acenaphthene	400	U
62-53-3	Aniline	400	U	51-28-5	2,4-Dinitrophenol	2000	U
111-44-4	bis(2-Chloroethyl) ether	400	U	100-02-7	4-Nitrophenol	2000	U
95-57-8	2-Chlorophenol	400	U	132-64-9	Dibenzofuran	400	U
541-73-1	1,3-Dichlorobenzene	400	U	121-14-2	2,4-Dinitrotoluene	400	U
106-46-7	1,4-Dichlorobenzene	400	U	606-20-2	2,6-Dinitrotoluene	400	U
100-51-6	Benzyl Alcohol	400	U	84-66-2	Diethylphthalate	400	U
95-50-1	1,2-Dichlorobenzene	400	U	7005-72-3	4-Chlorophenyl Phenyl ether	400	U
95-48-7	2-Methylphenol	400	U	86-73-7	Fluorene	400	U
39638-32-9	bis(2-Chloroisopropyl) ether	400	U	100-01-6	4-Nitroaniline	2000	U
106-44-5	4-Methylphenol	400	U	534-52-1	4,6-Dinitro-2-methylphenol	2000	U
621-64-7	N-Nitroso-Dipropylamine	400	U	86-30-6	N-nitrosodiphenylamine (1)	400	U
67-72-1	Hexachloroethane	400	U	101-55-3	4-Bromophenyl Phenyl ether	400	U
98-95-3	Nitrobenzene	400	U	118-74-1	Hexachlorobenzene	400	U
78-59-1	Isophorone	400	U	87-86-5	Pentachlorophenol	2000	U
88-75-5	2-Nitrophenol	400	U	85-01-8	Phenanthrene	400	U
105-67-9	2,4-Dimethylphenol	400	U	120-12-7	Anthracene	400	U
65-85-0	Benzoic Acid	2000	U	84-74-2	Di-n-butylphthalate	400	U
111-91-1	bis(2-Chloroethoxy) methane	400	U	206-44-0	Fluoranthene	400	U
120-83-2	2,4-Dichlorophenol	400	U	92-87-5	Benzidine	2000	U
120-82-1	1,2,4-Trichlorobenzene	400	U	129-00-0	Pyrene	400	U
91-20-3	Naphthalene	400	U	85-68-7	Butyl Benzyl Phthalate	400	U
106-47-8	4-Chloroaniline	400	U	91-94-1	3,3'-Dichlorobenzidine	800	U
87-68-3	Hexachlorobutadiene	400	U	56-55-3	Benzo(a)anthracene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U	117-81-7	bis(2-ethylhexyl)phthalate	400	U
91-57-6	2-Methylnaphthalene	400	U	218-01-9	Chrysene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U	117-84-0	Di-n-octyl Phthalate	400	U
88-06-2	2,4,6-Trichlorophenol	400	U	205-99-2	Benzo(b)fluoranthene	400	U
95-95-4	2,4,5-Trichlorophenol	2000	U	207-08-9	Benzo(k)fluoranthene	400	U
91-58-7	2-Chloronaphthalene	400	U	50-32-8	Benzo(a)pyrene	400	U
88-74-4	2-Nitroaniline	2000	U	193-39-5	Indeno(1,2,3-cd)pyrene	400	U
131-11-3	Dimethyl Phthalate	400	U	53-70-3	Dibenz(a,h)anthracene	400	U
208-96-8	Acenaphthylene	400	U	191-24-2	Benzo(g,h,i)perylene	400	U

(1) Cannot be separated from diphenylamine

Sample Number
EF394

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 9/9/85
Data Analyzed: 09/17/85
Conc/Dil Factor: 1.21

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	2.4	U
319-85-7	Beta - BHC	2.4	U
319-86-8	Delta - BHC	2.4	U
58-89-9	Gamma - BHC(Lindane)	2.4	U
76-44-8	Heptachlor	2.4	U
309-00-2	Aldrin	2.4	U
1024-57-3	Heptachlor Epoxide	2.4	U
959-98-8	Endosulfan I	2.4	U
60-57-1	Dieldrin	4.8	U
72-55-9	4-4' - DDE	4.8	U
72-20-8	Endrin	4.8	U
33213-65-9	Endosulfan II	4.8	U
72-54-8	4-4' - DDD	4.8	U
7421-93-4	Endrin Aldehyde	4.8	U
1031-07-8	Endosulfan Sulfate	4.8	U
50-29-3	4-4' - DDT	4.8	U
72-43-5	Methoxychlor	24.	U
53494-70-5	Endrin Ketone	4.8	U
57-74-9	Chlordane	24.	U
8001-35-2	Toxaphene	48.	U
12674-11-2	Aroclor - 1016	24.	U
11104-28-2	Aroclor - 1221	24.	U
11141-16-5	Aroclor - 1232	24.	U
53469-21-9	Aroclor - 1242	24.	U
12672-29-6	Aroclor - 1248	24.	U
11097-69-1	Aroclor - 1254	48.	U
11096-82-5	Aroclor - 1260	48.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.40 V(t) 2000.00 V(i) 5.0

Form 1

Sample Number
EF394

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 7/9/85
Data Analyzed: 07/20/85
Conc/Dil Factor: 1.21

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	2.4	U
319-85-7	Beta - BHC	2.4	U
319-86-8	Delta - BHC	2.4	U
58-89-9	Gamma - BHC(Lindane)	2.4	U
76-44-8	Heptachlor	2.4	U
309-00-2	Aldrin	2.4	U
1024-57-3	Heptachlor Epoxide	2.4	U
959-98-8	Endosulfan I	2.4	U
60-57-1	Dieldrin	4.8	U
72-55-9	4-4' - DDE	4.8	U
72-20-8	Endrin	4.8	U
33213-65-9	Endosulfan II	4.8	U
72-54-8	4-4' - DDD	4.8	U
7421-93-4	Endrin Aldehyde	4.8	U
1031-07-8	Endosulfan Sulfate	4.8	U
50-29-3	4-4' - DDT	4.8	U
72-43-5	Methoxychlor	24.	U
53494-70-5	Endrin Ketone	4.8	U
57-74-9	Chlordane	24.	U
8001-35-2	Toxaphene	48.	U
12674-11-2	Aroclor - 1016	24.	U
11104-28-2	Aroclor - 1221	24.	U
11141-16-5	Aroclor - 1232	24.	U
53469-21-9	Aroclor - 1242	24.	U
12672-29-6	Aroclor - 1248	24.	U
11097-69-1	Aroclor - 1254	48.	U
11096-82-5	Aroclor - 1260	48.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.40 V(t) 2000.00 V(i) 1.0

Form 1

Environmental Protection Agency, Central Regional Laboratory
P.O. Box 818, Alexandria, Virginia 22313 703/557-2400

EF394

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

RECEIVED OCT 1 2 1985

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

RECEIVED OCT 1 2 1985

SAMPLE NUMBER EF394

COMPUCHEM FILE GH055478A22

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	Acetone Contamination. 2-PENTANONE,4-HYDROXY-4-METHYL-	SEMI1	373	2900 2400.	JB
~~5771-58-4~~	Dg. 2,4 Dinitrophenol. ~~BICYCLO[4.1.0]HEPTAN-2-ONE~~	SEMI1	799	1500.	J
57-10-3	Fatty Acid. HEXADECANOICACID	SEMI1	986	370 ~~310.~~	J
55320-58-6	Unknown. HEXANAL,5,5-DIMETHYL-	SEMI1	1314	220 ~~180.~~	J
25246-27-9	1H-CYCLOPROP[E]AZULENE,DECAHYDRO-1,1,7-TRIMETHYL-4-M	SEMI1	1793	26000 22000.	J
580-49-4	2H-CYCLOHEPTA[B]FURAN-2-ONE,6-[1-(ACETYLOXY)-3-OXOBU	SEMI1	1829	3800 3200.	J
577-27-5	1H-CYCLOPROP[E]AZULEN-4-OL,DECAHYDRO-1,1,4,7-TETRAME	SEMI1	1855	720 600.	J
515-17-3	NAPHTHALENE,DECAHYDRO-4A-METHYL-1-METHYLENE-7-(1-MET	SEMI1	1863	620 520.	J

~~3.400~~ 40.00

1.10

SPECTROSCOPIST _____

DATE 7/8/85

13

FORM1 PART B

85F510523

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF395

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GH055480A13
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6866
Date Sample Received: 07-03-85

RECEIVED OCT 12 1985

Volatile Compounds
Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-10-85
Conc/Dil Factor: 1.98 pH: 5.44
Percent moisture: 23%
Percent moisture (decanted):

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	20.	U	78-87-5	1,2-Dichloropropane	9.9	U
74-83-9	Bromomethane	20.	U	10061-02-6	trans-1,3-Dichloropropene	9.9	U
75-01-4	Vinyl Chloride	20.	U	79-01-6	Trichloroethene	9.9	U
75-00-3	Chloroethane	20.	U	124-48-1	Dibromochloromethane	9.9	U
75-09-2	Methylene Chloride	4000	B	79-00-5	1,1,2-Trichloroethane	9.9	U
67-64-1	Acetone	450	B	71-43-2	Benzene	9.9	U
75-15-0	Carbon Disulfide	9.9	U	10061-01-5	cis-1,3-Dichloropropene	9.9	U
75-35-4	1,1-Dichloroethene	9.9	U	110-75-8	2-Chloroethyl Vinyl Ether	20.	U
75-35-3	1,1-Dichloroethane	9.9	U	75-25-2	Bromoform	9.9	U
156-60-5	trans-1,2-Dichloroethene	9.9	U	591-78-6	2-Hexanone	20.	U
67-66-3	Chloroform	9.9	U	108-10-1	4-Methyl-2-pentanone	20.	U
107-06-2	1,2-Dichloroethane	9.9	U	127-18-4	Tetrachloroethene	9.9	U
78-93-3	2-Butanone	20.	U	108-88-3	Toluene	9.9	U
71-55-6	1,1,1-Trichloroethane	9.9	U	108-90-7	Chlorobenzene	9.9	U
56-23-5	Carbon Tetrachloride	9.9	U	100-41-4	Ethyl Benzene	9.9	U
108-05-4	Vinyl Acetate	20.	U	100-42-5	Styrene	9.9	U
75-27-4	Bromodichloromethane	9.9	U		Total Xylenes	9.9	U
79-34-5	1,1,2,2-Tetrachloroethane	9.9	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF395 RE

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GX055480A1B
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6866
Date Sample Received: 07-03-85

RECEIVED OCT 1 2 1985

Volatile Compounds

Concentration: low
Date extracted/prepared: 07-03-85 07-19-85
Date analyzed: 07-22-85
Conc/Dil Factor: 1.33 pH: 5.44
Percent moisture: 25%
Percent moisture (decanted):

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	13.	U	78-87-5	1,2-Dichloropropane	6.6	U
74-83-9	Bromomethane	13.	U	10061-02-6	trans-1,3-Dichloropropene	6.6	U
75-01-4	Vinyl Chloride	13.	U	79-01-6	Trichloroethene	6.6	U
75-00-3	Chloroethane	13.	U	124-48-1	Dibromochloromethane	6.6	U
75-09-2	Methylene Chloride	210	B	79-00-5	1,1,2-Trichloroethane	6.6	U
67-64-1	Acetone	8.1	JB	71-43-2	Benzene	6.6	U
75-15-0	Carbon Disulfide	6.6	U	10061-01-5	cis-1,3-Dichloropropene	6.6	U
75-35-4	1,1-Dichloroethene	6.6	U	110-75-8	2-Chloroethyl Vinyl Ether	13.	U
75-35-3	1,1-Dichloroethane	6.6	U	75-25-2	Bromoform	6.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	U	591-78-6	2-Hexanone	13.	U
67-66-3	Chloroform	6.6	U	108-10-1	4-Methyl-2-pentanone	13.	U
107-06-2	1,2-Dichloroethane	6.6	U	127-18-4	Tetrachloroethene	6.6	U
78-93-3	2-Butanone	13.	U	108-88-3	Toluene	6.6	U
71-55-6	1,1,1-Trichloroethane	6.6	U	108-90-7	Chlorobenzene	6.6	U
56-23-5	Carbon Tetrachloride	6.6	U	100-41-4	Ethyl Benzene	6.6	U
108-05-4	Vinyl Acetate	13.	U	100-42-5	Styrene	6.6	U
75-27-4	Bromodichloromethane	6.6	U		Total Xylenes	6.6	U
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF395

RECEIVED OCT 1 2 1985

Laboratory Name: CompuChem

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-08-85
Conc/Dil Factor: 44.70

CAS Number		ug/kg		CAS Number		ug/kg	
62-75-9	N-Nitrosodimethylamine	450	U	99-09-2	3-Nitroaniline	2200	U
108-95-2	Phenol	450	U	83-32-9	Acenaphthene	450	U
62-53-3	Aniline	450	U	51-28-5	2,4-Dinitrophenol	2200	U
111-44-4	bis(2-Chloroethyl) ether	450	U	100-02-7	4-Nitrophenol	2200	U
95-57-8	2-Chlorophenol	450	U	132-64-9	Dibenzofuran	450	U
541-73-1	1,3-Dichlorobenzene	450	U	121-14-2	2,4-Dinitrotoluene	450	U
106-46-7	1,4-Dichlorobenzene	450	U	606-20-2	2,6-Dinitrotoluene	450	U
100-51-6	Benzyl Alcohol	450	U	84-66-2	Diethylphthalate	450	U
95-50-1	1,2-Dichlorobenzene	450	U	7005-72-3	4-Chlorophenyl Phenyl ether	450	U
95-48-7	2-Methylphenol	450	U	86-73-7	Fluorene	450	U
39638-32-9	bis(2-Chloroisopropyl) ether	450	U	100-01-6	4-Nitroaniline	2200	U
106-44-5	4-Methylphenol	450	U	534-52-1	4,6-Dinitro-2-methylphenol	2200	U
621-64-7	N-Nitroso-Dipropylamine	450	U	86-30-6	N-nitrosodiphenylamine (1)	450	U
67-72-1	Hexachloroethane	450	U	101-55-3	4-Bromophenyl Phenyl ether	450	U
98-95-3	Nitrobenzene	450	U	118-74-1	Hexachlorobenzene	450	U
78-59-1	Isophorone	450	U	87-86-5	Pentachlorophenol	2200	U
88-75-5	2-Nitrophenol	450	U	85-01-8	Phenanthrene	450	U
105-67-9	2,4-Dimethylphenol	450	U	120-12-7	Anthracene	450	U
65-85-0	Benzoic Acid	2200	U	84-74-2	Di-n-butylphthalate	210	J
111-91-1	bis(2-Chloroethoxy) methane	450	U	206-44-0	Fluoranthene	450	U
120-83-2	2,4-Dichlorophenol	450	U	92-87-5	Benzidine	2200	U
120-82-1	1,2,4-Trichlorobenzene	450	U	129-00-0	Pyrene	450	U
91-20-3	Naphthalene	450	U	85-68-7	Butyl Benzyl Phthalate	450	U
106-47-8	4-Chloroaniline	450	U	91-94-1	3,3'-Dichlorobenzidine	890	U
87-68-3	Hexachlorobutadiene	450	U	56-55-3	Benzo(a)anthracene	450	U
59-50-7	4-Chloro-3-methylphenol	450	U	117-81-7	bis(2-ethylhexyl)phthalate	450	U
91-57-6	2-Methylnaphthalene	450	U	218-01-9	Chrysene	450	U
77-47-4	Hexachlorocyclopentadiene	450	U	117-84-0	Di-n-octyl Phthalate	450	U
88-06-2	2,4,6-Trichlorophenol	450	U	205-99-2	Benzo(b)fluoranthene	450	U
95-95-4	2,4,5-Trichlorophenol	2200	U	207-08-9	Benzo(k)fluoranthene	450	U
91-58-7	2-Chloronaphthalene	450	U	50-32-8	Benzo(a)pyrene	450	U
88-74-4	2-Nitroaniline	2200	U	193-39-5	Indeno(1,2,3-cd)pyrene	450	U
131-11-3	Dimethyl Phthalate	450	U	53-70-3	Dibenz(a,h)anthracene	450	U
208-96-8	Acenaphthylene	450	U	191-24-2	Benzo(g,h,i)perylene	450	U

(1) Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF395 RE

RECEIVED OCT 1 2 1985

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

Laboratory Name: CompuChem

Concentration: — — low
Date extracted/prepared: 07-09-85
Date analyzed: 07-10-85
Conc/Dil Factor: 45.10

CAS Number		ug/kg		CAS Number		ug/kg	
62-75-9	N-Nitrosodimethylamine	450	U	99-09-2	3-Nitroaniline	2200	U
108-95-2	Phenol	450	U	83-32-9	Acenaphthene	450	U
62-53-3	Aniline	450	U	51-28-5	2,4-Dinitrophenol	2200	U
111-44-4	bis(2-Chloroethyl) ether	450	U	100-02-7	4-Nitrophenol	2200	U
95-57-8	2-Chlorophenol	450	U	132-64-9	Dibenzofuran	450	U
541-73-1	1,3-Dichlorobenzene	450	U	121-14-2	2,4-Dinitrotoluene	450	U
106-46-7	1,4-Dichlorobenzene	450	U	606-20-2	2,6-Dinitrotoluene	450	U
100-51-6	Benzyl Alcohol	450	U	84-66-2	Diethylphthalate	450	U
95-50-1	1,2-Dichlorobenzene	450	U	7005-72-3	4-Chlorophenyl Phenyl ether	450	U
95-48-7	2-Methylphenol	450	U	86-73-7	Fluorene	450	U
39638-32-9	bis(2-Chloroisopropyl) ether	450	U	100-01-6	4-Nitroaniline	2200	U
106-44-5	4-Methylphenol	450	U	534-52-1	4,6-Dinitro-2-methylphenol	2200	U
621-64-7	N-Nitroso-Dipropylamine	450	U	86-30-6	N-nitrosodiphenylamine (1)	450	U
67-72-1	Hexachloroethane	450	U	101-55-3	4-Bromophenyl Phenyl ether	450	U
98-95-3	Nitrobenzene	450	U	118-74-1	Hexachlorobenzene	450	U
78-59-1	Isophorone	450	U	87-86-5	Pentachlorophenol	2200	U
88-75-5	2-Nitrophenol	450	U	85-01-8	Phenanthrene	450	U
105-67-9	2,4-Dimethylphenol	450	U	120-12-7	Anthracene	450	U
65-85-0	Benzoic Acid	2200	U	84-74-2	Di-n-butylphthalate	450	U
111-91-1	bis(2-Chloroethoxy) methane	450	U	206-44-0	Fluoranthene	450	U
120-83-2	2,4-Dichlorophenol	450	U	92-87-5	Benzidine	2200	U
120-82-1	1,2,4-Trichlorobenzene	450	U	129-00-0	Pyrene	450	U
91-20-3	Naphthalene	450	U	85-68-7	Butyl Benzyl Phthalate	450	U
106-47-8	4-Chloroaniline	450	U	91-94-1	3,3'-Dichlorobenzidine	900	U
87-68-3	Hexachlorobutadiene	450	U	56-55-3	Benzo(a)anthracene	450	U
59-50-7	4-Chloro-3-methylphenol	450	U	117-81-7	bis(2-ethylhexyl)phthalate	450	U
91-57-6	2-Methylnaphthalene	450	U	218-01-9	Chrysene	450	U
77-47-4	Hexachlorocyclopentadiene	450	U	117-84-0	Di-n-octyl Phthalate	450	U
88-06-2	2,4,6-Trichlorophenol	450	U	205-99-2	Benzo(b)fluoranthene	450	U
95-95-4	2,4,5-Trichlorophenol	2200	U	207-08-9	Benzo(k)fluoranthene	450	U
91-58-7	2-Chloronaphthalene	450	U	50-32-8	Benzo(a)pyrene	450	U
88-74-4	2-Nitroaniline	2200	U	193-39-5	Indeno(1,2,3-cd)pyrene	450	U
131-11-3	Dimethyl Phthalate	450	U	53-70-3	Dibenz(a,h)anthracene	450	U
208-96-8	Acenaphthylene	450	U	191-24-2	Benzo(g,h,i)perylene	450	U

(1) Cannot be separated from diphenylamine

Sample Number
EF395

Organics Analysis Data Sheet
(Page 3)

RECEIVED OCT 1 2 1985

Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 7-9-85
Data Analyzed: 07/17/85
Conc/Dil Factor: 1.33

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	2.6	U
319-85-7	Beta - BHC	2.6	U
319-86-8	Delta - BHC	2.6	U
58-89-9	Gamma - BHC(Lindane)	2.6	U
76-44-8	Heptachlor	2.6	U
309-00-2	Aldrin	2.6	U
1024-57-3	Heptachlor Epoxide	2.6	U
959-98-8	Endosulfan I	2.6	U
60-57-1	Dieldrin	5.3	U
72-55-9	4-4' - DDE	5.3	U
72-20-8	Endrin	5.3	U
33213-65-9	Endosulfan II	5.3	U
72-54-8	4-4' - DDD	5.3	U
7421-93-4	Endrin Aldehyde	5.3	U
1031-07-8	Endosulfan Sulfate	5.3	U
50-29-3	4-4' - DDT	5.3	U
72-43-5	Methoxychlor	26.	U
53494-70-5	Endrin Ketone	5.3	U
57-74-9	Chlordane	26.	U
8001-35-2	Toxaphene	53.	U
12674-11-2	Aroclor - 1016	26.	U
11104-28-2	Aroclor - 1221	26.	U
11141-16-5	Aroclor - 1232	26.	U
53469-21-9	Aroclor - 1242	26.	U
12672-29-6	Aroclor - 1248	26.	U
11097-69-1	Aroclor - 1254	53.	U
11096-82-5	Aroclor - 1260	53.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.00 V(t) 2000.00 V(i) 5.0

Form 1

RECEIVED OCT 1 2 198

SAMPLE NUMBER EF395

COMPUCHEM FILE GH055480A13

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
~~75-09-2~~	~~METHANE,DICHLORO-~~	~~E238~~	~~131~~	~~4000.~~	~~J~~
~~67-64-1~~	~~2-PROPANONE~~	~~E238~~	~~142~~	~~170.~~	~~J~~
1 75-69-4	possible lab artifact ~~METHANE,TRICHLOROFLUORO-~~	E238	173	22.	J
2 110-54-3	HEXANE	E238	389	250.	J
~~15261-13-3~~	~~3-BUTENE-1,2-DIOL,1-(2-FURANYL)-~~	~~E238~~	~~545~~	~~7.~~	~~J~~
~~541-05-9~~	~~CYCLOTRISILOXANE,HEXAMETHYL-~~	~~E238~~	~~660~~	~~470.~~	~~J~~
~~2151-31-9~~	~~1-PYRROLIDINYLOXY,2,2,5,5-TETRAMETHYL-3-OXO-~~	~~E238~~	~~690~~	~~11.~~	~~J~~
~~6137-23-7~~	~~4-NONANONE,8-METHYL-~~	~~E238~~	~~711~~	~~14.~~	~~J~~

1.980 50.00

SPECTROSCOPIST SUB

DATE 7/21/85

SAMPLE NUMBER EF395 PE

COMPUCHEM FILE GX055480A18

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ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1	78-78-4	Alkane ~~BUTANE,2-METHYL-~~	E238	367	20 ~~22.~~	J
~~2~~	~~20524-86-1~~	~~METHANE,OXYBIS-DICHLORO-~~	~~E230~~	~~487~~	~~44.~~	~~J~~
~~3~~	~~541-05-9~~	~~CYCLOTRISILOXANE,HEXAMETHYL-~~	~~E238~~	~~591~~	~~280.~~	~~J~~

1.33
~~1.430~~ 50.00

SPECTROSCOPIST [illegible]

DATE 7/30/85

FORM1, PART B

RECEIVED OCT 1 2 1985

SAMPLE NUMBER EF395

COMPUCHEM FILE GH055480A22

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	2-PENTANONE,4-HYDROXY-4-METHYL- Acetone contaminant	SEMI1	372	2000.	J B
~~1121-66-0~~	~~2-CYCLOHEPTEN-1-ONE~~ 2,4-dinitrophenol	SEMI1	~~799~~	~~2400.~~	J

44.700 40.00

SPECTROSCOPIST : [illegible]

DATE 7-31-85

RECEIVED OCT 1 2 1985

SAMPLE NUMBER EF395 KF

COMPUCHEM FILE G4J55480815

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	Ketone 2-PENTANONE,4-HYDROXY-4-METHYL-	SEMI1	336	9400.	J B
19189-13-4	~~2,4-Dinitro phenol~~ ~~1H-IMIDAZOLE-4-CARBOXAMIDE,N-PHENYL-~~	~~SEMI1~~	~~773~~	~~2200.~~	~~J~~
18344-37-1	Alkane HEPTADECANE,2,6,10,14-TETRAMETHYL-	SEMI1	859	280.	J
10544-50-0	Molecular Sulfur SULFUR,MOL.(S8)	SEMI1	1026	1300.	J

SPECTROSCOPIST [illegible]

DATE 7-12-85

3.100 40.00

22

FORM1, PART B

85F510524

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF396

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GH0554B4B13
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6866
Date Sample Received: 07-03-85

RECEIVED OCT 12 1985

Volatile Compounds
Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-10-85
Conc/Dil Factor: 1.25
pH: 6.30
Percent moisture: 20%
Percent moisture (decanted):

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	12.	U	78-87-5	1,2-Dichloropropane	6.2	U
74-83-9	Bromomethane	12.	U	10061-02-6	trans-1,3-Dichloropropene	6.2	U
75-01-4	Vinyl Chloride	12.	U	79-01-6	Trichloroethene	6.2	U
75-00-3	Chloroethane	12.	U	124-48-1	Dibromochloromethane	6.2	U
75-09-2	Methylene Chloride	140	B	79-00-5	1,1,2-Trichloroethane	6.2	U
67-64-1	Acetone	9.2	JB	71-43-2	Benzene	6.2	U
75-15-0	Carbon Disulfide	6.2	U	10061-01-5	cis-1,3-Dichloropropene	6.2	U
75-35-4	1,1-Dichloroethene	6.2	U	110-75-8	2-Chloroethyl Vinyl Ether	12.	U
75-35-3	1,1-Dichloroethane	6.2	U	75-25-2	Bromoform	6.2	U
156-60-5	trans-1,2-Dichloroethene	6.2	U	591-78-6	2-Hexanone	12.	U
67-66-3	Chloroform	3.5	J	108-10-1	4-Methyl-2-pentanone	12.	U
107-06-2	1,2-Dichloroethane	6.2	U	127-18-4	Tetrachloroethene	6.2	U
78-93-3	2-Butanone	12.	U	108-88-3	Toluene	6.2	U
71-55-6	1,1,1-Trichloroethane	6.2	U	108-90-7	Chlorobenzene	6.2	U
56-23-5	Carbon Tetrachloride	6.2	U	100-41-4	Ethyl Benzene	6.2	U
108-05-4	Vinyl Acetate	12.	U	100-42-5	Styrene	6.2	U
75-27-4	Bromodichloromethane	6.2	U		Total Xylenes	6.2	U
79-34-5	1,1,2,2-Tetrachloroethane	6.2	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF396 RE

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GR0554B4A1B
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6866
Date Sample
Received: 07-03-85

Volatile Compounds

Concentration: low
Date extracted/prepared: 07-03-85 07-12-85
Date analyzed: 07-19-85
Conc/Dil Factor: 1.25 pH: 6.30
Percent moisture: 20%
Percent moisture (decanted):

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	12.	U	78-87-5	1,2-Dichloropropane	6.2	U
74-83-9	Bromomethane	12.	U	10061-02-6	trans-1,3-Dichloropropene	6.2	U
75-01-4	Vinyl Chloride	12.	U	79-01-6	Trichloroethene	6.2	U
75-00-3	Chloroethane	12.	U	124-48-1	Dibromochloromethane	6.2	U
75-09-2	Methylene Chloride	260	B	79-00-5	1,1,2-Trichloroethane	6.2	U
67-64-1	Acetone	15.	B	71-43-2	Benzene	6.2	U
75-15-0	Carbon Disulfide	6.2	U	10061-01-5	cis-1,3-Dichloropropene	6.2	U
75-35-4	1,1-Dichloroethene	6.2	U	110-75-8	2-Chloroethyl Vinyl Ether	12.	U
75-35-3	1,1-Dichloroethane	6.2	U	75-25-2	Bromoform	6.2	U
156-60-5	trans-1,2-Dichloroethene	6.2	U	591-78-6	2-Hexanone	12.	U
67-66-3	Chloroform	3.4	J	108-10-1	4-Methyl-2-pentanone	12.	U
107-06-2	1,2-Dichloroethane	6.2	U	127-18-4	Tetrachloroethene	6.2	U
78-93-3	2-Butanone	12.	U	108-88-3	Toluene	6.2	U
71-55-6	1,1,1-Trichloroethane	6.2	U	108-90-7	Chlorobenzene	6.2	U
56-23-5	Carbon Tetrachloride	6.2	U	100-41-4	Ethyl Benzene	6.2	U
108-05-4	Vinyl Acetate	12.	U	100-42-5	Styrene	6.2	U
75-27-4	Bromodichloromethane	6.2	U		Total Xylenes	6.2	U
79-34-5	1,1,2,2-Tetrachloroethane	6.2	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

RECEIVED OCT 1 2 1985

Sample Number
EF396

Laboratory Name: CompuChem

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-08-85
Conc/Dil Factor: 42.20

CAS Number		ug/kg		CAS Number		ug/kg	
62-75-9	N-Nitrosodimethylamine	420	U	99-09-2	3-Nitroaniline	2100	U
108-95-2	Phenol	420	U	83-32-9	Acenaphthene	420	U
62-53-3	Aniline	420	U	51-28-5	2,4-Dinitrophenol	2100	U
111-44-4	bis(2-Chloroethyl) ether	420	U	100-02-7	4-Nitrophenol	2100	U
95-57-8	2-Chlorophenol	420	U	132-64-9	Dibenzofuran	420	U
541-73-1	1,3-Dichlorobenzene	420	U	121-14-2	2,4-Dinitrotoluene	420	U
106-46-7	1,4-Dichlorobenzene	420	U	606-20-2	2,6-Dinitrotoluene	420	U
100-51-6	Benzyl Alcohol	420	U	84-66-2	Diethylphthalate	420	U
95-50-1	1,2-Dichlorobenzene	420	U	7005-72-3	4-Chlorophenyl Phenyl ether	420	U
95-48-7	2-Methylphenol	420	U	86-73-7	Fluorene	420	U
39638-32-9	bis(2-Chloroisopropyl) ether	420	U	100-01-6	4-Nitroaniline	2100	U
106-44-5	4-Methylphenol	420	U	534-52-1	4,6-Dinitro-2-methylphenol	2100	U
621-64-7	N-Nitroso-Dipropylamine	420	U	86-30-6	N-nitrosodiphenylamine (1)	420	U
67-72-1	Hexachloroethane	420	U	101-55-3	4-Bromophenyl Phenyl ether	420	U
98-95-3	Nitrobenzene	420	U	118-74-1	Hexachlorobenzene	420	U
78-59-1	Isophorone	420	U	87-86-5	Pentachlorophenol	2100	U
88-75-5	2-Nitrophenol	420	U	85-01-8	Phenanthrene	420	U
105-67-9	2,4-Dimethylphenol	420	U	120-12-7	Anthracene	420	U
65-85-0	Benzoic Acid	2100	U	84-74-2	Di-n-butylphthalate	420	U
111-91-1	bis(2-Chloroethoxy) methane	420	U	206-44-0	Fluoranthene	420	U
120-83-2	2,4-Dichlorophenol	420	U	92-87-5	Benzidine	2100	U
120-82-1	1,2,4-Trichlorobenzene	420	U	129-00-0	Pyrene	420	U
91-20-3	Naphthalene	420	U	85-68-7	Butyl Benzyl Phthalate	420	U
106-47-8	4-Chloroaniline	420	U	91-94-1	3,3'-Dichlorobenzidine	840	U
87-68-3	Hexachlorobutadiene	420	U	56-55-3	Benzo(a)anthracene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U	117-81-7	bis(2-ethylhexyl)phthalate	420	U
91-57-6	2-Methylnaphthalene	420	U	218-01-9	Chrysene	420	U
77-47-4	Hexachlorocyclopentadiene	420	U	117-84-0	Di-n-octyl Phthalate	420	U
88-06-2	2,4,6-Trichlorophenol	420	U	205-99-2	Benzo(b)fluoranthene	420	U
95-95-4	2,4,5-Trichlorophenol	2100	U	207-08-9	Benzo(k)fluoranthene	420	U
91-58-7	2-Chloronaphthalene	420	U	50-32-8	Benzo(a)pyrene	420	U
88-74-4	2-Nitroaniline	2100	U	193-39-5	Indeno(1,2,3-cd)pyrene	420	U
131-11-3	Dimethyl Phthalate	420	U	53-70-3	Dibenz(a,h)anthracene	420	U
208-96-8	Acenaphthylene	420	U	191-24-2	Benzo(g,h,i)perylene	420	U

(1) Cannot be separated from diphenylamine

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

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Sample Number
EF396 RE

Laboratory Name: CompuChem

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

Concentration: low
Date extracted/prepared: 07-03-85 07-12-85
Date analyzed: 07-15-85
Conc/Dil Factor: 42.10

CAS Number		ug/kg		CAS Number		ug/kg	
62-75-9	N-Nitrosodimethylamine	420	U	99-09-2	3-Nitroaniline	2100	U
108-95-2	Phenol	420	U	83-32-9	Acenaphthene	420	U
62-53-3	Aniline	420	U	51-28-5	2,4-Dinitrophenol	2100	U
111-44-4	bis(2-Chloroethyl) ether	420	U	100-02-7	4-Nitrophenol	2100	U
95-57-8	2-Chlorophenol	420	U	132-64-9	Dibenzofuran	420	U
541-73-1	1,3-Dichlorobenzene	420	U	121-14-2	2,4-Dinitrotoluene	420	U
106-46-7	1,4-Dichlorobenzene	420	U	606-20-2	2,6-Dinitrotoluene	420	U
100-51-6	Benzyl Alcohol	420	U	84-66-2	Diethylphthalate	420	U
95-50-1	1,2-Dichlorobenzene	420	U	7005-72-3	4-Chlorophenyl Phenyl ether	420	U
95-48-7	2-Methylphenol	420	U	86-73-7	Fluorene	420	U
39638-32-9	bis(2-Chloroisopropyl) ether	420	U	100-01-6	4-Nitroaniline	2100	U
106-44-5	4-Methylphenol	420	U	534-52-1	4,6-Dinitro-2-methylphenol	2100	U
621-64-7	N-Nitroso-Dipropylamine	420	U	86-30-6	N-nitrosodiphenylamine (1)	420	U
67-72-1	Hexachloroethane	420	U	101-55-3	4-Bromophenyl Phenyl ether	420	U
98-95-3	Nitrobenzene	420	U	118-74-1	Hexachlorobenzene	420	U
78-59-1	Isophorone	420	U	87-86-5	Pentachlorophenol	2100	U
88-75-5	2-Nitrophenol	420	U	85-01-8	Phenanthrene	420	U
105-67-9	2,4-Dimethylphenol	420	U	120-12-7	Anthracene	420	U
65-85-0	Benzoic Acid	2100	U	84-74-2	Di-n-butylphthalate	420	U
111-91-1	bis(2-Chloroethoxy) methane	420	U	206-44-0	Fluoranthene	420	U
120-83-2	2,4-Dichlorophenol	420	U	92-87-5	Benzidine	2100	U
120-82-1	1,2,4-Trichlorobenzene	420	U	129-00-0	Pyrene	420	U
91-20-3	Naphthalene	420	U	85-68-7	Butyl Benzyl Phthalate	420	U
106-47-8	4-Chloroaniline	420	U	91-94-1	3,3'-Dichlorobenzidine	840	U
87-68-3	Hexachlorobutadiene	420	U	56-55-3	Benzo(a)anthracene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U	117-81-7	bis(2-ethylhexyl)phthalate	420	U
91-57-6	2-Methylnaphthalene	420	U	218-01-9	Chrysene	420	U
77-47-4	Hexachlorocyclopentadiene	420	U	117-84-0	Di-n-octyl Phthalate	420	U
88-06-2	2,4,6-Trichlorophenol	420	U	205-99-2	Benzo(b)fluoranthene	420	U
95-95-4	2,4,5-Trichlorophenol	2100	U	207-08-9	Benzo(k)fluoranthene	420	U
91-58-7	2-Chloronaphthalene	420	U	50-32-8	Benzo(a)pyrene	420	U
88-74-4	2-Nitroaniline	2100	U	193-39-5	Indeno(1,2,3-cd)pyrene	420	U
131-11-3	Dimethyl Phthalate	420	U	53-70-3	Dibenz(a,h)anthracene	420	U
208-96-8	Acenaphthylene	420	U	191-24-2	Benzo(g,h,i)perylene	420	U

(1) Cannot be separated from diphenylamine

RECEIVED OCT 1 2 ...

Sample Number
EF396

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 7/9/85
Data Analyzed: 07/17/85
Conc/Dil Factor: 1.24

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	2.5	U
319-85-7	Beta - BHC	2.5	U
319-86-8	Delta - BHC	2.5	U
58-89-9	Gamma - BHC(Lindane)	2.5	U
76-44-8	Heptachlor	2.5	U
309-00-2	Aldrin	2.5	U
1024-57-3	Heptachlor Epoxide	2.5	U
959-98-8	Endosulfan I	2.5	U
60-57-1	Dieldrin	5.0	U
72-55-9	4-4' - DDE	5.0	U
72-20-8	Endrin	5.0	U
33213-65-9	Endosulfan II	5.0	U
72-54-8	4-4' - DDD	5.0	U
7421-93-4	Endrin Aldehyde	5.0	U
1031-07-8	Endosulfan Sulfate	5.0	U
50-29-3	4-4' - DDT	5.0	U
72-43-5	Methoxychlor	25.	U
53494-70-5	Endrin Ketone	5.0	U
57-74-9	Chlordane	25.	U
8001-35-2	Toxaphene	50.	U
12674-11-2	Aroclor - 1016	25.	U
11104-28-2	Aroclor - 1221	25.	U
11141-16-5	Aroclor - 1232	25.	U
53469-21-9	Aroclor - 1242	25.	U
12672-29-6	Aroclor - 1248	25.	U
11097-69-1	Aroclor - 1254	50.	U
11096-82-5	Aroclor - 1260	50.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.16 V(t) 2000.00 V(i) 5.0

Form 1

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Sample Number
LF396

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 7/9/85
Date Analyzed: 07/20/85
Conc/Dil Factor: 2.49

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	5.0	U
319-85-7	Beta - BHC	5.0	U
319-86-8	Delta - BHC	5.0	U
58-89-9	Gamma - BHC(Lindane)	5.0	U
76-44-8	Heptachlor	5.0	U
309-00-2	Aldrin	5.0	U
1024-57-3	Heptachlor Epoxide	5.0	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	9.9	U
72-55-9	4-4' - DDE	9.9	U
72-20-8	Endrin	9.9	U
33213-65-9	Endosulfan II	9.9	U
72-54-8	4-4' - DDD	9.9	U
7421-93-4	Endrin Aldehyde	9.9	U
1031-07-8	Endosulfan Sulfate	9.9	U
50-29-3	4-4' - DDT	9.9	U
72-43-5	Methoxychlor	50.	U
53494-70-5	Endrin Ketone	9.9	U
57-74-9	Chlordane	50.	U
8001-35-2	Toxaphene	99.	U
12674-11-2	Aroclor - 1016	50.	U
11104-28-2	Aroclor - 1221	50.	U
11141-16-5	Aroclor - 1232	50.	U
53469-21-9	Aroclor - 1242	50.	U
12672-29-6	Aroclor - 1248	50.	U
11097-69-1	Aroclor - 1254	99.	U
11096-82-5	Aroclor - 1260	99.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.16 V(t) 2000.00 V(i) 1.0

Form 1

RECEIVED OCT 1 2

SAMPLE NUMBER EF396

COMPUCHEM FILE GH055484B13

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1	75-69-4	~~METHANE, TRICHLOROFLUORO-~~ possible lab artifact	E238	177	7.	J

1.250 50.00

SPECTROSCOPIST Sus

DATE 7/29/85

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FORM1, PART B

RECEIVED OCT 1 2 198

SAMPLE NUMBER EF396 /'E

COMPUCHEM FILE GR055484A18

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED ~~CONC.~~ (UG/L OR UG/KG)	
1	110-54-3	HEXANE	E238	365	20.	J
~~2~~	~~75-98-9~~	~~PROPANOICACID,2,2-DIMETHYL-~~	~~E238~~	~~510~~	~~30.~~	J
~~3~~	~~541-05-9~~	~~CYCLOTRISILOXANE,HEXAMETHYL-~~	~~E238~~	~~589~~	~~210.~~	J

1.250 50.00

SPECTROSCOPIST SUB

DATE 7/29/85

30

FORM1, PART B

RECEIVED OCT 1 2

SAMPLE NUMBER EF396

COMPUCHEM FILE GH055484A22

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1	108-88-3	Toluene BENZENE,METHYL-	SEMI1	295	290.	JB
2	123-42-2	Acetone contamination 2-PENTANONE,4-HYDROXY-4-METHYL-	SEMI1	373	2500.	JB
3	95-47-6	Isomers BENZENE,1,2-DIMETHYL-	SEMI1	398	560.	J
4	100-41-4	Ethyl Benzene BENZENE,ETHYL-	SEMI1	419	280.	J
5	611-14-3	Isomers BENZENE,1-ETHYL-2-METHYL-	SEMI1	474	300.	J
6	95-63-6	" BENZENE,1,2,4-TRIMETHYL-	SEMI1	498	680.	J
~~7~~	~~1121-66-0~~	~~1,3,2,4-Dinitrophenol~~ Dinitrophenol ~~2-CYCLOHEPTEN-1-ONE~~	SEMI1	798	2400.	J

42.200 40.00

SPECTROSCOPIST [illegible]

DATE 7/27/88

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FORM1, PART B

RECEIVED OCT 1 2 198

SAMPLE NUMBER EF396 RE

COMPUCHEM FILE GRJ55484A07

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1	123-42-2	Ketone 2-PENTANONE,4-HYDROXY-4-METHYL-	SEMI1	369	2400 ~~1400.~~	J B
2	106-42-3	Xylene BENZENE,1,4-DIMETHYL-	SEMI1	396	310 ~~230.~~	J B
3	95-63-6	Mesitylene BENZENE,1,2,4-TRIMETHYL-	SEMI1	491	360 ~~210.~~	J B
4	13189-13-4	03-2,4-dinitrophenol ~~1H-IMIDAZOLE-4-CARBOXAMIDE,N-PHENYL-~~	SEMI1	772	590.	J

42.1
~~24.000~~ 40.00

SPECTROSCOPIST MH

DATE 7-17-85

3A

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

RECEIVED OCT 1 2 1985

Sample Number
EF397

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GH055492B13
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6866
Date Sample
Received: 07-03-85

Volatile Compounds

Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-10-85
Conc/Dil Factor: 1.55 pH: 10.26
Percent moisture: 37%
Percent moisture (decanted):

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	15.	U	78-87-5	1,2-Dichloropropane	7.7	U
74-83-9	Bromomethane	15.	U	10061-02-6	trans-1,3-Dichloropropene	7.7	U
75-01-4	Vinyl Chloride	15.	U	79-01-6	Trichloroethene	7.7	U
75-00-3	Chloroethane	15.	U	124-48-1	Dibromochloromethane	7.7	U
75-09-2	Methylene Chloride	52.	B	79-00-5	1,1,2-Trichloroethane	7.7	U
67-64-1	Acetone	130	B	71-43-2	Benzene	7.7	U
75-15-0	Carbon Disulfide	7.7	U	10061-01-5	cis-1,3-Dichloropropene	7.7	U
75-35-4	1,1-Dichloroethene	7.7	U	110-75-8	2-Chloroethyl Vinyl Ether	15.	U
75-35-3	1,1-Dichloroethane	7.7	U	75-25-2	Bromoform	7.7	U
156-60-5	trans-1,2-Dichloroethene	7.7	U	591-78-6	2-Hexanone	15.	U
67-66-3	Chloroform	7.7	U	108-10-1	4-Methyl-2-pentanone	15.	U
107-06-2	1,2-Dichloroethane	7.7	U	127-18-4	Tetrachloroethene	7.7	U
78-93-3	2-Butanone	15.	U	108-88-3	Toluene	7.7	U
71-55-6	1,1,1-Trichloroethane	7.7	U	108-90-7	Chlorobenzene	7.7	U
56-23-5	Carbon Tetrachloride	7.7	U	100-41-4	Ethyl Benzene	7.7	U
108-05-4	Vinyl Acetate	15.	U	100-42-5	Styrene	7.7	U
75-27-4	Bromodichloromethane	7.7	U		Total Xylenes	7.7	U
79-34-5	1,1,2,2-Tetrachloroethane	7.7	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

85F510525

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF397

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

RECEIVED OCT 1 2 1985

Laboratory Name: CompuChem

Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-08-85
Conc/Dil Factor: 53.80

CAS Number		ug/kg		CAS Number		ug/kg	
62-75-9	N-Nitrosodimethylamine	540	U	99-09-2	3-Nitroaniline	2700	U
108-95-2	Phenol	540	U	83-32-9	Acenaphthene	540	U
62-53-3	Aniline	540	U	51-28-5	2,4-Dinitrophenol	2700	U
111-44-4	bis(2-Chloroethyl) ether	540	U	100-02-7	4-Nitrophenol	2700	U
95-57-8	2-Chlorophenol	540	U	132-64-9	Dibenzofuran	540	U
541-73-1	1,3-Dichlorobenzene	540	U	121-14-2	2,4-Dinitrotoluene	540	U
106-46-7	1,4-Dichlorobenzene	540	U	606-20-2	2,6-Dinitrotoluene	540	U
100-51-6	Benzyl Alcohol	540	U	84-66-2	Diethylphthalate	540	U
95-50-1	1,2-Dichlorobenzene	540	U	7005-72-3	4-Chlorophenyl Phenyl ether	540	U
95-48-7	2-Methylphenol	540	U	86-73-7	Fluorene	540	U
39638-32-9	bis(2-Chloroisopropyl) ether	540	U	100-01-6	4-Nitroaniline	2700	U
106-44-5	4-Methylphenol	540	U	534-52-1	4,6-Dinitro-2-methylphenol	2700	U
621-64-7	N-Nitroso-Dipropylamine	540	U	86-30-6	N-nitrosodiphenylamine (1)	540	U
67-72-1	Hexachloroethane	540	U	101-55-3	4-Bromophenyl Phenyl ether	540	U
98-95-3	Nitrobenzene	540	U	118-74-1	Hexachlorobenzene	540	U
78-59-1	Isophorone	540	U	87-86-5	Pentachlorophenol	2700	U
88-75-5	2-Nitrophenol	540	U	85-01-8	Phenanthrene	540	U
105-67-9	2,4-Dimethylphenol	540	U	120-12-7	Anthracene	540	U
65-85-0	Benzoic Acid	2700	U	84-74-2	Di-n-butylphthalate	540	U
111-91-1	bis(2-Chloroethoxy) methane	540	U	206-44-0	Fluoranthene	380	J
120-83-2	2,4-Dichlorophenol	540	U	92-87-5	Benzidine	2700	U
120-82-1	1,2,4-Trichlorobenzene	540	U	129-00-0	Pyrene	260	J
91-20-3	Naphthalene	540	U	85-68-7	Butyl Benzyl Phthalate	540	U
106-47-8	4-Chloroaniline	540	U	91-94-1	3,3'-Dichlorobenzidine	1100	U
87-68-3	Hexachlorobutadiene	540	U	56-55-3	Benzo(a)anthracene	540	U
59-50-7	4-Chloro-3-methylphenol	540	U	117-81-7	bis(2-ethylhexyl)phthalate	280	J
91-57-6	2-Methylnaphthalene	540	U	218-01-9	Chrysene	540	U
77-47-4	Hexachlorocyclopentadiene	540	U	117-84-0	Di-n-octyl Phthalate	540	U
88-06-2	2,4,6-Trichlorophenol	540	U	205-99-2	Benzo(b)fluoranthene	540	U
95-95-4	2,4,5-Trichlorophenol	2700	U	207-08-9	Benzo(k)fluoranthene	540	U
91-58-7	2-Chloronaphthalene	540	U	50-32-8	Benzo(a)pyrene	540	U
88-74-4	2-Nitroaniline	2700	U	193-39-5	Indeno(1,2,3-cd)pyrene	540	U
131-11-3	Dimethyl Phthalate	540	U	53-70-3	Dibenz(a,h)anthracene	540	U
208-96-8	Acenaphthylene	540	U	191-24-2	Benzo(g,h,i)perylene	540	U

(1) Cannot be separated from diphenylamine

Sample Number
Er397

Organics Analysis Data Sheet
(Page 3)

RECEIVED OCT 1 2 1985

Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 7/9/85
Data Analyzed: 07/17/85
Conc/Dil Factor: 1.57

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	3.1	U
319-85-7	Beta - BHC	3.1	U
319-86-8	Delta - BHC	3.1	U
58-89-9	Gamma - BHC(Lindane)	3.1	U
76-44-8	Heptachlor	3.1	U
309-00-2	Aldrin	3.1	U
1024-57-3	Heptachlor Epoxide	3.1	U
959-98-8	Endosulfan I	3.1	U
60-57-1	Dieldrin	6.3	U
72-55-9	4-4' - DDE	6.3	U
72-20-8	Endrin	6.3	U
33213-65-9	Endosulfan II	6.3	U
72-54-8	4-4' - DDD	6.3	U
7421-93-4	Endrin Aldehyde	6.3	U
1031-07-8	Endosulfan Sulfate	6.3	U
50-29-3	4-4' - DDT	6.3	U
72-43-5	Methoxychlor	31.	U
53494-70-5	Endrin Ketone	6.3	U
57-74-9	Chlordane	31.	U
8001-35-2	Toxaphene	63.	U
12674-11-2	Aroclor - 1016	31.	U
11104-28-2	Aroclor - 1221	31.	U
11141-16-5	Aroclor - 1232	31.	U
53469-21-9	Aroclor - 1242	31.	U
12672-29-6	Aroclor - 1248	31.	U
11097-69-1	Aroclor - 1254	63.	U
11096-82-5	Aroclor - 1260	63.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.22 V(t) 2000.00 V(i) 5.0

Form 1

Sample Number
EF39Y

Organics Analysis Data Sheet
(Page 3)

RECEIVED OCT 1 2 1985

Pesticide/PCBs

Concentration: [Low] Medium (Circle One)
Date Extracted/Prepared: 7/9/85
Data Analyzed: 07/20/85
Conc/Dil Factor: 1.5Y

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	3.1	U
319-85-7	Beta - BHC	3.1	U
319-86-8	Delta - BHC	3.1	U
58-89-9	Gamma - BHC(Lindane)	3.1	U
76-44-8	Heptachlor	3.1	U
309-00-2	Aldrin	3.1	U
1024-57-3	Heptachlor Epoxide	3.1	U
959-98-8	Endosulfan I	3.1	U
60-57-1	Dieldrin	6.3	U
72-55-9	4-4' - DDE	6.3	U
72-20-8	Endrin	6.3	U
33213-65-9	Endosulfan II	6.3	U
72-54-8	4-4' - DDD	6.3	U
7421-93-4	Endrin Aldehyde	6.3	U
1031-07-8	Endosulfan Sulfate	6.3	U
50-29-3	4-4' - DDT	6.3	U
72-43-5	Methoxychlor	31.	U
53494-70-5	Endrin Ketone	6.3	U
57-74-9	Chlordane	31.	U
8001-35-2	Toxaphene	63.	U
12674-11-2	Aroclor - 1016	31.	U
11104-28-2	Aroclor - 1221	31.	U
11141-16-5	Aroclor - 1232	31.	U
53469-21-9	Aroclor - 1242	31.	U
12672-29-6	Aroclor - 1248	31.	U
11097-69-1	Aroclor - 1254	63.	U
11096-82-5	Aroclor - 1260	63.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.22 V(t) 2000.00 V(i) 1.0

Form 1

P.O. Box 818, Alexandria, Virginia 22313 703/557-2100

EF397

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

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CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
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SAMPLE NUMBER EF397

COMPUCHEM FILE GH055492A22

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	Acetone Contamination. 2-PENTANONE,4-HYDROXY-4-METHYL-	SEMI1	372	4200 ~~2600.~~	JB
~~1121-66~~-0	Dr. & H. Dimethyphenol. 2-CYCLOHEPTEN-1-ONE	SEMI1	800	1200.	J
6994-96-3	Unknown. HEXANOICACID,4,4-DIMETHYL-3-METHYLENE-5-OXO-	SEMI1	1174	400 ~~250.~~	J
17302-32-8	" NONANE,3,7-DIMETHYL-	SEMI1	1186	350 ~~220.~~	J
54699-42-2	" CYCLOHEXANAMINE,N-CYCLOOCTYLIDENE-	SEMI1	1351	780 ~~490.~~	J

~~2.600~~ 40.00
2 80

SPECTROSCOPIST _____

DATE 7/8/85

38

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85F510326

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF901

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: CompuChem
Lab Sample ID No: GH055493B13
Sample matrix: solid
Data Release
Authorized By: _____

Case: 4652
QC Report No: _____
Contract No: 68-01-6866
Date Sample
Received: 07-03-85

Volatile Compounds
Concentration: low
Date extracted/prepared: 07-03-85
Date analyzed: 07-10-85
Conc/Dil Factor: 1.03 pH: 7.63
Percent moisture: 3%
Percent moisture (decanted):

CAS Number		ug/kg		CAS Number		ug/kg	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.1	U
74-83-9	Bromomethane	10.	U	10061-02-6	trans-1,3-Dichloropropene	5.1	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.1	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.1	U
75-09-2	Methylene Chloride	65.	B	79-00-5	1,1,2-Trichloroethane	5.1	U
67-64-1	Acetone	7.0	JB	71-43-2	Benzene	5.1	U
75-15-0	Carbon Disulfide	5.1	U	10061-01-5	cis-1,3-Dichloropropene	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U	110-75-8	2-Chloroethyl Vinyl Ether	10.	U
75-35-3	1,1-Dichloroethane	5.1	U	75-25-2	Bromoform	5.1	U
156-60-5	trans-1,2-Dichloroethene	5.1	U	591-78-6	2-Hexanone	10.	U
67-66-3	Chloroform	5.1	U	108-10-1	4-Methyl-2-pentanone	10.	U
107-06-2	1,2-Dichloroethane	5.1	U	127-18-4	Tetrachloroethene	5.1	U
78-93-3	2-Butanone	10.	U	108-88-3	Toluene	5.1	U
71-55-6	1,1,1-Trichloroethane	5.1	U	108-90-7	Chlorobenzene	5.1	U
56-23-5	Carbon Tetrachloride	5.1	U	100-41-4	Ethyl Benzene	5.1	U
108-05-4	Vinyl Acetate	10.	U	100-42-5	Styrene	5.1	U
75-27-4	Bromodichloromethane	5.1	U		Total Xylenes	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	5.1	U				

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J)

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >/= 10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

RECEIVED OCT 1 2 1985

Environmental Protection Agency, CLP Sample Management Office
P.O. Box 818, Alexandria, VA 22313 703/557-2490

Sample Number
EF901

Laboratory Name: CompuChem

Organics Analysis Data Sheet
(Page 2)
Semivolatile Compounds

Concentration: -- -- low
Date extracted/prepared: 07-03-85
Date analyzed: 07-08-85
Conc/Dil Factor: 33.60

CAS Number		ug/kg		CAS Number		ug/kg		
62-75-9	N-Nitrosodimethylamine	340	U	99-09-2	3-Nitroaniline	1700	U	
108-95-2	Phenol	340	U	83-32-9	Acenaphthene	340	U	
62-53-3	Aniline	340	U	51-28-5	2,4-Dinitrophenol	1700	U	
111-44-4	bis(2-Chloroethyl) ether	340	U	100-02-7	4-Nitrophenol	1700	U	
95-57-8	2-Chlorophenol	340	U	132-64-9	Dibenzofuran	340	U	
541-73-1	1,3-Dichlorobenzene	340	U	121-14-2	2,4-Dinitrotoluene	340	U	
106-46-7	1,4-Dichlorobenzene	340	U	606-20-2	2,6-Dinitrotoluene	340	U	
100-51-6	Benzyl Alcohol	340	U	84-66-2	Diethylphthalate	340	U	
95-50-1	1,2-Dichlorobenzene	340	U	7005-72-3	4-Chlorophenyl Phenyl ether	340	U	
95-48-7	2-Methylphenol	340	U	86-73-7	Fluorene	340	U	
39638-32-9	bis(2-Chloroisopropyl) ether	340	U	100-01-6	4-Nitroaniline	1700	U	
106-44-5	4-Methylphenol	340	U	534-52-1	4,6-Dinitro-2-methylphenol	1700	U	
621-64-7	N-Nitroso-Dipropylamine	340	U	86-30-6	N-nitrosodiphenylamine (1)	340	U	
67-72-1	Hexachloroethane	340	U	101-55-3	4-Bromophenyl Phenyl ether	340	U	
98-95-3	Nitrobenzene	340	U	118-74-1	Hexachlorobenzene	340	U	
78-59-1	Isophorone	340	U	87-86-5	Pentachlorophenol	1700	U	
88-75-5	2-Nitrophenol	340	U	85-01-8	Phenanthrene	540		
105-67-9	2,4-Dimethylphenol	340	U	120-12-7	Anthracene	340	U	
65-85-0	Benzoic Acid	1700	U	84-74-2	Di-n-butylphthalate	340	U	
111-91-1	bis(2-Chloroethoxy) methane	340	U	206-44-0	Fluoranthene	1000		
120-83-2	2,4-Dichlorophenol	340	U	92-87-5	Benzidine	1700	U	
120-82-1	1,2,4-Trichlorobenzene	340	U	129-00-0	Pyrene	610		
91-20-3	Naphthalene	340	U	85-68-7	Butyl Benzyl Phthalate	160	J	estimated
106-47-8	4-Chloroaniline	340	U	91-94-1	3,3'-Dichlorobenzidine	670	U	
87-68-3	Hexachlorobutadiene	340	U	56-55-3	Benzo(a)anthracene	300	J	estimated
59-50-7	4-Chloro-3-methylphenol	340	U	117-81-7	bis(2-ethylhexyl)phthalate	210	J	estimated
91-57-6	2-Methylnaphthalene	340	U	218-01-9	Chrysene	360		
77-47-4	Hexachlorocyclopentadiene	340	U	117-84-0	Di-n-octyl Phthalate	340	U	
88-06-2	2,4,6-Trichlorophenol	340	U	205-99-2	Benzo(b)fluoranthene	530		
95-95-4	2,4,5-Trichlorophenol	1700	U	207-08-9	Benzo(k)fluoranthene	530		
91-58-7	2-Chloronaphthalene	340	U	50-32-8	Benzo(a)pyrene	200	J	estimated
88-74-4	2-Nitroaniline	1700	U	193-39-5	Indeno(1,2,3-cd)pyrene	340	U	
131-11-3	Dimethyl Phthalate	340	U	53-70-3	Dibenz(a,h)anthracene	340	U	
208-96-8	Acenaphthylene	340	U	191-24-2	Benzo(g,h,i)perylene	340	U	

(1) Cannot be separated from diphenylamine

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Sample Number
EF901

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 7/9/85
Data Analyzed: 07/17/85
Conc/Dil Factor: 1.02

CAS Number		ug/l or [ug/Kg] (Circle One)	
319-84-6	Alpha - BHC	2.0	U
319-85-7	Beta - BHC	2.0	U
319-86-8	Delta - BHC	2.0	U
58-89-9	Gamma - BHC(Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor Epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	4.1	U
72-55-9	4-4' - DDE	31.	
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4-4' - DDD	4.1	U
7421-93-4	Endrin Aldehyde	4.1	U
1031-07-8	Endosulfan Sulfate	4.1	U
50-29-3	4-4' - DDT	49.	
72-43-5	Methoxychlor	20.	U
53494-70-5	Endrin Ketone	4.1	U
57-74-9	Chlordane	20.	U
8001-35-2	Toxaphene	41.	U
12674-11-2	Aroclor - 1016	20.	U
11104-28-2	Aroclor - 1221	20.	U
11141-16-5	Aroclor - 1232	20.	U
53469-21-9	Aroclor - 1242	20.	U
12672-29-6	Aroclor - 1248	20.	U
11097-69-1	Aroclor - 1254	41.	U
11096-82-5	Aroclor - 1260	41.	U

V(i) = Volume of extract injected (ul)
V(s) = Volume of water extracted (ml)
W(s) = Weight of sample extracted (g)
V(t) = Volume of total extract (ul)

V(s) _____ or W(s) 30.25 V(t) 2000.00 V(i) 5.0

Form 1

P. O. Box 818, Alexandria, Virginia 22313 703/557-2400

EF901

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

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CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
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RECEIVED OCT 12 1995

SAMPLE NUMBER EF901

COMPUCHEM FILE GH055493A22

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	Acetone Contamination: 2-PENTANONE,4-HYDROXY-4-METHYL-	SEMI1	368	2500.	JB
106-42-3	Isomers. BENZENE,1,4-DIMETHYL-	SEMI1	395	160.	J
91-64-5	Ketone. 2H-1-BENZOPYRAN-2-ONE	SEMI1	770	340.	J
~~1121-66-0~~	~~Dihydro-2,4-Dimethylphenol.~~ ~~2-CYCLOHEPTEN-1-ONE~~	~~SEMI1~~	~~799~~	~~1000.~~	~~J~~
55045-11-9	Unknown. TRIDECANE,5-PROPYL-	SEMI1	883	590.	J
922-28-1	" HEPTANE,3,4-DIMETHYL-	SEMI1	928	170.	J
117-83-9	" 1,2-BENZENEDICARBOXYLICACID,BIS(2-BUTOXYETHYL)ESTER	SEMI1	1171	380.	J
593-45-3	" OCTADECANE	SEMI1	1256	280.	J
56554-87-1	" 16-OCTADECENAL	SEMI1	1336	460.	J
629-99-2	Hydrocarbon. PENTACOSANE	SEMI1	1373	850.	J
198-55-0	Isomers PERYLENE	SEMI1	1406	390.	J
54833-48-6	Unknown. HEPTADECANE,2,6,10,15-TETRAMETHYL-	SEMI1	1547	410.	J

23.600 40.00

SPECTROSCOPIST ___

DATE 7/8/95

43

FORM1 PART B

ecology and environment, inc.
223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663 9415
International Specialists in the Environmental Sciences

REFERENCE 20
SITE NAME Lobue #2
SITE ID ILD980902050

Date Received for Review: 8/9/85 Date Review Completed: 8/22/85

To: Jim Stefan

From: Cynthia Bachunas / ARIENE PEATC

Subject: Lo Bue #2 / RCS-8 303 01F SLC

Sample Description: CASE # 4652 Low soil metals

Project Data Status: Case awaiting low soil results

FIT Data Review Findings:
See attached CRC review.

Additional Comments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 8-9-85

SUBJECT: Review of Region V CLP Data
Received for Review on 8/8/85

FROM: Curtis Ross, Director (SSCRL)
Central Regional Laboratory Jay Thompson

TO: Data User: Fit

We have reviewed the data for the following case(s).

SITE NAME: LaBue #2 SMO Case No. 4652

EPA Data Set No. SF 2481 No. of Samples: 5 D.U./Activity Numbers 1905 C 48500

CRL No. 85F510522 - 85F510526

SMO Traffic No. MEF 231 - MEF 235

CLP Laboratory: STC Hrs. Required for Review: 3 hrs

Following are our findings. This review covers five low soil samples submitted for IFB metals analysis.

The spike analysis for Sb (42%) gave low results as shown; the detection limits reported for this element may be elevated.

The duplicate analysis of Cr gave an RPD of 98% indicating a lack of precision in the Cr data.

All other Q.C. audit data are acceptable.

RECEIVED AUG 9 1985

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

Gary A. Smith 8-9-85

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

EPA FORM 1320-6 (REV 8-83)

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

Date 8/5/85

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name JTC Environmental Consultants Case No. 4452
SOW No. 784 Q.C. Report No. 206

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEF231	73-2081		
232	-2082		
233	-2083		
234	-2084		
235	-2085		
~~236~~			

Comments:

RECEIVED AUG 9 1985

ICP Interelement and background corrections applied? Yes ✓ No ____.
If yes, corrections applied before ✓ or after ____ generation of raw data.

Footnotes:

NR - not required by contract at this time
Form I:
Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (Flame AA), or F (Furnace AA)
U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).
E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.
- Indicates value determined by Method of Standard Addition.
R - Indicates spike sample recovery is not within control limits.
* - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

Form I A

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

85F510522
EPA Sample No.
MEF231

Date 8/5/85

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts. CASE NO. 4652

SOW NO. 784

LAB SAMPLE ID. NO. 73-2081 QC REPORT NO. 206

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

RECEIVED AUG 9 1985

ug/L or (mg/kg) dry weight (Circle One)

1.	Aluminum	8040	P	13.	Magnesium	[1740]	P
2.	Antimony	294 R	P	14.	Manganese	702	P
✓3.	Arsenic	(9.3)	F	✓15.	Mercury	[.10]	Cold.V.
4.	Barium	126	P	✓16.	Nickel	[19]	P
✓5.	Beryllium	2.4U	P	17.	Potassium	[1360]	A
✓6.	Cadmium	2.2U	P	✓18.	Selenium	2.4U	F
7.	Calcium	3330	P	✓19.	Silver	3.5U	P
✓8.	Chromium	8 *	P	20.	Sodium	1910U	P
✓9.	Cobalt	[9]	P	✓21.	Thallium	1.2U	F
✓10.	Copper	12U	P	✓22.	Tin	17U	P
11.	Iron	11600	P	✓23.	Vanadium	(29)	P
✓12.	Lead	(9.2)	F	24.	Zinc	38	P

Cyanide N.R. Auto An Percent Solids (%) 80.61

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager MH 8/8/85

Form 1 D

EPA Contract Laboratory Program
Sample Management Office
Box 818 - Alexandria, VA 22313
557-2490 FTS: 8-557-2490

85E510523
EPA Sample No.
MEF232

Date 8/5/85

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts. CASE NO. 4652

LAB NO. 784

SAMPLE ID. NO. 73-2082 QC REPORT NO. 206

Elements Identified and Measured

Concentration: Low ✓ Medium

RECEIVED AUG 9 1985

Matrix: Water Soil ✓ Sludge Other

ug/L or ug/kg dry weight (Circle One)

	Aluminum	5850	P	13.	Magnesium	[1150]	P
	Antimony	314 R	✓ P	14.	Manganese	56	P
	Arsenic	104	✓ F	15.	Mercury	0.41	Cold.V.
	Barium	334	P	16.	Nickel	100	P
	Beryllium	~~2.6~~ 4	✓ P	17.	Potassium	[889]	A
	Cadmium	2.4U	P	18.	Selenium	17U	F
	Calcium	9790	P	19.	Silver	3.8U	P
	Chromium	16 *	✓ P	20.	Sodium	2040U	P
	Cobalt	[31]	✓ P	21.	Thallium	[2.2]	F
	Copper	128	✓ P	22.	Tin	19U	P
	Iron	8480	P	23.	Vanadium	47	P
	Lead	173	✓ F	24.	Zinc	498	P
		N.R.	Auto An		Percent Solids (%)	75.32	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Lab Manager MH for EB

Form I C

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

85F510524
EPA Sample No.
MEF233

Date 8/5/85

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts. CASE NO. 4652

SOW NO. 784

LAB SAMPLE ID. NO. 73-2083 QC REPORT NO. 206

Elements Identified and Measured

RECEIVED AUG 9 1985

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

ug/L or ~~mg~~/kg dry weight (Circle One)

.	Aluminum	3050	P	13.	Magnesium	7321	P
. ✓	Antimony	30UR	P	14.	Manganese	21	P
✓	Arsenic	20	F	✓15.	Mercury	.20	Cold.V.
.	Barium	[110]	P	✓16.	Nickel	90	P
. ✓	Beryllium	6	P	17.	Potassium	[845]	A
. ✓	Cadmium	3	P	✓18.	Selenium	2.4U	F
.	Calcium	4120	P	✓19.	Silver	3.6U	P
✓	Chromium	[6] *	P	20.	Sodium	4540	P
✓	Cobalt	[3]	P	✓21.	Thallium	[2.1]	F
✓	Copper	56	P	✓22.	Tin	18U	P
.	Iron	4730	P	✓23.	Vanadium	40	P
✓	Lead	89	F	24.	Zinc	754	P
nide		N.R.	Auto An		Percent Solids (%)	79.21	

tnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

ents: ____

Lab Manager MH for 9/12

5

Form 1 D

85F510525

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MEF234

Date 8/5/85

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts. CASE NO. 4652

SOW NO. 784

LAB SAMPLE ID. NO. 73-2084 QC REPORT NO. 20C

Elements Identified and Measured

RECEIVED AUG 9 1985

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

ug/L or ug/kg dry weight (Circle One)

1.	Aluminum	3560	P	13.	Magnesium	2220	P
2.	Antimony	37UP	P	14.	Manganese	61	P
3.	Arsenic	5.2U	F	15.	Mercury	.10U	Cold.V.
4.	Barium	[35]	P	16.	Nickel	[15]	P
5.	Beryllium	3.1U	P	17.	Potassium	816U	A
6.	Cadmium	2.8U	P	18.	Selenium	3.0U	F
7.	Calcium	127000	P	19.	Silver	4.5U	P
8.	Chromium	32	P	20.	Sodium	44400	P
9.	Cobalt	[8]	P	21.	Thallium	39U	F
10.	Copper	16U	P	22.	Tin	22U	P
11.	Iron	5220	P	23.	Vanadium	[25]	P
12.	Lead	[1.9]	F	24.	Zinc	72	P

Cyanide N.R. Auto An Percent Solids (%) 63.70

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager MH for GD

Form I E

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

85FS10526
EPA Sample No.
MEF035

Date 8/5/85

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.

CASE NO. 4652

SOW NO. 784

LAB SAMPLE ID. NO. 73-2085

QC REPORT NO. 206

Elements Identified and Measured

Concentration: Low ✓ Medium

Matrix: Water Soil ✓ Sludge Other

RECEIVED AUG 9 1985

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	4340	P	13.	Magnesium	12000	P
2.	Antimony	24 U R	P	14.	Manganese	484	P
3.	Arsenic	14	F	15.	Mercury	.16	Cold.V.
4.	Barium	54	P	16.	Nickel	41	P
5.	Beryllium	2.1 U	P	17.	Potassium	534 U	A
6.	Cadmium	5	P	18.	Selenium	2.0 U	F
7.	Calcium	24400	P	19.	Silver	2.9 U	P
8.	Chromium	18 *	P	20.	Sodium	1580 U	P
9.	Cobalt	14	P	21.	Thallium	1.0 U	F
10.	Copper	33	P	22.	Tin	14 U	P
11.	Iron	13100	P	23.	Vanadium	19	P
12.	Lead	177	F	24.	Zinc	707	P

Cyanide N.R. Auto An Percent Solids (%) 97.43

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager MH for DD

DATA QUALIFIERS

Contractor: JTC

Case SF-2481 4652

Below is a summary of the out of control audits and the possible effect on the data for this case:

This review covers 5 low soil samples submitted for IFB metals analysis.

The spike analysis for Sb (47%) gave low results as shown; the detection limit reported for this element may be elevated.

The duplicate analysis of Cr gave an RPD of 98% indicating a lack of precision in the Cr analysis.

The lab has used as a source for the continuing calibration a calibration std diluted 10X.

The dilution test data are OK

RECEIVED AUG 9 1985

Reviewed by: Dawn O Lynstebe

Phone: 886-1973

Date: 8-9-85

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES

Fac. No. 016 4740 PUBLIC WATER SUPPLY DATA SHEET

County and Supply PARK FOREST Cook County

Date Inspected November 12 and 20, 1981 Plant phone 748-5346

COIRC *A* #5016 "T"

Operator Marvin Bartling, Chief Water Plant Opera. Phone 748-1112 (Village Hall)

Other officials (Title) J. Gericke, Dist. Supt. Phone

Mr. Blaine Osterling, Supt. of Public Works Phone

Mr. Robert Pierce, Village Manager

Emergency Address Treatment Plant Phone 748-5346

Send mail to Village Hall, 200 Forest Blvd., Park Forest, Illinois 60466

Interviewed Marvin Bartling, Chief Water Plant Operator

Brief description of supply: Water obtained from seven (7) drilled wells. Water from Wells #1 - #6 is aerated, lime-sodium aluminate softened, treated with phosphate, recarbonated, filtered, zeolite softened, chlorinated, fluoridated and discharged to a clear well or ground reservoir. Six (6) high service pumps take suction form the clearwell and discharge to the system upon which one elevated tanks floats. Well #7 is zeolite softened, treated with caustic soda, chlorine, fluoride and discharged to the system.

No. of services: Direct 8605 - 100 % metered

Satellite - % metered

Adequacy of Supply

Annual Pumpage 894 M Gal. 1980

Av. Daily pumpage 2.44 M Gal. Max. av. Daily Pumpage Gal.

Est. Population 26,222 Av. Daily per Capita Consumption Gal.

Time Required to Produce Av. Daily Consumption Hrs.

Time Required to Produce Mx. Av. Daily Consumption Hrs.

Large Consumers None Av. Gal./Day

Emergency water and Power Sources: Inter-connection Chicago Heights, Olympia Fields

CRB:ted

PWS 59 7/79

INVENTORY	Wells & Pumps	Standby Power	Feeder Mains	Add Chlorine	Add Fluoride	Add Phosphate	Exchange Zeolite softening	Removal (Filter rapid sand)	Flushing hydrants	Backflow preventor	Clear Wells	High Ser. Pumps	Standby Power	Mains - 1000s ft.	Interconnections	Elevated Tanks	Pressure Storage	Ground Storage	Booster Pumps	Standby Power	Distribution Valve	Hydrant Valves	Service Connection	Service Meters
Detail in "CSOM"																								
Number of Units	7	2	--	2	2	2	6	4	742		2	6	2		2	1	--	--	--	--	497		8605	8605

Well Capacity:

#1	1000	gpm	#7	800	gpm
#2	1000	gpm	#8	--	gpm
#3	1000	gpm	#9	--	gpm
#4	1000	gpm	#10	--	gpm
#5	2000	gpm	#11	--	gpm
#6	1000	gpm	#12	--	gpm

Total Well Capacity 11.232 gpd.
Total Storage Capacity 1.7 M gal.
Iron Filter Capacity _____ gpd

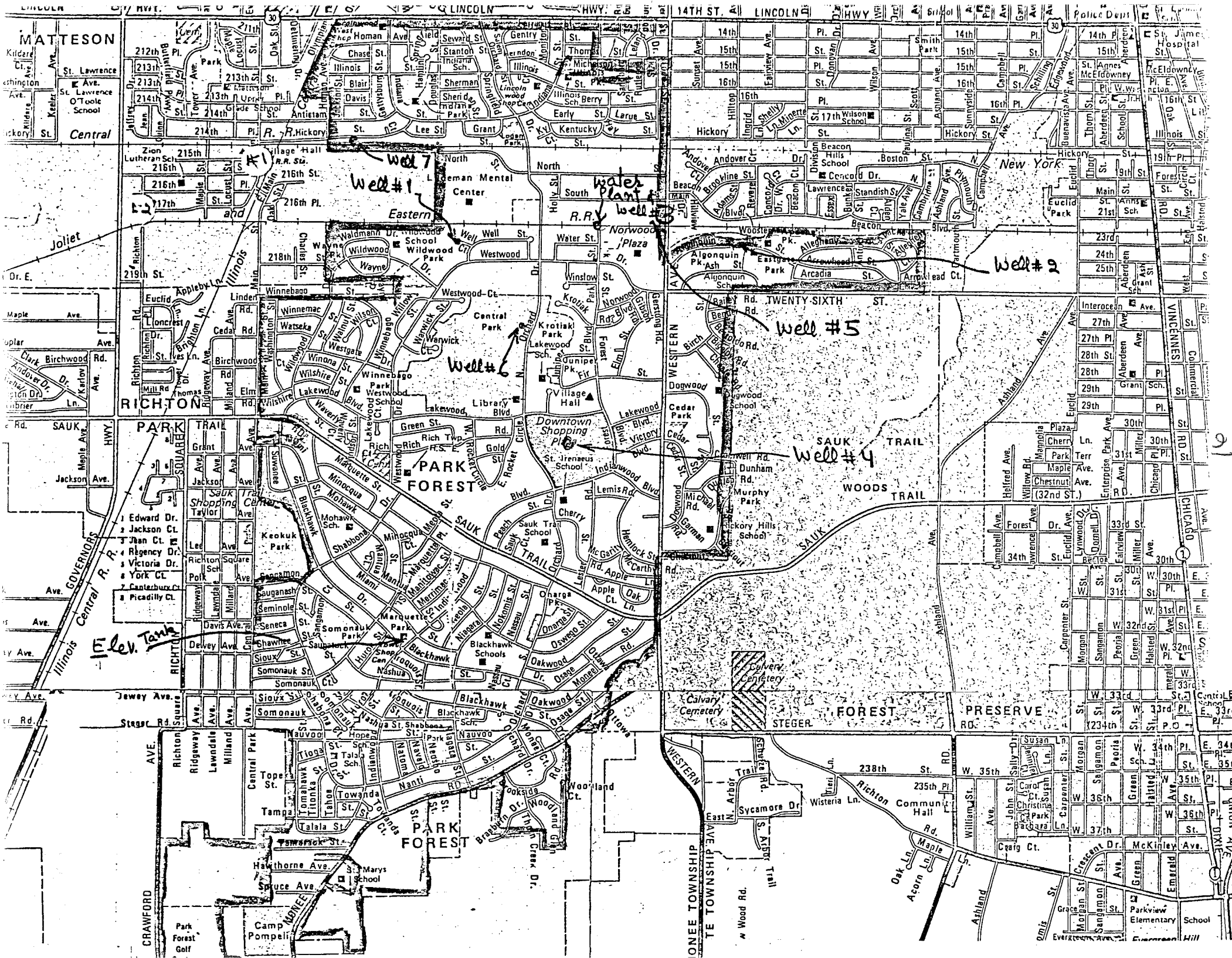
High Service Pump Capacity 12.4 gpd
Elevated Storage 0.5 M gal.
Pressure Storage -- gal.
Ground Storage 1.2 M gal.

Emergency Power: Natural gas engine for Wells #3 and #5, HSP #1 and #2, and for the plant.

Water system appeared to be generally satisfactory except:

a. Inadequate number of bacteriological samples submitted from distribution system.

b. Chlorine is not totally isolated at the water treatment plants.


Well 7
Well #1
Water Plant
Well #3
Well #2
Well #5
Well #6
Well #4
Elev. Tank
PARK FOREST
RICHTON PARK
MATTESON
Central Park
Norwood Plaza
Downtown Shopping Plaza
Village Hall
Library
Sauk Shopping Center
Keokuk Park
Somonauk Park
Blackhawk Schools
Calvary Cemetery
STEGER
FOREST PRESERVE
Richton Community Hall
Camp Pompeii
Park Forest Golf
Illinois Central R. R.
Joliet and Eastern R.R.
SAUK TRAIL
WESTERN AVE.
CHICAGO AVE.
VINCENNES RD.
GOVERNORS AVE.
CRAWFORD AVE.
MONEE TOWNSHIP
TWENTY-SIXTH ST.
14TH ST.
LINCOLN HWY.
Edward Dr.
Jackson Ct.
Jean Ct.
Regency Dr.
Victoria Dr.
York Ct.
Canterbury Ct.
Picadilly Ct.

SUMMARY OF MONITORING Park Forest PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Year 1981					1982				1983
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st
									Measurements as feet above sea level
Well or Intake # 1 Location 35 N 13E Sec 25.6 F 1850'S, 1450'E NW Elevations									
Gpm. 600									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	24" - 0 to 95'		16" - 0 to 116'			T.D 300'			
Specific Capacity									
Well or Intake # 2 Location 35 N 14E S30 1550'S 1275'E of NW Elevations									
Gpm. 1000									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	24" - 0 to 88'		16" - 0 to 97'			T.D 300'			
Specific Capacity									
Well or Intake # 3 Location 35, 13E, 25, 1600'S 1400'W of NE, Elevations									
Gpm. 1000									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	24" - 0 to 96'		18" - 0 to 117'			T.D. 350'			
Specific Capacity									
Well or Intake # 4 Location 35 N, 13 E S36 540'S 1675'E NW Elevations									
Gpm. 900									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	12" - 0 to 160'					T.D 345'			
Specific Capacity									
Well or Intake # 5 Location 35 N 13E S25 1300'S 91'W NE Elevations									
Gpm. 1560									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	24" - 0 to 90'		18" - 0 to 101'			T.D 345'			
Specific Capacity									

SUMMARY OF MONITORING Park Forest PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Year	1980	1981	1982						
Quarter									
Well or ~~Intake~~ # 6 Location 35N 13E 25Sec 1800'N 2700'W of SE Elevations							Measurements as feet ~~above sea level~~ below ground		
Gpm. 1000									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	20" - 0 to 102'		16" - 0 to 111'				T.D 361'		
Specific Capacity									
Well or Intake # 7 Location 35N 13E S23 155'N 720'W of SW Elevations									
Gpm. 1040									
Nonpumping Level 58'									
Pumping Level 183'									
Pump setting									
Casing seat & T.D.	26" - 0 to 96'		20" - 0 to 106'				T.D 402'		
Specific Capacity									
Well or Intake # Location Elevations									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location Elevations									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location Elevations									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									

FY 198 1 2 1 0 8 0

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES

FAC. NO. 099 0300 PUBLIC WATER SUPPLY DATA SHEET

County and Supply CRETE Will County

Date Inspected September 26, 1980 Plant phone

Operator Edwin Gawczyuski #1860 *C* Phone 672-7100 (Water Dept.)

Other officials (Title) Ron Christopher, Village President; Ron Bruner, Director of Public Works Phone 672-5431 (Village Hall)

Phone

Emergency Address Phone

Send mail to Village Hall, 524 Exchange Street, Crete, Illinois 60417

Interviewed Edwin Gawczyuski, Water Superintendent

Brief description of supply: Water obtained from three (3) drilled wells, chlorinated, fluoridated and pumped to the distribution system upon which two elevated tanks float.

Ronald Bremer DPW

No. of services: Direct 1454 - 100 % metered

Satellite - % metered

Adequacy of Supply

Annual Pumpage 164.3M Gal.
Av. Daily pumpage 450,000 Gal. Max. av. Daily Pumpage Gal.
Est. Population 5,090 Av. Daily per Capita Consumption 88 Gal.
Time Required to Produce Av. Daily Consumption Hrs.
Time Required to Produce Mx. Av. Daily Consumption Hrs.
Large Consumers None Av. Gal./Day

Emergency water and Power Sources: None

CRB:ted
PWS 59 7/79

INVENTORY	Wells & Pumps	Standby Power	Feeder Mains	Add Chlorine	Add Fluoride	Add Phosphate	Exchange	Removal	Flushing hydrants	Backflow preventor	Clear Wells	High Ser. Pumps	Standby Power	Mains - 1000s ft.	Interconnections	Elevated Tanks	Pressure Storage	Ground Storage	Booster Pumps	Standby Power	Distribution Valve	Hydrant Valves	Service Connection
Detail in "CSOM"																							
Number of Units	3			3	3											2							1454

Well Capacity:

#1	capped	gpm	#7		gpm
#2	capped	gpm	#8		gpm
#3	200	gpm	#9		gpm
#4	600	gpm	#10		gpm
#5	290	gpm	#11		gpm
#6		gpm	#12		gpm

Total Well Capacity 1.57 M gpd.
Total Storage Capacity * 650,000 gal.
Iron Filter Capacity _____ gpd
*Two elevated tanks 150,000 & 500,000 gal.

High Service Pump Capacity _____ gpd
Elevated Storage 650,000 gal.
Pressure Storage _____ gal.
Ground Storage _____ gal.

Emergency Power: Well #3 turbine pump can be belt driven by a tractor.

In the course of the evaluation, the following conditions which appear to constitute violations of the Environmental Protection Act or related public water supply rules and regulations or standards were noted:

User Complaints

1. Problems of hydrogen sulfide odor were reported to be occurring at the dead end areas of your system. We ask that you monitor the distribution system by checking chlorine residuals weekly and by keeping a record of customer complaints. Hydrants at dead end areas should be periodically opened at a moderate flow rate so that a good chlorine residual can be maintained by bringing in fresh water.

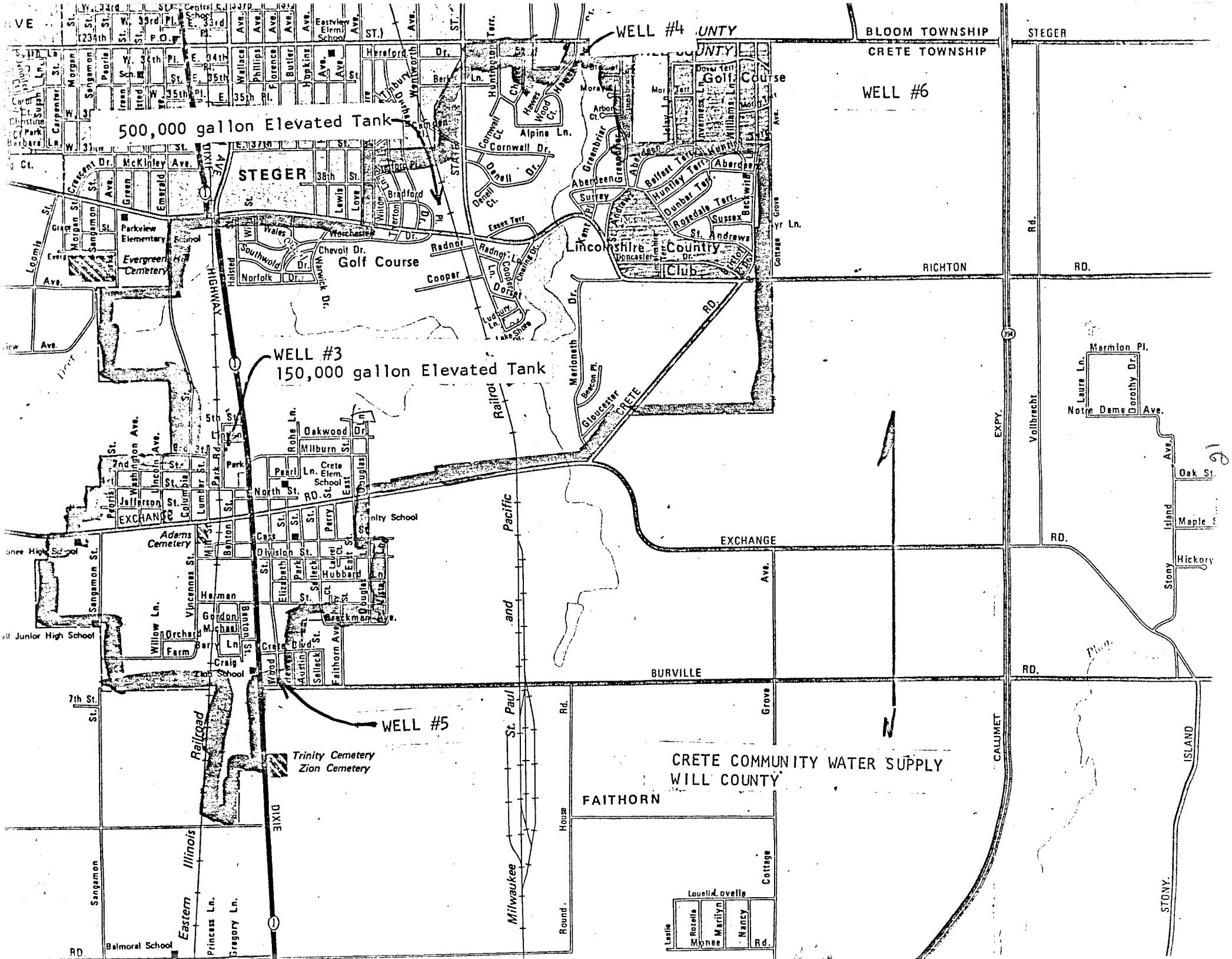
A well planned flushing program (performed at least twice a year) will also help eliminate the accumulation of mineral sediment in the system and reduce red water problems. You should also consider treating your water with polyphosphate to sequester the iron in the water. The iron concentration is approximately 1.0 mg/l.

MONITORING

2. Raw water samples are not regularly collected at Wells #3 and #4.
3. We have no recent mineral analysis data on file for Wells #4, #5 and the finished water.
4. With an increase in population to approximately 5,100 a minimun of 6 distribution samples should be collected.

RECOMMENDED IMPROVEMENTS

5. Summarize additional information (complaints,equipment failures,water levels) as part of your monthly operating reports. Also include the monthly hydrofluosilicic acid consumption for each well. Your records indicate that you seem to be feeding too little hydrofluosilicic acid into the system (see summary attached). On the other hand laboratory results of fluoride water samples indicate higher values compared to the computed values.
6. We understand Wells #1 and #2 will not be usedagain and plans are underway to abandon them. Information and instruction concerning the approved procedure may be obtained from the Department of Mines and Minerals, Mr. Raymond Hibner, Elwood, Illinois 60421, telephone 815-423-5336. Please inform us when the work is completed so we can correct our records accordingly.


WELL #4
BLOOM TOWNSHIP
CRETE TOWNSHIP
STEGER
WELL #6
Golf Course
500,000 gallon Elevated Tank
STEGER
Parkview Elementary School
Evergreen Cemetery
Chevoit Dr.
Golf Course
Lincolnshire Country Club
RICHTON
RD.
WELL #3
150,000 gallon Elevated Tank
Adams Cemetery
Crete Elem. School
EXCHANGE
BURVILLE
WELL #5
Trinity Cemetery
Zion Cemetery
CRETE COMMUNITY WATER SUPPLY
WILL COUNTY
FAITHORN
Balmoral School
Mermion Pl.
Notre Dame Ave.
Oak St.
Maple St.
Hickory
Stony
Island
Vollbrecht
EXPY.
CALUMET
ISLAND
STONY.
Illinois
Eastern
Railroad
Milwaukee
St. Paul
and
Pacific
Railroad
DIXIE
HIGHWAY
Halsted
Sangamon
Loomis
Morgan
Green
Emerald
McKinley
Crescent
Wallace
Phillips
Butler
Hopkins
Hereford
Bradford
Wilton
Lewis
Love
Wales
Worchester
Southwold
Norfolk
Warwick
Radnor
Cooper
Essex Terr
Cornwall
Cornwall Dr.
Denell
Alpine Ln.
Greenbrier
Aberdeen
Surrey
Belfast Terr.
Huntley Terr.
Dunbar Terr.
Rosedale Terr.
Sussex
St. Andrews
Beckwith
Williams
Huntington
Inverness
Dover Terr.
Morawa
Arbon Ct.
Merionetth
Beacon Pl.
Gloucester
Crete
Oakwood Dr.
Milburn
Rohe Ln.
Pearl Ln.
North St.
Park
Washington Ave.
Lincoln Ave.
Columbia
Lumber St.
Jefferson St.
Perry
Douglas
Division St.
Hubbard
Elizabeth
Selleck
Laurel Ct.
Beckman Ave.
Faithorn Ave.
Austin
Herman
Gordon
Michael
Benton
Vincennes St.
Willow Ln.
Orchard Farm
Craig
Crete Blvd.
Wood
Grove
Cottage
House
Round
Rd.
Lovell
Leslie
Rozella
Monee
Marilyn
Nancy
Laura Ln.
Dorothy Dr.
Lake Shore Dr.
Ludbury Ln.
Chaffee Dr.
Coolidge Ln.
Dorset
Tiburon
Dorchester
Wentworth
Terr.
Ct.
Ln.
Dr.
Ave.
St.
Pl.
Rd.
Sch.
P.O.
Park
Cemetery
Junior High School
Trinity School
Zion School
Balmoral School
Monee High School
Eastview Elem. School
Central School
Gregory Ln.
Princess Ln.
Gregory Ln.
Tree
Plat

SUMMARY OF MONITORING Crete PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Dolomite Dolomite

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990
Quarter	–	–	–	–	–	–	–	–	–
				Measurements as feet above sea level					
Well or Intake # 1 Location 730'N x 180'W Sec 8-34-14 Elevation +719'									
1903 Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.	10" csg. (150') set @ ± 569'					Total Depth +527			(192'
Specific Capacity									
Well or Intake # 2 Location 660'N x 180'W Sec 8-34-14 Elevation +719'									
1924 Gpm. 300									
Nonpumping Level +679									
Pumping Level +647									
Pump setting									
Casing seat & T.D.	12" csg (99') set @ +620 - 10" Liner					Total Depth +455			(264')
Specific Capacity 9.4									
Well or Intake # 3 Location				Elevation					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # 4 Location				Elevation					
1961 Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # 5 Location				Elevation					
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									

SUMMARY OF MONITORING Crete PUBLIC WATER SUPPLY

PUMPING CAPACITY AND WATER LEVELS ---- SOURCES

Dolomite

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990
Quarter									
Measurements as feet above sea level									
Well or Intake # 6 Location 200'N x 2600'W Sec 2-34-14 Elevation +722.									
1979 Gpm. 530									
Nonpumping Level +666									
Pumping Level +489									
Pump setting									
Casing seat & T.D. 12" csg. (123') set @ +600 Total depth +200 (526'									
Specific Capacity 3									
Well or Intake # Location Elevation									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location Elevation									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location Elevation									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									
Well or Intake # Location Elevation									
Gpm.									
Nonpumping Level									
Pumping Level									
Pump setting									
Casing seat & T.D.									
Specific Capacity									

FY 1981 3 1 0 8 0

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES

Fac. No. 016 294 0 PUBLIC WATER SUPPLY DATA SHEET

County and Supply SOUTH CHICAGO HEIGHTS Cook County

Date Inspected April 20, 1981 Plant phone

Certified Operator Alan Maross, #4020 *C* Phone

Other officials (Title) Village Phone 755-1880

D.Prisco, Village President Phone

Emergency Address Public Works Phone

Send mail to Village Hall, 2729 Jackson Avenue, South Chicago Heights, IL 60411

Interviewed Alan (Maynard) Maross, Supt. of Water.

Brief description of supply: Water obtained from three (3) drilled wells, chlorinated, fluoridated, polyphosphate added and discharged to the system upon which two (2) elevated tanks float.

No. of services: Direct 1230 - 100 % metered

Satellite --- - --- % metered

Adequacy of Supply

Annual Pumpage 196 M Gal. 1980
Av. Daily pumpage 0.54 M Gal. Max. av. Daily Pumpage Gal.
Est. Population 3,778 Av. Daily per Capita Consumption 142 Gal.
Time Required to Produce Av. Daily Consumption Hrs.
Time Required to Produce Mx. Av. Daily Consumption Hrs.
Large Consumers Some light industry Av. Gal./Day

Emergency water ~~and Power~~ Sources: Steger at three locations, all valves in vaults.

CRB:ted
PWS 59 7/79

INVENTORY	Wells & Pumps	Standby Power	Feeder Mains	Add Chlorine	Add Fluoride	Add Phosphate	Exchange	Removal	Flushing hydrants	Backflow preventor	Dead Wells	High Ser. Pumps	Standby Power	Mains - 1000s ft.	Interconnections	Elevated Tanks	Pressure Storage	Ground Storage	Booster Pumps	Standby Power	Distribution Valve	Hydrant Valves	Service Connection
Detail in "CSOM"																							
Number of Units	3	1	--	2	2	2	--	--	175		--	--	--	82.7	1	2	--	--	--	--	180	130+	1230

Well Capacity:

#1	225	gpm	#7		gpm
#2	640	gpm	#8		gpm
#3	460	gpm	#9		gpm
#4		gpm	#10		gpm
#5		gpm	#11		gpm
#6		gpm	#12		gpm

Total Well Capacity	1.91 M	gpd.	High Service Pump Capacity	--	gpd
Total Storage Capacity	0.4 M	gal.	Elevated Storage	0.4 M	gal.
Iron Filter Capacity	--	gpd	Pressure Storage	--	gal.
			Ground Storage	--	gal.

Emergency Power: Natural gas engine for Well #2

Water system appeared to be generally satisfactory except that chlorine is not isolated at Well #2.

RECOMMENDATION FOR IMPROVEMENT

1. Submit one raw water sample from Well #1 (standby well) each month.
2. Monitor fluoride levels and adjust fluoride feed to obtain concentration between 0.9 to 1.2 mg/l.

IL-0244-07

R5-8303-1F

REFERENCE 3
SITE NAME Lobue #2
SITE ID ILD980902050

ANALYSIS OF INTERNAL WATER SYSTEM IN THE CITY OF CHICAGO HEIGHTS

81-110

Prepared by:

ROBINSON ENGINEERING COMPANY, LTD.
357 East 170th Street
South Holland, Illinois 60473

Population - Water Use

Chicago Heights has grown in the past 30 years from a population of 22,461 in 1940 to 41,675 in 1979, an 86 percent increase. Vacant property has been continually developed into higher or more intensive uses. A summary of historic population statistics is shown in Table 1.

TABLE 1

CHICAGO HEIGHTS POPULATION

YEAR	POPULATION	YEAR	POPULATION
1940	22,461	1967	39,200
1950	24,551	1968	39,100
1956	29,000	1969	40,000
1957	30,000	1970	40,900
1958	31,500	1971	40,900
1959	32,300	1972	40,900
1960	34,300	1973	40,902
1961	35,200	1974	40,970
1962	35,800	1975	41,038
1963	37,000	1976	41,253
1964	37,500	1977	41,468
1965	38,000	1978	41,683
1966	38,500	1979	41,675

Historic Water use for the City of Chicago Heights is shown in Table 2.

TABLE 2

HISTORIC ANNUAL AVERAGE DAY WATER USE - MGD

YEAR	PUMPAGE(MGD)	YEAR	PUMPAGE(MGD)
1940	4.20	1967	6.01
1950	NA	1968	5.90
1956	4.33	1969	5.84
1957	4.23	1970	5.73
1958	4.53	1971	5.91
1959	5.43	1972	6.10
1960	6.06	1973	6.57
1961	5.51	1974	6.50
1962	6.01	1975	7.05
1963	6.87	1976	7.07
1964	7.37	1977	7.10
1965	6.60	1978	6.90
1966	5.97	1979	6.76

PRESENT WATER SYSTEM

The Chicago Heights water distribution system consists of watermain sizes ranging from 6" in diameter to 24" in diameter. The older watermains were constructed of cast iron with leaded joints. The newer mains are presently constructed of ductile iron and are provided with rubber gasket type push-on joints.

The City presently receives its water supply from 15 wells ranging in depth from 200 feet below ground to 1897 feet below ground. The well numbers associated with the operational wells range from 15 thru 33. Wells 1 thru 14 are no longer in use. A summary of capacity, depth, type of treatment and location of each operational well is shown in Table 4. The location of each operating well is shown in Exhibit I.

TABLE 4
EXISTING WELLS

WELL #15

Capacity - 1275 GPM
Depth - 428 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - 137 East 14th Street

WELL #16

Capacity - 1300 GPM
Depth - 428 feet
Type of treatment - Chlorine, Tri-Lux
Location - 137 East 14th Street

WELL #18

Capacity - 1150 GPM
Depth - 250 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - 10th Street and Shilling, East of Ashland Avenue.

WELL #21

Capacity - 1000 GPM
Depth - 203 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - 10th Street and Shilling on 10th Street

WELL #22

Capacity - 1400 GPM
Depth - 1800 feet
Type of treatment - chlorine, Tri-Lux, Acid
Northeast corner Sixteen Street and Division

Ironton/Gainesville

WELL #23

Capacity - 1000 GPM
Depth - 260 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - 13th Street and Wilson Avenue - on Wilson

WELL #24

Capacity - 500 GPM
Depth - 451 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - 22nd and State - on State Street

Note: Wells 1 thru 14 are no longer in use

WELL #25

Capacity - 1500 GPM
Depth - 450 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - Northeast corner - 17th and Division

WELL #26

Capacity - 1400 GPM
Depth - 439 feet
Raw water quality analysis - see Table 1-8
Type of treatment - Chlorine, Tri-Lux, Acid
East of Park District Office, on Main Street

WELL #27

Capacity - 500 GPM
Depth - 425 feet
Type of Treatment - Chlorine, Tri-Lux
Location - 14th Street East of Edgewood at creek

WELL #28

Capacity - 500 GPM
Depth - 200 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - Northwest corner, Boston and Ashland

WELL #29

Capacity - 1500 GPM
Depth - 436 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - EJ&E RR and Southwest corner Euclid Park

WELL #30

Capacity - 900 GPM
Depth - 406 feet
Type of treatment - Chlorine, Tri-Lux
Location - Crescent, East of Ashland

WELL #32

Capacity - 800 GPM
Depth - 1897 feet
Type of Treatment - Chlorine, Tri-Lux
Location - Commissioner's Park, Chicago Road and Vollmer Road

Ironton/Gurnsville

WELL #33

Capacity - 98 GPM
Depth - 450 feet
Type of treatment - Chlorine, Tri-Lux, Acid
Location - Beacon Hill Park, Western Avenue and Michigan Central RR

The City presently has four ground storage reservoirs. Capacity and location of each reservoir is shown in Table 5.

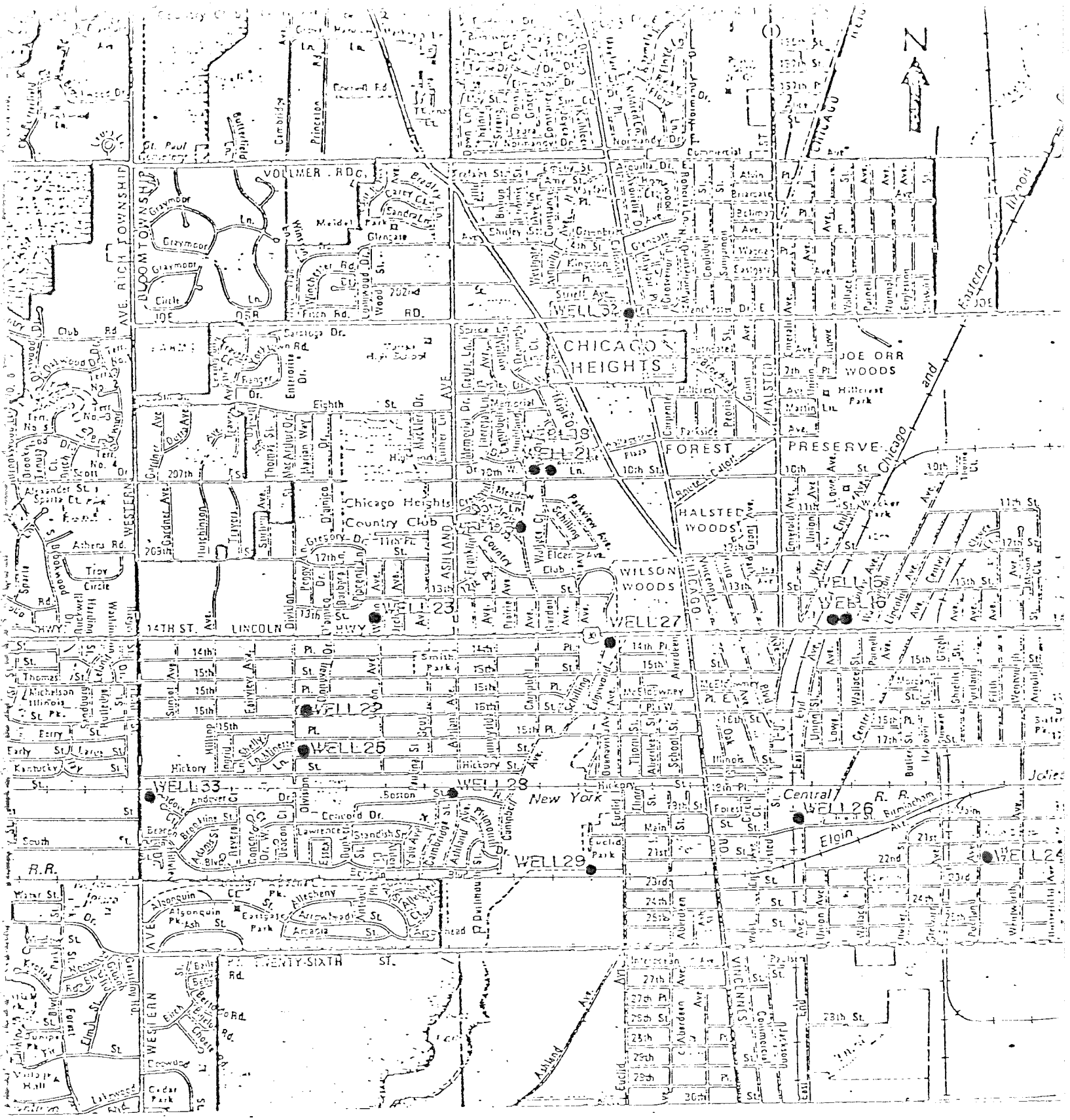
TABLE 5
GROUND STORAGE RESERVOIRS

Capacity	Location
2,000,000 gallons	137 E. 14th St.
180,000 gallons	137 E. 14th St.
2,000,000 gallons	14th & State
2,000,000 gallons	17th & Division

The total ground storage capacity is presently 6,180,000 gallons.

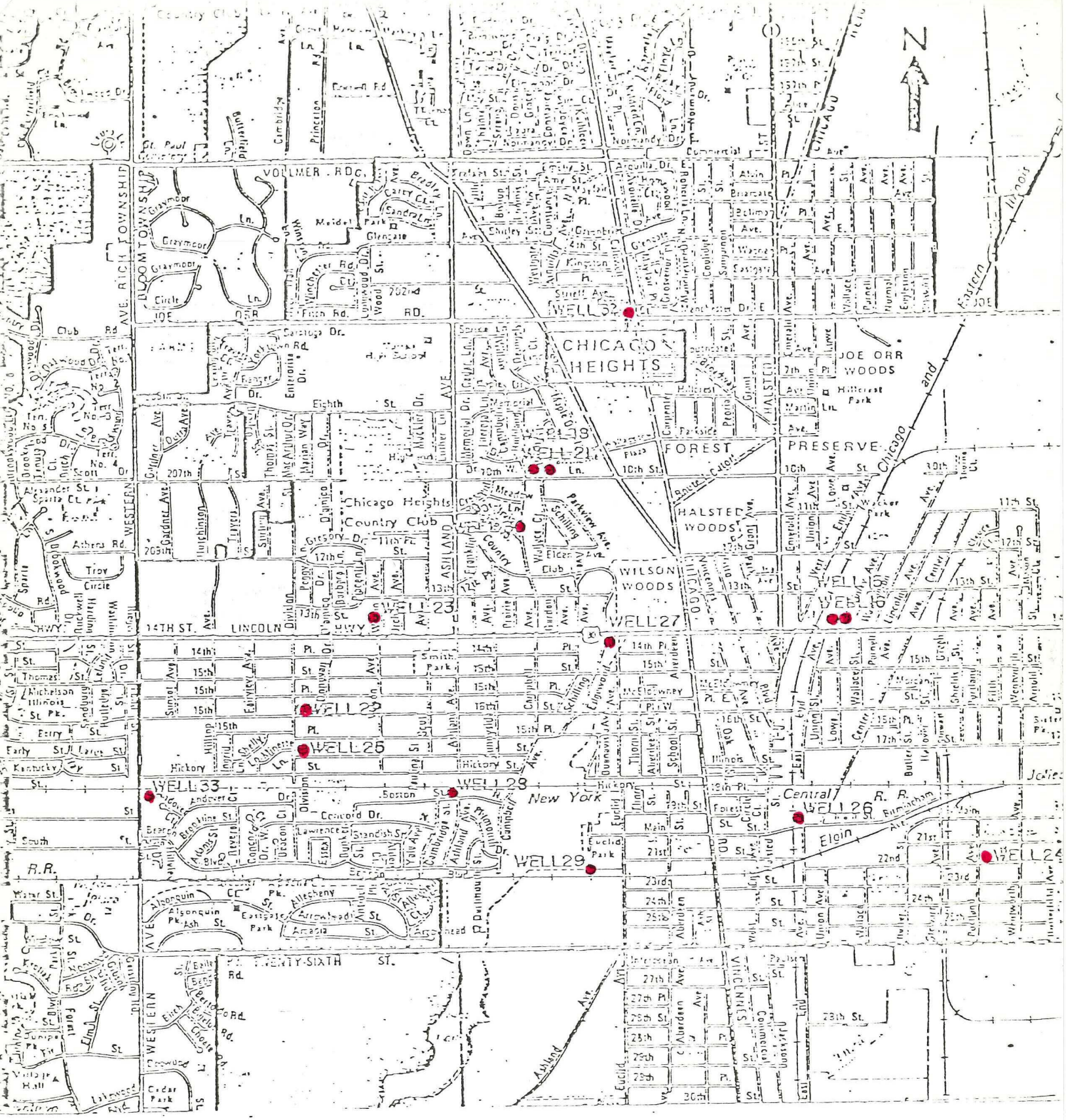
Located at each of the above mentioned sites is an associated pumping station. Water is pumped via wells to the ground storage reservoirs. As demand for water increases during periods of the day, water is drawn from the storage reservoirs to the pumping stations and into the system as needed. A schematic drawing of each pumping station/reservoir(s) combination is shown in Exhibits 2, 3 & 4. The 137 E. 14th St. pumping station is presently the Main Control Station. Also located at this pumping station are various shops, garages and offices.

A 1,000,000 gallon elevated tank is located adjacent to the pump station and ground reservoir at 14th St. & State St. This tank "floats" on the water system, receiving water when the demand (use) is low and discharging water when the demand is high. This is the only municipal elevated tank located in the water system.



WELL LOCATIONS

EXHIBIT 1



WELL LOCATIONS

EXHIBIT 1

IL-0244-1

WALTER H. FLOOD & CO., INC. Investigation No. 7205-0068

APPLICATION FOR PERMIT TO DEVELOP AND OPERATE A SOLID WASTE MANAGEMENT SITE

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APPLICATION FOR PERMIT
TO DEVELOP AND OPERATE
A SOLID WASTE MANAGEMENT SITE

In Accordance With The Environmental Protection Act

All information submitted as part of the Application is available to the public except when specifically designated by the Applicant to be treated confidentially as regarding a trade secret or secret process in accordance with Section 7(a) of the Environmental Protection Act.

APPLICATION MUST BE SUBMITTED IN DUPLICATE

DO NOT WRITE IN THIS SPACE - FOR E.P.A. USE ONLY.

_____ County - Land Pollution Control

_____ / _____

Application Received: _____ Permit Number _____

Reviewed by: Geol. ( ) Engr. ( ) Op. ( ) L.P.C. Region _____

Date: _____ Plan File Ref: _____

Letter Attached: _____ Permit: Granted _____ Denied _____

Notice To: _____ Date: _____

_____ Type of Solid Wastes Site:

_____ ( ) Sanitary Landfill
( ) Incinerator
( ) Composting
( ) Other _____

PART I - APPLICANT INFORMATION

A. SITE IDENTIFICATION

1. Name of Applicant LoBue Excavating Company
(Person responsible for operation)

2. Address of Applicant 344 East 16th Street
(Street, P. O. Box, or R. R. #)

Chicago Heights, Illinois 60411
City State Zip Code

Telephone: 757-6666
(Area Code) (Number)

3. Name of Land Owner FIRST NATIONAL BANK IN CHICAGO HEIGHTS AS TRUSTEE U/T/A 162
(If same as above, so indicate)

4. Address of Land Owner 1648 HALSTED
(Street, P. O. Box, or R. R. #)

Chicago Heights ILLINOIS 60411
City State Zip Code

5. Name of Site _____

6. Address of Site Sauk Trail, CMSP & PRR
(Street, P. O. Box, or R. R. #)

South Chicago Heights, Illinois 60411
City State Zip Code

Cook County Bloom Township

7. Land ownership (Check Applicable Boxes)

(x) Presently Owned by Applicant ( ) To Be Leased by Applicant For ____ Years
( ) To Be Purchased by Applicant ( ) ____ Years of Lease Remaining: termination date of lease _____

Operated by: Ill. Corporation (x) Parternership ( ) Government ( )
Individual ( ) Other ( )

B. SITE BACKGROUND (Check Applicable Box or Boxes)

8. (x) This is an existing operation begun April (mo.) 1952 (yr.).
( ) This is a proposed operation.
( ) This is a proposed extension of an existing adjacent operation:
Illinois E.P.A. Permit No. _____: No Illinois E.P.A. Permit ( ).

PART II - LOCATION INFORMATION

A. ZONING AND LOCAL REQUIREMENTS

9. Present zoning classification of site industrial.

10. Does present zoning of site allow the proposed usage? (x)Yes ( )No.

11. Restrictions (if any) None

12. Check applicable boxes which describe the use of adjacent properties surrounding site.

	Residential	Commercial	Industrial	Agricultural	Others*
a. North	( )	( )	(x)	( )	( )
b. East	( )	( )	(x)	( )	( )
c. South	( )	( )	(x)	( )	( )
d. West	( )	( )	( )	(x)	( )

*SPECIFY USE CLASSIFICATION _____

13. a. Are there any permits, operational requirements, licenses, or other requirements or restrictions by any municipality, planning commission, county, county health department, state agency, or other governing body? ( ) Yes (x) No If yes, list below. _____

_____

_____

b. Have these requirements, licenses or restrictions been approved by the agency or governing body having jurisdiction? ( )Yes ( )No

c. If the answer to (b) is yes, include photocopies of supporting documents.

B. LOCATION

14. Attach a copy of the United States Geologic Survey (U.S.G.S.) topographic quadrangle map of the area which contains the site. (7.5 minute quadrangle, if published).

Quadrangle Map Provided: Dyer, Ill-Ind., 1953 (Name) Steger, Ill., 1953 (Date)

15. a. Outline on the U.S.G.S. topographic quadrangle map the location and extent of the site.

b. Provide a legal description of the site. (Typewritten on attached sheet.)

about 25 acres in _____ Quarter, NE Quarter, _____ Quarter

of Section 33, Township 35N, Range 14 E of 3rd P.M.

c. Provide State Plane coordinates of the southwest corner of the site, using the State Plane Coordinate System:

_____ feet east, _____ feet north or origin, (x) east zone ( ) west zone

16. General characteristic: (Flood Plain, Hillside, Field, Strip Mine, Quarry, Gully, Gravel Pit, Swamp, etc.)
Briefly describe: Formerly a clay mine; in process of being filled for about 20 years

17. Plot the following information on the U.S.G.S. quadrangle topographic map, if within the site or adjacent to the outer perimeter of facility:

a. Wells (domestic, industrial, etc.)
b. Public water sources (wells, stream, etc.)
c. Residences or residential areas, commercial facilities, sewage treatment facilities, industries, institutions, etc.
d. Other pertinent facilities not shown on topographic map such as diverted streams, strip mines, ponds, etc.

If scale of quadrangle map is not sufficient, show the above items on a separate topographic map (See Part IV - A - 23).

PART III - SITE CHARACTERISTICS

A. GEOLOGY - HYDROLOGY

NOTE: The instructions for this Part of the Application should be read carefully prior to initiating the data-gathering program for the site.

Provide subsurface information in comprehensive detail, sufficient to allow for thorough evaluation of the hydrologic and geologic conditions beneath and surrounding the site. This data must fully describe the hydrogeologic interrelationships of the landfill facility, local ground waters, and surface waters. All information requested in sections 18 through 22 should be integrated and presented as a detailed hydrogeologic report.

B. GEOLOGY

GENERAL GEOLOGIC SETTING

18. Provide a brief description of the general geography of the region in which the site is located, and a summary of the hydrogeologic conditions typical of that portion of Illinois.

TYPE AND EXTENT OF SUBSURFACE MATERIALS

19. Provide a complete log (description) of each boring made during the exploratory program, and include all other pertinent data so obtained.

20. Include the following information regarding the bedrock, if encountered during the boring program:

    a. Depth(s) to bedrock.
    b. Lithology (physical character) and hydrologic characteristics of the bedrock formation.
    c. Name and age of the formations encountered during the boring operation and (or) which crop out on or adjacent to the site.

C. MATERIALS CLASSIFICATION AND ANALYSIS

21. Provide the following information for samples taken during the boring operation:

    a. textural classification (U.S.D.A. system)
    b. particle size distribution curves for representative samples
    c. coefficient of permeability - based on field and (or) laboratory determinations
    d. ion-exchange capacity and ability to adsorb and "fix" heavy metal ions

D. HYDROLOGY

22. Provide the following information regarding the hydrologic flow system in the area of the site:

    a. Depth to water in boreholes at time of boring completion and periodic measurements until the water level has stabilized.

b. Rate(s) and direction(s) of ground-water movement.
c. A narrative description (with diagrams) of the design and installation procedures for all piezometers installed at the site. This shall include both water-level measuring piezometers and those installed for permanent use as water-quality monitoring points.
d. An analysis of the background ground-water quality, as per those constituents listed in the Instructions. Attach a copy of the laboratory report.
e. An outline of the procedures, devices, and personnel to be employed for the collection of periodic ground-water samples from the monitoring point(s) installed at the site.

PART IV - CONSTRUCTION PLANS AND SPECIFICATIONS

A. SITE DEVELOPMENT PLAN

23. Provide a detailed topographic map of the existing site (Scale 1" = 200' or larger) showing 5-foot contour intervals on sites (or portions thereof) where the relief exceeds 20 feet, and 2-foot contour intervals on sites (or portions thereof) having less than 20 feet of relief. This map should show all buildings, ponds, streams, wooded areas, bedrock outcrops, underground and overhead utilities, roads, fences, culverts, drainage ditches, drain tiles, easements, streets, any other item of significance, including legal boundaries.

    Show the location and elevation of borings as described in Part III - 19, 20.

24. Provide a separate map, at the same scale as that above, of the developed site showing the following:

    a. All changes in topography dictated by design and operational factors.
    b. All surface features (as specified in IV - A - 23) both unaltered and modified, and installed as part of the facility. This shall include all new construction with location plans for berms, dikes, dams, earth barriers, surface drainage ditches, drainage devices (culverts, tiles), fencing, access roads, entrance(s), utilities, buildings, sanitary facilities, monitoring well(s), streams, ponds, mines, and any other special construction as may be required to comply with the provisions of the Rules and Regulations.

25. Provide a topographic map of the closed and covered site showing final contours, with an interval of 5 feet if relief is greater than 20 feet, and intervals of 2 feet if relief is less than 20 feet.

26. Provide cross sections or profiles (Scale 1" = 200' or larger) of the developed site to clearly indicate: (Minimum of three cross sections recommended)

    a. Proposed fill areas
    b. Sequence of placement and total compacted thickness of each lift
    c. Thickness of cover material for each lift
    d. Slope and width of working face for each lift
    e. Slope of completed fill with final cover in place
    f. Subsurface strata to a minimum depth of thirty feet below the base of the fill material
    g. Earth barriers, berms, dikes and other barriers, including essential dimensions of each

27. Provide plan views (Scale 1" = 200') and cross sections of the leachate collection and treatment system, if utilized, including the following information:

a. Type, location and construction of subsurface collection system, and all attendent devices.
b. Location, size, depth, volume, and surface elevation of treatment lagoon(s), if used.
c. Detailed written narrative of the method and processes of the treatment system, and program for monitoring the performance and effectiveness of the treatment system.
d. Discharge point(s) of effluent.

B. SCHEDULE OF CONSTRUCTION

28. Attach a typewritten narrative supplemented by indications on the plans of the sequence of areas to be filled. Estimate the date of beginning and ending of each phase of construction and operation.

C. CONSTRUCTION REQUIREMENTS

29. Attach a typewritten narrative supplemented by indications on the plans of provisions to be made for:

a. Prevention of surface-water pollution.

b. Control of gas migration.

c. Elimination of flood hazard, if any.

d. Employee facilities.

e. Access to the site.

f. Measuring quantity of solid waste delivered to the site.

PART V - OPERATING PLAN

A. SOURCE AND VOLUME

30. Indicate the estimated volume of each of the following sources and types of solid waste the facility will handle during each day of operation; each week of operation; each year of operation. Specify any additional information regarding refuse source and volume.

SOURCE	TYPE	DAILY VOL.	WEEKLY VOL.	ANNUAL VOL.
a. Residential				
b. Commercial				
c. Industrial	foundry sand, slag, cinders	60 c.y.	300 cu.yds.	15,600c.y.
d. Agricultural				
e. Other (Describe)	soil, clay	10 c.y.	50 c.y.	2,600 c.y.

31. At the above projected rate of use, what is the expected useful life of the facility? 30 years

32. Will water treatment or wastewater treatment sludge be accepted at the facility ( )Yes (X)No. If the answer is yes, all pertinent information requested in Part VI of the Application form must be provided.

33. If "hazardous wastes" (other than waste water sludges) will be accepted at the facility, list these wastes, provide a complete chemical analysis of each, and attach a detailed description of the special procedures to be used for their disposal at the facility.

B. DESCRIPTION OF OPERATING PROCEDURES

34. Attach a typewritten plan of operation to accompany this application. This plan should include the following subjects:

a. Method of landfilling (trenching, area fill)
b. Time schedule for filling and daily covering

C. OPERATING REQUIREMENTS

35. Attach a typewritten description of provisions for:

a. Personnel for supervision and operation
b. Traffic control
c. Designation of unloading area
d. Cell size and construction
e. Provisions for blowing litter control
f. Rodent control
g. Fly control
h. Bird control
i. Dust control
j. Odor control
k. Management of surface water
l. Erosion control
m. Final cover and final slopes
n. Monitoring program for gas
o. Reuse and recycling operations
p. Monitoring program for groundwater (See Part III - D - 22)

36. Provide a list of equipment to be used for the landfill operation:

ITEM(S)	MODEL NUMBER	NO. OF UNITS IN OPERATION	DESCRIPTION
	D-7	1	Dozer

PART VI - ON - SITE SLUDGE DISPOSAL

The information requested in this Part of the Application form must be provided only if water treatment or wastewater treatment sludge is proposed to be accepted for disposal at the site.

37. Indicate the type of sludge to be accepted at the facility for ultimate disposal: none

( ) Water treatment
( ) Wastewater treatment
  ( ) municipal ( ) filter cake ( ) raw
  ( ) industrial ( ) sludge cake ( ) digested
  ( ) combined ( ) heat-dried

38. Provide a brief narrative of the wastewater or water treatment processes and operations utilized at the treatment facility generating the sludge in question.

39. Provide a brief narrative of the sludge de-watering and (or) sludge drying operations utilized at the treatment plant. What is the expected solids content (by weight) of the processed sludge? none

40. If industrial or combined wastewater sludges are proposed to be deposited at the site, provide a comprehensive chemical analysis of same. Attach a copy of the laboratory report as part of the Application. Provide a brief description of the manufacturing process(es) which results in the generation of the industrial wastewater including all chemical reagents used during such processing.

41. Provide a reasonable estimate of the projected volume of processed sludge to be deposited at the site on a unit time basis. Specify any additional information regarding sludge generation.

	SOURCE	WEEKLY VOLUME	MONTHLY VOLUME	ANNUAL VOLUME	OTHER INTERVAL	INTERVAL
A.	Municipal	none				
B.	Industrial	none				
C.	Combined	none				

42. Provide a brief statement describing the method of sludge conveyance to the refuse disposal site from the treatment facility. This shall include an attached typewritten list of equipment and personnel to be used for sludge handling and transport.

43. Outline in a concise statement the operational procedures to be used on-site to properly and expeditiously dispose of the sludge at the operational portion of the facility. Describe the provisions to be made available for an odor control program if nuisance conditions arise from the disposal of raw or partially digested sludges.

44. Attach a typewritten description supplemented by indications on the plans of provisions for final grading and, if applicable, revegetation of the completed landfill areas. State what arrangements will be made for the repair of eroded, cracked and uneven areas, and any other maintenance of the site until its pollution potential is adjudged exhausted.

45. By signature affixed to this Application for Permit the Applicant affirms his intent to record description and plan of the completed site with the county official responsible for maintaining titles and records of the land, in accordance with the Rules and Regulations of this Agency, if granted a Development and/or Operating Permit.

I hereby affirm that all information contained in this Application is true and accurate to the best of my knowledge and belief.

Signature of Applicant: LOBUE EXCAVATING COMPANY Dec 12, 1974
Date

~~Attest~~ By: Charles G. LoBue V.P. _____
Date

Walter H. Flood & Company, Inc

Signature of Engineer: Raymond J. Flood June 14 1973
Registered Professional Engineer Date
Illinois 21775

Illinois Reg. No.: _____

Attest: _____ _____
Date

(Seal)

Signature of other person, technical and non-technical, who has supplied data contained in the submittal.

_____ _____
Signature Date

_____
Reg. No., Position, Title, Etc.

(Seal)

_____ _____
Signature Date

_____
Reg. No., Position, Title, etc.

(Seal)

SUPPLEMENTAL TEXT TO APPLICATION FOR PERMIT

Part III - Site Characteristics

A. Geology-Hydrology: Field Investigation

Four test borings were taken on the site (for logs see Appendix). The locations of these borings are plotted on the enclosed diagram of the topographic survey (Appendix sheet 27). One test boring was cored 5 feet into bedrock to verify the lithology of the bedrock and the other borings were stopped at "refusal," thought to be the bedrock surface. The field investigation was made on April 25, May 22, May 23, and May 24, 1972. A truck-mounted drill rig was used. Split tube samples were taken from each borehole and the standard penetration (number of blows of a 140-inch hammer dropping 30 inches to drive the 2-inch outside diameter split-tube one foot) was taken and recorded on the boring log. Ground water levels were recorded during drilling and after drilling was completed. After completion of the drilling a 2-inch pvc well point was installed in each borehole. The data on the well installation is included in the appendix, Page 37. Each well point is also shown symbolically on the soil profiles (Appendix sheets 29-30). The procedures used in the installation of the well points are also included in the appendix. Periodic ground water levels were taken in the wells and samples taken from the test wells on February 22 and 23, 1973, and the samples submitted to a laboratory for testing. The results of the tests of the water from the wells are also included in the appendix of this report, Pages 41-44.

A topographic survey was made of the site, and is included herein. A research of available geological and hydrological data from the company files was made. References used in the study include:

U.S. Geological Survey, Hydrologic Atlases HA209, 301.
Geology of the Chicago Region, Illinois State Geological Survey, Bulletin 65
Pleistocene Stratigraphy of Illinois, Illinois State Geological Survey, Bulletin 94
Characteristics of Soils Associated with Glacial Tills in Northeastern Illinois, Agriculatural Experiment Station, University of Illinois, Bulletin 665
Summary of the Geology of the Chicago Area, Illinois State Geological Survey, Circular 460
Mineralogy of Glacial Tills and their Weathering Profiles in Illinois, Illinois State Geological Survey, Circular 347, 1963.
Public Water Supplies of Illinois, Illinois State Water Survey, Bulletin 40 and supplements
Water Well Logs, Illinois State Geological Survey, Urbana, Illinois.

B. Geology (See Surficial Geology, Appendix page 28)

The project site is located mostly on the terminal moraine of the Tinley Glacier. It is likely that Lake Steger, a postglacial lake, had its easterly shoreline along the project site. The Tinley glacial tills were deposited over the previously deposited Valparaiso and older glacial tills and drifts. Reference is made to two soil profiles (Appendix pages 29-30) which have been prepared from the test boring data. These test borings reveal the following identifiable geological soil and rock strata.

Tinley glacial tills. A highly impervious, generally desiccated, very tough to hard consistency clay till occuring in two borings. This clay was likely partially removed

III - Site Characteristics (continued)

Geology (continued)

or excavation. Thickness was likely variable, exceeding 30 feet in the higher ons of the site.

lity Formation Carmi Member. A small portion of the site was likely inun- by the waters of the postglacial Lake Chicago. Clay sediments deposited gh the relatively quiet lake waters were encountered in one boring. These are tough in consistency, plastic, and highly impermeable.

raiso clay tills. These clay tills were encountered in all borings and are a ompressed, hard consistency, highly impervious clay with small amounts of l. Thickness ranges from about 10 to 20 feet.

ont drift. Immediately above the bedrock a silt loam-gravel-boulder drift was ntered. This drift is a highly preconsolidated noncohesive drift ranging from to over 10 feet thick.

ran Dolomite. Test boring 2 was cored 5 feet with 100% core recovery. A y-bedded argillaceous dolomite was encountered. Occasional jointing was rved. The bedrock is the Silurian age Niagran dolomite.

glacial stratas. Intermittently between the till sheets, sand and silt stratas e encountered. These sheets of inter-till soils range from a few to 10 feet thick.

General Geography-Hydrogeology

project site originally apparently sloped rapidly from east to west with an vation difference of about 45 feet (from 685 to about 730). Along the west perty line is a creek (drainage ditch), a tributary to Deer Creek, draining thward and then eventually into the Little Calumet River several miles north- terly. Most of the surface water of the site drains into this ditch. No shallow ifer was encountered until the sand, Lemont drift (basal aquifers) were encountered ove the bedrock. The potable water source of the area is generally the Niagran dolomite.

Subsurface Exploration

e logs of four test borings are included in the appendix of this report (Pages 19-22). ese borings were taken at locations indicated on the site topography map.

Bedrock

drock was cored in boring 2, being encountered at a depth of 31.5 feet, elevation 4. At the other boring locations "refusal" was encountered at depths of about to 62 feet, or at elevations 658.3, 660.9, and 650.1. Although, not cored at se other locations it is believed that the refusal depth likely indicates the bedrock face. The cored bedrock was thinly bedded in layers of about 2 to 8 inches, and argillaceous with numerous pin-sized solution cavities. The Niagran dolomite is Silurian in age. We have prepared a configuration of the surface of the Niagran dolomite in the general site area by plotting the data from well logs furnished by

Part III - Site Characteristics (continued)

20. Bedrock (continued)

the State Geological Survey (Appendix Page 32). Thickness of the Silurian Niagran dolomite is expected to be in excess of several hundred feet and appears as 383 feet thick in the log of the Chicago Heights Illinois Municipal Well.

The Niagran dolomite is the aquifer for potable water for small wells of the area. The water is generally stored in a complex network of interconnected openings. The rock is generally jointed and fractured. No analysis was made of well yields in the area.

The Lemont boulder drift and its overlying sand layer are estimated to be basal drift aquifers. Piezometric water levels in these drift aquifers are common to the underlying bedrock aquifer. The use of the drift aquifers is likely very limited and no known wells in the area terminate in this aquifer.

21. Soil Classification

Representative samples from the test borings were tested in the laboratory. Textural classification was made by the U.S. Department of Agricultural System, and grainsize (Appendix, Pages 33-36).

The Tinley tills are clays, and the Valparaiso tills also are silty clay loams. Permeability tests (remolded) were conducted on representative samples of these soils and the coefficients of permeability ranged from 2×10^{-7} cm/sec to 5×10^{-7} cm/sec.

These clay fills were not tested for cation exchange capacity but reference materials indicate a high exchange capacity and ability to absorb heavy metal ions.

22. Hydrology

Ground water readings were taken in all of the boreholes and the readings recorded on the test boring logs. Two-inch ID PVC well points were installed in each of the test holes and readings taken and recorded. The summary of the observation well data is enclosed in the appendix, Page 37.

The direction of ground water flow in the Niagran basal aquifer across the site is southerly and the enclosed contour drawing, Appendix, Page 27, of the potentiometric water levels in the area as obtained from the on-site data and from the furnished well logs indicates this. No upper aquifer was encountered in the test borings, but it is assumed that ground water is present in the clays above the present creek level of about 585, and there is a gradient towards the creek.

Installation procedures for the piezometers is enclosed in the appendix, Pages 39-40.

Laboratory reports of ground water tests for wells 1, 2, 3 are enclosed (Appendix, Pages 41-44). The rate of flow into well 4 was extremely slow and well 4 was not sampled. The results of these tests indicate relatively uncontaminated ground water.

Ground water sampling from a selected individual well is planned quarterly. Sampling will be done from the well by bailing, by qualified personnel from a testing laboratory. Results of the tests will be forwarded.

Part IV - Construction Plans and Specifications

23. Existing Topographical Map (see Appendix, Page 27)
The site has been in the process of being filled for about 20 years and formerly was a borrow for clay for brick manufacture.

24. The proposed operation is to complete the filling from present grades.

25. Proposed Grade Plan (see Appendix, Page 45)
It is planned to complete the filling to the final grades as indicated. The proposed final grades will return the site to near the same topography as prior to excavation.

26. Fill Cross-section (see Appendix, Page 46)
The fill is to be placed in lifts of a few feet and compacted with the tractor. Cover material will be placed as required daily. An area fill method is planned.

27. Leachate Collection System
Due to the nature of the proposed and existing fill little leachate generation is expected. No plans for leachate collection are included. A sample of water was collected from the creek and tested (see Appendix, Page 44). Monitoring of the creek and wells will be conducted on a regular basis. Should leachate be detected seeping from the creek slope an interceptor till can be constructed at the toe of the slope, and treatment provided or the leachate pumpted to an available sanitary sewer.

28. Schedule of Construction
Plans are to recommence filling of the site upon receipt of the permit. Only a small amount of solid waste is expected to be placed in the site. At the projected rate about 30 years will be required to till the site daily.

29. Construction Requirements
(a) Surface water pollution will be prevented by temporarily providing storage of surface water. Should contamination be detected treatment will be provided.

(b) Due to absence of petrucible materials in the fills little gas generation has been noted and little or no gas generation is expected from future fill. If gas generation is detected vent wells will be provided.

(c) Hydrologic Atlases HA209 and 301 indicate flooding as being confined to the limits of the creek banks. No change in flood plain is planned.

(d) Due to the planned intermittent operation of the site (5 to 10 trucks daily), no employee facilities are planned.

(e) Access to the site is through an existing gate as noted on the existing contour drawing, Appendix Page 28.

(f) Measuring of the quantity of solid waste delivered to the site will be by truck measurement.

Part IV - Construction Plans and Specifications (continued)

34. Operating Procedures

The area method of fill will be used. Limited use of the site is planned and disposal onto the site will be limited to essentially inert materials as noted under Section 30. Since most of the fill will be inert, little daily covering is expected. Daily cover will be provided as necessary if organic materials are noted in an occasional load of fill.

required - daily cover is mandatory TEC

Time for filling of the site is estimated at 30 years.

Operating hours are from 7:00 AM to 4:00 PM on weekdays and 7:00 AM to 1:00 PM on Saturday.

35. Operating Requirements

(a) Personnel - One operator is to be provided to operate equipment. Intermittent supervision is to be provided by supervisory personnel.

(b) No traffic control is planned due to the small number of trucks anticipated.

(c) Unloading area is to be designated.

(d) Area fill is planned by progressing from east to west. Face of the unloading area is to be limited to 100 feet.

(e) No blowing litter is anticipated. Should blowing litter be involved fencing will be provided.

(f) Commercial rodent control will be provided on a regular basis.

(g) Due to inert nature of the fills, flies have not been noted. Should fly control be necessary, a commercial insect control company will be utilized on a regular basis.

(h) No bird control is planned.

(i) Sprinkling of the access road will be provided on a regular basis during dry weather.

(j) No odor control is planned.

(k) Presently surface water is being collected in a pond and run off by gravity through a ditch. The pond area appears to be a collection of surface water and when the pond is filled surface water will drain directly to the ditch at the west of the site.

(l) Final slopes will have a maximum of 4 to 5% slope, and seeding will be done to provide for erosion control.

(m) Final cover will be 2 feet of soil. Final slopes are indicated on the final grade diagram, Appendix Page 45.

Part IV - Construction Plans and Specifications (continued)

35. Operating Requirements (continued)

(n) A gas well will be installed and monitored regularly.

(o) No reuse or recycling is planned.

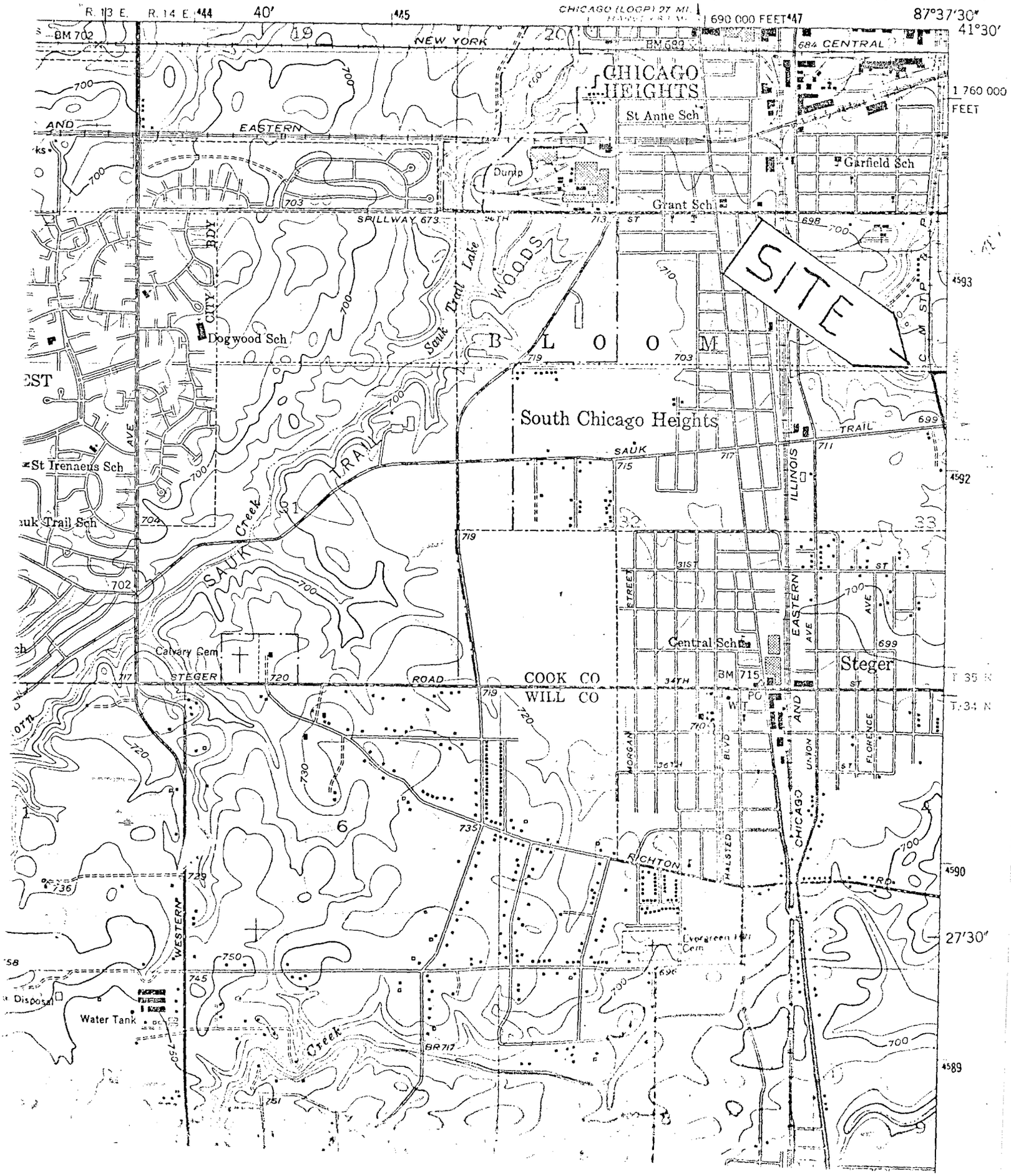
(p) Monitoring of ground water will be conducted regularly (see Section III, 22, Page 13 of supplemental text).

STEGER QUADRANGLE

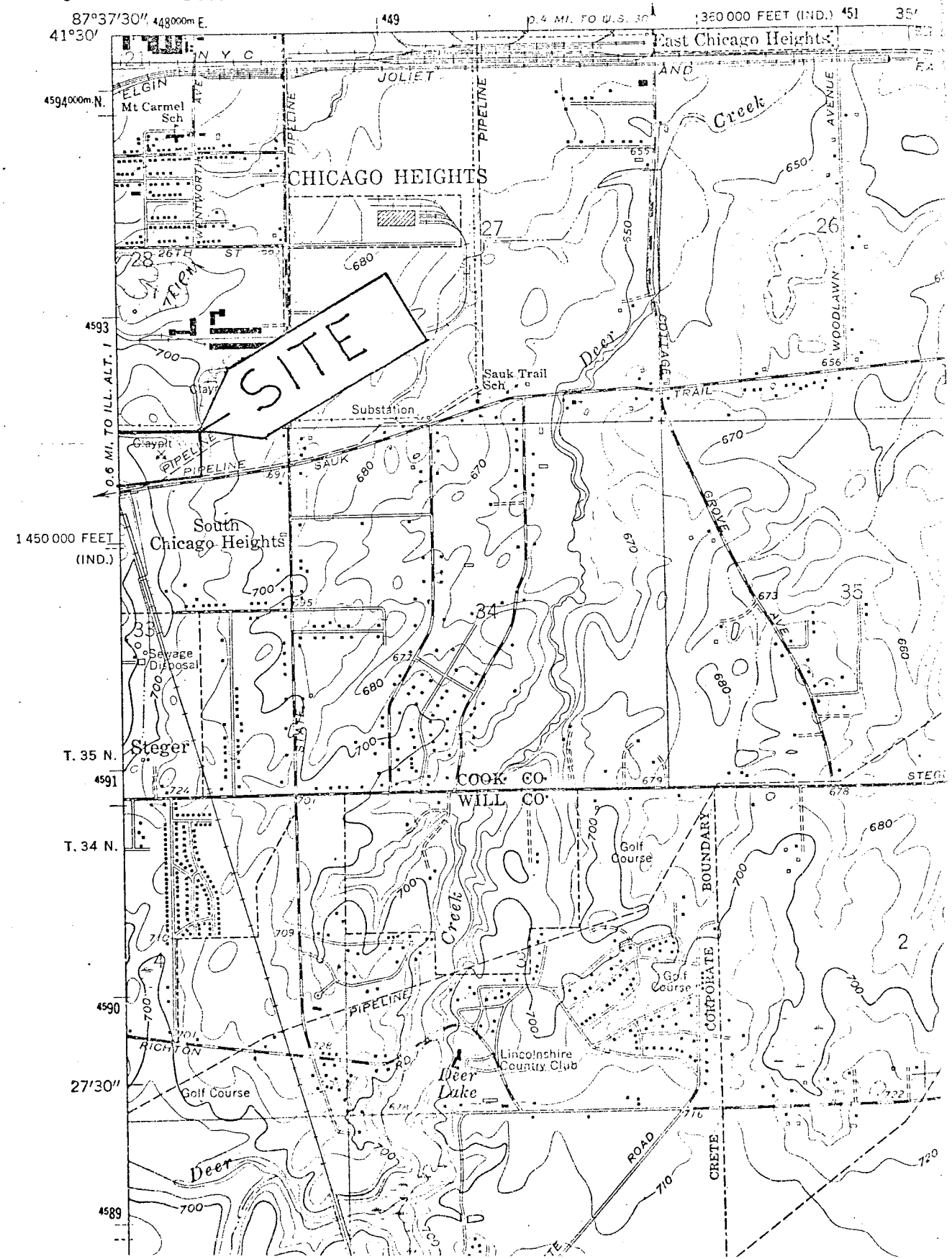
ILLINOIS

7.5 MINUTE SERIES (TOPOGRAPHIC)

NW/4 CRETE 15' QUADRANGLE



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



FOR: LoBue Excavating Company	SOIL BORING LOG NO. 1
PROJECT: Solid Waste Management Facility	WALTER H. FLOOD & CO., INC.
LOCATION: South Chicago Heights, Illinois	• Engineers •
	• CHICAGO • KALAMAZOO •

METHOD OF BORING: HS&WO
SPLIT SPOON SIZE: 2 IN.
WT. OF HAMMER 140 LBS.
INCH DROP 30
SHELBY TUBE SIZE
CASING USED 40'-2 1/4"IDHS

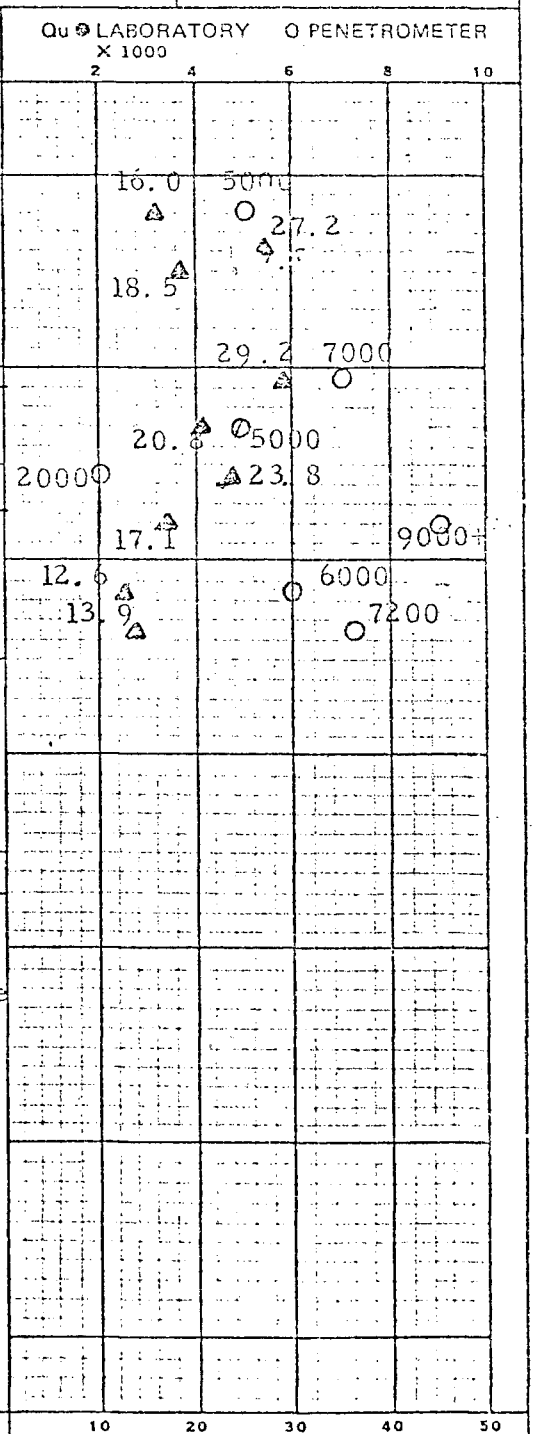
WATER LEVEL READINGS
15'&37' W.D.
19.3' B.C.R.
20' A.C.R.
35.1' @ 24 HRS. AFTER DRILLING
HRS. AFTER DRILLING

DATE OF BORING: 4-25-73 BY: DL&BS:bc
JOB NO.: 7205-0065 VERTICAL SCALE: 1"=10'

ELEV.	DEPTH	S	T	N	LR	DD	DESCRIPTION
							Ground surface
697.1	0.0						
		1	ss	10			Fill, cinders, brick, blocks, brown clay
		2	ss	5			
		3	ss	10			
		4	ss	15			
687.1	10.0						
686.1	11.0	5	ss	15			Black clay loam
							Dark gray to brown clay, very tough
		6	ss	14			
682.1	15.0						
		7	ss	6			Brown silty clay, tough
679.6	17.5						
		8	ss	12			Brown and gray clay, trace of small gravel, very tough
		9	ss	18			
		10	ss	19			
672.1	25.0						
		11	ss	21			Gray medium to fine sand, trace of silt, medium dense
		12	ss	43			
		13	ss	47			
		14	ss	44			
662.1	35.0						
		15	ss	131			See note 1
658.5	38.6	16	ss	100/0"			Refusal

Note 1: Gray silt, some fine to coarse sand, small to large gravel, boulders, very dense

Note 2: Wash water used from 37.5 to 38.6'



LEGEND:
DEPTH—FEET BELOW GROUND SURFACE
S —SAMPLE NUMBER
T —TYPE OF SAMPLE
N —PENETRATION, BLOWS PER FOOT
L —SAMPLE LENGTH
R —LENGTH OF SAMPLE RECOVERED
DD —DRY DENSITY, LB. PER CU. FOOT

WO —WASHOUT
A —AUGER
HS —HOLLOW STEM AUGER
SS —SPLIT SPOON
ST —SHELBY TUBE
FT —FISH TAIL
C —CORE
Wc —WATER CONTENT PERCENT

BCR—BEFORE CASING REMOVAL
ACR—AFTER CASING REMOVAL
WD —WHILE DRILLING
WCI —WET CAVE IN
DCI —DRY CAVE IN
Qu —UNCONFINED COMPRESSIVE STRENGTH POUNDS PER SQUARE FOOT

FOR: Lobue Excavating Company	SOIL BORING LOG NO. 2
PROJECT: Solid Waste Management Facility	WALTER H. FLOOD & CO., INC.
LOCATION South Chicago Heights, Illinois	• Engineers •
	• CHICAGO • KALAMAZOO •

METHOD OF BORING: HS&C	WATER LEVEL READINGS
SPLIT SPOON SIZE: 2 IN.	31.5' W.D.
WT. OF HAMMER 140 LBS.	Surf. B.C.R.
INCH DROP 30	15.2' A.C.R.
SHELBY TUBE SIZE	30.3' @ 24 HRS. AFTER DRILLING
CASING USED 40'-2 1/4"IDHS	HRS. AFTER DRILLING

DATE OF BORING: 5-22-72	BY: DL&BS:bc
JOB NO.: 7205-0068	VERTICAL SCALE: 1"=10'

ELEV.	DEPTH	S	T	N	L	R	DD	DESCRIPTION	Qu ⊙ LABORATORY X 1000 (2 4 6 8 10)	O PENETROMETER
694.9	0.0							Ground surface		
693.9	1.0							Black silt loam	18.5	9000+
		1	ss	19				Brown and gray clay, trace of small gravel, hard	17.4	O
		2	ss	27					18.8	9000+ O
		3	ss	40					17.1	9000+ O
		4	ss	32					19.0	9000+ O
		5	ss	27					18.5	9000+ O
		6	ss	28					19.0	9000+ O
678.4	16.5	7	ss	31						
		8	ss	8				Gray fine to medium sand, little silt, loose	12.1	8500
674.9	20.0	9	ss	30				Gray silt, some fine to coarse sand, small to large gravel, boulders, very dense		O
		10	ss	19					16.0	O 8500
		11	ss	130					9.6	O 9000+
		12	ss	100/5"						
663.4	31.5	13	ss	104/6"						
		14	C					Light gray dolomite, thinly bedded, numerous small pinsized solution cavities, very dense		
658.4	36.5							End of boring		
								Note: Water used to core bedrock		

ELEV.	DEPTH	S	T	N	L	R	DD	DESCRIPTION	10 20 30 40 50 Wc ▲ NATURAL

LEGEND: DEPTH—FEET BELOW GROUND SURFACE
S —SAMPLE NUMBER
T —TYPE OF SAMPLE
N —PENETRATION, BLOWS PER FOOT
L —SAMPLE LENGTH
R —LENGTH OF SAMPLE RECOVERED
DD —DRY DENSITY, LB. PER CU. FOOT

WO —WASHOUT
A —AUGER
HS —HOLLOW STEM AUGER
SS —SPLIT SPOON
ST —SHELBY TUBE
FT —FISH TAIL
C —CORE
Wc —WATER CONTENT PERCENT

BCR—BEFORE CASING REMOVAL
ACR—AFTER CASING REMOVAL
WD —WHILE DRILLING
WCI —WET CAVE IN
DCI —DRY CAVE IN
Qu —UNCONFINED COMPRESSIVE STRENGTH POUNDS PER SQUARE FOOT

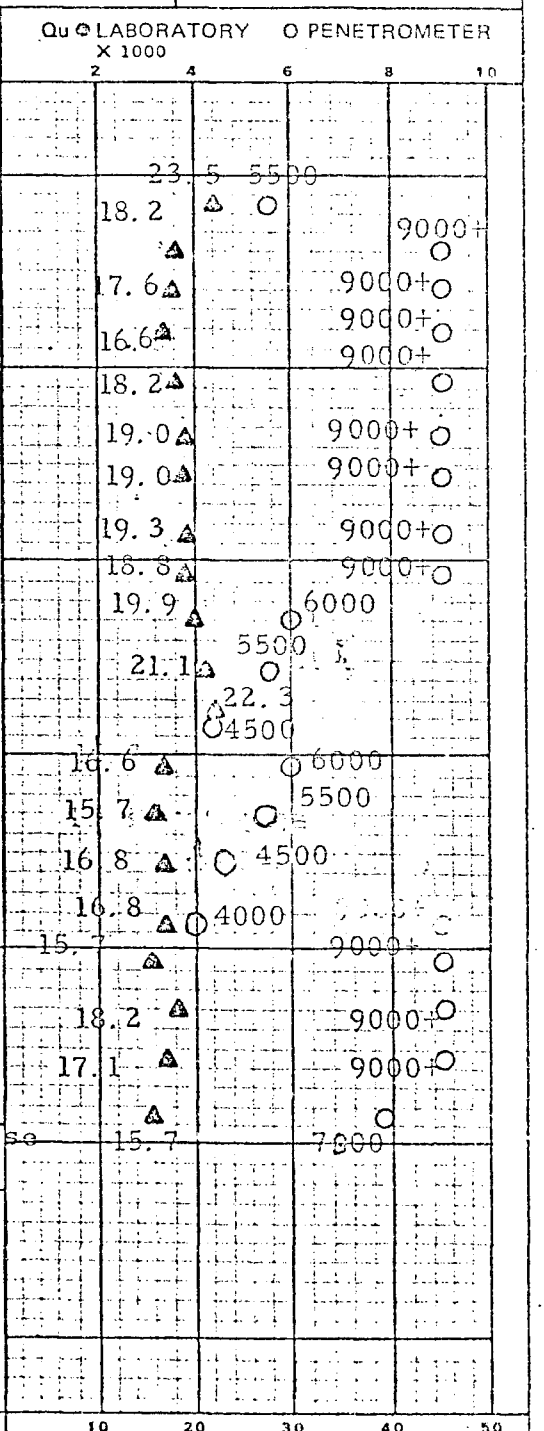
FOR: LoBue Excavating Company	SOIL BORING LOG NO. 3
PROJECT: Solid Waste Management Facility	WALTER H. FLOOD & CO., INC. • Engineers • • CHICAGO • KALAMAZOO •
LOCATION South Chicago Heights, Illinois	

METHOD OF BORING: HS
SPLIT SPOON SIZE: 2 IN.
WT. OF HAMMER 140 LBS.
INCH DROP 2
SHELBY TUBE SIZE
CASING USED 50'-2 1/4"IDHS

WATER LEVEL READINGS
31.5' W.D.
44.5' B.C.R.
50.2' A.C.R.
49.7'@24 HRS. AFTER DRILLING
HRS. AFTER DRILLING

DATE OF BORING: 5-22-72 BY: DL&BS:bc
JOB NO.: 7205-0068 VERTICAL SCALE: 1"=10'

ELEV.	DEPTH	S	T	N	L	R	DD	DESCRIPTION
713.4	0.0							Ground surface
712.4	1.0							Black clay
		1	ss	11				Brown and gray clay, trace of small gravel, hard to very tough
		2	ss	28				
		3	ss	35				
		4	ss	36				
		5	ss	31				
		6	ss	34				
		7	ss	16				
		8	ss	19				
		9	ss	15				
		10	ss	20				
		11	ss	16				
		12	ss	19				
		13	ss	10				
		14	ss	17				
		15	ss	20				
		16	ss	17				
673.4	40.0							
		17	ss	29				Gray clay, trace of small gravel, hard to very tough
		18	ss	30				
		19	ss	25				
664.4	49.0	20	ss	21				
		21	ss	100/3"				Gray silt, some fine to coarse sand, small to large gravel, boulders, very dense
660.9	52.5							End of boring



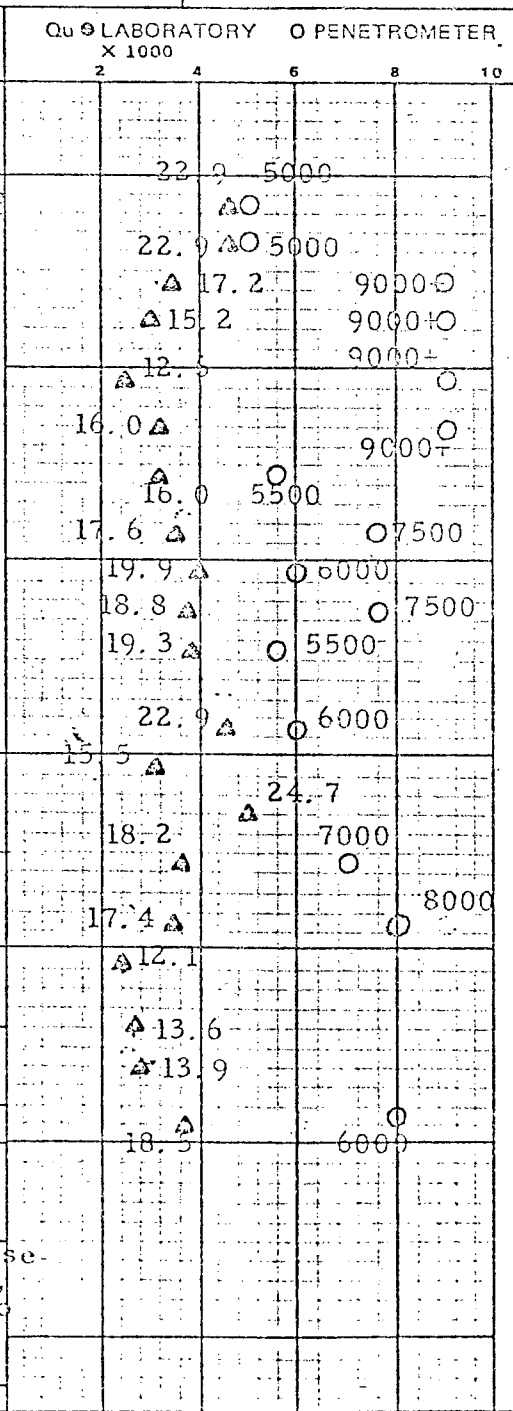
LEGEND:
DEPTH—FEET BELOW GROUND SURFACE
S —SAMPLE NUMBER
T —TYPE OF SAMPLE
N —PENETRATION, BLOWS PER FOOT
L —SAMPLE LENGTH
R —LENGTH OF SAMPLE RECOVERED
DD —DRY DENSITY, LB. PER CU. FOOT

WO —WASHOUT
A —AUGER
HS —HOLLOW STEM AUGER
SS —SPLIT SPOON
ST —SHELBY TUBE
FT —FISH TAIL
C —CORE
Wc —WATER CONTENT PERCENT

BCR—BEFORE CASING REMOVAL
ACR—AFTER CASING REMOVAL
WD —WHILE DRILLING
WCI —WET CAVE IN
DCI —DRY CAVE IN
Qu —UNCONFINED COMPRESSIVE STRENGTH POUNDS PER SQUARE FOOT

FOR: LoBue Excavating Company	SOIL BORING LOG NO. 4
PROJECT: Solid Waste Management Facility	WALTER H. FLOOD & CO., INC. • Engineers • • CHICAGO • KALAMAZOO •
LOCATION South Chicago Heights, Illinois	
METHOD OF BORING: HS SPLIT SPOON SIZE: 2 IN. WT. OF HAMMER 140 LBS. INCH DROP 30 SHELBY TUBE SIZE CASING USED 60'-2 1/4"IDHS	WATER LEVEL READINGS 31.5' W.D. & 49.5' 61.0' B.C.R. 58.4' A.C.R. 51.6' @ 24 HRS. AFTER DRILLING HRS. AFTER DRILLING
DATE OF BORING: 5-24-72	BY: DL&BS:bc
JOB NO.: 7205-0068	VERTICAL SCALE: 1"=10'

ELEV.	DEPTH	S	T	N	L	R	DD	DESCRIPTION
712.6	0.0							Ground surface
711.6	1.0							Black clay loam
		1	ss	8				Brown to gray clay, trace of small gravel, hard to very tough
		2	ss	7				
		3	ss	26				
		4	ss	23				
		5	ss	34				
		6	ss	26				
		7	ss	19				
		8	ss	19				
		9	ss	21				
		10	ss	17				
		11	ss	18				
		12	ss	13				
682.6	30.0							Gray silt, some fine sand, medium dense to loose
		13	ss	16				
		14	ss	8				
677.6	35.0							Gray clay, trace of small gravel, very tough
		15	ss	16				
		16	ss	21				
672.6	40.0							Gray fine sand, little silt, dense
		17	ss	56				
		18	ss	45				
668.6	44.0							Gray silt, some fine sand, small to medium gravel, dense
		19	ss	58				
		20	ss	39				
664.6	48.0							Gray clay, trace of small gravel, very tough
		21	ss	28				
662.6	50.0							Gray fine to medium sand, trace of silt, medium dense
		22	ss	21				
		23	ss	26				
657.6	55.0							Gray silt, some fine to coarse sand, small to large gravel, occasional boulder, dense to very dense
		24	ss	44				
		25	ss	43				
		26	ss	138				
650.1	62.5							Refusal



LEGEND: DEPTH—FEET BELOW GROUND SURFACE
S —SAMPLE NUMBER
T —TYPE OF SAMPLE
N —PENETRATION, BLOWS PER FOOT
L —SAMPLE LENGTH
R —LENGTH OF SAMPLE RECOVERED
DD —DRY DENSITY, LB. PER CU. FOOT

WO —WASHOUT
A —AUGER
HS —HOLLOW STEM AUGER
SS —SPLIT SPOON
ST —SHELBY TUBE
FT —FISH TAIL
C —CORE
W —WATER CONTENT PERCENT

BCR—BEFORE CASING REMOVAL
ACR—AFTER CASING REMOVAL
WD —WHILE DRILLING
WCI —WET CAVE IN
DCI —DRY CAVE IN
Qu —UNCONFINED COMPRESSIVE STRENGTH POUNDS PER SQUARE FOOT