



# Health Department

Boulder Office • 3450 Broadway • Boulder, Colorado 80302 • 441-1100  
Longmont Office • 201 Main • Longmont, Colorado 80501 • 776-5743  
Tri-Cities Office • 1345 Plaza Ct. N., Suite 3A • Lafayette, Colorado 80026 • 666-0515

TO: Boulder County Health Department  
Environmental Health

I request access to the following records: 1. Black Dumps (YARMOUTH-H)

For the purpose of: Review

Signed: J. R. M. K.

Date: 7-12-90



# Health Department

Boulder Office • 3450 Broadway • Boulder, Colorado 80302 • 441-1100  
Longmont Office • 201 Main • Longmont, Colorado 80501 • 776-5743  
Tri-Cities Office • 1345 Plaza Ct. N., Suite 3A • Lafayette, Colorado 80026 • 666-0515

TO: Boulder County Health Department  
Environmental Health

I request access to the following records: Boulder Deep Company

For the purpose of: Informational obtained copies of EPA report

Signed: Greene

Date: 6/21/90



INFLOW

TESTS

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

0488

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 7/12/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John McNair

Fill in all Information

Return Report

to: City of Boulder (Dietze) do

Address \_\_\_\_\_

City: sample of stream entering

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

## Result of Test

LB 3/3 3/3 3/3 0/3 0/3

BGB 3/3 3/3 3/3 0/3 0/3

SPC \_\_\_\_\_

MPN 23 x 10<sup>2</sup>

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

most probable number = 2300 per milliliter

## 8453

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

1230 pm

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John D. V. N/A/V. Klear

### Fill in all Information

Return Report *City of Boulder (Director) <sup>copy</sup> ~~Director~~*  
to:

Address \_\_\_\_\_

City-State Sample of stream entering

**SEE REVERSE SIDE FOR**

## Sampling Instructions

CPHD, Lab. 6, 1963 (100M)


### Result of Test

LB 24 3/3 3/3 3/3 48

BGB  $\frac{1}{3}$   $\frac{3}{3}$   $\frac{0}{3}$   $\frac{9}{3}$

SPC\_\_\_\_\_

MPN 23 X 101

 **SAFE**

**UNSAFE**

☐ **UNSATISFACTORY FOR TEST.**

**Please re-submit**

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

**6617** BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 5/24/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John M. Nair Specimen  
check

**Fill in all Information**

Return Report to: City of Boulder (Dodge) Coli  
count

Address: \_\_\_\_\_

City-State: Sample of Stream entering

**SEE REVERSE SIDE FOR**

**Sampling Instructions**

CPHD, Lab. 6, 1963 (100M)

MOST PROBABLE NUMBER = 93 per 100 cubic Centimeters

## Result of Test

LB \_\_\_\_\_ 24 \_\_\_\_\_ 48

BGB 3/3 2/3 0/3 0/3 0/3 0/3  
24 48

SPC \_\_\_\_\_

MPN 3/3 2/3 0/3 0/3 0/3  
93/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

Sample taken: Date 5/17/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John McNair

Fill in all Information

Return Report to: City of Boulder (Ditzel)

Address: \_\_\_\_\_

City-State: Sample of stream entering

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

## Result of Test

LB 3/3 3/3 1/3

24 48

BGB 3/3 3/3 1/3

24 48

SPC \_\_\_\_\_

MPN 43 X 10/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

Most Probable Number = 430 per 100 cubic centimeters.

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 4/21/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John D. McNeil

Fill in all Information

Return Report to: City of Boulder (Dietze)

Address: \_\_\_\_\_

City-State Sample of Stream entering

known they dump property  
SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

most probable numbers 2300 per 100 cubic centimeters

## Result of Test

LB	$\frac{3}{3}$	$\frac{3}{3}$	$\frac{3}{3}$	$\frac{1}{3}$	$\frac{0}{3}$
	24			48	
BGB	$\frac{3}{3}$	$\frac{3}{3}$	$\frac{3}{3}$	$\frac{0}{3}$	$\frac{0}{3}$
	24			48	

SPC \_\_\_\_\_  
MPN 23  $\times 10^2 / 100$

- ☐ SAFE
- ☐ UNSAFE
- ☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested \_\_\_\_\_  
Specimen Identification Number \_\_\_\_\_

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

3625

3 2365

Sample taken: Date 420 p.m. 3/22/65 Town \_\_\_\_\_ County Boulder

Type of supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample taken by: John R. M. Jones Clear Creek

Fill in all Information

Return port to: City of Boulder (Dirt) County

Address: \_\_\_\_\_

City: Sample of stream entering

BTWN  
THRU JRM

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD, 6, 1963 (100M)

Most Probable # = 430 per 100 milliliters

## Result of Test

LB 3/2 3/1 3/3  
24 48

BGB 3/2 3/1 3/3  
24 48

SPC \_\_\_\_\_

MPN 43 X 10' / 100 ml.

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

2629

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 3/2/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McNamee

Fill in all Information

Return Report to: City of Boulder (Dietz)

Address \_\_\_\_\_

City-State Sample of stream entering

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD, Lab. 6, 1963 (100M)

## Result of Test

LB 3/2/3/0/0/0

24

BGB 3/3/3/0/0/0

24

48

SPC \_\_\_\_\_

MPN 93 / 100 ml

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

most probable  
number = 93 per  
100 millilitre



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOLDER, COLO.

Sample taken: Date 2/23/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. M. Nair

Fill in all Information

Return Report to: City of Boulder (Dietze)

Address \_\_\_\_\_

City-State Sample of Stream entering

Return thru

JRM

CPHD. Lab. 6, 1963 (100M)

Drop properly  
**SEE REVERSE SIDE FOR**

**Sampling Instructions**

Most Probable #

SPECIAL  
MPN please  
check colt  
dilution  
count

93 per 100 cubic centimeters

## Result of Test

LB 3/3 3/3 0/3 0/3

BGB 3/3 4/3 0/3 0/3 0/3

SPC \_\_\_\_\_

MPN 93/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

1422  
2 2 65

Sample taken: Date <sup>1005 AM</sup> 2/2/65 Town 1 County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R McNeer SPECIAL please check

Fill in all Information

Return Report to: City of Boulder (District) Coli detection count

Address: \_\_\_\_\_

City-State: Sample of stream entering dump property

Return TARY

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD, Lab. 6, 1963 (100M)

MOST Probable  
Number =  
210 per 100 cubic  
centimeters (100 ml/100)

## Result of Test

LB 3/3 3/3 0/3 0/3

24 2/2 0/0 0/0

BGB 3/3 3/3 3/3

24 48

SPC \_\_\_\_\_

MPN 210/100 cc

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

825

1 1965

*Booted*

1120 AM

Sample taken: Date 1/18/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. Myers *Special*

**Fill in all Information**

Return Report to: City of Boulder (Dietze) *Count*

Address \_\_\_\_\_

City-State Sample of stream entering

*Return thru R.M.*

**SEE REVERSE SIDE FOR**

**Sampling Instructions** *Most Probable Number 2400*

## Result of Test

LB  $\frac{3}{3} \frac{3}{3} \frac{1}{3} \frac{0}{3} \frac{0}{3}$

BGB  $\frac{3}{2} \frac{3}{2} \frac{0}{48} \frac{0}{48}$

SPC \_\_\_\_\_

MPN 2400/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

18363

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.  
**Result of Test**

Sample taken: Date 12/14/64

Town \_\_\_\_\_

County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John M. Nair

Fill in all Information

Return Report

to: City of Boulder (Dietze)

Address \_\_\_\_\_

City-State Sample of stream entering

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 460

LB

BGB

SPC

MPN

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested 12/15/64

Specimen Identification Number

3/3 3/3 1/3 1/3 1/3

24

48

3/3 3/3 1/3 1/3 1/3

24

48

460/100

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

Sample taken: Date 12/1/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by John R McNair

Fill in all Information

Return Report to: City of Boulder (Peter Dietz) Count

Address \_\_\_\_\_

City-State Sample of stream entering Return Thru

Dump property

SEE REVERSE SIDE FOR

Sampling Instructions

C.D.P.H. Lab. 6, 1963 (100M)

most Probable Number 43

## Result of Test

LB 3/3 1/3 0/3 0/3

24 48

BGB 3/3 1/3 0/3 0/3

24 48

SPC \_\_\_\_\_

MPN 43/100cc

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested 12/3

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

17084

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

1135 AM

111764

Sample taken: Date 11/17/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( \* ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McNair

Fill in all Information

Return Report to: City of Boulder (Peter Dietze)

Address \_\_\_\_\_

City-State Sample of stream entering dump

RETURN THRU  
J. R. M.

CPHD. Lab. 6, 1963 (100M)

SEE REVERSE SIDE FOR

Sampling Instructions

MPN = 360/100cc

## Result of Test

LB 24 2/3 0/3 0/3 0/3

BGB 24 1/3 0/3 0/3 0/3

SPC \_\_\_\_\_

MPN 360/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 11/2/64 Town B County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by John R M Chair

Fill in all Information

Return Report to:

City of Boulder (Dietze)

Address

City-State

sample of stream entering dining property

SEE REVERSE SIDE FOR

Sampling Instructions

11 564

Result of Test

LB

24

48

BGB

24

48

SPC

MPN

$4.3.6 \times 10^3 / 100cc$



SAFE



UNSAFE



UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

SPECIAL

Please check coliform dilution count for sample

MPN LESS THAN 3,600

RETURN TO

John R M Chair



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

102064 15823

3450 BROADWAY

BOULDER, COLO.

Sample taken: Date 10/19/64 Town ✓ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John McLean

Fill in all Information

Return Report to:

City of Boulder (Dietz)

Address \_\_\_\_\_

City-State Sample of stream entering dump property

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 3600

## Result of Test

LB 0/30 0/3 0/3 0/3  
24 48

BGB 24 48

SPC \_\_\_\_\_

MPN 23.6 x 10<sup>3</sup> / 100 c

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number



## STANDARD BACTERIOLOGICAL WATER TEST

14681

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

## Result of Test

Sample taken: Date 1007 AM 9/28/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. Roman

Fill in all Information

Return Report

to: City of Boulder (Dietz) Sewer

Address \_\_\_\_\_

City-State Sampled stream entering Army

Return thru

John R. Roman

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 430

LB

BGB

SPC

MPN

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

14084

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BRADWAY  
BOULDER, COLO.

9 1564

## Result of Test

LB  $\frac{0}{3} \frac{0}{3} \frac{0}{3} \frac{0}{3} \frac{0}{3}$  24 48

BGB 24 48

SPC

MPN  $< 3.6 \times 10^5 / 100cc$

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

Sample taken: Date 9/14/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McNair

## Fill in all Information

Return Report to: City of Boulder

Address \_\_\_\_\_

City-State Sample at stream entering City of Boulder during

## SEE REVERSE SIDE FOR

## Sampling Instructions

MPN 360,000

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

13702

Sample taken: Date 9/8/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McVair

Fill in all Information

Return Report

to: City of Boulder

Address: Sample at city dump site,

City-State: Stream entering city property,

Return through above dump area.

John R. McVair

CPHD. 6, 1963 (100M)

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 47  
230,000

9 64

## Result of Test

LB

24

48

BGB

24

48

SPC

MPN

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

3/3 3/3 3/3 0/0

7/3 3/3 3/3 0/3 0/3

23 X 10<sup>4</sup> / 100

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

13029

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 8-27-64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment X special

Source: ( ) Well ( ) Surface

Sample Taken by: Don MARMAN

Fill in all Information

Return Report to: Boulder city Dump Creek

Address Sample

City-State Creek Before Pond

SEE REVERSE SIDE FOR  
Sampling Instructions

## Result of Test

LB 3/24 3/3 1/1 0/3

BGB 3/24 2/3 0/3 0/3

SPC \_\_\_\_\_

MPN 930/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested 8/27/64

Specimen Identification Number

M.P.N.  
930

OUTFLOW

TESTS

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

11645

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 7/24/65 Town Boulder County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. M. New SPECIAL

Fill in all Information

Return Report to: City of Boulder (Director) Plenty

Address: Colo

City-State: Sample of Stream Count

heavy rain  
PRV days  
leading down  
SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, (JM)  
above - over flow

Most Probable Number = 9300 per 100 cc

## Result of Test

LB 3/3 3/3 3/3 2/3 0/3

BGB 3/3 3/3 3/3 2/3 0/3

SPC 24 48

MPN 93 X 10<sup>2</sup> / 100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, CO.

## Result of Test

LB  $\frac{3}{3}$   $\frac{3}{3}$   $\frac{3}{3}$   $\frac{2}{3}$   $\frac{0}{3}$   
24 48  
BGB  $\frac{3}{3}$   $\frac{3}{3}$   $\frac{3}{3}$   $\frac{2}{3}$   $\frac{0}{3}$   
24 48  
SPC  
MPN 43  $\times 10^2 / 100$

☐ SAFE  
☐ UNSAFE  
☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

Sample taken: Date 7/12/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John D. McKinnis SPECIAL

Fill in all Information

Return Report to: City of Boulder (Director) do

Address: \_\_\_\_\_ please

City-State: Stream leaving dump County

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

most probable number 4300 per 100 milliliters

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

8450  
BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 1245pm 6/21/68 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: J. L. McKee

SPECIAL  
Please  
adv.  
dist. for  
Comm.

Return Report

to: City of Boulder (Dietzel)

Address \_\_\_\_\_

City-State Sample of Stream leaving  
dune property

## Result of Test

LB

24

3/3 3/3 3/3 3/3

BGB

24

3/3 3/3 3/3 3/3

SPC

MPN

43 x 10<sup>2</sup> or

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

\*most Probable Number = 4300 per 100 milliliters



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

6618

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

1020 AM

Sample taken: Date 5/24/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John D. McHair

Fill in all Information

Return Report to: City of Boulder (Dretze)

Address \_\_\_\_\_

City-State Sample of Stream, leaving

Return thru

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

## Result of Test

LB \_\_\_\_\_ 24 \_\_\_\_\_ 48

BGB 3/3 2/3 2/3 0/3 0/3  
24 48

SPC \_\_\_\_\_

MPN 3/3 3/3 2/3 0/3 0/3

☐ SAFE 930/100

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

most PROBABLE NUMBER = 930 per 100 cubic cent

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

Sample taken: Date 5/17/65 Town Boulder County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John BM Nair

Fill in all Information

Return Report

to: City of Boulder (Dietz)

Address \_\_\_\_\_

City-State Sampled Stream leaving

Butter Lake down property

John

**SEE REVERSE SIDE FOR**

**Sampling Instructions**

CPHD, Lab. 6, 1963 (100M)

most probable number = 430 per 100 cubic centimeters.

## Result of Test

LB 3/3 3/3 1/3

24 48

BGB 3/3 3/3 1/3

24 48

SPC \_\_\_\_\_

MPN 43 X 10/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

1145 AM

Sample taken: Date 4/26/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: Joh R McVane

Fill in all Information

Return Report to: City of Boulder (Ortge) count

Address \_\_\_\_\_

City-State sample of stream leaving

RETURN  
over jam

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

most probable number = 230 per 100

## Result of Test

LB 3/3 3/3 0/3 0/3 0/3

BGB 3/3 3/3 0/3 0/3 0/3

SPC \_\_\_\_\_

MPN 230/100

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

culture certificate of water

Date Tested

Specimen Identification Number

4 2760

SPECIM  
check  
col  
dilution

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 4:35 pm 3/22/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. M. New Special  
Chick

Fill in all Information

Return Report to: City of Boulder (Dietz)

Address \_\_\_\_\_

City-State Sanchez, stream leaving  
Barred Hay dump property  
JKR

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

most probable numbers 910 per 100 ml

## Result of Test

LB 2/3 0/3 0/3  
24 48

BGB 2/3 0/3 0/3  
24 48

SPC \_\_\_\_\_

MPN 9.1 X 10<sup>2</sup> / 100 ml

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

*Boiled*

Sample taken: Date *1145 AM 3/2/65* Town \_\_\_\_\_ County *Boulder*

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: *John R. McNair*

Fill in all information

Return Report

to: *City of Boulder (Dietz)*

Address \_\_\_\_\_

City-State *Sample of Stream leaving*

TURN

*Thru JRM*

CPHD. Lab. 6, 1963 (100M)

SEE REVERSE SIDE FOR

Sampling Instructions

*most probable  
number = 240 per  
100 milliliters*

*many crow droppings in stream at this point.*

## Result of Test

LB *3/2 3/3 0/0 0/0*

24 48

BGB *3/3 3/3 0/0 0/0*

24 48

SPC \_\_\_\_\_

MPN *240 / 100 ml*

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

2257 BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
2 2465 BOULDER, COLO.

Sample taken: Date 1210 PM 2/23/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McNamee

Fill in all Information

Return Report

to:

City of Boulder (Dietz) dilution count

Address \_\_\_\_\_

City-State

Sample 1 - Stream Leaving

Return to:

JRM

Std. Lab. 6, 1963 (100M)

SEE REVERSE SIDE FOR

Sampling Instructions

most probable number 230 per 100 cubic centimeters

## Result of Test

LB

24

48

BGB

24

48

SPC

MPN

230/100

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

Sample taken: Date 10 20 AM 2/2/65 Town \_\_\_\_\_

County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: James R. Myers

Fill in all Information

Return Report

to: City of Boulder (Dietz)

Address \_\_\_\_\_

City-State sample of stream leaving dam

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

## Result of Test

LB

BGB

SPC

MPN

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

1423

2 K 65

SPECIAL

coli

dilution

count

most probable number

360 per 100 ml

or  
Coliform Concentration



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

826 BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
1 1965 3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 1130 AM 1/15/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McVair SPECIAL  
Fill in all Information please use  
dilution  
count

Return Report to: City of Boulder (Dietz)

Address \_\_\_\_\_

City-State Sample of stream leaving

Return thru dump property

JRM **SEE REVERSE SIDE FOR**

**Sampling Instructions**

CPHD. Lab. 6, 1963 (100M) MOST PROBABLE NUMBER = 360

## Result of Test

LB 3/3 1/3 0/0 0/0  
24 48  
BGB 1/3 0/3 0/3 0/3  
24 48  
SPC \_\_\_\_\_  
MPN 2.360/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

121664

10 40 AM

Sample taken: Date 12/14/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by John R. P. K. H. S. please

Fill in all Information

Return Report to: City of Boulder (DIETZ)

Address \_\_\_\_\_

City-State Sample of stream leaving

THRU  
R.M.

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 910

18362

BOULDER CITY - COLORADO

HEALTH DEPARTMENT

3450 BROADWAY

Result of Test

LB 2/3 0/3 0/3 0/3  
24 48

BGB 2/3 0/3 0/3 0/3  
24 48

SPC \_\_\_\_\_

MPN 910/100

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER C

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

17738

1015 Am

Sample taken: Date 12/1/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R McNamara SPECIAL

Fill in all Information

Return Report to: City of Boulder (Dietze) COLE dilutors count for sewage

Address \_\_\_\_\_

City-State: Sample of stream running Boulder Dump property

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

MOST PROBABLE NUMBER 930

## Result of Test

	LB	BGB	SPC	MPN
24	3/3	2/3	0/3	0/3
48	3/3	2/3	0/3	0/3
48	3/3	2/3	0/3	0/3

MPN 930/100 cc

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

17083

111764

1150AM

Sample taken: Date 11/17/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by John R. McNaiv Special

Fill in all Information

Return Report to: City of Boulder (Peter Dietze) SEWAGE

Address \_\_\_\_\_

City-State Sample of stream leaving dump

Return thru R. M.

CPHD. Lab. 6, 1963 (100M)

SEE REVERSE SIDE FOR

Sampling Instructions

Most Probable Number = 910

per 100 cubic centimeters

## Result of Test

LB 24 2/3 0/3 0/3 0/3

BGB 24 2/3 0/3 0/3 0/3

SPC \_\_\_\_\_

MPN 910/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 11/2/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McVain

Fill in all Information

Return Report to:

City of Boulder (Dietz)

Address \_\_\_\_\_

City-State sample at exit of stream from Boulder dump property

SEE REVERSE SIDE FOR

Sampling Instructions

Lab. 6, 1963 (100M)

## Result of Test

LB

24

BGB

24

SPC

MPN

240/100 cc

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

*SPECIAL*  
*please check*  
*col. dilution*  
*count for*  
*MPN 240*  
*Return*  
*Through*  
*R. McVain*

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - CO  
HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

15824

102064

Sample taken: Date 10/19/44 Town Boulder County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John F. McVain

Fill in all Information

Return Report

to:

City of Boulder (Dietz) Chuck  
City of Boulder City of Boulder  
City of Boulder City of Boulder

Address

City-State

Single of stream leaving dump  
properly

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 430

## Result of Test

LB

24

48

BGB

24

48

SPC

MPN

430/100cc

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

11684  
BOULDER CITY COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.  
2964

Sample taken: Date 1020 am 9/28/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment SPECIAL

Source: ( ) Well ( ) Surface

Sample Taken by: James R. McNamee

Fill in all Information

Return Report

to: City of Boulder (Dietz)

Address \_\_\_\_\_

City-State Sample of stream leaving dump property

SEE REVERSE SIDE FOR

Sampling Instructions

MPN = 430

## Result of Test

LB

BGB

SPC

MPN

3/3 3/3 3/3

24 1 0 0

3/3 3/3 3/3

24 48

24 48

43 X 10<sup>1</sup> / 1000

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

14079

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 11/14 AM 9/14/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John A. McKen

Fill in all Information

Return Report to: City of Boulder

Address \_\_\_\_\_

City-State Sample of water (stream) leaving city

Return thru City of Boulder during property

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 930

Result of Test

LB 24 3/3 3/3 2/3

BGB 24 3/3 48 3/3 2/3

SPC \_\_\_\_\_

MPN 93 x 10 / 100

☒ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - CCUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

13703

9 9 64

Sample taken: Date 9/8/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McNair

Fill in all Information

Return Report to: City of Boulder

Address: Sample of stream water, stream

City-State: as it leaves city dump property

Return Through  
John R. McNair

SEE REVERSE SIDE FOR

Sampling Instructions

MPN 23,000

## Result of Test

LB 3/3 3/3 0/3 0/3 0/3  
24 48

BGB 3/3 3/3 0/3 0/3 0/3  
24 48

SPC \_\_\_\_\_

MPN 23 x 10<sup>3</sup> / 100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

13027

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

400pm  
Sample taken: Date 8/24/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: Donald F. Marmonde PLEASE

Fill in all Information

Return Report

to: City of Boulder Dump Creek for

Address: sample taken as stream LEAVES city property

City-State \_\_\_\_\_

Return Through  
Don F. Marmonde

CPHD. Lab. 6, 1963 (100M)

SEE REVERSE SIDE FOR

Sampling Instructions

M.P.N.  
2400

8 2564

Result of Test

LB 3/3/3/0/4  
3/3/3/3/3  
24 48  
BGB 3/3/3/0/0  
3/3/3/3/3  
24 48

SPC \_\_\_\_\_

MPN 240 x 10<sup>1</sup>/100cc

☐ SAFE  
☐ UNSAFE  
☐ UNSATISFACTORY FOR TEST.  
Please re-submit

Date Tested  
Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 8/10/64 Town Boulder County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface Stream

Sample Taken by: John McNair

Fill in all Information

Return Report to: Health Department

Address: Boulder

City-State: sample in stream leaving city of Boulder property at current dump site

SEE REVERSE SIDE FOR

Sampling Instructions

CPH 10-6, 1963 (100M)

## Result of Test

LB 3/3 3/3 3/3

BGB 24 48 24 48

SPC 24 48

MPN More than

☐ SAFE 23/100

☐ UNSAFE 23 X 10<sup>2</sup>

☐ UNSATISFACTORY FOR TEST.

Please re-submit

MPN > 2300

Date Tested

Specimen Identification Number

SPECIAL

Please check

Coli dilution

count for

surge

site

to Peter

Dietz, city

MISC.

TESTS

# STANDARD BACTERIOLOGICAL WATER TEST

100764

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

Sample taken: Date 10/5/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McLean Please check

Fill in all information

Return Report to: City of Boulder (Dietz) Coli dilution count for sewage

Address \_\_\_\_\_

City-State sample of effluent leaving dump property

SEE REVERSE SIDE FOR

Sampling Instructions MPN - not given

## Result of Test

LB 3/3 3/3 0/3 0/3

24 3/3 3/3 0/3 0/3

BGB 3/3 3/3 0/3 0/3

24 48

SPC \_\_\_\_\_

MPN

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested 10/5

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

**BOULDER COUNTY**  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 8/12/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. M. Hall

Fill in all Information

Return Report to: City of Boulder (Dietze)

Address \_\_\_\_\_

City-State sampled stream leaving

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

Result of Test

LB 3/33/33/31/30/3  
24 48

BGB 3/3 3/3 3/3 1/3 0/3  
(24) 48

SPC \_\_\_\_\_

MPN 43 X 10<sup>2</sup> / 100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

Most Probable Number = 4300 per 100 ml/l/l/l/l/l

cc Hamilton  
Dietze 8/11/65

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
12125  
3450 BROADWAY  
BOULDER, CO 80501

Sample taken: Date 8/12/65 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John & M. Nais

Fill in all Information

Return Report to: City of Boulder (Dietze)

Address \_\_\_\_\_

City-State sample of stream entering

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD. Lab. 6, 1963 (100M)

## 10.0 Result of Test

LB 1/2 3/3 3/3 1/3 9/3  
24 48

BGB 3/3 3/3 3/3 1/3 9/3  
(24) 48

SPC \_\_\_\_\_

MPN 43 x 10<sup>2</sup> / 100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

most probable number - 4300 per 100 milliliters

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health  
4210 East 11th Avenue - Denver 20  
Phone 388-5801

100764

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

15118

Sample taken: Date 10/5/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McKean

Fill in all Information

Return Report to: City of Boulder

Address \_\_\_\_\_

City-State Sample above effluent,

Arroyo Viejo

SEE REVERSE SIDE FOR

Sampling Instructions

MPN - not given.

## Result of Test

LB \_\_\_\_\_ 24 \_\_\_\_\_

BGB \_\_\_\_\_ 24 \_\_\_\_\_

SPC \_\_\_\_\_

MPN \_\_\_\_\_

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

100764

BOULDER CITY - COUNTY

HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLO.

15125

Sample taken: Date 10/5/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McNamee

Fill in all Information

Return Report to: City of Boulder

Address \_\_\_\_\_

City-State sample before effluent - Valmont  
Brady.

SEE REVERSE SIDE FOR

Sampling Instructions

MPN not given

## Result of Test

LB \_\_\_\_\_ 24

BGB \_\_\_\_\_ 24

SPC \_\_\_\_\_

MPN \_\_\_\_\_

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number



# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

100764

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

15123

Sample taken: Date 10/5/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: Jahd Ryan Special

Fill in all Information

Return Report to: City of Boulder Arbitration Court for sewage

Address \_\_\_\_\_

City-State Sample of effluent from Treatment plant into Boulder Creek.

SEE REVERSE SIDE FOR

Sampling Instructions MPN: not given

## Result of Test

LB \_\_\_\_\_ 3/3 4/3 0/3 0/3

24

BGB \_\_\_\_\_ 3/3 0/3 0/3 0/3

24

48

SPC \_\_\_\_\_

MPN

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

100764  
15114

Sample taken: Date 10/15/64 Town Bo County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. McKen

Fill in all information

Return Report

to: City of Boulder (Dietz)

Address: \_\_\_\_\_

City-State: Sample of stream entering dairy property

SEE REVERSE SIDE FOR

Sampling Instructions

now not given

## Result of Test

LB

24

BGB

24

SPC

MPN

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested 10/15/64

Specimen Identification Number

Samples from Boulder  
Sanitary Landfill Site not  
included on table or  
graph because they are  
neither from the inflow  
nor the outflow.

John R. McVair  
8/5/65

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

13704

9 9 64

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
150 BROADWAY  
BOULDER, COLO.

## Result of Test

LB 3 1/3 0 0 0  
24 48

BGB 7/3 0/3 0/3 0/3  
24 48

SPC \_\_\_\_\_

MPN 9/10/100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

Date 9/8/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R McNam SPECIAL

Fill in all Information

Return Report to: City of Boulder Please check  
cond dilution  
count for  
swage.

road at dump site

Through  
McNam  
SEE REVERSE SIDE FOR  
Sampling Instructions MPN 910

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

13335

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BRADWAY  
BOULDER, COLO.

Sample taken: Date 8-31-68 Town Dump County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment X Special

Source: ( ) Well ( ) Surface

Sample Taken by: DON MAR MANDE Please do  
sewage collect

Fill in all Information

Return Report

to: Boulder Sanitary Landfill Pond

Address \_\_\_\_\_

City-State Sample from Pond

SEE REVERSE SIDE FOR

Sampling Instructions

CPHD, Lab. 6, 1963 (100M)

## Result of Test

LB 0/0/0/0/0  
24 48

BGB 24 48

SPC \_\_\_\_\_

MPN 43.6 X 10<sup>3</sup> / 100

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

M.F.N.  
360

# STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

13334

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 ROADWAY  
BOULDER, COLORADO

## Result of Test

Sample taken: Date 8-31-64 Town Dump Creek County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment X Special

Source: ( ) Well ( ) Surface

Sample Taken by: DON MAR MANDE coli dil. ct.

## Fill in all Information

Return Report

to: Boulder Sanitary Land Fill Creek

Address \_\_\_\_\_

City-State Sample from creek

SEE REVERSE SIDE FOR

Sampling Instructions

2300  
M.P.N.

LB 3/3 0/3 0/3 0/3

BGB 3/3 0/3 0/3 0/3

SPC 23x10<sup>1</sup>/100cc

MPN 23x10<sup>1</sup>/100cc

SAFE

UNSAFE

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

# STANDARD BACTERIOLOGICAL WATER TEST 13028

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

BOULDER CITY - COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Sample taken: Date 8-24-64 Town Boulder County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment X special

Source: ( ) Well ( ) Surface

Sample Taken by: DON MARMADE

Fill in all information

Return Report Boulder city Dump Creek d.i. ct.

to: Boulder city Dump Creek d.i. ct.

Address: Sample NEAR Spring seepage

City-State: from Pond

SEE REVERSE SIDE FOR

Sampling Instructions

## Result of Test

LB 3/3 0/0 0/0

BGB 3/3 0/0 0/0

SPC 240x10/100cc

MPN 240x10/100cc

☐ SAFE

☐ UNSAFE

☐ UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number

## STANDARD BACTERIOLOGICAL WATER TEST

Colorado State Department of Public Health

4210 East 11th Avenue - Denver 20

Phone 388-5801

13031

BOULDER COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.Sample taken: Date 8/24/64 Town \_\_\_\_\_ County Boulder

Type of Supply: ( ) Private ( ) Municipal ( ) Food Establishment

Source: ( ) Well ( ) Surface

Sample Taken by: John R. M. K.Fill in all Information

Return Report

to: City of BoulderAddress: Sample at E. edge of pond on dump propertyCity-State: AS Creek flows into PondReturn throughJohn R. M. K.

CPHD. Lab. 6, 1963 (100M)

SEE REVERSE SIDE FORSampling InstructionsM.P.N.  
910

## Result of Test

LB

24

48

BGB

24

48

SPC

MPN

☐

SAFE

☐

UNSAFE

☐

UNSATISFACTORY FOR TEST.

Please re-submit

Date Tested

Specimen Identification Number



~~Summary~~ <sup>to</sup>

Park up water Cold  
Hill, Pic & Eye  
(Trojan Pool)

Wagon wheel water  
TAKOTA Beeds, } Others?  
                              } (Other camp,  
                                      Swims)

**ORDINANCE NO. 1797**

AN ORDINANCE ESTABLISHING RATES TO BE CHARGED AT THE CITY DUMP, REQUIRING ALL PERSONS DUMPING AT SAID DUMP TO PAY FOR SAID PRIVILEGE, REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT THEREWITH, AND DECLARING AN EMERGENCY THEREFOR.

WHEREAS, the City of Boulder has found it necessary to operate its City Dump under a sanitary land-fill method; and,

WHEREAS, such a method of operation of a dump entails additional expense for its operation and maintenance; and,

WHEREAS, the present budget of the City of Boulder makes no provision for such type of operation; and,

WHEREAS, it is the opinion of the City Council of the City of Boulder that such an expenditure cannot be adequately financed out of the general funds of the City now or in the future under the present existing tax structure; and,

WHEREAS, the City Council believes that a system of charging fees for the dumping of materials at said City Dump is reasonable and in the best interests of the citizens of the City of Boulder;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER:

SECTION 1. The following rates for the privilege of using and depositing refuse upon and in the City Dump of the City of Boulder are hereby established to be effective on and after the passage of this Ordinance:

- A) Passenger automobiles and trucks or trailers with rated capacity not in excess of one-half ton ----- \$ .25 (minimum)
  - b) Trucks with rated capacity of one-half ton to one ton ----- \$ .50
  - c) Trucks with rated capacity of over one ton and carrying not in excess of five cubic yards of refuse ----- \$1.00
- For each additional five cubic yards of refuse or fraction thereof ----- \$ .50
- d) Tree stumps, logs, and other special waste matter ----- \$4.00 (maximum)

SECTION 2. The City Manager and/or Director of Public Service shall promulgate from time to time reasonable rules and regulations for the collection of said dump fees and which are not in consistent with the terms and provisions of this Ordinance.

SECTION 3. All ordinances or parts of ordinances and all rates and rules in conflict herewith are hereby repealed.

SECTION 4. That in order that the rates for the privilege of dumping refuse at the City Dump of the City of Boulder and rules governing the collection of said fees at said Dump may be immediately in full force and effect, in the opinion of the Council an emergency exists, and the Ordinance is deemed necessary for the public peace, health, and property; therefore, it shall take effect immediately upon its introduction and passage and shall be published in accordance with the provisions of the City Charter of the City of Boulder.

INTRODUCED, READ, PASSED, AND ADOPTED this 1 day of June, A. D. 1954.

JOHN D. GILLASPIE  
Mayor

ATTEST:  
LEONARD R. JONES  
Director of Finance and Record and  
Ex-Officio City Clerk.  
Pub. June 2, 1954, in  
The Boulder Daily Camera

Lern — please record  
on sheet and send  
copy of Test to

Peter Dietze  
City of Boulder

Call Peter Dietze

State Health Department  
(address) 4210 E. 11<sup>th</sup>  
Director of Laboratories  
SERVICES DIVISION

Dr. C. D. McGuire

Persons in charge of water, milk, etc.

Mr. PAUL MAIFARTH  
~~Phyllis~~ Edna Parenteau  
MICK TOXICOLOGY STUDIOS  
Paul A. Smith  
7515 W. 17<sup>th</sup> Ave

CERTIFICATE

TO: COUNTY PLANNING DEPARTMENT  
COUNTY OF BOULDER  
BOULDER, COLORADO

Transamerica Title Insurance Company has made a careful and diligent search to determine the owners of record of the following described property and owners of property adjacent thereto, to-wit:

PARCEL A:

All of Lots 103, 104, 119, and 120, WELLINGTON GARDENS, situated in the South  $\frac{1}{2}$  of the Southeast  $\frac{1}{4}$  of the Northeast  $\frac{1}{4}$  of Section 7, Township 1 North, Range 70 West of the 6th P.M., Less that portion of subject property as described in Book 872 at Page 479, from Fordie A. Tumbleson and Caroline Tumbleson to Boulder Boys, Inc., described as follows: Beginning at the East  $\frac{1}{4}$  corner of Section 7, Township 1 North, Range 70 West of the 6th P.M., thence North 662.38 feet; thence West 360 feet; thence South  $13^{\circ}51'$  West, 160.26 feet; thence South  $2^{\circ}28'$  West, a distance of 507.25 feet; thence East, 420.19 feet to the Point of Beginning.

PARCEL B:

Commencing at the East  $\frac{1}{4}$  corner of Section 7, Township 1 North, Range 70 West of the 6th P.M.; thence West along the North line of the North  $\frac{1}{2}$  of the Southeast  $\frac{1}{4}$  of said Section 7, a distance of 706.31 feet to the TRUE POINT OF BEGINNING; thence South  $64^{\circ}31'$  West, a distance of 387.36 feet along the Northerly line of that tract of land as described in deed recorded in Book 645 at Page 544 of the RECORDS OF BOULDER COUNTY, COLORADO; thence South 493.34 feet along the West line of said tract of land described in said Book 645 at Page 544; thence West and parallel to the North line of the North  $\frac{1}{2}$  of the Southeast  $\frac{1}{4}$  of said Section 7, a distance of 264 feet, more or less, to the West line of the Northeast  $\frac{1}{4}$  of the Southeast  $\frac{1}{4}$  of said Section 7; thence Northerly along the West line of the Northeast  $\frac{1}{4}$  of the Southeast  $\frac{1}{4}$  of said Section 7, a distance of 660 feet, more or less, to the North line of the North  $\frac{1}{4}$  of the Southeast  $\frac{1}{4}$  of said Section 7, thence East 614 feet, more or less, along the North line of the North  $\frac{1}{2}$  of the Southeast  $\frac{1}{4}$  of said Section 7 to the TRUE POINT OF BEGINNING.

ALL IN THE COUNTY OF BOULDER, STATE OF COLORADO.

OWNERS OF THE ABOVE DESCRIBED PROPERTY:

BOULDER EXCAVATING COMPANY, a Colorado corporation

OWNERS OF PROPERTY ADJACENT THEREOF:

THE BOULDER LAND, IRRIGATION and POWER COMPANY  
INDUSTRIAL RESEARCH LAND LEASING CORPORATION  
BOULDER FISH & GAME CLUB  
THE CITY OF BOULDER

443-6896

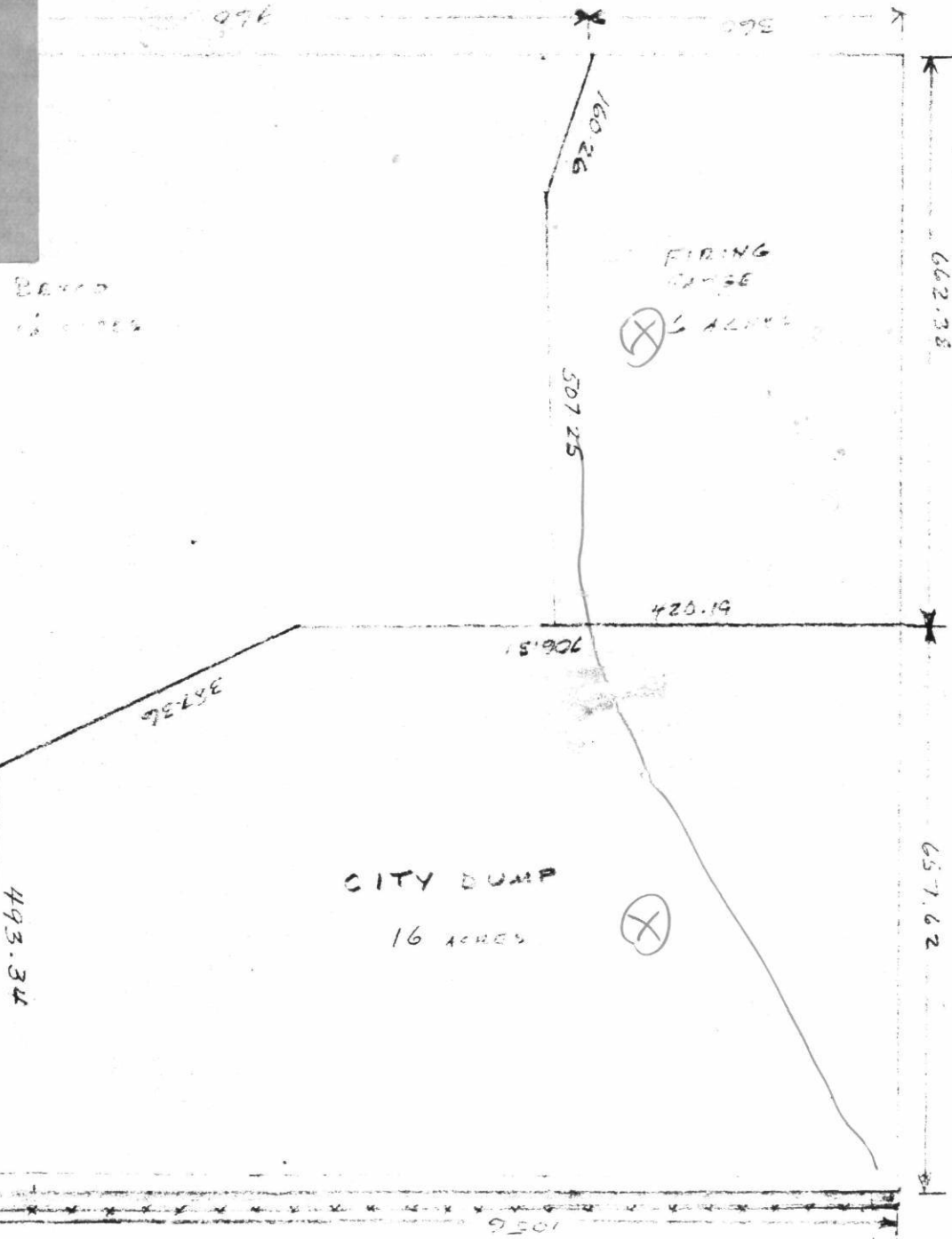
499-1652

494-7800

**1-823-6532**

442-8069

4476



CITY DUMP

16 ACRES

FIRING  
range

⑧ 42000

1000

CONFIDENTIAL TO LAMPSON

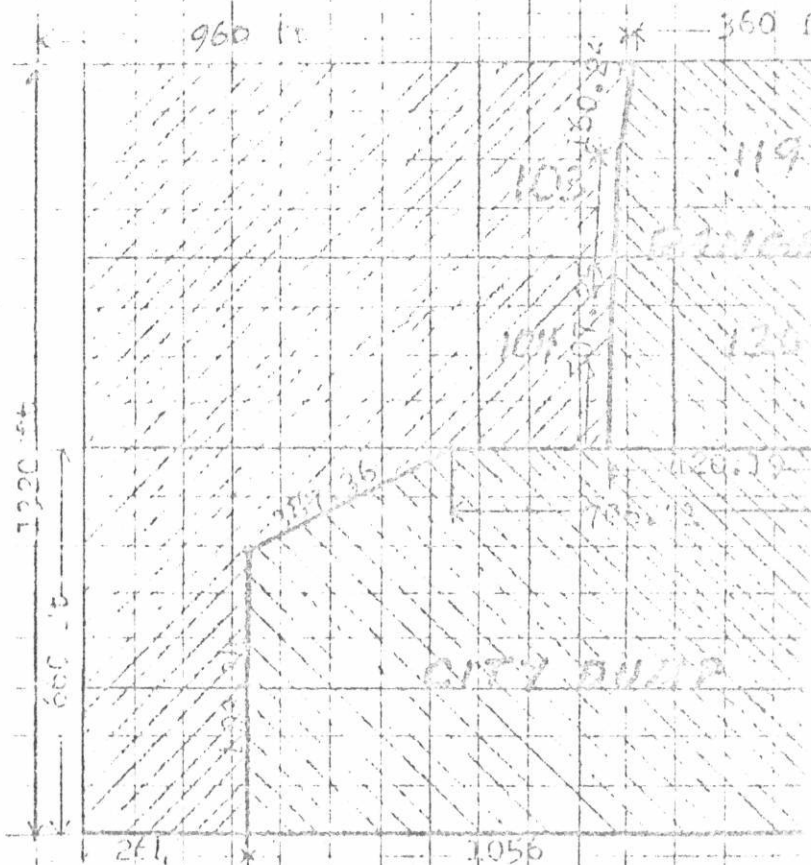
20 NINE FOUR  
21 THREE  
22

## HYDRO CONDUIT CORPORATION

PAGE \_\_\_\_\_ OF \_\_\_\_\_ PAGES

PROJECT SECTION 7 T1N R 70W

2640 ft.



CENTRE



# Boulder City Council Hears Dump Protest

BOULDER — A delegation from the Boulder Industrial Park Association protested to the City Council Tuesday night a proposal to locate a dump near the industrial complex northeast of the downtown area.

The 13 persons said proximity of a dump not only would depreciate property values but would "severely cripple" the operations and competitive position of electronics firms manufacturing "clean products."

The Council said the matter would receive full consideration

and noted that trash and rubbish disposal is one of the city's most pressing problems.

## DANGEROUS ROAD

The Council also was presented with a 30-signature petition asking for safety guard rails on the Flagstaff mountain road. The document noted that school buses travel the road and that during winter the route is exceptionally hazardous from ice and snow.

A new policy was proposed by E. Robert Turner, city manager, to allow the city to reserve

rights of way for freeways, expressways and arterial streets in new subdivisions for up to 10 years. Cost of building the normal arterial streets would be shared by the city and the developer.

The matter was considered in view of the city's difficulty in solving a traffic problem at 27th St. and Baseline Road. Owners of land at the intersection are asking \$34,000 for less than an acre. The city seeks the land to build a ramp off the Boulder-Denver turnpike. Turner said the price was excessive.

The Council also moved to appoint a seven-member Human Relations Commission. Names of 18 citizens were proposed for the agency.

Mrs. Harvey Lance, president of the Boulder chapter of the League of Women Voters, presented daisy boutonnières to Council members in recognition of their service to the community.



City of Boulder  
old Gravel Pits near Airport



Leaves deposited during City  
fall clean-up.

CITY OF BOULDER DUMP REGULATIONS

1. Animals shall not be allowed on the dump nor within the dump enclosure at any time.
2. After salvage is removed, the combustible residue shall be burned not less than once a week.
3. Dead animals and fowl shall be burned or buried once each day.
4. All residue shall be covered with dirt as levels are approached.
5. The dump will be open to the public from 7 A. M. to 6 P. M. every day.

DEPARTMENT OF PUBLIC HEALTH  
CITY OF BOULDER, COLORADO

BY:

Director



## Health Department

Boulder Office • 3450 Broadway • Boulder, Colorado 80302 • 441-1100  
Longmont Office • 201 Main • Longmont, Colorado 80501 • 776-5743  
Tri-Cities Office • 1345 Plaza Ct. N., Suite 3A • Lafayette, Colorado 80026 • 666-0515

TO: Boulder County Health Department  
Environmental Health

I request access to the following records: Analytical Results Report

North Boulder Range

For the purpose of: As Environmental impact assessment by agency  
Read report that was sent to concerned individuals

Signed: [Signature]

Date: June 18, 1990



## ecology and environment, inc.

1776 SOUTH JACKSON STREET, DENVER, COLORADO 80210, TEL. 303-757-4984

International Specialists in the Environment

June 15, 1990

Susan Martino  
Sanitarian  
Boulder County Health Department  
3450 Broadway  
Boulder, CO 80304

Dear Susan:

Enclosed is a copy of the Analytical Results Report for North Boulder Dump, TDD F08-8712-03, April 22, 1988, per your request. I did not include Appendix A because the results are summarized in the text and data tables. Please contact me with any questions.

Sincerely,

Dave Franzen

Encl.

ANALYTICAL RESULTS REPORT

NORTH BOULDER DUMP

BOULDER, COLORADO

TDD F08-8712-03

FC00126SDA

EPA SITE PROJECT OFFICER: VERA MORITZ

E & E FIT PROJECT OFFICER: KEVIN MACKEY

PREPARED BY: MIKE CARMEN

REVIEWED BY: KAA FORD

SUBMITTED TO: LES SPRENGER, FIT-RPO

DAVE SCHALLER, SITE EVALUATION CHIEF

VERA MORITZ, EPA SITE COORDINATOR

DATE SUBMITTED: APRIL 22, 1988

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REPORT OF ANALYTICAL RESULTS  
FOR NORTH BOULDER DUMP, COLORADO  
TDD #F08-8712-03

1.0 INTRODUCTION

This report is submitted to satisfy, in part, the reporting requirements of Technical Directive Document (TDD) F08-8712-03 issued to Ecology and Environment, Inc. Field Investigation Team (FIT) by the Region VIII U.S. Environmental Protection Agency (EPA). This report provides analytical results data for the drilling and sampling investigations and site inspection conducted by FIT on September 17 and 18, 1987. Previous reports include the Sample Plan and Sample Activities Report (TDD F08-8611-23). These reports provide detailed information on site description, project objectives and sampling rationale.

2.0 PROJECT OBJECTIVES

The objectives of the site inspection were to:

- o Characterize the wastes present at the site.
- o Determine if a release of contaminants to the environment is occurring by collecting ground water, surface water, sediment and soil samples.
- o Determine the presence or absence of Tier III dioxin compounds at the North Boulder Dump site.
- o Gather information to document the Hazard Ranking System (HRS) score of the North Boulder Dump site as a potential uncontrolled hazardous waste site.

### 3.0 SITE DESCRIPTION

#### 3.1 LOCATION AND SITE DESCRIPTION

The North Boulder Dump is located at the northern end of 26th Street, approximately 0.75 miles east of the junction between North Broadway and Highway 36, in Section 7, Range 70 West, Township 1 North, in Boulder County, Colorado. The site latitude is 40° 03' 30", the longitude is 105° 16' 00" (Figure 1). The site is currently co-owned by two parties, the city of Boulder and Boulder Excavation Company. The portion of the area leased by Boulder Excavation covers approximately 90 acres on the north side of the site. The portion owned by the city of Boulder is on the south side of the site while the present dumping area covers approximately 15 acres (Figure 2).

#### 3.2 PREVIOUS WORK

Several routine inspections of the site were made by representatives of the Boulder County Health Department (BCHD) during dump operations conducted in the early sixties. A preliminary assessment of the site was performed by the Colorado Department of Health (CDH) in 1986.

Representatives of FIT, EPA, CDH and the BCHD conducted a site visit on December 8, 1986, in preparation for the Field Investigation Team site investigation. Additional site visits were conducted by FIT geologists in November of 1986. These site visits were undertaken in order to assess geological conditions and drilling requirements for the site.

##### 3.2.1 Site History

The following information was obtained from files included with the Preliminary Assessments prepared by CDH. The facility operated for roughly forty to forty-five years, ending officially in 1965. As mentioned previously, for fifteen years, from 1950 to 1965, the dump received wastes from the Syntex Inc. plant which was formerly the

Arapahoe Chemical Company. The type and quantity of waste disposed of in the dump, have not been identified; however, chemicals used by Syntex include diethyl ether, tetrahydrofuran, ethylene dichloride, benzene, toluene, xylene, acetone, ethyl benzene, methylene chloride, styrene, chloroform and tetrachloroethylene.

Some other chemicals that were used are sulfuric acid, nitric acid, hydrochloric acid, phenol, methyl bromide, magnesium, bromine, chlorine, sodium hydroxide and cyanide. These are but a few of the several hundred chemicals carried as the inventory at Arapahoe Chemicals, all of which were used in some manner in chemical processing.

Chemical wastes have been observed flowing off-site into a stream which feeds into Boulder Reservoir. Chemicals have also been observed being burned on-site.

The facility was operated as a modified open-face dump with inadequate cover material and exposed rubbish. The site is partially fenced and locked; however, entry is not fully restricted. Currently, the site is still used for the disposal of construction debris, household wastes, etc.

#### 4.0 GEOLOGY

The North Boulder dump is located along a creek of low gradient which drains a pediment sloping off the Colorado Front Range north of Boulder. A bedrock outcrop of the middle member of the Cretaceous Pierre shale is present updrainage from the site. The Pierre Shale dips eastward into the Denver Basin in the subsurface beneath the site. The Quaternary Piney Creek Alluvium is present at the surface down drainage and on site.

The dump is situated upon 0 to 20 feet of Piney Creek Alluvium. This alluvium is recognized regionally as a dark gray humic sandy to gravelly material rich in organic matter. The character of the alluvium on-site is greatly influenced by the bedrock shale source material

present elsewhere around the site. A reconnaissance of the site indicates the alluvium is poorly sorted and rich in weathered shale to clayey material. The contact with the underlying bedrock is abrupt, broadly undulating, and often displays a weathering zone at the base of the alluvium. No seeps were observed during the investigation, however, the wetland zone suggests water follows the bedrock contacts when it is available. Permeability of the on-site alluvium is greater than the somewhat fractured Pierre Shale. However, it is not as great as the silty or sandy facies of the Piney Creek alluvium where it occurs elsewhere along the Front Range.

The Pierre Shale is approximately 8000 feet thick, consisting of fossiliferous, marine shales with some sandstone beds in the middle and upper units (USGS, 1978). The Middle Pierre Shale is an undifferentiated upper Cretaceous shale approximately 1460 feet thick which includes claystone and sandy siltstone. This middle Pierre Shale includes the 60 feet thick Terry Sandstone member near its middle.

## 5.0 SITE HYDROLOGY

A tributary of Silver Lake Ditch drains the North Boulder Dump. This tributary is an intermittent stream generally flowing east and into the Sixmile Reservoir, approximately two miles downstream of the site. Sixmile Reservoir is used as an irrigation supply for approximately 5,000 acres. Boulder Reservoir is located within three miles downstream of the site, but is not expected to be impacted by North Boulder Dump.

Information about drinking water wells and their geologic logs was obtained from Colorado State Engineer's files. In a well located immediately adjacent to the site, the water level was recorded at approximately twenty-five feet (the screened interval included the alluvial materials and bedrock). Ground water flow directions are generally toward the east-northeast. Ground water in the alluvium is expected to closely follow that of the stream with which it is associated, the tributary of Silver Lake Ditch. According to information extracted from the publication, Water Resources of Boulder

County, Colorado (Hall, D.C., et.al., Colorado Geological Survey, Department of Natural Resources, Bulletin 42, 1980), the major unconsolidated aquifers in the western part of Boulder consist of poorly to well sorted material ranging in size from silt to boulders deposited by glaciers and melt water. Snow-melt and rainfall infiltration are the principal sources of recharge to aquifers. The net precipitation in this region is recorded at -22 inches annually. Direct contact with streamflow also recharges (as well as discharges to) the aquifer. Based upon expectedly high values for the hydraulic conductivities of both the Piney Creek and Verdos alluvium associated with the tributary extending downstream of the site, there is believed to be a great extent of communication between the tributary and the alluvial materials.

According to the Colorado State Engineer's files, a number of domestic wells are screened in both the alluvial and bedrock aquifers within three miles downgradient of the site.

Potentially contaminated ground water in the unconsolidated, subsurface materials at the site may be impacting alluvial ground water associated with the tributary downstream of the site. Thus, the unconfined alluvial aquifer is the aquifer of concern in this site investigation. Any fracturing of the underlying Pierre shale may represent a pathway for communication between the alluvial and bedrock aquifer. Therefore, the potential exists for contamination of the aquifer within the Pierre shale.

## 6.0 SAMPLE COLLECTION

### 6.1 GROUND WATER SAMPLES

Sampling activities conducted at the North Boulder Dump involved bailing two existing wells dry prior to sampling. Attempts at installing monitoring wells at the site were abandoned due to lack of ground water. The existing wells are very shallow and contained almost too little water to sample. Monitoring well BD-GW-1 was an extremely slow recharger which resulted in the FIT obtaining samples for volatile

organic and Task 1 and 2 metals analysis only. Monitoring well BD-GW-2 recharged at a more rapid rate than BD-GW-1 therefore the FIT was able to collect enough sample for BNA, pesticides, volatile organics and Task 1 and 2 metals analysis.

Ground water samples were collected with a decontaminated stainless steel bailer. Samples were poured from the bailer directly into the sample bottles via the use of a stainless steel funnel.

Samples for volatile organics were poured directly from the bailer into the sample vials. Ground water samples slated for metals analysis were filtered using a 2.4 liter barrel filter and a 0.45 micron membrane filter prior to collection into the sample containers. The samples were then acidified with a 1:1 dilution of concentrated  $\text{HNO}_3$  to a pH of less than 2.0. All ground water samples were then iced and shipped to their respective laboratories for analyses.

Additional samples included several surface water and sediment samples taken from a pond on the northwest of the dump and a creek flowing through the dump site (Figure 2, sample locations map):

## 6.2 SURFACE WATER SAMPLES

During the course of this investigation FIT collected a total of 4 surface water samples along with the required laboratory QA/QC samples. All samples were collected from a stream bed which flowed through the site. BD-SW-1 provided a background sample and established a baseline from which to assess possible impacts from the North Boulder Dump. Sample BD-SW-2 was collected from a pond located in the stream drainage. A third surface water sample was collected from the stream approximately 150 feet downgradient from where the main road crosses the stream bed on site (Figure 2). This sample (BD-SW-3) was characterized by a rust colored precipitate below an oily sheen on the water surface. A downgradient sample, BD-SW-4 was collected from the stream bed approximately 15 yards from the eastern boundary of the site.

### 6.3 SEDIMENT SAMPLE COLLECTION

The FIT collected four sediment samples from the stream bed flowing through the dump site (Figure 2). The samples were collected using a decontaminated stainless steel hand auger and stainless steel spoon. Sediment samples were taken from the top 4 to 6 inches of the sediment layer and composited on a sheet of aluminum foil. The composited samples were placed into the appropriate sample containers for shipment to their respective laboratories for analysis. A separate 8 ounce container was also collected from each sample location and shipped for dioxin analysis.

### 6.4 SOIL SAMPLE COLLECTION

The FIT collected three augered soil samples from the North Boulder Dump area. One soil sample BD-SO-1 was collected from a swampy area below the point where the main road crosses the stream bed on the landfill property. This sample (BD-SO-1) was collected at a depth of approximately 2 feet. During the collection of BD-SO-1, FIT members Kevin Mackey and Linda Morrison noticed slightly elevated HNu readings (as high as 3 ppm near the auger hole). This sample area was selected based on an interview with Mike Clark, (on 8/31/87), a Boulder Excavating company employee. Mr. Clark informed FIT member Kevin Mackey that several drums had been buried under construction debris disposed of on site.

Additional soil samples (BD-SO-2 and BD-SO-3) were collected from a hillslope above the stream drainage. Both samples were collected downslope of another possible drum disposal area tentatively identified from interviews with Bill Degge, a landowner in the area. These samples were collected at a depth of approximately 2 feet. Collection depth was based on HNu readings and visual appearance of the soil. Sample BD-SO-2 was collected for the purpose of HSL organic analysis while sample BD-SO-3 was collected for the purpose of dioxin analysis.

## 7.0 QUALITY ASSURANCE

The organic, inorganic and dioxin data packages were examined thoroughly by FIT chemists for compliance with the EPA Functional Guidelines for Reviewing Organic and Inorganic Compounds and the approved Region VIII FIT CLP Quality Assurance SOP. The Quality Assurance reports and data sheets are attached in Appendix A. The data packages were judged acceptable with the following qualifications.

### 7.1 ORGANIC DATA

Specific findings pertaining to quality assurance of the organic data package are as follows:

Analytical problems effecting not only accuracy but also sensitivity (i.e. detection limits), were present in the organic data package. These problems include: laboratory holding times for soil VOA's were exceeded by 14 days resulting in all soil VOA data being estimated and subject to a low bias; laboratory holding times for water VOA's were exceeded by 7 to 14 days resulting in all aromatics being flagged with a "j".

The extraction deadline for BNA and pesticide analysis was exceeded by 30 to 34 days with 8 of 10 pesticide water surrogates having less than 24% recovery. The associated spike recovery contained 10 of 12 samples outside the set limits. No significant concentrations were detected. Detection limits were estimated due to exceeded holding times.

### 7.2 INORGANIC DATA

Several elements were analyzed for yet not detected, and therefore flagged "u". The associated numerical value is the estimated sample quantitation limit (see Table 2). Additional elements were qualified with a "uj", indicating elevated detection limits. A "j" data qualifier, indicating an estimated quantity due to the amount detected



being below the Contract Required Detection Limits (CRDL), was assigned to the following elements; beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, vanadium and zinc. Concentrations of lead for sediment samples BD-SE-2 and BD-SE-4 and surface water samples BD-SW-1 and BD-SW-3 were flagged with an "js" since their results were determined by method of standard edition. Arsenic concentrations in sediment sample BD-SE-3 was also flagged "js".

Inorganic data qualified by brackets represents a detection of the element greater than the detection limits of the analytical instrument used yet less than CRDL.

Inorganic analysis of the field blank BD-GW-4 did not reveal significant levels of contaminants. With the exception of cadmium and magnesium, none of the elements tested for were detected above CRDL. Duplicate sample BD-SW-5 found moderate agreement with BD-SW-3, with the exception of aluminum, copper, iron and manganese, which differed by a factor of more than three.

### 7.3 DIOXIN/FURAN DATA

FIT QA/QC reviewers checked the dioxin/furan data quality in respect to calibration, recover/sensitivity, ion abundance criteria and calculations. Overall data quality was found to be acceptable.

No detectable dioxin/furan analytes were present in the associated sediment and soil samples for the North Boulder Dump (see Table 3). The performance evaluation sample BD-PE-1 was found to be within the 99% confidence interval, but somewhat high for the 95% confidence interval, therefore a high bias was present in the laboratory evaluation. Since there were no detectable analytes found, this bias is of no consequence.

### 8.0 ANALYTICAL RESULTS

The objectives of this section are to: 1) summarize the analytical results for the samples collected during the course of this

investigation; 2) determine the presence and extent of contamination associated with past activities at the North Boulder Dump. The results of the organic, inorganic and dioxin/furan analysis are shown in Tables 1 through 3. For the organic results, the tables show only the contaminants detected. Since no detectable dioxin/furan analytes were present in the sediment and soil samples, there is no further discussion of dioxin/furan analysis in this section.

#### 8.1 GROUND WATER AND SURFACE WATER RESULTS

The two existing monitoring well samples (BD-GW-1 and 2) showed no significant levels of organic contamination (see Table 1). Sample BD-GW-1 found elevated levels of iron (18,300  $\mu\text{g/l}$ ), manganese (2720  $\mu\text{g/l}$ ), and potassium (42700  $\mu\text{g/l}$ ). These concentrations appear to be slightly elevated from those found in BD-GW-2. The difficulty in comparing concentrations of various elements in the ground water is due to the lack of a suitable background sample in which to compare the levels of concentrations. No background was available for this site due to lack of ground water at or near the site.

For surface water samples BD-SW-1 through BD-SW-5, no significant levels of organic compounds were detected (see Table 1). Inorganic compounds detected in the above mentioned samples include iron, magnesium, manganese, potassium, sodium and zinc. For sample BD-SW-3, iron (50700  $\mu\text{g/l}$ ), potassium (15000  $\mu\text{g/l}$ ), and zinc (737  $\mu\text{g/l}$ ), were found in concentrations of 6, 3 and 20 times greater than background levels (BD-SW-1) respectively. For BD-SW-4, potassium (15200  $\mu\text{g/l}$ ), was found to be three times greater than background levels.

#### 8.2 SOIL AND SEDIMENT RESULTS

Several soil and sediment samples collected within the dump area showed levels of organic contamination. FIT collected soil sample BD-SO-1 from a swamp area below the point where the main access road crosses the streambed on the dump property (Figure 2). Analysis of this sample found elevated levels of butylbenzylphthalate (650  $\mu\text{g/kg}$ ).

Sample BD-SE-3 was collected immediately downgradient of sample BD-SO-1. This area showed visual indications of potential contamination. Sediment was characterized by a rust colored precipitate and an oily sheen was found on top of the water surface in the same area. FIT also noticed a rusted drum partially buried beneath the ground surface in the sample area.

Analysis of sediment sample BD-SE-3 yielded slight levels of 2-butanone (46 µg/kg), diethylphthalate (220 µg/kg), pentachlorophenol (850 µg/kg), fluoranthene (120 µg/kg), and pyrene (140 µg/kg), all of which were below CRDL. Of these, 2-butanone was found in the field blank. Sample BD-SE-4, which was collected further downgradient from the alleged drum disposal area, found concentrations below detection limits of n-nitrosodiphenylamine (840 µg/kg), and phenol (150 µg/kg). N-nitrosodiphenylamine was found in both laboratory and field blanks.

Data collected during this investigation tends to verify the presence of trace organic contaminants at the North Boulder Dump. Specifically, the majority of contaminants appear to be concentrated in the lower drainage area of the landfill (see Figure 2). Difficulty arises in interpreting the data associated with this site due to the Contract Laboratory's missing the holding times allotted for extraction. This delay may have introduced a low bias to the data. This bias may mask the actual levels of contaminants present on site.

#### 9.0 CONCLUSIONS AND RECOMMENDATIONS

As a result of the FIT's investigation of the North Boulder Dump, a possible path of contaminant migration was identified in the alluvial aquifer, although the level of contamination is very slight, and this aquifer is practically non-existent. The origin of contaminants associated with this site appears to be from past disposal practices within the landfill.

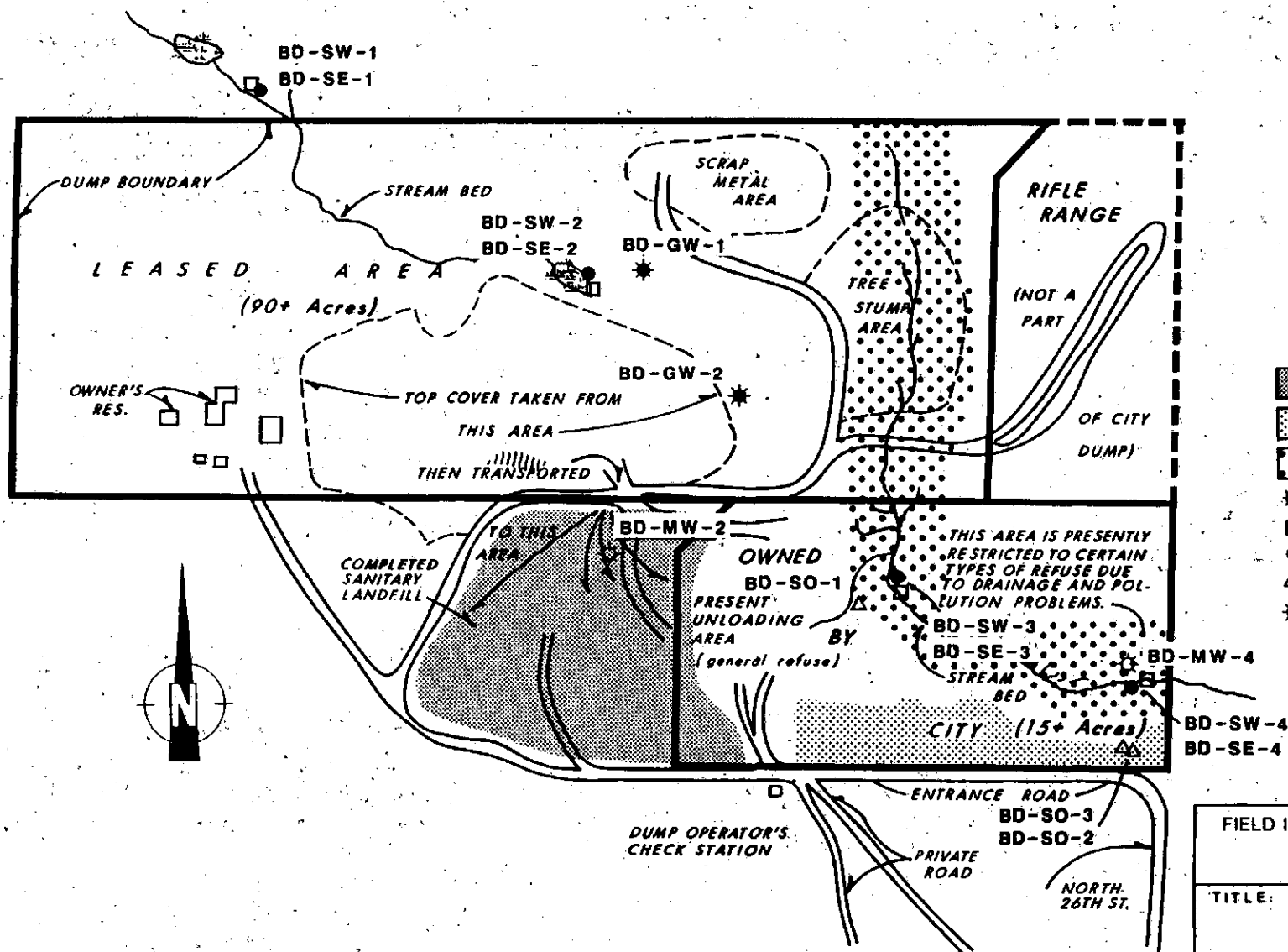
Surface water contamination appears to be very slight with only BD-SE-3 showing contamination, and this contamination is largely below

contract detection limits. While contaminant migration from this area could conceivably have an adverse effect on the Boulder Reservoir, which supplies a portion of the city of Boulder's water supply, this investigation failed to show a significant release of hazardous substances to the environment.

It is the FIT's opinion that the data collected during this investigation indicated slight contamination of the lower drainage area, however, due to laboratory error definitive conclusions cannot be drawn at this time. Resampling of the lower drainage area may be necessary in order to determine the ultimate degree and extent of contamination.

## REFERENCES

- Ecology and Environment, Inc., 1986. Site visit, North Boulder Dump, Boulder, Colorado. TDD F08-8611-23.
- Ecology and Environment, Inc. 1987. Sample Plan for the North Boulder Dump, Boulder, Colorado. TDD F08-8611-23.
- Ecology and Environment, Inc. 1987. Sample Activities Report, North Boulder Dump, Boulder, Colorado. TDD F08-8611-23.
- Colorado Department of Health, Preliminary Assessment for North Boulder Dump, Boulder, Colorado. 1986. CERCLIS #COD980959449
- Water Resources of Boulder County, Colorado, Colorado Geological Survey, Department of Natural Resources, Bulletin 42, 1980.
- Personal Communication, Mike Clark, Boulder Excavating Company employee, October 31, 1987.



# LEGEND

- Completed Landfill
- Old Open-Dump Area
- Restricted Area
- Monitoring Well
- Surface Water
- Sediment
- Soil Sample
- Ground Water Sample

Approximate Scale 1" = 300'

TABLE 1  
ORGANIC ANALYTICAL RESULTS  
SOIL AND SEDIMENT (µg/kg)  
FOR NORTH BOULDER DUMP  
TDD # F08-8712-03

SAMPLE NUMBER	BD-SO-1	BD-SO-2	BD-SE-4	BD-SE-1	BD-SE-2	BD-SE-3
TRAFFIC NUMBER	HD-045	HD-046	HD-047	HE-070	HE-071	HE-072
LOCATION	DRUM DISPOSAL	DRUM DISPOSAL	DNGRDNT	UPGRDNT	POND	ON-SITE
Methylene chloride	6ub	6ub	21j	22j	19j	13ub
Acetone	36ub	10ub	110ub	67ub	96b	33ub
butylbenzyl- phthalate	650	--	--	--	--	--
n-nitroso-di-n- phenylamine	730ub	300ub	840j	510ub	560ub	1300ub
toluene	--	1j	--	--	--	--
chloroform	--	--	3ub	3ub	3ub	--
2-butanone	--	--	--	14j	24	46j
Carbon disulfide	--	--	--	--	1j	--
Diethylphthalate	--	--	--	--	--	220j
Pentachlorophenol	--	--	--	--	--	850j
Fluoranthene	--	--	--	--	--	120j
Pyrene	--	--	--	--	--	140j
Phenol	--	--	150j	--	--	--

ub - Estimated sample quantitation limit increased. Amount found in sample reported. Compound detected at <5x the amount in blank (<10x for methylene chloride, acetone, toluene and phthalates).

j - The associated numerical value is an estimated quantity because the amount detected is below the required limits or because quality control criteria were not met.

TABLE 1 (Cont.)  
ORGANIC ANALYTICAL RESULTS  
SURFACE AND GROUND WATER (µg/l)  
FOR NORTH BOULDER DUMP  
TDD #F08-8712-03

SAMPLE NUMBER	BD-SW-4	BD-GW-1	BD-GW-2	BD-GW-4	BD-SW-1	BD-SW-2
TRAFFIC NUMBER	HD-165	HE-018	HE-019	HE-021	HE-022	HE-023
LOCATION	DNGRDNT	ON-SITE	ON-SITE	FIELD BLANK	UPGRDNT	POND
Methylene chloride	2j	3j	--	2j	2j	--
Acetone	6ub	13ub	9ub	8ub	9ub	5ub
n-nitrosodi- phenylamine	27ub	23ub	--	17ub	18ub	10ub
bis(2ethylhexyl) phthalate	10ub	7ub	--	10ub	10ub	10ub
di-n-butyl- phthalate	--	4j	--	--	--	--
Toluene	--	3j	2j	8j	--	--
Carbon disulfide	--	--	--	.6j	--	--
2-butanone	--	--	--	41	--	--

j - The associated numerical value is an estimated quantity because the amount detected is below the required limits or because quality control criteria were not met.

ub - Estimated sample quantitation limit increased. Amount found in sample reported. Compound detected at <5x the amount in blank (<10x for methylene chloride, acetone, toluene and phthalates).



TABLE 1 (Cont.)  
 ORGANIC ANALYTICAL RESULTS  
 SURFACE WATER AND GROUND WATER ( $\mu\text{g/l}$ )  
 FOR NORTH BOULDER DUMP  
 TDD # F08-8712-03

SAMPLE NUMBER	BD-SW-3	BD-SW-5
TRAFFIC NUMBER	HE-024	HE-069
LOCATION	DNGRDNT	DUP SW-3
<hr/>		
Acetone	5ub	12ub
n-nitrosodiphenylamine	10ub	8ub
bis(2ethylhexyl)phthalate	10ub	10ub

ub - Estimated sample quantitation limit increased. Amount found in sample reported. Compound detected at  $<5\times$  the amount in blank ( $<10\times$  for methylene chloride, acetone, toluene and phthalates).

TABLE 2  
INORGANIC ANALYSES RESULTS  
GROUND WATER (µg/l)  
TDD #F08-8712-03

SAMPLE NUMBER	BD-GW-1	BD-GW-2	BD-GW-4
TRAFFIC NUMBER	MHG-754	MHG-755	MHG-757
SAMPLE LOCATION	ON-SITE	ON-SITE	BLANK
Aluminum	410j	140uj	140uj
Antimony	60uj	60uj	50uj
Arsenic	11j	10uj	10uj
Barium	510	[190]	70u
Beryllium	3u	3u	3u
Cadmium	4u	5	6
Calcium	268000j	157000j	1900uj
Chromium	10u	10u	10u
Cobalt	30u	30u	30u
Copper	11u	11u	11u
Iron	18300	130	60u
Lead	5uj	5uj	5uj
Magnesium	103000	97100	1400j
Manganese	2720	710	11u
Mercury	.2u	.2u	.2u
Nickel	24u	24u	24u
Potassium	42700	13000	1400uj
Selenium	5uj	5uj	5uj
Silver	10uj	10uj	10uj
Sodium	100,000	151,000	1500uj
Thallium	10u	10u	10u
Tin	40uj	40uj	40uj
Vanadium	20u	20u	20u
Zinc	163	32	15u

u - The material was analyzed for, but was not detected. The associated numerical value is the estimated sample quantitation limit.

j - The associated numerical value is an estimated quantity because the amount detected is below the required limits or because quality control criteria were not met.

ub - Estimated sample quantitation limit increased. Amount found in sample reported. Compound detected at <5x the amount in blank (<10x for methylene chloride, acetone, toluene and phthalates).

uj - Detection limit is estimated because quality control criteria were not met.

jb - The value is an estimated amount detected below required limits and also detected in the blank.

b - Compound was detected in the blank. Quantity reported is >5x the amount found in the blank (>10x for methylene chloride, acetone, toluene and phthalates).

r - Quality control indicates that data is not usable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

TABLE 2 (Cont.)  
INORGANIC RESULTS  
SURFACE WATER (µg/l)  
FOR NORTH BOULDER DUMP  
TDD #F08-8712-03

SAMPLE NUMBER TRAFFIC NUMBER LOCATION	BD-SW-1 MHG-758 UPGRDNT	BD-SW-2 MHG-759 POND ON SITE	BD-SW-3 MHG-760 DNGRDNT	BD-SW-4 MHG-761 DNGRDNT	BD-SW-5 MHG-762 DUP OF SW-3
Aluminum	5450j	510j	6530j	[190]j	[160]j
Antimony	60uj	60uj	60uj	60uj	60uj
Arsenic	10uj	10uj	10uj	10uj	10uj
Barium	[100]	[90]	[150]	70u	70u
Beryllium	3u	3u	3u	3u	3u
Cadmium	4u	4u	4u	[4]	4u
Calcium	236000j	187000j	278000j	256000j	255000j
Chromium	10u	10u	10u	10u	10u
Cobalt	30u	30u	30u	30u	30u
Copper	11u	11u	36	11u	11u
Iron	8370	510	50700	780	760
Lead	11js	5uj	57js	5uj	5uj
Magnesium	113000	114000	137000	126000	134000
Manganese	1080	153	1920	64	66
Mercury	.2u	.2u	.2u	.2u	.2u
Nickel	24u	24u	24u	24u	24u
Potassium	5400	5500	15000	15200	15600
Selenium	5uj	5uj	5uj	5uj	5uj
Silver	10uj	10uj	10uj	10uj	10uj
Sodium	127000	134000	164000	162000	167000
Thallium	10u	10u	10u	10u	10u
Tin	40uj	40uj	40uj	40uj	40uj
Vanadium	20u	20u	20u	20u	20u
Zinc	36	15u	737	29	[18]

uj - Detection limit is estimated because quality control criteria were not met.

u - The material was analyzed for, but was not detected. The associated numerical value is the estimated sample quantitation limit.

j - The associated numerical value is an estimated quantity because the amount detected is below the required limits or because quality control criteria were not met.

[ ] - Compound is present and was detected. However, the quantity is below the contract required detection limit.

js - Indicates the value reported was determined by method of standard addition and is estimated.

TABLE 2. (CONT.)  
INORGANIC ANALYSES RESULTS  
SOIL AND SEDIMENT (mg/kg)  
FOR NORTH BOULDER DUMP  
TDD #F08-8712-03

SAMPLE NUMBER	BD-SE-3	BD-SO-1	BD-SE-4	BD-SO-2	BD-SE-1	BD-SE-2
TRAFFIC NUMBER	MHC-179	MHC-180	MHC-181	MHC-182	MHG-763	MHG-764
SAMPLE LOCATION	ON-SITE	ON-SITE	DNGRDNT	DRUM DISPOSAL	UPGRDNT	POND
Aluminum	24700	10800	23700	19800	24800	17700
Antimony	113uj	47uj	107uj	35uj	89uj	65uj
Arsenic	19s	7.8	18u	5.9u	15u	11u
Barium	[302]	240	481	299	[163]	[174]
Beryllium	5.7uj	2.3uj	5.3uj	1.8uj	4.4uj	3.3uj
Cadmium	7.6uj	3.1uj	7.1uj	2.3uj	5.9uj	4.4uj
Calcium	38000	13500	98600	5690	23400	30100
Chromium	19uj	10j	18uj	15j	16j	11uj
Cobalt	57uj	23uj	53uj	18uj	44uj	33uj
Copper	60j	23j	50j	[13]j	16uj	[18]j
Iron	73800	17500	33200	23400	22500	24500
Lead	117j	127j	168sj	23j	15j	30s
Magnesium	9440	5040	9090	5280	7540	9900
Manganese	1010	150	710	329	418	175
Mercury	.38u	.16u	.36u	.12u	.3u	.22u
Nickel	45uj	19uj	43uj	14uj	35uj	26uj
Potassium	[6230]	[2250]	[5350]	3220	[6210]	[4460]
Selenium	9.4u	3.9u	8.9u	2.9u	7.4u	5.4u
Silver	19u	7.8u	18u	5.9u	15u	11u
Sodium	2830uj	1160uj	2670uj	879uj	2220uj	1630uj
Thallium	19u	7.8u	18u	5.9u	15u	11u
Tin	76uj	31uj	71uj	23uj	59uj	44uj
Vanadium	117j	[17]j	36uj	30j	[46]j	[46]j
Zinc	976j	558j	1190j	79j	87j	106j

u - the material was analyzed for, but was not detected. the associated numerical value is the estimated sample quantitation limit.

j - the associated numerical value is an estimated quantity because the amount detected is below the required limits or because quality control criteria were not met.

ub - estimated sample quantitation limit increased. amount found in sample reported. compound detected at <5x the amount in blank (<10x for methylene chloride, acetone, toluene and phthalates).

uj - detection limit is estimated because quality control criteria were not met.

jb - the value is an estimated amount detected below required limits and also detected in the blank.

b - compound was detected in the blank. quantity reported is >5x the amount found in the blank (>10x for methylene chloride, acetone, toluene and phthalates).

r - quality control indicates that data is not usable (compound may or may not be present). resampling and reanalysis is necessary for verification.

TABLE 3  
DIOXIN/FURAN ANALYTICAL RESULTS  
SOIL AND SEDIMENT (ng/g)  
FOR NORTH BOULDER DUMP  
TDD #F08-8712-03

SAMPLE #	BD-HX-1	BD-PE-1	BD-SE-1	BD-SE-2	BD-SE-3
TRAFFIC REPORT #	DH016915	DH016923	DH016919	DH016918	DH016921
SAMPLE TYPE	RINSATE	PRFRMNCE CHECK	UPGRDNT	ON-SITE	ON-SITE
<hr/>					
<b>DIOXINS</b>					
Tetra (total)	nd	4.99	nd	nd	nd
Penta (total)	nd	nd	nd	nd	nd
Hexa (total)	nd	nd	nd	nd	nd
Hepta (total)	nd	nd	nd	nd	nd
Octa (total)	nd	nd	nd	nd	nd
<b>FURANS</b>					
Tetra (total)	nd	nd	nd	nd	nd
Penta (total)	nd	nd	nd	nd	nd
Hexa (total)	nd	nd	nd	nd	nd
Hepta (total)	nd	nd	nd	nd	nd
Octa (total)	nd	nd	nd	nd	nd

nd - not detected

TABLE 3 (Cont.)  
DIOXIN/FURAN ANALYTICAL RESULTS  
SOIL AND SEDIMENT (ng/g)  
FOR NORTH BOULDER DUMP  
TDD #F08-8712-03

SAMPLE #	BD-SE-4	BD-SO-1	BD-SO-2	BD-SO-3
TRAFFIC REPORT #	DH016922	DH016920	DH016916	DH016917
SAMPLE TYPE	ON-SITE	ON-SITE	ON-SITE	DUP AS-SO-2

**DIOXINS**

Tetra (total)	nd	nd	nd	nd
Penta (total)	nd	nd	nd	nd
Hexa (total)	nd	nd	nd	nd
Hepta (total)	nd	nd	nd	nd
Octa (total)	nd	nd	nd	nd

**FURANS**

Tetra (total)	nd	nd	nd	nd
Penta (total)	nd	nd	nd	nd
Hexa (total)	nd	nd	nd	nd
Hepta (total)	nd	nd	nd	nd
Octa (total)	nd	nd	nd	nd

nd - not detected

APPENDIX B

SITE INSPECTION REPORT

NORTH BOULDER DUMP





# Site Inspection Report



EPA form 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT		I. IDENTIFICATION	
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS		01 STATE CO	02 SITE NUMBER D980959449
<b>II. HAZARDOUS CONDITIONS AND INCIDENTS</b>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 A. GROUNDWATER CONTAMINATION</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> <u>10-20,000</u> </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input checked="" type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            From old reports, on file with the CDH, Arapahoe Chemical Company dumped old chemicals at this site on more than one occasion. Population stated above represents populus which utilizes drinking water from the Boulder Reservoir (see drinking water section).         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 B. SURFACE WATER CONTAMINATION</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> <u>10-20,000</u> </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input checked="" type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            ARCO was observed contributing old chemicals to the surface water stream adjacent to this site during the 1960's. Sediment sample BD-SE-3 was found to contain low levels of organic contamination.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 C. CONTAMINATION OF AIR</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> _____         </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            None observed or reported.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 D. FIRE/EXPLOSIVE CONDITIONS</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> _____         </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            The possibility of fire/explosive conditions is not known to exist at this site.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 X E. DIRECT CONTACT</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> <u>Unknown</u> </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input checked="" type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            Due to soil contamination, the possibility exists for a direct contact incident to occur.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 X F. CONTAMINATION OF SOIL</b>  <b>03 AREA POTENTIALLY AFFECTED:</b> <u>18 acres</u> </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input checked="" type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            (Acres)            Soil and sediment samples taken on site indicate a low level of organic and inorganic contamination.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 X G. DRINKING WATER CONTAMINATION</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> <u>10-20,000</u> </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input checked="" type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            The site is upstream from the Boulder Reservoir which is used for water storage by the city of Boulder.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 H. WORKER EXPOSURE/INJURY</b>  <b>03 WORKERS POTENTIALLY AFFECTED:</b> _____         </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            None observed or reported.         </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>01 I. POPULATION EXPOSURE/INJURY</b>  <b>03 POPULATION POTENTIALLY AFFECTED:</b> _____         </div> <div style="width: 50%;"> <b>02 OBSERVED (DATE: _____)</b> <input type="checkbox"/> <b>POTENTIAL</b> <input type="checkbox"/> <b>ALLEGED</b>  <b>04 NARRATIVE DESCRIPTION</b>            The site is closed. No past exposure/injury incidents have been recorded.         </div> </div>			

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT		I. IDENTIFICATION	
EPA	PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS	01 STATE CO	02 SITE NUMBER D980959449
<b>II. HAZARDOUS CONDITIONS AND INCIDENTS (CONTINUED)</b>			
01 <input checked="" type="checkbox"/> J. DAMAGE TO FLORA		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
04 NARRATIVE DESCRIPTION Contamination in the soils may be toxic to plant growth in the area.			
01 <input type="checkbox"/> K. DAMAGE TO FAUNA		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
04 NARRATIVE DESCRIPTION (Include name(s) of species) None observed or reported.			
01 <input type="checkbox"/> L. CONTAMINATION OF FOOD CHAIN		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
04 NARRATIVE DESCRIPTION None observed or reported.			
01 <input checked="" type="checkbox"/> M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums)		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input checked="" type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
03 POPULATION POTENTIALLY AFFECTED: <u>Unknown</u> 04 NARRATIVE DESCRIPTION Oily sheens on water surface, and alleged drum disposals on site create an unstable containment situation possible.			
01 <input type="checkbox"/> N. DAMAGE TO OFFSITE PROPERTY		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
04 NARRATIVE DESCRIPTION None observed or reported.			
01 <input type="checkbox"/> O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
04 NARRATIVE DESCRIPTION None observed or reported.			
01 <input checked="" type="checkbox"/> P. ILLEGAL/UNAUTHORIZED DUMPING		02 <input checked="" type="checkbox"/> OBSERVED (DATE: <u>Various</u> ) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED	
04 NARRATIVE DESCRIPTION The last five years of dumping at the site (1965 to 1970) was illegal. The site was in operation after its official closure; (Preliminary Assessment, CDH, 6/86).			
05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS None observed or reported.			
<b>III. TOTAL POPULATION POTENTIALLY AFFECTED: <u>10-20,000</u></b>			
<b>IV. COMMENTS</b> Tables 1-3 of this report illustrate the contaminants found on site.			
<b>V. SOURCES OF INFORMATION</b> (Cite specific references. e.g., state files, sample analysis, reports). Boulder County Health Dept. Files. Colorado Dept. of Health Files. Sample Activities Report, TDD #08-8611-23, Ecology and Environment, Inc., November, 1987.			

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 4 - PERMIT AND DESCRIPTIVE INFORMATION				I. IDENTIFICATION	
EPA		01 STATE CO		02 SITE NUMBER D980959449	
<b>II. PERMIT INFORMATION</b>					
01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS	
<input type="checkbox"/> A. NPDES					
<input type="checkbox"/> B. UIC					
<input type="checkbox"/> C. AIR					
<input type="checkbox"/> D. RCRA					
<input type="checkbox"/> E. RCRA INTERIM STATUS	COD980959449				
<input type="checkbox"/> F. SPCC PLAN					
<input type="checkbox"/> G. STATE (Specify)					
<input type="checkbox"/> H. LOCAL (Specify)					
<input type="checkbox"/> I. OTHER (Specify)					
<input type="checkbox"/> J. NONE					
<b>III. SITE DESCRIPTION</b>					
01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 Other	
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input type="checkbox"/> A. INCENERATION	<input type="checkbox"/> A. BUILDINGS ON SITE	
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION		
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	06 AREA OF SITE	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL		
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	18 (Acres)	
<input checked="" type="checkbox"/> F. LANDFILL	Unknown		<input type="checkbox"/> F. SOLVENT RECOVERY		
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY		
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)		
<input type="checkbox"/> I. OTHER (Specify)					
07 COMMENTS Site was officially closed in 1965.					
<b>IV. CONTAINMENT</b>					
01 CONTAINMENT OF WASTES (Check one)					
<input type="checkbox"/> A. ADEQUATE, SECURE <input type="checkbox"/> B. MODERATE <input checked="" type="checkbox"/> C. INADEQUATE, POOR <input type="checkbox"/> D. INSECURE, UNSOUND, DANGEROUS					
02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC. There is no containment measures except for a native soil cap over the landfill.					
<b>V. ACCESSIBILITY</b>					
01 WASTE EASILY ACCESSIBLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
02 COMMENTS					
<b>VI. SOURCES OF INFORMATION</b> (Cite specific references, e.g. state files, sample analysis, reports)					
Personal communication, Scott Winters, Waste Management Division, Colorado Department of Health, April, 1988. Sample Activities Report, North Boulder Dump, Ecology and Environment, Inc., TDD F08-8611-23.					

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT						I. IDENTIFICATION	
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA						01 STATE CO	02 SITE NUMBER D980959449
<b>II. DRINKING WATER SUPPLY</b>							
01 TYPE OF DRINKING SUPPLY (Check as applicable)			02 STATUS			03 DISTANCE TO SITE	
<div style="display: flex; justify-content: space-between;"> <span>SURFACE WELL</span> </div> <div style="display: flex; justify-content: space-between;"> <span>COMMUNITY A. <input checked="" type="checkbox"/> B. <input type="checkbox"/></span> <span>ENDANGERED A. <input checked="" type="checkbox"/> B. <input type="checkbox"/> C. <input type="checkbox"/></span> <span>A. <u>2</u> (mi)</span> </div> <div style="display: flex; justify-content: space-between;"> <span>NON-COMMUNITY C. <input type="checkbox"/> D. <input type="checkbox"/></span> <span>D. <input type="checkbox"/> E. <input type="checkbox"/> F. <input type="checkbox"/></span> <span>B. <input type="checkbox"/> (mi)</span> </div>							
<b>III. GROUNDWATER</b>							
01 GROUNDWATER USE IN VICINITY (Check one)							
<input type="checkbox"/> A. ONLY SOURCE FOR DRINKING <input type="checkbox"/> B. DRINKING (Other sources available) <input checked="" type="checkbox"/> C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available) <input type="checkbox"/> D. NOT USED. UNUSEABLE COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)							
02 POPULATION SERVED BY GROUND WATER <u>Unknown</u>				03 DISTANCE TO NEAREST DRINKING WATER WELL <u>Unknown</u> (mi)			
04 DEPTH TO GROUNDWATER <u>&lt; 20</u> (ft)	05 DIRECTION OF GROUNDWATER FLOW <u>SSE</u>		06 DEPTH TO AQUIFER OF CONCERN <u>&lt; 20</u> (ft)	07 POTENTIAL YIELD OF AQUIFER <u>2880</u> (gpd)	08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings) <u>Unknown at time of report</u>							
10 RECHARGE AREA				11 DISCHARGE AREA			
<input checked="" type="checkbox"/> YES     COMMENTS: Creek that drains landfill seeps into gw table on site. <input type="checkbox"/> NO				<input type="checkbox"/> YES     COMMENTS: Standing ponds on site. <input type="checkbox"/> NO			
<b>IV. SURFACE WATER</b>							
01 SURFACE WATER USE (Check one)							
<input checked="" type="checkbox"/> A. RESERVOIR, RECREATION DRINKING WATER SOURCE <input type="checkbox"/> B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES <input type="checkbox"/> C. COMMERCIAL, INDUSTRIAL <input type="checkbox"/> D. NOT CURRENTLY USED							
02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER							
NAME:		AFFECTED		DISTANCE TO SITE			
<u>Boulder Reservoir</u>		<input type="checkbox"/>		<u>2</u> (mi)			
<u>Mesa Reservoir</u>		<input type="checkbox"/>		<u>&lt; 1</u> (mi)			
<u>Left Hand Valley Reservoir</u>		<input type="checkbox"/>		<u>1</u> (mi)			
<b>V. DEMOGRAPHIC AND PROPERTY INFORMATION</b>							
01 TOTAL POPULATION WITHIN				02 DISTANCE TO NEAREST POPULATION			
ONE (1) MILE OF SITE     TWO (2) MILES OF SITE     THREE (3) MILES OF SITE A. <u>&lt; 20,000</u> B. <u>30,000</u> C. <u>40,000</u> NO. OF PERSONS     NO. OF PERSONS     NO. OF PERSONS				<u>1/2</u> (mi)			
03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE <u>City of Boulder is within 2 miles.</u>				04 DISTANCE TO NEAREST OFF-SITE BUILDING <u>&lt; 1</u> (mi)			
05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)							
<u>City of Boulder is located within one mile of the site to the south. Three mile limit extends to Arapahoe Road. Population North Boulder approximately 40,000.</u>							





POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 6 - SAMPLE AND FIELD INFORMATION				I. IDENTIFICATION	
EPA				01 STATE CO	02 SITE NUMBER D980959449
<b>II. SAMPLES TAKEN</b>					
SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO ORGANICS                      INORGANICS                      DIOXINS			03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	3	Acurex Corp.                      Wilson Lab			12/30/87
SURFACE WATER	5	Acurex Corp.                      Wilson Lab			12/30/87
WASTE					
AIR					
RUNOFF					
SPILL					
SOIL	3	Acurex Corp.                      Wilson Lab                      TMS			12/30/87
VEGETATION					
OTHER (Sediment)	4	Acurex Corp.                      Wilson Lab			12/30/87
<b>III. FIELD MEASUREMENTS TAKEN</b>					
01 TYPE pH	02 COMMENTS All readings taken @ time of sampling.				
Specific Conductance	All readings taken @ time of sampling.				
Temperature	All readings taken @ time of sampling.				
H <sub>2</sub> Nu	Elevated readings recorded at BD-SO-1.				
<b>IV. PHOTOGRAPHS AND MAPS</b>					
01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL		02 IN CUSTODY OF <u>Ecology and Environment, Inc.</u> (Name of organization or individual)			
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS <u>Ecology and Environment, Inc., TDD F08-8611-23</u>				
<b>V. OTHER FIELD DATA COLLECTED (Provide narrative description)</b>					
The lithologic logs and well completion diagrams are presented in the Sampling Activities Report prepared under TDD F08-8611-23.					
<b>VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)</b>					
Sampling Activities Report; Ecology and Environment, Inc., TDD F08-8611-23.					

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 7 - OWNER INFORMATION						I. IDENTIFICATION	
EPA				01 STATE CO	02 SITE NUMBER D980959449		
<b>II. CURRENT OWNER(S)</b>				<b>PARENT COMPANY (If applicable)</b>			
01 NAME City of Boulder		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) Canyon & Broadway		04 SIC CODE		10 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		11 SIC CODE	
05 CITY Boulder	06 STATE CO	07 ZIP CODE 80302		12 CITY	13 STATE	14 ZIP CODE	
01 NAME Boulder Excavation		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) 1001 Leahill Rd., P.O. Box 337		04 SIC CODE		10 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		11 SIC CODE	
05 CITY Boulder	06 STATE CO	07 ZIP CODE 80306		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		04 SIC CODE		10 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
<b>III. PREVIOUS OWNER(S) (List most recent first)</b>				<b>IV. REALTY OWNER(S) (If applicable; list most recent first)</b>			
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
<b>V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)</b>							
Preliminary Assessment, Colorado Department of Health, June, 1986.							

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 8 - OPERATOR INFORMATION				I. IDENTIFICATION	
EPA		01 STATE CO		02 SITE NUMBER D980959449	
II. CURRENT OPERATOR (Provide if different from owner)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME Boulder Excavating		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 1001 Leahill Rd., P.O. Box 337		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY Boulder		06 STATE CO	07 ZIP CODE 80306	14 CITY	
08 YEARS OF OPERATION 35		09 NAME OF OWNER Mr. Tumbelson		15 STATE	
16 ZIP CODE					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)		
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE	14 CITY	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD		15 STATE	
16 ZIP CODE					
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE	14 CITY	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD		15 STATE	
16 ZIP CODE					
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE	14 CITY	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD		15 STATE	
16 ZIP CODE					
IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)					
Preliminary Assessment, Colorado Department of Health, June, 1986.					

<b>EPA</b> <b>POTENTIAL HAZARDOUS WASTE SITE</b> <b>SITE INSPECTION REPORT</b> <b>PART 9 - GENERATOR/TRANSPORTER INFORMATION</b>		<b>I. IDENTIFICATION</b> 01 STATE 02 SITE NUMBER CO D980959449	
<b>II. ON-SITE GENERATOR</b>			
01 NAME North Boulder Dump		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) North 26th Street		04 SIC CODE	
05 CITY Boulder	06 STATE CO	07 ZIP CODE 80302	
<b>III. OFF-SITE GENERATOR(S)</b>			
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
<b>IV. TRANSPORTER(S)</b>			
01 NAME Unknown		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	
<b>V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)</b>			
Preliminary Assessment, Colorado Department of Health, June, 1986.			

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES		I. IDENTIFICATION	
EPA		01 STATE CO	02 SITE NUMBER D980959449
<b>II. PAST RESPONSE ACTIVITIES</b>			
01 <u>    </u> A. WATER SUPPLY CLOSED	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> B. TEMPORARY WATER SUPPLY PROVIDED	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> C. PERMANENT WATER SUPPLY PROVIDED	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> D. SPILLED MATERIAL REMOVED	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> E. CONTAMINATED SOIL REMOVED	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> F. WASTE REPACKAGED	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> G. WASTE DISPOSED ELSEWHERE	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> H. ON SITE BURIAL	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> I. IN SITU CHEMICAL TREATMENT	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> J. IN SITU BIOLOGICAL TREATMENT	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> K. IN SITU PHYSICAL TREATMENT	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> L. ENCAPSULATION	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> M. EMERGENCY WASTE TREATMENT	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> N. CUTOFF WALLS	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> O. EMERGENCY DIKING/SURFACE WATER DIVERSION	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> P. CUTOFF TRENCHES/SUMP	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			
01 <u>    </u> Q. SUBSURFACE CUTOFF WALL	02 DATE <u>                    </u>	03 AGENCY <u>                    </u>	
04 DESCRIPTION None observed or reported.			

<b>POTENTIAL HAZARDOUS WASTE SITE</b> <b>SITE INSPECTION REPORT</b> <b>PART 10 - PAST RESPONSE ACTIVITIES</b>		<b>I. IDENTIFICATION</b>	
<b>EPA</b>		<b>01 STATE</b> <b>CO</b>	<b>02 SITE NUMBER</b> <b>D980959449</b>
<b>II. PAST RESPONSE ACTIVITIES (Continued)</b>			
<b>01</b> <u>    </u> <b>R. BARRIER WALLS CONSTRUCTED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>S. CAPPING/COVERING</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>T. BULK TANKAGE REPAIRED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>U. GROUT CURTAIN CONSTRUCTED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>V. BOTTOM SEALED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>W. GAS CONTROL</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>X. FIRE CONTROL</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>Y. LEACHATE TREATMENT</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>Z. AREA EVACUATED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>1. ACCESS TO SITE RESTRICTED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>2. POPULATION RELOCATED</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>01</b> <u>    </u> <b>3. OTHER REMEDIAL ACTIVITIES</b>	<b>02 DATE</b> <u>                    </u>	<b>03 AGENCY</b> <u>                                    </u>	
<b>04 DESCRIPTION</b> None observed or reported.			
<b>V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)</b>			
Preliminary Assessment, CDH, 6/86. Sampling Activities Report, Ecology and Environment, Inc., TDD P08-8611-23.			

POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE CO	02 SITE NUMBER D980959449
----------------	------------------------------

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

The North Boulder Dump has been officially closed since 1965.

RECEIVED  
DEPT. OF ENVIRONMENT  
AND NATURAL RESOURCES  
JAN 13 1986

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, CDH, 06/86.

## BOULDER COUNTY HEALTH DEPARTMENT

-- PHONE MESSAGE --

FROM KIM - Kathleen Fisher FOR Tom or George  
PHONE NUMBER 441-3020 DATE 10-5-87  
OF City Attorney's Office TIME 1357

Called \_\_\_\_\_  
Please Call ✓ \_\_\_\_\_  
Will Call Back \_\_\_\_\_  
Returned Your Call \_\_\_\_\_

Was in the Office \_\_\_\_\_  
Wants to See You \_\_\_\_\_  
URGENT \_\_\_\_\_  
FOR YOUR INFORMATION \_\_\_\_\_

## MESSAGE:

re: City EPA + 26<sup>th</sup> St. Dump  
needs copies of everything we have  
on the 26<sup>th</sup> St. Dump

10-6-87 RCLM 9:40

TAKEN BY:  
3/79 - 516



## BOULDER COUNTY HEALTH DEPARTMENT

-- PHONE MESSAGE --

FROM Kevin Macki FOR S. M.  
PHONE NUMBER 757-4984 DATE 9-1-87  
OF Eco/Environment TIME 1325

Called           Please Call           Will Call Back           Returned Your Call ✓Was in the Office           Wants to See You           URGENT           FOR YOUR INFORMATION           

## MESSAGE:

9/2/87- Dave Franzen : Drilling did ~~begin~~ begin last week  
and is continuing this wk.

TAKEN BY:

3/79 - 516

## BOULDER COUNTY HEALTH DEPARTMENT

-- PHONE MESSAGE --

9  
FROM Kevin Maeki FOR Tom  
PHONE NUMBER 757-4984 DATE 8-20-87  
OF Ecology & Environment TIME 1400

Called

Please Call

Will Call Back

Returned Your Call

Was in the Office

Wants to See You

URGENT

FOR YOUR INFORMATION

## MESSAGE:

re - No Boulder dump

Project by EPA

①

Drilling at N. Boulder dump will start ~~on~~ August 24, 1987.

TAKEN BY:

3/79 - 516



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500

DENVER, COLORADO 80202-2405

MAR 31 1987

Ref: 8HWM-SR

Mr. George Mathews  
Boulder County Health Department  
3450 Broadway  
Boulder, Colorado 80302

Dear George:

Enclosed for your review is a copy of the Draft Sampling Plan for EPA's proposed Site Investigation of the North Boulder Dump. Since I will be leaving this program on April 1st, your best contact here now is my Section Chief, David Schaller (293-1518).

It was nice working with you on this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Eric".

Eric Johnson  
Environmental Scientist

Enclosure

DIVISION OF ENVIRONMENTAL HEALTH

-INTEROFFICE MEMO-

DATE 3-23-87

TO N. 26<sup>th</sup> St. Dump site - file

FROM Geo.

MESSAGE Status report:

City of Boulder has denied access to drill on the  
site.

Project on hold.

# DRAFT COPY

SAMPLING PLAN FOR  
THE NORTH BOULDER DUMP  
BOULDER, COLORADO  
TDD F08-8611-23

E&E PROJECT OFFICER: DAVE FRANZEN  
EPA PROJECT OFFICER: ERIC JOHNSON  
REVIEWED BY: KARL FORD

SUBMITTED TO: KEITH SCHWAB, FIT-DPO  
WILLIAM GEISE, REM-FIT COORDINATORS

DATE SUBMITTED: FEBRUARY 16, 1987

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APPENDIX A: CHEMICALS PRODUCED AT ARAPAHOE CHEMICAL COMPANY

## FIGURES AND TABLES

### FIGURES

1. SITE LOCATION MAP
2. SAMPLE LOCATION MAP

### TABLES

1. SUMMARY OF SAMPLE TYPES, LOCATIONS AND RATIONALES
2. SAMPLE PLAN CHECKLIST

SAMPLING PLAN FOR  
THE NORTH BOULDER DUMP  
BOULDER, COLORADO  
TDD F08-8611-23

I. INTRODUCTION

Under the provisions of Technical Directive Document (TDD) F08-8611-23, the Region VIII, U.S. Environmental Protection Agency (EPA) tasked the Ecology and Environment, Inc., Field Investigation Team (E&E FIT), to prepare a sampling plan for the North Boulder Dump located on the north side of Boulder, Colorado (Figure 1).

This sampling plan has been prepared to satisfy in part the requirements of the above referenced TDD and is designed to produce the required objectives of the site investigation in a cost effective, timely and safe manner. This sampling plan conforms with the requirements established by the Region VIII FIT Standard Operating Procedures (SOP III-2) for Sampling of Hazardous Waste Sites.

The overall scope of this project includes a geophysical study, well drilling, sampling and a dioxin study. The geophysics will be studied by means of a seismic refraction survey to determine optimal well locations. Based on the survey results, four ground water monitoring wells will be drilled and logged. Sample collection will consist of four surface water (including one duplicate sample), three sediments, five composite soils collected from each of the four monitoring wells and one borehole in the landfill and six ground water samples including one duplicate and one blank. The dioxin study will require three sediment samples, one soil sample, three QA soil samples and one hexane rinse sample. Sampling will be coordinated with the Colorado Department of Health (CDH) and Boulder County Health Department (BCHD).



## II. OBJECTIVES

The primary purpose of the site investigation is to gather information necessary to evaluate the site using the Hazard Ranking System (HRS). Therefore, the specific objectives of the investigation are:

- 1) To characterize the wastes present at the site.
- 2) To determine if a release of potential contaminants to the environment is occurring by collecting ground water, surface water, sediment and soil samples.

The FIT has gathered information from the PA prepared by CDH to initially address the HRS pathways. Based upon the following review of these pathways, the FIT highly recommends conducting a site investigation of the North Boulder Dump which is currently co-owned by the city of Boulder and Boulder Excavating Company.

- 1) For 15 years, from 1950 to 1965, all wastes from the Syntex, Inc. (formerly Arapahoe Chemical Company) plant were dumped in the landfill. The waste type or quantity dumped at the landfill have not been identified; however, over 200 organic and inorganic chemicals were used in the production operation including solvents and acids. See Section III. C, Site History for details.

- 2) Chemical wastes were observed flowing into an adjacent stream that feeds Boulder Reservoir, a supply for the City of Boulder's drinking water system.

- 3) The facility was operated as a modified open face dump with inadequate cover material and exposed rubbish. The facility is partially fenced, but access to the site can be obtained.

- 4) During a site inspection on July 21, 1960, by a representative of the Boulder City-County Health Department, chemicals were being burned by the Arapahoe Chemical Company which were "giving off what appeared to be a nauseating effect."

5) In a previous investigation of the Arapahoe Chemical facility in Boulder (TDD R8-8606-05), E&E FIT found reasonable cause to analyze sediment samples for the presence of dioxin. Analysis of the sediment samples indicated an absence of 2,3,7,8-Tetrachloro-dibenzo p-dioxin. However, problems were encountered in the analysis of QA/QC samples by the laboratory which invalidated the results from the field samples. Due to the fact that Arapahoe Chemical used the North Boulder Dump for disposal, it is possible that Tier 6 dioxin compounds may be present in the dump.

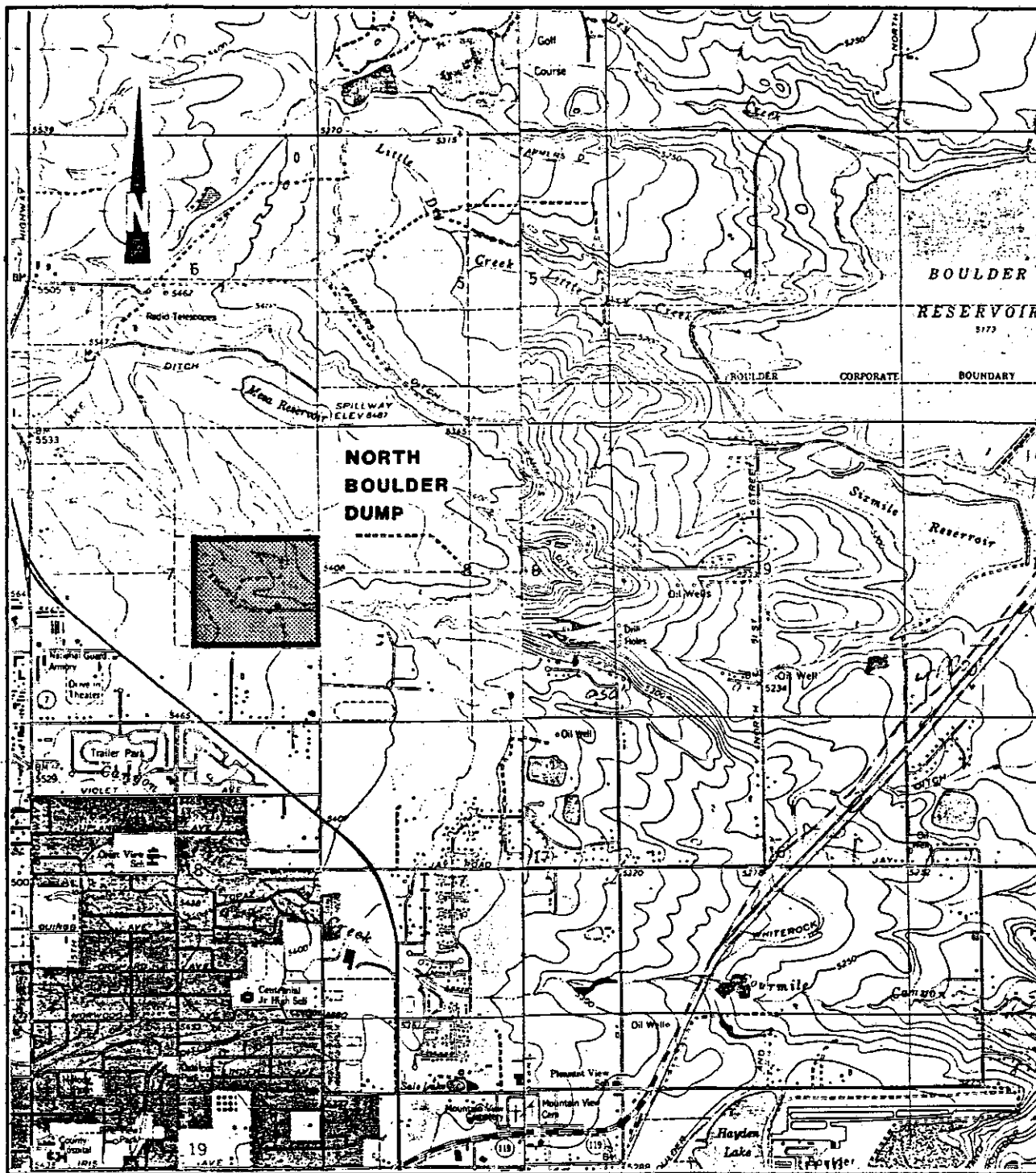
6) A preliminary HRS score has been calculated for the dump which indicated a target population for both surface water and ground water. The surface water pathway was based on irrigation water use from Six Mile Reservoir. The target population for the ground water pathway was based primarily on ten private wells in the Piney Creek alluvium which underlies the tributary of Silver Lake Ditch which drains the site. The preliminary HRS score was calculated to be slightly lower than 28.5, the minimum required to include the site on the National Priorities List.

Based on the above observations, it appears that a potential exists for contamination of ground water, surface water, and soil. Blowing dust may also be source of hazardous waste exposure but the need for this will be investigated during the summer which is more suitable for air sampling projects.

### III. BACKGROUND

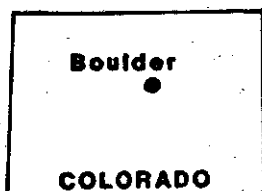
#### A. LOCATION AND SITE DESCRIPTION

The North Boulder Dump is located at the northern end of 26th Street, approximately 0.75 miles east of the junction between North Broadway and Highway 36, in Section 7, Range 70 West, Township 1 North, in Boulder County, Colorado. The site latitude is 40° 03' 30", the longitude is 105° 16' 00" (Figure 1). The site is currently co-owned by two parties, the city of Boulder and Boulder Excavation



**Boulder, Colorado Quadrangle**

**LOCATION MAP**



**LEGEND**

**Site Location**

**FIELD INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES**  
**TASK REPORT TO THE E.P.A.**

**TITLE:** **NORTH BOULDER DUMP**  
**Boulder, Colorado**  
**SITE LOCATION MAP**

**T.O.D. F08-8612-17**

**ecology and environment, inc.**  
**DENVER, COLORADO**

**FIG. 1**

**DATE 01/87** **SCALE BY RSM** **SCALE 1:24,000**

Company. The part leased by Boulder Excavation covers approximately 90 acres on the north side of the site. The portion owned by the city of Boulder is on the south side of the site. The old closed dump covers approximately 10 acres. The area presently being used as a dump covers approximately 15 acres (Figure 2).

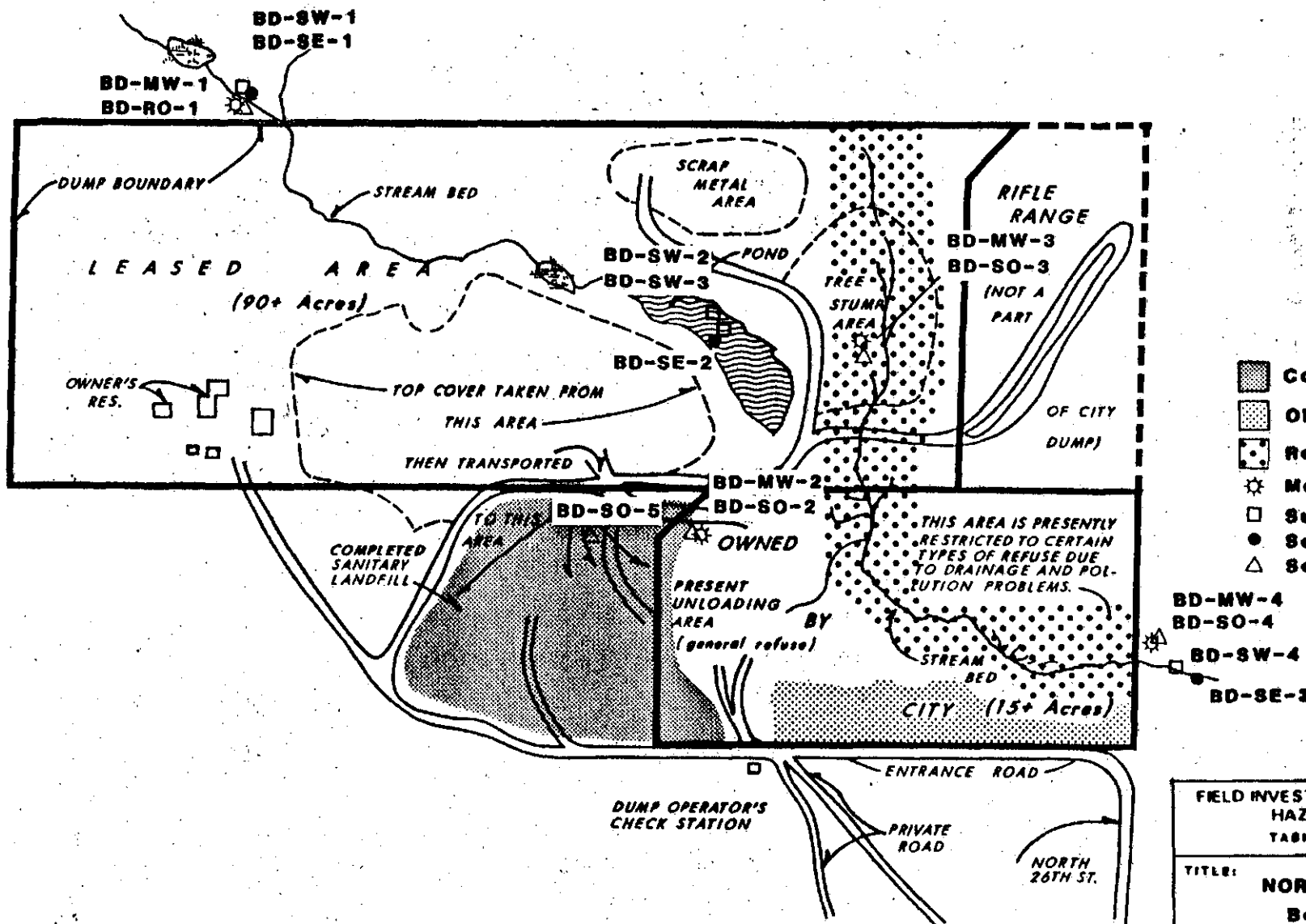
#### B. PREVIOUS WORK

Several routine inspections of the site were made by representatives of the BCHD during dump operation in the early sixties. A preliminary assessment of the site was performed by CDH in 1986. Representatives of E&E FIT, EPA, CDH and the BCHD conducted a site visit on December 8, 1986, as preparation for conducting a site investigation. In addition, two E&E FIT geologists conducted a site visit in early November, 1986, to assess the geology and drilling requirements for the site.

#### C. SITE HISTORY

The following information was obtained from files included with the Preliminary Assessment prepared by CDH. The facility was in operation for approximately forty to forty-five years, ending officially in 1965. As mentioned previously, for fifteen years, from 1950 to 1965, the dump received wastes from the Syntex, Inc., plant which was formerly the Arapahoe Chemical Company. The type and quantity of waste disposed of in the dump, have not been identified; however, chemicals used by Syntex include diethyl ether, tetrahydrofuran, ethylene dichloride, benzene, toluene, xylene, acetone, ethylbenzene, methylene chloride, styrene, chloroform and tetrachloroethylene.

Some other chemicals that were used are sulfuric acid, nitric acid, hydrochloric acid, phenol, methyl bromide, magnesium, bromine, chlorine, sodium hydroxide and cyanide. These are but a few of the several hundred chemicals carried as the inventory at Arapahoe Chemicals, all of which were used in some manner in chemical



# LEGEND

- Completed Landfill
- Old Open-Dump Area
- X

 Restricted Area
- Monitoring Well
- Surface Water
- Sediment
- Soil Sample

BD-MW-4  
BD-SO-4  
BD-SW-4  
BD-SE-3

## FIELD INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES TASK REPORT TO THE E.P.A.

TITLE: **NORTH BOULDER DUMP**  
**Boulder, Colorado**

## SAMPLE LOCATION MAP

T.O.D. F08-8612-17

ecology and environment, inc.  
DENVER, COLORADO

FIG. 2

Date: **01/87** Drawn by: **RSM** Scale: \_\_\_\_\_

processing. A list of the chemical products from Arapahoe Chemical Company can be found in Appendix A.

Chemical wastes have been observed flowing off the site into a stream that feeds Boulder Reservoir. Chemicals have also been observed being burned on-site.

The facility was operated as a modified open-face dump with inadequate cover material and exposed rubbish. The site is partially fenced and locked; however, entry is not fully restricted. Currently, the site is still used for the disposal of construction debris, household wastes, etc.

#### D. SITE GEOLOGY

The North Boulder Dump is situated upon 0 to 20 feet of Quaternary Piney Creek Alluvium, a dark-gray, humic sandy to gravelly material rich in organic matter. It is generally confined to creek, stream and river channels. The upper part is distinguished by weakly-developed Holocene Brown's soil and grades into colluvium upslope.

Although not immediately at the site, the Verdos alluvium is also existing in the vicinity of the North Boulder dump. Specifically, this alluvium occurs downvalley along a tributary of the Silver Lake ditch which drains the site. The Verdos alluvium consists of sand and gravel; it is a clayey matrix and contains partially decomposed pebbles, cobbles and boulders of igneous, sedimentary and metamorphic rocks. The hydraulic conductivity of both the Piney Creek and Verdos alluvium is expected to be relatively high compared to the underlying bedrock.

Underlying the Piney Creek Alluvium and Verdos Alluvium is the middle shale member of the Pierre Shale, an undifferentiated, upper Cretaceous shale. The middle shale comprises a claystone and sandy siltstone approximately fourteen hundred sixty (1460) feet in

thickness. This unit includes the Terry Sandstone Member near the middle of the unit and is sixty feet in thickness. The entire Pierre Shale is approximately eight thousand (8,000) feet thick and consists of shale with sandstone beds in the middle and upper part (Geologic Map of the Boulder - Fort Collins - Greeley Area, Colorado, USGS, 1978, Scale: 1:100,000).

#### E. SITE HYDROLOGY

A tributary of Silver Lake Ditch drains the North Boulder dump. This tributary is an intermittent stream generally flowing east and into the Sixmile Reservoir, approximately two miles downstream of the site. Sixmile Reservoir is used as an irrigation supply for approximately five thousand (5,000) acres. Boulder Reservoir is located within three miles downstream of the site, but is not expected to be impacted by North Boulder dump.

Information about drinking water wells and their geologic logs was obtained from Colorado State Engineer's files. In a well located immediately adjacent to the site, the water level was recorded at approximately twenty-five feet (the screened interval included the alluvial materials and bedrock). Ground water flow directions are generally toward the east-northeast. Ground water in the alluvium is expected to closely follow that of the stream with which it is associated, the tributary of Silver Lake Ditch. According to information extracted from the publication, Water Resources of Boulder County, Colorado (Hall, D.C., et.al., Colorado Geologic Survey, Department of Natural Resources, Bulletin 42, 1980:), the major unconsolidated aquifers in the western part of Boulder County consist of poorly to well-sorted material ranging in size from silt to boulders deposited by glaciers and melt water. Snow-melt and rainfall infiltration are the principal sources of recharge to the aquifers. The net precipitation in this region is recorded at -22 inches annually. Direct contact with streamflow also recharges (as well as discharges to) the aquifer. Based upon expectedly high values for the hydraulic conductivities of both the Piney Creek and Verdos alluvium

associated with the tributary extending downstream of the site, there is believed to be a great extent of communication between the tributary and the alluvial materials.

According to Colorado State Engineer's files, a number of domestic wells are screened in both the alluvial and bedrock aquifers within three miles downstream of the site.

Potentially contaminated ground water in the unconsolidated, subsurface materials at the site may be impacting alluvial ground water associated with the tributary downstream of the site. Thus, the unconfined alluvial aquifer is the aquifer of concern in this site investigation. Any fracturing of the underlying Pierre Shale may represent a pathway for communication between the alluvial and bedrock aquifers. Therefore, the potential exists for contamination of the aquifers within the Pierre Shale.

#### IV. FIELD PROCEDURES

##### A. CONCEPT OF OPERATIONS

The site inspection will be coordinated with CDH and the BCHD. The project schedule will take place in three parts, geophysical survey, drilling of monitoring wells and sample collection.

##### B. SCHEDULE

###### Geophysical Survey

Day 1 and 2    Conduct seismic refraction survey to determine depth of saturated alluvium.



### Drilling

- Day 1 Mobilize drill rig to site; determine well locations and begin drilling and installing the first monitoring well; return to office.
- Day 2 to 4 Complete monitoring well installation; collect composite soil samples; return to office.

### Sampling

- Day 1 Mobilize sampling crew to the site; purge monitoring wells and collect ground water samples; collect blank water sample; return to office.
- Days 2 to 3 Mobilize sampling crew to the site; collect surface water and sediment samples; collect blank water sample; return to office.

### C. GEOPHYSICS

Due to the discontinuous nature and limited thickness of the alluvial deposits, geophysics will be employed to help site the monitoring wells onsite and downgradient of the site. A Seismic Refraction survey will be used to determine the depth to bedrock at the proposed well locations. A set of two seismic lines, one perpendicular and one parallel to the direction of the tributary of Silver Lake Ditch, which drains the North Boulder dump, will be run at each well location. The survey should be able to identify monitoring well locations where there is a sufficient thickness of saturated alluvium to develop the wells in the alluvium. In addition, a survey conducted in undisturbed material near the base of the dump would characterize the depth of alluvium near the burial cell. If sufficient depth is found, a monitoring well could be installed at the base of the burial cell.

#### D. WELL INSTALLATION

Four monitoring wells, BD-MW-1, BD-MW-2, BD-MW-3, BD-MW-4, will be drilled using air rotary methods (presently being subcontracted by FIT) to an approximate depth of 20 feet. Locations of the wells are shown in Figure 2. Each well will be completed in the upper portion of the aquifer with a ten foot screened interval. Formation samples will be collected at five foot intervals for lithological examination and field screening purposes using the HNu photoionizer. A typical well installation diagram is illustrated in Figure 3.

Well development will be accomplished by bailing or surging the screened interval with air until the water runs clear. Subsequent to development, the wells will be allowed to stand at least 12 hours before sampling.

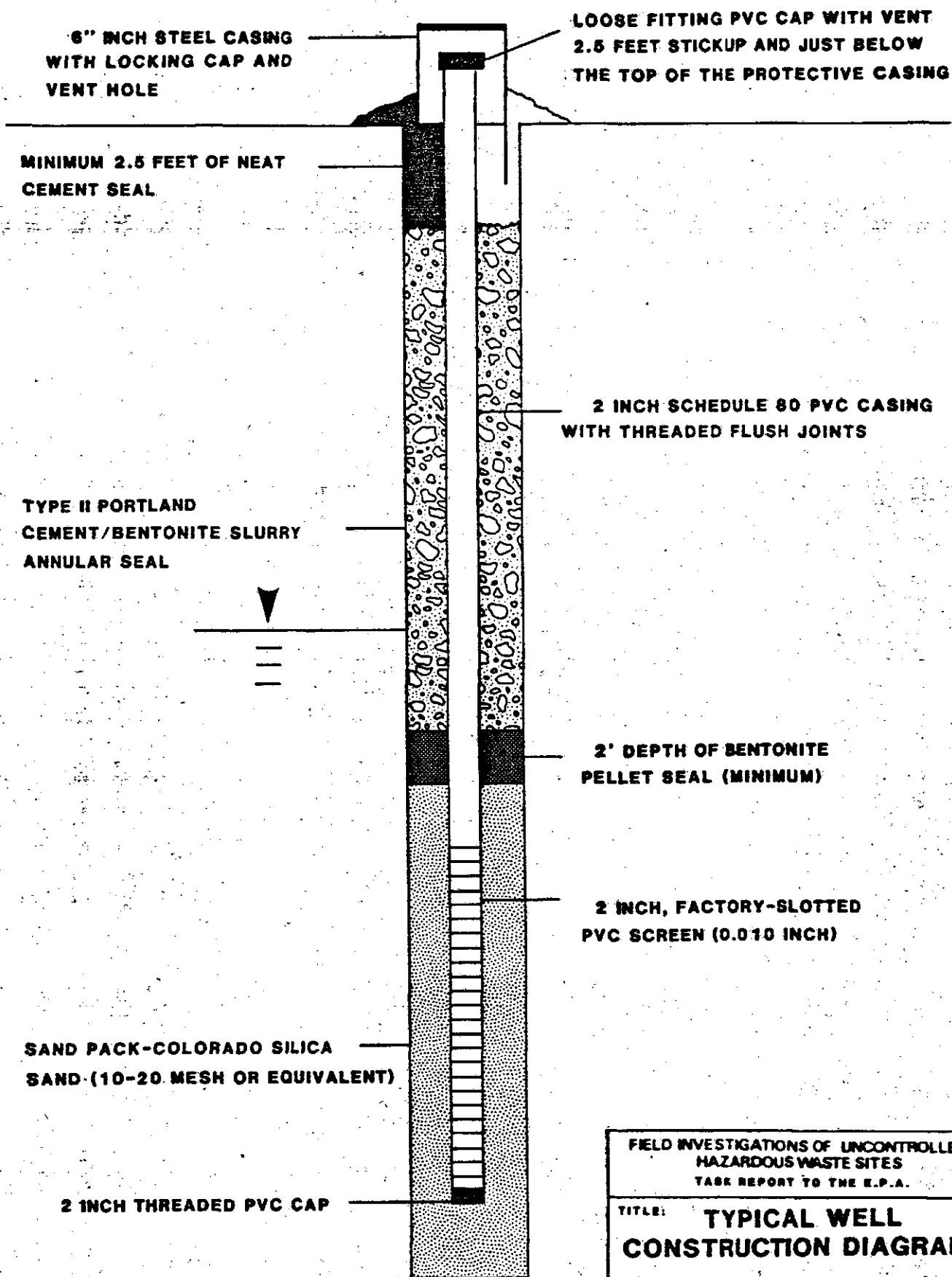
Following installation of the wells, a registered surveyor will survey the elevation of each well head.

#### E. SAMPLING LOCATIONS

This sampling activity includes the collection of five ground water, including one blank, four surface water, including one duplicate, three sediment, and five composite soil samples. Table 1 describes the rationale for each sample. Figure 2 illustrates the proposed sampling locations.

#### F. SAMPLING METHODS

FIT will collect samples using methods in accordance with FIT SOP III-2. Soil samples will be collected and composited during drilling using a disposable teflon scoop or stainless steel spoon. Ground water samples will be collected from the monitoring wells using a stainless steel bailer. Prior to the sampling, three times the casing volume of water of each well will be purged. Each ground water sample for dissolved metals analysis will be field filtered using a 2.4 liter



FIELD INVESTIGATIONS OF UNCONTROLLED  
HAZARDOUS WASTE SITES  
TASK REPORT TO THE E.P.A.

TITLE: **TYPICAL WELL  
CONSTRUCTION DIAGRAM**

T.O.D.

ecology and environment, inc.  
DENVER, COLORADO

**FIG. 3**

Date **01/87** Drawn by **RSM**

TABLE 1

## SUMMARY OF SAMPLE TYPES, LOCATIONS AND RATIONALES

SAMPLE MATRIX	SAMPLE NUMBER	LOCATION	RATIONALE
Ground Water	BD-MW-1	West of landfill site to be determined.	Background sample
	BD-MW-2	Northwest corner of dump owned by city of Boulder.	Detect contaminant release
	BD-MW-3	Southwest corner of property owned by Boulder Excavating.	Detect contaminant release
	BD-MW-4	Southeast corner of property owned by city of Boulder.	Detect contaminant release
	BD-MW-5		Duplicate of MW-4
	BD-MW-6		Blank.
Surface Water	BD-SW-1	Northwest of property owned by Boulder Excavating.	Background sample.
	BD-SW-2	Southwest corner of property owned by Boulder Excavating.	Detect contaminant release
	BD-SW-3		Duplicate of BD-SW-2.
	BD-SW-4	Southeast corner of property owned by city of Boulder.	Detect contaminants downstream of dump.
Sediment	BD-SE-1	Northwest of property	Background sample; dioxin analysis
	BD-SE-2	Southwest corner of property owned by Boulder Excavating.	Detect contaminant in pond on site; dioxin analysis
	BD-SE-3	Southeast corner of property owned by city of Boulder.	Detect contaminants downstream of dump; dioxin analysis.
Soil	BD-SO-1	North of site.	Background soil sample.
	BD-SO-2	Northwest corner of dump owned by city of Boulder.	Detect contaminant release
	BD-SO-3	Southwest corner of property owned by Boulder Excavating.	Detect contaminant release
	BD-SO-4	Southeast corner of property owned by city of Boulder.	Detect contaminant release
	BD-SO-5	Downgradient side of completed burial cell.	Detect contaminant; dioxin analysis.

TABLE 1 - CONT.

## SUMMARY OF SAMPLE TYPES, LOCATIONS AND RATIONALES

SAMPLE MATRIX	SAMPLE NUMBER	LOCATION	RATIONALE
Soil/Dioxin	BD-SO-6	NA	Dioxin QA blank.
	BD-SO-7	NA	Dioxin QA Laboratory spike
	BD-SO-8	NA	Dioxin QA duplicate
	BD-HX-1	NA	Dioxin QA equipment rinse
Opportunity Samples	Opportunity samples will be collected as deemed necessary.		

# TABLE 2

## SAMPLE PLAN CHECK LIST

REGION VIII

TDN Number: EC8-8611-23

Project Team Leader: DAVE FRANZEN

Sampling Date: \_\_\_\_\_

Site Name: NORTH BOULDER DUMP

Address: N 26TH ST

City: BOULDER County: BOULDER

Sample Location	Sample Type	Field Parameters					Laboratory Parameters														
		Temp	pH	Cond	DO	Special	Task 1 & 2 Metals	Task 3 Cyanide	Task 3 Sulfide	Task 3 Ammonia	Special Arsenic	Special NO3&NO2	Special Inorganic	VO	B/N/A Extract	Pesticide	Special Organic	Spill	Dup	Spill	Blank
BD-MW-1	GROUND WATER	✓	✓	✓			✓							✓	✓	✓					
BD-MW-2	GROUND WATER	✓	✓	✓			✓							✓	✓	✓					
BD-MW-3	GROUND WATER	✓	✓	✓			✓							✓	✓	✓					
BD-MW-4	GROUND WATER	✓	✓	✓			✓							✓	✓	✓					
BD-MW-5	GROUND WATER	✓	✓	✓			✓							✓	✓	✓			✓		
BD-MW-6	GROUND WATER	✓	✓	✓			✓							✓	✓	✓					✓
BD-SW-1	SURFACE WATER	✓	✓	✓			✓							✓	✓	✓					
BD-SW-2	SURFACE WATER	✓	✓	✓			✓							✓	✓	✓					
BD-SW-3	SURFACE WATER	✓	✓	✓			✓							✓	✓	✓			✓		
BD-SW-4	SURFACE WATER	✓	✓	✓			✓							✓	✓	✓					

### SAMPLE PLAN CHECK LIST

CITY: BOULDER COUNTY: BOULDER

### ACTION VIII

TRD Number: FOR-8611-23

Project Team Leader: DAVE FRANZEN

Sampling Date: \_\_\_\_\_

[illegible]

barrel filter with a 0.45 micron membrane filter. Surface water samples will be collected directly into the sample container.

#### G. SAFETY

A hot line and Personnel Decontamination Station (PDS) will be established during the site investigation. The extent and location of the PDS will be determined in the field based on site conditions and meteorological observations. It is anticipated that level D or level C protection will be adequate.

#### H. CONTROL OF CONTAMINATED MATERIALS

Contaminated materials derived during drilling and sampling activities will be contained in accordance with FIT SOP III-2. Disposable sampling equipment, i.e. rubber gloves, booties, and protective outerwear will be bagged and buried on site if permitted. Decontamination fluids will be disposed of in a trench on site.

#### I. ANALYTICAL PARAMETERS

Table 2 is the sample plan check list. All samples will be analyzed for Task 1 and 2 metals and hazardous substance list compounds including volatile organics, extractable organics (base/neutral/-acids), and pesticides. All of the sediment samples and soil sample BD-SO-5 will be analyzed for dioxin (TCDD). All samples except dioxin will be shipped to the contract laboratory as low hazard and analyzed for routine analytical services (RAS). The dioxin samples will be shipped to the contract laboratory as medium hazard.

#### J. FIELD QUALITY CONTROL PROCEDURES

All samples will be handled and preserved as described in FIT SOP III-2. Calibration and operation of pH, conductivity meters, and HNu will follow instrument manufacturers instructions and SOP III-2. Equipment will be decontaminated following each sample collection in accordance with standard procedures.



All samples are expected to be environmental. The following types of samples will be provided for quality assurance.

- o Blanks - One blank (BD-MW-6) will be collected for each day of ground water and surface water collection. The blank will be prepared by pouring "organics - free" and "metals - free" water through the sampling equipment following collection of a suspected contaminated sample and decontamination of the equipment.
- o Triple volume - A triple volume sample will be collected from BD-SW-1 in order to provide quality assurance for the laboratory.
- o Duplicates - Duplicate ground water (BD-MW-5) and surface water (BD-SW-4) samples will be prepared from sample locations where the highest levels of contaminants are suspected.
- o Background - Background samples will be collected for surface and ground waters, sediment, and soil. Each background sample will be designated as number one in each of the respective categories.
- o Dioxin - QA samples include duplicate, laboratory spike, blank and equipment rinsate.

#### K. CHAIN OF CUSTODY

After collection and identification, all samples will be handled in strict accordance to chain of custody protocol prescribed by the NEIC Procedure Manual for the Evidence Audit of Enforcement Investigation by Contractor Evidence Audit Teams, April, 1984 (EPA-300/9-81-003R).

## V. SAMPLING REPORTS AND FOLLOW UP REVIEW

After completion of the site investigation, FIT will provide a report of sampling activities to EPA Region VIII. Following receipt of comments from EPA, a revised copy will be sent to the CDH. A final copy will be distributed incorporating all comments. An Analytical Results Report will be prepared following receipt of the analytical data.

APPENDIX A:

CHEMICALS PRODUCED BY ARAPAHOE CHEMICALS COMPANY

**BOULDER****ARAPAHOE CHEMICAL****Syntex Corporation****Arapahoe Chemicals division**

Acetylferrocene  
tert-Amylferrocene  
1,4-Bis (2,4-methyl-5-phenyloxazolyl) benzene  
1,4-Bis (2,5-phenyloxazolyl) benzene  
N-Bromoacetamide  
N-Bromosuccinimide  
n-Butyl ferrocene  
N-Chlorosuccinimide  
Cobaltocene  
2-Cyclohexanone carboxylate  
Cyclohexene oxide  
Cyclohexyl chloride  
Cyclopentanol  
2-Cyclopentanone carboxylate (mixed esters)  
Cyclopentene  
Cyclopentene oxide  
Cyclopentyl chloride  
Cyclopentylphenylacetic acid  
1,3-Dibromo-5,5-dimethylhydantoin  
Dibromoisocyanuric acid, potassium salt  
D-n-butylferrocene  
4,5-Dichloro-3,6-dioxo-1,4-cyclohexadiene-1,2-dicarbonitrile  
Dichlorodiphenylsilane  
D-2,4-cyclopentadien-1-yliron  
1,3-Diiodo-5,5-dimethylhydantoin  
Dimethylaminomethylferrocene  
1,1-Dimethylferrocene  
Diphenylacetaldehyde  
Diphenylacetic acid  
2,5-Diphenyloxazole  
Diphenylsilanediol  
Ethy carbazate  
Flavors and Perfumes  
Cyclopentanone  
Diphenylmethane  
β-Hydroxyphenethylamine  
Lead tetraacetate  
Magnesium Compounds, Organic, Miscellaneous  
Ethylmagnesium bromide  
Methylmagnesium bromide  
Methylmagnesium chloride  
Phenylmagnesium bromide  
Methyl-2-cyclopentyl-2-phenyl glycolate  
α-Naphthylphenyloxazole  
Nickelocene  
Organophosphates  
2-Oxocyclohexanecarboxylic acid, mixed ethyl and methyl esters  
Pesticides  
Indole-3-butyric acid  
Phenylbiphenyloxadiazole  
Phosphorus Compounds, Organic, Miscellaneous  
n-Butoxydiphenylphosphine  
Di-n-butoxyphenylphosphine  
Diphenyl-p-tolylphosphine  
Diphos  
Methoxydiphenylphosphine  
Trimethylolpropane phosphine ester  
Styrene glycol  
p-Terphenyl  
Tetraphenylbutadiene  
Titanocene dichloride  
Triphenylcarbinol  
Triphenylchloromethane  
Triphenylchlorosilane  
Vinyl dimethylethoxysilane  
Zirconocene dichloride  
General and Compound Products  
Catalysts, composite propellant combustion  
Initiators, polyester  
Products N.E.C.  
Cyclopentyl bromide  
Ethylferrocene

FILE BOULDER EXC,  
N. 26TH ST. DUMP

Boulder Exc 442 - 1742

1-26-87 left message for Bob Lainger

1-26-87 Steve does not think there would be  
a problem. He will have Lainger call also

City Parks x 3400

1-26-87 Ron Donahue, City Parks referred me to  
David Rhodes at x 3200.

1-26-87 Left message for Rhodes

1-26-87 David Rhodes will find out who in the  
City will be contact person

1-28-87 Chris Rudkin will be contact

1-29-87 Chris Rudkin: City atty. says no problem,  
wants written request from lead agency.  
direct to Sue Ellen Harrison.

re:

Marshall Lanafill: City's consultants

Anbor & Asso

SRK Eng

Six Mile Reservoir

Boulder + Whitewater Ditch (from Boulder Creek)

Scott Smith 652-2784 Longmont

Water Dist. 6, Morgan Bentley 443-2728

1-29-87 - Scott Smith - only ag. irrigation

BOULDER COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, CO 80302  
Phone: 441-3590

505 4th Avenue  
Longmont, CO 80501  
Phone: 776-5743

SPECIAL ENVIRONMENTAL HEALTH REPORT

Name of Establishment North Boulder Dump / Boulder Ex. Co. rubble site  
Address N. 26th St Type of Establishment \_\_\_\_\_  
Person Interviewed \_\_\_\_\_ Telephone Number \_\_\_\_\_  
Purpose of Visit Familiarize EPA w/ site  
Eric Johnson, EPA (293-1534)(-1518)  
Dave Franzen, E+E (757-4984)  
Pam Harley, CDH-HM+WMD

The Preliminary Site Assessment was submitted 6-19-86 to EPA, who gave the site a high priority. The next step is to prepare a sampling plan. Field work could not commence before February 1987.

It is expected the CDH will eventually assume lead.

The site was briefly visited. Weather: 25°F, clear, snow cover (2"-4"). Dumping at the Boulder Ex. Site has proceeded about 160' west of the monitoring well up the "pond." The fill looked relatively clean: concrete, earth, bricks.

Date 12-8-86 Owner or Representative \_\_\_\_\_  
Sanitarian Geo. Matthews



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE CO 02 SITE NUMBER D 980959449

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) North Boulder Dump  
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER North 26th Street  
03 CITY Boulder  
04 STATE CO 05 ZIP CODE 80302 06 COUNTY Boluder  
07 COUNTY CODE 013 08 CONG. DIST. Co-02  
09 COORDINATES LATITUDE 40 15 00.0 LONGITUDE 105 15 00.0 (Longitude & latitude approximate)

10 DIRECTIONS TO SITE (Starting from nearest public road)

Proceed north on 26th Street to the end of the road. The road curves into the old landfill location.

III. RESPONSIBLE PARTIES

01 OWNER (If known) Current ownership: City of Boulder/Boulder Excavation  
02 STREET (Business, mailing, residential) Canyon & Broadway Sts.  
03 CITY Boulder  
04 STATE CO 05 ZIP CODE 80302 06 TELEPHONE NUMBER 303 441-3131  
07 OPERATOR (If known and different from owner) Mr. Tumbelson, Boulder Excavating  
08 STREET (Business, mailing, residential) 1001 Leahill Rd./PO Box 337  
09 CITY Boulder  
10 STATE CO 11 ZIP CODE 80306/80302 12 TELEPHONE NUMBER 303 442-1742  
13 TYPE OF OWNERSHIP (Check one)  
☐ A. PRIVATE ☐ B. FEDERAL: (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL  
☒ F. OTHER: Ownership Combined (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: / / MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / MONTH DAY YEAR ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION BY (Check all that apply)  
☒ YES DATE 06 / 19 / 86 MONTH DAY YEAR ☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR  
☐ NO ☒ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: (Specify)  
CONTRACTOR NAME(S):

02 SITE STATUS (Check one) ☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN  
03 YEARS OF OPERATION 1935 (?) 1970 (illegal dumping from 1965)  
BEGINNING YEAR ENDING YEAR

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Alleged disposal of hazardous chemicals from Arapahoe Chemical/ Syntex Chemicals including organic solvents, inorganic wastes, etc.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Ground water contamination and surface water contamination; eventually effecting the drinking water source for Boulder, i.e., Boulder Reservoir

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☒ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT George Mathews  
02 OF (Agency/Organization) Boulder County Health Department  
03 TELEPHONE NUMBER (303) 441-1182  
04 PERSON RESPONSIBLE FOR ASSESSMENT Scott Winters  
05 AGENCY CDH  
06 ORGANIZATION HM & WMD  
07 TELEPHONE NUMBER (303) 320-8333  
08 DATE 06 / 19 / 86 MONTH DAY YEAR





POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
CO D 980959449

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☒ A. SOLID  
☒ B. POWDER, FINES  
☒ C. SLUDGE  
☐ D. OTHER \_\_\_\_\_  
(Specify)
- ☒ E. SLURRY  
☒ F. LIQUID  
☐ G. GAS

02 WASTE QUANTITY AT SITE

(Measure of waste quantities  
must be independent)

TONS Unknown

CUBIC YARDS \_\_\_\_\_

NO. OF DRUMS \_\_\_\_\_

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC  
☒ B. CORROSIVE  
☐ C. RADIOACTIVE  
☒ D. PERSISTENT
- ☒ E. SOLUBLE  
☐ F. INFECTIOUS  
☐ G. FLAMMABLE  
☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE  
☐ J. EXPLOSIVE  
☐ K. REACTIVE  
☐ L. INCOMPATIBLE  
☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		
OLW	OLY WASTE	"		
SOL	SOLVENTS	"		
PSD	PESTICIDES	None Reported		
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS	"		
ACD	ACIDS	"		
BAS	BASES	"		
MES	HEAVY METALS	"		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
ACD	hydrochloric acid	7647-01-0	Dumping	Unknown	Unknown
ACD	sulfuric acid	7664-93-9	"	"	"
ACD	nitric acid	7697-37-2	"	"	"
IOC	chlorine	7782-50-5	"	"	"
IOC	sodium hydroxide	1310-73-2	"	"	"
OLW	phenol	108-95-2	"	"	"
OCC	styrene	100-420-5	"	"	"
OCC	ethylene dichloride	170-06-2			
SEE COPY OF LETTER, ATTACHED, FOR FURTHER INFO. RE TYPES OF WASTES ALLEGEDLY DUMPED AT THIS FACILITY.					

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Boulder County Health Department Records  
Colorado Department of Health Files  
EPA Files



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION  
01 STATE CO 02 SITE NUMBER D 980959449

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 10-20,000 04 NARRATIVE DESCRIPTION  
From old reports, on file, Arapahoe Chemical Company dumped old chemicals at this site on more than one occasion.

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☒ OBSERVED (DATE: 07/21/60) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 10-20,000 04 NARRATIVE DESCRIPTION  
ARCO was observed to be contributing old chemicals to the surface water stream adjacent to this site. No information indicates that this is currently occurring; however ground water contamination may contribute to surface water impact.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
None at present time.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
None reported/observed at this time.

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
None at present.

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: up to 18 acres 04 NARRATIVE DESCRIPTION  
As related in A & B above, chemicals were being burned and were observed running freely into a creek which also indicates soil contamination is possibly a factor at this site.

01 ☒ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: 10-20,000 04 NARRATIVE DESCRIPTION  
This site is upstream from the Boulder Reservoir which is used for water storage by the city of Boulder.

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
None reported at present.

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
None reported at this time due to the site being closed.



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
CO D 980959449

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

None at present time.

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (include name(s) of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

None at present time.

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

None at present time.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES  
(Spills/runoff/standing liquids/leaking drums)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

Old drum storage

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown at present time.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

Unknown at present time.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☒ OBSERVED (DATE: Various)

☐ POTENTIAL

☐ ALLEGED

The last five years of activity at the site (1965 to 1970) was illegal. The site was in operation after its official closure. At present a small amount of municipal wastes are still illegally received at this site.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

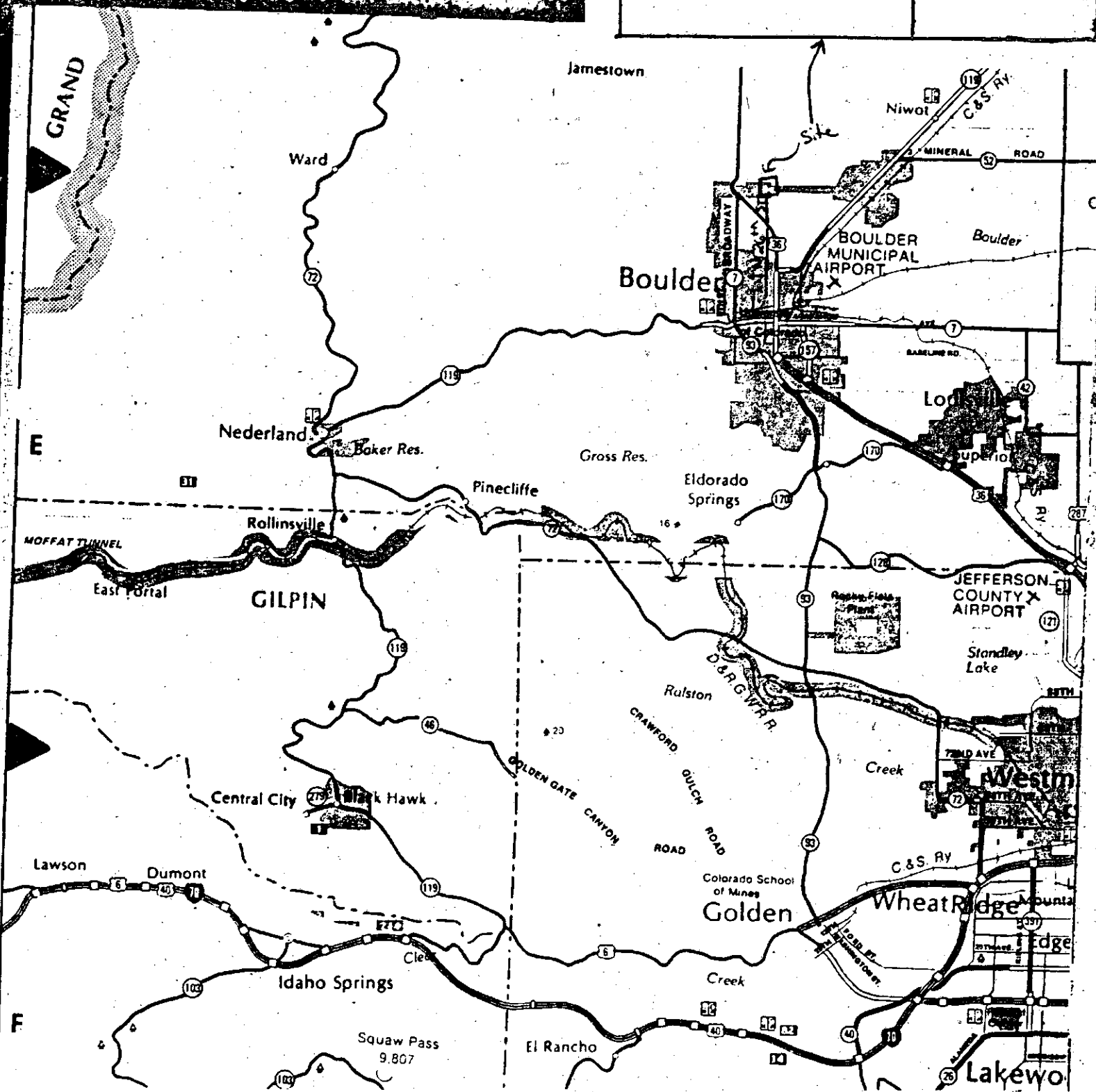
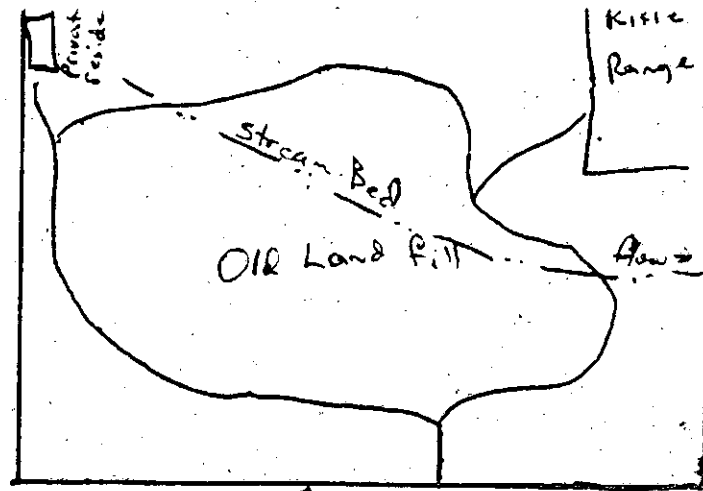
None at this time

III. TOTAL POPULATION POTENTIALLY AFFECTED: 20-30,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e. g., state files, sample analysis, reports)

Boulder County Health Department files  
Colorado Department of Health files  
EPA files



7-1 - Susan  
March 20, 1986

Vernon E. Pappler  
President  
St Vrain & Left Hand  
Water Conservancy District

Vern,

Arapahoe Chemicals was the original chemical company which is now Syntex Chemicals INC.

Shortly after talking to you at the steering committee meeting a article came out in the Longmont Times Call about the Syntex land fill at Lyons. The article identified some of the chemicals in the land fill. This article identified most of the solvents used but did not mention the organic chemicals and the chemical by-products that were dumped there.

Diethyl ether, tetrahydrofuran, ethylene dichloride, benzene, toluene xylene, acetone, ethylbenzene, methylene chloride, styrene, chloroform, tetrachloroethylene were the chemicals mentioned in the article.

Some other chemicals that were used are sulfuric acid, nitric acid, hydrochloric acid, phenol, methyl bromide, magnesium, bromine, chlorine, sodium hydroxide, cyanide. These are but a few of the several hundred chemicals carried as the inventory at Arapahoe Chemicals all of which were used in some matter in the chemical processing.

There are several people in the Boulder area that were associated with Arapahoe Chemicals that can give much greater details of the chemicals dumped there. The following is a list of these people and the positions they held at the Chemical Co. They should be able to help identify the chemicals at the Lyons site and the Boulder site.

Thomas Waugh ( Founder and President of Arapahoe Chemicals )  
443 0207  
3417 17th  
Boulder, CO

J.A. Pringle ( Manufacturing Superintendent )  
449-1779  
4500 19th  
Boulder CO.

Albert Gariepy ( Lead Operator and Manufacturing Supervisor )  
442-5665  
3526 Kirkwood Place  
Boulder, CO

Albin C. Halquist ( Experimental Chemical Operator )  
444-4650  
3353 Madison Ave.  
Boulder, CO

AL Schone  
530 0538  
4914 Club House Court  
Boulder, CO

Al Schone's CPA Firm did a yearly audit on the chemicals at the plant during the years I worked there. There is probably a record of these audits available some were.


I think there is another concern and that is the dump sit used from approximately 1950 to 1965. During these years the old Boulder Dump which is south and west of Boulder Reservoir and Six Mile Reservoir was used. All the waste from the plant was dumped at this site during these years. The natural drainage from this dump site is into Boulder Reservoir and Six Mile Reservoir. Boulder County Health was unaware of this until about two weeks ago. I think this site would be of as much a concern as the Lyons site because of Boulder drawing some of their water from Boulder Reservoir and the reservoir being used as a recreational water site. Also I think this would be a concern for the user's of the water from Six Mile Reservoir.

Thanks

*Ron Sutherland*  
Ron Sutherland  
8230 N Foothills HWY  
Boulder, CO 80302

CC

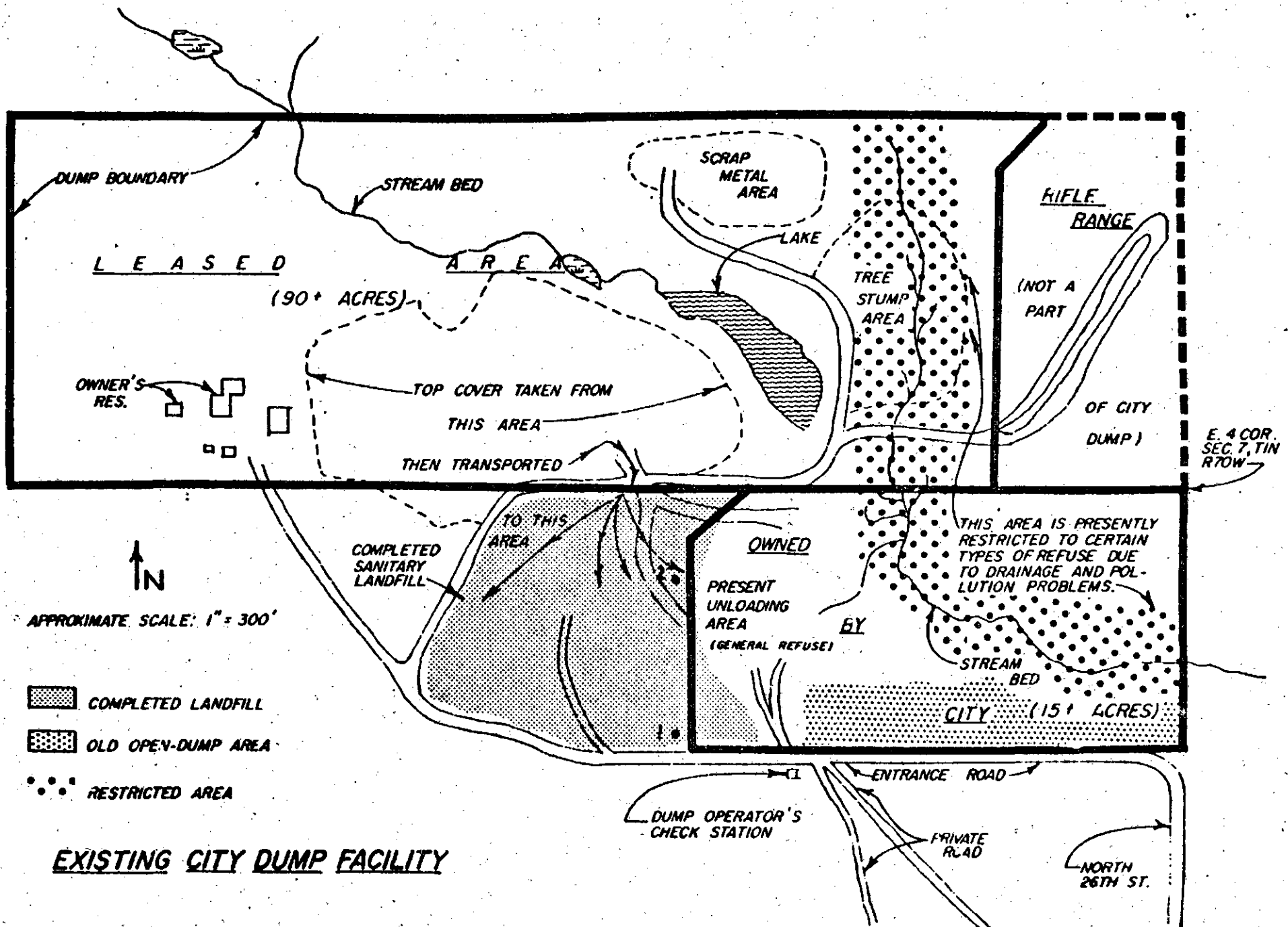
Barb Poquette  
Executive Director  
St Vrain & Left Hand  
Water Conservancy District



Dave Macy  
Director at Large  
St Vrain & Left Hand  
Water Conservancy District

Susan Martino  
Boulder County Sanitarian

Syntex Chemicals INC  
2075 N 55





August 28 - 9, 1979

This week I traveled to Boulder and spoke to Mark Parsons and Ken Merck at the Boulder Health Department. They were quite helpful and willing to give any information they had on hazardous waste material. The potential problems in Boulder are as follows:

- a) On the east side of Boulder an old chemical company Allied Chemical used to occupy site. Now it is Henderson mine. Maybe have tailings from mine and I might be radioactive. Also material may be buried in mine. Mark Parsons is sending me some information regarding this situation.
- b) Anaprox Chemical old dump site. This old dump was located in Longmont and very close to ground water, along the St. Vrain river.
- c) Colorado and Southern Railroad: known to be involved in illegal dumping. Mark Parsons inspected area and found several large holes containing oil or fuel drums, wood and other materials. Apparent ground water levels were high enough to allow contact with the materials in the pits.

d) Boulder City Dump - This was an old dump site located at north 26th St. in Boulder. An inspection in 1961 - observed chemical drainage into the creek, but was negligible. Also a general problem. (Not Marshall June)

e) Beech Aircraft: 1) possible surface discharge of 1-1-1-Trichloroethane and freon 13. 2) An unknown substance (an odorous black liquid) was leaching out of the ground adjacent to the parking lot.

f) There are some miscellaneous files attached also that may or may not be of importance.

I went to the Colorado Health Department and spoke to Arville Stoddard. Concerning 1) Western Tanning Co. in Delta, CO. Arville said he knew nothing about this company. He said the person to contact for this is Harold Boyles in Mesa County Health Department. He said that the possible hazardous wastes could include trivalent chromium & some lead, zinc and copper. Also, Arville said

Boulder City-County Health Department

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment: BOULDER CITY DUMP (SANITARY LAND-FILL)

Address: North 26th Street, Boulder, Colo. Telephone No.:

Person interviewed: Mrs. F.A. Tumbleson Type of establishment: Sanitary Land-Fill

Purpose of visit: Routine inspection

Went out to observe the progress and operation of Boulder City Land-Fill. I spoke to Mrs. Tumbleson a few minutes and she stated that there had been no discussion to her knowledge at the present time regarding any activity or action regarding the people who reside around the dumpsite. She said that the equipment was operating okay, but that they were having trouble covering the dump because of the fact that it had been so wet. There were approximately seven areas that were not covered. There were no papers to speak of along the fence, but of course there was no wind. She said that they were going to try to get the area covered.

I checked the pits where septic tank cleanings are being put and found them not to be overflowing. I also stayed within the fenceline and observed chemical drainage into the creek, which appeared negligible from what I could see by staying on City property

DATE: 5-16-61

Owner or representative:

Sanitarian: *Don F. Marmande*  
Don F. Marmande, Chief, R.P.S.

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

**BOULDER CITY-COUNTY HEALTH DEPARTMENT**

**SPECIAL SANITATION REPORT**

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment:

**Boulder Sanitary Land Fill**

Tel. no.:

Address:

**City Dump**

Type of establishment:

Person interviewed:

**Mrs. Tumbleson**

Purpose of visit:

**Routine Inspection**

Made routine inspection of the City Dump - still being operated as modified open face dump - evidence that cover is not being placed completely on all areas exposed -- the areas set aside for dumping of Septic Tank sludge appears to be okay.

Chemicals being burned by the Arapahoe Chemical Company is giving off what appears to have a nauseating effect - Chemicals still getting into stream - burning doesn't appear too effective.

Owner or Representative:

Sanitarian:

Date:

**July 21, 1960**

**Don F. Marmande, Chief, R.P.S.  
Orville Stoddard, State Public  
Health Engineer**

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment: Boulder's Sanitary Land f. 11

Address: N. 26<sup>th</sup> St.

Telephone No.:

Person interviewed: MRS. F. A. Tumbleson Type of establishment: San. Land f. 11  
city dump.

Purpose of visit: Routine inspection

① Still operating modified open face dump - About same amount of area in need of adequate top cover as last inspection - both pieces of power equipment working -  
+ dump operators would like to purchase new equipment  
+ would like expression from city regarding status of this operation so they may be guided in their purchases

Too many flies -

② Septic tank pits - appear to be full + in need of re-locating - should be lined over or covered with liquid to prevent fly breeding -

③ Small fire in lumber + tree dumping area -

④ Need fence in area where dumping to prevent blowing.

⑤ MRS. Tumbleson states she is still willing for land to be used as it is now for a dump site. Also stated she has heard no new complaints from adjacent property owners.

⑥ Chemicals - MRS. Tumbleson stated a representative of Aerapator chemicals was out + said the chemicals had ceased coming out in creek. I checked best I could from city property - did not want to trespass on east prop. owners land.  
Owner or representative:

DATE: 7/28/61

Sanitarian: Don Marmade

August 21, 1964

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

On August 19, 1964, Mr. Orville Stoddard, Public Health Engineer and I met with Mr. Russell Turner of United Trash Hauler, Inc., regarding the life expectancy of the existing dump site on North 26th St. Mr. Stoddard was here on another matter but did accompany us to help appraise the length of time this area could be used as a dump.

1. There appeared to be no evidence of rodent infestation.
2. Heavy winds were blowing, approximately 30-40 miles per hour. There was evidence of paper, rags, etc., being blown in an easterly direction. However, much of the debris was being caught by two barb wire type fences in the area. These are not portable fences to any degree.
3. Dump operation for the future:
  - A. Tier #1--Approximately 100' X 200'; 20,000 square feet, 15 feet deep.
  - B. Tier #2--50' X 100' square feet 10' deep.
  - C. Tier #3--200' X 300'; 60,000 square feet, approximately five feet deep.

This amounts to 650,000 square feet or 25,000 cubic yards which could handle in the neighborhood of 200 cubic yards a day until January 1, 1965. They are not dumping that much refuse at the present time, so this operation could possibly go on longer if they dump according to the schedule I was informed about on this field trip.

There also appears to be ample cover material from the existing hill in which they are obtaining it. However, the haul is getting longer and more expensive to them.

Mrs. Tumbelson has agreed to let United Trash Haulers, Inc., raise the dumping area above the road grade.

There is also a possibility that one stream channel could be diverted around one road to the north and we could possibly dump in the old stream channel area with the approval of the City of Boulder legal department on this.

Also, with the permission of Mrs. Tumbelson and her mother Mrs. Crisman, as an emergency the dump could be extended west and not be in violation of the court decree.

E. Robert Turner  
page 2 con't.

These last two items mentioned could possibly extend the life of the dump  
for possibly another year.

Don F. Hermada, R.P.S., Chief  
Division of Environmental Health Services

cc: Jim Kean, Administrative Assistant, City of Boulder  
Raul King, City Attorney, City of Boulder

WV/b

MEMORANDUM

TO: Eric Johnson  
FROM: Scott Winters  
DATE: June 23, 1986  
SUBJECT: North Boulder Dump

This facility has been reported to be in operation for approximately 40-45 years, ending officially in 1965. Currently the site is still being used illegally for the disposal of construction debris, household wastes, etc. It is partially fenced and locked off from the public. However, entry can still be obtained if a person wanted to. From inspections in the files of the local health agency, it has been discovered that this site received wastes from Arapahoe Chemical Co. in the early 1960's. In fact, these inspection reports clearly state that chemical wastes were observed running into an adjacent stream that feeds Boulder Reservoir, a supply for the City of Boulder's drinking Water system.

With these clear indications that chemical wastes were disposed of at this site, I would strongly suggest that this site be scheduled for a follow-up site inspection.

BOULDER COUNTY HEALTH DEPARTMENT

*file*

3450 Broadway  
Boulder, CO 80302  
Phone: 441-3590

505 4th Avenue  
Longmont, CO 80501  
Phone: 776-5743

SPECIAL ENVIRONMENTAL HEALTH REPORT

Name of Establishment North 26th St. Dump - City of Boulder  
Address \_\_\_\_\_ Type of Establishment \_\_\_\_\_  
Person Interviewed \_\_\_\_\_ Telephone Number \_\_\_\_\_  
Purpose of Visit \_\_\_\_\_

*Scott Winters and Pam Harley reviewed the files and briefly  
toured the site for Preliminary Assessment - Site Investigation (PASI)  
phase of evaluating the site for Superfund.*

Date 6-19-86 Owner or Representative \_\_\_\_\_  
Sanitarian Bo Mathews



12/13/79

Memo to North Boulder + SCOTT CARPENTER File:

- \* Met w/ Andy Hoffer @ City Public Works - He OK'd drilling @ No Boulder Dump + Scott Carpenter Park
- \* Notify Ron Donahue 3416 @ the Parks Dept prior to drilling as a courtesy
- \* Contact Jim. Percherson - staff geologist for possibly getting copy of engineering / consultant report on No Boulder Dump -

*File Old City Dump*

*LPP*

Analyst: W. Perkins/G. Norris

Sampler: Ken Mesch

SUMMARY OF LABORATORY RESULTS - STREAM AND WASTEWATER SAMPLES

March 1977  
(month)

Reported: April 10, 1978

26th St. Dump (Old City Dump)

Station	Date	Time	Sample Type	Temperature °C (field)	pH (field)	Chlorine Residual mg/l (field)	Dissolved Oxygen mg/l	Biochemical Oxygen Demand - mg/l	Settleable Solids mg/l	Total Suspended Solids - mg/l	Turbidity as FTU	Color - Units	Total Coliform MPN/100 ml	Fecal Coliform MPN/100 ml	Nitrate as N mg/l	OTHER
Outflow from dump property	3/29/	1130	Grab	-	-	-	7.7	1	-	54	19	10	-	-	-	
(some inorganic material in this sample)																

cc:  
Ken Mesch  
M. Whitmore  
R. Gardner

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Telephone 444-3250

Room 219  
Woolworth Building  
Longmont, Colorado  
Telephone 776-5743

SPECIAL ENVIRONMENTAL HEALTH REPORT

Name of Establishment Boulder city Dump - Abandoned  
Address N- 26<sup>th</sup> St. Type of Establishment SAN. Land fill  
Person Interviewed — Telephone Number —  
Purpose of Visit Training purposes.

NOT much water flowing in Creek —  
parts of disposal site at least 3-4 AREAS  
need to be covered. this dump may be  
currently back in use again - now open to  
public - probably used as motorcycle race  
way + gun club practice range - needs to be  
checked out further.

Date 8-21-74  
2:30 P.M.

Owner or Representative —  
Sanitarian DON MARMADE

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Telephone 444-3250

Room 219  
Woolworth Building  
Longmont, Colorado  
Telephone 776-5743

SPECIAL ENVIRONMENTAL HEALTH REPORT

Name of Establishment Old city dump Boulder

Address N. 26<sup>th</sup> Type of Establishment \_\_\_\_\_

Person Interviewed \_\_\_\_\_ Telephone Number \_\_\_\_\_

Purpose of Visit \_\_\_\_\_

Dozer has fixed road into area recently.  
A few bags of trash along fence with papers  
dated Sept. 1973. A lot of pieces of metal  
and a few car bodies are laying around.

Date 4-2-74 Owner or Representative \_\_\_\_\_

Sanitarian Joe Lamb

3450 BROADWAY  
BOULDER, COLORADO  
Telephone 442-5926

BOULDER CITY-COUNTY HEALTH DEPARTMENT

LONGMONT DRUG BUILDING  
LONGMONT, COLORADO  
Telephone 776-5743

SPECIAL SANITATION REPORT

Name of Establishment Old City Dump - Boulder  
Address N. 26th St. Type of Establishment abandoned dump  
Person Interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Purpose of Visit Routine

No signs of recent refuse dumping.

17 old car bodies were in one area.

(A year ago, there were approximately 8-10).

The area containing several hundred old appliances and which was never covered should be compacted and given a final cover.

On the hill at the south edge of dump, dual fire tracks were observed leading to the edge. What appeared to be septic tank cleanings had been dumped there, within the past 2-3 days.

Date Jan. 22, 1969

(10-68-30-500) 12:00 PM

Owner or Representative \_\_\_\_\_

Sanitarian Robert Shipley

C.C. Don Marmande

FOR Bol - Don  
DATE 1-10-69 TIME 11:40 A.M. P.M.

WHILE YOU WERE AWAY

NAME Bill T.  
OF \_\_\_\_\_ TOWN \_\_\_\_\_  
PHONE NO. \_\_\_\_\_  
Area Code \_\_\_\_\_ Number \_\_\_\_\_ Extension \_\_\_\_\_

Telephoned ✓ Please Call \_\_\_\_\_  
Called to see you ✓ Will Call Again \_\_\_\_\_  
Wants to see you ✓ Urgent \_\_\_\_\_  
Returned your call \_\_\_\_\_

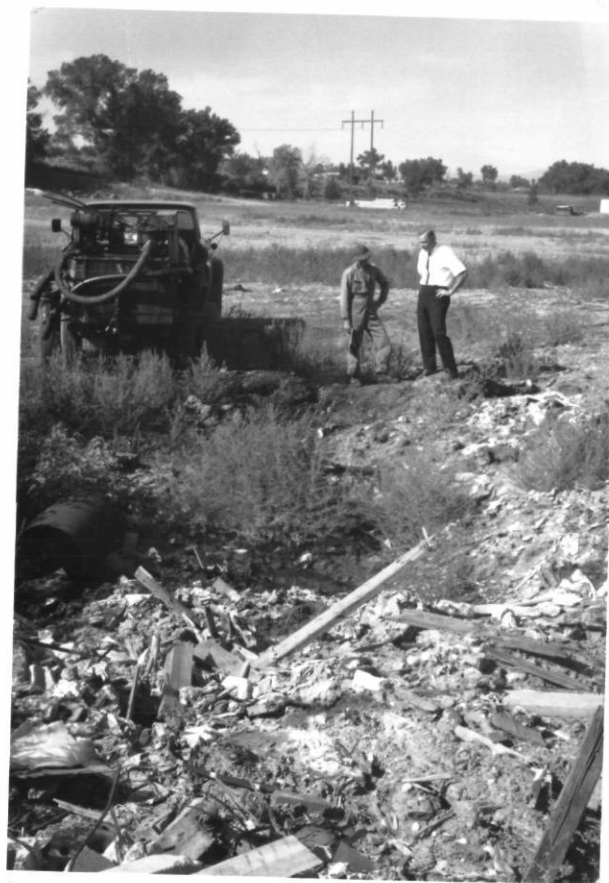
MESSAGE: Using old gravel pit near airport as a  
dump for the three limbs blown down by winds.  
They took 45 truck loads out yesterday.

DISPOSITION \_\_\_\_\_  
SIGNED Don



AUG • 66 •

AUG • 66



~~Old City of~~ TANK CLEANINGS  
Dump

Apparently Dumping Oil  
& SAND TRAP CLEANINGS  
from D. & C. GARAGE  
which is percolating  
down into Ground WATER

Old City of ~~Old City of~~ Dump - GRAVEL Pit.  
ABANDONED.

Aug. 16, 1966

MARMADE

file

MEMORANDUM

TO: Robert Quinlan, City Manager  
FROM: W. C. Light, Director of Public Utilities  
SUBJECT: Old City Dump  
DATE: March 18, 1966

In response to a letter from Mr. Marmande and a request from you, I inspected the Old Dump site on Thursday, March 10, and found the following conditions:

- (1) The general area is very neat and in good condition. There was one load of cans which had been dumped on the old dump, but this was the only evidence of dumping in the area.
- (2) There are two small areas which are smoldering and emitting smoke. There is absolutely no danger from fire as there is at least 2 feet of dirt on top of the smoldering area. As the combustible material burns out, the dirt settles down on the ashes and there is no more trouble in that area.

However, in order to eliminate what small nuisance there is from the smoke, I am arranging to have additional dirt dumped in the two burning areas within the next two weeks. This should solve the problem once and for all.

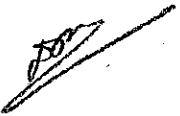
W. C. Light

*W. C. Light*

W. C. Light  
Director of Public Utilities  
City of Boulder, Colorado

WCL:pas



  
TO: ROBERT W. QUINLAN, CITY MANAGER  
FROM: PAUL WALKER and JIM KEAN

AN ANALYSIS OF THE CITY'S  
GARBAGE COLLECTION PROGRAM

FEBRUARY 23, 1966

CITY OF BOULDER, COLORADO

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## INTRODUCTION

During the formation of the 1966 Budget, the City Administration advised the City Council that funds were not being budgeted to extend the City garbage collection contract beyond the April 30, 1966, expiration date. This recommendation was made because it was felt that a complete analysis of the garbage collection program should be undertaken before further funds were allocated for this purpose. Subsequently, the Council adopted the 1966 Budget with only enough funds to finance the garbage collection program until May 1, 1966.

The contents of this report have been divided into three basic parts--- first, a review of the present garbage collection practices; second, alternative methods for providing the service; and third, recommendations.

## REVIEW OF GARBAGE DISPOSAL PRACTICES

### Past History, 1951 - present

Until 1951 the City did not have a formal garbage collection program. At that time, citizens disposed of their garbage through the services of a private trash hauler, used disposal units, hauled garbage to the dump themselves, burned it with burnable refuse, or relied upon persons feeding raw garbage to hogs to collect their garbage.

However, due to a multitude of citizen complaints and a general concern over health and sanitation conditions, the City in 1953 decided that an attempt should be made to remedy these problems by contracting with a private

hauler to remove all garbage from the community. This program would be offered without a service charge to all persons who desired the service. Through the contract, the City maintained very few controls over garbage collection: no regulations regarding the type or condition of garbage cans were imposed; no procedures were outlined requiring the contractor to maintain an accounting of his customers; the householders could still dispose of their garbage in any manner they so desired; no specific types of vehicles were required; and desirable health and sanitation practices were ignored in the contract.

In 1954, the Mayor appointed a citizens' committee to study the trash and garbage removal problem in Boulder. This action was instigated primarily because the price of the City's garbage contract had been increased from \$750 annually in 1953 to \$9,600 for 1954, due to new Federal legislation requiring all garbage fed to hogs to be precooked. (See Appendix I for a schedule of contract rates since 1953 to the present time.)

The Citizens' Committee, after reviewing the garbage contract and the many various methods utilized in removing garbage throughout the community, forwarded several recommendations to the City Council on June 23, 1954. (See Appendix II for recommendations.) Very few, if any, of the recommendations outlined by the 1954 Mayor's Committee were adopted or implemented. The exact reasons for a "no action" policy on the part of the City Administration and the City Council are not known. However, it is suspected that strong citizen opposition and strained municipal finances played a major role.

The entire matter of trash and garbage removal was again brought to the attention of the City Council through a report issued by the Council Committee and the Administration in September, 1964. Generally, this report analyzed the present trash and garbage removal practices throughout the community and reviewed the advantages and disadvantages of various types of collection methods. (Appendix III contains the findings and recommendations of this Council Committee.)

After months of exhaustive study, public hearings and revisions, many of the recommendations of the Council Committee were submitted to the vote of the people and were summarily defeated. Recently, a new ordinance has been adopted to be effective March 1, that will regulate the storage, collection and transportation of garbage and trash throughout the community.

Garbage collection procedures have shown little improvement over the last 15 years and are pursued in the same manner that was prevalent when the first formal contract was negotiated and signed in 1953.

CONFIDENTIAL PRESENTATION ONLY

Summary of Present Operation by Garbage Contractor

Following is a brief summary of the present practices employed by Mr. Juhl in the collection of garbage:

1. If a householder desires the service, he contacts Mr. Juhl and informs him of his address, location of garbage can, etc. Often new residents contact the City about how they might get on the garbage collector's route. These persons are subsequently given Mr. Juhl's name and phone number and required to contact him directly.
2. Mr. Juhl operates three open-bodied water tight trucks which are used to service each household twice weekly. Garbage is collected either from the alley or from the curb in various sizes and types of containers. Occasionally when the garbage container is in such condition that it will no longer hold garbage, Mr. Juhl requests the customer to acquire a new container. Once the garbage is collected, it is taken to Mr. Juhl's farm near the Municipal Airport where it is cooked and fed to approximately 1000 hogs. This basic procedure has been in effect and unchanged since 1954.
3. Commercial establishments and student housing units are also afforded the services of the City garbage contractor. All commercial establishments are picked up daily and contribute a large percentage of the total amount of garbage collected by Mr. Juhl.

## AN ANALYSIS OF THE PRESENT COLLECTION PROGRAM

In order to analyze the garbage removal program in Boulder, two basic procedures were followed:

1. Interviews were held with the garbage collector and in this manner basic information could be compiled and reviewed.
2. A questionnaire was sent to all residential households who use the service.

### Information from Interviews with Mr. Earl Juhl

The City Administration held several interviews with Mr. Earl Juhl at which time he answered a number of questions regarding the various aspects of his business. The following miscellaneous information was obtained during these interviews:

1. Most residential units are serviced twice weekly.
2. Commercial establishments, restaurants, grocery stores, businesses, fraternities, sororities, boarding houses, etc., are serviced daily.
3. All garbage collected is boiled and fed to hogs (Mr. Juhl's primary business is hog farming and he has approximately 1000 hogs).
4. The operation requires five full time men, including the contractor. The contractor pays three men \$400 a month, and the other man \$350 a month plus a residence.
5. The operation requires personnel to work between 12 and 14 hours a day.

6. The contractor himself works every day.
7. The contractor has three enclosed flatbed trucks with hoists.
8. The vehicles use approximately 1580 gallons of gasoline per month.
9. Mr. Juhl has eight routes covering the entire community.
10. There are no specific route books as personnel memorize their routes.
11. The contractor maintains an office and telephone for answering special pickups and complaints.
12. Many people who request garbage pickup also have garbage disposal units in their homes.
13. Garbage is collected from all sizes and types of containers.
14. All homes are serviced twice weekly.
15. The contractor would prefer to have a two year contract which would enable him to feed more hogs. (See Appendix IV for a brief summary of the present contract negotiated between the City and Mr. Juhl.)

#### Questionnaire to Residential Customers

Because of the lack of specific information on the garbage collection program and the absence of records, it was decided a questionnaire should be sent to each residential customer of the garbage contractor. Therefore, on the first of December, 1965, the City requested Mr. Juhl to submit a list of addresses of persons utilizing the services of the City garbage contractor. On about December 20th, Mr. Juhl advised the City of 1,909 persons who



were using the City garbage pickup program. Subsequently, on December 28, 1965, the City mailed a questionnaire to all persons on Mr. Juhl's list in an attempt to ascertain necessary data regarding the program. (Appendix IV is the questionnaire.)

Only private residents were polled in the survey. Mr. Juhl stated that it would be impossible to obtain an accurate accounting of commercial accounts since the number was constantly changing. Furthermore, it was the feeling of the Administration that the primary concern of the City should be the problem of removing garbage from residential properties rather than profit making establishments.

## RESULTS OF QUESTIONNAIRE SURVEY

Of the 1,909 questionnaires mailed, 1,071, or 56%, were returned as of January 20, 1966. This excellent response provided the City with vital information needed for evaluating garbage removal practices in Boulder.

From the questionnaire returns, it was possible to arrive at certain estimates and to make various assumptions. Some of the interpretations are as follows:

### Number of Customers

70.3% of those persons returning questionnaires indicated that they used the services of the City garbage contractor. Since 1,071 of the total of 1,909 questionnaires were returned, a sufficient sample was available to project the percentile figure in relation to the total number of questionnaires distributed. Therefore, one may assume that the total number of customers using the service is approximately 1,342. In this same manner, the Administrative Staff used 70.3% of the total 1,071 questionnaires as the basis for projections and assumptions used in the report.

### Other Questionnaire Results

1. Of the people using the services of the garbage contractor, 97% find the service provided is adequate.
2. Of the persons utilizing the services of the City garbage contractor, 15% have a garbage disposal unit in their home. (Approximately 210).
- ✓ 3. 12% not only use the garbage contractor, but also use the services of a regular hauler (approximately 170).

similar to No. 5. ?

4. Less than 15% haul any of their refuse or ashes to the disposal site themselves.
5. 54.5% of the persons using the City garbage contractor, also have some contact with a commercial refuse hauler, specifically 12.5% refrained from burning and had all their trash removed by a licensed hauler on a regular schedule, and 42% incinerate, plus use the services of a commercial hauler at irregular intervals.
6. Of those persons using the services of the commercial hauler, 40% do so on an irregular basis, primarily whenever they call them; 13.2% used the licensed hauler regularly once a week.

#### Location

The City has also plotted all the persons using the services of the City garbage contractor from material supplied by Mr. Juhl. Almost 95% of the customers are located in what might be termed the "older" section of the community. These areas might be generally described as from Forest Avenue on the north to Baseline Road on the south, and west from Broadway, from Broadway east to 28th Street between Arapahoe and Bluff Street. The Planning Department estimates that the population density of this area has increased very slightly over the past ten years except the "Hill" area. Also, in the area bounded by Arapahoe on the south and Bluff on the north between Broadway and 28th Street, the population tends to be more mobile than elsewhere throughout the community.

## ALTERNATIVE METHODS OF GARBAGE COLLECTION

There are three methods commonly used by municipalities for garbage collection: franchise collection, municipal collection, and private collection.

### Franchise Collection

The possibilities of franchise collection for Boulder were explored in great detail by the City Council and the electorate prior to March, 1965, when the citizens defeated the proposal for franchise trash and garbage collection by a substantial margin. Subsequently, this method of garbage disposal will not be investigated further.

### Private Collection

The present garbage collection contract between the City of Boulder and Mr. Juhl constitutes a modified system of private collection. The term "modified" is used because the work is performed by a private individual but he is paid a contract fee by the City. When the present system of subsidized private garbage collection was instituted in Boulder, it provided a somewhat systematic method of garbage removal.

However, the private system of garbage collection in Boulder must be considered unique for more than one reason: (1) generally cities do not provide this type service to commercial establishments; (2) if commercial pickups are made, a fee is charged to the proprietor; (3) the service would be made available to those needing it but not to households having garbage disposal units; and generally, the municipality would require various records and accounting information.

### Municipal Collection

A system of municipal garbage collection involves the performance of removal operations by City employees and equipment under the supervision and direction of a regular municipal department or official, just as public functions as street cleaning, sewer maintenance, or paving repair are conducted. Also, with proper administrative and regulatory ordinances, the City would have the control over garbage removal practices in Boulder. It is envisioned that a system of municipal garbage removal would be primarily directed toward individual residents. However, commercial establishments could also be handled by the City on a cubic yard or container basis. Also, it should be realized that the cost of a municipal garbage collection program must be supported by the persons using the service. Traditionally, municipal refuse removal programs are considered "utility" services and are designed to operate on service charges without subsidization by the General Fund.

### Estimated Cost for Municipal Garbage Collection Program

It is possible for the City to generally determine an estimated cost for providing municipal pickup for residential households with the information provided through the interviews and the questionnaire. Because of the absence of information on commercial accounts, an attempt was not made to determine the cost for the commercial pickups.

Before any estimates can be made regarding the cost of municipal garbage collection program, the total number of weekly pickups must be determined. The following method was used in order to determine the number of persons in Boulder who might utilize the garbage collection program:

1342 Actual number of customers, as calculated from  
questionnaire survey

x 2 Stops per week

2684 Total stops per week

536 Stops to be made per day  
5\* / 2684 Stops per week

\*5 day work week.

Work day hours 7 / 72 Stops per hour  
536 Stops to be made per day

( 7 hour day on route.

( 1 hour dumping and servicing vehicle.)

According to the United States Department of Health, and a formula devised by the Minnesota Health Department, one truck plus one laborer and one driver should average a pickup approximately every two minutes, depending upon the distance between pickups, and the location of the garbage can.

Generally, in the areas of Boulder where utilization of the City garbage contract is prevalent, pickups are usually made from the alley and average about four or five stops per block. Naturally, it must be assumed that in some instances the garbage contractor must travel several blocks between pickups, and in some instances he must make pickups from the curb. Also, the experience of Mr. Juhl must be considered when estimating the possible number of pickups that could be made per hour. Presently, Mr. Juhl operates three trucks and employs five men, including himself, to pick up garbage from 1,342 residences twice weekly. However, it is estimated that one of Mr. Juhl's trucks and one man spend a substantial amount of time on business collections.

Also, Mr. Juhl devotes most of his time to business collections and to the

collection of garbage. ~~From 12~~ it is estimated that two vehicles

cooking of garbage. Using this information, it is estimated that two vehicles plus four men would be required to adequately serve 1,342 residential garbage customers twice weekly:

$$\begin{array}{rcl} & & 36 \\ \text{Vehicles } 2 & / & 72 \\ \hline & & \text{Stops per vehicle per hour} \\ & & \text{Stops per hour} \\ & & \text{(or one stop every 1.7 minutes)} \end{array}$$

The following breakdown indicates the estimated cost for a municipal-type operation for residential garbage collection:

1.	<u>Salaries and Personnel</u>	
	2 equipment operators @ \$372 per month	\$ 8,160
	2 laborers @ \$340 per month	8,928
		<u>17,088</u>
2.	<u>Fringe Benefit Costs</u>	
	Health insurance costs @ \$19.40 per month	\$ 931
	P.E.R.A. City share, 6% of total salaries	1,025
	Workmen's Compensation -- approximately	300
	Group Life insurance	200
		<u>\$ 2,456</u>
3.	<u>Overtime and Vacations</u>	\$ 500
4.	<u>Insurance</u>	
	Property damage and liability	\$ 250
5.	<u>Vehicle Maintenance</u>	
	Rent from garage fund; including gasoline costs, repairs, and depreciation, at 16¢ per mile per vehicle, estimated 75 miles per day, plus \$500 for miscellaneous repairs and mileage	\$ 6,580
6.	<u>Office Supplies</u>	
	Route books, printing costs, postage, general office forms, telephone, etc.	\$ 150
7.	<u>Miscellaneous Items</u>	
	Small tools, signs, gloves, boots, aprons, etc.	\$ 250
8.	<u>Dump Fees</u>	
	60¢ cubic yard; two 8-yard vehicles dumping once daily	2,496
	\$500 for special dump fees	500
		<u>\$ 2,996</u>
	Total Cost	<u>\$30,270</u>
		<u>*8,500</u>
		<u>*\$38,770</u>

\*\$8,500 must be added to the first year's operational costs to cover acquisition of two trucks equipped with special water tight bodies and hoists. The bodies of these trucks would be of a special design in order that efficient operation, ease in cleaning and maintenance, and good sanitary conditions would be guaranteed. Also the vehicles would be depreciated over a five year period.

## CONCLUSIONS AND RECOMMENDATIONS

This study has provided the City with considerable information regarding the garbage collection program for the first time. Such information includes the estimated number of residential accounts, location of these accounts, and the estimated City cost for performing this operation.

It is now quite evident that the actual contract cost charged the City for performing the contract is low in relation to what it would cost the City itself because of the feed value of garbage. Other basic conclusions include:

1. The contract costs are increasing yearly while the number of customers using the service appears to be decreasing.
2. There are a number of people using the garbage collection service who apparently are not in real need of the program. For example, 12.5% of the people indicated in the survey that they use the municipal garbage contractor and employ a regular trash hauler on a weekly basis, and also there are a number of people (11.2%) who have garbage disposal units and at the same time use the service of the garbage contractor. Subtracting these two numbers from the total leaves only 1,034 accounts for which the City spends \$21,000 annually.
3. The program as now financed by the General Fund is quite unequitable to the community at large. This is especially true in regard to the commercial and institutional establishments being served by the City contractor.
4. The garbage collection activity is predominant in "older" sections



### Recommendations

The recent anti-accumulation ordinance that becomes effective March 1, 1966, provides the City with a desirable time table to completely discontinue the garbage contract. There are a number of reasons why this appears to be desirable.

1. For the first time, the proper ordinances have been adopted by the Council which will provide adequate health and sanitation standards (garbage has to be wrapped when combined with other refuse, accumulation of garbage and refuse is not allowed, and transportation of such refuse is controlled.)
2. The City Administration has set up an enforcement program which will begin effective March 1, 1966, for regulating the ordinance provisions adopted by Council. This inspection and public education program will include personnel from the City-County Health Department and the City Fire Department.
3. There is considerable evidence that a large number of Boulder households are now utilizing the services of a licensed refuse hauler on a weekly basis. (Information from haulers would indicate that approximately 700 to 800 people have contracted with haulers within the last year.)
4. Private trash haulers have indicated their willingness to cooperate with the City in the enforcement of this ordinance. Private haulers will contact persons who once utilized the services of the City

garbage contractor and will offer to remove both their garbage and trash combined on a weekly basis.

5. If the City discontinues the garbage contract, homeowners will be required to dispose of their garbage in a manner that will meet health and sanitation regulations.
6. The actual termination of this contract might well lead to the improvement of overall conditions regarding refuse accumulation.

If the Council feels that the City should continue to provide some type of garbage removal system for those residents who do not employ a regular trash hauler or do not have a garbage unit in their home, it is recommended that the present contract be extended on a yearly basis. It is further recommended, however, that if the program is continued, the City should establish the necessary records and charge those units a monthly amount for this service. However, it should be noted that if this type of program was initiated, it might well be difficult to alter or change the program within a few years.

\* \* \* \* \*

## APPENDIX I

The following chart has been prepared in order to more accurately assess the rising costs of garbage collection in Boulder:

<u>1953 to 1959</u>			<u>1960 to 1965</u>		
1953	\$	750 annually	1960	\$14,400	annually
1954	\$	9,600 "	1961	\$14,400	"
1955	\$10,200	"	1962	\$14,400	"
1956	\$10,800	"	1963	\$27,000* Jan. 1 to June 1, 1964	
1957	\$11,400	"	1964	\$18,000 July 1, '64 to Apr. 30, '65	
1958	\$12,000	"	1965	\$21,000 May 1 to Apr. 30, 1966	

\*18 months.

## APPENDIX II

In 1954, the citizens' committee, after reviewing the garbage contract and the many various methods utilized in removing garbage throughout the community, forwarded the following recommendations to the City Council on

June 23, 1954:

1. The present unsystematic private trash collection system is inadequately regulated and incapable of improvement without better coordination and control.
2. Of all reasons for seeking improvement of Boulder's refuse and garbage collection system, however, one of the first and of paramount importance is concerned with the safeguarding of public health. The present system of refuse collection in many cases is undependable and erratic, frequently results in accumulation of trash and filth which are a menace to public health.
3. We believe that the inefficiency and the health hazards inherent in Boulder's present system of refuse and garbage collection are primarily the result of a lack of awareness of Boulder citizens of the seriousness of the problem. Another contributing factor, we believe, is the lack of an adequate ordinance to establish necessary standards and procedures, and to provide appropriate penalties for violations.
4. A great majority of Boulder citizens, we are convinced, will be willing and eager to conform to the regulations of an adequate

ordinance; the few who refuse to conform can be dealt with promptly and equitably under the provisions of an adequate ordinance. At present, however, we believe that the Boulder public does not understand the present system, its inadequacies and its hazards to health; and is not aware of the needs for new regulations.

5. The City has considered the adoption of an ordinance which would provide for the establishment, maintenance and operation of a compulsory system of municipal and/or private operation of garbage, trash and refuse collection disposal, making charges for the services performed, repealing all ordinances in conflict therewith, and providing penalties for violations thereof.
6. This Committee sees considerable merit in the proposal for a municipal system of collection and believes that, ultimately, the City may be forced to adopt such a system. However, we do not believe that the City should, at the present time, embark on a full scale venture of this kind. The cost of launching such an operation and of maintaining it for the first year would be approximately \$70,000. Although substantial revenue would result from monthly payments by all householders, for this service, the operation might eventually pay its own way, we believe that the City's present financial condition does not justify undertaking a compulsory municipal collection system at this time. The City could not undertake such a large scale operation without assuming financial risks. These could conceivably result in increased taxes.

7. Because we recognize the seriousness of Boulder's refuse and garbage collection problems, and show with the Council concern for the hazards to public health inherent in the present system of collection, we respectfully offer the following proposal:
- (1) That the City Council postpone until such time as City finances warrant or until conditions may require such action, the consideration of a compulsory municipal system of refuse and garbage collection.
  - (2) That the Council enact an ordinance incorporating the provisions contained in the attached draft, which it has approved.
  - (3) That in recognition of the fact that the City of Boulder may eventually be forced to operate the municipal garbage and refuse collection system, consideration be given to the possibility of conducting an experimental program to determine the costs and procedures such a plan would entail. We recommend that the Council consider the feasibility of purchasing one garbage and refuse compaction truck and of planning an experimental program which would yield essential data on costs and methods.
  - (4) That the regulations of the new ordinance be strictly enforced and that sufficient personnel be employed to enforce the ordinance.
8. We believe that adoption by the Council of an ordinance identical to the one we have approved would accomplish these results:
- (1) Establish better public health safeguards.
  - (2) Provide more efficient system of collection.

- (3) Enable private operators to continue in business, provided that they conform to the licensing regulations and to other provisions of such an ordinance.
  - (4) Protect taxpayers, for the time being at least, from possible increased assessments resulting from the cost of establishing and maintaining a compulsory municipal collection system.
  - (5) Provide the City with an opportunity to experiment with the possibility of eventually establishing a compulsory collection system and to obtain from such an experiment essential operating data.
  - (6) Assure the City of Boulder, by acquisition of one compaction truck, greater protection from the health hazards which would result from cancellation by the contractor of the present garbage collection contract.
9. We do not submit these proposals as a theoretical or final solution of a serious and difficult municipal problem. However, we believe that the proposals represent the most practical temporary solution.

### APPENDIX III

The basic recommendations of a Council Committee, appointed in 1964 to study garbage and trash removal procedures, are as follows:

Specifically, in regard to the present system of private collection of trash and garbage, the report states: "It does not appear that even with substantial improvements in the existing storage and collection practices would the system in use be desirable. A comprehensive storage and collection ordinance should conceivably correct many deficiencies, yet generally the program would not be either workable or enforceable."

Regarding the municipal collection of refuse (garbage and trash combined) the report states: "Although there are a number of advantages for a municipally owned and operated collection system, there appear to be several reasons why this would be impractical for the City of Boulder at the present time.

1. The capital outlay necessary for the purchase of compaction vehicles and other equipment would be very substantial.
2. Competitive bidding for the provision of a city-wide refuse collection service is likely to offer the service at a rate which the City cannot initially afford to undertake the service on its own.
3. A City operation would be replacing a function which could be otherwise handled through private enterprise.
4. Existing City Yards facilities would make it extremely difficult to service and provide adequate shelter for vehicles and equipment. Provisions for a new City Yards with adequate vehicle storage would be costly.



5. The City does not have office space available for administering the entire program.
6. The City is currently budgeting \$1,800 a month for the collection of garbage only. Under the contract system, the City would be able to use this money in the General Fund for other purposes.
7. The City is totally without experience in this field.

Therefore, the 1964 report recommended the following:

1. Improvement of the present level of services provided Boulder residents requires that provision be made for the collection of all refuse (garbage and trash combined) under a city-wide municipal contract system. It is recommended that the contract be on a franchise basis for a period of no less than seven years.
2. The service shall be made available to all Boulder residents who will be charged accordingly. Boulder residents shall include all single family dwellings, duplexes and triplexes.
3. Commercial and institutional establishments (those not included in the residential classification) shall not be subject to the city-wide collection program, but will be served by properly licensed contractors.
4. The current practice of backyard incineration shall be terminated.
5. The city-wide contractor as selected by the City of Boulder shall be on the basis of competitive bidding.
6. In addition to license or franchise fees, the City of Boulder shall

bill and collect all fees that would receive a service and administrative charge from the contractor.

7. A detailed ordinance shall be adopted for effectuating and regulating this program.
8. The approval of the plans shall be subject to city-wide election.
9. If Boulder citizens reject this proposal, it is recommended that the City Council adopt necessary regulations and ordinance provisions to upgrade the existing storage and collection methods.

#### APPENDIX IV

Following is a brief summary of the present garbage contract negotiated between the City and Mr. Juhl. It might be noted that the 1966 City of Boulder Budget does not contain sufficient funds to continue the contract past the April 30, 1966, expiration date.

1. The contract is in effect from May 1, 1965, until April 30, 1966, at which time the City has the option to renew the agreement provided the City gives notice to Mr. Juhl of such intention no later than 30 days prior to its expiration.
2. It is the duty of Mr. Juhl to notify any person in violation of the garbage ordinance and to provide a copy of the notice to the City Health Officer. Mr. Juhl is not required to remove any garbage in which materials forbidden to be placed therein are present.
3. Mr. Juhl shall collect and remove the garbage as follows:
  - a. From all houses not less than twice a week.
  - b. From boarding houses and fraternity houses not less than three times a week.
  - c. From all hotels and restaurants every day except Sunday.
4. Collection in newly annexed areas shall be made only after alleys and/or streets have been graveled and collection rates have been agreed upon by both parties.
5. The City shall pay Mr. Juhl the sum of \$1,800 per month on the

10th day of each month, together with any and all other sums agreed upon in accordance with the terms of the contract.

6. In the event that any rule or regulation as enacted by the City, County, State, or Federal Government interfering with the method of collection, disposal and use of garbage collected by Mr. Juhl, then either party has the right to terminate and cancel the contract upon 30 days' written notice to the other party.

Dear Citizen:

APPENDIX V

The City of Boulder is currently reviewing the services of its contracted municipal garbage collector. Your cooperation in completing and returning the following questionnaire will greatly help in evaluating this service. A prestamped self addressed envelope is enclosed for your convenience. Thank you in advance for your assistance.

1. Do you currently dispose of your household garbage (not paper and other refuse) by using the services of the City garbage collector?

753 - 70.3%  
Yes

29.7%  
No

2. If your answer is yes to question number 1, how often is your garbage picked up? Please underline.

- A. Twice a week 621 - 82.4%  
B. Once a week 101 - 13.4%  
C. Twice a month 22 - 2.9%  
D. Once a month 8 - 1.06%

3. If your answer was yes on question number 1, do you find the service provided adequate?

737 - 97.9%  
Yes

14 - 1.99%  
No

4. Do you have a garbage disposal unit in your home?

85 - 11.2%  
Yes

663 - 88.04%  
No

5. By which of the following methods do you dispose of your papers and other burnable trash? Please underline.

- A. Incineration (burning) 235 - 31.2%  
B. A regular commercial trash hauler 94 - 12.5%  
C. By hauling to the disposal site myself 19 - 2.5%  
D. Combination of burning and the services of a refuse hauler 317 - 42.0%  
E. Combination of burning and hauling myself 84 - 11.1%

6. If you use the services of a regular commercial trash hauler, how often does he pick up your refuse?

- A. Twice weekly 37 - 4.9%  
B. Once weekly 100 - 13.2%  
C. Twice a month 34 - 4.5%  
D. Once a month 36 - 4.7%  
E. Whenever you call him 302 - 40.1%  
F. Other 34 - 4.5%

You may use the back of the questionnaire if you have any further comments

TO: Robert W. Quinlan, City Manager, City of Boulder

FROM: Don F. Marmande, R.P.S., Director, Division of Environmental Health

SUBJECT: Old City Dump located on North 26th Avenue

DATE: January 12, 1966

On January 10, 1966, Mr. Robert Shipley, Sanitarian with this department and myself went out to investigate a complaint regarding the Old City Landfill burning problem. We found evidence that this disposal site is burning underground and has approximately seven different fires, or at least smoke is coming from that many area. It may be only one or two fires underneath. It appears that someone has dumped several loads of trash in the old tree stump area, and there are also approximately six automobiles that have been dumped in this area. Some of the cover material is beginning to leach down into the landfill site exposing some of the debris and trash that has been placed there. Saw no evidence of rodent infestation.

cc - Mr. John Morris, County Planning Director, Boulder County Office of Development, Court House, Boulder, Colorado

1-14-66 cc - Peter Kuetze

*Send to City of Boulder  
(Archives Mitchell)  
11-30-1965*

# THE PAUL A. SMITH LABORATORY

7515 West 17th Ave. Lakewood, Colorado 80215

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

DATE

11/8/65

Boulder Health Department  
3450 Broadway  
Boulder, Colorado

PLEASE DETACH AND RETURN WITH REMITTANCE

6/21/65	Toxicology on water sample from stream leaving dump property	\$5.00
7/12/65	Toxicology on water sample from stream leaving dump property	5.00
		<u>\$10.00</u>

THE PAUL A. SMITH LABORATORY

# RECEIVED

AUG 23 1965

BOULDER CITY-COUNTY HEALTH DEPT.

## Daily Cash Receipts

Re-Cap for Month of June, 1965

(date)

### Receipts:

	<u>Quantity</u>	<u>Amount</u>
1. Refuse (number of vehicles) @50¢	662	\$ 331.00
2. Refuse @ 60¢ per cu yd	7257 yds.	4354.00
3. Appliances @ 2.00 ea	6	12.00
4. Car Bodies @ 4.00 ea		
5. Stumps & Logs @ 4.00 ton	1	4.00
6. Septic Wastes @ 5.00 per load	31	155.00
7. Pets @ 1.00 ea		
8. Contract loads @ <u>10.00</u> (demolition, etc)	53	531.35
<b>TOTAL RECEIPTS</b>		<b>\$ 5,387.35</b>

### Accounting:

	<u>Quantity</u>	<u>Amount</u>
Coupons @ 60¢		\$
Coupons @ \$6.00		1393.80
Cash	x x x x x	3992.95
<b>TOTAL COUPONS &amp; CASH</b>		<b>\$</b>
less change on coupons x x x x		
<b>NET COUPONS &amp; CASH</b>		<b>\$ 5,386.75</b>

Over \_\_\_\_\_ Short 60¢

**CHARGES** ----- 244.90

5386.75 x 3% = \$161.60

  
Signature of Cashier

(Attach Register tape, cancelled coupons, & duplicate deposit slip.)



*Don*

*PCD*

RECEIVED  
AUG 12 1965  
BOULDER COUNTY HEALTH DEPT

CITY OF BOULDER, COLORADO

August 12, 1965

Mr. Don Marmonde  
City and County Health Department  
3450 Broadway  
Boulder, Colorado

RE: Dump suit.

Dear Don:

This is to advise you that the dump suit pending in the federal district court was settled on August 9, 1965. It is therefore no longer necessary for your department to sample the stream water running through the dump site.

Thank you very much for your efficient and courteous cooperation.

Yours very truly,

*Peter C. Dietze*  
Peter C. Dietze  
City Attorney

PCD/bab

FOR Boulder Sanitary Landfill

NAME OF CALLER <sup>called</sup> Mr. Peter Dietz PHONE \_\_\_\_\_ HOME \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_ BUS. \_\_\_\_\_

MESSAGE \_\_\_\_\_  
Court case has been settled  
out of court

RECEIVED BY: JRM DATE: 8/9/65 TIME: 950

DISPOSITION: \_\_\_\_\_

Rosenmiller  
Edr. Coles

File - Old city dump

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLORADO

8-9-65

Civil Action No. 8200

THE C. MOSHER, WILLIAM W.)  
GO LOUISE DE GE, THE )  
UL LAND REIGATION AND )  
W. COMPANY, a corporation, )  
OR E W. POOR, individually )  
a Administrator of the estate )  
MA. A. POOR, )

Plaintiffs, )

vs. )

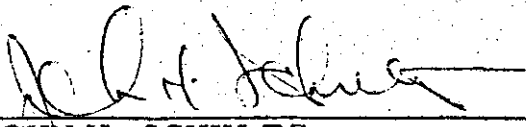
TY OF BOULDER, a Colorado )  
municipal corporation; )

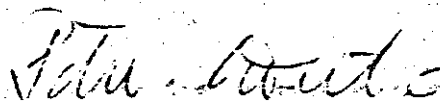
Defendant. )

STIPULATION OF DISMISSAL  
WITH PREJUDICE

COME NOW the plaintiffs by their attorney John H. Schultz and  
the defendant City of Boulder by its attorney Peter C. Dietze and state to the  
court as follows:

The above named plaintiffs, jointly and severally, and the  
City of Boulder hereby stipulate and agree to the dismissal of the within action  
with prejudice and request this court to enter judgment accordingly. Each  
party to pay its costs and attorney's fees.

  
JOHN H. SCHULTZ  
Attorney for Plaintiffs  
1700 Broadway  
Denver, Colorado  
255-9173

  
PETER C. DIETZE  
Attorney for Defendant  
1700 Broadway  
Boulder, Colorado  
442-2020

AGREEMENT OF SETTLEMENT AND RELEASE

THIS AGREEMENT of settlement and release herein entered into by and between ETHEL C. MOSHER, WILLIAM W. DEGGE, LOUISE DEGGE, THE BOULDER LAND IRRIGATION AND POWER COMPANY, a corporation, and GEORGE W. POOR, individually and as administrator of the estate of MARY A. POOR, all individually and jointly, hereinafter referred to as "parties of the first part" and THE CITY OF BOULDER, a Colorado municipal corporation, hereinafter referred to as "party of the second part";

WITNESSETH:

WHEREAS, on September 16, 1963, the parties of the first part commenced Civil Action No. 8200 against the party of the second part in the United States District Court for the District of Colorado. In said action the parties of the first part alleged that by virtue of the operation, maintenance and existence of a public sanitary landfill, which is generally located in the East 1/2 of Sec. 7, T 1 N, R 70 W. of the 6th P.M., County of Boulder, State of Colorado, by the party of the second part, its agents and employees, or United Haulers Association, Inc., its agents and employees, the lands owned by the respective parties of the first part were taken and the reasonable use thereof denied without compensation and in violation of the 14th Amendment of the United States Constitution; and further, that by virtue of said operation, maintenance of, and existence of said sanitary landfill the lands of the respective parties were damaged as a result of invading odors, smoke, blowing debris, dust, fires or other similar occurrences emanating from the operation, maintenance and existence of said sanitary landfill; and further, that ~~the market values of said lands were depreciated and the improvements~~ located on said lands were impaired, injured or destroyed and the surface stream and underground waters connected therewith polluted or contaminated.

Approved:

E. H. C. Mosher  
ETHEL C. MOSHER

William W. Degge  
WILLIAM W. DEGGE

Louise Degge  
LOUISE DEGGE

President: W. W. Degge  
THE BOULDER LAND IRRIGATION  
AND POWER COMPANY

George W. Poor  
GEORGE W. POOR, individually

George W. Poor  
George W. Poor, as administrator  
of the estate of MARY A. POOR

The parties of the first part, jointly and severally, further alleged the impairment of their health and that of their respective families, the sufferance of annoyance and discomfort to themselves in the use and enjoyment of their lands and reaping of the reasonable profits therefrom; and,

WHEREAS, the party of the second part denied the occurrence of any and all of the acts complained of by the parties of the first part, and further denied and rejected any liability therefor. In addition, the party of the second part and in defense to the charges made in Civil Action No. 8200, asserted res judicata, consent and release, based upon the settlement agreement of March 16, 1954, and the judgment of even date which was entered in Civil Action No. 12372, in the District Court of Boulder County, State of Colorado; and,

WHEREAS, the second amended complaint and the more definite statement filed by the parties of the first part in Civil Action No. 8200, in the United States District Court, District of Colorado, and the answer of the party of the second part, as well as the pretrial order entered by the said court, are hereby made a part of this agreement of settlement and release and expressly incorporated herein; and,

WHEREAS, in view of the fact that the sanitary landfill was permanently closed down and the deposit of any waste products such as rubbish, rubble, garbage or trash discontinued by the party of the second part, or United Haulers Association, Inc. on or about May 23, 1965, and because of other pertinent circumstances the parties hereto are desirous of settling any and all claims arising out of the lawsuit hereinabove referred to and also arising out of the operation, maintenance and existence of said sanitary landfill by the party of the second part, its agents or employees, or United Haulers Association, Inc., its agents or employees; and

WHEREAS, the party of the second part not only denies the occurrence of but also expressly denies and rejects any and all liability what-

soever for any of the claims made by the parties of the second part in Civil Action No. 8200, or which may hereafter be made by them, jointly or severally arising out of the operation, maintenance and existence of said sanitary landfill;

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, the parties hereto agree and covenant as follows:

1. That the party of the second part shall pay to the parties of the first part and their attorney John H. Schultz, Esquire, the sum of \$5,000. the receipt whereof is hereby jointly and severally acknowledged by the parties of the first part, jointly and severally, and by their attorney.

2. The parties of the first part, severally and jointly, for themselves and for their heirs, executors, administrators, successors and assigns, do hereby remiss and release and forever discharge the party of the second part, its agents and employees generally and more particularly United Haulers Association, Inc., a Colorado corporation, and Harold Graham and Leroy Twisdale, two individuals, their respective heirs and assigns, as well as all other persons, firms and corporations, from any and all claims, demands, rights and causes of action of whatever kind or nature, whether known or unknown, foreseen or unforeseen, and from any and all damages or injuries known or unknown, foreseen or unforeseen, to the properties, both real and personal, of the parties of the first part, jointly and severally, and any damages or injuries known or unknown, foreseen or unforeseen, to their persons, resulting from and arising out of the operation, maintenance and existence of the sanitary landfill located in the East 1/2 of Sec. 7, T 1 N, R 70 W. of the 6th P.M., County of Boulder, State of Colorado. The operation, maintenance and existence of said sanitary landfill occurred in the period commencing prior to the 16th day of May, 1954, and continuing until the date this agreement was executed by the parties hereto and for which

period the parties of the first part have alleged that the party of the second part, its agents and employees, or United Haulers Association, Inc., its agents and employees, or their respective successors or assigns, are legally liable for the acts complained of and hereinabove stated or referred to, which occurrences and liability the party of the second part hereby expressly denies and rejects.

3. The parties of the first part, jointly and severally, for themselves and for their heirs, executors, administrators and successors and assigns, do hereby remiss, release and forever discharge the party of the second part, its agents and employees, and United Haulers Association, Inc., its agents and employees, and Harold Graham and Leroy Twisdale, two individuals, as well as any other person, firm or corporation, from any and all damages and injuries, known or unknown, foreseen or unforeseen, to the properties, both real and personal, and/or the persons of the respective parties of the first part, their heirs, executors, administrators, successors and assigns, which may result from, or be connected with, the inactive continued existence of the said sanitary landfill. The term "inactive continued existence of the sanitary landfill" as used in the preceeding sentence, or anywhere within this agreement of settlement and release, shall mean the presence of the said sanitary landfill from the date of this agreement of settlement and release until forever in the future, so long as the same is not reopened by the party of the second part, its agents or employees, successors and assigns, or by United Haulers, its agents or employees, successors and assigns, as a sanitary landfill, or as a place where waste materials of any kind, such as rubble, rubbish, garbage or trash or the like materials are being deposited for the purposes of disposal, or any other purpose, at said site generally located in the East 1/2 of Sec. 7, T 1 N, R 70 W. of the 6th P.M. County of Boulder, State of Colorado.



4. The parties of the first part, jointly and severally, and the party of the second part shall execute and sign a stipulation for the entry of a judgment of dismissal with prejudice of Civil Action No. 8200, in the United States District Court for the District of Colorado, as hereinabove referred to, and that all parties shall pay their own costs and attorney's fees with respect thereto.

5. The parties of the first part, jointly and severally, their heirs, successors and assigns, executors or administrators hereby waive and relinquish any right or claim of right to seek any remedy or relief whatsoever on the basis of the judgment and decree entered in Civil Action 12372, and dated March 16, 1964, in the District Court in and for Boulder County. They further hereby agree not to seek any modification of said judgment and decree.

6. The parties of the first part, jointly and severally, their heirs, successors and assigns, executors or administrators, hereby covenant and agree that they will not hereafter, jointly or severally, institute any proceedings of any kind against the party of the second part, its agents or employees, or successors or assigns, or against United Haulers Association, Inc., its agents or employees, or its successors and assigns, which proceedings arise out of the operation and maintenance, and existence of the said sanitary landfill. They further jointly and severally covenant and agree that they will not jointly or severally institute any action at law or equity in any of the federal or state courts of the State of Colorado, or of any other state of the United States, based upon the operation, maintenance of existence of the said sanitary landfill.

7. This agreement of settlement and release shall be binding upon and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have hereonto set their hands, this 9th day of August, A. D. 1965.

Ethel C. Mosher  
ETHEL C. MOSHER

*Copy to  
P. Smith  
8-5-65*

THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

July 29, 1965

Boulder City-County Health Department  
3450 Broadway  
Boulder, Colorado

7/12/65 Toxicology on water sample from  
stream leaving dump property--

Negative.

7/12/65 Toxicology on water sample from  
effluent Boulder Treatment Plant -

Negative.

*Paul A. Smith*

*Copy to  
P. Dietz - E. Hamilton  
8-5-65*

# THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

July 29, 1965

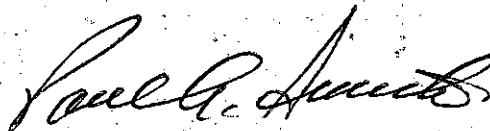
Boulder City-County Health Department  
3450 Broadway  
Boulder, Colorado

6/21/65 Toxicology on water sample from  
stream leaving dump property -

Negative.

6/21/65 Toxicology on water sample from  
effluent Boulder Treatment Plant-

Negative.



RECEIVED

JUL 30 1965

BOULDER CITY-COUNTY HEALTH DEPT.

16/28/65  
copy to  
Paul Smith

THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.

Director

Boulder City, County  
Health Dept.

Examination of six water samples  
for mause Tainia.

Three samples of effluent from  
Boulder sewage treatment  
plant taken 3/8/65, 4/12/65  
and 5/18/65. All negative.

Three samples of stream leaving  
Boulder dam properly taken  
3/8/65, 4/12/65, and 5/17/65 all  
negative.

Paul A. Smith

THE PAUL A. SMITH LABORATORY *listed*

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.

Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

2/2/65 Toxicology of stream leaving dump  
property - negative.

*Paula Smith*

THE PAUL A. SMITH LABORATORY *Part 1*

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.

Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

1/18/65 Toxicology of stream leaving  
dump property - negative.

*Paul A. Smith*

THE PAUL A. SMITH LABORATORY *Printed*

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.

Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

12/1/64 Toxicology of stream leaving  
dump property - negative.

*Paul A. Smith*

THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.

Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

8/24/64 Boulder dump - sample of stream water  
leaving city property -

Toxicology - negative.

9/8/64 Boulder dump - sample of stream  
water leaving city property -

Toxicology - negative.

10/5/64 Boulder dump - sample of stream water  
leaving city property -

Toxicology - negative.

11/2/64 Boulder dump - sample of stream  
water leaving city property

Toxicology - negative.

*Paul A. Smith*

Copy - 12 <sup>(96)</sup> 64

*Peter Dietze*  
*Jim Keane*



FOR

Bill Perkins

W/3  
W/3

NAME OF CALLER

PHONE

HOME

ADDRESS

PHONE

BUS.

MESSAGE

I called Peter Dietze,  
City Attorney - advised him to  
contact you - he said he would  
prefer to talk with you at the  
office if he could - would you  
call him to discuss when, if?

RECEIVED BY:

DATE:

7/28/65

TIME:

9:10 AM

DISPOSITION:

Peter Dietze no longer works info  
on MPN's since case may be settled  
out of court.

WHP

WILLIAM W. DEGGE

LOUISE DEGGE

GEORGE W. POOR, individually

GEORGE W. POOR, as administrator of  
the estate of MARY A. POOR

THE BOULDER LAND IRRIGATION AND  
POWER COMPANY, a corporation

Secretary

By: Quinn DeF  
President

THE CITY OF BOULDER, a Colorado  
municipal corporation

By: Val L. Latt  
City Attorney

STATE OF COLORADO )

) S.S.

COUNTY OF BOULDER )

The foregoing instrument was signed and sworn to before me this \_\_\_\_ day of August, A. D. 1965, by ETHEL C. MOSHER, WILLIAM W. DEGGE, LOUISE DEGGE, GEORGE W. POOR, individually, GEORGE W. POOR, as administrator of the estate of MARY A. POOR,

as Secretary of THE BOULDER LAND IRRIGATION AND POWER COMPANY,  
a corporation, and Peter C. Dietze, as City Attorney for THE CITY OF  
BOULDER, a Colorado municipal corporation.

Witness my hand and official seal.

Notary Public

My commission expires

July 28, 1965

Mr. Paul A. Smith  
Paul A. Smith Laboratories  
7515 West 17th  
Denver, Colorado

Please send us the report for June now and as soon as it is available the report for July. We need this report for preparation of a court case. This is the report for the mice toxicology for the Sanitary Landfill.

Respectfully yours,

  
John R. McNair, Sanitarian  
Division of Environmental Health

**BOULDER CITY-COUNTY HEALTH DEPARTMENT**

3450 BROADWAY  
BOULDER, COLORADO 80302

*John R. Nair*  
SANTANA

MPN	MPN RESULTS		MICE TOXICOLOGY RESULTS
	Sanitary Landfill Stream Inflow	Sanitary Landfill Stream Outflow	
8/10/64	Not taken	2300	
8/24/64	930	2400	
9/8/64			Negative
9/8/64	230,000	23,000	
9/14/64	360,000	930	
9/21/64	Not returned		
9/28/64	430	430	
10/5/64	Not returned		Negative
10/19/64	3,600	430	
11/2/64	< 3,600	240	Negative
11/17/64	360	910	
12/1/64	43	930	Negative
12/14/64	460	910	
1/18/65	2,400	360	Negative
2/2/65	210	360	Negative
2/23/65	93	230	
3/2/65	93	240	Negative
3/22/65	430	910	
4/12/65	430	930	Negative
4/26/65	2,300	230	
5/17/65	430	430	Negative
5/24/65	93	930	
6/21/65	230	4,300	Negative

**BOULDER CITY-COUNTY HEALTH DEPARTMENT**

3450 BROADWAY  
BOULDER, COLORADO 80302

*John B. McWain*  
Sanitarian

MPN	MPN RESULTS		MICE TOXICOLOGY RESULTS	
	Sanitary Landfill Stream Inflow	Sanitary Landfill Stream Outflow		
7/12/65	2,300	4,300	Negative	Fill pushed into inflow is restriction flow
7/26/65		9,300		

BOULDER CITY-COUNTY HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER COLORADO

MPN	<del>Date Collected</del> Mice Toxicology	MPN Results		Mice Toxicology Results Sanitary Landfill Stream Outflow	Comments
		Sanitary Landfill Stream Inflow	Sanitary Landfill Stream Outflow		
8/10/64	<del>8/10/64</del>	<del>NOT TAKEN</del>	<del>2300</del>	<del>Negative</del>	
8/24/64		930	2400	<del>Negative</del>	Seepage from pond 2400 Pond (E Edge) 910
8/31/64			2300		Pond 360
9/8/64	<del>9/8/64</del>	(Pond) 910		Negative	
9/8/64		230,000	23,000		
9/14/64		360,000	930		
9/21/64		Not Returned			
9/28/64		430	430		
10/5/64	<del>10/5/64</del>	Not Returned		Negative	
10/19/64		3,600	430		
<del>10/20/64</del>					
11/2/64	<del>11/2/64</del>	< 3,600	240	Negative	
<del>11/2/64</del>	<del>11/2/64</del>				
11/17/64		360	910		
12/1/64	<del>12/1/64</del>	43	930	Negative	
12/14/64		460	910		
1/18/65	<del>1/18/64</del>	2,400	360	Negative	
2/2/65	<del>2/2/65</del>	210	360	Negative	
2/23/65		93	230		
3/2/65		93	240	Negative	
3/22/65		430	910		
4/12/65		430	930	Negative	
4/26/65		2,300	230		
5/17/65		430	430	Negative	
5/24/65		93	930		
6/21/65		230	4,300	Negative	

MPN	Date Collected	MPN Results		Mice Toxicology Results		Comments
	Mice Toxicology	Sanitary Landfill Stream Inflow	Sanitary Landfill Stream Outflow	Sanitary Landfill Stream Outflow	Sanitary Landfill Stream Outflow	
7/12/65		2,300 ✓	4,300 ✓	NEGATIVE ✓		Fill pushed into Inflow is restoring flow. RESTRICTING
7/26/65		?	9300 ✓			Same as above ↑



TO 230,000 (9/11/64)

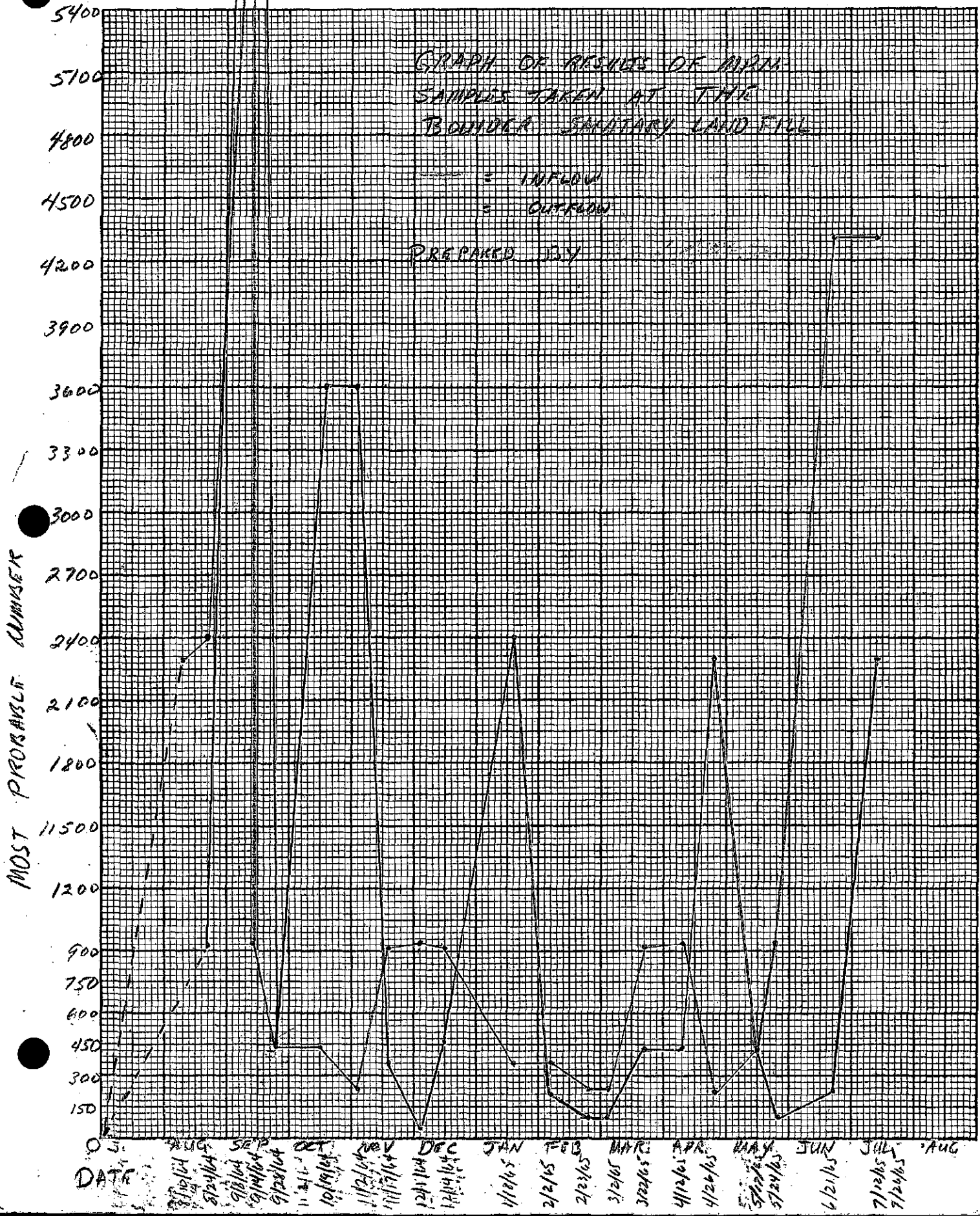
FORM E4

TO 360,000 (9/19/64)

PAGE

TO 23,000 (9/18/64)

UNIVERSITY OF COLORADO





To 230,000 (9/18/64)

FORM E4

To 360,000 (9/14/64)

PAGE

# UNIVERSITY OF COLORADO

To 23,000 (9/18/64)

Graph of Results of M.P.N.  
Samples taken at the  
Boulder Sanitary Landfill

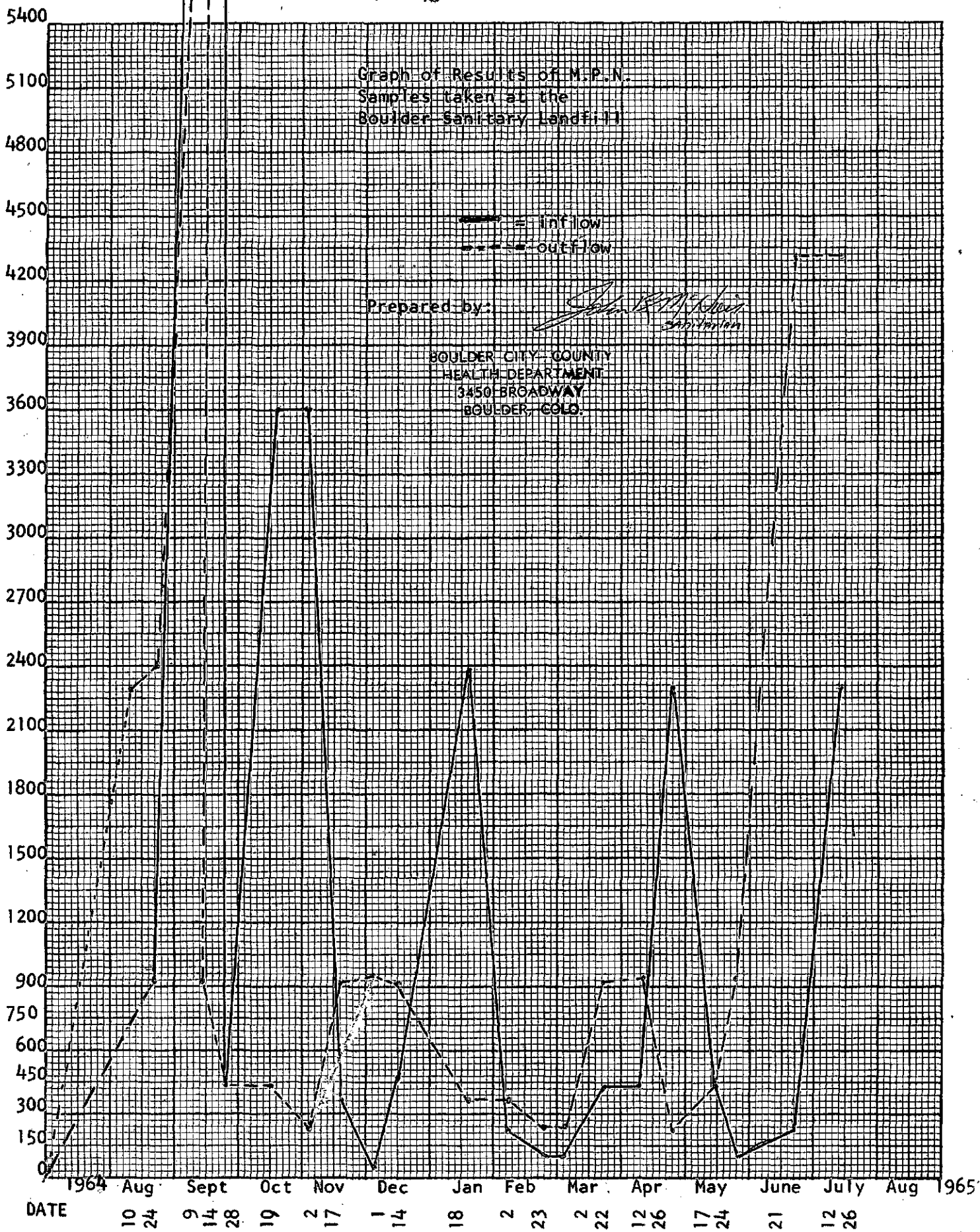
— = inflow  
--- = outflow

Prepared by:

*John B. McWhorter*  
Sanitarian

BOULDER CITY-COUNTY  
HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLO.

Most Probable Number



BOULDER CITY-COUNTY HEALTH DEPARTMENT  
3450 Broadway  
Boulder, Colorado

Date Collected		MPN Results			Mice Toxicology Results		Remarks
MPN	Mice Toxicology	Dump Inflow	Dump Outflow	Sewage Treatment Plant Effluent	Dump Outflow	Sewage Treatment Plant Effluent	
3/22/65		430	910				
4/12/65	-	430	930	930			
4/24/65		2300	230				
5/17/65		430	430	<del>430</del>			
5-24		930	930				
6-21		230	4300				Fill pushed into inflow for restricting flow
7/12/65		2300	4300				

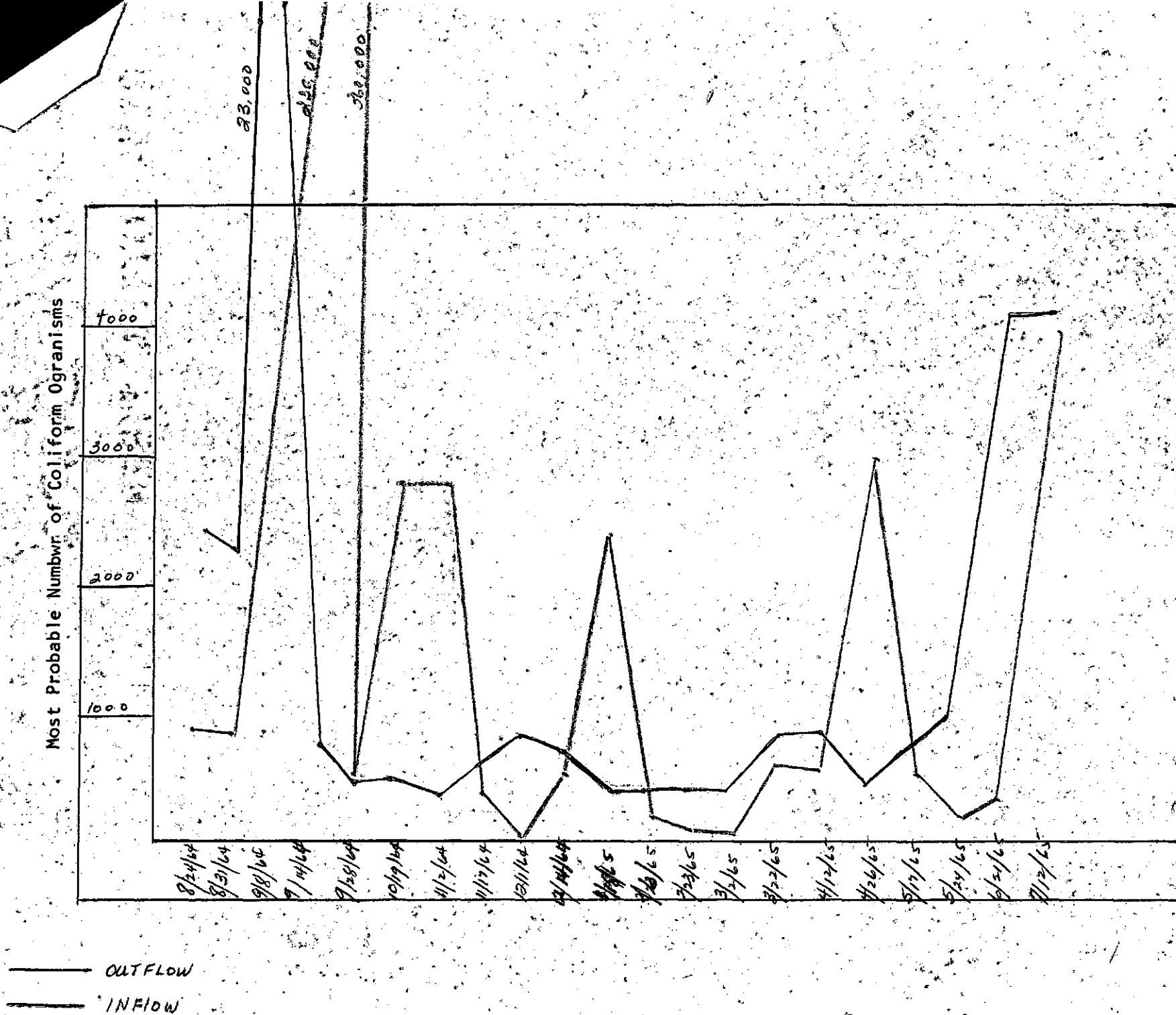
## BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 BROADWAY

BOULDER, COLORADO

DATE COLLECTED		MPN RESULTS -			MICE TOXICOLOGY RESULTS		REMARKS
MPN	MICE TOXICOLOGY	DUMP Inflow -	DUMP Outflow	SEWAGE TREATMENT PLANT EFFLUENT	DUMP Outflow	SEWAGE TREATMENT PLANT EFFLUENT	
	8/10/64				Negative	Negative	
	8/11/64						
8/24/64		930	2400				SEEPAGE from Pond: 2400
8/31/64		230,000	23,000	430	(Negative)	(Negative)	In pond (East edge) 910 Pond 360
9/8/64	9/8/64	Pond 910					
9/14/64		360,000	930				
9/21/64		NOT RETURNED	NOT RETURNED				
9/28/64		430	430				
10/5/64	10/5/64	NOT RETURNED	NOT RETURNED	NOT RETURNED			CHECK FOR REPORT
10/14/64		3600	430	93,000	(Negative)	(Negative)	
10/20/64							
11/2/64	11/2/64	< 3,600	240	240,000	(Negative)	(Negative)	
11/4/64	11/4/64						
11/17/64		360	910		(Negative) Report	Negative Report	
12/1/64	12/1/64	43	930	360,000	NOT RETURNED to DATE	NOT RETURNED to DATE	
12/14/64		460	910				
1/18/65	1/18/65	2400	360	1100	Negative	Negative	
2/2/65		310					
2/2/65	2/2/65		360		Negative	Negative	
2/23/65		93	230				
3/2/65		93	240				

John R. McLean 12/10/64



RESULTS OF MPN SAMPLES TAKEN AT BOULDER SANITARY LANDFILL

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Dump & Treatment Plant  
Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: \_\_\_\_\_

Dump: One Quart Sample,  
2 m.p.n.'s

Treatment plant: One Quart Sample  
1 m.p.n.

Date:

(5-64)

7/12/65

Owner or representative:

Sanitarian:

*[Signature]*

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: City of Boulder Landfill (Abandoned)  
Address: N. 26th Avenue Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: County Complaint received on dump site being used

There appears to be no evidence that anyone has been dumping on this site. The present abandoned landfill operation does not appear to be any different from when I visited it several weeks ago, with the exception that someone has put on additional cover material in certain areas in which there may be exposed trash. There was not actual visual evidence of the site continuing to be used as a disposal site for some refuse.

Date: July 7, 1965

Owner or representative: \_\_\_\_\_

(5-64)

cc - Mr. E. Robert Turner  
City Manager, City of Boulder

Sanitarian: Don F. Marmande, R.P.S., Director  
Division of Environmental Health

Mr. Peter Dietze  
City Attorney, City of Boulder

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: City of Boulder Sanitary Landfill  
Address: North 26th, Boulder Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: Routine Inspection

1. Paper and trash have been picked up from the entrance road and the fences.
2. Most of the entire dump has been covered including much of the open faces. However, the rain and wind probably has blown and compacted the top cover so there are some exposed areas.
3. Nothing has been done with the large pile of refrigerators and stoves.
4. The brush and tree stumps areas still appear to be the same as last inspection.

Date: June 17, 1965

(5-64)

Owner or representative: \_\_\_\_\_

Sanitarian: Don Marmore



*Don*

MEMORANDUM

TO: E. R. Turner, City Manager  
Wm. C. Light, Director of Public Utilities  
Don Marmonde, Chief, Sanitation ✓

FROM: City Attorney

DATE: May 26, 1965

SUBJECT: Closing of old dump north of town.

At this point the former dump north of town has been formally closed for all dumping purposes and appropriate notices have been published in the Camera to this effect. We should make certain that the dump-site is adequately covered with soil or other similar material. As you know, the present litigation on the dump operation is still pending and will most likely be called for trial in the Federal District Court this July or August. For that reason, I think it would be to our best interest that, as quickly as possible, we restore the dump site to a permanently satisfactory condition and undertake such steps as are necessary to accomplish this end. Since the trial is only a few weeks away, time is of the essence in this matter.

United Haulers is of course obligated to adequately cover all dumping areas. Nevertheless, we should not rely exclusively upon their performance in this matter, and we should, if necessary, ourselves cover any areas which United Haulers fail to cover or covered adequately. The end result of our combined efforts should be to prevent any blowing or drifting of debris or papers or like materials in the future.

From my point of view it is extremely important for the outcome of the lawsuit that we do the things suggested in this memorandum. There can be no doubt that if we do so, it will have a significant effect upon the entire course of the litigation.

Please inform me right away if for any reason we cannot do the things suggested herein, or if we should run into problems like inadequate time or the like.

In conclusion I should state that an overall cleanup of drifting paper or other material along the access road would also do much to improve our position and I should hope that we would be in a position to do that within the very near future, and certainly before the commencement of the trial in July.



BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Sanitary Landfill

Address: N. 26<sup>th</sup> Ave Type of Establishment: \_\_\_\_\_

Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_

Purpose of visit: Poisoning of Dump

Went by with Mr. Gene Terrill of U.S. Fish & Wild life Dept. to poison Dump before it is completely covered. Used 20 lbs. of 1080 Poison.

2 AREAS burning -  
old stumps partially burned -

Date: 5/25/65  
(5-64)

Owner or representative: \_\_\_\_\_

Sanitarian: Don F. Marmonde

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: City of Boulder Sanitary Landfill  
Address: N. 26th Type of Establishment: SAN. LANDFILL  
Person interviewed: MRS. TUMBLESON Tel. No: \_\_\_\_\_  
Purpose of visit: inspection of landfill after its closing.

- A. OVERALL APPEARANCE fair - one AREA burning.
- B. Need for more adequate top cover & some side cover over some portions of the EAST & middle sections - North & west end appears to have adequate cover - Altho it isn't 2 ft. - APPEARS THAT 4-8 ACRES Need cover.
- C. old trees & wood ON MRS. TUMBLESON'S property should be burned - probably pushed together.
- D. old refrigerators & washing machines appear to be ON city property - NO APPARENT SALVAGE VALUE - disposition (adequate) may be costly.
- E. No evidence of RATS - POISON will be put out by Health Dept. & U.S. Fish & wild life.

Date: 5/24/65

(5-64)

Owner or representative: \_\_\_\_\_

Sanitarian: Don Marmonde

Archie Twichell

C O C  
P P  
Y

BOULDER CITY-COUNTY HEALTH DEPARTMENT  
3450 Broadway  
Boulder, Colorado 80301

February 1, 1965

Mr. E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

Enclosed is a copy of the inspection report made by Mr. John McNair, Sanitarian with this Department, on Friday, January 29, 1965. We would like to recommend that when this landfill is discontinued as the official City of Boulder dump site that the following be done:

(1) that the area be thoroughly poisoned with poison from the U. S. Fish & Wildlife Department.

~~(2) that two feet of top cover be placed on the final lift.~~

(3) that the old refrigerators, car bodies, etc. be flattened and salvaged to iron dealer.

(4) that all trees, building materials be burned under supervision of City of Boulder Fire Marshal.

(5) that excess paper, plastic material, etc., be picked up off fences, etc.

(6) that all obstructions to any channels be opened as much as possible (recommend Engineering Department of City study this area).

(7) present burning (deep in fill) be uncovered and extinguished as much as possible under supervision of City of Boulder Fire Marshal.

(8) Who pays.

Respectfully yours,

/s/ Don F. Marmande

Don F. Marmande, R. P. S., Chief  
Division of Environmental Health Services

cc: Jim Kean, Administrative Assistant to the City Manager

9) Park reforest & re plant  
10) Clear with Atls.

Dref. - will have  
Report by 4-28-65

FOR

Don

NAME OF CALLER

PHONE

HOME

ADDRESS

PHONE

BUS.

MESSAGE

Dietze told farm to continue  
samples at the Dump until he says  
to stop.

<sup>TRAILER</sup>  
Jones' Park last week, now report  
picked up MPV at

RECEIVED BY:

DATE:

TIME:

DISPOSITION:

FOR

*John*

*File -  
City of Boulder  
Sanitary and Fish*

NAME OF CALLER

*City Attorney's office*

PHONE

HOME

ADDRESS

PHONE

BUS.

MESSAGE

*Please continue to take samples at <sup>old</sup> dump*

*for MPN - both inflow and outflow -*

RECEIVED BY:

*Lern*

DATE:

*5/19/65*

TIME:

*10:30 am*

DISPOSITION:

THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue

Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

Boulder City, County  
Health Dept.

Examination of six water samples  
for manna toxicity.

Three samples of effluent from  
Boulder sewage treatment  
plant taken 3/8/65, 4/12/65  
and 5/18/65. All negative.

Three samples of stream leaving  
Boulder dam property taken  
3/8/65, 4/12/65, and 5/17/65 all  
negative.

Paul A. Smith

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment:

Boulder Sanitary Land fill

Address:

Type of Establishment:

Dump

Person interviewed:

Tel. No:

Purpose of visit:

Picked up one Quart sample - Smith lab  
2 mpns - for State

Delivered 4/13/65

Date:

4/12/65

(5-64)

Owner or representative:

Sanitarian:

John R. M. Allen

File  
Boulder  
Boulder  
Boulder

FOR Don - from Site, Boulder  
Sanitary Landfill

NAME OF CALLER \_\_\_\_\_ PHONE \_\_\_\_\_ HOME \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_ BUS. \_\_\_\_\_

MESSAGE \_\_\_\_\_

I checked the filling level at the  
land fill Monday - there was a large  
amount of uncompacted rubbish on hand -  
The cat operator said he had had trouble  
with machinery - he believed they had  
room for 30 days without going up -

RECEIVED BY: JRM DATE: 7/12/65 TIME: \_\_\_\_\_

DISPOSITION: \_\_\_\_\_



BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment:

Boulder Sanitary Land Fill

Address:

Type of Establishment:

Person interviewed:

Tel. No:

Purpose of visit:

Checked condition of pits for septic tank effluent dumping. One pit full, the other within 12" of overflow.

Along slope above stream about 100' from pits found tracks and effluent where two loads had been dumped onto the soil surface.

Date:

4/12/65

(5-64)

Owner or representative:

Sanitarian:

John B. McLean

Copy to  
Letter Dwyer  
3-30-65

## THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

12/1/64 Toxicology of stream leaving  
dump property - negative.

## THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

1/18/65 Toxicology of stream leaving  
dump property - negative.

## THE PAUL A. SMITH LABORATORY

7515 West 17th Avenue Lakewood, Colorado

Phone: 237-2224

PAUL A. SMITH, Ph. D.  
Director

City and County of Boulder  
3450 Broadway  
Boulder, Colorado

2/2/65 Toxicology of stream leaving dump  
property - negative.

file

3-9-65

FOR

Don

NAME OF CALLER

Jahn

PHONE

HOME

ADDRESS

PHONE

BUS.

MESSAGE

City of Boulder Sanitary Land Fill -

as of Monday 3/8/65 the land fill was about the same as you last saw it. There is room available, but the operator is afraid of running out

RECEIVED BY:

DATE:

TIME:

DISPOSITION:

of room. The cross section is something like this:

PRESENT FILL

Area available for filling - about 50' wide, 200' long

ROAD



Shed

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Dump

Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_

Person interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Purpose of visit: \_\_\_\_\_

Packed up one Quota sample for  
Smith Lab; mice toxicology  
and 2 MPN's

3/8/65  
(1265)

Owner or representative: \_\_\_\_\_

Sanitarian: John R. McNamee

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Sanitary Land Fill  
Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Purpose of visit: Samples:

*Picked up 2 mpu's for stat lab.*

2/23/65  
(1265)

Owner or representative: \_\_\_\_\_  
Sanitarian: John R. McVane

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Sanitary Land Fill  
Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Purpose of visit: \_\_\_\_\_

Picked up 2 MPN's for State Lab  
1 Quant Sample for Sm. Ar. Lab  
Delivered by N. Dondelinger

Date: 2/2/65  
(1265)

Owner or representative: \_\_\_\_\_  
Sanitarian: J. R. McNamee

*Don*

February 1, 1965

*JFM*

Mr. E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

Enclosed is a copy of the inspection report made by Mr. John McNair, Sanitarian with this Department, on Friday, January 29, 1965. We would like to recommend that when this landfill is discontinued as the official City of Boulder dump site that the following be done:

- (1) that the area be thoroughly poisoned with poison from the U. S. Fish & Wildlife Department.
- (2) that two feet of top cover be placed on the final lift.
- (3) that the old refrigerators, car bodies, etc. be flattened and salvaged to iron dealer.
- (4) that all trees, building materials be burned under supervision of City of Boulder Fire Marshall.
- (5) that excess paper, plastic material, etc. be picked up off fences, etc.
- (6) that all obstructions to any channels be opened as much as possible be opened as much as possible (recommend Engineering Department of City study this area).
- (7) present burning (deep in fill) be uncovered and extinguished as much as possible under supervision of City of Boulder Fire Marshall.

Respectfully yours,

Don F. Harmande, R.P.S., Chief  
Division of Environmental Health Services

DFM:fsm

cc - Mr. Jim Keane, Administrative Assistant  
City of Boulder  
Municipal Building  
Boulder, Colorado

## BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

## SPECIAL SANITATION REPORT

Name of establishment: Boulder Sanitary Land fill  
Address: N. of Boulder Type of Establishment: Land fill  
Person interviewed: SEE TEXT Telephone Number: \_\_\_\_\_  
Purpose of visit: SURVEY.

1. Septic tank wastes pits:

West pit (shortest of the two pits) - full to within  
6" of ground level.

East pit - full to within 12" of ground level.

Mrs. Crisman said, when I stopped at the house, that she was worried about the waste being washed into the creek that flows through the dump property. My observation of the location of the two pits leads me to believe that this is unlikely, the slope being wrong for a direct flow to the creek.

2. Remaining length of life for the present dump site: If the presently in use method of raising the dump level is continued, an area on the City property of roughly 100' by 500' should provide dumping for at least 90 days.

Date: \_\_\_\_\_

Owner or representative: continued

(1265)

Sanitarian: \_\_\_\_\_



Boulder City County Health Department

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: \_\_\_\_\_

Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_

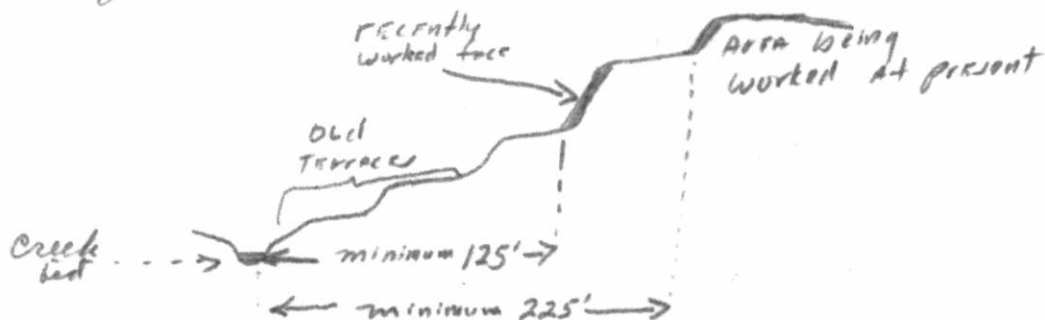
Person interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Purpose of visit: \_\_\_\_\_

3. Condition of the sanitary land fill—

two small fires were observed.

The sloping face of the dump is a minimum distance of 125' from the "stream". The estimated distances to different terraces are shown below.



The faces and surfaces have good cover in general.

Date: \_\_\_\_\_

Owner or representative: \_\_\_\_\_

(1265)

Sanitarian: \_\_\_\_\_

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: \_\_\_\_\_

Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_

Person interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Purpose of visit: \_\_\_\_\_

4. Condition of AREAS near dumps:

paper has collected along the fence that parallels the road on the south edge of the property, and on the fence that borders on the east (crosses the valley). Some paper has blown east of the dumps.

The pond is dry.

Mrs. Tumbleson said that on 1/28/65 a fire started during the windstorm and burned as far as a mile east along the course of the valley. She said they had not noticed the fire among all the blowing dust. She said a City of Boulder truck came out to observe the fire.

Date: \_\_\_\_\_

Owner or representative: \_\_\_\_\_

(1265)

Sanitarian: \_\_\_\_\_

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Building  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: \_\_\_\_\_

Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_

Person interviewed: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Purpose of visit: \_\_\_\_\_

5. Related Information

- a. The area that lies North of the pond belongs to Mrs. Tumbleson. (This is the area where car bodies, building materials, refrigerators, etc. are collected.)
- b. Her property that borders on the dump property seems to be all to the North and North West.
- c. Right a access was part of the sale of 5 Acres to the Boy Scouts. (Mrs. Tumbleson said to her knowledge the scouts now seldom if ever use the 5 acre rifle practice site.)

Date: 1/29/65

(1265)

Owner or representative: \_\_\_\_\_

Sanitarian: John McVais

## BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Dump  
Address: Dump Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: \_\_\_\_\_

collected 1 Quart sample for Smith Lab.

collected 2 mps for State Lab

(also 1 Q and 1 mps at sewer plant)

Date: 1/18/65  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: John M. Allen

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
PRospect 6-5743

Name of establishment: <sup>Concerning</sup> Dump Creek & Sewage effluent toxicology billing

Address: City of Boulder Telephone No.:

Person interviewed: <sup>Mr.</sup> Archie Twitchell Type of establishment:

Purpose of visit:

Compared dates of collection with bills  
rec'd from Paul Smith lab.

determined which were for the  
Dump & which for effluent.

Mr. Twitchell said this straightened out  
the billing and that he would write  
Mr. Smith to ask for specific billing  
in the future.

2008  
DATE: 1/7/65

Owner or representative:

Sanitarian: John R. McVee

December 16, 1964

Mr. E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder Colorado

RE: Water Testing

It appears that the test of the Chlorine Residual within the city limits of Boulder has shown much improvement in the past month. There still may be slight fluctuations in some areas which apparently may be coming from the distribution system.

I would like to thank Mr. Wallace McClure for his cooperation and thoroughness in trying to handle this problem from the Sanitary Land Fill Plant. He also assisted this Department in a field trip to help iron out some of the technicalities of water treatment.

There appears to be a need in this County for someone well trained and experienced in handling treatment disinfection, odor and taste problems. These small public water suppliers do not have such personnel available to them. I am wondering if we could investigate the possibility of Mr. McClure being loaned out to the other water systems, if his work load would permit such a move. Arrangements of facilities and agreements with City of Boulder could be worked out later.

Respectfully yours,

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services

DFM:fsm

cc - Wallace McClure, Director of Water Treatment Plant  
City of Boulder, Municipal Building, Boulder, Colo.

Mr. Wm. Light, Director of Public Service  
City of Boulder, Municipal Building, Boulder, Colo.

Mr. Dwight Sayles  
Black & Veatch Consulting Engineers  
5990 East 38th, Denver, Colorado

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Dump  
Address: Boulder Dump Type of Establishment: -Dump-  
Person interviewed: none Tel. No: \_\_\_\_\_  
Purpose of visit: \_\_\_\_\_

Collected 2 MPN's for state  
Health Dept. analysis.

none at sewage treatment plant

Date: 12/14/64  
(5-64) "

Owner or representative: \_\_\_\_\_  
Sanitarian: J. R. McVee



December 14, 1964

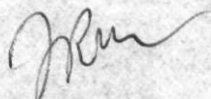
Mr. Peter Dietze  
City of Boulder  
Municipal Building  
Boulder, Colorado

Sir:

This is a summation of the results of samples taken at the Boulder Sanitary Land Fill and Boulder Sewage Treatment Plant. The M.P.M. is for most probable number, and the Mice Toxicology is for toxicity of the water to mice.

A written report was received for the Mice Toxicology sample taken August 10, 1964. A verbal report was given for the samples taken September 8, 1964, October 5, 1964 and October 19, 1964. The report for December 1, 1964 is not yet due.

Respectfully yours,



John R. McNair, Sanitarian  
Division of Environmental Health Services

JRM:fsm





Copies sent to  
Mr. Turner  
Jim Keane  
Neil King  
12-7-64

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment: Boulder City Dump

Address: N. 26<sup>th</sup> Ave.

Telephone No.:

Person interviewed: operator Type of establishment:

Purpose of visit: Routine inspection.

modified  
Sanitary  
hand fill

1- Two septic tank pits on Mrs. Crispin's property in good condition.

2- old septic tank pits on city property NOT in use - almost completely dry.

3- Several small fires burning down deep on east side of dump - C.U. suspected of bringing out hot ashes - gave operator permission to open up face to smother out fire with dozer - he stated large sheets of cardboard in problem - causes chimney - or flue.

4. Pond dried up - stream now flowing only from base of east side of dump near cat tail area.

5. Appears to be adequate top cover - no stockpile.

6. Dumping now on city property - tier going on above road level - spent some time with operator riding on dozer trying several ways to compact + use slant open face method - hard to pack without water - cover not too bad - appears worse than it is - salvage operation makes it look worse - dump could

DATE:

Saturday Dec. 5, 1964

Owner or representative:

Sanitarian:

Don Marmonde

last several months  
depending how far  
east it goes -

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder  
Dummy property

Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_

Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_

Purpose of visit: \_\_\_\_\_

collected 2 mgn's to be sent  
to states —

report to be sent to Peter Dietze  
city of Boulder

Date: 11/17/64  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: John A. McNeil

*File copy  
Copy to Dr. DeWitt*

*Dr*

November 13, 1964

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

This department has not presented any further information on the proposed sanitary land fill site of Mr. Harold Short, located in Section 27, T. 1.N., R. 70 W, because there appears to be obstacles which had to be eliminated or suppressed by those which are opposed to operating a land fill in this area. These obstacles were:

- No. 1 High ground water table and effective lowering of same so that it would not cause a public health hazard.
- No. 2 Citizens objections and industrial park objections.
- No. 3 The problem which may be created on private property adjoining this location from spillage of refuse from refuse hauling vehicles.

Because of the delay in the new county zoning resolution adoption and the County Commissioners not wanting to get into the land fill operation until the middle of next year, we have not thoroughly investigated the above mentioned site or any others to any degree other than talking to several land owners in various parts of the county.

Respectfully yours,

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services



CW 10

this letter ditto to  
sent to city council  
by city mgr.

November 13, 1964

DBB

mm

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

This department has not presented any further information on the proposed sanitary land fill site of Mr. Harold Short, located in Section 27, T. 1.N., R. 70 W, because there appears to be obstacles which had to be eliminated or suppressed by those which are opposed to operating a land fill in this area. These obstacles were:

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Respectfully yours,

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services

*Don* *DBB* *JRM*  
November 10, 1964

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

I have not been out to the Boulder Sanitary Land Fill or Municipal Dump within the past several weeks, but I am sure it is filling at a much more rapid rate than we calculated because they are not able to compact this modified open face Dump as well as they should.

With the County Commissioners wishing to move slowly on the operation of the County Dump, I think it is necessary for the City of Boulder's Legal Department and for your Department, along possibly with the Engineering Staff from the City of Boulder and myself to visit the site and see whether or not any additional space at the existing Dump can be utilized before inclement weather sets in. There appears to be two possibilities out there at the present time, but it will need a decision from the City Manager's office as well as the City of Boulder Legal Department.

Respectfully yours,

Don F. Hermende, R.P.S., Chief  
Division of Environmental Health Services

DFH:fsm

cc - Mr. Jim Keene, Administrative Assistant  
to City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Dump

Address: Dump Type of Establishment: Dump

Person interviewed: \_\_\_\_\_ Tel. No.: \_\_\_\_\_

Purpose of visit: -

Collected 2 mpw's for State Health  
Department.

Collected 1 Quart sample for Smith  
lab, micro toxicology.

Delivered by Norman Pondelinger  
11/4/64

Date: 11/2/64  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: John R. M. Vaw



October 26, 1964

Mr. C. R. Lappin  
L - T Sanitation  
Route 2, Box 162  
Boulder, Colorado

On my last visit to the Boulder Dump and Land Fill operation, I notice your new septic tank materials pit is filling quite rapidly. I would suggest that you dig at least one or two more pits on the east side of the existing pit as well as the one that you wanted to put over in the land fill cover area. This is the pit you wanted to use during bad weather conditions.

Respectfully yours,

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health

DFM:fsm

cc - E. Robert Turner, City Manager  
City of Boulder  
Boulder, Colorado

# INDUSTRIAL BLOW PIPE COMPANY

*Designers-Erectors*

PNEUMATIC CONVEYING SYSTEMS  
BLOW PIPE INSTALLATIONS  
BURN-O-MATIC REFUSE BURNERS

*For  
file  
copy*

PHONE 324-2151 • P. O. BOX 12412 • 2700 JACKSON AVENUE • MEMPHIS, TENNESSEE 38112

October 21, 1964

**BURN-O-MATIC®**  
DIVISION

Mr. Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services  
Boulder City-County Health Department  
3450 Broadway  
Boulder, Colorado 80301

Dear Mr. Marmande:

Thank you for your letter of October 16.

Copies of the original film are at this time being processed and we expect to have these available to send to you in about three or four weeks.

Thank you for your interest in the BURN-O-MATIC.

Very truly yours,

BURN-O-MATIC DIVISION

  
G. M. DeHan

GMD:gj



*Dumping fil*

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Dump  
Address: Dumping - Type of Establishment: Dumping  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: \_\_\_\_\_

*Picked up two MPN's for state.*

Date: *10/20/64*  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: *John R. McKinn*

*Don*

October 16, 1964

Industrial Blow Pipe Company  
P.O. Box 12412  
2700 Jackson Avenue  
Memphis, Tennessee  
38112

We would be interested in viewing the films and receiving any additional data you might have on the Burn-O-Matic.

It will not be necessary for you to send a representative to show the films, but if you will send them to us at the above address we will review them and return them to your office.

We are also interested to know if the Burn-O-Matic meets the existing National Standards on Air Pollution.

Very truly yours,

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services

DFM:fsm

*Copy sent to Jim Kean*

# INDUSTRIAL BLOW PIPE COMPANY

*Designers-Erectors*

PNEUMATIC CONVEYING SYSTEMS  
BLOW PIPE INSTALLATIONS  
BURN-O-MATIC REFUSE BURNERS

PHONE 324-2151 • P. O. BOX 12412 • 2700 JACKSON AVENUE • MEMPHIS, TENNESSEE 38112

October 12, 1964

**BURN-O-MATIC®**  
DIVISION

Mr. Don F. Marmande  
Boulder City-County Health Department  
3450 Broadway  
Boulder, Colorado 80301

Dear Mr. Marmande:

Quite coincidentally I met Mr. William Light in the taxi on the way to the airport in Atlantic City recently. He expressed the need for some type of solution to their garbage and rubbish problem in his city.

It is very possible that one or two units of our type could be located so that the towns of Broomfield, LaFayette, Louisville, Longmont, Lyons and Boulder could all solve a similar problem. Many cities are finding the receiving building, conveyor and BURN-O-MATIC to be the most efficient and economical way to solve their refuse problem.

We have moving films of the West Memphis, Arkansas operation and shall be happy to make a trip to show you and the city fathers of interested cities. It is very possible that we could fly four persons to visit the site at West Memphis if desired. A complete unit is being installed at this time for Dodge City, Kansas, which is much closer to you than the West Memphis operation.

We're anxious to work with you in every way possible and look forward to your reply. We appreciate your inquiry through American City magazine.

Sincerely,

BURN-O-MATIC DIVISION

  
G. M. DeHan

GMD:gj

*file  
data  
air Pol. std.  
exist note  
std -*

# INDUSTRIAL BLOW PIPE COMPANY

*Designers-Erectors*

PNEUMATIC CONVEYING SYSTEMS  
BLOW PIPE INSTALLATIONS  
BURN-O-MATIC REFUSE BURNERS

PHONE 324-2151 • P. O. BOX 12412 • 2700 JACKSON AVENUE • MEMPHIS, TENNESSEE 38112

October 8, 1964

**BURN-O-MATIC®**  
DIVISION

Mr. Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services  
Boulder City - County Health Department  
3450 Broadway  
Boulder, Colorado 80301

Reference: American City Magazine

Dear Mr. Marmande:

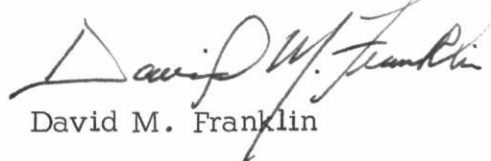
We are glad to respond to your inquiry through the above publication concerning the BURN-O-MATIC Refuse Burner.

The brochure will answer many questions you may have regarding the construction features of the units we manufacture. Should you desire a quotation, please fill in the questionnaire pertaining to your operation, tear out and return to us. We shall take immediate steps to quote on a unit sized especially for your needs.

Thank you for your interest in the BURN-O-MATIC. We look forward to your reply.

Sincerely,

BURN-O-MATIC DIVISION

  
David M. Franklin

DMF:gj

enc.

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: City Dump  
Address: City Dump Type of Establishment: Dump  
Person interviewed: ~~John Doe~~ Tel. No.: \_\_\_\_\_  
Purpose of visit: Samples at Dump

Took 1Q sample for Smith Lab.

2 mpn's for stat

Date: 10/5/64  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: John Doe

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: City Dump  
Address: Dummy Type of Establishment: Dump  
Person interviewed: — Tel. No.: —  
Purpose of visit: samples

9/28/64

Ordered up two MPN's for  
state lab determination of E. coli

1 at influent one at effluent.

Date: 9/29/64  
(5-64)

Owner or representative: John R. McNamara  
Sanitarian: John R. McNamara

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Dump  
Address: Dump Type of Establishment: Dump  
Person interviewed: \_\_\_\_\_ Tel. No.: \_\_\_\_\_  
Purpose of visit: samples

Picked up:

1. 1 MPN of inflowing stream

2. 1 MPN of outflowing stream.

Date: 9/21/64  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: John R. McNamee

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder dump  
Address: Dump Type of Establishment: Dump  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: samples

Picked up two MPN's at  
dump this day.

Date: 9/14/64  
(5-64)

Owner or representative: \_\_\_\_\_

Sanitarian: John R. McNamee



DBB

*Man*

September 11, 1964

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

After reviewing the recent bacteriological analysis of the samples collected at Boulder Municipal Sanitary Land fill creek, it appears that the septic tank pits may be influencing the results of these samples.

The MPN (coliform Index Most Probable Number) is higher on the east end of the water course than on the west end. In looking over the layout of the land available at the land fill, I can not find any area there at the present time to relocate these pits. (septic tank, grease traps, contents from San-O-Let toilets, privies, vaults and etc.)

*Don F. Marmade*  
Don F. Marmade, R.P.S., Director  
Division of Environmental Health Services

CC: Peter Dietze, Attorney, City of Boulder

DFM:dmc

*80*

*Feb - Boulder  
Dump*

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
442-5926  
Boulder, Colorado

Longmont Drug Bldg  
776-5743  
Longmont, Colorado

SPECIAL SANITATION REPORT

Name of establishment: Boulder Dump  
Address: \_\_\_\_\_ Type of Establishment: \_\_\_\_\_  
Person interviewed: \_\_\_\_\_ Tel. No: \_\_\_\_\_  
Purpose of visit: Samples

9/8/64 collected 1 Quart sample and  
delivered to Smith lab  
in Denver.

collected 3 mpiv same  
det, delivered to state lab.

Date: 9/8/64  
(5-64)

Owner or representative: \_\_\_\_\_  
Sanitarian: John F. McVane

PBB

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
PROspect 6-5743

Name of establishment: Boulder Sanitary Land Fill

Address: N. 26<sup>th</sup> AVE.

Telephone No.:

Person interviewed: MRS. Tumbleson Type of establishment: Land Fill  
+ CARETAKER

Purpose of visit: Re: relocation of septic tank + grease trap pit.

① ordered caretaker to discontinue dumping in Southern most septic tank pit.

② permitted use of pit farthest to North (may be on MRS. Tumbleson's land & NOT city.

③ measured & tape distances as follows

(a) Pond to outlet in stream 300 ft.

(b) Pond to Southern pit 70 ft.

(c) Siphon or pipe " " 77 ft.

(d) Pond to new pit 88 ft.

(e) 10 ft. from water level in Pond to top of ground - pits 4-5 ft. deep.

(4) suggest sign be installed to mark location of pit to dump in

(5) EAST end of all pits are over 50 ft. from 3<sup>rd</sup> ravine (which is partially filled in & dry)

(6) request city Atty office have land surveyed to determine city property & Mrs. Tumbleson's property possibly by city Eng. dept.

DATE:

8/28/64

Owner or representative:

Sanitarian:

RON MARMANDE  
DENNIS BERGIN



PBB

B.W

*grr*

August 25, 1964

Peter Dietze  
Assistant City Attorney  
City of Boulder  
Municipal Building  
Boulder, Colorado

Re: Boulder City Sanitary Land Fill

On August 24, 1964, Mr. John McNair and I collected five water samples from the sanitary land fill (four for MPN, Most Probable Number, and 1 for toxicity of water). We then conducted a survey of the water sources in this area.

The middle draw (where the major flood occurred in 1951 or 52) has a small stream or creek which flows into a pond. This pond has a siphon or pipe which may be blocked or partially blocked and appears to go underground for approximately 50 - 75 yards (east end of pipe not visible). This is the source of the main stream that originates in this dump area, at the present time we could find no other water flowing into this creek. It is possible that there may be underground springs between the pond and the dump creek, but with the shale formations it doesn't seem probable. The flow of water into the pond appears to be about the same as that flowing into the dump creek apparently from the siphon or pipe.

The open pits being used to dump grease trap and septic tank cleanings were approximately 75 feet from the siphon area, but between 30 - 40 feet from the pond. It does not appear likely that this heavy sludge type material is leaching through this shale and clay into the pond. I would still recommend that these pits be relocated in another area.

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services

CC: E. Robert Turner, City Manager

DFM:dmc

We observed a muskrat in the water as well as frogs

*file*

*DBB*  
*B.W. Mar*

THE PAUL A. SMITH LABORATORY

2500 West 10th Avenue  
Lakewood, Colorado

Phone 247-2224

PAUL A. SMITH, Ph. D.  
Director

August 24, 1964

City and County Boulder  
3450 Broadway  
Boulder, Colorado

8/10/64 Water sample collected at  
boulder dump site -  
Toxicity for mice - negative.

8/11/64 Water sample collected at  
effluent into Boulder Creek -  
Toxicity for mice - negative.

*Paul A. Smith*

BW DBB dm na  
August 21, 1964

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

On August 19, 1964, Mr. Orville Stoddard, Public Health Engineer and I met with Mr. Russell Turner of United Trash Hauler, Inc., regarding the life expectancy of the existing dump site on North 26th St. Mr. Stoddard was here on another matter but did accompany us to help appraise the length of time this area could be used as a dump.

1. There appeared to be no evidence of rodent infestation.
2. Heavy winds were blowing, approximately 30-40 miles per hour. There was evidence of paper, rags, etc., being blown in an easterly direction. However, much of the debris was being caught by two barb wire type fences in the area. These are not portable fences to any degree.
3. Dump operation for the future:
  - A. Tier #1--Approximately 100' X 200'; 20,000 square feet, 15 feet deep.
  - B. Tier #2--50' X 100' square feet 10' deep.
  - C. Tier #3--200' X 300'; 60,000 square feet, approximately five feet deep.

This amounts to 650,000 square feet or 25,000 cubic yards which could handle in the neighborhood of 200 cubic yards a day until January 1, 1965. They are not dumping that much refuse at the present time, so this operation could possibly go on longer if they dump according to the schedule I was informed about on this field trip.

There also appears to be ample cover material from the existing hill in which they are obtaining it. However, the haul is getting longer and more expensive to them.

Mrs. Tumbelson has agreed to let United Trash Haulers, Inc., raise the dumping area above the road grade.

There is also a possibility that one stream channel could be diverted around one road to the north and we could possibly dump in the old stream channel area with the approval of the City of Boulder legal department on this.

Also, with the permission of Mrs. Tumbelson and her mother Mrs. Crisman, as an emergency the dump could be extended west and not be in violation of the court decree.



E. Robert Turner  
page 2 con't.

These last two items mentioned could possibly extend the life of the dump  
for possibly another year.

Don F. Harmande, R.P.S., Chief  
Division of Environmental Health Services

cc: Jim Kean, Administrative Assistant, City of Boulder  
Neal King, City Attorney, City of Boulder

DFM/jb

File  
FOR: Boulder Dump

NAME OF CALLER: \_\_\_\_\_ PHONE: \_\_\_\_\_ HOME

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_ BUS.

MESSAGE: Picked up a water sample for  
toxicology (MICE) from the stream leaving  
city property at the Boulder dump, 8/10/64.  
Delivered to Paul Smith lab 8/11/64.  
Requested separate bill on this (also delivered  
effluent sample for toxicology)

RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

DISPOSITION: \_\_\_\_\_

*John R. McNair*





*Dr*

STATE OF COLORADO DEPARTMENT OF PUBLIC HEALTH

4210 EAST 11TH AVENUE • DENVER 20, COLORADO • PHONE DUdley 8-5801

R. L. CLEERE, M.D., M.P.H., DIRECTOR

July 3, 1964

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services  
Boulder City-County Health Department  
3450 Broadway  
Boulder, Colorado

Dear Mr. Marmande:

In reply to your letter of July 1, 1964, I would recommend that these specimens be dumped into the garbage grinder, or be incinerated, after the liquid is poured down the sewer.

Yours very truly,

For, Director, Engineering & Sanitation Division

*Louis Parenteau*

Louis S. Parenteau, Engineer  
Water Pollution Control Section

ISP:mb

June 1, 1964

Neil King, City Attorney  
City of Boulder  
Municipal Building  
Boulder, Colorado

Because of the rapid utilization of Boulder's existing sanitary land fill operation on North 26th Avenue I have, with the approval of the City manager's Administrative Assistant, set up a meeting for Friday, June 5, at 10:15 a.m. (City Manager's Conference Room) with representatives of the Milne Sand and Gravel Company regarding the possibility of using some of their property as a potential sanitary land fill.

Mr. Peter Dietze went to the existing land fill with Mr. William Light. He also discussed its limitations with me. I am enclosing a copy of the report submitted by Mr. C. V. Hallenbeck regarding the Milne Company site as the potential sanitary land fill.

Here are some questions your department may be confronted with even in the preliminary discussion of Friday:

1. Can we continue to dump due west of the existing land fill on North 26th?
2. Can the City set up fees and regulations regarding the new land fill proposal?
3. What is the answer to the above question if this land is being leased by the Milne Company or other subsequent lands which the fill area may be moved to?
4. I think it is the intent of the Milne Company owners to sub-lease this operation to another company. Can a binding contract be worked out on this arrangement?
5. How can we best handle the ground water potential pollution problem (some areas handle by selective dumping, use of clay dikes, demolition material, setting up cells, etc.)?
6. Will the lowering of the water sub-surface table with drainage tile effect the water level in surrounding wells?
7. Who will furnish cover material which doesn't appear to be available in adequate amounts at the proposed site?

Don F. Harmande, R.P.S., Chief  
Division of Environmental Health Services

CC: Robert Turner, City Manager; William Light, Public Utilities

DFM:dmc

*Don*

May 1, 1964

*Attorney  
City Manager  
City of Englewood  
Englewood*

We are in the process of possibly relocating the city dump (sanitary land fill) and may combine it as a county-city operation.

I understand that Englewood and Arapahoe Counties and possibly Littleton were operating such an enterprise several years ago which was abandoned later. Could you fill me in on the details regarding this operation and the reasons why it was not successful.

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Section

CC: William Light  
William Fowler

DFM:dmc

C  
O  
P  
Y



*Don*

May 1, 1964

Mr. Joe Vigil  
Environmental Health Section  
Tri-County District Health Department  
4351 East 72nd Ave.  
Adams City, Colorado

We are in the process of possibly relocating the city dump (sanitary land fill) and may combine it as a county-city operation.

I understand Adams County did operate a dump or sanitary land fill which was later abandoned. Could you fill me in on the details on this operation and the reasons why it was not successful.

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services

CC: William Light  
William Fowler

DFM:dmc

C  
O  
P  
Y

*DM*

D1313

*grew*

March 2, 1964

C  
O  
P  
Y

E. Robert Turner, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

Re: City Sanitary Landfill

On February 27, 1964, Dennis Bergin and John McNair, sanitarians with this department and I made an inspection of the Sanitary Landfill after closing hours. We went specifically at this time whereby we could observe tracks in the snow to check evidence of a possible rat infestation. We found no evidence of a rat infestation. The Dozer operator stated he had only seen one rat in the last three weeks. Someone came out from the University to trap rats for study and gave up the venture after being unsuccessful for approximately one week.

The covering of the existing dump area was being carried out adequately at the present time however, there was one open face area which could have been cared for in a better manner. Because they are using a modern open face dumping method it appears they are utilizing this landfill at a very rapid rate.

A portable fence is available but appears to be too small to adequately take care of the blowing problem.

Don F. Harmande, R.P.S., Chief  
Division of Environmental Health Services

CC: Neil King  
William Light

DFM:dmc

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
PRospect 6-5743

Name of establishment:

Boulder City Dump. (Sanitary Land Fill)

Address: North 26<sup>th</sup> Street

Tel. No:

Person interviewed:

Cat Operator

Type of establishment:

Purpose of visit:

Rodent Survey + General Condition

Joint inspection by D.F.M., J.R.M. + D.B.B.

Cat operator said he had only seen 1 sickly looking rat within last 3 months. The new snow didn't show any rat or rodent tracks, but many crow tracks.

Most of the land fill operation had a dirt or earth cover over it, except on the dumping surface.

Overall operation appeared to be quite good.

Owner or Representative:

Date: 2-27-64

Sanitarian:

N.B. Bergin.



FOR:

Don -

NAME OF CALLER:

Mr. Merrill

PHONE:

(home)

ADDRESS:

(bus.)

MESSAGE:

will treat dump himself -

will treat Lafayette dump today -

RECEIVED BY:

Lee

DATE:

12/9/63

TIME:

DISPOSITION:

Put in cit of Boulder Dump file

C1812  
8

November 8, 1963

Dr. Henry W. Kassel, Regional Health Director  
U. S. Public Health Service - Region VIII  
551 First National Bank Building  
Denver 2, Colorado

Dear Dr. Kassel:

The City & County of Boulder is working on a new idea and approach to operate a sanitary landfill. They have requested that we obtain the assistance of qualified personnel from the Public Health Service in evaluating this matter. A copy of their letter is enclosed for your information. As soon as someone from the Public Health Service is available for this evaluation, it would be appreciated if you would let us know so we can make the necessary arrangements with the Boulder City-County Health Department.

Very truly yours,

R. L. Cleere, M.D., M.P.H.  
Executive Director

cc: Dr. Lichty  
✓ Dr. Dowding  
Mr. Gahr  
Orville Stoddard  
RC/GAP:dp



10/28/63

Dear Mr. Normande,

In answer to your  
letter of Oct. 17<sup>th</sup>, I  
will be down to see  
you on Fri. Nov.  
1<sup>st</sup> at 9:00 A. M.

The Boulder dump  
was treated the last  
time last fall.

yours truly,

Gene B. Tenell

RECEIVED

OCT 28 1963

RECEIVED

Don

copy to  
W. Sawler  
Narm

October 28, 1963

R. L. Cleere, M.D., Executive Director  
Colorado State Department of Public Health  
4210a East 11th Ave.  
Denver 20, Colorado

The City and County of Boulder is working on a new idea and approach to operating a sanitary landfill, and need some expert help and advice. We hoped to obtain this assistance from Mr. Lon Ogden, when he was here on the plague study, but he departed rather suddenly.

Would you please request of the United States Public Health Service that they have one of their experts on Insect and Rodent Control and solid waste disposal stop in as soon as possible, or have Mr. James Eagen, engineer in Denver office come up to Boulder if he possibly can in the very near future.

Thank you very much.

Don F. Marmande, R.P.S., Chief  
Division of Environmental Health Services

Charles H. Dowding, M.D., Director  
Boulder City-County Health Department

DFM:dmc

801-18<sup>th</sup> Jerry Greenfield  
- odor -

DON MARMADE  
Boulder  
PLAN Dept.

sept. 1963

SANITARY LAND FILL DATA.

NORTH BOLDER

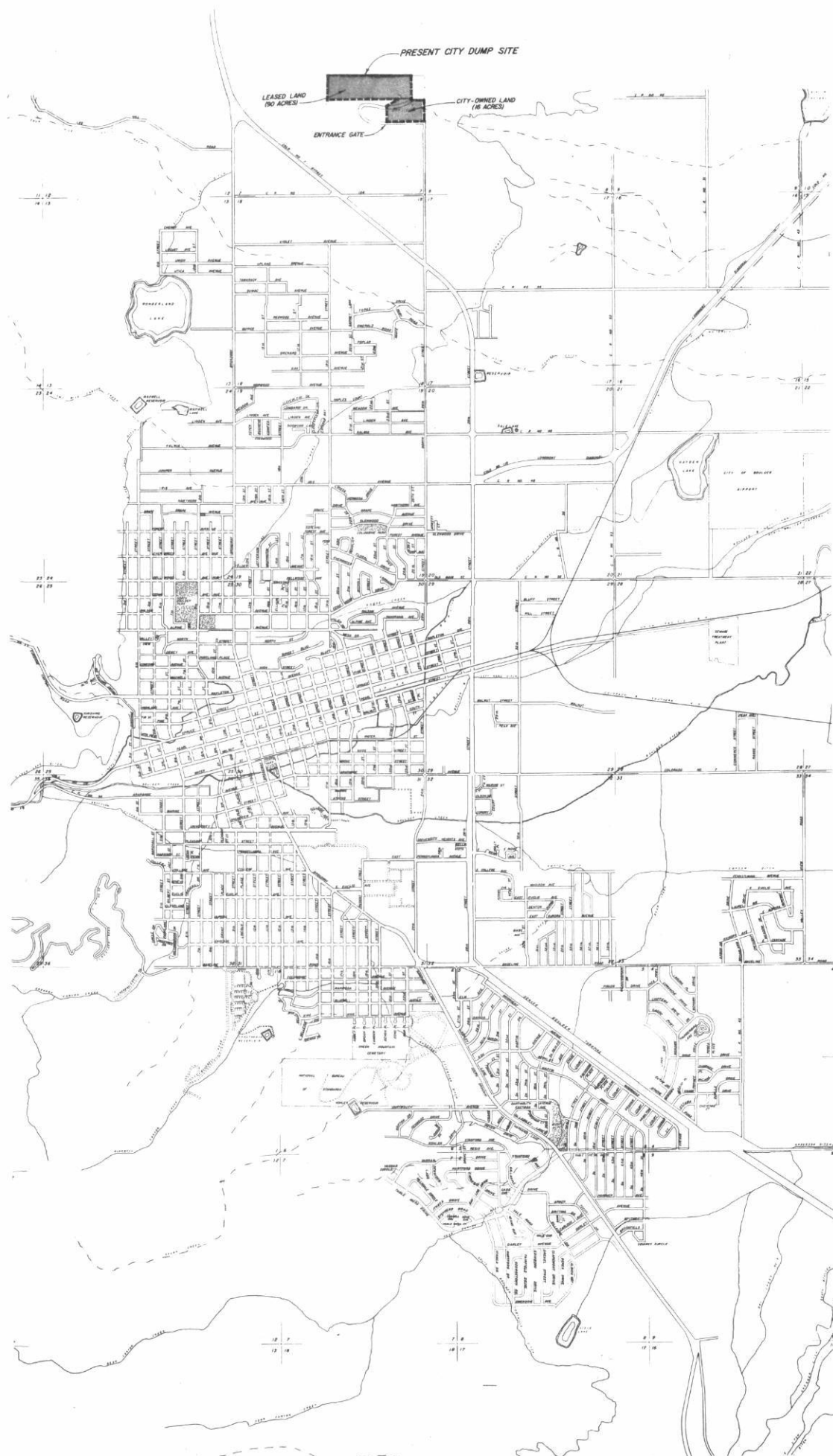
## INTRODUCTION

The purpose of this report is to outline the present refuse collection practices existing within the City of Boulder and to provide general information concerning various refuse disposal methods. Emphasis has been given toward the consolidation of all pertinent information on sanitary landfill methods and site selection. It is hoped that this information will be of use in determining the feasibility of operating a county-wide landfill which would serve the entire eastern portion of Boulder County.

Operational and over-all cost of financing have not been actually tabulated at this time, but can be done at a later date pending the basic decision as to the type of refuse disposal system to be adopted.

Our objective is to afford a record of existing facilities along with a projection of proposed methods for use in deciding which system is best adaptable to the needs of this area.

City Planning Department







DUMP BOUNDARY



AERIAL VIEW OF EXISTING DUMP FACILITY

## HISTORY OF BOULDER'S DUMP FACILITY

The City of Boulder's dump site is located on North 26th Street, east of the junction of 28th Street and Broadway. It comprises an area of approximately 106 acres, 16 of which are owned by the City. The remaining 90 acres are leased from an individual owner, Mrs. Tumbleson, by the United Haulers' Association, which controls the operation of the entire dump and charges each vehicle according to the amount of refuse deposited. The total 106 acres can not be used since the owner's residence is situated on this site, and refuse may be dumped only in areas which are specified by the owner. Parts of this site have been used by the city for the last 30 years, and it is well established in the area. It is situated in a depression and is not visible except from the immediately adjacent area. Severe westerly winds occur from time to time in this area and considerable blowing of waste papers has been experienced during past years. — *Better fences could be erected*

<sup>1951</sup>  
In 1954, the city was the defendant in a suit brought about by adjacent landowners who claimed the dump was causing pollution of a stream which flows through the dump site and then easterly through the plaintiffs' land. Following this suit, a court action directed the city to (1) operate the dump as a sanitary landfill; (2) not to burn any trash at the dump, and (3) to deposit refuse only in certain restricted areas in order to prevent pollution of the above described stream. *No dumping east of stream* — At the present time, refuse is being deposited outside the leased area under an informal agreement with the owners of this site, who are also the lessors of the area that is leased

by the United Haulers Association. (See Map)

The latest available information shows that 14 licensed collectors are hauling trash from the city in various types of hauling vehicles.

There is no established standard of rates, equipment or service, although generally the rates vary from \$1.50 to <sup>higher</sup> ~~\$2.50~~ per month for private residence non-combustible trash pickup. Some collectors insist on pickup at the curb, while others furnish containers and pick up trash from any point. The cost variation per customer can be considered as an index of the amount of service rendered.

*MANY HOME OWNER haul out in CARS, trailers etc.* The hauling equipment varies from modern, closed compacting trucks to open trucks, pickups and converted dump trucks. Individual collectors do not cover specified areas, but collect randomly throughout the city with the distance between customers being short in some cases and of considerable length in others. The pickup schedule averages one pickup per week in residential areas and three pickups per week in the business district.

*Some Commercial hauler - have a combined Pick of trash & garbage*

Wet garbage is collected under city contract with a local hog farmer

who makes pickups twice weekly in the residential areas and once daily in the business district. The garbage is hauled in an open, water-tight truck to a farm where it is cooked before being fed to the hogs. The annual amount paid by the city to the garbage collector for this service is \$18,000

*uncovered + unsightly*  
*Sometimes - according to Agri. Dept,*  
under the terms of the contract. It is estimated that over 80% of the homes in the city use the trash service and 40% of the homes use the garbage service.

*(in some form or another - some only twice year)*



Some garbage is burned - others burn - eggshells, coffee grounds, etc. (not permitted in garbage) - Also some garbage in tin cans, food boxes, etc., - especially in Ash pits -

poses a Rodent problem. Combustible trash can be burned in backyard incinerators with city statutes specifying burning hours and acceptable incinerators and the

Fire Department acting as an enforcement agency. Burning combustibles in approved backyard incinerators is permitted between the hours of 12:00

Noon and 6:00 P. M. at the present time. Most residents burn a certain amount of refuse although enough information is not available to give a

rough estimate of that part of the total which is burned. estimate 60% in my personal case.

The City entered into a contract agreement with two operators,

Harold Graham and Leroy Twisdale for the operation of the dump ground.

on December 16, 1959, and this agreement was later transferred to the

United Haulers' Association, Inc. (5 people) The agreement sets forth the conditions under which the Dump shall be operated, including the required fees for

each type of vehicle load. This agreement is presently in effect, and is

included in the appendix section of this report. Council sets fees

but there is very little dumping on council land if any, EXPECTED LIFE OF PRESENT DUMP SITE

Before calculating the expected life of the present dump site, it

was first necessary to know the density or weight per unit volume of the

refuse which is hauled to the dump. This was found with the cooperation

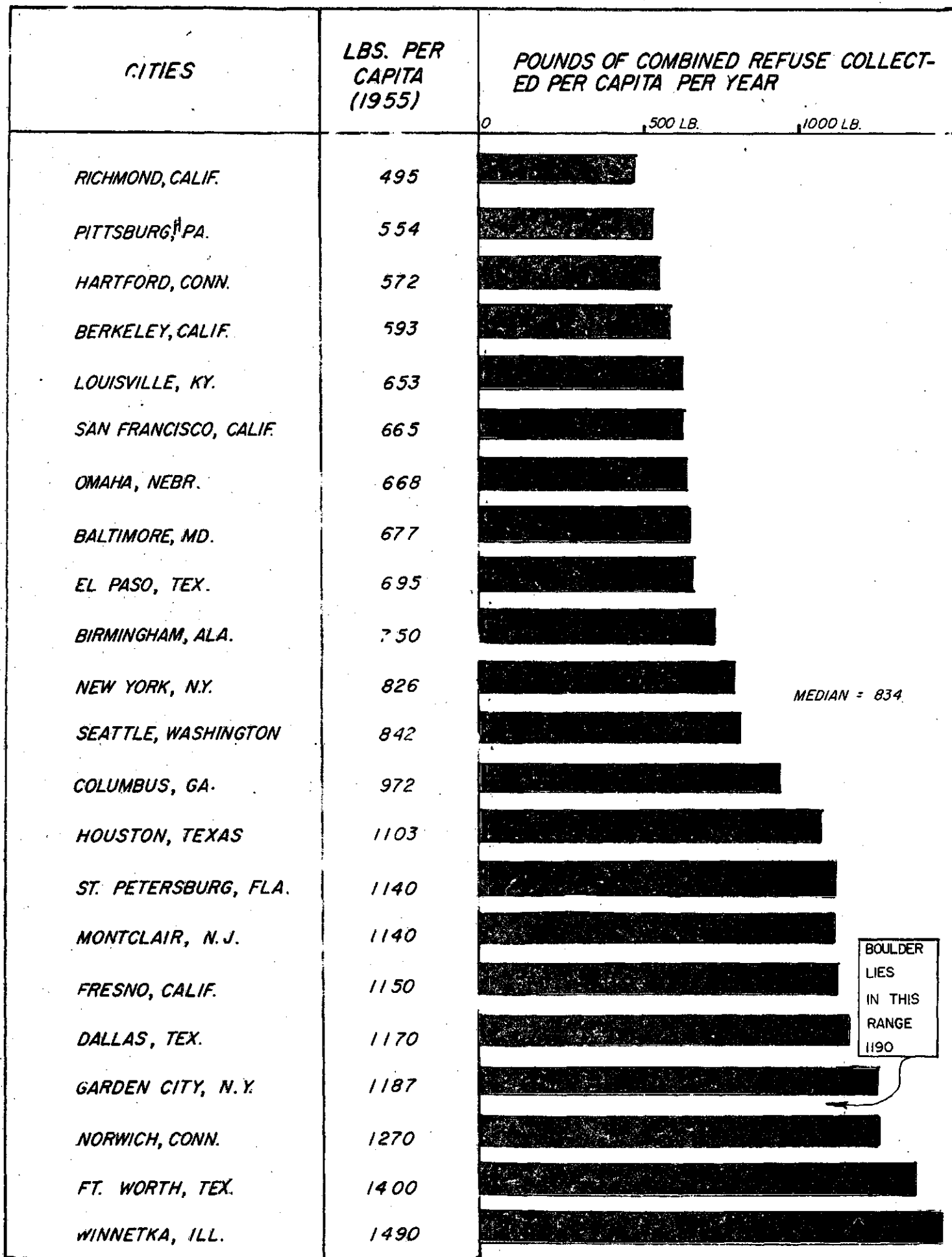
of one of the local haulers by weighing sample loads and calculating the

density from known volume loads. The densities arrived at were 368

pounds per cubic yard for compacted refuse and 317 pounds per cubic

yard for uncompacted refuse.

Further sampling showed that the licensed haulers deposited approxi-



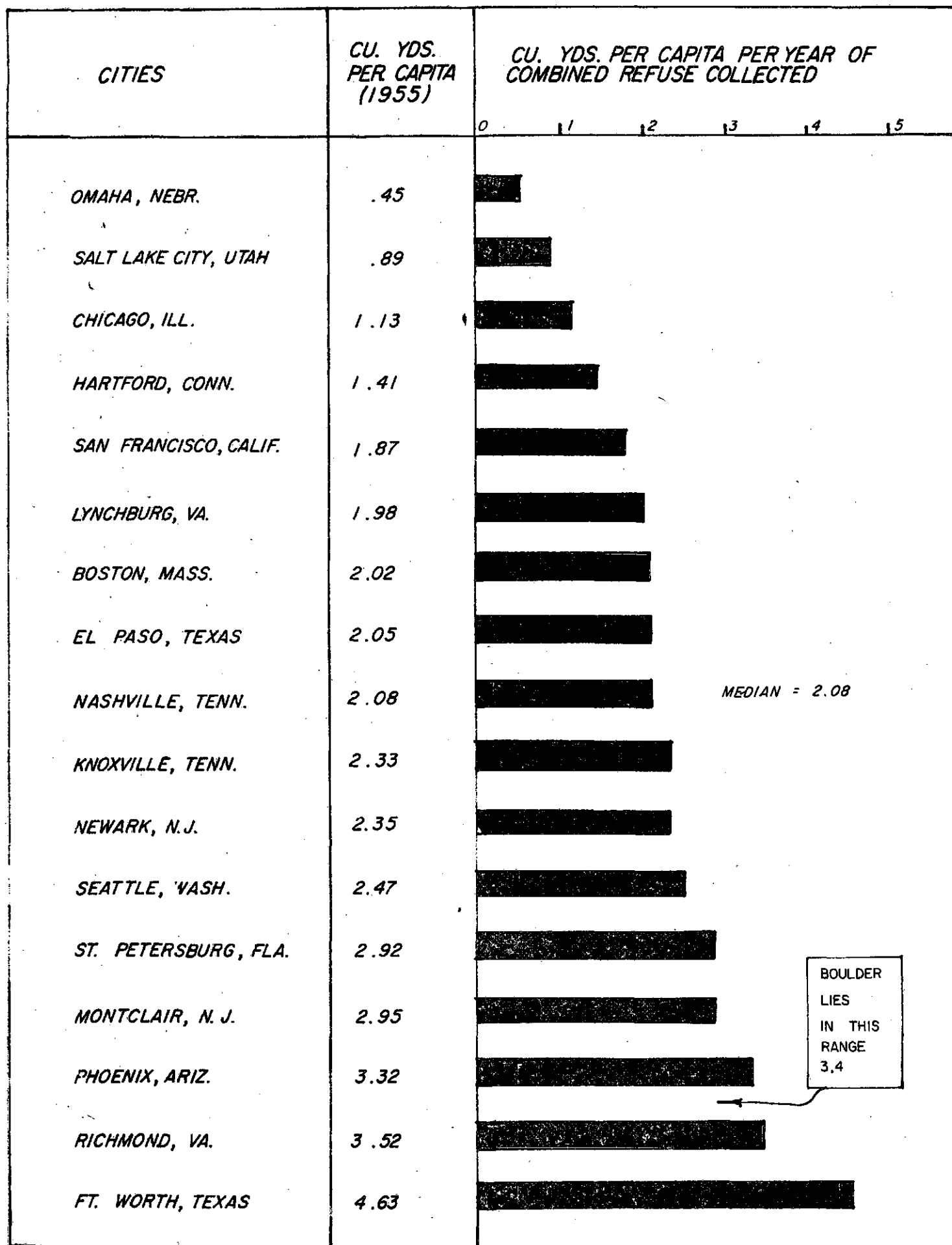
mately 1900 yards per week while deposits from other sources amounted to 1100 yards per week. A total of these two figures shows that 3000 cubic yards per week or approximately 156,000 cubic yards of refuse for the past 12 month period were deposited at the dump. Assuming that 50% of the intake is compacted and 50% is uncompacted, it was found that 14,352 tons of compacted refuse and 12,363 tons of uncompacted refuse were hauled to the dump this year. This amount will naturally increase in direct proportion to the population increase each year.

*Compaction poor  
modified open face dump -  
face should be sloped & more thoroughly compacted*

Since the present population of Boulder is approximately 45,000, this data indicates that 1190 pounds of combined refuse per capita per year is collected (about 3 pounds per person per day) and that the volume of refuse produced per person per year is about 3.4 cu. yds. Comparing these figures for Boulder and those of some other cities, it would appear that Boulder's annual production of refuse per capita is slightly higher. About 7500 persons live on the outskirts of Boulder and no doubt, many of them are hauling refuse to the dump. This may account for the higher amount of refuse produced.

The following procedure was used to calculate the landfill area requirement per year for Boulder and then the life expectancy of the present dump facility.

1. It was established from field survey that about 3000 cubic yards a week or 156,000 yards of refuse a year are hauled to the city dump.
2. A density figure of 368 pounds per cubic yard for compacted



refuse was used with the average being 350 pounds per cubic yard. (That portion of the total which is compacted and that part which is uncompacted was taken into account.)

3. Assuming that Boulder's present population is 45,000 and not taking into account the fact that many county residents deposit refuse at the Boulder dump, it was found that 3.4 cubic yards per capita per year or 1190 pounds per capita per year is deposited at the dump. With the preceding information available, the following formula was used.

$$V = \frac{R}{D} \left( 1 - \frac{P}{100} \right) + C_v$$

Where V = Volume required for refuse disposed of per capita per year in cubic yards.

R = Amount of refuse in Lbs. Per Capita per year to be handled at landfill.

D = Average density of refuse in lbs. per cubic yard.

P = Percent reduction of refuse from compaction.

$C_v$  = Volume of cover material in cubic yards.

(It can be assumed that  $C_v$  = 25% for average conditions.)

Data from field Survey for Boulder gives:

R = 1190 lbs per person

D = 350 lbs per cubic yard

P = 50% (Assuming a compaction Ratio of 1/2)

Solving for V shows that V = 2.08 cu. yds. per capita per year.

Then the number of acres of land required each year was computed which shows that:

$$A = \frac{(2.08)(27)}{9} \times \frac{1}{43,560} \times 45,000 = 6.5 \text{ Acres}$$

per year  
depends on  
dept.

Creeks CAN be put in pipes + rip wrapped + trees  
to hold back washout on flooding—

This means that 90,000 cubic yards per year are needed at the present  
rate of intake or about 6.5 acres per year are needed for a 9-foot compacted  
depth including a 25% cover.

Further calculation and estimation shows that the existing dump site  
will last about 5 to 7 years if the area specified at this time is to be used  
at the present rate of intake.

In considering Boulder's refuse problem, a brief review and des-  
cription of the various types of disposal methods are presented in an effort  
to ascertain which method would be best suited to Boulder's needs.

#### CHARACTERISTICS OF SEVEN COMMON DISPOSAL METHODS

The seven most frequently used methods of refuse disposal are (1)  
sanitary landfill, (2) central incineration, (3) on site incineration, (4)  
grinding, (5) compositing, (6) salvage and reclamation, and (7) open dumps.  
Each method is briefly described in the following paragraphs with some  
advantages and disadvantages of each system also listed.

##### 1. Sanitary Landfill

Sanitary landfill operations are usually performed by depositing re-  
fuse in a natural or man-made depression or trench, dumping it at ground  
level, compacting it to the smallest practical volume, and covering it with  
compacted earth or other material in a systematic and sanitary manner.  
Before operations begin, a site must be selected, surveyed, and prepared.  
Access roads, control grades, and drainage must be provided for, and  
equipment selected. Other steps may be required, depending on climate  
and the site, and in some cases special provisions must be made for con-

MAY NOT be  
Accurate if  
dumping  
NEAR  
Creeks are  
permitted +  
Mrs. Chisman's  
Mother in law  
will permit use  
of her land.

Need fire lane.

spontaneous fires ✓

trolling blowing papers, odors, dust and fire. Well planned and operated landfills have several advantages: (1) they are economical, (2) they require a relatively small capital investment, (3) they may reclaim land that is otherwise useless and (4) they cause no air pollution. They do have disadvantages, however, which include: (1) they frequently require longer and more costly hauls than some other methods, (2) they require more land than some other methods, and (3) operational problems may be frequent in inclement weather. In summary, a landfill operation normally is the least expensive method and is the only total method of disposal. - MOST Popular

Concerning public health aspects, the chances of satisfactorily operating a sanitary landfill sometimes weigh heavily against sanitary landfill in the decision of officials to adopt the method. Furthermore, public acceptance of landfills often comes only after demonstration that they can indeed be sanitary. Fresno, California, officials, for example, at first met a great deal of resistance to a landfill located some distance from the city, but after it had been well operated for several years they met no opposition to the purchase of land for a fill much closer in. Under certain circumstances there can be health and nuisance problems with some landfills. Inadequate depth or insufficient compaction of cover material in landfills may permit flies to emerge from eggs or larvae in the raw refuse at the time it is collected. Even with efficient operation of a landfill, some fly control measures are usually necessary around the disposal site, particularly large ones. Carelessness in operating a sanitary landfill sometimes results

in smouldering interior fires that cause odor and smoke if the landfill earth cover becomes ineffective because of uneven settlement or surface cracks. The possibility of contaminating surface and ground water through the use of sanitary landfills has recently become a matter of concern to public health and water pollution authorities. Experience with well planned and operated landfills, however, gives little evidence that ground waters are being harmfully polluted by this method of disposal.

## 2. Central Incineration

A central incineration plant, either municipally or privately owned is one in which combustible refuse is reduced to ash by high-temperature burning. Refuse from collection trucks is dumped on a charging floor or in a storage area or pit. The refuse is then charged into furnaces, with temperatures and drafts being carefully controlled to insure as complete combustion as possible and ashes and noncombustible residues are disposed of in landfills or salvaged. Incineration is advantageous because: (1) a relatively small site is required for the plant, (2) the length and cost of the haul to the plant is usually less than for landfills and other methods, and (3) the residue from the burning is usable fill material. On the other hand, (1) the capital costs of an incineration plant are high, (2) operating costs are also usually high, and (3) it is not a complete disposal method since ashes and other residue from the furnaces must be hauled to a disposal site. (4) Needs much water to control fly Ash. Probably will violate Air Poll. laws later on.

From the standpoints of health and sanitation, disposal by central incineration is probably the most desirable method. In some cities it is



difficult to give much consideration to any other, especially if land area is scarce. If an incinerator is centrally located, a high degree of operating and housekeeping efficiency is required. Real or fancied nuisances from truck noises and traffic dangers to children in the streets are more common objections to incineration plants than are the health hazards of smog, smoke, and other air pollutants or an unsightly environment. The deciding factor in using incinerators as the method of disposal is more often whether residents approve a site than whether the health authorities do. It is almost *locate in Right Zone* a universal opinion that residents of any area think the only location for an incineration plant is somewhere else. Incinerators have been operated near high value residential areas without complaint, however.

### 3. On-Site Incineration

On-site incinerators are those used in and outside of houses, in apartment buildings, stores, small industries, hospitals, and other institutions to burn refuse produced on the premises. The advantage is that the amount of combustible refuse that must be collected and disposed of is reduced by the amount that is burned in such incinerators. Householders and others who use them often find them an advantage because refuse does not have to be stored on the premises since it can be disposed of almost as soon as it is produced, thus reducing nuisances and hazards from it. On-site incinerators do sometimes cause unpleasant odors, smoke, and fly ash, however. *often NOT permitted in certain fire zones*

### 4. Grinding Food Wastes

Garbage can be disposed of by grinding it and flushing it into sewers.

There are home grinders, grinders used in restaurants, produce terminals, and super markets, and grinders for centrally located stations operated by a municipality. The principle of operation is the same for all. Garbage is kept or collected separately from other refuse and then it is ground or shredded in the grinder as water is added, after which it is flushed into the sewers. Household grinders are considered the ultimate in convenience and sanitation because they almost eliminate garbage storage. Widespread use of household and commercial grinders reduces the amount of garbage that must be collected and disposed of while central grinder stations are especially advantageous to cities in which there is a great deal of wet garbage which does not burn well, and which may not be suitable for feeding to hogs. Grinder stations are relatively simple to build and operate. However, grinding requires that other refuse, which is probably 85 to 90 per cent of the total volume be collected separately.

grinders  
CANNOT  
handle  
all garbage  
such as  
corn cobs,  
ham bones,  
etc.

##### 5. Composting

Compositing is sometimes defined as a rapid but partial decomposition of moist, solid organic matter -- primarily garbage by the use of aerobic micro-organisms under controlled conditions. The result is a sanitary, nuisance-free humus-like material that can be used as a soil conditioner and fertilizer. By 1960, no city had set up a full-scale compositing plant, to our knowledge, thus limiting experience to experimental plants. Theoretically, the advantages are several: (1) the end product is valuable and should result in revenue for a city, (2) the site for the plant can be small, and (3) hauling distances and costs are not great. On the other hand,

(1) capital costs may be high, (2) in 1960, at least, there was an uncertain market for the end product and the storage of this end product may be a problem. *Product can't meet competitive prices.*

#### 6. Salvage and Reclamation

*for large cities prices fluctuates too much*

The term salvage and reclamation covers a number of "disposal processes": (1) sorting of refuse either manually or mechanically for metals, tin cans, glass, paper, rags and other materials that can be re-sold, (2) rendering of animal wastes for fats, (3) dehydration of garbage to be used for hog feed, (4) compositing, and (5) landfills that reclaim otherwise unusable land. Garbage reduction, in which grease is extracted from cooked garbage and sold, was once a widely used form of salvage, but it has not been a major disposal method for 40 years or more. In fact, no city today uses salvage as a principal means of disposal. It is usually used as a partial method or sideline of some other method. Decreasing prices for salvage materials and increasing labor costs frequently make it uneconomical.

#### 7. Open dumps

*very common Colorado*

Open dumps are still <sup>very</sup> common in some places but, since they are the source of a number of public and safety problems such as disease, air and water pollution, fires, mosquitoes, rodents, insects, they are not recommended. It usually requires little more cash outlay to turn them into sanitary landfills. *usually located in swamp - & other sim. / AR AREAS.*

In looking over these seven methods and attempting to utilize their principles to solve Boulder's refuse problem, several methods can be readily eliminated. Compositing does not seem to be a reasonable solution because

Unit Costs of Incineration Operation in New York City, January-June, 1960  
(Per Ton of Refuse Destroyed)

	<u>Mechanically Stoked Continuous Feed (5 Plants)</u>	<u>Manually Stoked Batch Feed (4 Plants)</u>
<u>Personnel</u>		
Overhead and Administration	\$ .33	\$ .65
Operating Labor	2.93	5.82
Maintenance Labor	.17	.35
Fringe Benefits	.97	1.68
<u>Motor Vehicle Maintenance</u>	.11	.14
<u>Utilities</u>	.10	.10
<u>Materials and Supplies</u>	.12	.14
<u>Capital Amortization</u>	.95	.65
<u>Residue Disposal</u>		
Hauling	.28	.34
Landfilling	.71	.86
TOTAL COST PER TON	<u>\$6.67</u>	<u>\$10.73</u>
<u>Tons of Refuse Destroyed</u>	444,100	212,709

of the high capital cost and the uncertain market for the end product. The universal use of garbage grinders would overload the sewer plant and would only handle part of the refuse. Open dumps are odorous and <sup>in</sup>unsanitary, and certainly offer no solution.

The sanitary landfill and the central incinerator would seem to be the two most satisfactory refuse disposal methods. In making a choice between the two, probably the first consideration would be the difference in cost. A study submitted by the City of Sheboygan, Wisconsin, shows that a sanitary landfill requires an investment of about 1/10th the funds necessary to build an incinerator. The cost of disposing of a ton of refuse at a modern sanitary landfill was found to be about 1/3 of the cost of incineration. Some tables comparing the costs involved in each system, as experienced by New York City, are attached. The above two reasons seem to justify the thorough study of the suitability of using the sanitary landfill principle to solve Boulder's future refuse problem.

#### SELECTION OF A SITE FOR A LANDFILL OPERATION NEAR BOULDER

As can be seen from the information compiled so far, the sanitary landfill principle is the most economical and satisfactory method of refuse disposal for a city such as Boulder. The problem of site selection is the next step and should be provided for in a comprehensive plan of a city. Many factors must be evaluated to determine suitability of a site for a landfill and while no site may be perfect it may have distinct advantages over other sites in the area. A well located and well designed landfill must

Operating Costs for Municipal Incinerators in Six United States Cities<sup>1</sup>  
(Per Ton of Refuse Processed)

Philadelphia	\$4.24
Washington, D. C. <sup>2</sup>	2.28
Detroit	4.30
Milwaukee	6.49
New York City <sup>3</sup>	5.55
Los Angeles	3.13

<sup>1</sup> Costs are for one plant in each city in 1959 except New York, where figures are for 1958 for an average for three plants.

<sup>2</sup> Does not include amortization costs.

<sup>3</sup> Cost computed on basis of tons burned (amount charged minus residue).

Comparative Costs of Two Types of Incinerators, New York City

	Mechanized Continuous Type (Average for 3)	Manually Stoked Batch Type (Average for 4)
Total construction costs per ton per day of capacity (including engineering but exclusive of land)	\$5,500.00 <sup>1</sup>	\$3,750.00
<u>Total operating costs per ton of refuse destroyed</u>	<u>5.55</u>	<u>7.50</u>
Operating less residue disposal	2.40	4.20
Maintenance and Repair	1.05	1.05
Administration and Supervision	.50	.65
Pension	.60	.90
Fuel and Utilities	.05	.05
Amortization	.95	.95

<sup>1</sup> Two plants since constructed elsewhere for \$3,600 per ton per day.

possess the following as far as public health and safety is concerned:

1. Harborage of rats and flies and vermin must be controlled.
2. Air pollution by dust, smoke and odor must be controlled.
3. Fire hazards must be controlled during operational phases  
(They are negligible during a completed fill)
4. Pollution of surface and ground waters is precluded.
5. Nuisance factors must be effectively controlled and the  
system must be aesthetically acceptable with noise kept  
to a minimum.

*6. zoning - 7. spilling on hwy.*

The United States Public Health Service, with the American Public Works Association, in 1957 developed standards by which sanitary landfills can be rated. The classifications of A, B and C were set up. Landfills rated in the A and B classifications are satisfactory and those in the C classification are unsatisfactory. Local conditions determine whether the Class A or the type B operation is warranted. Specifically, the standards for each are:

Class A - Operated without public nuisance or public health hazard, covered daily and adequately, no deliberate burning practiced.

Class B - Operated without public nuisance or public health hazard, but location permits modification of "A" such as certain types of wastes are burned at site or the fill is covered only three times weekly.

Class C - Operating techniques permit development of public

**COMPARISON OF COSTS OF INCINERATION AND LANDFILLS**  
**New York City, January-June, 1960**

Source of Expense	Incineration (853,164 Tons Received) (656,808 Tons Processed)			Landfills (875,162 Tons) Received and Processed	
	Amount	Cost Per Ton Received	Cost Per Ton Processed	Amount	Total Cost Per Ton
<b>A. Bureau Personnel</b>					
1. Direct Labor	\$1,658,307	\$1.934	\$2.524	\$363,185	\$ .414
2. Servicing, vehicles plant security and housekeeping	449,361	.526	.684	97,780	.111
3. Local supervision	215,516	.252	.328	66,260	.075
4. Division Admin.	46,322	.054	.070	40,720	.046
5. Paid absences	483,032	.566	.735	117,351	.134
6. Total Bureau Personnel	2,898,229	3.397	4.412	696,200	.795
<b>B. Operating Supplies</b>					
1. Gas, Oil	12,278	.014	.018	24,552	.028
2. Fuel and Other	29,540	.034	.045	21,034	.024
3. Service and Repair Materials	73,309	.085	.111	8,505	.009
<b>C. Department Overhead</b>					
1. Motor Vehicle Maint.	79,726	.093	.121	196,541	.224
2. Plant and Equipment Maintenance	198,687	.232	.302	25,063	.028
3. General Admin.	180,722	.211	.275	43,029	.049
<b>Totals</b>	<b>\$3,472,491</b>	<b>\$4.070</b>	<b>\$5.286</b>	<b>\$1,014,924</b>	<b>\$1.159</b>



nuisance and potential public health hazards such as fly breeding, rodent sustenance, or odors.

Land Requirements. The yearly land requirements for the City of Boulder Landfill were calculated previously assuming a given population of 45,000 for 1963. A general rule of thumb is that from  $3/4$  to  $1\ 1/2$  acres of land is required for each 10,000 persons in the city for one year of operation if the depth of compacted refuse is to be about 9 feet. Sanitary fills may be used to fill deep depressions by using layers of fill of 10 to 15 feet each, reducing land and cover material costs sufficiently to make the method more economical.

Topography. Depressed areas such as ravines, swamps and abandoned borrow pits in which the grade must be raised are usually considered topographically and economically suitable for sanitary landfill sites providing the fill operations are so conducted that proper surface drainage is maintained.

Availability of Cover Material. The type of earth cover available on a site should be determined by test borings. The most desirable is a sandy loam, free of stones bigger than 6 inches in diameter. The cover material may be excavated on the site or hauled from adjacent areas. Ideal cover soil on a site is usually hard to find and usually results in making the most of what top cover is available.

Nearness to Residences and Industry. Although sanitary landfills have been successfully operated in areas adjacent to residences, institutions and industry, they frequently are expensive and often cause troublesome public

relations problems. A site close to a residential area may be justified, however, not so much because it is cheaper to buy than another site, but because the sanitary fill will actually improve the site itself. The public is usually concerned with health, nuisance, and safety problems, and with the possibility that the neighborhood in which a landfill is to be located will depreciate. In any event, if the refuse to be disposed of in a fill contains garbage, the site should not be closer than one-quarter mile to a residential, institutional, or industrial building unless unusual circumstances make a closer location both desirable and acceptable.

Accessibility. The site should have several access roads so that if one road is temporarily unusable, the site is not isolated. In metropolitan areas, access roads that permit trucks to be routed away from residential, commercial and industrial sections are desirable.

Length of Haul. The question of whether to use the sanitary landfill method of disposal or another method, such as incineration, is frequently influenced by the costs of hauling. The question is how far is too far for a haul. Only an engineering analysis can give the answer. For example, it may be more economical to haul refuse a long distance in 20-cubic yard compactor trucks that make only one trip a day than it is to haul it a shorter distance in equipment that must make two, three or more trips. *collection system should be*

Climatology. Weather is a significant factor in evaluating landfill sites in some areas of the country. Extremely cold weather can prevent excavation for cover, making it necessary to excavate and stockpile it during

warm weather. A prolonged rainy spell can flood low areas, making it difficult for refuse vehicles to maneuver at the fill. The intensity and direction of prevailing winds are also important in controlling blowing paper and in determining in which direction odors will be blown. Local climate conditions may eliminate some techniques of operation, or rule out landfills as the disposal method entirely under extreme conditions.

Drainage. Proper drainage for the fill itself is important, but it is also

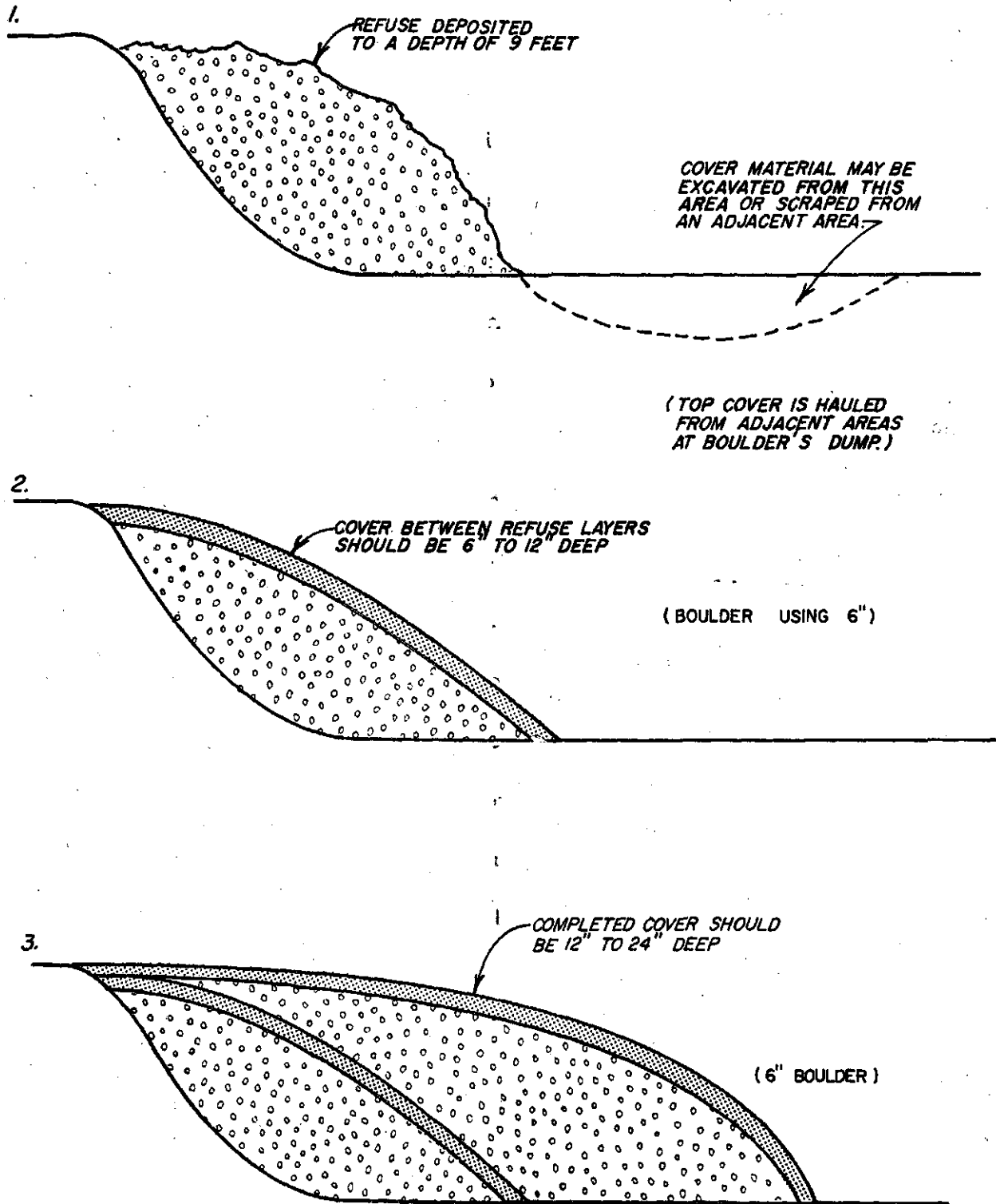
*floods are only problem*  
important to consider what effect the fill will have on natural drainage of the area. This is the chief disadvantage to Boulder's present dump site.

*culverts can handle*  
A ravine that is dry most of the year but which is the channel for a flood of water after a cloudburst will make the fill an unsatisfactory one and eliminate a necessary channel for storm waters. Normal heavy runoff usually can be inexpensively diverted around the fill area, however. Landfill operation in low areas should not be planned so that refuse cells become dams that prevent runoff from escaping.

Future Land Uses. The improvement of property by filling it is one of *limited use* the chief economic advantages of the sanitary landfill method of disposal. Many cities have turned worthless tracts into play areas, athletic fields and parks. Others have used completed sanitary fills to extend airport runways or as sites for industrial buildings. A city must consider how it can use a landfill site when it is completed.

Cost of Fills. Cost of fills varies widely, even within a city. The cost of the site, site preparation and operating costs must be computed to determine which site is economically best. The initial cost must be balanced

# SANITARY LANDFILL PRINCIPLE \*



off against the value of the land when the fill is completed, and many times the land increases in value appreciably.

Public Acceptance. The importance of public acceptance of a site for a sanitary landfill cannot be over-emphasized. Even though a proposed site is in an uninhabited area, the people who regularly drive past it may think it will be undesirable and protest having it there. Some city administrations consider that public approval of a landfill site is the most important factor in deciding on its use.

#### GROUND AND SURFACE WATER POLLUTION

Since Boulder <sup>county</sup> has experienced trouble concerning water pollution in the past, the following discussion brings out some of the pertinent facts pertaining to water pollution.

The possibility that a sanitary landfill will pollute ground and surface waters in an area of the fill must be considered. As mentioned before, Boulder has been involved in a court action because of stream pollution at the present dump site. A number of investigations have been made in recent years of the physical behavior of landfills and the effects of leachate from fills on underlying ground waters. Briefly the reports of these studies are condensed in the following paragraphs.

For pollution of ground water by refuse leaching <sup>How close</sup> three conditions must exist: (1) The site must be over or adjacent to an aquifer; (2) there must be supersaturation within the fill caused by the flow of ground water into the fill from percolation of precipitation and surface runoff, by water

of decomposition or by an artificial source; (3) leached fluids must be produced and leachate must be capable of entering an aquifer.

4. *ground water rising up in spring into fill*

If sound engineering practices are followed, a site that has both conditions 1 and 2 would not be selected for a fill. The third condition can be brought about by a combination of water used for refuse compaction, water of decomposition, rainfall and surface runoff. It is highly improbable, however, that any of them except compaction water would provide sufficient moisture to produce supersaturation in the fill. After a site is filled and the area reclaimed, the surface sources of water for leaching are rainfall, runoff, and irrigation; subsurface sources are high ground water levels due to artificial or natural recharge of aquifers and breaks in water mains and sewers.

An investigation at the University of Southern California in which bins filled with rubbish-garbage mixtures were used for tests showed that a total of 15 inches of water applied at the rate of 1 inch a day is necessary to saturate the fill material and produce free water or leachate. Based on a bin depth of 10 feet, the water amounted to approximately 25 gallons per cubic yard of fill, or approximately 65 gallons per ton. It has been determined experimentally that paper and paper products which constitute approximately 40% of combustible residential rubbish can absorb 250 per cent to 300 per cent water by weight. Considering also that the average moisture content of typical mixed refuse including garbage is only 45% to 50%, it is obvious that a landfill can absorb large quantities of water without becoming supersaturated. In the investigation, a bin of rubbish identical

*ground  
water  
+  
Toxic  
materials,  
oils -  
insoluble  
chemicals  
etc  
very poor  
leachate*

to that to which water was added had no moisture added and produced no leachate, indicating that the water of decomposition plus three inches of rainfall during the five months of investigation were not in excess of what the fill could absorb. In experiments in San Diego, California, the amount of water used to aid in compaction of a landfill amounted to an estimated 385 gallons per ton of refuse or more than 6 times the amount used in the University of Southern California test bin to obtain leachate. The addition of such large quantities of water to a landfill for compaction is not recommended for sites in which there is a possibility of ground water contamination, however. If leaching of a landfill does occur, the ground water in the immediate vicinity of the fill, for approximately 1,000 feet downstream can become grossly polluted, unfit for human and animal consumption or for industrial and irrigation uses.

The effects of pollution may be classified as physical, chemical and biological. If essentially anaerobic conditions (absence of oxygen) exist at a landfill, the decomposition of organic matter results in the formation of gases which are principally methane, carbon dioxide, ammonia and hydrogen sulfide. Methane, due to its slight solubility and low density diffuses vertically. Hydrogen sulfide, even when present in relatively small amounts, gives leach-polluted waters an offensive taste and odor; however, by dilution with oxygen containing ground water and from atmospheric oxygen diffusing into the landfill, sulfides are oxidized to tasteless and odorless sulfates.

Carbon dioxide, due to its high solubility, combines with water to form carbonic acid, which will dissolve iron from tin cans and lime from calcareous materials and deposits. The leachate cannot, however, contain both ferrous iron and sulfides. Chemically, the effects of carbon dioxide, by increasing the hardness and the effects of ammonia on oxidation and by increasing the nitrate content are the most significant products of decomposition of organic matter in a landfill operation.

In the University of Southern California investigation, the leachate from the test bin to which water was applied contained in excess of 200 parts per million ammonia and organic nitrogen, with peaks of 84 parts per million ammonia nitrogen and 450 parts per million organic nitrogen.

Pollution of ground water by bacteria from leaching of landfills might seem to be of prime importance. It has been shown, however, that coliform organisms, commonly used as indicators of sewage contamination even when present in high concentration in sewage effluent as applied to spreading grounds for water reclamation are seldom found below four feet and never below seven feet, even in highly permeable soil. <sup>low High</sup> <sup>low relates to ground water</sup>

In summary, only where landfills become supersaturated because of artificial wetting, inadequate drainage of surface runoff from the site or inundation by high ground water is there a real threat of water pollution. <sup>location of wells</sup> <sup>+ geologist</sup> The problem is complex enough, however, to require the investigation and judgment of competent sanitary engineers on whether a landfill could cause contamination.



## POSSIBLE LANDFILL AREAS TO BE CONSIDERED IN BOULDER COUNTY

The selection of a landfill site is usually a quite difficult task. If an area is found to possess all of the qualifications of a good landfill site, it quite possibly is located in a place where there is much objection to the idea of having refuse deposited.

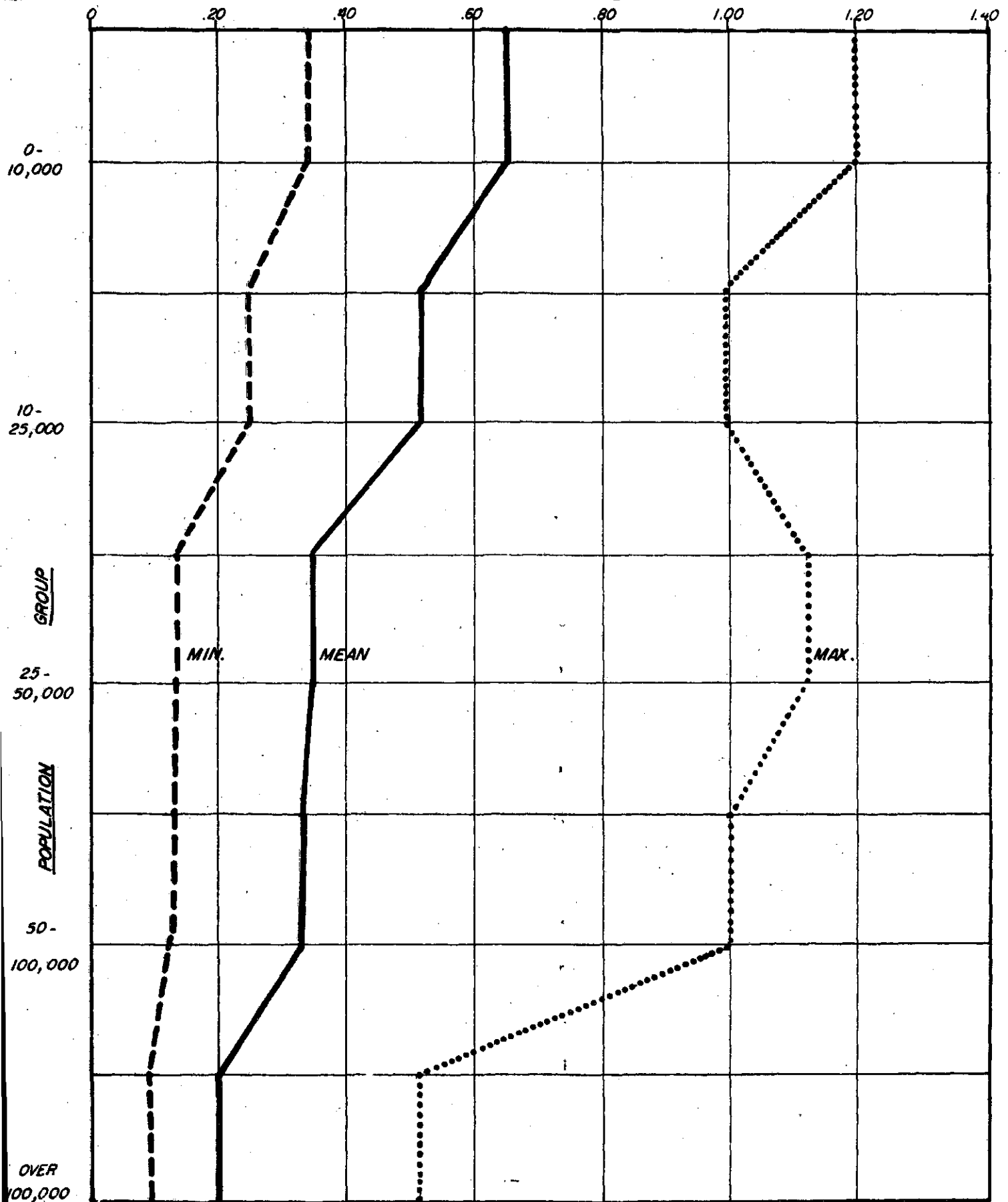
Boulder city and county is fortunate in possibly having available at this time an area which is within a short distance from each major city in the county. (See following maps) The area is the site of a gravel pit which has already been partially excavated and which would be an ideal spot for a landfill operation. Soil samples have been examined by a geologist and the soil has been found to be satisfactory for a landfill operation.

As can be seen by the chart entitled "Per Capita Costs of Sanitary Landfill Operations in More Than 200 Cities and Towns in 1959", the efficiency of a landfill operation goes up with population at least as far as the 100,000 mark. It is shown that costs are about 40¢ per person per year in the population group 10,000 to 25,000, while it tends to go below 20¢ per capita per year in the population group of 50,000 to 100,000. It should also be pointed out that these are costs to operate only the landfill operation and do not include collection costs.

A map has been drawn which shows the 10-mile radii of the cities of Boulder, Broomfield and Longmont. It can be seen that there is an area common to all three cities that is within a 10-mile radius of each city.

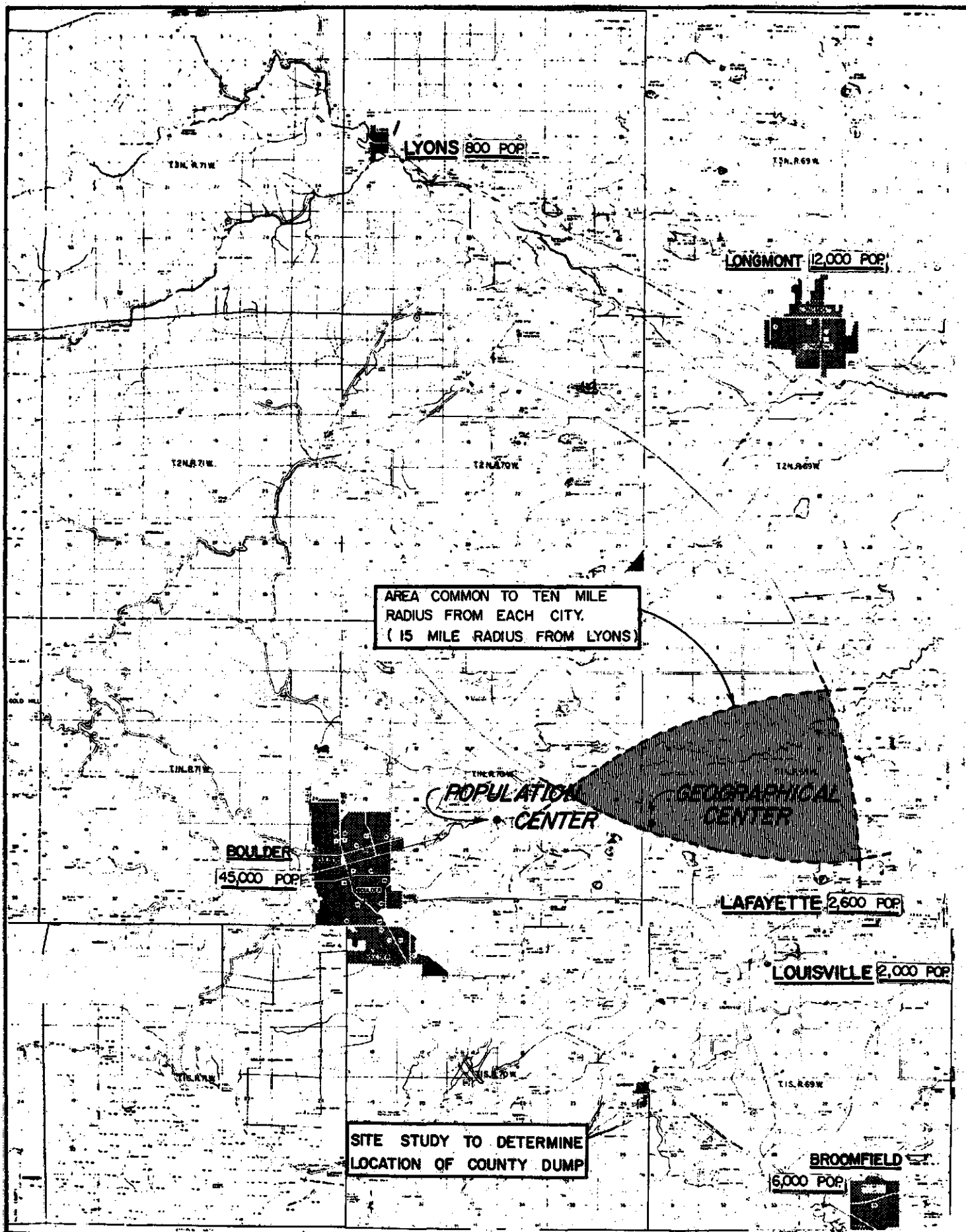
Does NOT APPEAR Accurate  
due to ACCESS ROADS

COSTS - DOLLARS PER CAPITA



PER CAPITA COSTS OF SANITARY LANDFILL OPERATIONS IN MORE THAN 200 CITIES & TOWNS IN 1959.

(SOURCE: APWA)



Also, the population center of the cities has been calculated and plotted along with the geometric center of the triangle formed when the three cities are used as vertexes. It can be seen that the geometric center, the population center, and the common area within the 10-mile radius of the three cities are all extremely close to each other. Further, the area that is presently being considered for a sanitary landfill site is within the area. Also, the area is zoned industrial, and both city and county zoning ordinances prohibit residential construction in an industrial area.

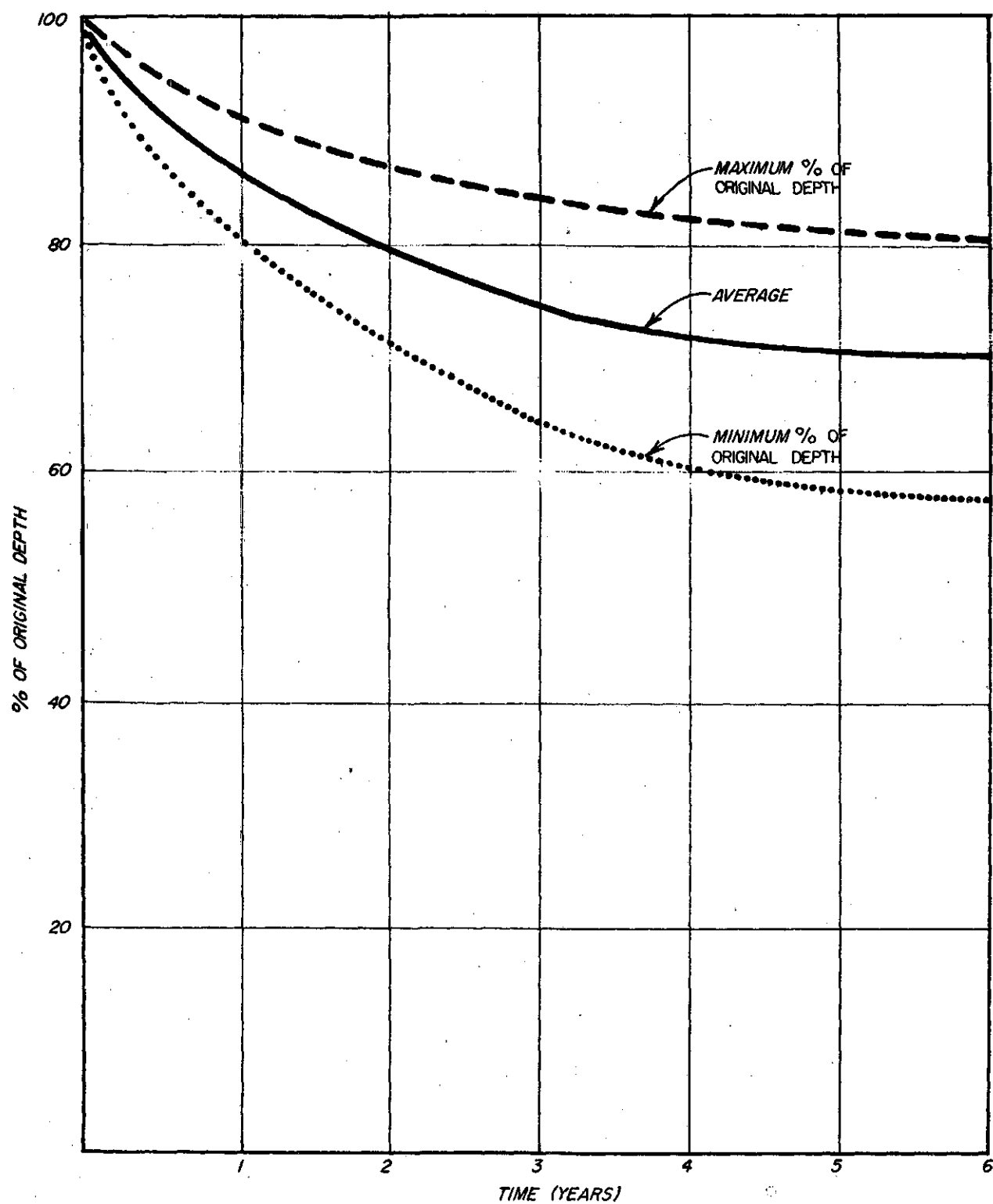
It is readily apparent that this dump site could serve the needs of Boulder, Broomfield, and Longmont as well as the smaller towns of Niwot, Lafayette, Louisville, and Lyons and the county residential and business areas that are located outside these cities. It is also apparent that if the landfill was operated on a county-wide basis, great savings could be realized and the individual problems of the present landfill sites could be eliminated.

In summary, the following reasons substantiate this proposed area as a very desirable site:

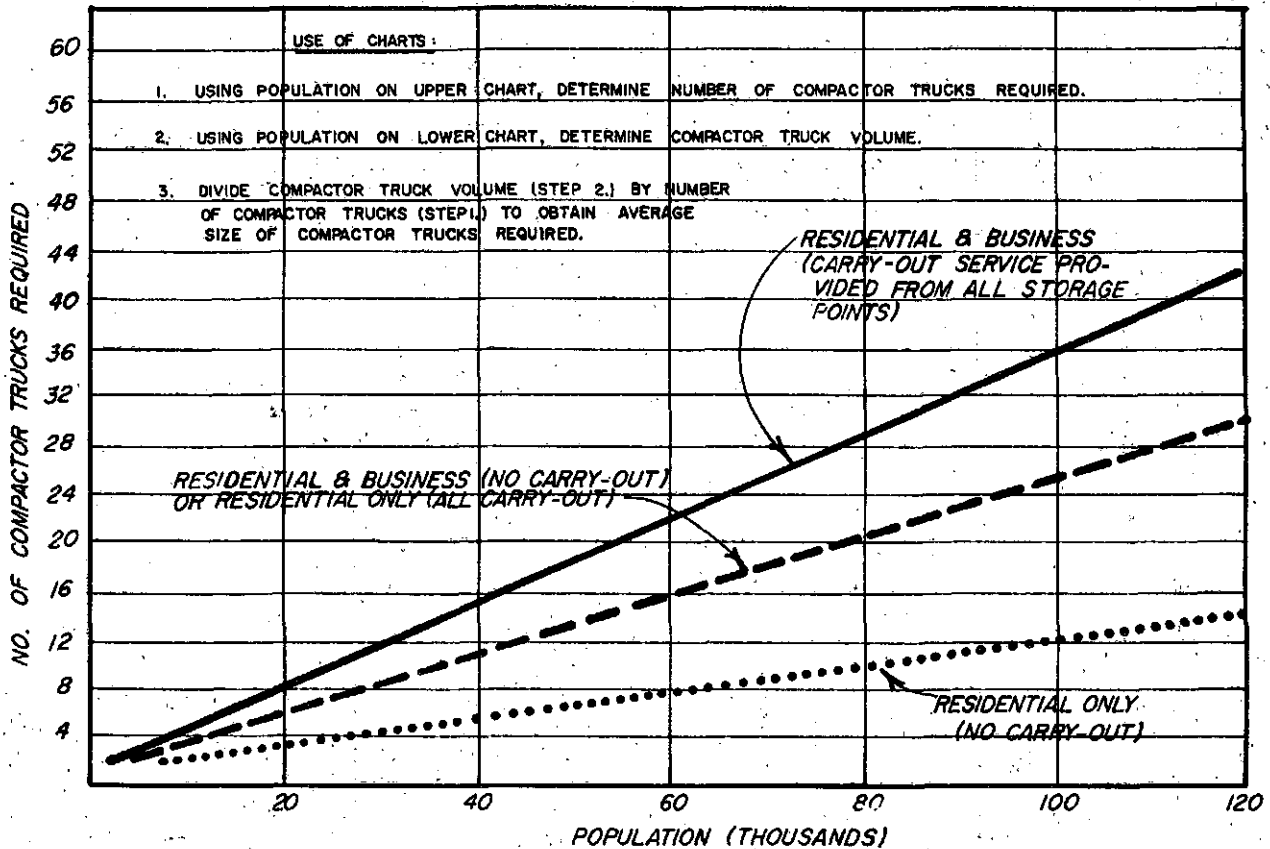
1. It is within a 10-mile radius of the five or six cities in this part of the county.
2. It is large enough to allow a sanitary landfill operation to be carried on for the next 20 years or more. *Need more detail*
3. The soil type is satisfactory to support a landfill operation.
4. There is no drainage problem such as experienced at Boulder's present dump site on North 26th Street. — *NOT entirely accurate without ground water log — + good drainage*

5. Adequate top soil is available to provide a satisfactory cover. *this needs more study - (Engineering data..*
6. If the entire county participates, the per capita cost of refuse disposal will be greatly reduced.

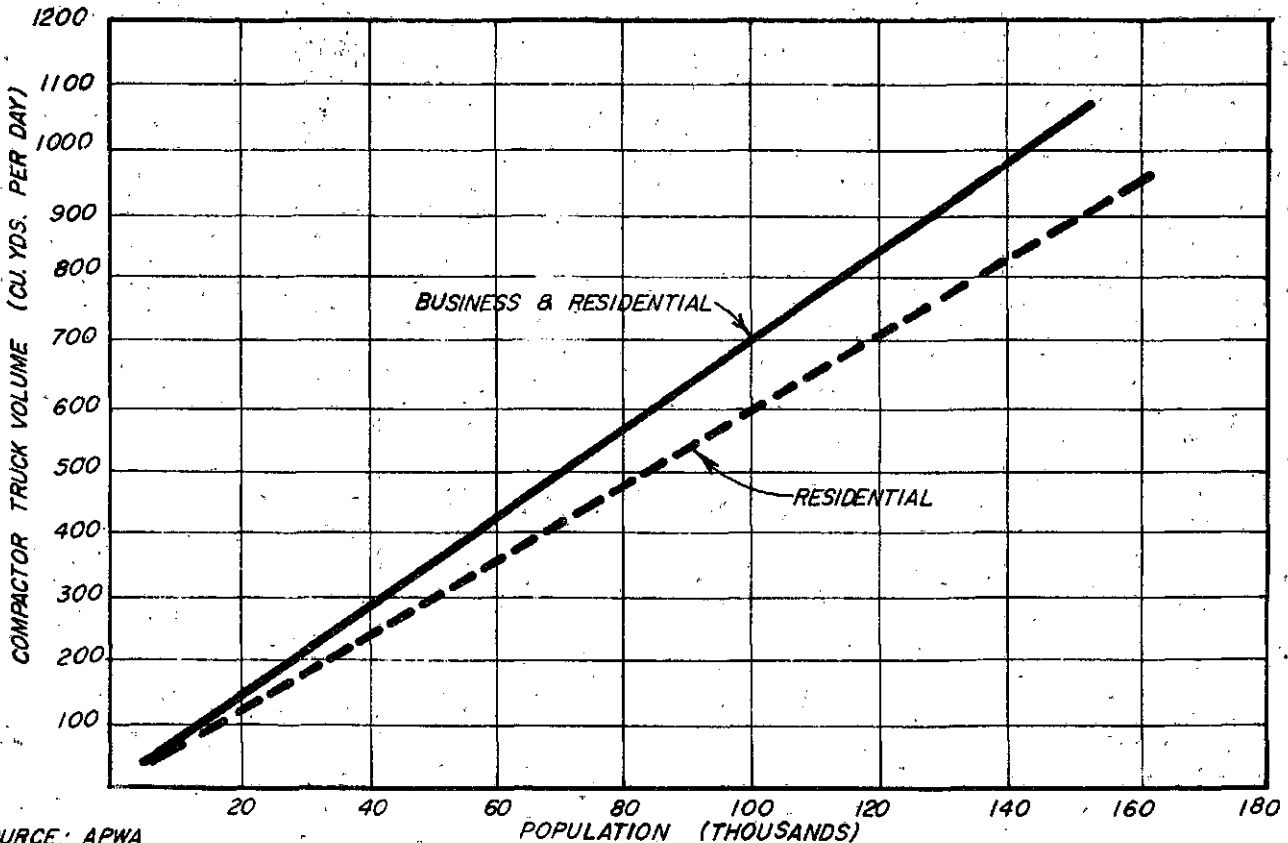
THIS CHART SHOWS THE RATE AT WHICH THE SURFACE OF A SANITARY LANDFILL SETTLES. \*



THIS CHART SHOWS THE NUMBER OF COMPACTOR TRUCKS REQUIRED PER GIVEN POPULATION ACCORDING TO DEGREE OF COLLECTION SERVICE. \*



THIS CHART SHOWS THE COMPACTOR TRUCK VOLUME REQUIRED PER GIVEN POPULATION ACCORDING TO SCOPE OF COLLECTION SERVICE. (DAILY, FOR AVERAGE CONDITIONS) \*



\* SOURCE: APWA

1. Dump operation + collection should be considered together + separately -

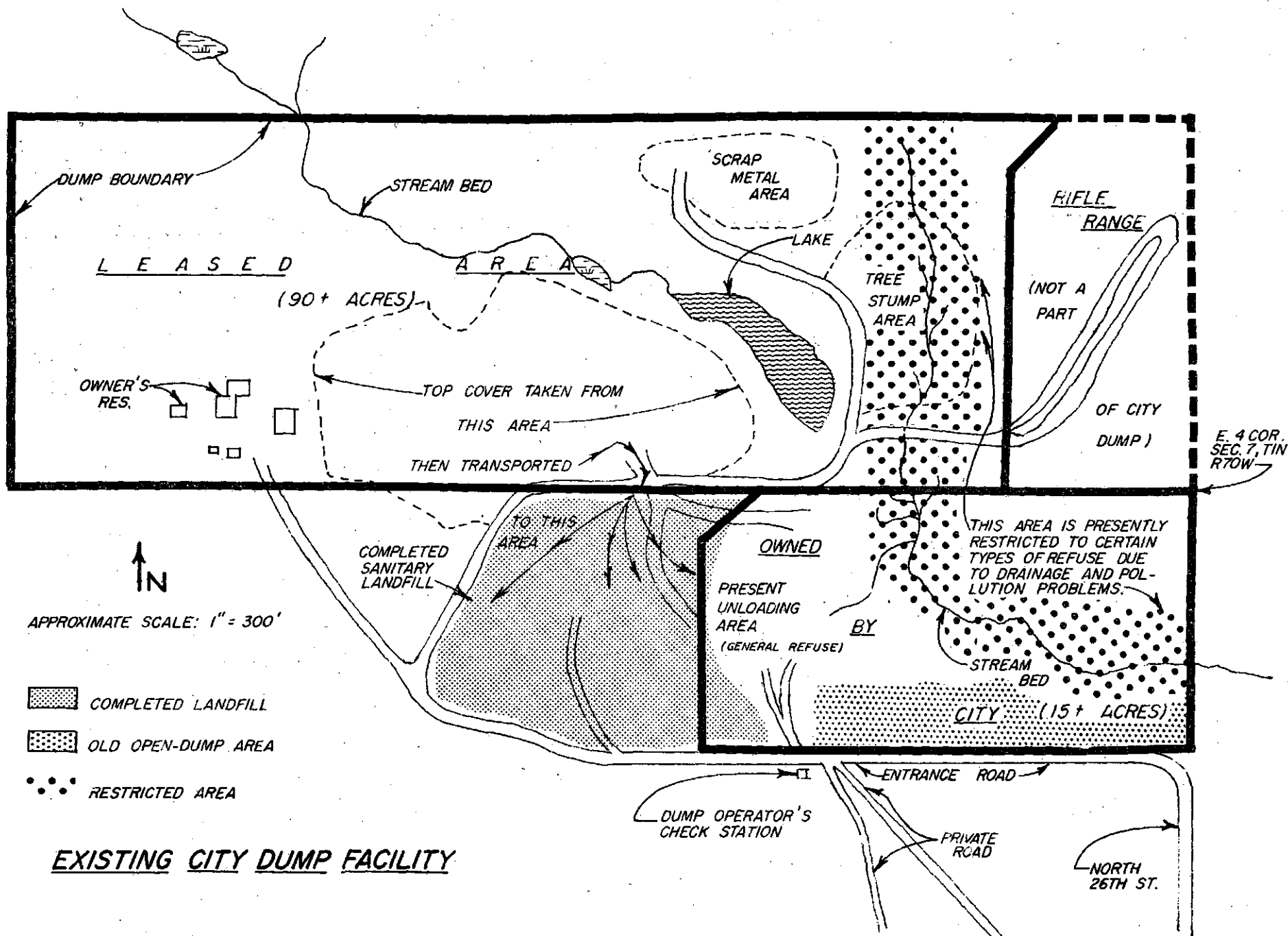
2. check present location - legal, court case, leasing, fees, better operation.

3. county operation



- + citizens of County + county-wide problems +
- ① - town problems +  
a - garbage + trash from home +
- ② - County fringe area problems +
- ③ - imp. com. meeting +
- ④ - County commissioners meeting +

+ Ken Johnson Committee member possibly +



BOULDER, COLO.  
JUNE 13, 1963

Dump

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
PROspect 6-5743

Name of establishment: Boulder Sanitary Land fill

Address: No. 26<sup>th</sup>

Telephone No.:

Person interviewed: Dozer operator Type of establishment: Sanitary Land fill

Purpose of visit: Mrs. Tumbleson - Routine inspection

1. Mrs. Tumbleson stated she didn't think the chemical was still running into creek. Mr. Dogge had cattle down there during the week.

2. No evidence of rats on dump.

3. Septic tank pits should be dug on the south end - too near dry gulch. Now with last pit.

4. Road to the dump site free of papers - city street dept. cleaned up 3-4 wks. ago.

5. Temporary fence should be erected to catch blowing paper.

6. Operator states  $\frac{1}{3}$  more volume of trash since city "no burning ord." - many more private cars - especially today (Saturday) - with good weather.

7. Top cover over dump appears good - still leaves open face dump in large area however.

8. Some small fires down under, but not many - nor do they appear to be a problem.

9. Suggest conference with city mgr.'s office, Bill Light, dump operators & myself to discuss best utilization of existing land.

DATE:

Owner or representative:

12-15-62

Sanitarian: Don Marmonde

~~Secret~~

Next week check out  
dump sites for septic  
TANK cleaners. I Am working  
on Raymond Hallenpark &  
Nederland - ask Norman  
about Lyons & Longmont -  
check c. Lof. & Louisville  
& Put report in my basket.

---

GIVE TO

DFM

Boulder, Colorado

MEMO TO: All Licensed Septic Tank Cleaners.

FROM: Sanitation Division.

DATE: August 4, 1961

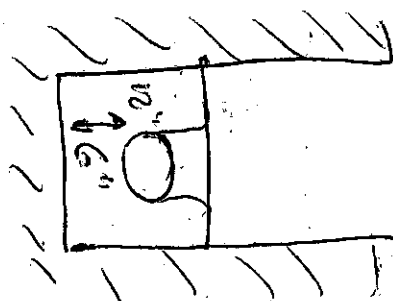
This department has been working with the Boulder County Commissioners and officials of towns and cities in Boulder County regarding appropriate and safe disposal sites for the unloading of septic tank contents. Listed below are the following approved disposal sites:

- (1) NEDERLAND: The mine shaft, located approximately one mile west on the Peak to Peak Highway on Magnolia Hill Road (MAGO-PUGET SOUND ROAD), on the north side of the road. (Ask the Marshall in Nederland for additional help in locating this site).
- (2) WARD: Ward City Dump. Permission must be obtained from Ward officials. See Mr. Johnson at the Johnson's Cafe for help.
- (3) JAMESTOWN: Jamestown City Dump. Permission must be obtained from Jamestown officials. See Mr. Mills at the Jamestown Mercantile.
- (4) BOULDER: Sanitary Landfill (City Dump) on North 26th Street.
- (5) LONGMONT: Sewage Disposal Plant. Check with the disposal plant operator.
- (6) LYONS: Sewage Disposal Plant. Check with the disposal plant operator.
- (7) ~~LOUISVILLE & LAFAYETTE~~: Sludge-drying beds. *NO THEY DO NOT KNOW* *Res* *7-9-62*
- (8) ALLENSPARK-RAYMOND: Disposal area located half-way between these two towns. Check with Mr. Wolley, Mr. Bean or Mr. Ward, all of Raymond, Colorado, regarding this dump site.

*Don F. Marumondo*

Don F. Marumondo, Chief., R.P.S.  
Sanitation Division

DFM:llz



BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment:

city of Boulder Sanitary Landfill

Address:

N. 26<sup>th</sup>

Telephone No.:

city Dump -  
San. Landfill

Person interviewed:

CARELAKOR

Type of establishment:

San. Landfill

Purpose of visit:

Poison Rats

MR. G. Terrell - U.S. Fish & wild life, predatory  
Animal Control Division + 2 put out 50 lbs.  
of "1080" Rat poison over the rat infested  
Areas of the dump.

The rat population did not appear to  
be as heavy as ~~the~~ in the fall, but it  
may be necessary to poison it twice. will  
make inspection in two weeks to observe  
effect.

This poison is quite potent + can be used  
only under these type of conditions.

DATE:

5/17/62

Owner or representative:

Sanitarian:

Don Marmarba

Longmont Drug Bldg  
Longmont, Colorado  
Longmont 582

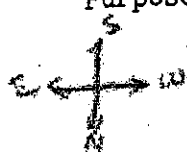
Name of establishment:

Tel. No:

Type of Establishment:

Purpose of visit:

visit: Routine inspection full house



1. 10. 11.

to style page

Septic tank  
P.L.S. → full

4065

① Area being used as dump site  
outlet of ground because of fine.  
② present large ~~scale~~ dumping  
③ fine area ④ paper building.

(some paper on sports to East & Camp) -  
there is water tank there now for fire  
suggest only five men take advice from them

Owner or Representative:

~~Sanitarian:~~

Date: 5/1/12



CAD  
50  
RECEIVED

OCT 13 1961

BOULDER CITY-COUNTY HEALTH DEPT.

October 10, 1961

Mr. Robert Turner, City Manager  
City of Boulder  
Boulder, Colorado

Dear Mr. Turner:

Enclosed for your review and comment is a copy of "Recommended Standards for Sanitary Landfill Operations." This is being suggested by the U. S. Public Health Service and is for review purposes only.

We would appreciate being advised of any comments you may have relative to the need for such a publication, the format, or the exigency of the technical provisions.

Very truly yours,

FOR DIRECTOR, DIVISION OF SANITATION

George A. Prince, P.E., Chief  
Public Health Engineering Section

cc: ✓ Dr. Dowding, Boulder Health Department  
Orville Stoddard, District Engineer

GAP:dp  
Enclosure



BOULDER CITY-COUNTY HEALTH DEPARTMENT  
3450 BROADWAY  
BOULDER, COLORADO

August 21, 1961

John Brown, Director  
Division of Environmental Health  
City-County Health Department  
Colorado Springs- El Paso County  
501 North Teete Avenue  
Colorado Springs, Colorado

Mr. William Light, Director of Public Services for the City of Boulder, and I, are working on the Sanitary Landfill - City Dump Project and would like to borrow the services of Mr. O. W. Mathews, the Sanitary Inspector with your department, in the near future, if possible.

Neither the United States Public Health Service or the State of Colorado Department of Public Health have any consultants in this field of Sanitation, and Mr. Mathews should be able to help us with our trash-disposal problem.

I called your office last Friday and learned that you were away. However, your secretary told me that Mr. Mathews is on vacation at this time. The City of Boulder would be pleased to pay mileage and meals to Mr. Mathews if we may borrow him for one day.

Thank you.

*Don F. Marmande*

Don F. Marmande, Chief, R.P.S.  
Sanitation Division

cc E. Robert Turner, City Manager, City of Boulder  
William Light, Director of Public Services

DFM:lia

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment: Boulder's Sanitary Land fill

Address: N. 26<sup>th</sup> St.

Telephone No.:

Person interviewed: MRS. F.A. Tumbleson

Type of establishment: San. Land fill city dump.

Purpose of visit: Routine inspection

\* ① Still operating modified open face dump - About same amount of area in need of adequate top cover as last inspection - both pieces of power equipment working - dump operators would like to purchase new equipment + would like expression from city regarding status of this operation so they may be guided in their purchases

Too many flies -

② septic tank pits - appear to be full + in need of re-locating - should be lined over or covered with liquid to prevent fly breeding -

③ small fire in lumber + tree dumping area -

④ Need fence in area where dumping to prevent blowing.

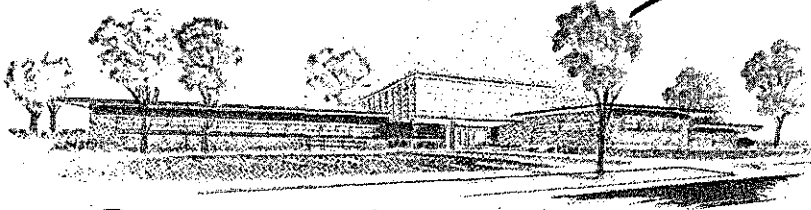
⑤ MRS. Tumbleson states she is still willing for land to be used as it is now for a dump site. Also states she has heard no new complaints from adjacent property owners.

⑥ Chemicals - MRS. Tumbleson stated a representative of Arapahoe Chemicals was out + said the chemicals had ceased coming out in creek. I check it best. I could from city property - did not want to trespass on east prop. owners land.

DATE: 7/28/61

Owner or representative:

Sanitarian: Don Marmonde



# PUEBLO CITY-COUNTY

PHONE LI 4-6031

151 CENTRAL MAIN STREET

PUEBLO, COLORADO

*Health Department*

DIRECTOR  
JOHN S. ANDERSON, M.D., M.P.H.

BOARD OF HEALTH  
A. E. GROVE  
DALE R. HILL  
JOHN B. FARLEY, M.D.  
MRS. GEORGIA FARABAUGH  
JACK A. BRUNO

May 31, 1961

RECEIVED

JUN 1 REC'D

BOULDER CITY-COUNTY HEALTH DEPT.

Mr. Don Marmande, Chief  
Sanitation Division  
Boulder City-County Health Dept.  
3450 Broadway  
Boulder, Colorado

Dear Don:

I am sorry for the delay, but I will try to be brief and try to cover our operations.

Trash Collection - We have 50 licensed private haulers who contract on an individual basis with the householders. The license fee is \$5.00 per vehicle used to haul trash. Annual application for permit to haul trash is made to the City Clerk. Approval is granted only when accompanied by a Health Department certificate of approval. (copy enclosed). The vehicle requirement is an enclosed or canvas covered body to prevent littering. Tree trimmings may be transported in open bodied trucks provided the material is securely tied. In addition, the name and telephone number of the owner shall be printed in letters clearly legible on both sides of the vehicle.

We do have control over the dumping sites used by the trash haulers. Our City Ordinance requires that all trash originating in the City shall be disposed of at sites as shall be designated from time to time by the Health Department. This takes care of the licensed trash hauler as well as the individual householder. We have poor or ineffectual control of our County residents dumping indiscriminately in the County. We do have an untested regulation for our County residents. (copy enclosed).

Dumps - We have two large open dumps for the metropolitan area. One is located on the south side of town about 3 miles out, and another on the north side of town about the same distance out.

The City owns the land on which both dumps are located. We have 19 acres of land available at the south side dump and 90 $\frac{1}{2}$  acres on the north side.

Dump masters or caretakers take care of the dumps at no charge to the City, they have salvage rights.

page 2-- Mr. Marmande

Garbage - Our municipal garbage is contracted out to a hog feeder for \$48,000 per year for three years. His farm is located about five miles from the City.

The householder is required to provide a separate container for garbage (see copy of Ordinance) and it is picked up twice a week all year around by the contractor.

The collected garbage is cooked prior to being fed to hogs.


Garbage grinders are required by Ordinance to be installed in all new homes and food establishments. (copy of Ordinance enclosed).

I am also enclosing a couple of request for bid forms, one for garbage and another for combined trash and garbage. These bid forms were used in awarding our new garbage contract and also for information purposes.

We do not have any immediate need for any of this information, but we would appreciate having them back.

Don, again I am sorry for the delay in answering, but should you have any questions, I will be prompt in my reply.

Sincerely,

  
John Fruscella, Supervisor  
Division of Sanitation

JF:pm  
enclosures

BOULDER CITY-COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillicrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment: BOULDER CITY DUMP (SANITARY LAND-FILL)

Address: North 26th Street, Boulder, Colo.

Telephone No.:

Person interviewed: Mrs. F. A. Tumbleson Type of establishment: Sanitary Land-Fill

Purpose of visit: Routine inspection

Went out to observe the progress and operation of Boulder City Land-Fill. I spoke to Mrs. Tumbleson a few minutes and she stated that there had been no discussion to her knowledge at the present time regarding any activity or action regarding the people who reside around the dumpsite. She said that the equipment was operating okay, but that they were having trouble covering the dump because of the fact that it had been so wet. There were approximately seven areas that were not covered. There were no papers to speak of along the fence, but of course there was no wind. She said that they were going to try to get the area covered.

I checked the pits where septic tank cleanings are being put and found them not to be overflowing. I also stayed within the fenceline and observed chemical drainage into the creek, which appeared negligible from what I could see by staying on City property

DATE: 5-16-61

Owner or representative:

Sanitarian:

*Don F. Marmande*  
Don F. Marmande, Chief, R.P.S.



RECEIVED

MAR 14 RECD

MINISTER OF HEALTH DEPT.

STATE OF COLORADO DEPARTMENT OF PUBLIC HEALTH

4210 EAST 11TH AVENUE • DENVER 20, COLORADO • PHONE DUDLEY 8-5801

STEPHEN L. R. McNICHOLS, GOVERNOR • R. L. CLEERE, M.D., M.P.H., DIRECTOR

March 10, 1961

Charles H. Dowding, Jr., M.D., M.P.H.  
Director, Boulder City-County Health Department  
3450 Broadway  
Boulder, Colorado

Dear Chuck:

There are no existing laws which would delimit the method of incineration the City of Boulder might use in disposal of refuse. There is one bill in the House of Representatives which would set up a State Air Pollution Council with powers to regulate such matters, but to date it has made little progress and its sponsors do not expect it to pass. The City of Denver has a smoke abatement ordinance which applies only within the city, of course, and this is the only present such control in the state.

Our own department is considering legislation and is now conducting a survey on which standards might be based. It is unlikely that any real action can be taken before the next long legislative session in 1963.

Since this department is currently engaged in air pollution surveys in Denver and Loveland, we are unable to conduct an air sampling program in Boulder right away. I do hope that within a month or so we will be able to meet your request for such a study and Mr. Joe Palomba will keep in touch with you about it.

I am happy to know you are interested in this important, although somewhat new, health problem. Rest assured we will cooperate in every way we can and will certainly keep in contact with you as time goes on.

Sincerely,

*Richard J. Reece*

Richard J. Reece, M.D.  
Director, Local Health Services

RJR:ar  
cc - Dr. Cleere  
Joe Palomba

January 31, 1961

The Editor  
The American City Magazine  
Bittenheim Publishing Corporation  
470 Park Avenue, South  
New York 16, New York

Your excellent publication has been brought to my attention recently and in view of the fact that the City of Boulder is planning the installation of a new incinerator-type of trash disposal, I feel that you might be able to help us.

Do you have a catalog file of the articles which have been published in your magazine, or do you know of any company who performs this service? We would be particularly interested in material pertaining to Incinerator-Type Trash Disposal for a Municipality and reference or access to specific articles relative to such a project would be of great value.

You may know of a book on this subject or perhaps you can refer me to some agency such as the Municipal League Association. In whatever way you can aid us, be it by any actual reading material you might have at hand, or by referral to sources or personnel, we would be most appreciative.

Thank you very much.

Don F. Marmande, Chief., R.P.S.  
Sanitation Division

DFM:lha

January 31, 1961

Charles B. Berry, Deputy Manager  
City of Denver Department of Public Works  
City and County Building  
Denver, Colorado

The City of Boulder is interested in any data, material or literature resulting from actual experience or investigation which the City of Denver may have pertaining to the subject of municipal incineration.

At the present time, we are anticipating the installation of an incinerator-type of trash disposal for Boulder and would appreciate any information that you might be willing to share with us.

Likewise, do you know of any recent publications, articles, periodicals, books or agencies to which we could refer for further help in our research and over-all planning?

Thank you for your cooperation.

Don F. Marmande, Chief., R.P.S.  
Sanitation Division

DFM:lha



## Section I

### PRESENT DUMP SITE ON NORTH 26th STREET

This site offers the most inexpensive solution to Boulder's Refuse Disposal problem of course, and the most reasonable approach here would be to continue to lease it out. However, the city should exercise more rigid controls and supervision if the city should decide to run this operation. No doubt this would cost more, but nevertheless the same recommendations would apply.

1. An ordinance should be drawn up and offered to the City Council requiring a unified collection of refuse including garbage and trash together. I know that this has been tried before, but due to the dwindling amount of garbage and the increase in garbage collection, the City could use the \$12,000 or so now spent on garbage collection in this program. I think that a citizen's committee of approximately 8 to 10 people should work on this project as well as the over-all trash and refuse collection and disposal project.
2. If the above proposal is not used, then an ordinance should be drawn up and presented to the City Council, specifying certain types of containers to be used for trash disposal, leaving the existing garbage the way it is, as well as specified hours for burning, regulations regarding the construction of ash pits and incinerators; because someday we will be faced with this problem as soon as air pollution laws go into effect. Included also should be specifications for types of trucks, which will be used to haul trash and refuse and other facts pertinent to this problem.
3. Adequate signs should be placed along the route to the dump or disposal sight. The short gravel road should be improved and hard-surfaced as much as possible out to the entrance to the disposal sight.
4. The erection of proper portable fences, which catch the trash that blows should be installed.
5. The installation of routine hours and the publication of these hours in the paper would be advisable.
6. Signs at the entrance of the dump should state that on certain holidays and windy days the dump will be closed.
7. Someone from the City in a supervisory capacity should make weekly inspections of the dump and work very closely with the operator and see that it is properly operated according to the contract.
8. The City should monitor the dump for at least a two week period, in order to determine a little bit more what the financial picture is there, as well as the amount of refuse that comes out to the dump, which will be needed in the

figures necessary possibly later on in the work to be done on a incinerator project; this would also tell somewhat how much of the trash problem or refuse is originating in the County and other environments in Boulder.

9. Proper use of the entire area at the present dump site should be carefully planned. The use of areas in the water-course and both the east and west sides of the two or three water-courses should be properly laid out and done under the direction and sanction of the City Attorney's office, as well as any other interested groups. Advice could be obtained along these lines also from the National Geological Society regarding water-course run-off and expected flood data.

#### VIEWPOINTS AND CONDITIONS REGARDING THE EXISTING DUMP

This dump site according to available data has been used for the last twenty-seven years and it is established in this area.

This site is down in a draw, it is obstructing no one's view; someone at the toll-gate stipulated that many times people come out and they are amazed at the fact that they can not find the disposal site and that they don't see it until they are upon it.

There is no odor, no smoke, no rat problem; only a slight problem with water and blowing trash. It appears that Mrs. F.A. Tumbleson and her mother, Mrs. B.L. Crispin, collectively own approximately 99 acres in this area and the City of Boulder owns approximately 16 acres. Both of these women at present appear to be agreeable to negotiate regarding the use of a great portion of this land for a continuance of its use at its present rate.

I think that it is highly possible with possibly the use of heavy-power equipment, such as a back-hoe or a dragline that trenches could be used which are very deep, as I have observed in the Colo. Springs area and that we could get very good compaction from this type of trench.

Without too much investigation or calculation it appears that if this dump site is handled properly, that approximately at least ten more years of dumping could be accomplished here and possibly as much as fifteen.

The number of cars and trailers that take refuse out to the dump have fallen off in number considerably in the past several years.

It is reported that most of the construction companies, excavating companies, wrecking companies, etc. are not taking their refuse out to this dump at the present time, but are going elsewhere and possibly dumping on private land. I know of an area along Valmont road where this is going on.

Many County people use this dump as well as City people.

There is a considerable problem of sub-standard housing and poor development of the property in this general area and that the disposal site is located at almost the extreme northern end of this type of project and development, that is somewhat characteristic of the general area near the dump site.

It is estimated that a great per-cent of the trash and refuse hauled out to the dump is now being taken in compaction trucks and this lessens the amount of spillage upon the highway as it goes from the City out to the disposal site. I would say that within a very short period of time that approximately 90% of the refuse will be hauled out in compaction type trucks. The present people who operate the dump and own the land are not anxious to move the present site of the dump. Enclosed on the next page is a map of the existing dump and some of the facts pertaining to this general area.



## Section II

### OTHER POSSIBLE DISPOSAL SITES

Available land for the establishment of another disposal site is very limited in this area around Boulder, where hauling rates would not be prohibitive. Almost everyone around Boulder with very few exceptions visualize their land as some possible subdivision site. I did not investigate the possibility of dumping in old abandoned gravel-pits because most of them are down in the ground-water table and in order to pursue this any further, we should have legal advice as to whether this type of dumping is permissible. Most of the major gravel-pit operations are from three to four miles from Boulder city limits.

Another possible dump site or disposal area would be at the Municipal Airport; just exactly how much land the City has available here would have to be checked out with the Engineering Dept. This appears to be an ideal dump site from the stand point of location, miles from town, accessible roads, and possibly its location from other areas which may object the fact that directly south of this location is a junk yard, a sewage disposal plant, and to the north is the hog farm, which now feeds the City garbage to its hogs. There are some residences which are not more than an eighth to a quarter of a mile away on the western edge of this general area. Some of the disadvantages are that this may not enhance future use of the airport or its development. There may be a problem with incoming planes and excessive traffic in this area. When the City was attempting to buy additional land for the extension of runways, I remember their negotiat with landowners, discussing something like \$2,000 an acrea for land; which means that the value of this particular land in this area could be the cause of the gravel-pits impossible for future development sites may be too valuable for this type of use.

I know a long time resident, who owns several hundred acreas along the Valmont road, who is now in the realestate business and I asked him to investigate the possibility of disposal sites on the quiet. He found approximately 160 acreas, which could possibly be used, is located between 2.5 to 2.8 miles from the city limits on an all purpose, all weather, hard surfaced road near the reservoir, which he thinks can be purchased for approximately \$400an acrea. I looked at this disposal site and I am certain that the ground-water problem here is one that will have to be contended with; whether or not the 160 acreas would have to be purchased, we did not go into this in detail, but he stated that there were not too many acreas around Boulder, which would be suitable for this type of arrangement.

## Section III

### MUNICIPAL INCINERATION

I think that it is possible, providing the City has enough available land at the existing sewage treatment plant to install an incinerator capable of handling Boulder's refuse up to possibly a population of 50,000 or a approximately \$800,000. It is possible that if this were located close to the sewage treatment plant, it wouldeliminate a lot of conditions which may arise otherwise. First it would be in the proper zone; secondly it would not establish

any other nuisance than is now being created by the sewage treatment plant; people in the neighborhood should not object to this. Next effluent water could possibly be used to control fly-ash and the emission of CO<sup>2</sup> gas. It could possibly use gas from the sewage treatment plant to fire the incinerator. Some of the employees could work at both plants. Sludge could be dried rapidly in this plant. It is located very close to the City.

I have written to Dr. Cleere, of the State Health Dept., asking him to send his industrial-hygienist into Boulder to do air sampling to determine how much air pollution there is now in the air around Boulder; one of the councilmen when we previously discussed incineration asked about the air pollution problem and these facts should be known; if the City is to seriously consider the installation of a Municipal Incineration.

Listed on the next few pages are a few of the facts and figures, which I obtained from approximately ten to twelve issues of American City magazine, which have been published over the last several years, also some figures pertaining to municipal incineration, which I received from the editor of another such magazine along with several letters from various officials.

Next is a map obtained from the City's Engineering  
Dept. of the Municipal Airport; Master-Plan Layout.

It does not appear to leave any room from the operation  
of a Disposal Site.

January 27, 1961

Director of Public Health Services  
United States Department of Public Health  
First National Bank Building  
621 17th Street  
Denver, Colorado

The City of Boulder is anticipating moving its sanitary land-fill and possibly establishing an incinerator. Is there anyone in your Denver office who could give us some advice and assistance in regarding to this matter?

Also, we have an extensive rodent problem in the cities of Boulder and Longmont, and in the town of Lyons. I would certainly appreciate the help of anyone in your department who specializes in the field of rodent control.

Please advise us as to any assistance available to our department in these matters.

Thank you very much.

Don F. Marmande, Chief., R.P.S.  
Sanitation Division

DFM:lha

January 27, 1961

William L Paddock  
Boulder County Attorney  
Woolworth Building  
P. O. Box 191  
Boulder, Colorado

The City of Boulder is anticipating moving its dump site to another location and I am assisting Mr. Turner in checking out possible sites for such an installation. I would like to know if a provision for a dump, sanitary land-fill, or an incinerator for municipality is included within the zoning restrictions for Boulder County. Also, can this type of installation be located in areas other than industrial in this county?

Don F. Marmande, Chief., R.P.S.  
Sanitation Division

DFM:lha



Wethering 160 acres

# 400 acre - maybe

across from gillagher  
1 $\frac{1}{2}$  shares of farmers  
ditch -

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

BOULDER CITY-COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment:

Address:

Person interviewed:

Purpose of visit:

Boulder Sanitary Land Fill Tel. (City Dump)

Type of establishment:

dump operator San. Land Fill  
Routine visit + survey Re: installation of a  
fence to collect blowing trash.

1. Approximately 5 AREAS of open faced dump AREAS  
NOT covered - operator said equipment was broken + storm  
conditions caused dump to be in this condition.

2. some paper blowing in a Southern direction -  
MR. Crow + Light suggested a fence About 15 ft. high  
be installed along crest of hill in this direction from  
Area now being used as a dump site.

3. discussed possibility of additional help bringing  
dump into more ideal landfill operations.

4. operators asked for gravel to the tree dumping area.

5. discussed idea of putting snow fence along the  
existing ~~for~~ East fence line of city property to catch

paper which might by-pass fence on hill.  
6. discussed possibility of stock piling cover material  
(dirt) for adverse weather conditions highly recommended.

7. Allow dumping in a confined area + only let  
3-4 vehicles down in dump site AT one time.

Owner or Representative:

Date:

Sanitarian:

12/23/60

DON MARMAN de

ORIGINAL  
COPY MAILED TO E. R. TURNER

12/27/60

+ ALSO W.C. LIGHT  
Bill Light + Charles Crow.

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

BOULDER CITY-COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Prospect 6-5743

Name of establishment:

Boulder Sanitary Land Fill

Tel. no.:

Address:

City Dump

Person interviewed:

Mrs. Tumbleson

Type of establishment:

Purpose of visit:

Routine Inspection

Made routine inspection of the City Dump - still being operated as modified open face dump - evidence that cover is not being placed completely on all areas exposed -- the areas set aside for dumping of Septic Tank sludge appears to be okay.

Chemicals being burned by the Arapahoe Chemical Company is giving off what appears to have a nauseating effect - Chemicals still getting into stream - burning doesn't appear too effective.

Owner or Representative:

Sanitarian:

Date:

July 21, 1960

Don F. Marmande, Chief, R.P.S.  
Orville Stoddard, State Public  
Health Engineer

1-10-60

AGREEMENT

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between the City of Boulder, Colorado, a municipal corporation, hereinafter referred to as the City, and Harold Graham and LeRoy Twisdale, hereinafter referred to as the Operators,

WITNESSETH, THAT:

WHEREAS, for a number of years a dump-ground facility has been maintained and operated by F. A. Tumbleson and his wife on certain real property located to the north of the City in the East one-half of Section 7, Township 1 North, Range 70 West of the 6th P.M.,

AND, WHEREAS, a part of the land upon which said dump-ground facility is located and from which dirt to use for cover purposes is obtained, is owned by the City and a part of said land is owned by private interests,

AND, WHEREAS, said F. A. Tumbleson is now deceased and his wife no longer desires to operate said dump-ground facility,

AND, WHEREAS, the Operators, as independent contractors, now desire to operate said dump-ground facility,

AND, WHEREAS, the Operators must have the City's permission to use the land owned by the City in the operation of said dump-ground facility,

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, the parties hereto agree as follows, to-wit:

1. The Operators shall have the right to use the real property owned by the City as above referred to in the operation of a dump-ground facility.
2. The Operators agree to operate and maintain a dump-ground facility at the site of the present dump-ground and to that end it shall be the sole responsibility of the Operators to make satisfactory arrangements with all of the owners or persons in control of the real property required

for such facility including the land from which cover or fill dirt is to be obtained.

3. The Operators agree to operate the said dump-ground facility under a sanitary land fill procedure wherein the refuse or trash disposed of at the dump is covered by at least six inches of dirt at the end of each working day. In addition, the dump area shall be kept compacted and free from blowing trash or refuse.

4. The Operators agree that in making said sanitary land fill dump, they will make it in such place and in such manner that the natural stream which flowed through the dump-site on the 18th day of March, 1954, as well as any other natural streams in the area, will not be contaminated. To this end, the City Manager of the City or his authorized representatives shall have the right to prohibit the dumping of refuse or trash in a particular location.

5. No tree trunks, branches, trash, garbage or refuse of any kind shall be burned on said dump<sup>n</sup> ground premises without the permission of the City Manager of the City.

6. The Operators agree to maintain said dump-ground site in as clean and sanitary condition as can be reasonably expected in view of the use to which such premises are employed and the method of operation employed.

7. The Operators shall accept all trash, garbage or refuse of any kind, whatsoever, that is delivered to the dump-grounds by the City or by the residents of the City, provided, however, that the Operators shall have the right to refuse to accept any loads containing hot materials and any loads which are not dumped or unloaded in the areas or places designated by the Operators.

8. The dump-grounds will be and remain open for dumping as follows, to-wit:

- a. From 7:00 A. M. to 5:00 P. M., Monday through Saturday of each week during the period from March 1 to October 31 of each year.
- b. From 8:00 A. M. to 4:00 P. M., Monday through Saturday of each week during the period from November 1 to the last day of February of each year.
- c. From 8:00 A. M. to 12:00 Noon on each Sunday.
- d. Notwithstanding the above, the dump-grounds shall be closed on New Year's Day, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
- e. Notwithstanding the above, the dump-grounds shall be closed at such times as the wind is blowing so hard that in the opinion of the Operators and the City Manager of the City, dumping would give rise to fire hazards or to debris being blown over adjoining properties.

9. That to the extent that the City can grant such right, all material delivered to the dump-grounds for disposal shall be the sole and separate property of the Operators.

---

10. Except as may be specifically provided for in this agreement, the Operators shall bear the entire expense of operating and maintaining the dump-ground, and to that end the Operators shall furnish and maintain all equipment necessary to operate and maintain said dump-ground in compliance with this agreement.

11. The Operators shall have at least one of their men and their equipment on call twenty-four hours a day to meet any emergency which may arise.

12. The Operators shall furnish to the City a performance bond in the amount of \$1,000 to guarantee the performance of this agreement and the Operators shall acquire and maintain a broad coverage liability policy

on the dump-ground operations in such amount as can be purchased for an annual premium of \$50.00.

13. The Operators shall be entitled to collect dump fees from all users of the dump-ground facility except the City which shall have the right to use said dump facility free of charge, except for tree branches and tree stumps. If the City desires to dispose of said tree branches and tree stumps at the dump ground facility, it shall pay the fees hereafter provided for. The said dump fees shall be established by the City. The said dump fees so collected by the Operators shall be the sole and separate property of the Operators.

The presently established dump fees are as follows, to-wit:

- |   |         |
|---|---------|
| a. Passenger automobiles and trucks or trailers with<br>rated capacity not in excess of one-half ton<br>(minimum) | \$ .25  |
| b. Trucks with rated capacity of one-half<br>ton to one ton   | .50     |
| c. Trucks with rated capacity of over one<br>ton and carrying not in excess of five<br>cubic yards of refuse      | \$ 1.00 |
| <hr/>   |         |
| For each additional five cubic yards of<br>refuse or fraction thereof   | .50     |
| d. Tree stumps, logs and other special<br>waste matter (maximum)  | 4.00    |

Effective January 10, 1960, and until such time as revised by the City, the dump fees shall be as follows, to-wit:

- |   |        |
|---|--------|
| a. Passenger automobiles                              | \$ .35 |
| b. Station wagons                                     | .50    |
| c. Pickup trucks, panel trucks and<br>towed trailers  | .75    |
| d. Trucks with rated capacity of less than<br>one ton | 1.00   |

- e. Trucks with rated capacity of one ton or more and
  - (1) Carrying not in excess of five cubic yards \$ 1.50
  - (2) Carrying over five cubic yards but not in excess of ten cubic yards 2.00
  - (3) Carrying over ten cubic yards but not in excess of fifteen cubic yards 2.50
  - (4) Carrying over fifteen cubic yards but not in excess of twenty cubic yards 3.00
  - (5) Carrying in excess of twenty cubic yards 3.50
- f. Tree stumps and logs 4.00
- g. Semi-trailers 4.00
- h. Assistance in unloading 10.00 per hour

14. In the event of a fire at the dump-grounds during the first year of this agreement, the City will provide one water tank truck and an operator to help the Operators extinguish the fire. After this agreement has been in effect for one year, the Operators will provide satisfactory equipment to combat and extinguish fires on the dump-grounds and the City's obligations in this regard will cease.

15. If the City determines that pipe or culverts are required at the dump-grounds, it shall have the right to enter said dump-grounds and install said pipe and culverts in such places and in such manner as it deems proper.

16. The City shall provide the following signs:
- a. One sign setting forth the dump fees.
  - b. Three "No smoking" signs.
  - c. Two "No hot ashes" signs.



- d. One STOP sign.
- e. One sign stating "Dump at OWN RISK - City and operator not Responsible for Injuries."
- f. One dump-ground directional sign.

The Operators shall erect and maintain the above signs and shall provide any additional signs required by the Operators or by law.

17. It is expressly understood and agreed by the parties hereto, that the Operators are independent contractors and are not the agents, servants or employees of the City, and the Operators do hereby assume all liability and agree to hold the City harmless for any harm done or any injuries incurred by persons as a result of the failure of the Operators to operate and maintain the dump-ground facility in a safe, careful and prudent manner.

18. This agreement shall become effective on Wednesday, December 16, 1959, and shall continue until terminated as herein provided.

19. This agreement may be terminated as follows, to-wit:

- a. Either the City or the Operators can terminate this agreement at any time by giving six months' written notice to the other party of the desire to terminate. If such notice is given by one party to the other party, this agreement shall be automatically terminated upon the expiration of said six month period without further action on behalf of either party.
- b. The City can terminate this agreement immediately and without notice if the Operators fail to comply with any of the terms and conditions of this agreement.

20. The Operators cannot assign this agreement without the written consent of the City.

21. This agreement shall be binding upon the heirs, successors, assigns and personal representatives of the parties hereto.

IN WITNESS WHEREOF the parties hereto have executed this  
agreement the day and year first hereinabove written.

CITY OF BOULDER, COLORADO

By \_\_\_\_\_  
City Manager

Attest:

\_\_\_\_\_  
Director of Finance and Record  
Ex-officio City Clerk

\_\_\_\_\_  
Harold Graham

\_\_\_\_\_  
LeRoy Twisdale

*Don F. Marmande*  
hww

December 18, 1959

ATTENTION: Guy Hollenbeck, Acting City Manager

Re: City Land Fill

From: Don F. Marmande, Sanitation Division

This Department received a complaint from Mr. Russel Turner, trash hauler, regarding the existing dump situation. The complainant reports:

1. The dump has been operating in poor or bad condition.
2. The dump should be used to reclaim marginal land for better usage.
3. Objected to new hours from 8:00 to 4:00 p.m., when the dump was open at 7:00 A.M., he could unload his trash from the night before, and be out collecting at an early hour.
4. The raise in price from \$1.50 per load to \$3.00 will cause his customers and others to wait longer to haul trash away. This will cause unsanitary conditions.

I would recommend that the dump be changed as much as possible from an open-face dump to a sanitary land fill. The present method is utilizing the land at too fast a rate.

KV

12-10-59

A G R E E M E N T

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between the City of Boulder, Colorado, a municipal corporation, hereinafter referred to as the City, and Harold Graham and LeRoy Twisdale, hereinafter referred to as the Operators,

WITNESSETH, THAT:

AND, WHEREAS, for a number of years a dump-ground facility has been maintained and operated by F.A. Tumbleson and his wife on certain real property located to the north of the City in the East one-half of Section 7, Township 1 North, Range 70 West of the 6th P.M.,

AND, WHEREAS, a part of the land upon which said dump-ground facility is located and from which dirt to use for cover purposes is obtained, is owned by the City and a part of said land is owned by private interests,

AND, WHEREAS, said F.A. Tumbleson is now deceased and his wife no longer desires to operate said dump-ground facility.

AND, WHEREAS, the Operators, as independent contractors, now desire to operate said dump-ground facility,

AND, WHEREAS, the Operators must have the City's permission to use the land owned by the City in the operation of said dump-ground facility.

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, the parties hereto agree as follows, to-wit:

1. The Operators shall have the right to use the real property owned by the City as above referred to in the operation of a dump-ground facility.
2. The Operators agree to operate and maintain a dump-ground facility at the site of the present dump-ground and to that end it shall be the sole responsibility of the Operators to make satisfactory arrangements with all of the owners or persons in control of the real property required for such facility including the land from which cover or fill dirt is to be obtained.

3. The Operators agree to operate the said dump-ground facility under a sanitary land fill procedure wherein the refuse or trash disposed of at the dump is covered by at least six inches of dirt at the end of each working day. In addition, the dump area shall be kept compacted and free from blowing trash or refuse.

4. The Operators agree that in making said sanitary land fill dump, they will make it in such place and in such manner that the natural stream which flowed through the dump-site on the 18th day of March, 1954, as well as any other natural streams in the area, will not be contaminated. To this end, the City Manager of the City or his authorized representatives shall have the right to prohibit the dumping of refuse or trash in a particular location.

5. No tree trunks, branches, trash, garbage or refuse of any kind shall be burned on said dump ground premises without the permission of the City Manager of the City.

6. The Operators agree to maintain said dump-ground site in as clean and sanitary condition as can be reasonably expected in view of the use to which such premises are employed and the method of operation employed.

7. The Operators shall accept all trash, garbage or refuse of any kind, whatsoever, that is delivered to the dump-grounds by the City or by the residents of the City, provided, however, that the Operators shall have the right to refuse to accept any loads containing hot materials and any loads which are not dumped or unloaded in the areas or places designated by the Operators.

8. The dump-grounds will be and remain open for dumping as follows, to-wit:

a. From 7:00 A.M. to 5:00 P.M., Monday through Saturday of each week during the period from March 1 to October 31 of each year.

b. From 8:00 A.M. to 4:00 P.M., Monday through Saturday of each week during the period from November 1 to the last day of February of each year.

- c. From 8:00 A.M. to 12:00 Noon on each Sunday.
- d. Notwithstanding the above, the dump-grounds shall be closed on New Year's Day, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
- e. Notwithstanding the above, the dump-grounds shall be closed at such times as the wind is blowing so hard that in the opinion of the Operators and the City Manager of the City, dumping would give rise to fire hazards or to debris being blown over adjoining properties.

9. That to the extent that the City can grant such right, all material delivered to the dump-grounds for disposal shall be the sole and separate property of the Operators.

10. Except as may be specifically provided for in this agreement, the Operators shall bear the entire expense of operating and maintaining the dump-ground, and to that end the Operators shall furnish and maintain all equipment necessary to operate and maintain said dump-ground in compliance with this agreement.

11. The Operators shall have at least one of their men and their equipment on call twenty-four hours a day to meet any emergency which may arise.

12. The Operators shall furnish to the City a performance bond in the amount of \$1,000 to guarantee the performance of this agreement and the Operators shall acquire and maintain a broad coverage liability policy on the dump-ground operations in such amount as can be purchased for an annual premium of \$50.00.

13. The Operators shall be entitled to collect dump fees from all users of the dump-ground facility free of charge, except for tree branches and tree stumps. If the City desires to dispose of said tree branches and tree stumps at the dump ground facility, it shall pay the fees hereafter provided for. The said dump fees shall be established by the City. The said dump fees so collected by the Operators shall be the sole and separate property of the

Operators.

The presently established dump fees are as follows, to-wit:

- |  |        |
|--|--------|
| a. Passenger automobiles and trucks or trailers with rated capacity not in excess of one-half ton (minimum). | \$ .25 |
| b. Trucks with rated capacity of one-half ton to one ton.  | .50    |
| c. Trucks with rated capacity of over one ton and carrying not in excess of five cubic yards of refuse.      | 1.00   |
| For each additional five cubic yards of refuse or fraction thereof   | .50    |
| d. Tree stumps, logs and other special waste matter (maximum)  | 4.00   |

Effective January 10, 1960, and until such time as revised by the City, the dump fees shall be as follows, to-wit:

- |  |        |
|--|--------|
| a. Passenger automobiles   | .35    |
| b. Station wagons  | .50    |
| c. Pickup trucks, panel trucks and towed trailers                          | .75    |
| d. Trucks with rated capacity of less than one ton                         | 1.00   |
| e. Trucks with rated capacity of one ton or more and                       |        |
| (1) Carrying not in excess of five cubic yards                             | \$1.50 |
| (2) Carrying over five cubic yards but not in excess of ten cubic yards    | 2.00   |
| (3) Carrying over ten cubic yards but not in excess of fifteen cubic yards | 2.50   |

(4) Carrying over fifteen cubic yards but not in excess of twenty cubic yards	\$3.00
(5) Carrying in excess of twenty cubic yards	3.50
f. Tree stumps and logs	4.00
g. Semi-trailers	4.00
h. Assistance in unloading	10.00 per hour

14. In the event of a fire at the dump-grounds during the first year of this agreement, the City will provide one water tank truck and an operator to help the Operators extinguish the fire. After this agreement has been in effect for one year, the Operators will provide satisfactory equipment to combat and extinguish fires on the dump-grounds and the City's obligations in this regard will cease.

15. If the City determines that pipe or culverts are required at the dump-grounds, it shall have the right to enter said dump-grounds and install said pipe and culverts in such places and in such manner as it deems proper.

16. The City shall provide the following signs:

- a. One sign setting forth the dump fees.
- b. Three "No Smoking" signs.
- c. Two "No Hot Ashes" signs.
- d. One STOP sign.
- e. One sign stating "Dump at OWN RISK - City and operator not Responsible for Injuries."
- f. One dump-ground directional sign.

The Operators shall erect and maintain the above signs and shall provide any additional signs required by the Operators or by law.

17. It is expressly understood and agreed by the parties hereto, that the Operators are independent contractors and are not the agents, servants or employees of the City, and the Operators do hereby assume all liability and agree to hold the City harmless for any



done or any injuries incurred by persons as a result of the failure of the Operators to operate and maintain the dump-ground facility in a safe, careful and prudent manner.

18. This agreement shall become effective on Wednesday, December 16, 1959, and shall continue until terminated as herein provided.

19. This agreement may be terminated as follows, to-wit:

- a. Either the City or the Operators can terminate this agreement at any time by giving 90 days' written notice to the other party of the desire to terminate. If such notice is given by one party to the other party, this agreement shall be automatically terminated upon the expiration of said 90 day period without further action on behalf of either party.
- b. The City Council of the City can, by motion, elect to terminate this agreement immediately and without notice if the Operators fail to comply with any of the terms and conditions of this agreement.

20. The Operators cannot assign this agreement without the written consent of the City.

21. This agreement shall be binding upon the heirs, successors, assigns and personal representatives of the parties hereto.

IN WITNESS WHEREOF the parties hereto have executed this agreement the day and year first hereinabove written.

CITY OF BOULDER, COLORADO

By \_\_\_\_\_  
City Manager

Attest:

\_\_\_\_\_  
Director of Finance and Record  
Ex-officio City Clerk

\_\_\_\_\_  
Harold Graham

\_\_\_\_\_  
Leroy Twisdale

MEMORANDUM

December 14, 1959

TO: City Council

FROM: City Attorney (Acting City Manager)

SUBJECT: Operation of the Dump-grounds

The City Code does not have detailed provisions in relation to a city dump. Section 14-12 of the Code contains a reference to the city dump, however, in the following manner, to wit:

Section 14-12: Dump Rates - Fixing

The City Manager, with the approval of the City Council, shall fix the rates for the privilege of depositing refuse upon and in the city dump.

As you know, for some time the dump grounds to the north of the City have been operated by the Tumbleson family. The said dump ground is located partly on city property and partly on land owned or controlled by the Tumbleson family. Dirt required for fill or cover purposes is acquired from property owned or controlled by the Tumbleson family. In addition, the Tumbleson family has provided all the equipment and personnel required to operate the said dump.

In return for providing the part of the ground for the dump facility and for providing the equipment and personnel to operate the dump facility, the Tumbleson family has been permitted to collect and keep all dump fees collected from the users of the facility and, in addition, to have and keep all items salvaged from the dump. The dump fees collected from the users of the facility have been fixed by the City.

As you will recall, at the Council meeting of Tuesday, December 8, 1959, Mrs. F. A. Tumbleson advised the City Council that she was quitting as the operator of the dump, effective immediately. The Council then authorized me to keep the dump operating until the next Council meeting if possible, even though some City funds would be required.

The dump has been kept in operation during the past week on a temporary basis. The cost to the City for this one week's operation will be approximately \$350. In order to operate the dump on a temporary basis, it is necessary to make arrangements for the use of the land and equipment and for personnel to operate the facility.

The proposal of Mr. Fleming is not set forth with a great deal of detail. However, as you will note, apparently Mr. Fleming would be willing to operate the dump facility if the City could guarantee him \$18,000 each year. He indicates that he could make arrangements with Mrs. Tumbleson for the use of her land and for the use of her equipment.

Although the City has not operated the dump, Mr. Light has had the opportunity of looking at Mrs. Tumbleson's records as to the fees collected during the last several years. Mr. Light advises me that under the present dump fees, he would estimate that the dump would gross approximately \$12,000 to \$15,000 a year. In addition to the dump fees, there would be some money realized from the right of salvage.

After discussing this matter with Mr. Light, I decided to recommend to the City Council that the contract be awarded to Mr. Graham and to Mr. Twisdale. A copy of the proposed contract is enclosed with your Council material. You will note that some of the proposals of Mr. Graham and Mr. Twisdale were accepted and some were rejected. You will note also, that the contract sets forth both the presently existing dump fees and the proposed dump fees which would become effective January 10, 1960, if the Council adopted the said contract. These dump fees are higher and more detailed than the present dump fees. However, you will note that the dump fees set forth in the contract are slightly lower, in some cases, than those rates proposed by Mr. Graham and Mr. Twisdale in their proposal.

Briefly, my reasons for recommending Mr. Graham and Mr. Twisdale at this time were that they are presently operating the dump facility and are apparently doing a satisfactory job. In addition, Mrs. Tumbleson has advised me that she will make arrangements with Mr. Graham and Mr. Twisdale for her land and for her equipment. And, Mr. Beeson has indicated that they can obtain a performance bond and liability insurance as required by the City. Finally, as you will note, the contract is not for a definite period of time but is to continue indefinitely, subject only to the right of either party to terminate the contract upon six months' notice to the other party. This means that the contract can be revised or changed or different arrangements made within a relatively short period of time in the event that Mr. Turner feels that the present arrangements are not satisfactory.

Mr. Light has contacted all of the persons engaged in the trash and refuse pickup and disposal and has advised them that this matter will be on the Council agenda for Tuesday, December 15, 1959. The contract enclosed can be easily amended and changed and the Council should, of course, feel free to make any suggestions that they have in relation to said contract.

In the event that the proposed contract and dump fees are acceptable to the City Council, the Council should authorize by motion the City Manager and the Director of Finance to execute the contract and the City Council should by motion approve the dump fees as set forth in the contract, effective January 10, 1960.

In summary, it appears to me as though the Council must take one of the following courses of action:

1. Withdraw from the matter of the dump facility and await recommendations from the new City Manager. Perhaps a private operation will develop that will be satisfactory because there does appear to be a substantial need for this type of facility in the area.
2. Attempt to continue the present temporary arrangements until such time as more exhaustive studies can be made of the matter. The problems that exist insofar as this alternative is concerned are the expense involved and the ability to make such arrangements for any appreciable length of time.
3. Enter into a contract of the type enclosed with your Council material for December 15, 1959. This alternative will require you to consider the person to receive the contract and the proposed increased dump fees.

-----

On Wednesday, December 16, 1959, the City will once again be faced with the problem of providing for a City dump facility. The entire matter of trash and refuse pickup and disposal and of the operating of a dump facility may very well be in need of study. This problem will be placed on Mr. Turner's desk for his consideration when he arrives in the City. However, I am sure that Mr. Turner is going to have numerous problems to consider and that it will be quite some time before he can even give attention to a number of problems, much less solve the problem. Therefore, while I recognize the fact that Mr. Turner should have the right to study this matter and to make recommendations in relation thereto, I do feel that some action is required by the City Council at this time to take care of the problem until such time as Mr. Turner's recommendations can be made. I feel that the operation of the dump on a temporary week-to-week basis is not satisfactory due to the cost to the City and due to the fact that we cannot reasonably hope to continue to make such temporary arrangements for personnel to operate the facility and for the equipment and the ground.

When the problem of the City dump facilities became critical, Mr. Light called a meeting of all people engaged in the trash and refuse pickup and disposal business in the City. He explained to these gentlemen that the City would like to make arrangements for someone to operate the facility and he advised them generally as to the operation requirements that the City felt were reasonable. He also discussed with said gentlemen the dump fees now being charged and the increased dump fees proposed by some of the people interested in the operation of the dump facility. As a result of this meeting, Mr. Light received three proposals for the operation of the dump facility. I have attached hereto these three proposals.

As you will note, the proposal submitted by Mr. Harold Graham and Mr. LeRoy Twisdale is very detailed. In addition, their proposal indicates that they can make satisfactory arrangements with Mrs. F. A. Tumbleson for the use of the land owned or controlled by her and for the use of her machinery. In addition, Mr. Donald R. Beeson has indicated that they can obtain a performance bond and a liability insurance policy from him in the event that they receive the contract to operate the dump facility. These two gentlemen have been working at the dump grounds for a short period of time with Mrs. Tumbleson and they are the gentlemen who have operated the facility on a temporary basis since December 8, 1959. I am advised that they have been doing a very satisfactory job in the operation of the dump facility.

The proposal submitted by Mr. L. D. Branstetter is not too detailed. You will note however that he does suggest that the City could receive 1% of the gross fees. It is my understanding that Mr. Branstetter would have to rely upon the City acquiring property from Mrs. Tumbleson. I do not feel that the City is in a position at this time to purchase any of Mrs. Tumbleson's land and I do not know whether or not it is available for sale or even for lease to the City.



*Don*  
*Wick*  
*12/3/59*

December 3, 1959

TO: Guy Hollenbeck - Acting City Manager

FROM: Don F. Marmande R.P.S. Chief - Sanitation Division  
Boulder-City-County Health Department

SUBJECT: Boulder Sanitary Land Fill

I went out to check the operation of the Sanitary Land Fill on December 2, 1959. I would like to make the following comments from my observation:

1. The dump (sanitary land fill) may not be operating now in accordance with the out of court settlement or agreement which resulted from the law suit against the city several years ago resulting from a flash flood.
2. A portable fence of sufficient height should be built, which is located near the area where they are dumping, to prevent trash and debris from flowing across farm lands east of the dump.
3. There are still small fires in the dump itself. Covering of the face of the dump appears to be necessary in some areas. However, the over all general appearance is fairly good in the main dump area.
4. My suggestions for better operation of this program:
  - A. Better roads and better maintenance of all gravel roads to the dump area.
  - B. Better utilization of land by using the trench method of dumping instead of the modified open faced dump.
  - C. Allow individual or corporations to operate the dump on a lease basis instead of the City. Also be sure the scavenger rights are fully explored.
  - D. Adjust the fee to a cubic yard basis and make it equitable.
  - E. I will assist in the drafting of a proposed ordinance ( we may have on in our files or Mrs. Springsteel may still have a copy) pertaining to the storage and collection of trash(no garbage).

BOULDER CITY COUNTY HEALTH DEPARTMENT

3450 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
PRospect 6-5743

Name of establishment: Sanitary Land Fill

Address: N. 28 th

Tel. No:

Person interviewed: Mrs. Tumbleson

Type of establishment:

Purpose of visit: Routine inspection

Dump

The dump was burning in at least 5 or 6 places  
Is in bad need of covering  
The septic tank pit appears to be full

Owner or Representative: Mr. Tumbleson

Date: 6-18-59

Sanitarian: Don F. Marmande

hwp  
JSM

3850 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Longmont 582

Name of establishment: Sanitary Land Fill

Address: Boulder, Colorado

Tel. No:

Person interviewed: F. Tumbleson

Type of Establishment: Land Fill

Purpose of visit: Routine Inspection

1. The Sanitary Land Fill is still being operated as a modified open-face dump.
2. Quite a number of these open faces appear to remain without any cover material, which probably means that the dump looks worse than it actually is.
3. There still appears to be a need for a contract or purchase of Tumbleson's land, or leasing of his land.
4. The dump should be monitored for two weeks so that some fee system could be appraised.
5. The old area, used for many years as a dump was again used during bad weather this past winter.
6. Tumbleson indicated that he would be interested in either selling the land or leasing it, or working out any type of agreement with the City or a private party for leasing or selling his dump.

cc: M. Don Harmon, City Manager  
Municipal Building  
Boulder, Colorado

Owner or Representative:

Date: 5/8/59

Sanitarian: Don Marmande  
Bill Light



High  
to Jumble  
city mgr & city  
asst. 5-20-58

3850 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Longmont 582

Name of establishment: *Boulder Sanitary Land Fills*

Address: *N. 26th St.*

Tel. No: *3-0994*

Person interviewed: *F. A. Turble son*

Type of Establishment: *Land Fills*

Purpose of visit: *to see inspection*

The following are my views on conditions that exist at the dump site area: & my recommendations:

1. more publicity should be given to the dump closing at 4:00 P.M. - saw several cars turn away at gate Friday afternoon.

2. Still operating mod. fire open face dump - should use trench method.

3. Raining weather has made operation difficult - better all purpose roads should be provided possibly with some assistance from street dept.

4. Scavenger operation could be better - possibly confined in a fenced area.

5. Too many flies - dead animals on dump - will ask dog warden to spray with mosquito fogger & put crank case oil on animal carcasses.

6. Bunker could be reduced.

7. Area where septic tank effluent & pumpings is too close to stream - should be moved to west & new trench opened.

8. House keeping & general overall cleanliness could be improved. -

*Mr. Turble son* stated dump site was in good condition prior to rainy season.

Saturday morn.

Owner or Representative:

Date: *5-19-58*

Sanitarian:

*Don Marmonde*

*Don  
com  
pd*

- MEMORANDUM -

TO: M. Don Harmon, City Manager

FROM: Don F. Marmande, Chief, Sanitation Division  
Boulder City-County Health Department

SUBJECT: Boulder's Sanitary Landfill

DATE: July 25, 1957

On Wednesday, July 17, at approximately 4:30 p.m., I made a short tour of the sanitary landfill operation on the north end of 26th Street. At that time I found that the pit dug for septic tank cleanings was overflowing and appeared to be running off into the dry gulch just east and north of this pit. I also found a number of loads of tin cans that were mistakenly dumped on the area east of the subsurface drainage ditch where all the tree stumps are now being piled, and I noted that the dump proper appeared to have several open faced areas which did not appear to be covered properly at the present time. I did not confer with Mr. Tumbleson at the time, as he appeared to be busy operating the heavy equipment.

Leonard Jones, the city clerk, and I discussed this matter and decided to set up a meeting between certain members of the city administrative staff and Mr. Tumbleson. The meeting was held on Wednesday, July 24th, and was attended by Mr. Carl Chapel, Mr. Tumbleson, John Mack, city attorney, and myself. Notices were sent out to Mr. Mack, Mr. Barton, Mr. Tumbleson, and Mr. Jones.

The proposed contract for the operation of the sanitary landfill was discussed briefly by Mr. Tumbleson and Mr. Mack and it was decided that there were certain administrative policies which had to be ironed out by the city manager and the city clerk before we would proceed any further on the over all operation of the sanitary landfill and the signing of a contract. Mr. Mack requested that a conference be called later on during the month of August when the City Manager returned from his vacation. Mr. Chapel and Mr. Marmande discussed the operation of the landfill and the fee situation with Mr. Tumbleson and also the problem of adjusting the fee set-up at the dump was briefly discussed and no recommendations were made at the present time on this particular issue. Mr. Tumbleson stated that something should be worked out regarding the problem of trucks bringing refuse to be deposited at the landfill which had burning materials in them and chemicals and other materials which are brought to the dump that create fires later on. He also stated that he thought the city was dumping some trash and tree limbs elsewhere because they were using the dump a lot less this year than they did last year. The over all operation of the trenching methods and the location of trenches was not discussed at this time, but Mr. Tumbleson did state that he would like to extend the existing landfill operation down to the old creek area on the eastern part of the landfill so that it could be properly covered down near the tree limbs.

The meeting was terminated and Mr. Tumbleson was given a copy of the agreement for his study until the next meeting.

fire

3850 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Longmont 582

Name of establishment: Boulder Sanitary Landfill

Address: N. 26<sup>th</sup> St.

Tel. No:

Person interviewed: F. A. Tumbleson (Caretaker)

Type of Establishment: San. Landfill

Purpose of visit: Routine inspection

1. Roads not too bad - soft, wet spots in certain sections.
2. Dumping on top of old area was done only for a short time during big snow storm. Hasn't been adequately covered.
3. Top cover hard to find because of moisture-shale being used.
4. Run off was moderate, orderly - culverts appeared to handle it.
5. Fires being brought out mostly by individuals still constitute somewhat of a problem.
6. Dumping now in a modified open face pattern in area just west & north of pay station.
7. General appearance doesn't appear to be too bad, considering wet soil condition.
8. Revenue from fees running under 1956 figures. No contract signed between city & caretaker.

Owner or Representative:

Date: 4/16/57

Sanitarian: Don Marmore



*Don*

December 13, 1956

Black & Veatch  
Consulting Engineers  
4706 Broadway  
Kansas City 12, Missouri

Gentlemen:

We have reviewed your revised drawings No's. 2, 14, 17, 23, 24, and 26, covering changes in the Boulder Sewage Treatment Plant Design and find them to be satisfactory to this Department.

In reference to chlorination facilities, it will be agreeable to us to utilize the plant outfall to provide chlorine contact time. Should circumstances change so as to indicate a need for more chlorine contact time, the facilities can be added at that time.

Very truly yours,

For, Director, Division of Sanitation

*E.F.*

Eugene L. Facetti, Engineer  
Public Health Engineering Section

ELF:mb  
cc: City of Boulder  
Boulder Health Dept.  
U. S. Public Health Service

RECEIVED

DEC 15 1956

BOULDER CITY-COUNTY HEALTH DEPT.

3850 Broadway  
Boulder, Colorado  
Hillcrest 2-5926

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Longmont Drug Bldg.  
Longmont, Colorado  
Longmont 582

Name of establishment: **BOULDER SANITARY LAND FILL**

Address: **North 26th Street**

Tel. No:

Person interviewed: **Mrs. Tumbleson**

Type of Establishment: **City Dump**

Purpose of visit: **Routine Inspection**

Operator of the dump was injured at the time of the inspection and was not present. Talked to Mrs. Tumbleson for a few minutes regarding its present operation.

During the heavy rains, because the roads were impassable, a trench had to be dug on top of the old dump to accommodate the customers.

The dump appears to be operating in the same fashion in which it always has - open face for the past year. There are some plans being made to do a bit of improvised trenching on the top level, but it doesn't appear to be the type of trenching which was discussed at the last meeting that we had down at the Municipal Building several months ago.

Mrs. Tumbleson stated they had not been given a contract to review or sign as yet.

The overall operation of the dump appears to be somewhat better.

Date: **August 9, 1956**

Owner or Representative:

**Donald F. Marmande, Chief, Sanitation Division**

Sanitarian:

MEMORANDUM

April 30, 1956

TO: M. Don Harmon, City Manager  
FROM: C. M. Broberg, Administrative Assistant  
SUBJECT: City Dump Operation

A conference attended by Messrs. F. A. Tumbleson, D. C. Barton, D. F. Marmande, L. R. Jones, and C. M. Broberg was held at 2:00 o'clock during the afternoon of Wednesday, April 25, 1956. The purpose of the meeting was to discuss current operating and financial problems related to the City Dump. This report contains the findings and recommendations of the conference.

BACKGROUND

On March 16, 1954, the Boulder District Court stipulated that the City of Boulder must operate its dump under a sanitary fill procedure. The Court defined such a procedure as being one "...wherein a trench is made and refuse put in the trench, and covered by dirt at the end of each working day."

The Court further stipulated that only tree trunks and branches may be burned, the natural stream may not be contaminated, and that the City must "...within one hundred twenty (120) days ... cover the present dump with dirt."

DUMP OPERATION MARCH 1954, TO DATE

An unwritten agreement was made between the City and Mr. Tumbleson. That agreement contained at least the following provisions:

1. Mr. Tumbleson was to operate the City Dump under the sanitary fill procedure as defined by the District Court.
2. As Dump Operator, Mr. Tumbleson, was to cover the old dump site with dirt and carry out all stipulations made by the District Court.
3. A dump fee schedule (Ordinance Number 1797) was adopted by the Boulder City Council to meet the cost of improved operation. Revenues from dump fees were to be used by the Dump Operator to meet operating expenses and to serve as his salary.
4. The Dump Operator was to retain salvage rights.
5. The City of Boulder was to possess supervisory control of dump operations by the City Sanitarian and Street Superintendent through the City Manager.

### TODAY'S OPERATING PROBLEMS

The Dump Operator successfully covered the top surface of the old dump with dirt and successfully used two trenches to dispose of refuse before January, 1956. After that time, however, he abandoned the trench method of disposal in favor of a "ramp" method. Under the ramp method, the refuse is merely pushed onto lower land from above and covered with dirt. While effective, the ramp method does not conform to the Court stipulation and compaction is not effected to the same degree as in the trench method.

As a safety measure, the Dump Operator has been instructed to use no fire. As a consequence, tree trunks and branches are accumulating at a rate that may soon interfere with the dump operation.

### TODAY'S FINANCIAL PROBLEMS

The Dump Operator explains his shift to the ramp disposal method on a strictly financial basis. In short, it costs less than the trench method.

The need for economy was emphasized by the fact that Mr. Tumbleson states that his net profit for the year 1955 was \$2,400.

Mr. Tumbleson has been making a monthly payment of \$200 to the City. Mr. Tumbleson maintained that the entire \$200 is in payment for a dozer that was sold to him by the City for "about" \$3,600. Mr. Tumbleson stated that he has paid \$3,600 and in his opinion the title for the dozer should be given to him.

Mr. Jones was of the opinion that \$100 of Mr. Tumbleson's payments was in payment for the dozer and the other \$100 was a franchise charge for the privilege of operation of the dump. Therefore, only \$1,800 has been credited for the dozer and \$1,800 has gone into the General Fund.

### RECOMMENDATIONS ON FUTURE OPERATION

#### Operating Procedure

It was agreed that a written agreement between the City and Mr. Tumbleson should be drawn immediately by the City Attorney. That agreement should be based upon the 1954 Court stipulations. In addition, the agreement should include the following points:

1. Dump supervision shall be supplied by the City Sanitarian and Street Superintendent through the City Manager.
2. The Dump Operator may retain salvage rights.
3. A portable fence, approximately 40 feet by 15 feet high must be placed at the end of each trench --- fence to be furnished by the City of Boulder.
4. Tree trunks and branches may be burned, with the approval of the Street Superintendent, during the months of January through April.
5. Agreement to be renewable each calendar year, and

contain a 90 day cancellation clause.

6. Dump Operator shall be entitled to a \$4,200 net profit for each year's operation. His financial records shall be open for inspection by the Finance Director at all times. The present fee schedule shall remain in effect.

#### Financial Considerations

All present realized that Mr. Tumbleson would have realized a net profit of approximately \$4,800 during 1955 if the \$200 monthly payments were not paid. After discussion, it was agreed to recommend to the City Manager that no charge be made for the privilege of the past operation of the city dump and that the entire \$3,600 be applied to the dozer purchase. It is further recommended that the dozer be considered paid and bill of sale be issued. These actions will assure that the present dump fee schedule need not be changed.

#### Suggested Actions to be Taken by the City

It was generally agreed that the City should take the following immediate actions to improve the dump operation.

1. Renovate existing fee schedule and directional signs or replace them.
2. Request County assistance in improving the roads leading to the dump area.
3. Lay out future trench sites and, when necessary, enter into a written agreement with Mr. Tumbleson for the use of land not owned by the City of Boulder.
4. Obtain written opinion from the City Attorney concerning the use of dump land denied by the Court stipulation dated March 16, 1954.

Copies to: F. A. Tumbleson, Dump Operator  
D. C. Barton, Street Superintendent  
D. F. Harmande, City Sanitarian  
L. R. Jones, Finance Director  
C. R. Mack, City Attorney



BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Name of establishment: Boulder Sanitary Land fill

Address: \_\_\_\_\_

Tel. No: \_\_\_\_\_

Person interviewed: \_\_\_\_\_

Type of Establishment: \_\_\_\_\_

Purpose of visit: \_\_\_\_\_

Committee meeting - Denver, Boston, Marmade  
Ints E F.A. Tumberson Rep. Land fill operation.

To discuss suit judgement (March 16, 1956) where  
states

- (a) no dumping east of old water way (2/10/54)
- (b) can be proved by record.

II Contract agreement

III Dumping of feces, & sludge in old canal west  
of water course in city.

IV Trench method to begin on N. side of waterway  
(east-west water way) - no trenching on east hill.

V Contract between city & Tumberson where he is  
to pay city all money taken in 1954, 1955 - he is to  
pay city no fee - he is to get bill of sale for  
deed - he is to have - a large right to operation.  
he is to utilize his property (land) owned by mother)

VI Use of land  
Tumberson is in Boston to area in city & rep.

VII No fee increase recommended

VIII Portable fence approximately 12 ft. high & 40 ft. wide  
to be built by city mechanical crew at land fill site.

Owner or Representative: \_\_\_\_\_

Sanitarian: Don Marmade

Date: 4/25/56

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Name of establishment: BOULDER SANITARY LAND FILL  
Address: City Manager's Office, Municipal Building  
Person interviewed: D. G. Barton, Leonard Jones, Type of Establishment: Sanitary Land Fill  
Purpose of visit: D. F. Marmande, F. A. Tumbleson

CONFERENCE REGARDING SANITARY LAND FILL

1. Discussed fact that the sanitary land fill operation began June 4, 1954.
2. Fee and former contract agreement were discussed. It was understood that the charges now being paid the City by Mr. Tumbleson at the rate of \$200 per month were \$100 for the dozer and \$100 for the right to use City property for a sanitary land fill for the collection of fees which were retained by Mr. Tumbleson. It was also pointed out that the former city attorney did not draw up a written contract between the City and Mr. Tumbleson.
3. Approximately \$9,506 net income was realized in 1955 of which \$2,400 was profit.
4. There is no salvage operation now at the sanitary land fill except that being conducted by Mr. Tumbleson and his immediate family.
5. There was a discussion of raising the fee for dump charges; fees would remain the same for small loads, but on the larger loads a ~~10~~ cubic-yard basis was considered.
6. PUC permits were discussed and Leonard Jones was to contact the PUC regarding this matter.
7. A committee was named by Mr. Harmon of Marmande, Broberg and Barton to go out to the sanitary land fill and study the existing problems of portable fences, all-weather roads, and trenching methods. They are to make a report for the City Manager which will in turn be presented to the City Council if justifiable fee raises or other changes are recommended by the Committee and the City Manager.
8. An ordinance for the alley inspector was discussed which will help to control the spilling of refuse and trash from trucks on the streets, cleaner alleys, and more frequent use of the sanitary land fill.
9. There was a discussion as to whether or not the east area should be used for a sanitary land fill because of flood danger.

Owner or Representative:

-OVER-

Date:

April 18, 1956

Sanitarian:

Don Marmande

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Name of establishment: **BOULDER SANITARY LAND FILL**

Address:

Tel. No:

Person interviewed:

Type of Establishment:

Purpose of visit: **Routine sanitary inspection**

On Friday, April 6, 1956, I made a survey of the Boulder sanitary land fill located at the North end of 26th Street. Although this was a routine inspection, the reason for my going out on that particular day was prompted by the fact that the day before I noticed a collection of paper which apparently had blown from the general area of the land fill on a farmer's fence located east of the access road and sanitary land fill. I found conditions out there to be about the same as they were during the last inspection. It appears that adequate cover is not being maintained on some of the open-faced dump areas at the present time.

It was observed that the Street Department has put in two culverts which will make the access road to the east end of the dump passable at all times providing something is done to make it an all-weather road.

I believe a meeting should be set up with Mr. Tumbleson and members of the City administrative staff to discuss the operation of this sanitary land fill in the near future. At this time I think we should discuss a long-range plan of operation, fees, access roads, portable fences, trench method of operation, and other pertinent facts regarding the operation.

Owner or Representative:

Date:

Sanitarian:

April 6, 1956

Donald F. Harmande

July 26, 1955

*City Landfill*

Mr. Don Harmon, City Manager  
City of Boulder  
Municipal Building  
Boulder, Colorado

Progress out at the Municipal Landfill seems to be doing pretty good. It's beginning to look a lot better and trenching on the east hill will begin as soon as George Bennett and the ~~surveyor~~ <sup>Surveyor</sup> get out to set the stakes.

The only big problem appears to be in a portable fence. This fence will be a necessary item because dumping will be so close to the east property line. I understand the gentleman who owns that property comes over periodically to check it. I haven't suggested to Mr. Tumbleson a person who should build the fence, but I do think the city should help to supervise the building of same. This fence will help to catch the blowing trash when it is dumped into the landfill on the east hill and thus, eliminate this problem.

Is there any money in the budget to help with such a project?

Donald F. Marmade, Chief  
Sanitation Division

DFM/ea



# CITY OF BOULDER

BOULDER, COLORADO

July 16, 1955

Mr. Don Marmande  
City-County Health Department  
Boulder County General Hospital  
Boulder, Colorado

Dear Mr. Marmande:

Re: Boulder City Dump

You raised the question, after talking with Mr. Tumbelson, as to whether the high land to the northeast of the natural stream at the dump site could be used for the purposes of a sanitary fill as the result of the judgment entered by the District Court of Boulder on March 16, 1954, which judgment reads as follows:

"Defendant shall, in making said sanitary fill dump, make it in such place and in such manner as not to contaminate the natural stream which flows through the present dump site."

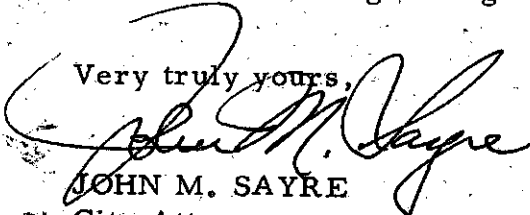
Another provision of the judgment states as follows:

"That the defendant may place said sanitary fill on the property immediately south and west of the present dump on higher ground."

It is my opinion that the first provision is the controlling one in this instance and that we may place a sanitary fill wherever it will not contaminate the natural stream flowing through the dump site. The other provision is merely a permissive provision and was placed in there to clarify the fact that we could use the property south and west of the present dump for the purposes of a sanitary fill.

Therefore, I believe that the City is free to use the northeast corner of the dump for sanitary fill purposes if it is used in such a manner as not to contaminate the natural stream flowing through the site.

Very truly yours,

  
JOHN M. SAYRE

City Attorney

JMS/jw

*The City With a Mountain Glacier Water Supply*

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

NAME OF ESTABLISHMENT

Boulder Sanitary Landfill

PERMIT NO. \_\_\_\_\_

ADDRESS OF ESTABLISHMENT

N. 26th Ave.

TEL. NO. \_\_\_\_\_

PERSON INTERVIEWED

F. A. Jumbleson - operator or caretaker

TYPE OF ESTABLISHMENT

Sanitary Landfill

PURPOSE OF VISIT

Inspection

FINDINGS

Went out to Landfill area with city  
att'y John Sayre Saturday morning at ~~ten~~ nine.  
a question came up regarding the use of  
the east hill (east of Ronine) for trenching  
method because it appears the agreement  
following the Law suit did not concur with  
this. Mr. Sayre said he thought the idea of  
putting trees & building demolition debris in  
ronine (old flood path) ~~was~~ appears to be O.K. He  
would let us know regarding the other in a few  
days. north hill had not been scraped down  
as yet. Mr. Jumbleson asked what about blowing  
paper if he did start trenching on east hill.  
I told him to erect a portable fence. The covering  
of existing dumping area is being done fairly  
well & the east hill has been scraped off.  
The Culvert has not been put in.

DATE

7/9/55

SANITARIAN

Don Marmore

OWNER OR REPRESENTATIVE

File

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

NAME OF ESTABLISHMENT Boulder City Dump PERMIT NO. \_\_\_\_\_

ADDRESS OF ESTABLISHMENT N. 26th St. TEL. NO. \_\_\_\_\_

PERSON INTERVIEWED F. A. Tumbleson

TYPE OF ESTABLISHMENT Sanitary Land Fill

PURPOSE OF VISIT Program planning and future land fill usage at the present site.

FINDINGS Went out with Don Harmon, City Manager, D. C. Barton, Street superintendent and George Bennett, Eng. Dept. (city). After some discussion and examination of contour maps, it was decided that the following procedure would be followed according to Harmon's suggestions.

(1) North Hill (west of rifle range) should be scraped down and all debris pushed in ravine or dry gulch (east)

(2) Completely cover face of all the series of end dumps or open face dump with earth - Make the entire bottom area neat and orderly.

(3) Push trees and building materials into gulch on hill at southeast section near wash out area and start trenching here. Call Mr. Bennett before trenching begins.

(4) Erect temporary fence and have all loads dumped into one area (trench) Fence should be near pay house.

(5) Street department will put culvert under road east to west road and no ditch will be put in running north to south.

DATE 6/18/55

Don Marmande

SANITARIAN

OWNER OR REPRESENTATIVE

file

Site-  
BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

City  
Reason

NAME OF ESTABLISHMENT Boulder Sanitary Landfill PERMIT NO. \_\_\_\_\_

ADDRESS OF ESTABLISHMENT N. 26th St TEL. NO. \_\_\_\_\_

PERSON INTERVIEWED Mr. F.A. Jumbleson

TYPE OF ESTABLISHMENT Municipal Sanitary Landfill

PURPOSE OF VISIT Inspection of Area

FI

FINDINGS ① dumping of grease trap & septic tank effluent will be moved over to another area north of this area to be lined occasionally as when this get too numerous.

② city engineering crew has been out, but their doesn't appear to be any grade markers for re-routing of ditch.

③ Brush pile on east end pushed over near ditch area to make room for new ditch.

④ Trenching method only partly being used. A master plan on how the dump is to be used will be drawn up & given to Mr. Jumbleson, when it is decided whether or not the existing ditch will be completely filled. at the present time dumping is being done to fill in ditch area running east & west. Compaction is somewhat difficult.

⑤ Some of the corner areas on areas covered recently could be done better to make the place look neater.

DATE 6/3/55 Don Marmonde  
SANITARIAN OWNER OR REPRESENTATIVE



BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

NAME OF ESTABLISHMENT Boulder Sanitary Landfill PERMIT NO. \_\_\_\_\_  
ADDRESS OF ESTABLISHMENT N. 26th TEL. NO. \_\_\_\_\_  
PERSON INTERVIEWED F.A. Tumbelson - operator  
TYPE OF ESTABLISHMENT SANITARY LAND FILL  
PURPOSE OF VISIT Routine check

FINDINGS Grease trap trench on top of hill should be covered. Now using other trench below hill.

② trench method of land fill to begin & discontinue "open face dump cover method." This old method does NOT afford ample compaction, does NOT prevent blowing, NOT is it properly covered.

③ Begin trench near old road. Then start next trench near <sup>south</sup> hill with a windrow of dirt on north side for cover material.

④ Street dept. will install ~~cut~~ Culvert in spring.

⑤ Area where trees are dumped could be improved & made neater.

⑥ old abandoned open face dump should receive some cover material periodically.

⑦ No evidence of rats.

DATE 3/30/55 don marmide OWNER OR REPRESENTATIVE  
SANITARIAN  
D.C. Barton (street dept)

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

NAME OF ESTABLISHMENT Boulder Sanitary Landfill PERMIT NO. \_\_\_\_\_  
ADDRESS OF ESTABLISHMENT N. E. of Boulder TEL. NO. \_\_\_\_\_  
PERSON INTERVIEWED F. Tumble son  
TYPE OF ESTABLISHMENT Sanitary Landfill  
PURPOSE OF VISIT Routine Inspection

- FINDINGS
- ① Dump Area for grease Trap + septic tank drainings on brow of hill still being used because of muddy road below land fill. load of lime there now to cover this area. - other dump area for these items being used as requested
  - ② dump site now being used for trash is area just under open face dump (old abandoned dump). This method does allow for possibly more blowing until it is flattened with dozer & covered with top soil.
  - ③ Fence should be erected during these high winds.
  - ④ RAT infestation just about gone. one RAT observed by caretaker in last two months.
  - ⑤ Use of dump by individuals has fallen off considerably - caretaker states inquiry made into matter by asking a small trash hauler who solicits from door to door & he was told people are waiting for city to pick it up.

DATE

1/25/55

San Mariano  
SANITARIAN

Don Marmode  
OWNER OR REPRESENTATIVE

BOULDER COUNTY HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

NAME OF ESTABLISHMENT Boulder Mun. San. Land fill PERMIT NO. \_\_\_\_\_

ADDRESS OF ESTABLISHMENT N. 26<sup>th</sup> AVE TEL. NO. \_\_\_\_\_

PERSON INTERVIEWED \_\_\_\_\_

TYPE OF ESTABLISHMENT SANITARY Land fill

PURPOSE OF VISIT Routine inspection

FINDINGS Landfill operation ~~oper~~ is being conducted on west end of lower dump area. General appearance is good. Trash being dumped at present was located in such a position that it appeared difficult to get into existing trench to at least be packed by heavy equipment. This trash must have had considerable garbage, because the flies were numerous. Land fill operator was not there at the time, so we could not completely determine the method of dumping. There were no fences (portable) erected to catch blowing paper however some were being caught by the north fence near the road. Will check operation again next week & talk to operator.

DATE 9-16-54

B. Schlitt  
Don Marmore

SANITARIAN

OWNER OR REPRESENTATIVE

3-16-54

C O P P O C  
P P  
Y

IN THE DISTRICT COURT IN AND FOR THE  
COUNTY OF BOULDER, STATE OF COLORADO

Civil Action No. 12372

WILLIS P. MOSHER and ETHEL C.  
MOSHER, JOHN GALLAGHER and ELIZA  
C. GALLAGHER, BOULDER LAND IRRI-  
GATION AND POWER COMPANY, a Cor-  
poration, GEORGE POOR and MARY POOR,  
ERNEST L. WARD and CHRISTINE WARD,  
WILLIAM A. LOUSBERG and MARY  
LOUSBERG, HOWARD GUTHRIE and MARY  
A. GUTHRIE,

Plaintiffs,

-vs-

CITY OF BOULDER, a municipal  
corporation,

Defendant.

S T I P U L A T I O N

WHEREAS all matters and things in controversy between the  
plaintiffs and defendant have been compromised and settled,

IT IS HEREBY STIPULATED AND AGREED between the parties that  
they join in requesting the Court to enter judgment in said case as  
follows:

"IT IS ORDERED, ADJUDGED, AND DECREED:

"1. That the defendant shall pay to the plaintiffs, and  
their attorneys, Rinn & Connell, the sum of seven thousand five hundred  
dollars (\$7,500), and the defendant is ordered, as respects the  
maintenance and use of said dump, that it proceed as follows:

"(a) Within one hundred and twenty (120) days from the  
entry of this judgment the defendant shall start operating its dump

upon said premises under a sanitary fill procedure, wherein a trench is made and refuse put in the trench, and covered by dirt at the end of each working day. The defendant shall, in making said sanitary fill dump, make it in such place and in such manner as not to contaminate the natural stream which flows through the present dump site.

"(b) That the defendant shall not burn any trash or rubbish, whatsoever, on said dump, except tree trunks and branches, which it shall be allowed to burn.

"(c) That the defendant may place said sanitary fill on the property immediately south and west of the present dump, on higher ground.

"(d) That the defendant shall be allowed to fill in by sanitary fill the ravine which is to the south and west of where the prior flood came from, which ravine does not have any natural waterway. It is ordered that the defendant confine said fill to the west of the junction in the ravine and make such fill in such place and in such manner as not to contaminate the natural stream which flows through the present dump site.

"(e) That the defendant shall, within one hundred twenty (120) days from the entry of this judgment, cover the present dump with dirt.

"(f) That the defendant shall, when existing facilities are no longer adequate, cease using the above-mentioned dump property as a dump, and move the dump to another location not in said vicinity.

"2. That all claims of the plaintiffs to date are hereby released, and the plaintiffs' only remaining right against the defendant shall be to have the defendant comply with the terms of this judgment.

"IT IS FURTHER ORDERED that each party shall pay their own costs."

Dated this 16th day of March, A. D. 1954.

/s/ Ernest L. Ward

/s/ Christine A. Ward

/s/ Willis P. Mosher

/s/ Ethel C. Mosher

/s/ Howard Guthrie

/s/ Mary A. Guthrie

/s/ George Poor  
Plaintiffs

/s/ Mary A. Poor

/s/ William A. Lousberg

/s/ Mary Lousberg

/s/ John Gallagher

/s/ Eliza C. Gallagher

BOULDER LAND IRRIGATION & POWER CO.

By /s/ Dudley A. Degge  
President

/s/ Allie Lee Degge, Sect.

Boulder Office  
3850 Broadway  
Boulder, Colorado  
Phone: 5298

Boulder City-County  
HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

Boulder County  
Longmont Office  
Longmont Drug Building  
Longmont, Colorado  
Phone 582

NAME OF ESTABLISHMENT Jumblestone and Lappin PERMIT NUMBER         
ADDRESS OF ESTABLISHMENT 1/4 mi. W Boulder Dumps TELEPHONE NO.         
PERSON INTERVIEWED Mr. Lappin - driver  
TYPE OF ESTABLISHMENT Septic Tank Cleaning (truck)  
PURPOSE OF VISIT To determine reasons for dumping at dump site.

FINDINGS Dump site premises property of Mr. Jumblestone - just south of road leading to Boulder Dump site (by 50'-100'). Tankage dumped on open ground. "Burned" after drying (?).

Recommendations

Dig deep trench pit, 6'-9' deep by 20'-100' long. Dump into pit. Permit liquid to seep away and solids to dry.

Dispose of solids by <sup>①</sup>ignition, <sup>②</sup>liming, or <sup>③</sup>earth coverage, or 4"-6" earth coverage.

Use pit until filled to 2'-3' of ground surface, then backfill with tamped earth and mound for marking. Dig new pit and use as above.

DATE 11/28, 1953

L. Mackey  
Sanitarian

Jumblestone & Lappin  
Owner or Representative  
By L. Mackey

file under  
"City Dump"

SANITATION DIVISION

BOULDER CITY COUNTY  
HEALTH DEPARTMENT

SPECIAL SANITATION REPORT

3850 Broadway

Boulder, Colo.

Phone 4500 PERMIT NO.

Phone 4500

TEL. NO.

NAME OF ESTABLISHMENT

City Dump

ADDRESS OF ESTABLISHMENT

North Boulder

PERSON INTERVIEWED

Sam Harmon + Bert Johnson

TYPE OF ESTABLISHMENT

City Dump

PURPOSE OF VISIT

Re: Dump policy + dead animals, etc.

FINDINGS

Spoke to these two gentlemen regarding the policy and activity of the city dump. Discussed the insanitary conditions and the need for new trash & garbage collection system with land fill operation. Told them of the many complaints we are receiving regarding rats & garbage. Also told them the need for a sanitary sewer man to be assigned to the septic tank cleaners (both city & country). We discussed dead animals & fowls which are placed out on city dump by scavengers & public - noted the possibility of disease spread this way. Also dogs being raised on the premises. Told them I would develop this matter on out, may try some method of incinerator out there.

DATE 5/16, 1952

Marmade

SANITARIAN

OWNER OR REPRESENTATIVE

SAN 10-4/51 BHH